

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

January 17, 2024

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

Re: Case No. PU-23-002 (Therm Billing)
Monthly Report – November 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 December 2023.
2. Attachment B consists of copies of the monthly Heating Value Test Reports received from our suppliers for the month of November 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 November 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
Dec-23

<u>Town</u>	<u>Heat Zone</u>	<u>Therm Factor</u>
MDU-303-ALEXANDER	025	1.1400
MDU-308-ARNEGARD	025	1.1400
MDU-314-APPLE VALLEY	271	1.1617
MDU-318-BEACH	032	1.0489
MDU-319-BELFIELD	032	1.0566
MDU-323-BERTHOLD	262	1.1391
MDU-327-BISMARCK	028	1.1135
MDU-330-BOWMAN	034	0.8990
MDU-337-BURLINGTON	262	1.1636
MDU-343-CARRINGTON	273	1.1617
MDU-344-CLEVELAND	272	1.1545
MDU-364-CAVALIER	273	1.1862
MDU-365-DAWSON	271	1.1535
MDU-368-DES LACS	262	1.1473
MDU-369-DICKINSON	031	1.0671
MDU-374-FT TOTTEN	273	1.1699
MDU-375-DEVILS LAKE	273	1.1699
MDU-379-BARLOW	273	1.1617
MDU-384-EPPING	264	1.1249
MDU-387-ELDRIDGE	272	1.1627
MDU-407-GLADSTONE	031	1.0671
MDU-411-GLEN ULLIN	031	1.0748
MDU-413-GOLVA	032	1.0335
MDU-416-GARRISON	262	1.1473
MDU-417-GRAFTON	273	1.1944
MDU-403-GWINNER	601	1.1370
MDU-429-HEBRON	031	1.0748
MDU-432-HETTINGER	903	2.4049
MDU-449-JAMESTOWN	272	1.1708
MDU-459-KILLDEER	033	1.1079
MDU-463-LANGDON	273	1.1617
MDU-469-LEFOR	031	1.0671
MDU-474-LIGNITE	263	1.0759
MDU-475-LINTON	802	1.0671
MDU-478-LINCOLN	028	1.1135
MDU-488-MCKENZIE	271	1.1617
MDU-494-MEDINA	271	1.1535
MDU-498-MANDAN	028	1.1135
MDU-500-MARMARTH	034	0.9057
MDU-505-MINOT	262	1.1636
MDU-510-MOTT	031	1.0671
MDU-512-MAX	262	1.1391
MDU-513-MILNOR	601	1.1370
MDU-522-NEW ENGLAND	031	1.0594
MDU-524-NEW SALEM	028	1.0900
MDU-532-NEW ROCKFORD	273	1.1617
MDU-539-PARK RIVER	273	1.1862
MDU-540-PALERMO	262	1.1391
MDU-558-RAY	264	1.1249

MDU-561-REGENT	031	1.0594
MDU-563-RHAME	034	0.8923
MDU-564-RICHARDTON	031	1.0594
MDU-568-ROSS	261	1.1281
MDU-572-RUTHVILLE	262	1.1636
MDU-574-SANBORN	272	1.1708
MDU-583-SENTINEL BUTTE	032	1.4764
MDU-588-SOUTH HEART	031	1.0594
MDU-717-SPIRITWOOD	272	1.1708
MDU-590-SPRINGBROOK	264	1.1249
MDU-591-STANLEY	261	1.1362
MDU-593-STEELE	271	1.1535
MDU-594-STERLING	028	1.1135
MDU-598-SHEYENNE	273	1.1699
MDU-605-SURREY	262	1.1636
MDU-610-TAPPEN	271	1.1535
MDU-611-TAYLOR	031	1.0594
MDU-616-TIOGA	260	1.0962
MDU-619-TURTLE LAKE	262	1.1473
MDU-620-TRENTON	024	1.1301
MDU-624-UNDERWOOD	262	1.1473
MDU-625-VALLEY CITY	272	1.1790
MDU-629-WALHALLA	273	1.1862
MDU-632-WATFORD CITY	610	1.0881
MDU-636-WHEELOCK	264	1.1168
MDU-637-WHITE EARTH	261	1.1362
MDU-642-WILLISTON	024	1.1301
MDU-646-WASHBURN	262	1.1554
MDU-647-WILTON	262	1.1391
MDU-664-RIVERDALE	262	1.4317
MDU-691-FAIRVIEW	241	1.1339
MDU-712-MINOT AFB	262	1.1636
MDU-718-FAIRMOUNT	600	1.1336
MDU-732-NEKOMA	273	1.1617
MDU-732-MSR SITE	273	1.1617

Source Daily Summary

November 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	0.7312	1177.4	1198.3	1197.8	1.230	3.710	69.123	21.955	3.447	0.165	0.329	0.021	0.019	0.000	0.000	0.000	0.000	0.000	1401.33	
2	0.7301	1173.9	1194.6	1194.1	1.210	3.851	69.263	21.766	3.346	0.170	0.347	0.023	0.020	0.000	0.000	0.000	0.000	0.000	1398.17	
3	0.7272	1172.5	1193.2	1192.7	1.193	3.691	69.733	21.568	3.281	0.158	0.329	0.022	0.021	0.000	0.000	0.000	0.000	0.000	1399.28	
4	0.7269	1172.2	1192.9	1192.4	1.195	3.682	69.780	21.534	3.275	0.159	0.329	0.022	0.020	0.000	0.000	0.000	0.000	0.000	1399.17	
5	0.7270	1173.0	1193.8	1193.3	1.185	3.655	69.823	21.469	3.326	0.160	0.335	0.022	0.021	0.000	0.000	0.000	0.000	0.000	1400.08	
6	0.7241	1169.2	1189.9	1189.4	1.272	3.488	70.217	21.395	3.148	0.146	0.297	0.018	0.016	0.000	0.000	0.000	0.000	0.000	1398.27	
7	0.7253	1171.5	1192.3	1191.7	1.227	3.498	69.891	21.554	3.268	0.157	0.326	0.022	0.020	0.000	0.000	0.000	0.000	0.000	1399.96	
8	0.7262	1173.9	1194.7	1194.2	1.227	3.463	69.968	21.540	3.289	0.151	0.320	0.021	0.020	0.000	0.000	0.000	0.000	0.000	1401.90	
9	0.7277	1174.7	1195.5	1195.0	1.245	3.525	69.698	21.719	3.289	0.157	0.326	0.021	0.019	0.000	0.000	0.000	0.000	0.000	1401.44	
10	0.7247	1172.8	1193.6	1193.1	1.209	3.416	70.066	21.682	3.138	0.141	0.306	0.021	0.020	0.000	0.000	0.000	0.000	0.000	1402.08	
11	0.7221	1169.9	1190.6	1190.1	1.198	3.363	70.596	21.228	3.124	0.142	0.307	0.021	0.020	0.000	0.000	0.000	0.000	0.000	1401.11	
12	0.7228	1170.3	1191.1	1190.6	1.197	3.405	70.406	21.404	3.102	0.140	0.304	0.021	0.020	0.000	0.000	0.000	0.000	0.000	1400.95	
13	0.7242	1172.2	1192.9	1192.4	1.178	3.451	70.166	21.552	3.169	0.144	0.302	0.020	0.018	0.000	0.000	0.000	0.000	0.000	1401.83	
14	0.7172	1169.7	1190.4	1189.9	0.868	3.424	70.824	21.565	2.935	0.119	0.238	0.014	0.012	0.000	0.000	0.000	0.000	0.000	1405.58	
15	0.7244	1175.0	1195.8	1195.3	1.126	3.374	70.020	21.862	3.154	0.139	0.290	0.018	0.016	0.000	0.000	0.000	0.000	0.000	1405.05	
16	0.7239	1175.5	1196.3	1195.8	1.187	3.210	70.195	21.816	3.117	0.140	0.296	0.019	0.018	0.000	0.000	0.000	0.000	0.000	1406.04	
17	0.7214	1172.7	1193.5	1193.0	1.178	3.158	70.600	21.548	3.060	0.136	0.284	0.018	0.017	0.000	0.000	0.000	0.000	0.000	1405.17	
18	0.7231	1172.9	1193.7	1193.2	1.192	3.288	70.321	21.615	3.120	0.139	0.290	0.018	0.017	0.000	0.000	0.000	0.000	0.000	1403.73	
19	0.7237	1174.8	1195.6	1195.2	1.132	3.311	70.026	22.044	3.046	0.133	0.274	0.017	0.015	0.000	0.000	0.000	0.000	0.000	1405.51	
20	0.7213	1170.0	1190.7	1190.2	1.085	3.465	70.196	21.929	2.949	0.119	0.233	0.013	0.011	0.000	0.000	0.000	0.000	0.000	1401.93	
21	0.7220	1162.8	1183.4	1182.9	1.270	3.676	70.318	21.328	3.018	0.126	0.240	0.013	0.010	0.000	0.000	0.000	0.000	0.000	1392.76	
22	0.7061	1172.8	1193.6	1193.2	0.195	3.208	71.940	21.660	2.791	0.069	0.127	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1420.52	
23	0.7094	1183.6	1204.5	1204.1	0.062	3.075	71.138	22.708	2.831	0.065	0.114	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1430.05	
24	0.7086	1181.7	1202.6	1202.2	0.050	3.134	70.995	23.025	2.674	0.046	0.073	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1428.61	
25	0.7057	1178.9	1199.8	1199.4	0.044	3.035	71.624	22.488	2.675	0.050	0.081	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1428.21	
26	0.7075	1182.0	1202.9	1202.5	0.047	3.010	71.393	22.630	2.772	0.054	0.090	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1430.13	
27	0.7042	1174.5	1195.3	1194.9	0.058	3.138	71.818	22.290	2.562	0.049	0.081	0.002	0.001	0.000	0.000	0.000	0.000	0.000	1424.46	
28	0.7015	1169.8	1190.5	1190.1	0.067	3.165	72.096	22.220	2.336	0.043	0.071	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1421.39	
29	0.7092	1184.5	1205.4	1205.1	0.060	2.997	71.231	22.660	2.873	0.063	0.110	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1431.40	
30	0.7014	1172.2	1193.0	1192.6	0.064	3.012	71.992	22.586	2.274	0.029	0.041	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1424.43	
Avg	0.7190	1174.0	1194.7	1194.2	0.848	3.363	70.515	21.878	3.013	0.117	0.236	0.014	0.013	0.000	0.000	0.000	0.000	0.000	1409.02	

Source Daily Summary

November 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	0.7200	1170.4	1191.1	1190.6	1.161	3.195	70.607	21.754	2.862	0.113	0.263	0.021	0.025	0.000	0.000	0.000	0.000	0.000	1403.72	
2	0.7201	1170.7	1191.4	1190.9	1.156	3.192	70.645	21.663	2.911	0.115	0.269	0.021	0.025	0.000	0.000	0.000	0.000	0.000	1404.00	
3	0.7180	1170.3	1191.1	1190.6	1.138	3.042	71.074	21.415	2.894	0.118	0.272	0.021	0.025	0.000	0.000	0.000	0.000	0.000	1405.65	
4	0.7176	1170.3	1191.0	1190.5	1.131	3.017	71.149	21.377	2.889	0.118	0.272	0.021	0.024	0.000	0.000	0.000	0.000	0.000	1405.98	
5	0.7178	1170.4	1191.2	1190.7	1.130	3.027	71.114	21.396	2.895	0.118	0.273	0.021	0.025	0.000	0.000	0.000	0.000	0.000	1405.98	
6	0.7125	1167.5	1188.2	1187.7	1.087	2.775	71.960	21.025	2.752	0.111	0.248	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1407.66	
7	0.7228	1174.3	1195.1	1194.6	1.101	3.307	70.462	21.457	3.142	0.145	0.328	0.027	0.030	0.000	0.000	0.000	0.000	0.000	1405.71	
8	0.7217	1173.1	1193.9	1193.4	1.149	3.206	70.388	21.851	2.962	0.119	0.277	0.022	0.026	0.000	0.000	0.000	0.000	0.000	1405.33	
9	0.7217	1172.7	1193.4	1193.0	1.155	3.219	70.398	21.828	2.957	0.118	0.275	0.022	0.026	0.000	0.000	0.000	0.000	0.000	1404.84	
10	0.7189	1172.1	1192.9	1192.4	1.139	3.016	70.975	21.475	2.949	0.122	0.278	0.021	0.025	0.000	0.000	0.000	0.000	0.000	1406.91	
11	0.7192	1172.2	1193.0	1192.6	1.140	3.036	70.930	21.481	2.961	0.123	0.282	0.022	0.025	0.000	0.000	0.000	0.000	0.000	1406.74	
12	0.7190	1171.9	1192.7	1192.2	1.136	3.040	70.951	21.473	2.955	0.121	0.278	0.021	0.025	0.000	0.000	0.000	0.000	0.000	1406.60	
13	0.7179	1172.4	1193.2	1192.7	1.119	2.939	71.178	21.357	2.953	0.124	0.283	0.022	0.025	0.000	0.000	0.000	0.000	0.000	1408.17	
14	0.7219	1175.3	1196.1	1195.7	1.133	3.116	70.559	21.622	3.083	0.130	0.305	0.024	0.028	0.000	0.000	0.000	0.000	0.000	1407.73	
15	0.7180	1173.7	1194.5	1194.0	1.111	2.881	71.172	21.418	2.963	0.125	0.284	0.022	0.025	0.000	0.000	0.000	0.000	0.000	1409.65	
16	0.7136	1173.2	1194.0	1193.6	1.059	2.572	71.947	21.119	2.861	0.124	0.273	0.021	0.024	0.000	0.000	0.000	0.000	0.000	1413.45	
17	0.7142	1170.7	1191.5	1191.0	1.082	2.746	71.654	21.347	2.759	0.114	0.255	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1409.85	
18	0.7174	1175.8	1196.6	1196.2	1.079	2.741	71.321	21.421	2.974	0.129	0.288	0.022	0.025	0.000	0.000	0.000	0.000	0.000	1412.78	
19	0.7144	1174.2	1195.0	1194.6	1.049	2.606	71.851	21.111	2.926	0.129	0.282	0.021	0.024	0.000	0.000	0.000	0.000	0.000	1413.79	
20	0.7132	1172.6	1193.3	1192.9	1.043	2.595	71.996	21.072	2.858	0.124	0.268	0.020	0.023	0.000	0.000	0.000	0.000	0.000	1413.09	
21	0.7158	1174.1	1194.9	1194.5	1.060	2.722	71.608	21.191	2.960	0.128	0.284	0.021	0.025	0.000	0.000	0.000	0.000	0.000	1412.35	
22	0.7194	1173.4	1194.2	1193.8	1.108	3.030	70.801	21.692	2.933	0.119	0.271	0.021	0.024	0.000	0.000	0.000	0.000	0.000	1407.99	
23	0.7200	1176.2	1197.1	1196.6	1.099	2.932	70.729	21.834	2.961	0.123	0.276	0.021	0.025	0.000	0.000	0.000	0.000	0.000	1410.74	
24	0.7202	1176.7	1197.5	1197.1	1.097	2.924	70.734	21.809	2.986	0.124	0.279	0.021	0.025	0.000	0.000	0.000	0.000	0.000	1411.09	
25	0.7176	1179.3	1200.1	1199.8	1.034	2.621	71.302	21.555	3.024	0.130	0.288	0.021	0.025	0.000	0.000	0.000	0.000	0.000	1416.72	
26	0.7184	1178.4	1199.2	1198.8	1.059	2.714	71.133	21.614	3.021	0.128	0.285	0.021	0.025	0.000	0.000	0.000	0.000	0.000	1414.84	
27	0.7188	1176.4	1197.2	1196.8	1.080	2.843	70.989	21.656	2.982	0.124	0.280	0.021	0.024	0.000	0.000	0.000	0.000	0.000	1412.02	
28	0.7171	1178.7	1199.6	1199.2	1.030	2.605	71.337	21.597	2.983	0.127	0.277	0.020	0.023	0.000	0.000	0.000	0.000	0.000	1416.65	
29	0.7138	1172.4	1193.2	1192.8	1.043	2.669	71.744	21.333	2.794	0.116	0.258	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1412.22	
30	0.7186	1174.4	1195.2	1194.8	1.098	2.907	70.935	21.728	2.903	0.118	0.267	0.020	0.023	0.000	0.000	0.000	0.000	0.000	1409.99	
Avg	0.7180	1173.0	1194.2	1193.8	1.100	2.908	71.122	21.489	2.935	0.123	0.277	0.021	0.025	0.000	0.000	0.000	0.000	0.000	1409.41	

