

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

October 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 – August 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 September 2023.
2. Attachment B consists of copies of the monthly Heating Value Test Reports received from our suppliers for the month of August 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 August 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
Sep-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	1.1521
MDU-318-BEACH	032	1.0387
MDU-319-BELFIELD	032	1.0464
MDU-323-BERTHOLD	262	1.1258
MDU-327-BISMARCK	028	1.1521
MDU-330-BOWMAN	034	0.8990
MDU-337-BURLINGTON	262	1.1501
MDU-343-CARRINGTON	273	1.1521
MDU-344-CLEVELAND	272	1.1439
MDU-364-CAVALIER	273	1.1764
MDU-365-DAWSON	271	1.1439
MDU-368-DES LACS	262	1.1339
MDU-369-DICKINSON	031	1.0484
MDU-374-FT TOTTEN	273	1.1602
MDU-375-DEVILS LAKE	273	1.1602
MDU-379-BARLOW	273	1.1521
MDU-384-EPPING	264	1.1240
MDU-387-ELDRIDGE	272	1.1521
MDU-407-GLADSTONE	031	1.0484
MDU-411-GLEN ULLIN	031	1.0560
MDU-413-GOLVA	032	1.0235
MDU-416-GARRISON	262	1.1339
MDU-417-GRAFTON	273	1.1845
MDU-403-GWINNER	601	1.1379
MDU-429-HEBRON	031	1.0560
MDU-432-HETTINGER	903	2.4049
MDU-449-JAMESTOWN	272	1.1602
MDU-459-KILLDEER	033	1.1088
MDU-463-LANGDON	273	1.1521
MDU-469-LEFOR	031	1.0484
MDU-474-LIGNITE	263	1.0759
MDU-475-LINTON	802	1.0652
MDU-478-LINCOLN	028	1.1521
MDU-488-MCKENZIE	271	1.1521
MDU-494-MEDINA	271	1.1439
MDU-498-MANDAN	028	1.1521
MDU-500-MARMARTH	034	0.9057
MDU-505-MINOT	262	1.1258
MDU-510-MOTT	031	1.0484
MDU-512-MAX	262	1.1258
MDU-513-MILNOR	601	1.1379
MDU-522-NEW ENGLAND	031	1.0408
MDU-524-NEW SALEM	028	1.1277
MDU-532-NEW ROCKFORD	273	1.1521
MDU-539-PARK RIVER	273	1.1764
MDU-540-PALERMO	262	1.1258
MDU-558-RAY	264	1.1240

MDU-561-REGENT	031	1.0408
MDU-563-RHAME	034	0.8923
MDU-564-RICHARDTON	031	1.0408
MDU-568-ROSS	261	1.1121
MDU-572-RUTHVILLE	262	1.1501
MDU-574-SANBORN	272	1.1602
MDU-583-SENTINEL BUTTE	032	1.0387
MDU-588-SOUTH HEART	031	1.0484
MDU-717-SPIRITWOOD	272	1.1602
MDU-590-SPRINGBROOK	264	1.1240
MDU-591-STANLEY	261	1.1202
MDU-593-STEELE	271	1.1439
MDU-594-STERLING	028	1.1521
MDU-598-SHEYENNE	273	1.1602
MDU-605-SURREY	262	1.1501
MDU-610-TAPPEN	271	1.1439
MDU-611-TAYLOR	031	1.0408
MDU-616-TIOGA	260	1.1074
MDU-619-TURTLE LAKE	262	1.1339
MDU-620-TRENTON	024	1.1368
MDU-624-UNDERWOOD	262	1.1339
MDU-625-VALLEY CITY	272	1.1683
MDU-629-WALHALLA	273	1.1764
MDU-632-WATFORD CITY	610	1.0607
MDU-636-WHEELOCK	264	1.1159
MDU-637-WHITE EARTH	261	1.1202
MDU-642-WILLISTON	024	1.1368
MDU-646-WASHBURN	262	1.1420
MDU-647-WILTON	262	1.1258
MDU-664-RIVERDALE	262	1.1339
MDU-691-FAIRVIEW	241	1.1349
MDU-712-MINOT AFB	262	1.1501
MDU-718-FAIRMOUNT	600	1.1356
MDU-732-NEKOMA	273	1.1764
MDU-732-MSR SITE	273	1.1764

Source Daily Summary

August 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	0.7548	1214.6	1236.1	1234.9	1.307	3.526	67.372	21.533	5.148	0.327	0.689	0.051	0.046	0.000	0.000	0.000	0.000	0.000	1422.71	
2	0.7247	1190.1	1211.2	1209.9	0.546	3.362	70.073	21.875	3.550	0.179	0.369	0.025	0.022	0.000	0.000	0.000	0.000	0.000	1422.90	
3	0.7101	1175.6	1196.4	1195.3	0.300	3.264	70.951	22.739	2.546	0.067	0.121	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1419.89	
4	0.7236	1171.7	1192.5	1191.5	1.109	3.534	69.922	21.984	3.013	0.139	0.269	0.016	0.013	0.000	0.000	0.000	0.000	0.000	1401.91	
5	0.7333	1179.7	1200.6	1199.6	1.342	3.595	68.591	22.722	3.215	0.165	0.330	0.021	0.017	0.000	0.000	0.000	0.000	0.000	1402.10	
6	0.7316	1176.6	1197.4	1196.5	1.338	3.638	68.838	22.501	3.175	0.156	0.315	0.022	0.018	0.000	0.000	0.000	0.000	0.000	1399.95	
7	0.7278	1171.9	1192.7	1191.6	1.297	3.626	69.586	21.772	3.228	0.151	0.301	0.020	0.018	0.000	0.000	0.000	0.000	0.000	1398.02	
8	0.7322	1178.8	1199.7	1198.6	1.327	3.574	68.776	22.577	3.238	0.155	0.313	0.021	0.018	0.000	0.000	0.000	0.000	0.000	1402.02	
9	0.7314	1176.9	1197.7	1196.7	1.330	3.612	68.897	22.449	3.209	0.155	0.309	0.020	0.017	0.000	0.000	0.000	0.000	0.000	1400.46	
10	0.7320	1177.7	1198.5	1197.5	1.324	3.631	69.096	21.900	3.537	0.161	0.314	0.020	0.016	0.000	0.000	0.000	0.000	0.000	1400.82	
11	0.7294	1175.8	1196.6	1195.6	1.268	3.587	69.321	22.051	3.246	0.163	0.325	0.021	0.018	0.000	0.000	0.000	0.000	0.000	1401.10	
12	0.7196	1172.0	1192.8	1191.8	0.897	3.462	70.142	22.378	2.760	0.112	0.221	0.014	0.012	0.000	0.000	0.000	0.000	0.000	1406.11	
13	0.7208	1172.2	1192.9	1192.0	0.951	3.483	70.106	22.201	2.881	0.118	0.231	0.016	0.013	0.000	0.000	0.000	0.000	0.000	1405.10	
14	0.7295	1174.8	1195.6	1194.6	1.296	3.615	69.265	22.083	3.241	0.154	0.307	0.021	0.017	0.000	0.000	0.000	0.000	0.000	1399.81	
15	0.7293	1176.2	1197.1	1195.9	1.241	3.593	69.424	21.821	3.428	0.154	0.303	0.020	0.017	0.000	0.000	0.000	0.000	0.000	1401.68	
16	0.7314	1176.5	1197.3	1196.3	1.333	3.633	69.074	22.099	3.324	0.165	0.330	0.022	0.019	0.000	0.000	0.000	0.000	0.000	1399.98	
17	0.7309	1176.9	1197.7	1196.7	1.300	3.613	69.084	22.193	3.284	0.162	0.324	0.021	0.018	0.000	0.000	0.000	0.000	0.000	1400.94	
18	0.7271	1173.4	1194.2	1193.0	1.232	3.572	69.662	21.840	3.192	0.151	0.309	0.022	0.020	0.000	0.000	0.000	0.000	0.000	1400.43	
19	0.7296	1176.1	1197.0	1196.0	1.270	3.583	69.277	22.110	3.236	0.157	0.325	0.022	0.020	0.000	0.000	0.000	0.000	0.000	1401.30	
20	0.7285	1176.1	1197.0	1196.2	1.233	3.529	69.306	22.320	3.115	0.149	0.306	0.021	0.019	0.000	0.000	0.000	0.000	0.000	1402.43	
21	0.7302	1174.8	1195.6	1194.6	1.340	3.607	69.160	22.187	3.194	0.156	0.315	0.022	0.019	0.000	0.000	0.000	0.000	0.000	1399.21	
22	0.7323	1177.7	1198.5	1197.3	1.345	3.622	68.900	22.277	3.336	0.158	0.318	0.023	0.020	0.000	0.000	0.000	0.000	0.000	1400.59	
23	0.7300	1173.5	1194.3	1193.1	1.348	3.658	69.316	21.845	3.327	0.156	0.311	0.021	0.018	0.000	0.000	0.000	0.000	0.000	1397.83	
24	0.7160	1173.0	1193.7	1192.5	0.688	3.386	70.575	22.294	2.739	0.099	0.196	0.012	0.011	0.000	0.000	0.000	0.000	0.000	1410.93	
25	0.7111	1168.7	1189.4	1188.4	0.566	3.363	71.151	22.120	2.532	0.083	0.164	0.011	0.010	0.000	0.000	0.000	0.000	0.000	1410.72	
26	0.7314	1176.2	1197.1	1196.0	1.344	3.632	69.009	22.222	3.266	0.161	0.324	0.022	0.019	0.000	0.000	0.000	0.000	0.000	1399.69	
27	0.7306	1174.9	1195.7	1194.6	1.348	3.633	69.194	22.003	3.301	0.160	0.319	0.022	0.019	0.000	0.000	0.000	0.000	0.000	1398.86	
28	0.7298	1174.4	1195.2	1194.1	1.340	3.595	69.341	21.927	3.282	0.158	0.317	0.022	0.018	0.000	0.000	0.000	0.000	0.000	1399.07	
29	0.7302	1174.8	1195.6	1194.6	1.342	3.605	69.232	22.045	3.265	0.157	0.314	0.021	0.018	0.000	0.000	0.000	0.000	0.000	1399.18	
30	0.7309	1175.9	1196.7	1195.5	1.344	3.608	69.109	22.139	3.285	0.158	0.317	0.022	0.018	0.000	0.000	0.000	0.000	0.000	1399.74	
31	0.7292	1172.6	1193.4	1192.3	1.347	3.643	69.400	21.860	3.237	0.157	0.316	0.021	0.018	0.000	0.000	0.000	0.000	0.000	1397.46	
Avg	0.7284	1177.0	1197.6	1196.6	1.180	3.561	69.392	22.131	3.236	0.153	0.307	0.021	0.018	0.000	0.000	0.000	0.000	0.000	1403.32	

Source Daily Summary

August 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	0.7121	1169.9	1190.6	1189.6	1.072	2.614	72.392	20.494	2.972	0.127	0.279	0.022	0.026	0.000	0.000	0.000	0.000	0.000	1410.90	
2	0.7151	1171.0	1191.7	1190.6	1.079	2.824	71.870	20.700	3.051	0.131	0.294	0.023	0.028	0.000	0.000	0.000	0.000	0.000	1409.19	
3	0.7136	1169.8	1190.6	1189.4	1.064	2.770	72.089	20.624	2.992	0.126	0.286	0.023	0.027	0.000	0.000	0.000	0.000	0.000	1409.37	
4	0.7130	1170.9	1191.6	1190.8	0.662	3.263	71.216	21.805	2.704	0.100	0.213	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1411.25	
5	0.7197	1177.7	1198.6	1197.6	0.657	3.482	70.550	21.696	3.107	0.145	0.307	0.027	0.028	0.000	0.000	0.000	0.000	0.000	1412.84	
6	0.7134	1171.4	1192.1	1191.2	0.530	3.468	71.304	21.418	2.847	0.124	0.260	0.023	0.025	0.000	0.000	0.000	0.000	0.000	1411.45	
7	0.7339	1187.8	1208.9	1207.9	1.097	3.519	69.249	21.646	3.733	0.212	0.459	0.040	0.042	0.000	0.000	0.000	0.000	0.000	1411.16	
8	0.7302	1179.5	1200.4	1199.5	1.188	3.545	69.721	21.314	3.557	0.195	0.411	0.034	0.035	0.000	0.000	0.000	0.000	0.000	1404.79	
9	0.7301	1181.0	1201.9	1201.0	1.121	3.550	69.461	21.777	3.473	0.181	0.376	0.031	0.030	0.000	0.000	0.000	0.000	0.000	1406.67	
10	0.7297	1178.7	1199.6	1198.7	1.137	3.630	69.652	21.412	3.519	0.189	0.394	0.033	0.033	0.000	0.000	0.000	0.000	0.000	1404.27	
11	0.7243	1178.3	1199.2	1198.3	0.893	3.520	70.047	21.726	3.277	0.158	0.325	0.026	0.026	0.000	0.000	0.000	0.000	0.000	1409.07	
12	0.7097	1170.7	1191.4	1190.6	0.408	3.355	71.479	21.810	2.621	0.098	0.195	0.016	0.017	0.000	0.000	0.000	0.000	0.000	1414.24	
13	0.7220	1183.3	1204.2	1203.5	0.598	3.448	70.083	22.184	3.191	0.144	0.300	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1417.26	
14	0.7180	1179.2	1200.1	1199.2	0.629	3.279	70.548	22.151	2.991	0.116	0.244	0.020	0.022	0.000	0.000	0.000	0.000	0.000	1416.27	
15	0.7191	1169.9	1190.6	1189.5	1.123	3.194	71.116	21.018	3.050	0.129	0.310	0.027	0.033	0.000	0.000	0.000	0.000	0.000	1404.03	
16	0.7174	1166.8	1187.5	1186.6	1.127	3.212	71.277	20.975	2.956	0.119	0.282	0.023	0.028	0.000	0.000	0.000	0.000	0.000	1402.05	
17	0.7210	1172.1	1192.8	1191.9	1.138	3.212	70.985	20.897	3.253	0.136	0.321	0.026	0.032	0.000	0.000	0.000	0.000	0.000	1404.84	
18	0.7232	1176.0	1196.8	1195.7	1.133	3.190	70.796	20.884	3.447	0.145	0.341	0.028	0.035	0.000	0.000	0.000	0.000	0.000	1407.30	
19	0.7196	1169.8	1190.5	1189.6	1.141	3.224	71.116	20.836	3.206	0.128	0.295	0.024	0.029	0.000	0.000	0.000	0.000	0.000	1403.34	
20	0.7186	1168.0	1188.7	1187.9	1.144	3.236	71.148	20.933	3.088	0.121	0.279	0.023	0.027	0.000	0.000	0.000	0.000	0.000	1402.19	
21	0.7199	1169.7	1190.4	1189.4	1.142	3.249	70.953	21.061	3.137	0.123	0.285	0.022	0.027	0.000	0.000	0.000	0.000	0.000	1403.04	
22	0.7226	1174.0	1194.8	1193.7	1.146	3.238	70.653	21.172	3.278	0.135	0.320	0.026	0.032	0.000	0.000	0.000	0.000	0.000	1405.52	
23	0.7138	1168.9	1189.6	1188.5	1.078	2.822	72.047	20.605	2.990	0.124	0.283	0.023	0.027	0.000	0.000	0.000	0.000	0.000	1408.09	
24	0.7058	1162.9	1183.5	1182.5	1.031	2.506	73.190	20.241	2.649	0.108	0.235	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1408.78	
25	0.7073	1162.8	1183.4	1182.4	1.048	2.638	72.880	20.382	2.671	0.106	0.234	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1407.04	
26	0.7174	1172.7	1193.5	1192.5	1.035	2.992	71.542	20.781	3.110	0.152	0.329	0.028	0.030	0.000	0.000	0.000	0.000	0.000	1409.14	
27	0.7326	1187.0	1208.0	1206.9	1.044	3.530	69.291	21.787	3.621	0.205	0.439	0.040	0.042	0.000	0.000	0.000	0.000	0.000	1411.41	
28	0.7240	1175.5	1196.3	1195.3	1.119	3.321	70.445	21.250	3.320	0.149	0.335	0.028	0.032	0.000	0.000	0.000	0.000	0.000	1405.90	
29	0.7221	1173.4	1194.1	1193.2	1.145	3.231	70.815	20.987	3.299	0.137	0.325	0.027	0.033	0.000	0.000	0.000	0.000	0.000	1405.24	
30	0.7202	1170.5	1191.2	1190.1	1.145	3.225	70.987	20.999	3.157	0.128	0.303	0.025	0.030	0.000	0.000	0.000	0.000	0.000	1403.67	
31	0.7280	1180.7	1201.6	1200.6	1.091	3.415	70.095	21.182	3.551	0.182	0.408	0.036	0.040	0.000	0.000	0.000	0.000	0.000	1408.29	
Avg	0.7199	1174.0	1194.7	1193.7	0.999	3.216	70.935	21.185	3.156	0.141	0.312	0.026	0.029	0.000	0.000	0.000	0.000	0.000	1408.02	