Gas Composition and Properties

Effective November 1, 2023

Attachment B
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Source #: 0602160
Name: FAIRVIEW BORDER

Component	Mole %	Liquid Content	Mass %	Property	Total Sample	C6 Plus Fraction
Carbon Dioxide, CO2	0.9374		1.9828	Pressure Base	14.730	
Nitrogen, N2	3.1537		4.2461	Temperature Base	60.00	
Methane, C1	70.8785		54.6501	HCDP @ Sample Pressure	-7.862	
Ethane, C2	21.2402	5.6848	30.6960	Cricondentherm	3.034	
Propane, C3	3.2677	0.9009	6.9254	HV, Dry @ Base P, T	1198.18	
iso-Butane, iC4	0.1536	0.0503	0.4291	HV, Sat @ Base P, T	1177.33	
n-Butane, nC4	0.3150	0.0994	0.8799	HV, Sat @ Sample P, T	1198.18	
iso-Pentane, iC5	0.0237	0.0087	0.0822	Relative Density	0.7205	
n-Pentane, nC5	0.0248	0.0090	0.0860			
Neo-Pentane, neo						
Hexanes Plus, C6+	0.0054	0.0022	0.0224			
Argon, Ar						
Carbon Monoxide, CO						
Hydrogen, H2						
Oxygen, O2						
Helium, He						
Water, H2O						
Hydrogen Sulfide, H2S						
				C6+: 100		
Totals	100.0000	6.7550	100.0000			

Sample

Date: 11/01/2023 Type:

Tech: Tipton, Joshua

Pressure: 470 psi Temp.: °F

Gauge: Gauge H2O:

Atm. Pressure: H2S:

Remarks:

Analysis

Date: 11/01/2023 Instrument:

Tech: Tipton, Joshua Cylinder: 393

Remarks:

Source Daily Summary

November 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	0.6906	1149.8	1170.2	1169.8	0.917	2.054	75.418	19.286	2.059	0.077	0.162	0.013	0.015	0.000	0.000	0.000	0.000	0.000	1408.13	-15.33
2	0.6897	1148.5	1168.8	1168.5	0.907	2.065	75.527	19.225	2.017	0.075	0.157	0.012	0.014	0.000	0.000	0.000	0.000	0.000	1407.44	-16.01
3	0.6902	1149.4	1169.8	1169.4	0.888	2.090	75.343	19.438	1.998	0.071	0.148	0.012	0.013	0.000	0.000	0.000	0.000	0.000	1408.01	-16.17
4	0.6902	1149.5	1169.9	1169.5	0.875	2.099	75.348	19.425	2.009	0.071	0.148	0.011	0.013	0.000	0.000	0.000	0.000	0.000	1408.18	-16.14
5	0.6910	1151.5	1171.9	1171.5	0.872	2.064	75.276	19.453	2.077	0.075	0.157	0.012	0.014	0.000	0.000	0.000	0.000	0.000	1409.71	-15.18
6	0.6927	1153.2	1173.6	1173.3	0.900	2.076	75.080	19.515	2.148	0.081	0.171	0.013	0.015	0.000	0.000	0.000	0.000	0.000	1410.08	-13.88
7	0.6917	1149.4	1169.7	1169.4	0.933	2.163	75.207	19.350	2.080	0.076	0.163	0.013	0.015	0.000	0.000	0.000	0.000	0.000	1406.44	-15.05
8	0.6904	1148.5	1168.8	1168.5	0.948	2.071	75.513	19.130	2.052	0.083	0.174	0.014	0.015	0.000	0.000	0.000	0.000	0.000	1406.68	-15.20
9	0.6873	1142.4	1162.7	1162.4	0.954	2.135	75.961	18.784	1.889	0.080	0.168	0.013	0.015	0.000	0.000	0.000	0.000	0.000	1402.46	-17.46
10	0.6862	1141.8	1162.0	1161.7	0.968	2.059	75.891	19.183	1.667	0.067	0.141	0.011	0.013	0.000	0.000	0.000	0.000	0.000	1402.74	-19.52
11	0.6875	1143.2	1163.5	1163.2	0.977	2.081	75.756	19.180	1.755	0.073	0.153	0.012	0.014	0.000	0.000	0.000	0.000	0.000	1403.16	-18.31
12	0.6878	1143.6	1163.9	1163.6	0.970	2.093	75.781	19.064	1.835	0.075	0.156	0.012	0.014	0.000	0.000	0.000	0.000	0.000	1403.37	-17.77
13	0.6885	1145.1	1165.4	1165.1	0.968	2.068	75.649	19.220	1.835	0.076	0.158	0.012	0.014	0.000	0.000	0.000	0.000	0.000	1404.53	-17.36
14	0.6902	1147.6	1167.9	1167.6	0.970	2.083	75.506	19.137	2.011	0.085	0.178	0.014	0.015	0.000	0.000	0.000	0.000	0.000	1405.83	-15.32
15	0.6924	1151.9	1172.3	1172.0	0.945	2.057	74.919	19.885	1.937	0.075	0.155	0.012	0.014	0.000	0.000	0.000	0.000	0.000	1408.84	-15.33
16	0.6895	1147.7	1168.0	1167.7	0.938	2.063	75.387	19.482	1.898	0.069	0.141	0.011	0.012	0.000	0.000	0.000	0.000	0.000	1406.61	-17.08
17	0.6854	1140.5	1160.7	1160.4	0.948	2.104	76.156	18.740	1.806	0.071	0.149	0.012	0.014	0.000	0.000	0.000	0.000	0.000	1401.92	-19.00
18	0.6902	1147.4	1167.7	1167.4	0.957	2.105	75.555	19.055	2.035	0.084	0.178	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1405.53	-15.36
19	0.6828	1134.4	1154.5	1154.2	0.913	2.261	76.943	17.619	1.973	0.084	0.177	0.014	0.015	0.000	0.000	0.000	0.000	0.000	1397.21	-18.83
20	0.6886	1145.1	1165.4	1165.2	0.932	2.133	75.721	18.984	1.962	0.078	0.163	0.013	0.014	0.000	0.000	0.000	0.000	0.000	1404.41	-16.68
21	0.6913	1150.7	1171.1	1170.8	0.937	2.042	75.341	19.332	2.047	0.087	0.183	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1408.42	-14.63
22	0.6916	1151.5	1171.9	1171.6	0.931	2.026	75.143	19.667	1.950	0.082	0.172	0.014	0.015	0.000	0.000	0.000	0.000	0.000	1409.14	-15.09
23	0.6965	1159.4	1180.0	1179.7	0.914	2.025	74.659	19.709	2.354	0.099	0.207	0.016	0.018	0.000	0.000	0.000	0.000	0.000	1413.90	-10.48
24	0.6957	1158.0	1178.5	1178.2	0.915	2.045	74.752	19.644	2.311	0.098	0.204	0.015	0.017	0.000	0.000	0.000	0.000	0.000	1412.84	-11.09
25	0.6918	1151.3	1171.7	1171.4	0.914	2.079	75.360	19.177	2.162	0.089	0.187	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1408.72	-13.88
26	0.6906	1149.6	1170.0	1169.7	0.919	2.063	75.413	19.295	2.030	0.082	0.170	0.013	0.015	0.000	0.000	0.000	0.000	0.000	1407.91	-15.25
27	0.6927	1154.2	1174.6	1174.4	0.907	2.001	75.108	19.571	2.113	0.088	0.183	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1411.34	-13.53
28	0.6872	1144.9	1165.2	1165.0	0.912	2.037	75.908	19.014	1.868	0.076	0.158	0.013	0.014	0.000	0.000	0.000	0.000	0.000	1405.65	-17.63
29	0.7072	1156.1	1176.6	1176.3	0.888	3.271	73.220	19.063	3.123	0.127	0.270	0.018	0.020	0.000	0.000	0.000	0.000	0.000	1399.50	-5.14
30	0.6945	1155.3	1175.8	1175.6	0.917	2.084	74.826	19.687	2.169	0.093	0.193	0.015	0.016	0.000	0.000	0.000	0.000	0.000	1410.93	-12.49
Avg	0.6907	1149.0	1169.1	1168.8	0.928	2.120	75.389	19.244	2.039	0.082	0.171	0.013	0.015	0.000	0.000	0.000	0.000	0.000	1406.65	-15.34

Source Daily Summary

November 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	0.7569	1181.0	1201.9	1201.7	0.887	6.411	65.926	20.180	5.890	0.196	0.450	0.029	0.032	0.000	0.000	0.000	0.000	0.000	1381.54	
2	0.7550	1177.6	1198.5	1198.2	0.891	6.438	66.208	19.966	5.780	0.201	0.455	0.029	0.032	0.000	0.000	0.000	0.000	0.000	1379.28	
3	0.7563	1179.7	1200.6	1200.4	0.889	6.427	66.052	20.043	5.870	0.202	0.457	0.029	0.032	0.000	0.000	0.000	0.000	0.000	1380.62	
4	0.7578	1182.7	1203.7	1203.4	0.890	6.387	65.902	20.125	5.938	0.212	0.481	0.031	0.034	0.000	0.000	0.000	0.000	0.000	1382.71	
5	0.7573	1182.6	1203.5	1203.3	0.889	6.350	66.108	19.909	5.940	0.220	0.513	0.033	0.037	0.000	0.000	0.000	0.000	0.000	1382.99	
6	0.7572	1181.4	1202.3	1202.0	0.886	6.418	66.319	19.505	5.999	0.235	0.559	0.036	0.041	0.000	0.000	0.000	0.000	0.000	1381.66	
7	0.7599	1186.7	1207.7	1207.4	0.887	6.347	65.650	20.270	6.075	0.214	0.489	0.032	0.036	0.000	0.000	0.000	0.000	0.000	1385.42	
8	0.7600	1187.3	1208.3	1208.1	0.889	6.313	65.658	20.276	6.088	0.214	0.494	0.032	0.036	0.000	0.000	0.000	0.000	0.000	1386.08	
9	0.7563	1184.2	1205.2	1205.0	0.896	6.142	66.052	20.407	5.761	0.204	0.471	0.031	0.035	0.000	0.000	0.000	0.000	0.000	1385.90	
10	0.7607	1188.7	1209.7	1209.5	0.884	6.307	65.589	20.287	6.147	0.216	0.500	0.033	0.037	0.000	0.000	0.000	0.000	0.000	1386.98	
11	0.7597	1186.4	1207.5	1207.2	0.887	6.346	65.612	20.363	6.032	0.211	0.481	0.031	0.035	0.000	0.000	0.000	0.000	0.000	1385.29	
12	0.7552	1179.4	1200.3	1200.0	0.886	6.355	66.070	20.247	5.774	0.191	0.422	0.026	0.029	0.000	0.000	0.000	0.000	0.000	1381.18	
13	0.7602	1188.6	1209.7	1209.4	0.885	6.263	65.528	20.502	6.079	0.208	0.470	0.030	0.034	0.000	0.000	0.000	0.000	0.000	1387.38	
14	0.7575	1183.0	1204.0	1203.7	0.888	6.348	65.852	20.282	5.905	0.205	0.458	0.029	0.032	0.000	0.000	0.000	0.000	0.000	1383.29	
15	0.7601	1187.9	1208.9	1208.6	0.888	6.290	65.681	20.268	6.070	0.225	0.508	0.033	0.037	0.000	0.000	0.000	0.000	0.000	1386.62	
16	0.7557	1181.3	1202.2	1202.0	0.890	6.282	66.027	20.322	5.802	0.191	0.428	0.027	0.031	0.000	0.000	0.000	0.000	0.000	1382.94	
17	0.7595	1187.6	1208.6	1208.4	0.888	6.253	65.610	20.497	6.011	0.207	0.469	0.030	0.034	0.000	0.000	0.000	0.000	0.000	1386.85	
18	0.7597	1186.8	1207.8	1207.5	0.885	6.325	65.782	20.130	6.056	0.227	0.522	0.034	0.038	0.000	0.000	0.000	0.000	0.000	1385.68	
19	0.7584	1183.6	1204.6	1204.3	0.882	6.395	66.156	19.626	6.068	0.238	0.558	0.036	0.041	0.000	0.000	0.000	0.000	0.000	1383.24	
20	0.7572	1181.7	1202.6	1202.4	0.882	6.408	66.285	19.576	5.981	0.236	0.554	0.036	0.040	0.000	0.000	0.000	0.000	0.000	1381.98	
21	0.7577	1182.2	1203.1	1202.8	0.882	6.425	66.308	19.456	6.029	0.243	0.575	0.038	0.044	0.000	0.000	0.000	0.000	0.000	1382.10	
22	0.7556	1178.2	1199.0	1198.8	0.880	6.473	66.582	19.248	5.941	0.238	0.562	0.036	0.040	0.000	0.000	0.000	0.000	0.000	1379.36	
23	0.7580	1181.2	1202.1	1201.9	0.878	6.515	66.346	19.239	6.097	0.253	0.592	0.038	0.043	0.000	0.000	0.000	0.000	0.000	1380.70	
24	0.7569	1179.0	1199.8	1199.6	0.876	6.548	66.231	19.527	5.998	0.237	0.521	0.029	0.032	0.000	0.000	0.000	0.000	0.000	1379.16	
25	0.7587	1181.9	1202.8	1202.6	0.877	6.539	65.983	19.653	6.136	0.236	0.515	0.029	0.032	0.000	0.000	0.000	0.000	0.000	1380.93	
26	0.7570	1178.7	1199.5	1199.3	0.875	6.586	66.172	19.527	6.053	0.228	0.498	0.029	0.031	0.000	0.000	0.000	0.000	0.000	1378.63	
27	0.7427	1172.3	1193.1	1192.9	0.898	5.597	68.046	19.745	5.025	0.197	0.435	0.027	0.030	0.000	0.000	0.000	0.000	0.000	1384.64	
28	0.7415	1169.3	1190.0	1189.8	0.894	5.666	68.253	19.489	5.026	0.194	0.422	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1382.25	
29	0.7593	1183.8	1204.8	1204.5	0.875	6.480	65.928	19.729	6.161	0.240	0.523	0.030	0.034	0.000	0.000	0.000	0.000	0.000	1382.63	
30	0.7606	1185.9	1206.9	1206.7	0.878	6.471	65.793	19.780	6.216	0.249	0.545	0.032	0.035	0.000	0.000	0.000	0.000	0.000	1383.88	
Avg	0.7570	1182.0	1203.3	1203.1	0.886	6.337	66.124	19.939	5.932	0.219	0.498	0.031	0.035	0.000	0.000	0.000	0.000	0.000	1383.06	