Gas Composition and Properties

Effective August 1, 2023

Attachment B
Page 3 of 24

Source #: 0602160
Name: FAIRVIEW BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	1.1500		2.4027
Nitrogen, N2	3.5860		4.7691
Methane, C1	69.5025		52.9342
Ethane, C2	21.6900	5.8055	30.9629
Propane, C3	3.5134	0.9687	7.3551
iso-Butane, iC4	0.1701	0.0557	0.4694
n-Butane, nC4	0.3361	0.1060	0.9274
iso-Pentane, iC5	0.0244	0.0089	0.0836
n-Pentane, nC5	0.0254	0.0092	0.0870
Neo-Pentane, neo			
Hexanes Plus, C6+	0.0021	0.0009	0.0086
Argon, Ar			
Carbon Monoxide, CO			
Hydrogen, H2			
Oxygen, O2			
Helium, He			
Water, H2O			
Hydrogen Sulfide, H2S			
Totals	100.0000	6.9550	100.0000

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure		
Cricondentherm	5.908	
HV, Dry @ Base P, T	1199.61	
HV, Sat @ Base P, T	1178.73	
HV, Sat @ Sample P, T	1199.61	
Relative Density	0.7294	
C6+: 100		

Sample

Date: 08/01/2023 Type:
Tech: Sampson, Wayne
Pressure: Temp.:
Gauge: H2O:
Atm. Pressure: H2S:

Remarks:

Analysis

Date: 08/01/2023 Instrument:
Tech: Sampson, Wayne Cylinder:

Remarks:

Gas Composition and Properties

Effective August 1, 2023

Attachment B
Page 4 of 24

Source #: 0602225
Name: WATFORD CITY WEST BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	1.0683		2.2197
Nitrogen, N2	3.4410		4.5510
Methane, C1	69.8477		52.9029
Ethane, C2	20.7033	5.5417	29.3910
Propane, C3	4.0652	1.1209	8.4632
iso-Butane, iC4	0.2447	0.0801	0.6715
n-Butane, nC4	0.5276	0.1665	1.4478
iso-Pentane, iC5	0.0465	0.0170	0.1584
n-Pentane, nC5	0.0485	0.0176	0.1652
Neo-Pentane, neo			
Hexanes Plus, C6+	0.0072	0.0030	0.0293
Argon, Ar			
Carbon Monoxide, CO			
Hydrogen, H2			
Oxygen, O2			
Helium, He			
Water, H2O			
Hydrogen Sulfide, H2S			
Totals	100.0000	6.9470	100.0000

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure		
Cricondentherm	14.345	
HV, Dry @ Base P, T	1210.37	
HV, Sat @ Base P, T	1189.30	
HV, Sat @ Sample P, T	1210.37	
Relative Density	0.7335	
C6+:		

Sample

Date: 08/01/2023 Type:

Tech: Sampson, Wayne

Pressure: Temp.:

Gauge: H2O:

Atm. Pressure: H2S:

Remarks:

Analysis

Date: 08/01/2023 Instrument:

 Cylinder:

Tech: Sampson, Wayne

Remarks:

Source Daily Summary

August 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	0.6921	1154.2	1174.6	1174.2	0.872	2.006	74.740	20.290	1.890	0.059	0.122	0.009	0.010	0.000	0.000	0.000	0.000	0.000	1411.89	-16.30
2	0.6810	1136.7	1156.8	1172.4	0.842	1.952	74.047	19.728	1.865	0.057	0.119	0.010	0.011	0.000	0.000	0.000	0.000	0.000	1411.53	-16.90
3	0.6928	1154.5	1175.0	1174.5	0.865	2.054	74.929	19.783	2.120	0.073	0.151	0.012	0.013	0.000	0.000	0.000	0.000	0.000	1411.65	-14.40
4	0.6997	1158.8	1179.3	1178.8	0.953	2.315	73.974	20.055	2.385	0.091	0.195	0.015	0.017	0.000	0.000	0.000	0.000	0.000	1409.78	-10.04
5	0.7051	1162.4	1183.0	1182.5	0.958	2.591	73.146	20.340	2.609	0.100	0.218	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1408.77	-6.95
6	0.7071	1165.6	1186.2	1185.8	0.970	2.564	73.015	20.285	2.756	0.114	0.251	0.021	0.024	0.000	0.000	0.000	0.000	0.000	1410.65	-4.74
7	0.7053	1162.3	1182.9	1182.4	0.959	2.611	73.105	20.358	2.609	0.101	0.219	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1408.51	-6.84
8	0.7070	1164.0	1184.6	1184.1	1.003	2.606	72.935	20.387	2.684	0.108	0.237	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1408.78	-5.52
9	0.7081	1165.0	1185.7	1185.2	1.011	2.630	72.808	20.404	2.748	0.112	0.245	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1409.00	-4.76
10	0.7054	1162.1	1182.6	1182.2	0.989	2.586	73.155	20.281	2.627	0.103	0.222	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1408.13	-6.73
11	0.7022	1159.1	1179.6	1179.1	0.975	2.499	73.589	20.128	2.463	0.098	0.212	0.017	0.019	0.000	0.000	0.000	0.000	0.000	1407.70	-8.62
12	0.7027	1160.4	1180.9	1180.4	0.927	2.532	73.430	20.319	2.452	0.097	0.207	0.016	0.019	0.000	0.000	0.000	0.000	0.000	1408.76	-8.55
13	0.7020	1159.1	1179.6	1179.1	0.932	2.545	73.512	20.248	2.438	0.092	0.199	0.016	0.018	0.000	0.000	0.000	0.000	0.000	1407.83	-9.12
14	0.6985	1158.0	1178.5	1178.1	0.913	2.307	74.043	20.159	2.273	0.087	0.186	0.015	0.017	0.000	0.000	0.000	0.000	0.000	1410.09	-11.02
15	0.6942	1154.6	1175.0	1174.6	0.890	2.149	74.712	19.840	2.140	0.078	0.163	0.013	0.015	0.000	0.000	0.000	0.000	0.000	1410.24	-13.54
16	0.6916	1151.5	1171.9	1171.4	0.872	2.114	75.059	19.707	2.001	0.072	0.149	0.012	0.013	0.000	0.000	0.000	0.000	0.000	1409.16	-15.50
17	0.6908	1151.8	1172.2	1171.7	0.874	2.023	75.195	19.695	1.967	0.072	0.149	0.012	0.014	0.000	0.000	0.000	0.000	0.000	1410.31	-15.78
18	0.6896	1148.1	1168.4	1167.9	0.863	2.148	75.505	19.188	2.045	0.073	0.153	0.012	0.013	0.000	0.000	0.000	0.000	0.000	1407.02	-16.15
19	0.6918	1152.3	1172.7	1172.2	0.890	2.062	75.082	19.685	2.019	0.077	0.159	0.012	0.014	0.000	0.000	0.000	0.000	0.000	1409.89	-15.01
20	0.6949	1156.0	1176.5	1176.0	0.895	2.118	74.625	19.929	2.148	0.083	0.173	0.013	0.015	0.000	0.000	0.000	0.000	0.000	1411.29	-12.95
21	0.6970	1155.6	1176.1	1175.6	0.920	2.301	74.248	20.046	2.199	0.082	0.176	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1408.71	-12.20
22	0.6931	1152.9	1173.3	1172.8	0.875	2.168	74.725	19.995	1.989	0.072	0.151	0.012	0.013	0.000	0.000	0.000	0.000	0.000	1409.35	-15.00
23	0.6870	1144.1	1164.3	1163.9	0.834	2.199	75.623	19.357	1.775	0.061	0.128	0.010	0.012	0.000	0.000	0.000	0.000	0.000	1404.69	-19.13
24	0.6863	1145.3	1165.6	1165.1	0.833	2.058	75.668	19.562	1.690	0.055	0.114	0.009	0.011	0.000	0.000	0.000	0.000	0.000	1406.96	-19.85
25	0.6893	1149.5	1169.9	1169.4	0.875	2.022	75.409	19.553	1.903	0.069	0.144	0.011	0.013	0.000	0.000	0.000	0.000	0.000	1409.02	-16.87
26	0.6953	1154.0	1174.4	1173.9	0.926	2.238	74.605	19.737	2.208	0.083	0.175	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1408.44	-12.72
27	0.6970	1155.4	1175.8	1175.4	0.933	2.292	74.357	19.852	2.269	0.085	0.182	0.014	0.017	0.000	0.000	0.000	0.000	0.000	1408.40	-11.75
28	0.6961	1155.9	1176.4	1175.9	0.929	2.185	74.529	19.815	2.242	0.085	0.183	0.015	0.017	0.000	0.000	0.000	0.000	0.000	1409.95	-12.00
29	0.6910	1150.6	1171.0	1170.5	0.879	2.103	75.141	19.664	1.970	0.070	0.149	0.012	0.014	0.000	0.000	0.000	0.000	0.000	1408.71	-15.93
30	0.6975	1157.4	1177.9	1177.4	0.949	2.188	74.506	19.623	2.389	0.098	0.209	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1410.43	-10.15
31	0.6996	1159.3	1179.8	1179.3	0.944	2.282	74.137	19.825	2.462	0.100	0.212	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1410.57	-9.12
Avg	0.6965	1155.0	1175.8	1175.9	0.915	2.272	74.308	19.930	2.237	0.084	0.179	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1409.23	-12.07

Source Daily Summary

August 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	0.7130	1159.7	1180.2	1179.4	0.872	3.627	71.667	20.392	3.156	0.087	0.175	0.011	0.012	0.000	0.000	0.000	0.000	0.000	1397.95	
2	0.7111	1153.1	1173.5	1172.6	0.926	3.772	71.972	20.054	2.943	0.097	0.206	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1391.78	
3	0.7486	1172.4	1193.2	1192.3	0.900	6.146	66.776	20.214	5.462	0.155	0.312	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1379.06	
4	0.7555	1179.9	1200.8	1200.2	0.891	6.343	66.008	20.236	5.928	0.175	0.375	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1381.51	
5	0.7554	1179.5	1200.4	1199.7	0.893	6.357	66.063	20.132	5.946	0.179	0.385	0.022	0.024	0.000	0.000	0.000	0.000	0.000	1381.12	
6	0.7480	1172.2	1192.9	1192.3	0.899	6.098	66.980	20.050	5.428	0.159	0.344	0.020	0.021	0.000	0.000	0.000	0.000	0.000	1379.43	
7	0.7488	1171.9	1192.6	1191.9	0.900	6.197	66.881	19.993	5.459	0.167	0.360	0.021	0.023	0.000	0.000	0.000	0.000	0.000	1378.22	
8	0.7557	1179.5	1200.4	1199.7	0.892	6.385	65.994	20.191	5.932	0.176	0.382	0.023	0.025	0.000	0.000	0.000	0.000	0.000	1380.85	
9	0.7551	1179.1	1200.0	1199.4	0.896	6.352	66.048	20.232	5.866	0.176	0.381	0.023	0.025	0.000	0.000	0.000	0.000	0.000	1380.87	
10	0.7558	1180.5	1201.5	1200.8	0.895	6.330	65.909	20.388	5.878	0.179	0.374	0.022	0.025	0.000	0.000	0.000	0.000	0.000	1381.95	
11	0.7403	1165.4	1186.1	1185.5	0.924	5.755	67.835	20.214	4.812	0.136	0.289	0.017	0.019	0.000	0.000	0.000	0.000	0.000	1378.60	
12	0.7382	1164.1	1184.7	1184.1	0.928	5.625	68.188	20.130	4.647	0.144	0.300	0.018	0.020	0.000	0.000	0.000	0.000	0.000	1379.02	
13	0.7534	1177.0	1197.8	1197.3	0.896	6.324	66.190	20.295	5.706	0.179	0.368	0.020	0.022	0.000	0.000	0.000	0.000	0.000	1379.95	
14	0.7404	1169.6	1190.3	1189.6	0.911	5.535	67.945	20.278	4.817	0.154	0.320	0.019	0.021	0.000	0.000	0.000	0.000	0.000	1383.39	
15	0.7391	1163.9	1184.5	1183.6	0.932	5.727	67.982	20.241	4.616	0.148	0.313	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1377.81	
16	0.7468	1169.5	1190.2	1189.6	0.910	6.144	66.959	20.211	5.281	0.147	0.310	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1377.20	
17	0.7305	1159.5	1180.0	1179.3	0.950	5.164	69.021	20.498	3.937	0.124	0.268	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1380.67	
18	0.7509	1174.9	1195.7	1194.8	0.902	6.206	66.593	20.125	5.608	0.168	0.356	0.021	0.022	0.000	0.000	0.000	0.000	0.000	1379.81	
19	0.7400	1167.5	1188.2	1187.7	0.918	5.604	68.037	20.124	4.796	0.154	0.325	0.020	0.022	0.000	0.000	0.000	0.000	0.000	1381.40	
20	0.7549	1178.8	1199.7	1199.3	0.898	6.340	66.151	20.132	5.839	0.190	0.401	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1380.83	
21	0.7533	1176.0	1196.8	1196.3	0.897	6.367	66.259	20.169	5.704	0.181	0.377	0.022	0.024	0.000	0.000	0.000	0.000	0.000	1378.95	
22	0.7434	1169.6	1190.3	1189.5	0.911	5.807	67.490	20.286	4.993	0.154	0.321	0.018	0.020	0.000	0.000	0.000	0.000	0.000	1380.60	
23	0.7295	1159.3	1179.8	1179.1	0.907	5.141	69.402	19.982	4.123	0.132	0.277	0.017	0.019	0.000	0.000	0.000	0.000	0.000	1381.55	
24	0.7366	1161.1	1181.7	1181.0	0.860	5.765	68.538	19.603	4.735	0.148	0.313	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1376.95	
25	0.7269	1161.7	1182.2	1181.7	0.915	4.746	69.559	20.624	3.738	0.121	0.261	0.017	0.019	0.000	0.000	0.000	0.000	0.000	1386.82	
26	0.7508	1171.5	1192.3	1191.6	0.899	6.402	66.458	20.161	5.541	0.163	0.337	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1375.99	
27	0.7535	1175.5	1196.3	1195.5	0.898	6.418	66.102	20.350	5.643	0.176	0.370	0.021	0.023	0.000	0.000	0.000	0.000	0.000	1378.16	
28	0.7498	1176.6	1197.5	1196.7	0.907	5.989	66.648	20.519	5.351	0.169	0.369	0.023	0.025	0.000	0.000	0.000	0.000	0.000	1382.97	
29	0.7316	1166.4	1187.1	1186.3	0.906	4.904	69.027	20.597	4.112	0.131	0.283	0.019	0.021	0.000	0.000	0.000	0.000	0.000	1388.12	
30	0.7329	1161.7	1182.2	1181.5	0.914	5.310	68.935	20.076	4.268	0.144	0.310	0.020	0.023	0.000	0.000	0.000	0.000	0.000	1381.09	
31	0.7513	1171.7	1192.5	1191.8	0.902	6.438	66.405	20.162	5.514	0.168	0.366	0.022	0.024	0.000	0.000	0.000	0.000	0.000	1375.71	
Avg	0.7433	1170.0	1190.7	1190.0	0.905	5.784	67.549	20.215	5.025	0.154	0.327	0.019	0.021	0.000	0.000	0.000	0.000	0.000	1381.24	

Source Daily Summary

August 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	0.7563	1178.2	1199.1	1198.4	0.904	6.507	65.825	20.209	5.968	0.181	0.364	0.020	0.021	0.000	0.000	0.000	0.000	0.000	1378.74	
2	0.7553	1175.0	1195.8	1195.2	0.895	6.618	65.986	19.990	5.910	0.179	0.378	0.021	0.022	0.000	0.000	0.000	0.000	0.000	1375.94	
3	0.7568	1178.1	1198.9	1198.3	0.899	6.563	65.845	20.057	6.017	0.184	0.389	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1378.19	
4	0.7545	1174.1	1194.9	1194.3	0.900	6.587	66.122	19.911	5.887	0.177	0.372	0.021	0.022	0.000	0.000	0.000	0.000	0.000	1375.64	
5	0.7549	1175.7	1196.6	1195.9	0.898	6.528	66.057	20.029	5.895	0.174	0.374	0.021	0.023	0.000	0.000	0.000	0.000	0.000	1377.20	
6	0.7557	1177.4	1198.3	1197.6	0.901	6.503	66.005	20.019	5.952	0.181	0.391	0.023	0.025	0.000	0.000	0.000	0.000	0.000	1378.36	
7	0.7564	1178.5	1199.4	1198.8	0.904	6.489	65.880	20.150	5.964	0.179	0.386	0.023	0.025	0.000	0.000	0.000	0.000	0.000	1379.12	
8	0.7571	1179.8	1200.6	1200.0	0.899	6.489	65.776	20.232	5.977	0.186	0.392	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1379.89	
9	0.7539	1173.0	1193.8	1193.2	0.901	6.599	66.046	20.113	5.802	0.162	0.337	0.019	0.021	0.000	0.000	0.000	0.000	0.000	1374.92	
10	0.7520	1170.6	1191.3	1190.7	0.902	6.571	66.232	20.129	5.646	0.162	0.323	0.017	0.018	0.000	0.000	0.000	0.000	0.000	1373.78	
11	0.7539	1174.6	1195.4	1194.8	0.905	6.498	66.083	20.193	5.736	0.180	0.364	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1376.73	
12	0.7548	1176.6	1197.4	1196.8	0.905	6.457	65.994	20.256	5.790	0.183	0.372	0.021	0.022	0.000	0.000	0.000	0.000	0.000	1378.30	
13	0.7546	1175.9	1196.7	1196.1	0.909	6.478	66.016	20.190	5.843	0.171	0.353	0.020	0.021	0.000	0.000	0.000	0.000	0.000	1377.63	
14	0.7537	1174.7	1195.5	1194.9	0.905	6.476	66.084	20.203	5.796	0.164	0.335	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1377.02	
15	0.7567	1179.5	1200.4	1199.8	0.903	6.467	65.760	20.315	5.959	0.179	0.373	0.021	0.023	0.000	0.000	0.000	0.000	0.000	1379.93	
16	0.7565	1179.7	1200.6	1200.0	0.904	6.430	65.961	20.070	5.987	0.194	0.404	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1380.32	
17	0.7554	1177.8	1198.6	1198.0	0.901	6.453	66.008	20.129	5.893	0.186	0.383	0.022	0.024	0.000	0.000	0.000	0.000	0.000	1379.06	
18	0.7562	1178.7	1199.6	1198.9	0.902	6.468	65.915	20.159	5.918	0.192	0.397	0.023	0.025	0.000	0.000	0.000	0.000	0.000	1379.44	
19	0.7573	1180.5	1201.4	1200.8	0.903	6.459	65.869	20.094	5.994	0.201	0.426	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1380.53	
20	0.7531	1173.9	1194.7	1194.1	0.899	6.472	66.226	20.110	5.708	0.179	0.365	0.020	0.021	0.000	0.000	0.000	0.000	0.000	1376.70	
21	0.7525	1172.0	1192.8	1192.2	0.899	6.536	66.281	20.006	5.724	0.170	0.346	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1374.98	
22	0.7547	1175.8	1196.6	1196.0	0.898	6.510	66.004	20.184	5.812	0.180	0.369	0.020	0.021	0.000	0.000	0.000	0.000	0.000	1377.41	
23	0.7572	1179.2	1200.1	1199.4	0.908	6.524	65.708	20.290	5.945	0.185	0.391	0.023	0.025	0.000	0.000	0.000	0.000	0.000	1379.09	
24	0.7577	1181.1	1202.0	1201.4	0.907	6.450	65.695	20.326	5.983	0.191	0.399	0.023	0.026	0.000	0.000	0.000	0.000	0.000	1380.93	
25	0.7538	1173.1	1193.9	1193.3	0.909	6.569	66.077	20.134	5.750	0.170	0.349	0.020	0.022	0.000	0.000	0.000	0.000	0.000	1375.14	
26	0.7543	1174.3	1195.1	1194.5	0.901	6.561	66.008	20.186	5.765	0.177	0.360	0.020	0.021	0.000	0.000	0.000	0.000	0.000	1376.02	
27	0.7567	1178.5	1199.4	1198.7	0.905	6.524	65.663	20.481	5.808	0.183	0.389	0.023	0.025	0.000	0.000	0.000	0.000	0.000	1378.76	
28	0.7572	1180.1	1201.0	1200.3	0.903	6.473	65.673	20.440	5.880	0.184	0.396	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1380.18	
29	0.7549	1173.1	1193.9	1193.2	0.908	6.682	65.977	20.056	5.738	0.187	0.402	0.024	0.027	0.000	0.000	0.000	0.000	0.000	1374.05	
30	0.7552	1173.9	1194.7	1194.0	0.907	6.663	65.920	20.124	5.754	0.181	0.399	0.024	0.027	0.000	0.000	0.000	0.000	0.000	1374.70	
31	0.7559	1178.0	1198.9	1198.2	0.906	6.474	65.890	20.282	5.809	0.179	0.409	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1378.93	
Avg	0.7553	1176.0	1197.3	1196.7	0.903	6.519	65.954	20.163	5.858	0.180	0.377	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1377.67	

Gas Composition and Properties

Effective October 1, 2021

Attachment B
Page 8 of 24

Source #: 2501030
Name: LIGNITE PLANT

Component	Mole %	Liquid Content	Mass %	Property	Total Sample	C6 Plus Fraction
Carbon Dioxide, CO2	0.2283		0.5237	Pressure Base	14.730	
Nitrogen, N2	2.9631		4.3268	Temperature Base	60.00	
Methane, C1	79.4957		66.4767	HCDP @ Sample Pressure		
Ethane, C2	15.2390	4.0765	23.8852	Cricondentherm	-32.804	
Propane, C3	2.0456	0.5637	4.7019	HV, Dry @ Base P, T	1130.73	
iso-Butane, iC4	0.0244	0.0080	0.0739	HV, Sat @ Base P, T	1111.05	
n-Butane, nC4	0.0039	0.0012	0.0118	HV, Sat @ Sample P, T	1130.73	
iso-Pentane, iC5				Relative Density	0.6640	
n-Pentane, nC5						
Neo-Pentane, neo						
Hexanes Plus, C6+						
Argon, Ar						
Carbon Monoxide, CO						
Hydrogen, H2						
Oxygen, O2						
Helium, He						
Water, H2O						
Hydrogen Sulfide, H2S						
				C6+: 100		
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 August 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	1.1333		2.4063	Pressure Base	14.730	
Nitrogen, N2	2.8068		3.7935	Temperature Base	60.00	
Methane, C1	71.6875		55.4854	HCDP @ Sample Pressure		
Ethane, C2	20.5641	5.5037	29.8325	Cricondentherm	2.103	
Propane, C3	3.3046	0.9111	7.0303	HV, Dry @ Base P, T	1194.65	
iso-Butane, iC4	0.1405	0.0460	0.3940	HV, Sat @ Base P, T	1173.86	
n-Butane, nC4	0.3093	0.0976	0.8673	HV, Sat @ Sample P, T	1194.65	
iso-Pentane, iC5	0.0223	0.0082	0.0776	Relative Density	0.7177	
n-Pentane, nC5	0.0269	0.0098	0.0936			
Neo-Pentane, neo						
Hexanes Plus, C6+	0.0047	0.0019	0.0195			
Argon, Ar						
Carbon Monoxide, CO						
Hydrogen, H2						
Oxygen, O2						
Helium, He						
Water, H2O						
Hydrogen Sulfide, H2S						
				C6+: 100		
Totals	100.0000	6.5790	100.0000			

Sample

Date: 08/01/2023 Type:

Tech: Sampson, Wayne

Pressure: Temp.:

Gauge: H2O:

Atm. Pressure: H2S:

Remarks:

Analysis

Date: 08/01/2023 Instrument:

Tech: Sampson, Wayne Cylinder:

Remarks:

*** End of Report ***

Source Daily Summary

August 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	0.7101	1147.6	1167.9	1167.4	1.014	3.884	71.770	20.613	2.332	0.103	0.242	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1385.89	
2	0.7099	1147.2	1167.5	1167.1	1.022	3.872	71.809	20.594	2.313	0.102	0.244	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1385.70	
3	0.7101	1148.1	1168.4	1168.0	1.028	3.827	71.797	20.635	2.323	0.103	0.245	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1386.58	
4	0.7096	1146.2	1166.5	1166.1	1.038	3.872	71.793	20.691	2.230	0.099	0.237	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1384.85	
5	0.7100	1146.0	1166.3	1165.8	1.043	3.924	71.649	20.817	2.202	0.097	0.229	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1384.13	
6	0.7094	1146.6	1166.9	1166.4	1.030	3.851	71.802	20.716	2.231	0.099	0.232	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1385.44	
7	0.7089	1146.4	1166.7	1166.2	1.018	3.836	71.891	20.649	2.237	0.098	0.231	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1385.67	
8	0.7091	1146.3	1166.6	1166.2	1.025	3.850	71.848	20.680	2.226	0.098	0.232	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1385.37	
9	0.7110	1150.3	1170.7	1170.2	1.028	3.783	71.479	21.103	2.237	0.099	0.232	0.017	0.021	0.000	0.000	0.000	0.000	0.000	1388.31	
10	0.7113	1150.8	1171.1	1170.7	1.024	3.788	71.394	21.209	2.215	0.098	0.233	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1388.59	
11	0.7095	1149.0	1169.4	1168.9	1.016	3.737	71.753	20.923	2.200	0.098	0.233	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1388.22	
12	0.7059	1142.6	1162.9	1162.4	1.012	3.794	72.477	20.149	2.196	0.098	0.233	0.018	0.023	0.000	0.000	0.000	0.000	0.000	1384.03	
13	0.7085	1146.5	1166.8	1166.3	1.006	3.810	71.959	20.641	2.215	0.098	0.231	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1386.17	
14	0.7091	1147.0	1167.3	1166.9	1.007	3.827	71.863	20.696	2.235	0.099	0.234	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1386.30	
15	0.7085	1145.1	1165.4	1164.9	1.027	3.861	71.980	20.540	2.221	0.098	0.233	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1384.52	
16	0.7082	1146.3	1166.6	1166.2	1.029	3.756	72.101	20.482	2.254	0.100	0.238	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1386.29	
17	0.7084	1146.1	1166.3	1165.9	1.036	3.778	71.992	20.632	2.192	0.097	0.232	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1385.73	
18	0.7076	1144.8	1165.0	1164.6	1.046	3.772	72.163	20.447	2.202	0.098	0.232	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1384.95	
19	0.7084	1148.1	1168.4	1167.9	1.028	3.672	71.993	20.736	2.205	0.097	0.230	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1388.18	
20	0.7104	1150.7	1171.0	1170.6	1.032	3.695	71.600	21.090	2.215	0.098	0.231	0.017	0.021	0.000	0.000	0.000	0.000	0.000	1389.37	
21	0.7093	1149.6	1169.9	1169.4	1.032	3.659	71.816	20.925	2.204	0.097	0.229	0.017	0.021	0.000	0.000	0.000	0.000	0.000	1389.11	
22	0.7117	1153.1	1173.5	1173.0	1.044	3.656	71.307	21.452	2.175	0.097	0.230	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1390.98	
23	0.7114	1152.0	1172.4	1171.9	1.033	3.709	71.362	21.342	2.188	0.097	0.230	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1389.97	
24	0.7133	1156.1	1176.5	1176.1	1.019	3.658	70.966	21.799	2.196	0.097	0.228	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1393.06	
25	0.7118	1154.0	1174.4	1173.9	1.007	3.665	71.254	21.519	2.190	0.097	0.229	0.017	0.021	0.000	0.000	0.000	0.000	0.000	1391.97	
26	0.7126	1154.2	1174.7	1174.2	1.012	3.718	71.100	21.603	2.203	0.097	0.229	0.017	0.021	0.000	0.000	0.000	0.000	0.000	1391.51	
27	0.7135	1156.2	1176.7	1176.2	1.006	3.684	70.916	21.840	2.193	0.096	0.227	0.017	0.021	0.000	0.000	0.000	0.000	0.000	1393.08	
28	0.7128	1154.5	1174.9	1174.4	1.006	3.724	71.037	21.694	2.181	0.096	0.225	0.017	0.021	0.000	0.000	0.000	0.000	0.000	1391.65	
29	0.7132	1155.1	1175.6	1175.1	0.999	3.740	70.915	21.818	2.168	0.096	0.227	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1392.00	
30	0.7113	1154.0	1174.4	1173.9	0.995	3.623	71.339	21.528	2.153	0.097	0.226	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1392.57	
31	0.7145	1158.0	1178.5	1178.0	1.029	3.635	71.099	21.348	2.496	0.107	0.246	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1394.23	
Avg	0.7103	1150.0	1170.0	1169.5	1.022	3.763	71.620	20.997	2.227	0.098	0.233	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1388.21	