Source Daily Summary

November 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	0.7571	1178.8	1199.7	1199.3	0.897	6.554	65.955	19.940	5.907	0.210	0.474	0.030	0.033	0.000	0.000	0.000	0.000	0.000	1378.70	
2	0.7582	1180.7	1201.6	1201.2	0.893	6.548	65.791	20.033	5.999	0.207	0.467	0.029	0.032	0.000	0.000	0.000	0.000	0.000	1379.90	
3	0.7593	1183.2	1204.1	1203.8	0.900	6.482	65.740	20.060	6.030	0.222	0.498	0.032	0.035	0.000	0.000	0.000	0.000	0.000	1381.88	
4	0.7590	1182.7	1203.6	1203.2	0.895	6.498	65.891	19.829	6.066	0.227	0.523	0.034	0.037	0.000	0.000	0.000	0.000	0.000	1381.50	
5	0.7581	1181.0	1201.9	1201.6	0.893	6.512	66.177	19.491	6.055	0.238	0.558	0.036	0.040	0.000	0.000	0.000	0.000	0.000	1380.44	
6	0.7607	1186.3	1207.3	1206.9	0.893	6.438	65.565	20.187	6.123	0.221	0.503	0.033	0.037	0.000	0.000	0.000	0.000	0.000	1384.21	
7	0.7598	1185.1	1206.1	1205.7	0.890	6.420	65.579	20.107	6.173	0.221	0.507	0.032	0.036	0.000	0.000	0.000	0.000	0.000	1383.60	
8	0.7613	1187.8	1208.8	1208.5	0.893	6.397	65.516	20.225	6.167	0.222	0.507	0.034	0.038	0.000	0.000	0.000	0.000	0.000	1385.47	
9	0.7627	1189.6	1210.7	1210.3	0.888	6.429	65.342	20.254	6.275	0.225	0.515	0.034	0.038	0.000	0.000	0.000	0.000	0.000	1386.27	
10	0.7601	1184.7	1205.7	1205.4	0.892	6.475	65.580	20.213	6.067	0.217	0.488	0.032	0.036	0.000	0.000	0.000	0.000	0.000	1382.98	
11	0.7568	1180.3	1201.2	1200.9	0.890	6.448	65.884	20.198	5.890	0.197	0.435	0.027	0.030	0.000	0.000	0.000	0.000	0.000	1380.72	
12	0.7623	1190.1	1211.2	1210.8	0.895	6.351	65.276	20.505	6.204	0.216	0.486	0.031	0.035	0.000	0.000	0.000	0.000	0.000	1387.22	
13	0.7607	1186.4	1207.4	1207.1	0.898	6.420	65.478	20.354	6.080	0.219	0.486	0.031	0.035	0.000	0.000	0.000	0.000	0.000	1384.39	
14	0.7592	1184.2	1205.1	1204.8	0.898	6.424	65.710	20.170	6.034	0.216	0.482	0.031	0.035	0.000	0.000	0.000	0.000	0.000	1383.05	
15	0.7591	1184.9	1205.9	1205.5	0.900	6.363	65.634	20.368	6.016	0.203	0.453	0.029	0.032	0.000	0.000	0.000	0.000	0.000	1384.00	
16	0.7610	1187.3	1208.3	1208.0	0.897	6.398	65.443	20.388	6.100	0.217	0.488	0.032	0.036	0.000	0.000	0.000	0.000	0.000	1385.11	
17	0.7599	1184.6	1205.6	1205.3	0.897	6.456	65.795	19.925	6.078	0.236	0.539	0.035	0.039	0.000	0.000	0.000	0.000	0.000	1383.01	
18	0.7592	1182.9	1203.8	1203.5	0.892	6.508	66.069	19.506	6.130	0.246	0.570	0.037	0.042	0.000	0.000	0.000	0.000	0.000	1381.55	
19	0.7579	1180.3	1201.2	1200.8	0.894	6.538	66.154	19.542	6.009	0.238	0.549	0.036	0.040	0.000	0.000	0.000	0.000	0.000	1379.73	
20	0.7584	1180.5	1201.4	1201.1	0.892	6.576	66.245	19.275	6.090	0.251	0.588	0.039	0.043	0.000	0.000	0.000	0.000	0.000	1379.50	
21	0.7590	1181.0	1202.0	1201.7	0.888	6.605	66.232	19.160	6.174	0.256	0.604	0.038	0.043	0.000	0.000	0.000	0.000	0.000	1379.61	
22	0.7594	1181.3	1202.3	1202.0	0.886	6.628	66.102	19.280	6.186	0.257	0.584	0.036	0.040	0.000	0.000	0.000	0.000	0.000	1379.60	
23	0.7597	1181.4	1202.3	1202.0	0.886	6.652	65.878	19.547	6.194	0.246	0.532	0.030	0.033	0.000	0.000	0.000	0.000	0.000	1379.39	
24	0.7578	1177.4	1198.2	1197.9	0.886	6.717	66.088	19.398	6.108	0.235	0.507	0.029	0.031	0.000	0.000	0.000	0.000	0.000	1376.45	
25	0.7604	1182.4	1203.3	1203.0	0.882	6.662	65.792	19.565	6.265	0.243	0.527	0.031	0.034	0.000	0.000	0.000	0.000	0.000	1379.93	
26	0.7601	1182.1	1203.0	1202.8	0.882	6.646	65.827	19.575	6.238	0.242	0.526	0.030	0.033	0.000	0.000	0.000	0.000	0.000	1379.93	
27	0.7627	1187.1	1208.1	1207.8	0.883	6.587	65.552	19.700	6.410	0.250	0.549	0.033	0.036	0.000	0.000	0.000	0.000	0.000	1383.36	
28	0.7625	1186.9	1207.9	1207.6	0.883	6.586	65.536	19.772	6.349	0.253	0.551	0.032	0.036	0.000	0.000	0.000	0.000	0.000	1383.23	
29	0.7601	1182.4	1203.4	1203.1	0.886	6.626	65.822	19.622	6.189	0.249	0.540	0.031	0.035	0.000	0.000	0.000	0.000	0.000	1380.25	
30	0.7592	1180.5	1201.4	1201.2	0.889	6.655	65.966	19.481	6.148	0.251	0.548	0.029	0.033	0.000	0.000	0.000	0.000	0.000	1378.84	
Avg	0.7597	1183.0	1204.4	1204.1	0.891	6.520	65.787	19.856	6.125	0.231	0.519	0.032	0.036	0.000	0.000	0.000	0.000	0.000	1381.79	

Gas Composition and Properties

Effective October 1, 2021

Attachment B
Page 8 of 24

Source #: 2501030
Name: LIGNITE PLANT

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	0.2283		0.5237
Nitrogen, N2	2.9631		4.3268
Methane, C1	79.4957		66.4767
Ethane, C2	15.2390	4.0765	23.8852
Propane, C3	2.0456	0.5637	4.7019
iso-Butane, iC4	0.0244	0.0080	0.0739
n-Butane, nC4	0.0039	0.0012	0.0118
iso-Pentane, iC5			
n-Pentane, nC5			
Neo-Pentane, neo			
Hexanes Plus, C6+			
Argon, Ar			
Carbon Monoxide, CO			
Hydrogen, H2			
Oxygen, O2			
Helium, He			
Water, H2O			
Hydrogen Sulfide, H2S			
Totals	100.0000	4.6490	100.0000

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure		
Cricondentherm	-32.804	
HV, Dry @ Base P, T	1130.73	
HV, Sat @ Base P, T	1111.05	
HV, Sat @ Sample P, T	1130.73	
Relative Density	0.6640	
C6+: 100		

Sample

Date: 10/01/2021 Type:

Tech: Wayne Sampson

Pressure: Temp.:

Gauge: H2O:

Atm. Pressure: H2S:

Remarks:

Analysis

Date: Instrument:

Tech: Cylinder:

Remarks:

Source Daily Summary

November 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	0.7104	1146.7	1167.0	1166.6	1.001	3.986	71.740	20.506	2.369	0.106	0.251	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1384.53	
2	0.7094	1144.4	1164.7	1164.4	1.005	4.016	71.935	20.308	2.335	0.106	0.253	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1382.87	
3	0.7105	1146.2	1166.5	1166.1	1.022	3.987	71.699	20.580	2.318	0.103	0.247	0.019	0.024	0.000	0.000	0.000	0.000	0.000	1383.91	
4	0.7113	1149.1	1169.4	1169.1	1.024	3.883	71.514	20.894	2.299	0.102	0.243	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1386.64	
5	0.7123	1151.6	1172.0	1171.7	1.025	3.818	71.312	21.180	2.284	0.101	0.240	0.018	0.023	0.000	0.000	0.000	0.000	0.000	1388.69	
6	0.7118	1150.6	1171.0	1170.7	1.017	3.845	71.378	21.108	2.273	0.101	0.239	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1387.97	
7	0.7114	1148.8	1169.2	1168.9	1.016	3.923	71.444	20.962	2.274	0.101	0.240	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1386.22	
8	0.7140	1152.5	1172.9	1172.6	1.021	3.935	70.974	21.356	2.327	0.103	0.243	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1388.10	
9	0.7143	1153.6	1174.1	1173.7	1.016	3.902	70.893	21.498	2.302	0.103	0.244	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1389.16	
10	0.7134	1152.3	1172.7	1172.4	1.008	3.910	71.060	21.343	2.291	0.103	0.245	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1388.46	
11	0.7138	1153.6	1174.1	1173.7	1.008	3.864	71.034	21.373	2.330	0.104	0.247	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1389.68	
12	0.7148	1154.9	1175.4	1175.1	1.008	3.882	70.811	21.588	2.319	0.104	0.247	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1390.27	
13	0.7147	1155.1	1175.5	1175.2	1.005	3.873	70.819	21.590	2.322	0.104	0.247	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1390.48	
14	0.7149	1156.7	1177.2	1176.8	0.996	3.804	70.783	21.706	2.322	0.104	0.245	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1392.24	
15	0.7162	1159.7	1180.3	1180.0	0.989	3.749	70.624	21.829	2.415	0.106	0.248	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1394.67	
16	0.7147	1157.7	1178.2	1177.9	0.977	3.748	70.955	21.488	2.431	0.107	0.253	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1393.69	
17	0.7135	1157.6	1178.1	1177.8	0.980	3.640	71.076	21.595	2.319	0.104	0.245	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1394.74	
18	0.7149	1161.1	1181.7	1181.4	0.972	3.569	70.848	21.854	2.365	0.105	0.247	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1397.59	
19	0.7133	1159.8	1180.4	1180.1	0.966	3.507	71.139	21.667	2.329	0.105	0.246	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1397.61	
20	0.7140	1161.9	1182.4	1182.1	0.960	3.457	71.030	21.804	2.356	0.105	0.247	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1399.38	
21	0.7135	1161.8	1182.3	1182.0	0.963	3.410	71.160	21.709	2.364	0.106	0.245	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1399.75	
22	0.7136	1161.5	1182.1	1181.8	0.961	3.435	71.085	21.806	2.325	0.105	0.243	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1399.41	
23	0.7130	1156.1	1176.6	1176.3	0.981	3.673	71.291	21.269	2.387	0.107	0.251	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1393.45	
24	0.7108	1152.4	1172.8	1172.5	0.982	3.699	71.641	20.957	2.327	0.105	0.247	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1391.10	
25	0.7113	1153.5	1173.9	1173.6	0.978	3.691	71.521	21.094	2.324	0.105	0.246	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1391.89	
26	0.7115	1154.4	1174.8	1174.6	0.965	3.667	71.466	21.203	2.311	0.104	0.244	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1392.85	
27	0.7105	1152.8	1173.2	1172.9	0.971	3.668	71.678	20.971	2.320	0.105	0.246	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1391.81	
28	0.7101	1151.8	1172.2	1171.9	0.972	3.688	71.745	20.905	2.300	0.105	0.245	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1391.02	
29	0.7120	1155.9	1176.3	1176.0	0.927	3.686	71.644	20.731	2.599	0.111	0.259	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1394.11	
30	0.7141	1160.4	1181.0	1180.7	0.947	3.572	71.379	20.998	2.672	0.115	0.270	0.021	0.026	0.000	0.000	0.000	0.000	0.000	1397.52	
Avg	0.7128	1154.0	1174.9	1174.6	0.989	3.750	71.256	21.262	2.350	0.105	0.247	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1391.66	

Source Daily Summary

November 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	0.7486	1176.1	1196.9	1196.3	0.847	5.997	67.289	19.607	5.549	0.198	0.456	0.028	0.029	0.000	0.000	0.000	0.000	0.000	1383.39	
2	0.7544	1179.4	1200.3	1199.6	0.846	6.339	66.410	19.781	5.915	0.198	0.456	0.027	0.029	0.000	0.000	0.000	0.000	0.000	1381.95	
3	0.7547	1183.6	1204.6	1203.9	0.843	6.115	66.485	19.910	5.869	0.216	0.498	0.030	0.033	0.000	0.000	0.000	0.000	0.000	1386.59	
4	0.7563	1184.0	1205.0	1204.3	0.842	6.237	66.345	19.766	6.004	0.219	0.520	0.032	0.034	0.000	0.000	0.000	0.000	0.000	1385.64	
5	0.7574	1184.4	1205.4	1204.7	0.849	6.304	66.374	19.487	6.110	0.236	0.567	0.035	0.038	0.000	0.000	0.000	0.000	0.000	1385.10	
6	0.7591	1187.4	1208.4	1207.7	0.848	6.285	66.015	19.840	6.169	0.230	0.541	0.034	0.037	0.000	0.000	0.000	0.000	0.000	1387.00	
7	0.7585	1186.8	1207.8	1207.0	0.850	6.267	65.984	19.973	6.142	0.216	0.505	0.031	0.033	0.000	0.000	0.000	0.000	0.000	1386.81	
8	0.7602	1190.4	1211.5	1210.7	0.849	6.213	65.788	20.115	6.216	0.224	0.526	0.033	0.036	0.000	0.000	0.000	0.000	0.000	1389.40	
9	0.7613	1191.7	1212.8	1212.0	0.845	6.240	65.620	20.195	6.288	0.222	0.521	0.033	0.036	0.000	0.000	0.000	0.000	0.000	1389.95	
10	0.7598	1188.5	1209.5	1208.7	0.847	6.291	65.803	20.063	6.197	0.220	0.513	0.032	0.034	0.000	0.000	0.000	0.000	0.000	1387.58	
11	0.7551	1181.4	1202.3	1201.5	0.849	6.281	66.250	20.016	5.907	0.197	0.445	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1383.59	
12	0.7597	1190.0	1211.0	1210.2	0.847	6.190	65.747	20.267	6.187	0.211	0.488	0.030	0.033	0.000	0.000	0.000	0.000	0.000	1389.43	
13	0.7583	1186.5	1207.5	1206.7	0.851	6.262	65.951	20.074	6.091	0.216	0.492	0.030	0.032	0.000	0.000	0.000	0.000	0.000	1386.69	
14	0.7575	1185.5	1206.5	1205.7	0.851	6.252	66.075	19.988	6.066	0.214	0.492	0.030	0.032	0.000	0.000	0.000	0.000	0.000	1386.23	
15	0.7596	1190.3	1211.3	1210.5	0.853	6.151	65.783	20.267	6.189	0.208	0.484	0.031	0.033	0.000	0.000	0.000	0.000	0.000	1389.82	
16	0.7612	1192.4	1213.5	1212.7	0.851	6.177	65.563	20.381	6.239	0.217	0.507	0.032	0.035	0.000	0.000	0.000	0.000	0.000	1390.89	
17	0.7590	1187.5	1208.6	1207.8	0.849	6.268	65.987	19.932	6.125	0.231	0.539	0.033	0.036	0.000	0.000	0.000	0.000	0.000	1387.24	
18	0.7591	1187.1	1208.2	1207.4	0.847	6.302	66.177	19.567	6.207	0.244	0.580	0.036	0.040	0.000	0.000	0.000	0.000	0.000	1386.70	
19	0.7577	1184.5	1205.5	1204.7	0.847	6.329	66.353	19.458	6.122	0.242	0.574	0.036	0.039	0.000	0.000	0.000	0.000	0.000	1384.92	
20	0.7573	1183.1	1204.1	1203.3	0.845	6.384	66.514	19.197	6.127	0.251	0.603	0.038	0.041	0.000	0.000	0.000	0.000	0.000	1383.61	
21	0.7572	1182.5	1203.5	1202.7	0.843	6.413	66.559	19.094	6.152	0.252	0.608	0.037	0.040	0.000	0.000	0.000	0.000	0.000	1382.99	
22	0.7560	1182.2	1203.2	1202.4	0.826	6.341	66.666	19.189	6.058	0.253	0.593	0.035	0.038	0.000	0.000	0.000	0.000	0.000	1383.81	
23	0.7579	1184.3	1205.3	1204.5	0.833	6.383	66.221	19.558	6.150	0.246	0.548	0.030	0.031	0.000	0.000	0.000	0.000	0.000	1384.49	
24	0.7561	1181.2	1202.1	1201.4	0.830	6.412	66.418	19.439	6.095	0.233	0.515	0.028	0.029	0.000	0.000	0.000	0.000	0.000	1382.47	
25	0.7564	1180.9	1201.8	1201.1	0.835	6.456	66.441	19.288	6.159	0.237	0.525	0.029	0.030	0.000	0.000	0.000	0.000	0.000	1381.77	
26	0.7581	1184.0	1205.0	1204.3	0.830	6.423	66.244	19.414	6.250	0.241	0.538	0.030	0.031	0.000	0.000	0.000	0.000	0.000	1383.97	
27	0.7523	1179.9	1200.8	1200.0	0.801	6.180	66.989	19.322	5.922	0.226	0.503	0.028	0.030	0.000	0.000	0.000	0.000	0.000	1384.42	
28	0.7625	1191.2	1212.3	1211.4	0.838	6.384	65.727	19.660	6.500	0.254	0.570	0.033	0.035	0.000	0.000	0.000	0.000	0.000	1388.35	
29	0.7581	1183.3	1204.3	1203.4	0.842	6.447	66.232	19.419	6.209	0.246	0.544	0.030	0.032	0.000	0.000	0.000	0.000	0.000	1383.18	
30	0.7594	1185.5	1206.5	1205.6	0.841	6.447	66.098	19.454	6.264	0.257	0.577	0.030	0.032	0.000	0.000	0.000	0.000	0.000	1384.40	
Avg	0.7576	1185.0	1206.2	1205.4	0.842	6.292	66.204	19.724	6.116	0.229	0.528	0.032	0.034	0.000	0.000	0.000	0.000	0.000	1385.75	

Source Daily Summary

November 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	0.7442	1174.5	1195.3	1194.3	0.821	5.722	67.710	19.906	5.215	0.175	0.397	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1385.59	
2	0.7469	1176.4	1197.2	1196.2	0.841	5.827	67.364	19.946	5.379	0.179	0.408	0.027	0.028	0.000	0.000	0.000	0.000	0.000	1385.32	
3	0.7478	1176.8	1197.6	1196.6	0.843	5.884	67.233	19.962	5.431	0.180	0.409	0.027	0.028	0.000	0.000	0.000	0.000	0.000	1384.94	
4	0.7482	1177.5	1198.4	1197.3	0.844	5.878	67.197	19.968	5.452	0.184	0.418	0.027	0.029	0.000	0.000	0.000	0.000	0.000	1385.39	
5	0.7487	1177.6	1198.5	1197.4	0.846	5.918	67.139	19.942	5.489	0.185	0.423	0.028	0.029	0.000	0.000	0.000	0.000	0.000	1385.04	
6	0.7569	1183.0	1203.9	1202.9	0.879	6.304	66.269	19.739	5.989	0.227	0.522	0.034	0.036	0.000	0.000	0.000	0.000	0.000	1383.84	
7	0.7595	1185.0	1206.0	1205.0	0.886	6.412	65.927	19.797	6.135	0.235	0.535	0.035	0.038	0.000	0.000	0.000	0.000	0.000	1383.85	
8	0.7599	1186.3	1207.3	1206.3	0.887	6.368	65.710	20.126	6.136	0.218	0.490	0.031	0.034	0.000	0.000	0.000	0.000	0.000	1385.02	
9	0.7621	1190.6	1211.7	1210.7	0.887	6.314	65.455	20.294	6.245	0.225	0.510	0.034	0.037	0.000	0.000	0.000	0.000	0.000	1388.00	
10	0.7623	1190.8	1211.9	1210.8	0.883	6.331	65.382	20.353	6.261	0.222	0.499	0.033	0.035	0.000	0.000	0.000	0.000	0.000	1387.99	
11	0.7614	1188.4	1209.4	1208.4	0.882	6.392	65.563	20.125	6.231	0.226	0.510	0.033	0.036	0.000	0.000	0.000	0.000	0.000	1386.04	
12	0.7568	1181.3	1202.2	1201.1	0.886	6.393	65.932	20.185	5.912	0.201	0.434	0.028	0.029	0.000	0.000	0.000	0.000	0.000	1381.89	
13	0.7604	1188.3	1209.4	1208.3	0.882	6.298	65.547	20.396	6.141	0.209	0.463	0.030	0.032	0.000	0.000	0.000	0.000	0.000	1386.92	
14	0.7591	1184.9	1205.9	1204.8	0.889	6.376	65.731	20.215	6.040	0.215	0.471	0.030	0.032	0.000	0.000	0.000	0.000	0.000	1384.11	
15	0.7584	1183.9	1204.8	1203.8	0.888	6.376	65.853	20.117	6.017	0.214	0.473	0.030	0.032	0.000	0.000	0.000	0.000	0.000	1383.53	
16	0.7580	1184.5	1205.5	1204.5	0.893	6.298	65.798	20.324	5.995	0.198	0.436	0.028	0.030	0.000	0.000	0.000	0.000	0.000	1384.58	
17	0.7651	1196.8	1218.0	1217.0	0.887	6.219	65.029	20.656	6.394	0.228	0.514	0.035	0.038	0.000	0.000	0.000	0.000	0.000	1392.45	
18	0.7587	1184.1	1205.1	1204.0	0.885	6.396	65.914	19.961	6.041	0.228	0.507	0.033	0.035	0.000	0.000	0.000	0.000	0.000	1383.50	
19	0.7610	1188.1	1209.1	1208.1	0.884	6.373	65.774	19.876	6.222	0.244	0.550	0.037	0.040	0.000	0.000	0.000	0.000	0.000	1386.00	
20	0.7586	1183.2	1204.2	1203.2	0.885	6.437	66.129	19.581	6.101	0.242	0.552	0.036	0.038	0.000	0.000	0.000	0.000	0.000	1382.59	
21	0.7588	1182.9	1203.9	1202.8	0.882	6.478	66.270	19.291	6.149	0.256	0.592	0.039	0.042	0.000	0.000	0.000	0.000	0.000	1382.02	
22	0.7571	1179.5	1200.4	1199.3	0.881	6.531	66.459	19.155	6.079	0.248	0.572	0.036	0.039	0.000	0.000	0.000	0.000	0.000	1379.54	
23	0.7583	1183.8	1204.7	1203.7	0.861	6.413	66.348	19.315	6.126	0.262	0.597	0.038	0.041	0.000	0.000	0.000	0.000	0.000	1383.46	
24	0.7581	1181.7	1202.6	1201.6	0.871	6.505	66.137	19.544	6.105	0.249	0.529	0.029	0.031	0.000	0.000	0.000	0.000	0.000	1381.26	
25	0.7575	1181.0	1201.9	1200.9	0.865	6.502	66.189	19.518	6.126	0.238	0.503	0.028	0.030	0.000	0.000	0.000	0.000	0.000	1380.97	
26	0.7574	1179.8	1200.7	1199.8	0.872	6.561	66.205	19.436	6.123	0.238	0.505	0.029	0.031	0.000	0.000	0.000	0.000	0.000	1379.59	
27	0.7593	1183.0	1203.9	1203.0	0.869	6.546	65.976	19.555	6.231	0.244	0.518	0.030	0.032	0.000	0.000	0.000	0.000	0.000	1381.62	
28	0.7525	1178.4	1199.3	1199.1	0.829	6.249	66.870	19.431	5.857	0.226	0.481	0.028	0.030	0.000	0.000	0.000	0.000	0.000	1382.49	
29	0.7628	1189.1	1210.2	1210.0	0.875	6.484	65.573	19.779	6.425	0.253	0.545	0.032	0.035	0.000	0.000	0.000	0.000	0.000	1385.65	
30	0.7594	1182.7	1203.7	1203.5	0.879	6.551	65.967	19.565	6.202	0.247	0.526	0.030	0.032	0.000	0.000	0.000	0.000	0.000	1381.27	
Avg	0.7572	1183.0	1204.4	1203.5	0.872	6.311	66.155	19.869	6.008	0.223	0.496	0.031	0.034	0.000	0.000	0.000	0.000	0.000	1384.15	