Source Daily Summary

August 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	0.7552	1180.5	1201.4	1200.1	0.857	6.333	66.215	19.910	6.057	0.188	0.398	0.021	0.021	0.000	0.000	0.000	0.000	0.000	1382.49	
2	0.7547	1178.3	1199.2	1197.6	0.849	6.429	66.246	19.833	6.028	0.178	0.394	0.021	0.021	0.000	0.000	0.000	0.000	0.000	1380.35	
3	0.7566	1182.1	1203.0	1201.4	0.853	6.371	66.073	19.895	6.164	0.188	0.411	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1383.04	
4	0.7527	1175.6	1196.4	1195.1	0.853	6.407	66.482	19.754	5.915	0.172	0.378	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1378.97	
5	0.7537	1178.0	1198.9	1197.6	0.852	6.348	66.388	19.847	5.952	0.175	0.394	0.021	0.022	0.000	0.000	0.000	0.000	0.000	1380.95	
6	0.7544	1179.4	1200.3	1198.9	0.856	6.329	66.322	19.876	5.986	0.182	0.403	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1381.87	
7	0.7549	1180.1	1201.0	1199.5	0.857	6.329	66.236	19.938	6.020	0.176	0.397	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1382.25	
8	0.7554	1181.0	1201.9	1200.5	0.855	6.327	66.151	20.012	6.025	0.185	0.400	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1382.86	
9	0.7526	1175.1	1195.9	1194.6	0.857	6.418	66.374	19.937	5.866	0.163	0.349	0.018	0.018	0.000	0.000	0.000	0.000	0.000	1378.54	
10	0.7505	1172.1	1192.9	1191.6	0.858	6.397	66.596	19.933	5.684	0.163	0.336	0.016	0.016	0.000	0.000	0.000	0.000	0.000	1377.02	
11	0.7527	1176.7	1197.5	1196.3	0.857	6.331	66.424	19.983	5.799	0.182	0.384	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1380.26	
12	0.7532	1178.0	1198.8	1197.5	0.858	6.297	66.352	20.060	5.830	0.181	0.382	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1381.34	
13	0.7520	1175.7	1196.5	1195.2	0.860	6.322	66.441	20.031	5.801	0.163	0.347	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1379.80	
14	0.7540	1179.8	1200.6	1199.4	0.859	6.265	66.265	20.082	5.949	0.173	0.369	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1382.67	
15	0.7546	1180.1	1201.0	1199.9	0.858	6.301	66.252	19.972	6.010	0.180	0.386	0.021	0.021	0.000	0.000	0.000	0.000	0.000	1382.56	
16	0.7527	1177.1	1197.9	1197.0	0.859	6.300	66.628	19.659	5.914	0.189	0.405	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1380.79	
17	0.7535	1180.3	1201.2	1200.2	0.858	6.182	66.478	19.927	5.919	0.190	0.403	0.021	0.022	0.000	0.000	0.000	0.000	0.000	1383.78	
18	0.7546	1181.9	1202.8	1201.7	0.858	6.195	66.399	19.874	5.997	0.201	0.430	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1384.58	
19	0.7545	1181.5	1202.4	1201.4	0.855	6.208	66.453	19.808	5.976	0.204	0.446	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1384.29	
20	0.7513	1175.0	1195.8	1194.8	0.857	6.307	66.571	19.971	5.712	0.176	0.371	0.018	0.018	0.000	0.000	0.000	0.000	0.000	1379.57	
21	0.7507	1173.0	1193.7	1192.6	0.856	6.371	66.646	19.842	5.731	0.168	0.351	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1377.77	
22	0.7536	1177.7	1198.6	1197.4	0.854	6.354	66.319	19.986	5.883	0.180	0.383	0.020	0.020	0.000	0.000	0.000	0.000	0.000	1380.69	
23	0.7561	1181.9	1202.8	1201.5	0.862	6.329	66.028	20.118	6.025	0.185	0.406	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1383.21	
24	0.7553	1181.1	1202.0	1200.9	0.861	6.294	66.172	20.053	5.978	0.191	0.407	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1383.13	
25	0.7513	1173.1	1193.8	1192.8	0.861	6.418	66.500	19.939	5.739	0.163	0.345	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1377.31	
26	0.7523	1174.8	1195.6	1194.6	0.857	6.409	66.416	19.971	5.759	0.177	0.372	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1378.45	
27	0.7549	1179.5	1200.4	1199.3	0.861	6.362	66.092	20.197	5.854	0.183	0.404	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1381.56	
28	0.7543	1178.6	1199.4	1198.5	0.859	6.360	66.252	20.017	5.873	0.183	0.408	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1381.06	
29	0.7549	1177.4	1198.3	1197.4	0.860	6.487	66.222	19.865	5.877	0.195	0.442	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1379.13	
30	0.7521	1172.9	1193.7	1192.8	0.862	6.501	66.448	19.870	5.704	0.175	0.395	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1376.40	
31	0.7544	1179.8	1200.6	1199.7	0.859	6.304	66.250	20.063	5.877	0.177	0.420	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1382.29	
Avg	0.7537	1178.0	1198.9	1197.7	0.858	6.341	66.345	19.943	5.900	0.180	0.391	0.021	0.021	0.000	0.000	0.000	0.000	0.000	1380.93	

Source Daily Summary

August 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	0.7548	1176.9	1197.7	1197.4	0.900	6.457	66.024	20.145	5.914	0.177	0.345	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1378.55	
2	0.7563	1179.7	1200.6	1200.3	0.895	6.431	65.886	20.184	6.004	0.185	0.371	0.021	0.022	0.000	0.000	0.000	0.000	0.000	1380.50	
3	0.7527	1171.8	1192.6	1192.1	0.885	6.583	66.365	19.783	5.795	0.178	0.369	0.020	0.021	0.000	0.000	0.000	0.000	0.000	1374.61	
4	0.7584	1182.5	1203.5	1203.1	0.888	6.460	65.710	20.130	6.181	0.187	0.397	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1381.93	
5	0.7550	1178.1	1199.0	1198.3	0.876	6.431	66.180	19.897	6.001	0.180	0.392	0.022	0.022	0.000	0.000	0.000	0.000	0.000	1379.87	
6	0.7544	1179.4	1200.3	1198.9	0.856	6.329	66.322	19.876	5.986	0.182	0.403	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1381.87	
7	0.7544	1177.3	1198.2	1197.5	0.881	6.413	66.211	19.965	5.932	0.175	0.378	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1379.51	
8	0.7553	1177.9	1198.8	1198.4	0.894	6.440	66.061	20.054	5.950	0.177	0.377	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1379.40	
9	0.7571	1181.2	1202.1	1201.7	0.892	6.418	65.826	20.210	6.030	0.188	0.388	0.023	0.025	0.000	0.000	0.000	0.000	0.000	1381.51	
10	0.7543	1175.4	1196.2	1195.8	0.895	6.507	66.043	20.140	5.870	0.167	0.341	0.019	0.019	0.000	0.000	0.000	0.000	0.000	1377.28	
11	0.7519	1171.9	1192.6	1192.2	0.896	6.497	66.285	20.127	5.671	0.165	0.324	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1375.34	
12	0.7538	1175.8	1196.6	1196.2	0.895	6.431	66.171	20.134	5.777	0.183	0.369	0.020	0.021	0.000	0.000	0.000	0.000	0.000	1378.25	
13	0.7544	1177.3	1198.2	1197.8	0.895	6.391	66.094	20.217	5.813	0.182	0.368	0.020	0.021	0.000	0.000	0.000	0.000	0.000	1379.54	
14	0.7531	1175.1	1195.9	1195.5	0.898	6.410	66.227	20.128	5.795	0.166	0.339	0.019	0.019	0.000	0.000	0.000	0.000	0.000	1378.01	
15	0.7554	1179.0	1199.9	1199.1	0.895	6.381	65.970	20.249	5.930	0.175	0.359	0.021	0.021	0.000	0.000	0.000	0.000	0.000	1380.61	
16	0.7575	1182.3	1203.2	1202.0	0.894	6.385	65.785	20.238	6.073	0.188	0.390	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1382.45	
17	0.7558	1179.9	1200.8	1199.5	0.895	6.368	66.115	19.977	6.001	0.194	0.401	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1381.20	
18	0.7555	1179.4	1200.3	1199.0	0.896	6.370	66.048	20.129	5.938	0.189	0.384	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1380.90	
19	0.7569	1181.2	1202.1	1200.8	0.896	6.386	65.936	20.118	6.002	0.199	0.412	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1381.77	
20	0.7564	1180.3	1201.2	1200.0	0.893	6.399	66.044	20.006	5.981	0.201	0.423	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1381.18	
21	0.7528	1174.9	1195.7	1194.4	0.894	6.399	66.288	20.124	5.719	0.178	0.360	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1378.05	
22	0.7523	1173.0	1193.8	1192.6	0.893	6.463	66.339	20.010	5.745	0.170	0.342	0.019	0.019	0.000	0.000	0.000	0.000	0.000	1376.38	
23	0.7551	1177.7	1198.6	1197.3	0.891	6.442	66.004	20.186	5.880	0.182	0.372	0.021	0.021	0.000	0.000	0.000	0.000	0.000	1379.31	
24	0.7583	1182.9	1203.9	1203.3	0.905	6.399	65.633	20.388	6.039	0.189	0.398	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1382.53	
25	0.7581	1183.6	1204.5	1203.4	0.901	6.348	65.720	20.323	6.068	0.191	0.400	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1383.43	
26	0.7539	1174.9	1195.7	1194.5	0.900	6.487	66.105	20.144	5.810	0.170	0.345	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1377.14	
27	0.7536	1174.2	1195.0	1193.7	0.894	6.509	66.138	20.138	5.743	0.178	0.358	0.020	0.021	0.000	0.000	0.000	0.000	0.000	1376.58	
28	0.7564	1179.3	1200.2	1199.0	0.899	6.458	65.767	20.416	5.836	0.184	0.391	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1379.97	
29	0.7565	1179.7	1200.6	1199.9	0.896	6.442	65.851	20.271	5.902	0.187	0.401	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1380.38	
30	0.7542	1173.2	1194.0	1193.6	0.899	6.626	66.170	19.901	5.749	0.192	0.411	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1374.78	
31	0.7546	1174.3	1195.1	1194.8	0.899	6.591	66.043	20.085	5.757	0.181	0.395	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1375.80	
Avg	0.7551	1178.0	1198.6	1197.8	0.893	6.440	66.044	20.119	5.900	0.182	0.378	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1379.31	

Source Daily Summary

August 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	0.7547	1176.6	1197.5	1197.1	0.900	6.461	66.036	20.132	5.909	0.177	0.345	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1378.38	
2	0.7562	1179.6	1200.5	1200.2	0.894	6.428	65.906	20.168	6.005	0.184	0.370	0.021	0.022	0.000	0.000	0.000	0.000	0.000	1380.48	
3	0.7516	1170.2	1191.0	1189.9	0.888	6.573	66.526	19.699	5.722	0.179	0.371	0.020	0.021	0.000	0.000	0.000	0.000	0.000	1373.75	
4	0.7517	1170.2	1190.9	1190.4	0.889	6.581	66.417	19.851	5.711	0.169	0.343	0.019	0.019	0.000	0.000	0.000	0.000	0.000	1373.65	
5	0.7534	1173.9	1194.6	1194.4	0.891	6.517	66.297	19.849	5.866	0.176	0.364	0.020	0.020	0.000	0.000	0.000	0.000	0.000	1376.35	
6	0.7510	1169.8	1190.5	1190.3	0.892	6.545	66.534	19.787	5.695	0.169	0.341	0.019	0.019	0.000	0.000	0.000	0.000	0.000	1373.71	
7	0.7542	1175.7	1196.5	1196.0	0.895	6.471	66.218	19.938	5.873	0.176	0.388	0.020	0.021	0.000	0.000	0.000	0.000	0.000	1377.81	
8	0.7549	1177.3	1198.1	1197.9	0.895	6.448	66.113	20.011	5.933	0.177	0.377	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1378.95	
9	0.7572	1181.3	1202.2	1201.9	0.893	6.420	65.820	20.204	6.036	0.188	0.390	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1381.54	
10	0.7546	1175.8	1196.6	1196.3	0.895	6.507	66.024	20.138	5.885	0.168	0.344	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1377.49	
11	0.7517	1171.4	1192.2	1191.9	0.896	6.506	66.312	20.100	5.662	0.165	0.325	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1374.99	
12	0.7539	1175.8	1196.6	1196.3	0.895	6.440	66.161	20.129	5.781	0.183	0.370	0.020	0.021	0.000	0.000	0.000	0.000	0.000	1378.14	
13	0.7535	1175.6	1196.4	1196.0	0.895	6.417	66.184	20.172	5.752	0.179	0.360	0.020	0.020	0.000	0.000	0.000	0.000	0.000	1378.27	
14	0.7530	1174.6	1195.4	1194.9	0.898	6.423	66.246	20.108	5.782	0.166	0.339	0.019	0.019	0.000	0.000	0.000	0.000	0.000	1377.61	
15	0.7557	1179.7	1200.6	1199.8	0.895	6.375	65.927	20.270	5.956	0.175	0.359	0.021	0.022	0.000	0.000	0.000	0.000	0.000	1381.05	
16	0.7634	1193.3	1214.5	1213.5	0.895	6.259	65.178	20.540	6.392	0.217	0.461	0.029	0.030	0.000	0.000	0.000	0.000	0.000	1389.99	
17	0.7558	1179.8	1200.7	1199.7	0.896	6.369	66.121	19.972	5.998	0.194	0.402	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1381.13	
18	0.7555	1179.3	1200.2	1199.2	0.897	6.372	66.052	20.125	5.935	0.189	0.384	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1380.82	
19	0.7564	1180.3	1201.2	1200.2	0.897	6.396	65.982	20.100	5.971	0.197	0.407	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1381.15	
20	0.7563	1180.2	1201.1	1200.1	0.894	6.403	66.061	19.985	5.979	0.201	0.425	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1381.04	
21	0.7522	1173.7	1194.5	1193.6	0.894	6.408	66.360	20.088	5.678	0.177	0.357	0.019	0.019	0.000	0.000	0.000	0.000	0.000	1377.31	
22	0.7524	1173.2	1194.0	1193.0	0.894	6.462	66.325	20.016	5.751	0.170	0.343	0.019	0.019	0.000	0.000	0.000	0.000	0.000	1376.47	
23	0.7550	1177.6	1198.4	1197.4	0.893	6.436	66.023	20.183	5.869	0.182	0.372	0.021	0.022	0.000	0.000	0.000	0.000	0.000	1379.27	
24	0.7587	1183.5	1204.5	1203.6	0.903	6.409	65.586	20.387	6.071	0.191	0.403	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1382.80	
25	0.7596	1186.6	1207.7	1206.8	0.908	6.297	65.515	20.503	6.115	0.197	0.412	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1385.60	
26	0.7610	1188.1	1209.2	1208.2	0.899	6.345	65.376	20.464	6.242	0.199	0.420	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1386.10	
27	0.7528	1172.8	1193.6	1192.6	0.895	6.522	66.225	20.087	5.702	0.176	0.353	0.020	0.020	0.000	0.000	0.000	0.000	0.000	1375.65	
28	0.7553	1177.1	1198.0	1197.0	0.900	6.485	65.902	20.332	5.768	0.182	0.384	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1378.42	
29	0.7562	1179.3	1200.2	1199.6	0.897	6.441	65.877	20.266	5.883	0.186	0.399	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1380.16	
30	0.7554	1175.3	1196.1	1195.9	0.899	6.603	66.050	19.953	5.823	0.197	0.422	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1376.22	
31	0.7553	1175.6	1196.5	1196.2	0.899	6.580	65.964	20.120	5.799	0.184	0.403	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1376.65	
Avg	0.7551	1178.0	1198.4	1197.7	0.896	6.448	66.042	20.119	5.889	0.183	0.378	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1379.06	