Source Daily Summary

November 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	0.7438	1173.6	1194.4	1193.9	0.823	5.733	67.769	19.859	5.194	0.174	0.395	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1384.94	
2	0.7471	1175.8	1196.6	1196.0	0.863	5.857	67.356	19.868	5.412	0.180	0.408	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1384.35	
3	0.7480	1176.1	1196.9	1196.6	0.864	5.913	67.228	19.888	5.461	0.181	0.409	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1383.97	
4	0.7484	1176.9	1197.7	1197.2	0.864	5.903	67.196	19.896	5.480	0.185	0.418	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1384.51	
5	0.7490	1177.1	1198.0	1197.3	0.865	5.942	67.128	19.877	5.519	0.187	0.424	0.027	0.028	0.000	0.000	0.000	0.000	0.000	1384.26	
6	0.7571	1183.1	1204.1	1203.3	0.883	6.306	66.254	19.735	5.999	0.228	0.523	0.034	0.036	0.000	0.000	0.000	0.000	0.000	1383.82	
7	0.7597	1185.4	1206.4	1205.7	0.889	6.399	65.911	19.822	6.136	0.234	0.536	0.035	0.038	0.000	0.000	0.000	0.000	0.000	1384.16	
8	0.7603	1187.1	1208.2	1207.4	0.888	6.361	65.658	20.151	6.162	0.219	0.494	0.032	0.034	0.000	0.000	0.000	0.000	0.000	1385.53	
9	0.7625	1191.3	1212.4	1211.6	0.888	6.308	65.412	20.315	6.267	0.227	0.514	0.034	0.037	0.000	0.000	0.000	0.000	0.000	1388.45	
10	0.7627	1191.4	1212.5	1211.7	0.884	6.325	65.343	20.377	6.277	0.223	0.502	0.033	0.036	0.000	0.000	0.000	0.000	0.000	1388.39	
11	0.7619	1189.2	1210.3	1209.5	0.883	6.385	65.513	20.148	6.257	0.228	0.515	0.034	0.037	0.000	0.000	0.000	0.000	0.000	1386.58	
12	0.7572	1182.0	1202.9	1202.1	0.887	6.385	65.886	20.211	5.933	0.202	0.438	0.028	0.030	0.000	0.000	0.000	0.000	0.000	1382.37	
13	0.7610	1189.4	1210.5	1209.7	0.884	6.286	65.482	20.429	6.175	0.211	0.469	0.031	0.033	0.000	0.000	0.000	0.000	0.000	1387.65	
14	0.7601	1186.7	1207.7	1206.9	0.890	6.358	65.620	20.273	6.096	0.219	0.480	0.031	0.033	0.000	0.000	0.000	0.000	0.000	1385.30	
15	0.7595	1185.9	1206.9	1206.1	0.889	6.356	65.727	20.177	6.084	0.219	0.484	0.031	0.034	0.000	0.000	0.000	0.000	0.000	1384.88	
16	0.7596	1187.4	1208.4	1207.7	0.893	6.270	65.626	20.410	6.087	0.203	0.451	0.030	0.032	0.000	0.000	0.000	0.000	0.000	1386.48	
17	0.7652	1197.0	1218.2	1217.4	0.889	6.220	65.017	20.658	6.399	0.229	0.515	0.035	0.038	0.000	0.000	0.000	0.000	0.000	1392.51	
18	0.7591	1184.8	1205.8	1205.0	0.885	6.393	65.864	19.983	6.065	0.229	0.511	0.033	0.036	0.000	0.000	0.000	0.000	0.000	1383.93	
19	0.7615	1188.9	1210.0	1209.2	0.884	6.364	65.717	19.916	6.242	0.245	0.554	0.037	0.040	0.000	0.000	0.000	0.000	0.000	1386.57	
20	0.7592	1184.3	1205.3	1204.5	0.886	6.427	66.064	19.607	6.135	0.244	0.560	0.037	0.039	0.000	0.000	0.000	0.000	0.000	1383.29	
21	0.7592	1183.6	1204.5	1203.8	0.883	6.472	66.228	19.316	6.166	0.257	0.595	0.040	0.043	0.000	0.000	0.000	0.000	0.000	1382.46	
22	0.7575	1180.2	1201.1	1200.3	0.882	6.523	66.411	19.186	6.097	0.249	0.575	0.037	0.039	0.000	0.000	0.000	0.000	0.000	1380.02	
23	0.7589	1184.7	1205.6	1204.9	0.864	6.412	66.282	19.337	6.159	0.264	0.603	0.039	0.041	0.000	0.000	0.000	0.000	0.000	1383.94	
24	0.7586	1182.5	1203.4	1202.7	0.872	6.500	66.087	19.566	6.129	0.251	0.535	0.030	0.031	0.000	0.000	0.000	0.000	0.000	1381.73	
25	0.7579	1181.8	1202.7	1202.0	0.866	6.495	66.139	19.546	6.148	0.240	0.508	0.029	0.030	0.000	0.000	0.000	0.000	0.000	1381.48	
26	0.7576	1180.0	1200.9	1200.3	0.873	6.561	66.185	19.445	6.129	0.239	0.507	0.029	0.031	0.000	0.000	0.000	0.000	0.000	1379.70	
27	0.7597	1183.6	1204.6	1203.9	0.869	6.543	65.935	19.572	6.252	0.245	0.522	0.030	0.032	0.000	0.000	0.000	0.000	0.000	1382.00	
28	0.7520	1178.1	1199.0	1198.8	0.827	6.223	66.934	19.431	5.824	0.224	0.479	0.028	0.029	0.000	0.000	0.000	0.000	0.000	1382.61	
29	0.7632	1189.4	1210.5	1210.3	0.875	6.504	65.533	19.758	6.456	0.255	0.550	0.033	0.035	0.000	0.000	0.000	0.000	0.000	1385.62	
30	0.7602	1184.1	1205.1	1204.9	0.880	6.546	65.869	19.614	6.245	0.250	0.534	0.031	0.033	0.000	0.000	0.000	0.000	0.000	1382.10	
Avg	0.7576	1184.0	1205.0	1204.4	0.876	6.309	66.112	19.879	6.033	0.225	0.500	0.032	0.034	0.000	0.000	0.000	0.000	0.000	1384.45	

Source Daily Summary

November 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	0.6820	1129.6	1149.6	1149.1	0.797	2.669	76.261	18.532	1.562	0.057	0.106	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1392.01	
2	0.6830	1132.2	1152.3	1151.7	0.652	2.821	75.860	18.974	1.514	0.056	0.108	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1394.30	
3	0.6787	1126.4	1146.4	1145.8	0.672	2.743	76.501	18.616	1.319	0.047	0.089	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1391.52	
4	0.6807	1126.7	1146.7	1146.1	0.532	3.129	76.014	18.747	1.410	0.053	0.102	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1389.82	
5	0.6942	1133.8	1153.9	1153.3	0.660	3.763	74.367	18.723	2.172	0.092	0.196	0.013	0.013	0.000	0.000	0.000	0.000	0.000	1384.93	
6	0.6836	1126.4	1146.3	1145.8	0.540	3.400	75.781	18.381	1.684	0.064	0.132	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1386.53	
7	0.6846	1129.0	1149.0	1148.4	0.521	3.368	75.458	18.833	1.621	0.061	0.123	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1388.69	
8	0.6873	1136.7	1156.9	1156.3	0.450	3.263	74.859	19.591	1.640	0.058	0.122	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1395.42	
9	0.6799	1127.2	1147.2	1146.6	0.481	3.095	76.053	18.876	1.338	0.047	0.096	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1391.28	
10	0.6863	1129.1	1149.1	1148.6	0.540	3.494	75.312	18.663	1.758	0.071	0.145	0.010	0.009	0.000	0.000	0.000	0.000	0.000	1387.10	
11	0.6985	1138.4	1158.6	1158.0	0.632	3.925	73.675	19.029	2.440	0.087	0.187	0.012	0.012	0.000	0.000	0.000	0.000	0.000	1386.31	
12	0.7375	1174.1	1194.9	1194.2	0.733	5.252	68.498	20.186	4.759	0.159	0.366	0.023	0.025	0.000	0.000	0.000	0.000	0.000	1391.63	
13	0.7150	1151.7	1172.1	1171.5	0.662	4.621	71.406	19.498	3.407	0.116	0.258	0.016	0.017	0.000	0.000	0.000	0.000	0.000	1386.22	
14	0.7274	1162.5	1183.1	1182.5	0.683	5.090	69.852	19.659	4.187	0.149	0.336	0.021	0.022	0.000	0.000	0.000	0.000	0.000	1387.37	
15	0.7210	1154.9	1175.4	1174.7	0.750	4.849	70.744	19.385	3.825	0.125	0.284	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1384.36	
16	0.6806	1124.9	1144.8	1144.2	0.551	3.200	75.748	19.179	1.204	0.035	0.073	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1387.69	
17	0.6954	1139.0	1159.2	1158.6	0.533	3.753	73.780	19.587	2.104	0.070	0.154	0.009	0.010	0.000	0.000	0.000	0.000	0.000	1390.12	
18	0.7290	1165.0	1185.6	1185.0	0.691	5.078	69.838	19.462	4.329	0.166	0.386	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1388.76	
19	0.7473	1176.3	1197.1	1196.5	0.806	5.920	67.619	19.396	5.481	0.213	0.501	0.031	0.033	0.000	0.000	0.000	0.000	0.000	1384.96	
20	0.7262	1160.2	1180.7	1180.1	0.683	5.115	70.322	19.047	4.224	0.166	0.391	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1385.70	
21	0.7115	1153.3	1173.7	1173.1	0.540	4.380	71.824	19.675	3.163	0.117	0.268	0.016	0.017	0.000	0.000	0.000	0.000	0.000	1391.51	
22	0.6923	1139.8	1160.0	1159.5	0.444	3.556	73.951	20.038	1.820	0.056	0.120	0.007	0.008	0.000	0.000	0.000	0.000	0.000	1394.16	
23	0.6823	1129.0	1148.9	1148.5	0.409	3.326	75.425	19.317	1.412	0.037	0.067	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1390.98	
24	0.6774	1119.2	1139.0	1138.5	0.437	3.423	76.413	18.233	1.377	0.038	0.071	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1383.85	
25	0.6761	1114.8	1134.5	1134.1	0.498	3.470	76.807	17.670	1.431	0.040	0.075	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1379.80	
26	0.7188	1150.8	1171.1	1170.7	0.675	5.006	71.319	18.563	3.937	0.145	0.318	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1381.84	
27	0.6802	1120.2	1140.0	1139.6	0.446	3.603	76.222	17.880	1.696	0.048	0.094	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1382.40	
28	0.7470	1177.1	1198.0	1197.5	0.776	5.882	67.730	19.245	5.613	0.215	0.481	0.027	0.029	0.000	0.000	0.000	0.000	0.000	1386.32	
29	0.7069	1142.5	1162.7	1162.2	0.560	4.576	72.780	18.437	3.254	0.116	0.249	0.014	0.014	0.000	0.000	0.000	0.000	0.000	1382.96	
30	0.6958	1133.2	1153.2	1152.8	0.484	4.217	74.280	18.036	2.669	0.094	0.200	0.011	0.011	0.000	0.000	0.000	0.000	0.000	1382.56	
Avg	0.7002	1141.0	1161.0	1160.5	0.595	4.000	73.490	18.982	2.612	0.093	0.203	0.013	0.013	0.000	0.000	0.000	0.000	0.000	1387.70	

Source Daily Summary

November 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	0.6843	1134.8	1154.9	1154.6	0.647	2.794	75.517	19.396	1.475	0.056	0.103	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1396.15	
2	0.6802	1129.2	1149.2	1148.8	0.639	2.768	76.159	18.948	1.336	0.049	0.089	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1393.34	
3	0.6822	1130.2	1150.2	1149.9	0.589	2.968	75.784	19.079	1.415	0.054	0.099	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1392.61	
4	0.6845	1130.4	1150.4	1150.0	0.633	3.108	75.552	18.941	1.566	0.063	0.121	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1390.44	
5	0.6820	1128.6	1148.6	1148.3	0.592	3.039	75.916	18.785	1.489	0.057	0.107	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1390.87	
6	0.6884	1136.4	1156.6	1156.2	0.519	3.274	74.684	19.700	1.621	0.063	0.123	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1393.98	
7	0.6854	1137.6	1157.7	1157.4	0.394	3.113	74.865	20.083	1.396	0.047	0.092	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1398.47	
8	0.6783	1123.7	1143.6	1143.3	0.533	3.086	76.288	18.704	1.240	0.046	0.091	0.005	0.006	0.000	0.000	0.000	0.000	0.000	1388.55	
9	0.6874	1133.2	1153.2	1152.9	0.516	3.391	74.938	19.279	1.645	0.070	0.142	0.010	0.009	0.000	0.000	0.000	0.000	0.000	1390.90	
10	0.6787	1127.8	1147.8	1147.5	0.486	2.943	75.746	19.810	0.934	0.027	0.050	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1393.26	
11	0.6772	1123.0	1142.9	1142.6	0.471	3.118	75.997	19.401	0.938	0.026	0.047	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1388.87	
12	0.6821	1131.4	1151.4	1151.1	0.410	3.162	75.265	19.873	1.166	0.040	0.077	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1394.14	
13	0.6752	1117.6	1137.4	1137.1	0.569	3.114	76.419	18.967	0.855	0.026	0.047	0.002	0.001	0.000	0.000	0.000	0.000	0.000	1384.18	
14	0.6770	1124.1	1144.0	1143.7	0.489	3.009	75.930	19.678	0.834	0.021	0.037	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1390.38	
15	0.6769	1125.0	1144.9	1144.6	0.454	3.001	75.883	19.805	0.802	0.020	0.035	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1391.56	
16	0.6826	1130.8	1150.8	1150.5	0.447	3.190	75.304	19.650	1.286	0.041	0.077	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1392.86	
17	0.6865	1133.2	1153.3	1152.9	0.478	3.358	74.889	19.530	1.583	0.053	0.099	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1391.92	
18	0.6839	1129.2	1149.2	1148.9	0.456	3.391	75.260	19.254	1.501	0.046	0.084	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1389.67	
19	0.6868	1140.1	1160.3	1160.0	0.320	3.209	74.400	20.571	1.384	0.039	0.072	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1400.11	
20	0.6855	1139.3	1159.4	1159.1	0.315	3.146	74.341	20.993	1.126	0.028	0.049	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1400.39	
21	0.6853	1134.2	1154.3	1154.0	0.410	3.290	74.662	20.231	1.316	0.033	0.056	0.002	0.001	0.000	0.000	0.000	0.000	0.000	1394.39	
22	0.6832	1130.1	1150.1	1149.8	0.399	3.361	75.176	19.563	1.394	0.038	0.066	0.002	0.001	0.000	0.000	0.000	0.000	0.000	1391.44	
23	0.6793	1123.0	1142.9	1142.6	0.403	3.414	75.952	18.767	1.350	0.039	0.069	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1386.71	
24	0.6774	1117.0	1136.8	1136.5	0.475	3.492	76.430	18.107	1.382	0.039	0.070	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1381.24	
25	0.6760	1115.4	1135.1	1134.9	0.451	3.498	76.653	17.938	1.350	0.038	0.067	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1380.61	
26	0.6772	1119.4	1139.3	1139.0	0.380	3.468	76.413	18.207	1.421	0.039	0.067	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1384.45	
27	0.6765	1117.0	1136.8	1136.5	0.431	3.479	76.548	18.057	1.379	0.037	0.065	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1382.10	
28	0.6779	1122.3	1142.2	1142.0	0.343	3.415	76.243	18.466	1.420	0.039	0.069	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1387.31	
29	0.6750	1116.9	1136.7	1136.4	0.347	3.475	76.775	17.909	1.385	0.038	0.066	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1383.47	
30	0.6780	1122.5	1142.3	1142.1	0.331	3.437	76.262	18.379	1.477	0.040	0.069	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1387.33	
Avg	0.6810	1127.0	1147.4	1147.1	0.464	3.217	75.675	19.202	1.315	0.042	0.077	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1390.39	

Source Daily Summary

November 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	0.6796	1118.3	1138.1	1137.8	0.491	3.592	76.610	17.261	1.867	0.058	0.108	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1380.57	
2	0.6796	1118.3	1138.1	1137.2	0.491	3.592	76.610	17.261	1.867	0.058	0.108	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1380.57	
3	0.6796	1118.3	1138.1	1137.0	0.491	3.592	76.610	17.261	1.867	0.058	0.108	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1380.57	
4	0.6796	1118.3	1138.1	1137.0	0.491	3.592	76.610	17.261	1.867	0.058	0.108	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1380.57	
5	0.6796	1118.3	1138.1	1137.0	0.491	3.592	76.610	17.261	1.867	0.058	0.108	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1380.57	
6	0.6796	1118.3	1138.1	1137.3	0.491	3.592	76.610	17.261	1.867	0.058	0.108	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1380.57	
7	0.6796	1118.3	1138.1	1137.3	0.491	3.592	76.610	17.261	1.867	0.058	0.108	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1380.57	
8	0.6796	1118.3	1138.1	1137.3	0.491	3.592	76.610	17.261	1.867	0.058	0.108	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1380.57	
9	0.6796	1118.3	1138.1	1137.9	0.491	3.592	76.610	17.261	1.867	0.058	0.108	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1380.57	
10	0.6796	1118.3	1138.1	1137.4	0.491	3.592	76.610	17.261	1.867	0.058	0.108	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1380.57	
11	0.6796	1118.3	1138.1	1137.7	0.491	3.592	76.610	17.261	1.867	0.058	0.108	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1380.57	
12	0.6796	1118.3	1138.1	1138.0	0.491	3.592	76.610	17.261	1.867	0.058	0.108	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1380.57	
13	0.6796	1118.3	1138.1	1138.0	0.491	3.592	76.610	17.261	1.867	0.058	0.108	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1380.57	
14	0.6796	1118.3	1138.1	1137.9	0.491	3.592	76.610	17.261	1.867	0.058	0.108	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1380.57	
15	0.6796	1118.3	1138.1	1137.5	0.491	3.592	76.610	17.261	1.867	0.058	0.108	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1380.57	
16	0.6796	1118.3	1138.1	1136.9	0.491	3.592	76.610	17.261	1.867	0.058	0.108	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1380.57	
17	0.6796	1118.3	1138.1	1136.8	0.491	3.592	76.610	17.261	1.867	0.058	0.108	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1380.57	
18	0.6796	1118.3	1138.1	1136.8	0.491	3.592	76.610	17.261	1.867	0.058	0.108	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1380.57	
19	0.6796	1118.3	1138.1	1136.9	0.491	3.592	76.610	17.261	1.867	0.058	0.108	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1380.57	
20	0.6796	1118.3	1138.1	1137.1	0.491	3.592	76.610	17.261	1.867	0.058	0.108	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1380.57	
21	0.6796	1118.3	1138.1	1136.9	0.491	3.592	76.610	17.261	1.867	0.058	0.108	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1380.57	
22	0.6795	1118.3	1138.1	1136.8	0.488	3.591	76.608	17.268	1.866	0.058	0.108	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1380.66	
23	0.6799	1119.3	1139.1	1137.8	0.473	3.584	76.524	17.381	1.862	0.057	0.107	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1381.55	
24	0.6796	1119.4	1139.2	1138.2	0.466	3.567	76.509	17.471	1.818	0.055	0.103	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1381.93	
25	0.6791	1118.9	1138.7	1137.6	0.456	3.565	76.548	17.499	1.766	0.054	0.100	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1381.79	
26	0.6792	1119.1	1139.0	1137.9	0.448	3.574	76.558	17.441	1.815	0.054	0.100	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1381.99	
27	0.6790	1118.7	1138.5	1137.4	0.442	3.586	76.605	17.384	1.818	0.054	0.100	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1381.69	
28	0.6788	1118.1	1137.9	1136.6	0.434	3.615	76.649	17.310	1.821	0.054	0.101	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1381.15	
29	0.6786	1118.0	1137.8	1136.6	0.434	3.608	76.674	17.294	1.826	0.054	0.100	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1381.18	
30	0.6784	1117.6	1137.4	1136.2	0.429	3.621	76.710	17.242	1.833	0.054	0.100	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1380.90	
Avg	0.6794	1118.0	1138.2	1137.3	0.480	3.591	76.606	17.292	1.855	0.057	0.106	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1380.83	

Source Daily Summary

November 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	0.6841	1151.1	1171.5	1169.6	0.000	2.777	73.796	22.762	0.619	0.013	0.029	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1416.40	-26.75
2	0.6906	1161.7	1182.3	1179.9	0.000	2.739	73.354	22.613	1.026	0.066	0.175	0.014	0.013	0.000	0.000	0.000	0.000	0.000	1422.65	-18.16
3	0.6911	1162.6	1183.1	1181.1	0.000	2.733	73.324	22.597	1.058	0.070	0.187	0.015	0.014	0.000	0.000	0.000	0.000	0.000	1423.18	-17.46
4	0.6903	1161.5	1182.1	1180.1	0.000	2.717	73.449	22.526	1.035	0.067	0.178	0.014	0.014	0.000	0.000	0.000	0.000	0.000	1422.79	-18.14
5	0.6918	1163.9	1184.5	1182.7	0.000	2.715	73.235	22.663	1.097	0.071	0.189	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1424.12	-16.92
6	0.6872	1157.4	1177.9	1176.2	0.001	2.687	73.411	23.035	0.792	0.020	0.048	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1420.84	-23.86
7	0.6857	1156.1	1176.5	1174.7	0.000	2.623	73.560	23.068	0.727	0.008	0.013	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1420.85	-25.61
8	0.6868	1157.7	1178.2	1176.6	0.000	2.629	73.264	23.415	0.675	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.71	-25.32
9	0.6834	1151.6	1171.9	1170.2	0.000	2.687	73.906	22.757	0.629	0.007	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.62	-27.28
10	0.6825	1149.8	1170.1	1168.1	0.000	2.708	74.103	22.536	0.627	0.008	0.016	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1416.39	-27.74
11	0.6833	1151.3	1171.7	1170.1	0.001	2.684	73.949	22.708	0.636	0.008	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.52	-27.32
12	0.6809	1147.6	1167.9	1166.0	0.000	2.695	74.240	22.588	0.458	0.007	0.011	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1415.31	-29.24
13	0.6826	1150.1	1170.4	1168.1	0.000	2.696	73.937	22.860	0.490	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1416.69	-28.36
14	0.6845	1152.5	1172.9	1171.2	0.000	2.729	73.734	22.840	0.674	0.008	0.014	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1417.69	-26.64
15	0.6836	1150.3	1170.7	1168.7	0.000	2.778	73.851	22.727	0.629	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1415.92	-27.51
16	0.6842	1150.6	1171.0	1169.4	0.000	2.814	73.713	22.850	0.602	0.007	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1415.71	-27.29
17	0.6850	1151.8	1172.2	1170.5	0.000	2.815	73.614	22.880	0.671	0.007	0.012	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1416.38	-26.62
18	0.6855	1152.8	1173.2	1171.4	0.000	2.807	73.537	22.933	0.700	0.008	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.00	-26.20
19	0.6852	1152.2	1172.6	1170.7	0.000	2.810	73.575	22.922	0.671	0.008	0.013	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1416.65	-26.49
20	0.6847	1151.5	1171.9	1170.2	0.000	2.809	73.613	22.941	0.622	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1416.25	-27.03
21	0.6863	1154.0	1174.5	1172.6	0.000	2.802	73.392	23.080	0.703	0.008	0.014	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1417.73	-25.80
22	0.6843	1151.1	1171.5	1169.5	0.000	2.802	73.535	23.172	0.477	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1416.14	-27.72
23	0.6853	1152.6	1173.0	1170.9	0.000	2.804	73.395	23.258	0.523	0.007	0.011	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1416.92	-26.97
24	0.6865	1154.7	1175.2	1173.1	0.000	2.783	73.246	23.337	0.614	0.007	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.33	-25.99
25	0.6857	1153.7	1174.2	1172.2	0.000	2.768	73.362	23.290	0.564	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.97	-26.59
26	0.6855	1153.3	1173.7	1172.2	0.000	2.773	73.362	23.325	0.526	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.68	-26.89
27	0.6854	1153.1	1173.5	1171.7	0.000	2.782	73.396	23.261	0.545	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.46	-26.82
28	0.6847	1152.4	1172.8	1171.1	0.000	2.761	73.526	23.159	0.537	0.006	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.31	-27.15
29	0.6854	1153.8	1174.3	1172.7	0.000	2.733	73.446	23.226	0.576	0.007	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.40	-26.60
30	0.6851	1153.0	1173.5	1171.7	0.000	2.751	73.466	23.232	0.533	0.007	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.76	-26.97
Avg	0.6856	1154.0	1174.3	1172.4	0.000	2.747	73.576	22.952	0.668	0.016	0.036	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1418.25	-25.58

Source Daily Summary

November 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	0.6752	1107.6	1127.2	1126.8	0.472	3.860	77.129	16.794	1.587	0.049	0.097	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1371.86	
2	0.6603	1089.1	1108.4	1108.0	0.423	3.665	79.850	14.590	1.345	0.042	0.078	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1363.93	
3	0.6199	1032.0	1050.3	1049.9	0.281	3.558	87.261	8.101	0.731	0.026	0.041	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1333.88	
4	0.6205	1032.9	1051.2	1050.7	0.283	3.557	87.157	8.196	0.740	0.026	0.041	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1334.34	
5	0.6199	1032.0	1050.3	1049.8	0.281	3.554	87.281	8.091	0.730	0.026	0.041	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1333.93	
6	0.5814	976.5	993.8	993.4	0.144	3.520	94.351	1.812	0.156	0.011	0.008	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1303.38	
7	0.5711	961.6	978.6	978.2	0.111	3.504	96.048	0.295	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.96	
8	0.5720	963.2	980.2	979.9	0.111	3.510	96.059	0.295	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1296.02	
9	0.5721	963.2	980.2	979.9	0.111	3.512	96.058	0.295	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1296.00	
10	0.5720	963.2	980.3	979.9	0.111	3.506	96.063	0.295	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1296.10	
11	0.5720	963.3	980.3	979.9	0.111	3.503	96.066	0.295	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1296.16	
12	0.5720	963.3	980.3	979.9	0.111	3.503	96.065	0.295	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1296.15	
13	0.5721	963.2	980.2	979.8	0.111	3.514	96.055	0.295	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.97	
14	0.5721	963.1	980.2	979.8	0.111	3.515	96.055	0.295	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.94	
15	0.5720	963.2	980.2	979.8	0.111	3.511	96.059	0.294	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1296.01	
16	0.6385	1049.4	1068.0	1067.6	0.380	4.099	84.316	9.670	1.353	0.057	0.113	0.006	0.007	0.000	0.000	0.000	0.000	0.000	1336.01	
17	0.6473	1064.7	1083.6	1083.2	0.442	3.899	82.631	11.451	1.409	0.054	0.102	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1346.49	
18	0.5722	962.9	979.9	979.5	0.107	3.553	96.011	0.305	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.39	
19	0.5722	962.8	979.9	979.5	0.107	3.555	96.012	0.303	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.33	
20	0.5722	963.0	980.1	979.7	0.108	3.534	96.030	0.304	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.68	
21	0.5722	962.9	980.0	979.6	0.107	3.544	96.022	0.303	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.52	
22	0.5722	962.8	979.9	979.5	0.107	3.552	96.015	0.302	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.39	
23	0.5722	962.8	979.8	979.6	0.107	3.556	96.012	0.302	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.31	
24	0.5722	962.9	979.9	979.7	0.107	3.548	96.019	0.303	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.46	
25	0.5722	962.9	980.0	979.7	0.107	3.543	96.024	0.303	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.55	
26	0.5722	962.9	979.9	979.6	0.107	3.547	96.021	0.303	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.48	
27	0.5767	969.5	986.6	986.3	0.124	3.545	95.196	1.038	0.084	0.010	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1299.13	
28	0.6693	1103.5	1123.1	1122.7	0.476	3.553	78.241	16.098	1.498	0.044	0.081	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1372.72	
29	0.6631	1092.9	1112.3	1112.0	0.460	3.638	79.367	15.010	1.396	0.042	0.077	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1365.93	
30	0.6633	1092.6	1112.0	1111.6	0.463	3.671	79.333	15.005	1.398	0.042	0.078	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1365.35	
Avg	0.5978	999.0	1016.9	1016.5	0.206	3.588	91.360	4.375	0.424	0.019	0.025	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1314.98	

November-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	
11/1/2023	11/2/2023		0	0	0	4,446	5,111	1149.6	1149.600	11/1/2023
11/2/2023	11/3/2023		0	0	0	3,845	4,431	1152.3	1152.300	11/2/2023
11/3/2023	11/4/2023		0	0	0	3,645	4,181	1146.4	1146.400	11/3/2023
11/4/2023	11/5/2023		0	0	0	3,881	4,451	1146.4	1146.400	11/4/2023
11/5/2023	11/6/2023		0	0	0	2,957	3,411	1153.9	1153.900	11/5/2023
11/6/2023	11/7/2023		0	0	0	3,515	4,030	1146.3	1146.300	11/6/2023
11/7/2023	11/8/2023		0	0	0	3,658	4,202	1149.0	1149.000	11/7/2023
11/8/2023	11/9/2023		0	0	0	3,771	4,361	1156.9	1156.900	11/8/2023
11/9/2023	11/10/2023		0	0	0	4,240	4,864	1147.2	1147.200	11/9/2023
11/10/2023	11/11/2023		0	0	0	3,924	4,512	1149.1	1149.100	11/10/2023
11/11/2023	11/12/2023		0	0	0	3,444	3,990	1158.6	1158.600	11/11/2023
11/12/2023	11/13/2023		0	0	0	3,114	3,711	1194.9	1194.900	11/12/2023
11/13/2023	11/14/2023		0	0	0	3,582	4,193	1172.1	1172.100	11/13/2023
11/14/2023	11/15/2023		0	0	0	3,453	4,077	1183.1	1183.100	11/14/2023
11/15/2023	11/16/2023		0	0	0	3,035	3,567	1175.4	1175.400	11/15/2023
11/16/2023	11/17/2023		0	0	0	4,429	5,069	1144.8	1144.800	11/16/2023
11/17/2023	11/18/2023		0	0	0	3,484	4,038	1159.2	1159.200	11/17/2023
11/18/2023	11/19/2023		0	0	0	3,145	3,724	1185.6	1185.600	11/18/2023
11/19/2023	11/20/2023		0	0	0	2,771	3,317	1197.1	1197.100	11/19/2023
11/20/2023	11/21/2023		0	0	0	3,577	4,214	1180.7	1180.700	11/20/2023
11/21/2023	11/22/2023		0	0	0	3,751	4,403	1173.7	1173.700	11/21/2023
11/22/2023	11/23/2023		0	0	0	4,133	4,788	1160.0	1160.000	11/22/2023
11/23/2023	11/24/2023		16	18	1103.2	5,907	6,784	1148.9	1148.777	11/23/2023
11/24/2023	11/25/2023		0	0	0	5,986	6,817	1139.0	1139.000	11/24/2023
11/25/2023	11/26/2023		0	0	0	4,760	5,399	1134.5	1134.500	11/25/2023
11/26/2023	11/27/2023		0	0	0	6,115	7,172	1171.1	1171.100	11/26/2023
11/27/2023	11/28/2023		0	0	0	5,592	6,378	1140.0	1140.000	11/27/2023
11/28/2023	11/29/2023		0	0	0	4,300	5,137	1198.0	1198.000	11/28/2023
11/29/2023	11/30/2023		0	0	0	4,212	4,893	1162.7	1162.700	11/29/2023
11/30/2023	12/1/2023		0	0	0	4,977	5,738	1153.2	1153.200	11/30/2023
			16	18	36.7733	121,649	140,963	1160.9900	1160.9859	