Source Daily Summary

August 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	0.7553	1180.7	1201.6	1200.5	0.858	6.330	66.182	19.951	6.058	0.187	0.393	0.021	0.021	0.000	0.000	0.000	0.000	0.000	1382.60	
2	0.7545	1178.0	1198.9	1197.8	0.849	6.431	66.283	19.801	6.015	0.180	0.398	0.021	0.022	0.000	0.000	0.000	0.000	0.000	1380.16	
3	0.7568	1182.5	1203.4	1202.3	0.853	6.370	66.048	19.900	6.179	0.189	0.414	0.023	0.023	0.000	0.000	0.000	0.000	0.000	1383.27	
4	0.7532	1176.4	1197.2	1196.4	0.853	6.401	66.430	19.776	5.944	0.174	0.382	0.020	0.020	0.000	0.000	0.000	0.000	0.000	1379.48	
5	0.7540	1178.5	1199.4	1198.6	0.852	6.344	66.353	19.871	5.966	0.175	0.395	0.022	0.022	0.000	0.000	0.000	0.000	0.000	1381.29	
6	0.7545	1179.4	1200.3	1199.4	0.856	6.328	66.323	19.867	5.993	0.182	0.405	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1381.91	
7	0.7551	1180.4	1201.3	1200.4	0.858	6.324	66.214	19.952	6.032	0.177	0.397	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1382.51	
8	0.7564	1182.7	1203.7	1202.7	0.855	6.309	66.055	20.053	6.082	0.189	0.410	0.023	0.025	0.000	0.000	0.000	0.000	0.000	1384.03	
9	0.7529	1175.7	1196.5	1195.6	0.857	6.412	66.342	19.953	5.882	0.164	0.352	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1378.93	
10	0.7507	1172.6	1193.4	1192.5	0.858	6.394	66.567	19.945	5.701	0.163	0.337	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1377.31	
11	0.7528	1177.0	1197.8	1196.8	0.858	6.325	66.405	20.000	5.807	0.182	0.384	0.020	0.020	0.000	0.000	0.000	0.000	0.000	1380.49	
12	0.7534	1178.3	1199.2	1198.2	0.858	6.298	66.324	20.072	5.844	0.181	0.383	0.020	0.020	0.000	0.000	0.000	0.000	0.000	1381.55	
13	0.7526	1176.7	1197.5	1196.7	0.860	6.316	66.383	20.058	5.828	0.165	0.354	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1380.39	
14	0.7536	1178.9	1199.8	1198.9	0.859	6.276	66.297	20.074	5.924	0.170	0.361	0.019	0.019	0.000	0.000	0.000	0.000	0.000	1382.10	
15	0.7549	1180.5	1201.5	1200.4	0.858	6.297	66.211	20.012	6.017	0.179	0.384	0.021	0.022	0.000	0.000	0.000	0.000	0.000	1382.82	
16	0.7529	1177.2	1198.1	1197.2	0.859	6.317	66.632	19.594	5.946	0.193	0.415	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1380.71	
17	0.7537	1180.8	1201.7	1200.8	0.858	6.176	66.448	19.943	5.934	0.191	0.405	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1384.15	
18	0.7550	1182.5	1203.4	1202.4	0.858	6.187	66.341	19.934	6.004	0.200	0.429	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1385.01	
19	0.7550	1182.3	1203.2	1202.4	0.855	6.207	66.419	19.791	6.012	0.207	0.457	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1384.76	
20	0.7513	1174.9	1195.8	1195.1	0.857	6.304	66.578	19.970	5.706	0.176	0.371	0.019	0.019	0.000	0.000	0.000	0.000	0.000	1379.57	
21	0.7509	1173.4	1194.1	1193.4	0.856	6.367	66.622	19.856	5.743	0.168	0.352	0.018	0.018	0.000	0.000	0.000	0.000	0.000	1378.05	
22	0.7535	1177.7	1198.5	1197.6	0.855	6.347	66.331	19.991	5.873	0.180	0.383	0.020	0.021	0.000	0.000	0.000	0.000	0.000	1380.73	
23	0.7561	1181.7	1202.6	1201.7	0.862	6.337	66.028	20.112	6.024	0.184	0.405	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1383.06	
24	0.7559	1182.4	1203.3	1202.4	0.861	6.280	66.096	20.092	6.019	0.192	0.412	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1384.00	
25	0.7517	1173.7	1194.5	1193.7	0.861	6.412	66.457	19.964	5.757	0.165	0.348	0.018	0.018	0.000	0.000	0.000	0.000	0.000	1377.74	
26	0.7522	1174.8	1195.6	1194.7	0.857	6.404	66.430	19.962	5.761	0.176	0.370	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1378.46	
27	0.7549	1179.2	1200.1	1199.1	0.862	6.371	66.095	20.194	5.845	0.183	0.403	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1381.30	
28	0.7547	1179.4	1200.3	1199.4	0.859	6.346	66.203	20.053	5.896	0.184	0.410	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1381.70	
29	0.7536	1174.9	1195.7	1195.0	0.142	18.145	77.046	3.359	1.026	0.156	0.081	0.013	0.005	0.000	0.000	0.000	0.000	0.000	1377.38	
30	0.7527	1173.9	1194.7	1193.7	0.862	6.496	66.386	19.897	5.735	0.177	0.401	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1376.99	
31	0.7543	1179.6	1200.5	1199.5	0.860	6.305	66.264	20.056	5.869	0.177	0.420	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1382.17	
Avg	0.7538	1178.0	1199.1	1198.2	0.834	6.715	66.671	19.421	5.755	0.180	0.381	0.021	0.021	0.000	0.000	0.000	0.000	0.000	1381.12	

Source Daily Summary

August 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	0.6712	1101.1	1120.6	1119.6	0.950	3.157	78.262	16.097	1.410	0.041	0.079	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1367.83	
2	0.6791	1108.9	1128.6	1127.5	0.926	3.457	77.123	16.458	1.870	0.054	0.104	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1369.54	
3	0.6947	1122.5	1142.4	1141.6	0.896	4.105	74.881	17.084	2.757	0.081	0.165	0.008	0.009	0.000	0.000	0.000	0.000	0.000	1370.68	
4	0.6838	1113.3	1133.0	1132.4	0.918	3.645	76.550	16.483	2.183	0.068	0.139	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1370.14	
5	0.6723	1101.9	1121.4	1120.8	0.933	3.234	78.157	16.006	1.536	0.043	0.084	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1367.72	
6	0.6772	1107.1	1126.7	1126.0	0.950	3.357	77.434	16.329	1.765	0.051	0.104	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1369.12	
7	0.6800	1109.5	1129.2	1128.5	0.947	3.476	76.919	16.661	1.826	0.053	0.108	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1369.32	
8	0.6828	1113.5	1133.3	1132.4	0.946	3.489	76.546	16.855	1.974	0.059	0.120	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1371.52	
9	0.6763	1105.8	1125.4	1124.7	0.935	3.369	77.649	16.082	1.794	0.052	0.107	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1368.48	
10	0.6750	1104.8	1124.4	1123.6	0.931	3.315	77.861	15.976	1.753	0.052	0.102	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1368.57	
11	0.6695	1097.6	1117.0	1116.3	0.949	3.210	78.645	15.624	1.442	0.042	0.083	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1365.21	
12	0.6684	1095.8	1115.2	1114.6	0.944	3.224	78.816	15.479	1.415	0.040	0.077	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1364.09	
13	0.6736	1101.7	1121.2	1120.7	0.940	3.361	78.037	15.852	1.655	0.050	0.097	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1366.09	
14	0.6737	1102.0	1121.5	1120.7	0.950	3.333	77.975	15.984	1.608	0.048	0.093	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1366.45	
15	0.6729	1100.5	1120.0	1119.1	0.951	3.351	78.032	15.993	1.539	0.043	0.084	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1365.35	
16	0.6663	1093.6	1112.9	1112.4	0.955	3.147	79.133	15.362	1.285	0.038	0.074	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1363.48	
17	0.6641	1090.7	1110.0	1109.4	0.952	3.124	79.460	15.162	1.199	0.034	0.065	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1362.08	
18	0.6721	1100.9	1120.4	1119.5	0.957	3.247	78.134	16.069	1.457	0.043	0.085	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1366.60	
19	0.6769	1104.1	1123.6	1123.0	0.953	3.502	77.535	16.041	1.798	0.054	0.107	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1365.75	
20	0.6752	1102.1	1121.6	1121.2	0.974	3.431	77.781	15.971	1.677	0.051	0.103	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1365.02	
21	0.6728	1098.6	1118.0	1117.5	0.965	3.436	78.095	15.809	1.551	0.045	0.091	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1363.07	
22	0.6790	1104.9	1124.5	1123.6	0.926	3.695	77.215	16.023	1.964	0.056	0.111	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1364.63	
23	0.6855	1113.1	1132.8	1131.9	0.915	3.822	76.267	16.484	2.294	0.069	0.137	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1368.20	
24	0.6952	1122.9	1142.8	1142.0	0.904	4.144	74.793	17.152	2.737	0.081	0.170	0.009	0.010	0.000	0.000	0.000	0.000	0.000	1370.66	
25	0.6872	1114.6	1134.4	1133.8	0.911	3.888	75.972	16.680	2.318	0.071	0.144	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1368.46	
26	0.6655	1094.4	1113.8	1113.1	0.941	3.042	79.182	15.539	1.184	0.035	0.071	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1365.34	
27	0.6641	1092.2	1111.5	1110.7	0.966	3.015	79.294	15.600	1.040	0.028	0.054	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1363.92	
28	0.6629	1092.6	1111.9	1111.2	0.973	2.865	79.628	15.369	1.064	0.032	0.065	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1365.67	
29	0.6629	1092.1	1111.5	1110.7	0.982	2.877	79.427	15.733	0.910	0.023	0.046	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1365.20	
30	0.6825	1110.9	1130.6	1129.7	0.937	3.643	76.497	16.817	1.920	0.058	0.117	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1368.49	
31	0.6786	1108.1	1127.7	1127.0	0.947	3.427	77.088	16.680	1.686	0.051	0.108	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1369.02	
Avg	0.6755	1104.0	1123.5	1122.7	0.943	3.400	77.690	16.111	1.697	0.050	0.100	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1366.96	

Source Daily Summary

August 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	0.6698	1102.6	1122.1	1121.3	1.124	2.672	78.619	16.243	1.209	0.042	0.080	0.005	0.006	0.000	0.000	0.000	0.000	0.000	1371.08	
2	0.6699	1104.2	1123.8	1122.8	1.125	2.583	78.735	16.102	1.308	0.047	0.088	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1372.96	
3	0.6823	1124.3	1144.2	1143.5	0.833	2.958	76.253	18.134	1.662	0.051	0.098	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1385.31	
4	0.6876	1130.7	1150.7	1150.0	0.892	2.985	75.611	18.340	1.964	0.064	0.127	0.008	0.009	0.000	0.000	0.000	0.000	0.000	1387.67	
5	0.6834	1128.1	1148.1	1147.4	0.920	2.700	76.162	18.407	1.630	0.057	0.108	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1388.84	
6	0.6779	1117.9	1137.7	1137.0	1.008	2.678	77.232	17.389	1.524	0.053	0.101	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1381.78	
7	0.6748	1112.0	1131.7	1131.0	1.160	2.513	78.046	16.604	1.502	0.056	0.105	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1377.62	
8	0.6747	1110.2	1129.9	1129.2	1.157	2.611	77.920	16.755	1.395	0.052	0.097	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1375.62	
9	0.6736	1109.7	1129.3	1128.7	1.111	2.610	78.143	16.538	1.435	0.052	0.098	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1376.07	
10	0.6745	1112.9	1132.6	1131.9	0.894	2.837	77.615	17.106	1.410	0.043	0.084	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1379.03	
11	0.6804	1122.8	1142.6	1142.0	0.903	2.771	76.671	17.908	1.578	0.053	0.102	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1385.28	
12	0.6802	1121.0	1140.9	1140.1	1.039	2.652	76.987	17.471	1.662	0.060	0.113	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1383.30	
13	0.6794	1116.9	1136.7	1135.9	1.025	2.853	77.110	17.150	1.674	0.059	0.113	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1378.99	
14	0.6706	1117.3	1137.1	1136.4	0.975	3.058	77.617	16.988	1.229	0.046	0.086	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1388.57	
15	0.6700	1118.2	1138.0	1137.3	0.972	3.000	77.690	17.000	1.208	0.045	0.085	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1390.29	
16	0.6700	1118.2	1138.0	1137.3	0.972	3.000	77.690	17.000	1.208	0.045	0.085	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1390.29	
17	0.6700	1118.2	1138.0	1137.3	0.972	3.000	77.690	17.000	1.208	0.045	0.085	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1390.29	
18	0.6719	1119.4	1139.2	1138.5	0.931	3.071	77.435	17.110	1.314	0.048	0.090	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1389.77	
19	0.6866	1130.7	1150.7	1150.0	0.438	3.578	75.382	18.300	2.120	0.060	0.109	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1388.70	
20	0.6865	1129.0	1149.0	1148.4	0.482	3.607	75.360	18.339	2.011	0.065	0.121	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1386.74	
21	0.6813	1120.7	1140.5	1139.9	0.412	3.726	76.235	17.496	1.958	0.058	0.103	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1381.81	
22	0.6688	1103.5	1123.1	1122.4	0.268	3.816	78.128	16.095	1.587	0.037	0.062	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1373.31	
23	0.6697	1110.4	1130.1	1129.4	0.125	3.706	77.945	16.356	1.788	0.032	0.046	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1380.86	
24	0.6748	1114.5	1134.3	1133.6	0.301	3.656	77.363	16.627	1.902	0.051	0.090	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1380.82	
25	0.6565	1084.1	1103.2	1102.6	0.193	3.967	80.408	13.882	1.430	0.038	0.072	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1361.48	
26	0.6683	1105.8	1125.4	1124.7	0.230	3.690	78.115	16.367	1.496	0.035	0.062	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1376.65	
27	0.6709	1110.0	1129.7	1129.0	0.205	3.720	77.586	16.821	1.588	0.030	0.047	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1379.18	
28	0.6725	1111.4	1131.1	1130.4	0.219	3.759	77.484	16.687	1.746	0.037	0.062	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1379.32	
29	0.6765	1115.1	1134.9	1134.2	0.325	3.747	76.944	17.013	1.822	0.050	0.090	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1379.82	
30	0.6704	1107.5	1127.1	1126.4	0.227	3.789	77.747	16.553	1.580	0.036	0.061	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1376.57	
31	0.6605	1084.5	1103.7	1103.0	0.377	4.032	80.024	13.793	1.625	0.050	0.090	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1357.79	
Avg	0.6743	1114.0	1133.7	1133.0	0.704	3.205	77.482	16.889	1.573	0.048	0.089	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1380.51	

Source Daily Summary

August 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	0.6918	1165.1	1185.7	1184.1	0.000	2.653	72.446	24.007	0.867	0.009	0.016	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1425.54	-22.05
2	0.6924	1165.9	1186.5	1185.0	0.001	2.661	72.333	24.099	0.880	0.009	0.016	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1425.88	-21.72
3	0.6918	1164.3	1184.9	1183.4	0.000	2.678	72.443	23.989	0.863	0.009	0.016	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1424.59	-22.12
4	0.6910	1162.8	1183.4	1181.9	0.000	2.712	72.448	24.096	0.727	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.67	-23.20
5	0.6902	1160.3	1180.9	1179.3	0.000	2.790	72.547	23.977	0.663	0.008	0.014	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1421.41	-23.90
6	0.6890	1158.6	1179.1	1177.6	0.000	2.788	72.754	23.803	0.632	0.008	0.013	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1420.45	-24.61
7	0.6895	1159.7	1180.2	1178.8	0.000	2.764	72.676	23.892	0.645	0.008	0.014	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1421.33	-24.26
8	0.6907	1161.6	1182.2	1180.8	0.000	2.759	72.565	23.882	0.769	0.009	0.015	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1422.44	-23.22
9	0.6913	1163.1	1183.7	1182.2	0.000	2.726	72.496	23.923	0.833	0.009	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.64	-22.70
10	0.6899	1161.1	1181.7	1180.3	0.000	2.713	72.613	24.001	0.649	0.008	0.014	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1422.67	-23.94
11	0.6923	1164.8	1185.5	1184.0	0.000	2.710	72.445	23.854	0.958	0.012	0.020	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1424.77	-21.61
12	0.6894	1160.6	1181.1	1179.7	0.000	2.701	72.694	23.947	0.635	0.008	0.014	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1422.53	-24.19
13	0.6895	1160.8	1181.3	1179.8	0.000	2.695	72.680	23.974	0.628	0.008	0.014	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1422.69	-24.17
14	0.6885	1159.3	1179.8	1178.2	0.000	2.695	72.819	23.886	0.584	0.006	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.86	-24.94
15	0.6872	1156.8	1177.2	1175.5	0.000	2.729	73.005	23.731	0.521	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.10	-25.90
16	0.6868	1156.2	1176.7	1174.9	0.000	2.721	73.044	23.750	0.471	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.88	-26.29
17	0.6869	1156.5	1177.0	1175.3	0.000	2.711	73.008	23.756	0.493	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.12	-26.06
18	0.6880	1158.3	1178.8	1177.0	0.000	2.710	72.929	23.747	0.598	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.14	-25.18
19	0.6873	1156.9	1177.4	1175.8	0.000	2.726	72.956	23.814	0.490	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.22	-25.98
20	0.6864	1155.7	1176.2	1174.1	0.000	2.715	73.119	23.683	0.469	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.66	-26.48
21	0.6891	1160.3	1180.8	1179.3	0.000	2.690	72.807	23.799	0.681	0.008	0.014	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1422.46	-24.17
22	0.6905	1162.0	1182.6	1181.0	0.000	2.712	72.664	23.782	0.816	0.009	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.17	-23.04
23	0.6905	1162.1	1182.7	1181.3	0.000	2.707	72.690	23.727	0.849	0.009	0.017	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1423.31	-22.87
24	0.6899	1161.0	1181.6	1180.0	0.000	2.721	72.772	23.658	0.829	0.008	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1422.54	-23.39
25	0.6889	1159.4	1179.9	1178.1	0.000	2.725	72.883	23.649	0.717	0.009	0.016	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1421.58	-24.19
26	0.6890	1159.3	1179.8	1178.3	0.000	2.742	72.906	23.557	0.770	0.009	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.32	-24.01
27	0.6894	1159.5	1180.1	1178.5	0.000	2.757	72.869	23.544	0.805	0.009	0.014	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1421.31	-23.74
28	0.6893	1160.1	1180.6	1179.1	0.000	2.721	72.843	23.643	0.768	0.009	0.015	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1422.02	-23.80
29	0.6891	1159.6	1180.1	1178.6	0.000	2.736	72.865	23.612	0.769	0.007	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.56	-24.04
30	0.6893	1160.1	1180.6	1179.2	0.000	2.721	72.854	23.624	0.777	0.008	0.015	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1422.01	-23.78
31	0.6891	1159.6	1180.2	1178.7	0.000	2.727	72.883	23.608	0.759	0.008	0.015	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1421.70	-23.98
Avg	0.6895	1160.0	1180.9	1179.3	0.000	2.720	72.744	23.807	0.707	0.008	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1422.18	-23.98

Source Daily Summary

August 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	0.5723	962.5	979.5	978.0	0.110	3.577	95.995	0.295	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.82	
2	0.5729	963.3	980.4	979.1	0.111	3.584	95.890	0.380	0.024	0.009	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1295.25	
3	0.5740	964.7	981.8	980.7	0.114	3.594	95.719	0.517	0.039	0.010	0.003	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1295.91	
4	0.5728	963.1	980.2	979.4	0.110	3.583	95.913	0.362	0.022	0.009	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1295.15	
5	0.5725	962.5	979.5	978.8	0.107	3.600	95.957	0.311	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.58	
6	0.5723	962.4	979.4	978.3	0.107	3.591	95.986	0.293	0.014	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.63	
7	0.5723	962.4	979.4	978.7	0.107	3.589	95.989	0.293	0.014	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.67	
8	0.5723	962.4	979.5	978.5	0.108	3.584	95.991	0.294	0.014	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.74	
9	0.5723	962.3	979.4	978.3	0.108	3.592	95.984	0.294	0.014	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.59	
10	0.5723	962.3	979.4	978.4	0.107	3.595	95.982	0.294	0.014	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.56	
11	0.5723	962.4	979.5	978.6	0.109	3.583	95.991	0.295	0.014	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.74	
12	0.5723	962.4	979.5	978.6	0.110	3.582	95.992	0.294	0.014	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.73	
13	0.5723	962.4	979.5	978.9	0.109	3.585	95.991	0.293	0.014	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.71	
14	0.5729	963.5	980.6	979.7	0.111	3.574	95.892	0.386	0.025	0.009	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1295.45	
15	0.5723	962.5	979.6	978.3	0.109	3.571	96.004	0.294	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.95	
16	0.5722	962.6	979.6	978.7	0.108	3.569	96.006	0.294	0.014	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.00	
17	0.5722	962.6	979.7	978.5	0.108	3.565	96.010	0.294	0.014	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.08	
18	0.5722	962.7	979.7	978.4	0.108	3.563	96.012	0.295	0.014	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.13	
19	0.5722	962.7	979.7	978.9	0.108	3.561	96.013	0.295	0.014	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.16	
20	0.5722	962.7	979.8	979.1	0.108	3.555	96.019	0.295	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.27	
21	0.5722	962.6	979.6	978.7	0.108	3.570	96.006	0.294	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.99	
22	0.5722	962.7	979.8	978.5	0.109	3.555	96.018	0.295	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.26	
23	0.5722	962.8	979.9	978.6	0.109	3.547	96.025	0.296	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.39	
24	0.5722	962.8	979.9	978.8	0.109	3.545	96.027	0.296	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.44	
25	0.5722	962.6	979.6	978.8	0.108	3.570	96.005	0.294	0.014	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.99	
26	0.5723	962.5	979.5	978.4	0.107	3.577	96.000	0.294	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.88	
27	0.5722	962.6	979.6	978.6	0.108	3.571	96.005	0.294	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.99	
28	0.5722	962.6	979.6	978.7	0.108	3.569	96.006	0.295	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.01	
29	0.5722	962.6	979.6	978.4	0.108	3.571	96.004	0.295	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.97	
30	0.5722	962.6	979.7	978.7	0.108	3.568	96.007	0.295	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.05	
31	0.5722	962.6	979.7	978.9	0.108	3.565	96.009	0.296	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.10	
Avg	0.5724	963.0	979.7	978.7	0.109	3.574	95.982	0.310	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.01	

Gas Composition and Properties

Effective August 1, 2023

Attachment B
Page 19 of 24

Source #: 2702230
Name: WATFORD CITY EAST BORDER

Component	Mole %	Liquid Content	Mass %	Property	Total Sample	C6 Plus Fraction
Carbon Dioxide, CO2	1.2382		2.8167	Pressure Base	14.730	
Nitrogen, N2	2.6389		3.8211	Temperature Base	60.00	
Methane, C1	77.7323		64.4582	HCDP @ Sample Pressure		
Ethane, C2	17.9601	4.8044	27.9146	Cricondentherm	-39.634	
Propane, C3	0.4191	0.1155	0.9552	HV, Dry @ Base P, T	1119.57	4755.9000
iso-Butane, iC4	0.0038	0.0012	0.0114	HV, Sat @ Base P, T	1100.09	
n-Butane, nC4	0.0076	0.0024	0.0228	HV, Sat @ Sample P, T	1119.57	
iso-Pentane, iC5				Relative Density	0.6696	0.66406
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	4.9220	100.0000			

Sample

Date: 08/01/2023 Type:

Tech: Sampson, Wayne

Pressure: Temp.:

Gauge: H2O:

Atm. Pressure: H2S:

Remarks:

Analysis

Date: 08/01/2023 Instrument:

 Cylinder:

Tech: Sampson, Wayne

Remarks:

August-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	
8/1/2023	8/2/2023	0	0	0	764	917	1201.6	1201.600	8/1/2023
8/2/2023	8/3/2023	0	0	0	749	898	1198.9	1198.900	8/2/2023
8/3/2023	8/4/2023	8,589	9,494	1,106	764	920	1203.4	1114.323	8/3/2023
8/4/2023	8/5/2023	0	0	0	809	969	1197.2	1197.200	8/4/2023
8/5/2023	8/6/2023	0	0	0	765	918	1199.4	1199.400	8/5/2023
8/6/2023	8/7/2023	0	0	0	763	916	1200.3	1200.300	8/6/2023
8/7/2023	8/8/2023	0	0	0	830	996	1201.3	1201.300	8/7/2023
8/8/2023	8/9/2023	9,366	10,407	1,110	848	1,020	1202.4	1117.855	8/8/2023
8/9/2023	8/10/2023	8,298	9,170	1,106	850	1,017	1196.5	1114.772	8/9/2023
8/10/2023	8/11/2023	0	0	0	851	1,016	1193.4	1193.400	8/10/2023
8/11/2023	8/12/2023	0	0	0	768	919	1197.8	1197.800	8/11/2023
8/12/2023	8/13/2023	0	0	0	685	822	1199.2	1199.200	8/12/2023
8/13/2023	8/14/2023	0	0	0	809	969	1197.5	1197.500	8/13/2023
8/14/2023	8/15/2023	0	0	0	797	956	1199.8	1199.800	8/14/2023
8/15/2023	8/16/2023	0	0	0	797	958	1201.5	1201.500	8/15/2023
8/16/2023	8/17/2023	0	0	0	841	1,008	1198.1	1198.100	8/16/2023
8/17/2023	8/18/2023	0	0	0	824	991	1201.7	1201.700	8/17/2023
8/18/2023	8/19/2023	0	0	0	750	903	1203.4	1203.400	8/18/2023
8/19/2023	8/20/2023	0	0	0	740	891	1203.2	1203.200	8/19/2023
8/20/2023	8/21/2023	0	0	0	830	992	1195.8	1195.800	8/20/2023
8/21/2023	8/22/2023	4,430	4,851	1,094	915	1,092	1194.1	1111.385	8/21/2023
8/22/2023	8/23/2023	10,755	11,814	1,101	879	1,053	1198.5	1108.367	8/22/2023
8/23/2023	8/24/2023	11,126	12,239	1,101	851	1,024	1202.6	1108.219	8/23/2023
8/24/2023	8/25/2023	9,643	10,610	1,101	841	1,011	1203.3	1109.114	8/24/2023
8/25/2023	8/26/2023	1,839	2,021	1,100	816	975	1194.5	1129.183	8/25/2023
8/26/2023	8/27/2023	0	0	0	731	873	1195.6	1195.600	8/26/2023
8/27/2023	8/28/2023	0	0	0	745	893	1200.1	1200.100	8/27/2023
8/28/2023	8/29/2023	0	0	0	783	940	1200.3	1200.300	8/28/2023
8/29/2023	8/30/2023	6,101	6,755	1,108	777	930	1195.7	1117.907	8/29/2023
8/30/2023	8/31/2023	0	0	0	805	962	1194.7	1194.700	8/30/2023
8/31/2023	9/1/2023	600	669	1115	802	962	1200.5	1163.909	8/31/2023
		70,747	78,030	356.2387	24,779	29,711	1199.1065	1173.4140	