Alliance Pipeline

DAILY ANALYSIS --- USA
ND07MD1 --- Hankinson Sales
November 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	1,151.502	0.6582	84.5263	9.7795	3.3941	0.3239	0.5514	0.0571	0.0438	0.0162	0.9342	0.3629	0.0104
2	1,148.525	0.6558	84.9098	9.5366	3.2946	0.3290	0.5424	0.0584	0.0450	0.0166	0.8932	0.3645	0.0097
3	1,143.823	0.6524	85.3067	9.4133	3.1304	0.3110	0.4905	0.0567	0.0450	0.0168	0.8534	0.3662	0.0099
4	1,144.548	0.6532	85.1972	9.4833	3.1333	0.3145	0.4929	0.0599	0.0483	0.0181	0.8675	0.3756	0.0096
5	1,148.295	0.6558	84.8762	9.6301	3.2306	0.3286	0.5319	0.0639	0.0493	0.0173	0.8841	0.3787	0.0093
6	1,148.926	0.6562	84.8384	9.6347	3.2477	0.3306	0.5426	0.0643	0.0500	0.0181	0.8860	0.3782	0.0094
7	1,149.457	0.6567	84.8024	9.6165	3.2789	0.3346	0.5470	0.0656	0.0519	0.0186	0.9000	0.3753	0.0093
8	1,147.065	0.6552	84.9564	9.5763	3.2047	0.3316	0.5185	0.0632	0.0486	0.0167	0.8892	0.3858	0.0089
9	1,146.330	0.6546	85.0436	9.5382	3.1712	0.3279	0.5215	0.0616	0.0480	0.0172	0.8779	0.3837	0.0092
10	1,146.061	0.6540	85.1293	9.5299	3.1357	0.3264	0.5223	0.0602	0.0469	0.0179	0.8413	0.3809	0.0092
11	1,146.546	0.6546	85.0472	9.5499	3.1599	0.3279	0.5323	0.0606	0.0470	0.0168	0.8710	0.3784	0.0090
12	1,146.954	0.6550	84.9663	9.6145	3.1523	0.3286	0.5371	0.0614	0.0476	0.0175	0.8927	0.3729	0.0091
13	1,147.751	0.6555	84.9029	9.6459	3.1610	0.3351	0.5442	0.0629	0.0492	0.0193	0.9003	0.3700	0.0092
14	1,146.565	0.6545	85.0227	9.6080	3.1147	0.3296	0.5349	0.0615	0.0486	0.0196	0.8829	0.3680	0.0093
15	1,145.955	0.6542	85.0277	9.6406	3.0941	0.3275	0.5216	0.0593	0.0475	0.0181	0.8867	0.3676	0.0093
16	1,145.160	0.6537	85.0705	9.6157	3.0886	0.3245	0.5095	0.0576	0.0463	0.0173	0.8897	0.3709	0.0093
17	1,143.598	0.6528	85.3465	9.3224	3.0796	0.3306	0.5193	0.0610	0.0510	0.0226	0.8761	0.3819	0.0092
18	1,143.388	0.6529	85.3698	9.2550	3.0759	0.3360	0.5422	0.0617	0.0492	0.0218	0.8946	0.3843	0.0095
19	1,143.464	0.6528	85.3377	9.3277	3.0467	0.3356	0.5366	0.0616	0.0500	0.0221	0.9104	0.3622	0.0094
20	1,143.101	0.6525	85.3709	9.2964	3.0506	0.3355	0.5332	0.0607	0.0494	0.0208	0.9118	0.3611	0.0096
21	1,143.310	0.6529	85.3387	9.2925	3.0618	0.3371	0.5392	0.0617	0.0499	0.0210	0.9098	0.3787	0.0097
22	1,144.452	0.6537	85.2414	9.3371	3.1058	0.3382	0.5454	0.0611	0.0499	0.0210	0.9158	0.3747	0.0096
23	1,143.924	0.6529	85.3407	9.3237	3.0766	0.3327	0.5309	0.0625	0.0511	0.0209	0.8790	0.3715	0.0104
24	1,146.248	0.6543	85.1926	9.4042	3.1108	0.3432	0.5579	0.0652	0.0542	0.0221	0.8624	0.3774	0.0101
25	1,148.662	0.6560	85.0179	9.4169	3.2070	0.3524	0.5794	0.0698	0.0580	0.0255	0.8906	0.3727	0.0098
26	1,147.856	0.6554	85.0298	9.4690	3.1829	0.3467	0.5599	0.0658	0.0549	0.0229	0.8925	0.3658	0.0099
27	1,148.704	0.6560	84.9394	9.5176	3.2211	0.3483	0.5608	0.0650	0.0535	0.0216	0.8928	0.3700	0.0101
28	1,147.198	0.6554	84.9079	9.6189	3.1782	0.3321	0.5391	0.0601	0.0471	0.0173	0.9076	0.3816	0.0100
29	1,147.995	0.6557	84.9071	9.6092	3.1978	0.3359	0.5426	0.0622	0.0496	0.0185	0.8872	0.3801	0.0099
30	1,146.161	0.6546	84.9761	9.6323	3.1259	0.3301	0.5257	0.0585	0.0459	0.0170	0.8951	0.3832	0.0103
Volume	1,146.394	0.6546	85.0635	9.5091	3.1576	0.3321	0.5349	0.0617	0.0492	0.0192	0.8890	0.3741	0.0096
Weight Avg Energy	1,146.398	0.6546	85.0631	9.5093	3.1578	0.3321	0.5349	0.0617	0.0492	0.0192	0.8890	0.3741	0.0096



Alliance Pipeline

DAILY ANALYSIS --- USA
 ND14MD1 --- Milnor Sales
 November 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	1,151.485	0.6582	84.5252	9.7713	3.3971	0.3249	0.5528	0.0569	0.0436	0.0163	0.9376	0.3639	0.0103
2	1,148.131	0.6555	84.9483	9.5292	3.2771	0.3273	0.5380	0.0583	0.0451	0.0165	0.8846	0.3658	0.0098
3	1,143.686	0.6523	85.3176	9.4170	3.1249	0.3109	0.4847	0.0568	0.0453	0.0169	0.8511	0.3648	0.0099
4	1,144.426	0.6532	85.1994	9.4815	3.1271	0.3142	0.4948	0.0602	0.0481	0.0178	0.8692	0.3782	0.0095
5	1,148.046	0.6557	84.9065	9.6053	3.2265	0.3289	0.5299	0.0642	0.0497	0.0176	0.8796	0.3825	0.0093
6	1,149.160	0.6563	84.8452	9.6133	3.2551	0.3339	0.5473	0.0654	0.0508	0.0185	0.8859	0.3753	0.0094
7	1,148.919	0.6563	84.8455	9.5955	3.2654	0.3331	0.5433	0.0649	0.0511	0.0180	0.9001	0.3739	0.0092
8	1,146.830	0.6550	84.9802	9.5606	3.2003	0.3309	0.5174	0.0630	0.0483	0.0166	0.8881	0.3857	0.0089
9	1,146.420	0.6546	85.0463	9.5403	3.1701	0.3282	0.5223	0.0617	0.0482	0.0173	0.8731	0.3832	0.0093
10	1,146.154	0.6540	85.1253	9.5302	3.1380	0.3271	0.5237	0.0602	0.0470	0.0178	0.8429	0.3785	0.0092
11	1,146.354	0.6545	85.0672	9.5329	3.1580	0.3278	0.5320	0.0603	0.0468	0.0167	0.8680	0.3813	0.0091
12	1,147.080	0.6550	84.9586	9.6173	3.1539	0.3298	0.5383	0.0617	0.0479	0.0177	0.8948	0.3710	0.0090
13	1,147.723	0.6555	84.9025	9.6483	3.1607	0.3348	0.5443	0.0626	0.0486	0.0190	0.9002	0.3699	0.0092
14	1,146.949	0.6548	84.9867	9.6338	3.1206	0.3322	0.5375	0.0615	0.0484	0.0192	0.8823	0.3684	0.0094
15	1,146.693	0.6546	84.9819	9.6683	3.1095	0.3298	0.5274	0.0599	0.0478	0.0183	0.8833	0.3645	0.0093
16	1,144.527	0.6533	85.1537	9.5507	3.0783	0.3239	0.5070	0.0577	0.0468	0.0179	0.8830	0.3718	0.0093
17	1,143.646	0.6527	85.3568	9.3199	3.0802	0.3303	0.5194	0.0608	0.0509	0.0224	0.8696	0.3806	0.0091
18	1,143.423	0.6528	85.3721	9.2629	3.0722	0.3358	0.5412	0.0617	0.0493	0.0219	0.8944	0.3792	0.0095
19	1,143.298	0.6527	85.3347	9.3382	3.0460	0.3332	0.5312	0.0607	0.0497	0.0221	0.9142	0.3603	0.0096
20	1,142.853	0.6524	85.3926	9.2870	3.0421	0.3345	0.5318	0.0607	0.0493	0.0208	0.9087	0.3629	0.0096
21	1,143.388	0.6530	85.3327	9.2882	3.0718	0.3379	0.5395	0.0607	0.0492	0.0209	0.9137	0.3757	0.0096
22	1,144.999	0.6538	85.2336	9.3398	3.1164	0.3412	0.5515	0.0613	0.0498	0.0211	0.9050	0.3707	0.0097
23	1,143.845	0.6527	85.3518	9.3261	3.0719	0.3321	0.5288	0.0616	0.0511	0.0212	0.8754	0.3695	0.0105
24	1,146.702	0.6545	85.1782	9.4058	3.1226	0.3457	0.5624	0.0662	0.0545	0.0218	0.8605	0.3721	0.0101
25	1,148.579	0.6560	85.0164	9.4184	3.2055	0.3519	0.5788	0.0695	0.0579	0.0255	0.8920	0.3744	0.0099
26	1,148.104	0.6555	85.0360	9.4612	3.1901	0.3484	0.5616	0.0658	0.0551	0.0233	0.8853	0.3635	0.0097
27	1,148.391	0.6559	84.9471	9.5202	3.2098	0.3472	0.5589	0.0646	0.0530	0.0211	0.8945	0.3732	0.0103
28	1,147.377	0.6555	84.9054	9.6211	3.1817	0.3325	0.5407	0.0603	0.0472	0.0172	0.9041	0.3795	0.0101
29	1,147.798	0.6555	84.9277	9.6007	3.1947	0.3341	0.5400	0.0616	0.0494	0.0185	0.8855	0.3780	0.0098
30	1,146.186	0.6548	84.9468	9.6596	3.1209	0.3302	0.5244	0.0587	0.0460	0.0167	0.8980	0.3882	0.0104
Volume	1,146.660	0.6547	85.0396	9.5247	3.1770	0.3300	0.5317	0.0611	0.0484	0.0185	0.8863	0.3730	0.0096
Weight Avg Energy	1,146.667	0.6547	85.0390	9.5250	3.1772	0.3300	0.5317	0.0611	0.0484	0.0185	0.8864	0.3730	0.0096

November-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		
11/1/2023	11/2/2023	343	411	1197.9	892	1,030	1154.2	1166.337	11/1/2023
11/2/2023	11/3/2023	307	367	1197.9	862	995	1154.2	1165.676	11/2/2023
11/3/2023	11/4/2023	273	327	1197.9	807	931	1154.2	1165.246	11/3/2023
11/4/2023	11/5/2023	265	317	1197.9	729	841	1154.2	1165.850	11/4/2023
11/5/2023	11/6/2023	213	255	1197.9	593	684	1154.2	1165.749	11/5/2023
11/6/2023	11/7/2023	236	283	1197.9	644	743	1154.2	1165.920	11/6/2023
11/7/2023	11/8/2023	213	255	1197.9	589	680	1153.1	1164.998	11/7/2023
11/8/2023	11/9/2023	278	332	1197.9	886	1,022	1154.2	1164.637	11/8/2023
11/9/2023	11/10/2023	366	439	1197.9	942	1,087	1154.2	1166.428	11/9/2023
11/10/2023	11/11/2023	300	360	1197.9	763	881	1154.2	1166.533	11/10/2023
11/11/2023	11/12/2023	229	275	1197.9	601	694	1154.2	1166.257	11/11/2023
11/12/2023	11/13/2023	254	304	1197.9	549	634	1154.2	1168.023	11/12/2023
11/13/2023	11/14/2023	253	303	1197.9	595	687	1154.2	1167.238	11/13/2023
11/14/2023	11/15/2023	272	326	1197.9	654	755	1154.2	1167.036	11/14/2023
11/15/2023	11/16/2023	239	286	1197.9	501	579	1154.2	1168.314	11/15/2023
11/16/2023	11/17/2023	312	374	1197.9	707	816	1154.2	1167.580	11/16/2023
11/17/2023	11/18/2023	256	306	1197.9	581	670	1154.2	1167.566	11/17/2023
11/18/2023	11/19/2023	231	277	1197.9	470	543	1154.2	1168.600	11/18/2023
11/19/2023	11/20/2023	234	280	1197.9	499	576	1154.2	1168.151	11/19/2023
11/20/2023	11/21/2023	297	356	1197.9	687	793	1154.2	1167.390	11/20/2023
11/21/2023	11/22/2023	268	321	1197.9	609	703	1154.2	1167.554	11/21/2023
11/22/2023	11/23/2023	328	393	1197.9	773	892	1154.2	1167.219	11/22/2023
11/23/2023	11/24/2023	444	531	1197.9	1,004	1,158	1154.2	1167.600	11/23/2023
11/24/2023	11/25/2023	449	538	1197.9	973	1,123	1154.2	1167.998	11/24/2023
11/25/2023	11/26/2023	383	459	1197.9	851	982	1154.2	1167.763	11/25/2023
11/26/2023	11/27/2023	417	499	1197.9	930	1,073	1154.2	1167.729	11/26/2023
11/27/2023	11/28/2023	363	435	1197.9	899	1,038	1154.2	1166.770	11/27/2023
11/28/2023	11/29/2023	318	380	1197.9	911	1,051	1154.2	1165.507	11/28/2023
11/29/2023	11/30/2023	332	398	1197.9	866	1,000	1154.2	1166.311	11/29/2023
11/30/2023	12/1/2023	371	444	1197.9	868	1,002	1154.2	1167.285	11/30/2023
		9,044	10,831	1197.9000	22,235	25,663	1154.1633	1166.8422	