Alliance Pipeline

DAILY ANALYSIS --- USA
 ND07MD1 --- Hankinson Sales
 August 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	1,156.361	0.6589	84.8598	9.3687	3.4676	0.3737	0.6635	0.0676	0.0586	0.0284	0.7997	0.3039	0.0085
2	1,155.248	0.6579	84.9728	9.3712	3.3976	0.3687	0.6485	0.0677	0.0599	0.0299	0.7711	0.3041	0.0085
3	1,157.539	0.6596	84.8401	9.3067	3.5258	0.3797	0.6819	0.0683	0.0598	0.0309	0.7970	0.3012	0.0085
4	1,158.749	0.6608	84.6389	9.4435	3.5568	0.3808	0.6843	0.0691	0.0599	0.0283	0.8128	0.3160	0.0097
5	1,158.618	0.6607	84.5774	9.5403	3.5469	0.3737	0.6694	0.0650	0.0572	0.0287	0.8127	0.3190	0.0097
6	1,158.399	0.6607	84.5720	9.5423	3.5399	0.3719	0.6700	0.0671	0.0577	0.0268	0.8306	0.3118	0.0099
7	1,158.849	0.6609	84.6464	9.4178	3.5442	0.3834	0.6885	0.0752	0.0648	0.0311	0.8320	0.3073	0.0095
8	1,159.239	0.6610	84.6347	9.4282	3.5525	0.3822	0.6903	0.0760	0.0645	0.0326	0.8288	0.3008	0.0095
9	1,161.434	0.6622	84.5038	9.5072	3.5857	0.3902	0.7064	0.0801	0.0687	0.0355	0.8137	0.2989	0.0097
10	1,161.374	0.6626	84.4806	9.4601	3.6159	0.3941	0.7161	0.0785	0.0669	0.0343	0.8258	0.3181	0.0096
11	1,161.634	0.6627	84.4693	9.4689	3.6438	0.3910	0.7149	0.0751	0.0651	0.0313	0.8141	0.3170	0.0094
12	1,158.858	0.6612	84.5258	9.5518	3.5688	0.3700	0.6677	0.0676	0.0587	0.0289	0.8168	0.3342	0.0097
13	1,160.137	0.6617	84.5130	9.5219	3.6012	0.3820	0.6943	0.0692	0.0567	0.0261	0.8016	0.3236	0.0103
14	1,161.745	0.6626	84.4794	9.4571	3.6584	0.3901	0.7146	0.0741	0.0648	0.0301	0.8007	0.3205	0.0103
15	1,160.664	0.6623	84.4591	9.4830	3.6817	0.3774	0.6880	0.0684	0.0583	0.0271	0.8172	0.3295	0.0102
16	1,159.469	0.6611	84.5105	9.5437	3.6743	0.3592	0.6277	0.0683	0.0580	0.0270	0.8114	0.3096	0.0104
17	1,160.430	0.6615	84.5465	9.4375	3.7516	0.3658	0.6233	0.0719	0.0625	0.0296	0.7975	0.3034	0.0104
18	1,159.488	0.6609	84.5225	9.4931	3.7969	0.3471	0.5710	0.0667	0.0575	0.0278	0.8068	0.3002	0.0105
19	1,158.512	0.6604	84.5791	9.4815	3.7508	0.3475	0.5606	0.0684	0.0588	0.0286	0.8067	0.3077	0.0105
20	1,157.041	0.6595	84.6952	9.4161	3.7233	0.3411	0.5485	0.0652	0.0570	0.0290	0.7957	0.3187	0.0102
21	1,155.648	0.6585	84.7879	9.4122	3.6788	0.3333	0.5335	0.0613	0.0529	0.0277	0.7809	0.3208	0.0106
22	1,159.331	0.6621	84.3158	9.5452	3.8850	0.3386	0.5580	0.0622	0.0529	0.0247	0.8694	0.3378	0.0104
23	1,160.083	0.6621	84.3176	9.6279	3.8185	0.3466	0.5763	0.0635	0.0544	0.0239	0.8121	0.3491	0.0102
24	1,159.717	0.6622	84.3696	9.4734	3.8774	0.3468	0.5844	0.0627	0.0558	0.0254	0.8530	0.3413	0.0102
25	1,158.817	0.6623	84.2349	9.6474	3.8017	0.3420	0.5833	0.0574	0.0508	0.0232	0.8942	0.3551	0.0099
26	1,161.664	0.6643	83.9877	9.6735	4.0175	0.3426	0.5730	0.0539	0.0482	0.0229	0.9255	0.3457	0.0098
27	1,161.050	0.6636	84.0750	9.7060	3.8797	0.3478	0.6005	0.0577	0.0514	0.0240	0.9090	0.3390	0.0098
28	1,161.659	0.6641	84.0869	9.6384	3.9014	0.3575	0.6112	0.0621	0.0555	0.0266	0.8939	0.3562	0.0102
29	1,159.632	0.6625	84.2509	9.6389	3.7953	0.3444	0.5963	0.0600	0.0548	0.0272	0.8772	0.3448	0.0102
30	1,160.474	0.6631	84.1638	9.6874	3.8186	0.3481	0.6029	0.0592	0.0546	0.0265	0.8792	0.3493	0.0102
31	1,162.012	0.6643	84.0357	9.7155	3.8783	0.3547	0.6140	0.0613	0.0569	0.0279	0.8924	0.3535	0.0098
Volume	1,159.483	0.6616	84.4728	9.5163	3.6942	0.3637	0.6346	0.0668	0.0582	0.0281	0.8316	0.3237	0.0099
Weight Avg Energy	1,159.485	0.6616	84.4726	9.5164	3.6943	0.3637	0.6346	0.0668	0.0582	0.0281	0.8316	0.3238	0.0099



Alliance Pipeline

DAILY ANALYSIS --- USA
 ND14MD1 --- Milnor Sales
 August 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	1,156.422	0.6589	84.8499	9.3821	3.4669	0.3729	0.6621	0.0675	0.0587	0.0286	0.7987	0.3041	0.0085
2	1,155.078	0.6578	84.9925	9.3594	3.3905	0.3686	0.6482	0.0679	0.0601	0.0303	0.7699	0.3041	0.0085
3	1,157.971	0.6599	84.8097	9.3053	3.5481	0.3815	0.6868	0.0685	0.0597	0.0304	0.8012	0.3003	0.0085
4	1,158.593	0.6607	84.6185	9.4782	3.5467	0.3785	0.6796	0.0685	0.0591	0.0278	0.8136	0.3196	0.0099
5	1,158.375	0.6606	84.5861	9.5365	3.5370	0.3704	0.6682	0.0660	0.0587	0.0294	0.8194	0.3185	0.0098
6	1,157.490	0.6601	84.6431	9.4927	3.5223	0.3695	0.6682	0.0659	0.0561	0.0258	0.8369	0.3095	0.0099
7	1,159.240	0.6611	84.6297	9.4167	3.5553	0.3860	0.6916	0.0762	0.0658	0.0318	0.8302	0.3075	0.0093
8	1,159.322	0.6611	84.6261	9.4355	3.5523	0.3818	0.6918	0.0760	0.0644	0.0328	0.8306	0.2991	0.0096
9	1,161.514	0.6623	84.5051	9.5016	3.5891	0.3910	0.7078	0.0802	0.0689	0.0355	0.8109	0.3004	0.0096
10	1,161.578	0.6628	84.4656	9.4657	3.6193	0.3956	0.7179	0.0794	0.0677	0.0340	0.8250	0.3201	0.0096
11	1,161.636	0.6626	84.4590	9.4864	3.6465	0.3892	0.7107	0.0739	0.0644	0.0313	0.8130	0.3162	0.0093
12	1,158.454	0.6606	84.5624	9.5730	3.5474	0.3652	0.6594	0.0659	0.0574	0.0277	0.8143	0.3177	0.0096
13	1,161.158	0.6623	84.4678	9.5172	3.6275	0.3878	0.7087	0.0710	0.0588	0.0276	0.8031	0.3200	0.0104
14	1,161.488	0.6625	84.4907	9.4606	3.6529	0.3879	0.7094	0.0734	0.0643	0.0300	0.7992	0.3213	0.0103
15	1,160.654	0.6623	84.4560	9.4847	3.6896	0.3755	0.6830	0.0685	0.0585	0.0272	0.8181	0.3286	0.0102
16	1,159.499	0.6612	84.5026	9.5468	3.6762	0.3598	0.6285	0.0682	0.0577	0.0264	0.8133	0.3101	0.0104
17	1,160.236	0.6613	84.5670	9.4288	3.7537	0.3639	0.6150	0.0718	0.0629	0.0301	0.7954	0.3011	0.0104
18	1,159.410	0.6609	84.5298	9.4759	3.8016	0.3475	0.5717	0.0669	0.0575	0.0276	0.8089	0.3022	0.0105
19	1,158.129	0.6600	84.6140	9.4778	3.7399	0.3455	0.5538	0.0678	0.0582	0.0273	0.8024	0.3029	0.0105
20	1,157.055	0.6595	84.6974	9.4340	3.7170	0.3404	0.5425	0.0649	0.0571	0.0303	0.7839	0.3224	0.0101
21	1,155.733	0.6587	84.7520	9.4327	3.6851	0.3326	0.5344	0.0609	0.0524	0.0268	0.7899	0.3224	0.0107
22	1,159.719	0.6624	84.2822	9.5617	3.8944	0.3401	0.5612	0.0625	0.0534	0.0248	0.8699	0.3395	0.0103
23	1,160.303	0.6622	84.3072	9.6384	3.8253	0.3460	0.5768	0.0633	0.0542	0.0235	0.8064	0.3486	0.0102
24	1,159.220	0.6620	84.3885	9.4626	3.8524	0.3470	0.5865	0.0630	0.0564	0.0260	0.8660	0.3415	0.0102
25	1,159.238	0.6626	84.1965	9.6569	3.8337	0.3415	0.5813	0.0566	0.0499	0.0228	0.8943	0.3565	0.0099
26	1,160.814	0.6637	84.0561	9.6608	3.9587	0.3432	0.5804	0.0531	0.0474	0.0223	0.9290	0.3395	0.0095
27	1,162.275	0.6642	84.0402	9.7300	3.8876	0.3545	0.6115	0.0613	0.0550	0.0256	0.8846	0.3398	0.0099
28	1,161.167	0.6639	84.1207	9.6128	3.8942	0.3558	0.6092	0.0614	0.0548	0.0262	0.8969	0.3577	0.0103
29	1,159.752	0.6625	84.2455	9.6589	3.7839	0.3445	0.5961	0.0609	0.0559	0.0279	0.8719	0.3444	0.0102
30	1,160.714	0.6634	84.1263	9.6894	3.8472	0.3478	0.6027	0.0582	0.0536	0.0257	0.8883	0.3506	0.0102
31	1,162.240	0.6645	84.0313	9.7095	3.8749	0.3603	0.6203	0.0623	0.0576	0.0280	0.8900	0.3561	0.0097
Volume	1,159.549	0.6616	84.4775	9.5120	3.6915	0.3647	0.6370	0.0674	0.0587	0.0283	0.8298	0.3233	0.0099
Weight Avg Energy	1,159.546	0.6616	84.4782	9.5113	3.6914	0.3647	0.6371	0.0674	0.0587	0.0284	0.8298	0.3232	0.0099

August-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		
8/1/2023	8/2/2023	8	9	1210.4	93	104	1119.6	1126.792	8/1/2023
8/2/2023	8/3/2023	1	2	1210.4	89	100	1119.6	1120.609	8/2/2023
8/3/2023	8/4/2023	8	9	1210.4	93	104	1119.6	1126.792	8/3/2023
8/4/2023	8/5/2023	4	5	1210.4	116	130	1119.6	1122.627	8/4/2023
8/5/2023	8/6/2023	2	2	1210.4	88	98	1119.6	1121.618	8/5/2023
8/6/2023	8/7/2023	4	5	1210.4	79	89	1119.6	1123.976	8/6/2023
8/7/2023	8/8/2023	6	7	1210.4	101	113	1119.6	1124.692	8/7/2023
8/8/2023	8/9/2023	9	11	1210.4	96	108	1119.6	1127.383	8/8/2023
8/9/2023	8/10/2023	16	19	1210.4	116	130	1119.6	1130.606	8/9/2023
8/10/2023	8/11/2023	18	22	1210.4	87	97	1119.6	1135.166	8/10/2023
8/11/2023	8/12/2023	10	12	1210.4	89	99	1119.6	1128.772	8/11/2023
8/12/2023	8/13/2023	7	9	1210.4	91	102	1119.6	1126.086	8/12/2023
8/13/2023	8/14/2023	5	6	1210.4	109	122	1119.6	1123.582	8/13/2023
8/14/2023	8/15/2023	3	3	1210.4	73	82	1119.6	1123.184	8/14/2023
8/15/2023	8/16/2023	8	10	1210.4	78	87	1119.6	1128.047	8/15/2023
8/16/2023	8/17/2023	29	36	1210.4	94	105	1119.6	1141.008	8/16/2023
8/17/2023	8/18/2023	5	6	1210.4	70	78	1119.6	1125.653	8/17/2023
8/18/2023	8/19/2023	0	0	1210.4	71	79	1119.6	1119.600	8/18/2023
8/19/2023	8/20/2023	13	16	1210.4	70	78	1119.6	1133.822	8/19/2023
8/20/2023	8/21/2023	35	42	1210.4	119	134	1119.6	1140.236	8/20/2023
8/21/2023	8/22/2023	30	36	1210.4	117	131	1119.6	1138.131	8/21/2023
8/22/2023	8/23/2023	12	14	1210.4	103	115	1119.6	1129.075	8/22/2023
8/23/2023	8/24/2023	10	12	1210.4	79	88	1119.6	1129.802	8/23/2023
8/24/2023	8/25/2023	39	47	1210.4	93	104	1119.6	1146.427	8/24/2023
8/25/2023	8/26/2023	24	29	1210.4	85	95	1119.6	1139.593	8/25/2023
8/26/2023	8/27/2023	5	6	1210.4	86	96	1119.6	1124.589	8/26/2023
8/27/2023	8/28/2023	16	19	1210.4	77	86	1119.6	1135.222	8/27/2023
8/28/2023	8/29/2023	18	22	1210.4	91	101	1119.6	1134.594	8/28/2023
8/29/2023	8/30/2023	23	28	1210.4	88	98	1119.6	1138.414	8/29/2023
8/30/2023	8/31/2023	41	50	1210.4	87	98	1119.6	1148.684	8/30/2023
8/31/2023	9/1/2023	58	71	1210.4	93	104	1119.6	1154.477	8/31/2023
		467	565	1210.4000	2,821	3,155	1119.6000	1131.2664	

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	6/29/2023 0:00	9/14/2023 0:00	GLNU1 - GLEN ULLIN	8/1/2023	8/2/2023	1109	0.6605	-41.1	1364.567851	0.9735	2.7665	79.6834	15.5894	0.8344	0.0224	0.0434	0.0021	0.0018	N/A	0	0.0577	0.0254	0.2884	0.0843	0.0607	0.0015
NBPL	6/29/2023 0:00	9/14/2023 0:00	GLNU1 - GLEN ULLIN	8/2/2023	8/3/2023	1107	0.6585	-42.7	1364.173885	0.962	2.7034	80.0981	15.3615	0.7762	0.0191	0.0361	0.0016	0.0014	N/A	0	0.0159	0.0249	0.2951	0.0813	0.06	0.001
NBPL	6/29/2023 0:00	9/14/2023 0:00	GLNU1 - GLEN ULLIN	8/3/2023	8/4/2023	1107	0.6585	-42.7	1364.173885	0.962	2.7034	80.0981	15.3615	0.7762	0.0191	0.0361	0.0016	0.0014	N/A	0	0.0159	0.0249	0.2951	0.0813	0.06	0.001
NBPL	6/29/2023 0:00	9/14/2023 0:00	GLNU1 - GLEN ULLIN	8/4/2023	8/5/2023	1107	0.6585	-42.7	1364.173885	0.9671	2.7203	80.1027	15.3322	0.7754	0.02	0.0378	0.0017	0.0016	N/A	0	0.0159	0.0256	0.2878	0.0871	0.0701	0.0008
NBPL	6/29/2023 0:00	9/14/2023 0:00	GLNU1 - GLEN ULLIN	8/5/2023	8/6/2023	1107	0.6582	-43	1364.484737	0.9714	2.7	80.1388	15.3373	0.7511	0.0197	0.0376	0.0018	0.0016	N/A	0	0.0157	0.0253	0.3041	0.0837	0.0629	0.0014
NBPL	6/29/2023 0:00	9/14/2023 0:00	GLNU1 - GLEN ULLIN	8/5/2023	8/7/2023	1110	0.6582	-43	1364.484737	0.9714	2.7	80.1388	15.3373	0.7511	0.0197	0.0376	0.0018	0.0016	N/A	0	0.0157	0.0253	0.3041	0.0837	0.0629	0.0014
NBPL	6/29/2023 0:00	9/14/2023 0:00	GLNU1 - GLEN ULLIN	8/7/2023	8/8/2023	1107	0.6619	-40.7	1364.35312	0.9795	2.8234	79.2426	15.9854	0.78	0.0204	0.0397	0.0019	0.0018	N/A	0	0.1003	0.0252	0.2959	0.082	0.0589	0.0014
NBPL	6/29/2023 0:00	9/14/2023 0:00	GLNU1 - GLEN ULLIN	8/8/2023	8/9/2023	1109	0.6604	-41.3	1364.671161	0.9715	2.7496	79.7186	15.6163	0.8114	0.0219	0.042	0.002	0.0018	N/A	0	0.0395	0.0253	0.2697	0.0994	0.0588	0.0014
NBPL	6/29/2023 0:00	9/14/2023 0:00	GLNU1 - GLEN ULLIN	8/8/2023	8/10/2023	1109	0.6604	-41.3	1364.671161	0.9715	2.7496	79.7186	15.6163	0.8114	0.0219	0.042	0.002	0.0018	N/A	0	0.0395	0.0253	0.2697	0.0994	0.0588	0.0014
NBPL	6/29/2023 0:00	9/14/2023 0:00	GLNU1 - GLEN ULLIN	8/10/2023	8/11/2023	1105	0.6581	-42.5	1362.12302	0.9807	2.7834	80.2599	15.0375	0.8179	0.0239	0.0475	0.0026	0.0027	N/A	0.0002	0.0182	0.0255	0.298	0.1029	0.0518	0.0008
NBPL	6/29/2023 0:00	9/14/2023 0:00	GLNU1 - GLEN ULLIN	8/10/2023	8/12/2023	1101	0.656	-44.4	1359.362857	0.985	2.7954	80.4434	14.8566	0.7438	0.0239	0.0475	0.0026	0.0027	N/A	0	0.0883	0.0257	0.3186	0.1104	0.0574	0.001
NBPL	6/29/2023 0:00	9/14/2023 0:00	GLNU1 - GLEN ULLIN	8/13/2023	8/14/2023	1103	0.6569	-44	1360.898958	0.986	2.7606	80.3518	15.0325	0.7384	0.0198	0.0377	0.0017	0.0018	N/A	0	0.0445	0.0256	0.3178	0.1326	0.0713	0.001
NBPL	6/29/2023 0:00	9/14/2023 0:00	GLNU1 - GLEN ULLIN	8/14/2023	8/15/2023	1105	0.6582	-43	1362.019543	0.9901	2.7962	80.1757	15.1546	0.7752	0.0216	0.0411	0.002	0.0018	N/A	0	0.0161	0.0258	0.2888	0.0875	0.0569	0.0013
NBPL	6/29/2023 0:00	9/14/2023 0:00	GLNU1 - GLEN ULLIN	8/15/2023	8/16/2023	1104	0.6584	-43.4	1360.580249	0.9931	2.8557	80.0404	15.2701	0.7189	0.0194	0.0382	0.0021	0.002	0	0.0001	0.0096	0.0263	0.2999	0.0784	0.0505	0.0012
NBPL	6/29/2023 0:00	9/14/2023 0:00	GLNU1 - GLEN ULLIN	8/16/2023	8/17/2023	1096	0.6528	-47.4	1356.502134	0.9819	2.8348	80.797	14.5786	0.5921	0.0144	0.0283	0.0014	0.0013	0	0	0.1488	0.0256	0.3193	0.0841	0.0547	0.0011
NBPL	6/29/2023 0:00	9/14/2023 0:00	GLNU1 - GLEN ULLIN	8/17/2023	8/18/2023	1102	0.6556	-44.4	1361.012526	0.9741	2.7539	80.4371	14.8775	0.7437	0.0198	0.0378	0.0017	0.0015	0	0	0.128	0.025	0.3074	0.0892	0.0569	0.0015
NBPL	6/29/2023 0:00	9/14/2023 0:00	GLNU1 - GLEN ULLIN	8/17/2023	8/19/2023	1102	0.6556	-44.4	1361.012526	0.9741	2.7539	80.4371	14.8775	0.7437	0.0198	0.0378	0.0017	0.0015	0	0	0.128	0.025	0.3074	0.0892	0.0569	0.0015
NBPL	6/29/2023 0:00	9/14/2023 0:00	GLNU1 - GLEN ULLIN	8/19/2023	8/20/2023	1100	0.6554	-45.4	1358.749717	0.9905	2.8404	80.4018	14.8835	0.6844	0.0153	0.0287	0.0012	0.0012	0	0	0.1278	0.0253	0.3399	0.0969	0.0651	0.0008
NBPL	6/29/2023 0:00	9/14/2023 0:00	GLNU1 - GLEN ULLIN	8/20/2023	8/21/2023	1101	0.6571	-44.4	1358.224579	1.0119	2.8786	80.0266	15.162	0.6914	0.0156	0.03	0.0014	0.0013	0	0	0.1555	0.0258	0.3429	0.0877	0.0703	0.0008
NBPL	6/29/2023 0:00	9/14/2023 0:00	GLNU1 - GLEN ULLIN	8/21/2023	8/22/2023	1095	0.6519	-48	1356.199652	0.9829	2.8131	80.9536	14.4526	0.5866	0.0128	0.0254	0.0012	0.001	0	0	0.1467	0.0252	0.3127	0.0834	0.0675	0.0011
NBPL	6/29/2023 0:00	9/14/2023 0:00	GLNU1 - GLEN ULLIN	8/22/2023	8/23/2023	1099	0.6542	-46.2	1358.758965	0.9776	2.8175	80.6026	14.7669	0.6481	0.0136	0.0273	0.0014	0.0012	0	0.0002	0.1186	0.0252	0.3169	0.0797	0.0648	0.001
NBPL	6/29/2023 0:00	9/14/2023 0:00	GLNU1 - GLEN ULLIN	8/23/2023	8/24/2023	1100	0.6541	-46.6	1360.09928	0.9685	2.7004	80.73	14.877	0.6077	0.0126	0.0242	0.0011	0.001	0	0	0.0524	0.0252	0.3008	0.0763	0.0581	0.0011
NBPL	6/29/2023 0:00	9/14/2023 0:00	GLNU1 - GLEN ULLIN	8/23/2023	8/25/2023	1100	0.6541	-46.6	1360.09928	0.9685	2.7004	80.73	14.877	0.6077	0.0126	0.0242	0.0011	0.001	0	0	0.0524	0.0252	0.3008	0.0763	0.0581	0.0011
NBPL	6/29/2023 0:00	9/14/2023 0:00	GLNU1 - GLEN ULLIN	8/25/2023	8/26/2023	1100	0.6537	-46.9	1360.515339	0.9565	2.7078	80.7604	14.9194	0.5484	0.0133	0.0271	0.0014	0.0016	0	0	0.0392	0.0251	0.2979	0.0701	0.0556	0.0013
NBPL	6/29/2023 0:00	9/14/2023 0:00	GLNU1 - GLEN ULLIN	8/26/2023	8/27/2023	1100	0.6544	-46.2	1359.787485	0.9678	2.7492	80.4959	15.0037	0.5886	0.0138	0.028	0.0015	0.0015	0	0	0.1255	0.0246	0.3176	0.0718	0.06	0.0013
NBPL	6/29/2023 0:00	9/14/2023 0:00	GLNU1 - GLEN ULLIN	8/27/2023	8/28/2023	1105	0.6577	-43.5	1362.537165	0.9709	2.7575	80.032	15.3655	0.7033	0.0175	0.0357	0.002	0.0019	0	0	0.0887	0.025	0.3068	0.0754	0.0622	0.0012
NBPL	6/29/2023 0:00	9/14/2023 0:00	GLNU1 - GLEN ULLIN	8/28/2023	8/29/2023	1104	0.6569	-44.3	1362.132774	0.9792	2.7329	80.0989	15.3529	0.6486	0.0159	0.0314	0.0017	0.0017	0	0	0.1122	0.0246	0.3036	0.0748	0.0617	0.0013
NBPL	6/29/2023 0:00	9/14/2023 0:00	GLNU1 - GLEN ULLIN	8/29/2023	8/30/2023	1107	0.66	-42.5	1362.622805	0.9905	2.8218	79.4345	15.8709	0.6731	0.0157	0.0302	0.0018	0.0017	0	0	0.1351	0.0248	0.3147	0.0732	0.0632	0.0013
NBPL	6/29/2023 0:00	9/14/2023 0:00	GLNU1 - GLEN ULLIN	8/30/2023	8/31/2023	1105	0.657	-44.2	1363.262829	0.9796	2.6847	79.9973	15.4948	0.6268	0.015	0.0283	0.0015	0.0013	0	0	0.1465	0.0241	0.2741	0.074	0.0634	0.0012
NBPL	6/29/2023 0:00	9/14/2023 0:00	GLNU1 - GLEN ULLIN	8/31/2023	9/1/2023	1110	0.6608	-42.2	1365.488232	0.9915	2.7213	79.4859	16.0481	0.6454	0.0166	0.0327	0.0018	0.0016	0	0	0.0303	0.025	0.2964	0.0745	0.0638	0.0012

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	AUG23	JUL23	JUN23	MAY23	APR23	MAR23	FEB23	JAN23	DEC22	NOV22	OCT22	SEP22	Zone
MT/ND	211	Sidney Border - MonDak Tfr - Sidney Plt	1200	1198	1199	1195	1200	1204	1208	1191	1203	1206	1202	1201	1198	211
ND	24	Williston Border - Charbonneau Station	1195	1195	1195	1196	1198	1194	1195	1198	1197	1193	1198	1194	1188	24
ND	25	Watford City West Border	1199	1210	1210	1190	1189	1180	1183	1200	1195	1202	1207	1210	1209	25
ND	28	Bismarck Station - Glen Ullin Station	1157	1199	1194	1195	1192	1118	1127	1115	1118	1133	1126	1175	1191	28
ND	31	Dickinson Brd - Belfield Trf - G Ullin Stn	1116	1124	1118	1107	1086	1100	1132	1126	1132	1140	1131	1097	1099	31
ND/MT	32	Cabin Creek Station - Belfied Transfer	1126	1134	1124	1124	1111	1119	1137	1116	1125	1139	1132	1122	1128	32
ND	33	Little Knife Plant	1177	1181	1174	1180	1182	1179	1177	1175	1176	1176	1176	1179	1173	33
ND	34	Badlands Plant/Bowman Border	1039	980	980	1040	1021	1005	1071	1086	1079	1086	1077	989	1056	34
ND	43	Watford City East Border	1093	1120	1118	1081	1042	1083	1116	1128	1143	1133	1054	1050	1051	43
ND/MT	241	Fairview Border	1202	1200	1193	1189	1200	1196	1201	1212	1218	1201	1210	1205	1193	241
ND	267	North Tioga Transfer - Nesson Plant	1182	1176	1181	1185	1188	1187	1189	1188	1181	1176	1176	1178	1174	267
ND	261	Tioga Comp Station - Robinson Lake Plan	1186	1191	1186	1189	1188	1184	1185	1184	1176	1176	1182	1194	1196	261
ND	262	Minot Bdr - Palermo Bdr - Bismarck Stn	1191	1197	1192	1193	1190	1189	1187	1187	1188	1189	1186	1195	1198	262
ND	263	Lignite Plant	1131	1131	1131	1131	1131	1131	1131	1131	1131	1131	1131	1131	1131	263
ND	264	Epping Border	1197	1195	1190	1181	1195	1202	1200	1208	1202	1198	1194	1198	1196	264
ND	265	Tioga Comp Station - County Line Plant	1176	1170	1165	1168	1176	1182	1183	1181	1182	1169	1182	1180	1178	265
ND	266	County Line Plant	1177	1171	1166	1168	1178	1182	1183	1180	1183	1168	1181	1180	1180	266
ND	271	Bismarck Station - Cleveland Station	1186	1199	1194	1195	1192	1189	1181	1168	1168	1176	1181	1197	1191	271
ND	272	Cleveland Station - Mapleton	1186	1199	1194	1194	1191	1188	1181	1168	1168	1176	1181	1197	1191	272
ND	273	Cleveland Station - Grafton Border	1186	1198	1194	1194	1192	1187	1180	1168	1168	1176	1181	1198	1194	273
ND	550	Mandan Border / NBPL-St Anthony	1135	1173	1172	1160	1085	1101	1118	1109	1109	1127	1107	1173	1189	550
ND	610	MDU-Watford City BTU	1117	1131	1123	1091	1065	1111	1137	1149	1159	1155	1102	1113	1072	610
ND	802	NBPL - Linton	1092	1105	1104	1102	1080	1085	1097	1095	1093	1090	1087	1084	1081	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	1159	1155	1157	1154	1153	1149	1152	1148	1143	1149	1159	1159	600
ND	601	Alliance Pipeline - Milnor	1153	1160	1155	1157	1155	1154	1149	1152	1148	1143	1149	1159	1160	601

THERMAL ZONE VARIANCE DOCUMENTATION		
August 2023		
<i>ZONE</i>	<i>BTU VARIANCE</i>	<i>REASON</i>
		No variance