Tsp	EffDate	EndDate	Device	GasDay	EndDt	BTU	SpecGrav	CriconTherm	WobbeIndex	CO2	N2	Methane	Ethane	Propane	iButane	nButane	iPentane	nPentane	NeoPentane	C6Plus	Hydrogen	Helium	WaterVapor	TotalSulfur	HydrogenSulfur	Oxygen
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	11/1/2023	11/2/2023	1101	0.6541	-45.2	1361.335734	0.9946	2.6141	81.0226	14.5207	0.7437	0.0205	0.04	0.0022	0.0022	0	0	0.0153	0.0242	0.2547	0.0748	0.0404	0.0005
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	11/2/2023	11/3/2023	1102	0.6551	-45.2	1361.531818	0.9948	2.6368	80.7448	14.8462	0.6811	0.0181	0.0346	0.0017	0.0018	0	0	0.0157	0.0245	0.2448	0.0816	0.0446	0.0004
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	11/3/2023	11/4/2023	1105	0.6582	-44.3	1362.019543	1.0156	2.7495	80.0086	15.5118	0.6209	0.0141	0.0269	0.0012	0.0012	0	0	0.0252	0.0252	0.2285	0.0797	0.0441	0.0004
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	11/4/2023	11/5/2023	1102	0.6552	-45.4	1361.427912	0.9807	2.6994	80.5535	14.9957	0.6352	0.0164	0.0324	0.0019	0.002	0	0	0.0583	0.0248	0.2636	0.0855	0.0476	0.0004
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	11/5/2023	11/6/2023	1106	0.6601	-42.5	1361.288766	1.0129	2.8367	79.6074	15.6775	0.7031	0.018	0.0356	0.0021	0.0022	0	0	0.0789	0.0255	0.249	0.0986	0.058	0.0009
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	11/6/2023	11/7/2023	1106	0.6606	-42.3	1360.773497	1.022	2.8897	79.4608	15.7407	0.713	0.017	0.0335	0.002	0.002	0	0	0.0939	0.0256	0.2521	0.0921	0.0528	0.0007
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	11/7/2023	11/8/2023	1106	0.6605	-42.2	1360.876504	1.0301	2.8683	79.6423	15.5641	0.7629	0.0172	0.0332	0.0018	0.0019	0	0	0.0522	0.0262	0.2545	0.0904	0.0511	0.0011
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	11/8/2023	11/9/2023	1107	0.6618	-41.8	1360.768475	1.0392	2.9084	79.4107	15.8092	0.7339	0.0174	0.0342	0.0019	0.002	0	0	0.0167	0.0266	0.2221	0.0859	0.049	0.0009
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	11/9/2023	11/10/2023	1103	0.6561	-44.9	1361.728395	0.9942	2.7072	80.4932	15.0444	0.6674	0.0165	0.0323	0.0018	0.0019	0	0	0.0158	0.0254	0.2502	0.0776	0.0443	0.0008
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	11/10/2023	11/11/2023	1100	0.6542	-46.1	1359.995324	0.9926	2.6798	80.8714	14.7214	0.6402	0.0169	0.0332	0.0019	0.0019	0	0	0.0155	0.0254	0.2633	0.0681	0.0365	0.0004
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	11/11/2023	11/12/2023	1100	0.6536	-46.5	1360.619414	0.9938	2.6433	80.9688	14.6817	0.6194	0.0164	0.0322	0.0019	0.0019	0	0	0.0154	0.0254	0.2528	0.0704	0.039	0.0004
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	11/12/2023	11/13/2023	1102	0.6555	-45.2	1361.116336	1.0025	2.6793	80.6243	14.9403	0.6574	0.0175	0.0339	0.0019	0.002	0	0	0.0157	0.0255	0.2594	0.0723	0.0391	0.0004
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	11/13/2023	11/14/2023	1102	0.6545	-45.6	1362.155753	0.9917	2.6235	80.8582	14.7577	0.6731	0.0176	0.0344	0.0019	0.0019	0	0	0.0154	0.0247	0.2529	0.0691	0.038	0.0004
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	11/14/2023	11/15/2023	1101	0.6548	-45.3	1360.607885	0.9928	2.6865	80.6471	14.8425	0.6716	0.0176	0.0342	0.0019	0.002	0	0	0.079	0.0249	0.2657	0.0654	0.035	0.0008
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	11/15/2023	11/16/2023	1104	0.6564	-44.2	1362.651464	0.9867	2.701	80.284	15.1704	0.6751	0.0186	0.0368	0.0021	0.0022	0	0	0.0982	0.0249	0.262	0.0705	0.0379	0.0009
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	11/16/2023	11/17/2023	1105	0.6581	-43.7	1362.12302	1.005	2.7647	79.9377	15.483	0.6457	0.0176	0.0349	0.002	0.0022	0	0	0.0818	0.0256	0.2343	0.0684	0.0373	0.0005
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	11/17/2023	11/18/2023	1103	0.6573	-43.9	1360.484807	1.0045	2.8111	79.9978	15.2923	0.6653	0.0185	0.0368	0.0022	0.0023	0	0	0.1439	0.0255	0.2609	0.0727	0.0389	0.0004
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	11/18/2023	11/19/2023	1102	0.6557	-44.8	1360.908738	0.992	2.73	80.3785	15.0351	0.6639	0.0178	0.0351	0.0021	0.0022	0	0	0.1183	0.0253	0.27	0.0776	0.0423	0.0005
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	11/19/2023	11/20/2023	1101	0.6552	-45.1	1360.192496	0.9921	2.7364	80.4362	14.9609	0.6566	0.0177	0.035	0.0021	0.0022	0	0	0.1355	0.0253	0.2624	0.0771	0.0448	0.0007
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	11/20/2023	11/21/2023	1102	0.6563	-44.4	1360.286514	0.9963	2.7639	80.2618	15.0885	0.6858	0.0181	0.0357	0.0021	0.0022	0	0	0.1205	0.0253	0.2684	0.0695	0.0387	0.0004
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	11/21/2023	11/22/2023	1103	0.6574	-43.7	1360.381329	1.001	2.7932	80.0438	15.2588	0.6929	0.0186	0.0365	0.0021	0.0022	0	0	0.1254	0.0257	0.2581	0.0708	0.0387	0.0004
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	11/22/2023	11/23/2023	1105	0.6592	-42.8	1360.980605	1.0075	2.8784	79.7194	15.4786	0.7112	0.0195	0.039	0.0022	0.0024	0	0	0.1151	0.0258	0.256	0.0708	0.0356	0.0004
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	11/23/2023	11/24/2023	1104	0.6575	-43.7	1361.511126	1.0074	2.7543	80.118	15.2688	0.6844	0.0191	0.0377	0.0022	0.0022	0	0	0.081	0.0251	0.2721	0.0639	0.0323	0.0004
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	11/24/2023	11/25/2023	1103	0.6564	-44.3	1361.417178	0.9919	2.7335	80.2972	15.108	0.6847	0.0186	0.0362	0.0021	0.0021	0	0	0.1011	0.0248	0.2733	0.0649	0.0332	0.0007
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	11/25/2023	11/26/2023	1103	0.6568	-44.1	1361.002555	0.9873	2.7576	80.1942	15.1813	0.6874	0.0186	0.0363	0.0021	0.0021	0	0	0.1081	0.0254	0.264	0.0679	0.0359	0.0006
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	11/26/2023	11/27/2023	1106	0.6586	-42.4	1362.838092	0.9896	2.7499	80.0061	15.3303	0.7577	0.0222	0.0443	0.0027	0.0027	0	0.0002	0.069	0.0255	0.2764	0.064	0.0344	0.0007
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	11/27/2023	11/28/2023	1106	0.6583	-43.1	1363.148592	0.9875	2.7517	80.0479	15.332	0.7445	0.0188	0.036	0.002	0.0019	0	0	0.0521	0.0258	0.2757	0.1233	0.0775	0.0008
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	11/28/2023	11/29/2023	1107	0.6597	-42	1362.932598	0.9775	2.8042	79.7885	15.4948	0.7889	0.0198	0.0383	0.0022	0.0023	0	0	0.0577	0.0259	0.279	0.1299	0.079	0.0008
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	11/29/2023	11/30/2023	1108	0.6595	-41.9	1364.370625	0.9747	2.7724	79.9515	15.3616	0.8297	0.0205	0.0393	0.0022	0.0021	0	0	0.0201	0.026	0.2804	0.1272	0.0757	0.0008
NBPL	9/30/2023 0:00	12/12/2023 0:00	GLNU1 - GLEN ULLIN	11/30/2023	12/1/2023	1109	0.6605	-41.4	1364.567851	0.9773	2.7896	79.766	15.5254	0.8344	0.0206	0.0399	0.0023	0.0023	0	0	0.0164	0.0259	0.2592	0.1364	0.0749	0.0008

NORTH DAKOTA HEATING VALUE ZONES		
ZONES	MEASURING DEVICE	LOCATION
211	Chromatograph	Sidney Border
24	Chromatograph	Williston Border
241	Accumulated Sample	Fairview Border
25	Accumulated Sample	Watford City West Border
260	Chromatograph	North Tioga Transfer
261	Chromatograph	Tioga Comp Station – Robinson Lake Plant
262	Chromatograph	Minot Border
263	Accumulated Sample	Lignite Plant
264	Accumulated Sample	Epping Border
265	Chromatograph	Tioga Comp Station – County Line Plant
271	Chromatograph	Bismarck – Cleveland
272	Chromatograph	Cleveland – Mapleton
273	Chromatograph	Cleveland – Grafton
28	Chromatograph	Bismarck Station
31	Chromatograph	Dickinson Border
32	Chromatograph	Cabin Creek Station
33	Chromatograph	Little Knife Plant
34	Chromatograph	Bowman Border
43	Accumulated Sample	Watford City East Border
550	Accumulated Sample & Chromatograph	Mandan Border
600	Chromatograph	Hankinson Area
601	Chromatograph	Milnor Area
610	Accumulated Sample & Chromatograph	Watford City
802	Chromatograph	Linton

MONTANA DAKOTA UTILITIES CO
NORTH DAKOTA
HEATING VALUE DATA

STATE	ZONE	ZONE BOUNDARY	12 MONTH AVERAGE	NOV23	OCT23	SEP23	AUG23	JUL23	JUN23	MAY23	APR23	MAR23	FEB23	JAN23	DEC22	Zone
MT/ND	211	Sidney Border - MonDak Tfr - Sidney Plt	1199	1195	1194	1196	1198	1199	1195	1200	1204	1208	1191	1203	1206	211
ND	24	Williston Border - Charbonneau Station	1194	1194	1188	1188	1195	1195	1196	1198	1194	1195	1198	1197	1193	24
ND	25	Watford City West Border	1198	1198	1207	1212	1210	1210	1190	1189	1180	1183	1200	1195	1202	25
ND	28	Bismarck Station - Glen Ullin Station	1159	1161	1154	1202	1199	1194	1195	1192	1118	1127	1115	1118	1133	28
ND	31	Dickinson Brd - Belfield Trf - G Ullin Stn	1123	1147	1138	1121	1124	1118	1107	1086	1100	1132	1126	1132	1140	31
ND/MT	32	Cabin Creek Station - Belfied Transfer	1128	1138	1135	1135	1134	1124	1124	1111	1119	1137	1116	1125	1139	32
ND	33	Little Knife Plant	1177	1174	1173	1177	1181	1174	1180	1182	1179	1177	1175	1176	1176	33
ND	34	Badlands Plant/Bowman Border	1027	1017	980	984	980	980	1040	1021	1005	1071	1086	1079	1086	34
ND	43	Watford City East Border	1113	1154	1119	1124	1120	1118	1081	1042	1083	1116	1128	1143	1133	43
ND/MT	241	Fairview Border	1200	1198	1192	1195	1200	1193	1189	1200	1196	1201	1212	1218	1201	241
ND	267	North Tioga Transfer - Nesson Plant	1180	1169	1169	1166	1176	1181	1185	1188	1187	1189	1188	1181	1176	267
ND	261	Tioga Comp Station - Robinson Lake Plan	1188	1203	1203	1187	1191	1186	1189	1188	1184	1185	1184	1176	1176	261
ND	262	Minot Bdr - Palermo Bdr - Bismarck Stn	1194	1204	1206	1202	1197	1192	1193	1190	1189	1187	1187	1188	1189	262
ND	263	Lignite Plant	1131	1131	1131	1131	1131	1131	1131	1131	1131	1131	1131	1131	1131	263
ND	264	Epping Border	1196	1206	1191	1183	1195	1190	1181	1195	1202	1200	1208	1202	1198	264
ND	265	Tioga Comp Station - County Line Plant	1175	1175	1171	1174	1170	1165	1168	1176	1182	1183	1181	1182	1169	265
ND	266	County Line Plant	1176	1177	1172	1179	1171	1166	1168	1178	1182	1183	1180	1183	1168	266
ND	271	Bismarck Station - Cleveland Station	1190	1206	1204	1202	1199	1194	1195	1192	1189	1181	1168	1168	1176	271
ND	272	Cleveland Station - Mapleton	1189	1204	1205	1201	1199	1194	1194	1191	1188	1181	1168	1168	1176	272
ND	273	Cleveland Station - Grafton Border	1189	1205	1204	1202	1198	1194	1194	1192	1187	1180	1168	1168	1176	273
ND	550	Mandan Border / NBPL-St Anthony	1137	1161	1142	1188	1173	1172	1160	1085	1101	1118	1109	1109	1127	550
ND	610	MDU-Watford City BTU	1133	1167	1152	1150	1131	1123	1091	1065	1111	1137	1149	1159	1155	610
ND	802	NBPL - Linton	1098	1104	1106	1110	1105	1104	1102	1080	1085	1097	1095	1093	1090	802
ND	903	Hettinger Propane	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	903
ND	600	Alliance Pipeline - Hankinson	1152	1146	1153	1149	1159	1155	1157	1154	1153	1149	1152	1148	1143	600
ND	601	Alliance Pipeline - Milnor	1152	1147	1154	1149	1160	1155	1157	1155	1154	1149	1152	1148	1143	601

THERMAL ZONE VARIANCE DOCUMENTATION		
November 2023		
<i>ZONE</i>	<i>BTU VARIANCE</i>	<i>REASON</i>
34	37	Blend
43	35	Blend