

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

January 12, 2022

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

Re: Case No. PU-21-002 (Therm Billing)
Monthly Report – November 2021

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 2021.
2. Attachment B consists of copies of the monthly Heating Value Test Reports received from our suppliers for the month of November 2021.
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 2021.

Montana-Dakota respectfully request 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-21

<u>Town</u>	<u>Heat Zone</u>	<u>Therm Factor</u>
MDU-303-ALEXANDER	025	1.1391
MDU-308-ARNEGARD	025	1.1391
MDU-314-APPLE VALLEY	271	1.1656
MDU-318-BEACH	032	1.0461
MDU-319-BELFIELD	032	1.0538
MDU-323-BERTHOLD	262	1.1438
MDU-324-BEULAH	032	1.0538
MDU-327-BISMARCK	028	1.1434
MDU-330-BOWMAN	034	0.9375
MDU-337-BURLINGTON	262	1.1685
MDU-343-CARRINGTON	273	1.1675
MDU-344-CLEVELAND	272	1.1602
MDU-364-CAVALIER	273	1.1921
MDU-365-DAWSON	271	1.1574
MDU-368-DES LACS	262	1.1520
MDU-369-DICKINSON	031	1.0699
MDU-374-FT TOTTEN	273	1.1757
MDU-375-DEVILS LAKE	273	1.1757
MDU-379-BARLOW	273	1.1675
MDU-384-EPPING	264	1.0999
MDU-387-ELDRIDGE	272	1.1685
MDU-407-GLADSTONE	031	1.0699
MDU-411-GLEN ULLIN	031	1.0777
MDU-413-GOLVA	032	1.0308
MDU-416-GARRISON	262	1.1520
MDU-417-GRAFTON	273	1.2003
MDU-403-GWINNER	601	1.1409
MDU-429-HEBRON	031	1.0777
MDU-432-HETTINGER	903	2.3875
MDU-449-JAMESTOWN	272	1.1767
MDU-459-KILLDEER	033	1.1117
MDU-463-LANGDON	273	1.1675
MDU-469-LEFOR	031	1.0699
MDU-474-LIGNITE	263	1.0759
MDU-475-LINTON	802	1.0507
MDU-478-LINCOLN	028	1.1434
MDU-488-MCKENZIE	271	1.1656
MDU-494-MEDINA	271	1.1574
MDU-498-MANDAN	028	1.1434
MDU-500-MARMARTH	034	0.9445
MDU-505-MINOT	262	1.1685
MDU-510-MOTT	031	1.0699
MDU-512-MAX	262	1.1362
MDU-513-MILNOR	601	1.1409
MDU-522-NEW ENGLAND	031	1.0622
MDU-524-NEW SALEM	028	1.1192
MDU-532-NEW ROCKFORD	273	1.1675
MDU-539-PARK RIVER	273	1.1921
MDU-540-PALERMO	262	1.1438

MDU-558-RAY	264	1.0994
MDU-561-REGENT	031	1.0699
MDU-563-RHAME	034	0.9306
MDU-564-RICHARDTON	031	1.0994
MDU-568-ROSS	261	1.1224
MDU-572-RUTHVILLE	262	1.1685
MDU-574-SANBORN	272	1.1767
MDU-583-SENTINEL BUTTE	032	1.0461
MDU-588-SOUTH HEART	031	1.0622
MDU-717-SPIRITWOOD	272	1.1767
MDU-590-SPRINGBROOK	264	1.0994
MDU-591-STANLEY	261	1.1306
MDU-593-STEELE	271	1.1574
MDU-594-STERLING	028	1.1434
MDU-598-SHEYENNE	273	1.1757
MDU-605-SURREY	262	1.1685
MDU-610-TAPPEN	271	1.1574
MDU-611-TAYLOR	031	1.0532
MDU-616-TIOGA	260	1.0643
MDU-619-TURTLE LAKE	262	1.1520
MDU-620-TRENTON	024	1.1025
MDU-624-UNDERWOOD	262	1.1520
MDU-625-VALLEY CITY	272	1.1849
MDU-629-WALHALLA	273	1.1921
MDU-632-WATFORD CITY	610	1.0673
MDU-636-WHEELOCK	264	1.0915
MDU-637-WHITE EARTH	261	1.1258
MDU-642-WILLISTON	024	1.1025
MDU-646-WASHBURN	262	1.1602
MDU-647-WILTON	262	1.1438
MDU-664-RIVERDALE	262	1.1602
MDU-691-FAIRVIEW	241	1.1054
MDU-712-MINOT AFB	262	1.1685
MDU-718-FAIRMOUNT	600	1.1385
MDU-732-NEKOMA	273	1.1675
MDU-732-MSR SITE	273	1.1675

Source Daily Summary

November 2021

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	0.7414	1194.7	1215.8	1215.2	1.321	3.489	66.422	25.337	3.049	0.122	0.236	0.013	0.010	0.000	0.000	0.000	0.000	0.000	1412.01	
2	0.7318	1194.4	1215.5	1214.9	0.841	3.332	67.646	24.912	3.013	0.085	0.156	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1421.09	
3	0.7268	1189.4	1210.4	1209.8	0.731	3.336	68.351	24.485	2.867	0.077	0.140	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1420.01	
4	0.7010	1169.7	1190.4	1189.8	0.013	3.207	71.972	22.467	2.283	0.024	0.032	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1421.78	
5	0.7266	1190.4	1211.5	1210.9	0.701	3.300	68.221	24.823	2.730	0.075	0.136	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1421.47	
6	0.7477	1206.0	1227.4	1226.8	1.326	3.383	65.236	26.554	3.121	0.122	0.234	0.013	0.011	0.000	0.000	0.000	0.000	0.000	1419.42	
7	0.7384	1193.7	1214.9	1214.3	1.273	3.338	66.899	25.167	2.954	0.116	0.228	0.013	0.012	0.000	0.000	0.000	0.000	0.000	1413.77	
8	0.7356	1190.9	1212.0	1211.5	1.238	3.295	67.361	24.866	2.874	0.114	0.226	0.013	0.012	0.000	0.000	0.000	0.000	0.000	1413.17	
9	0.7486	1208.4	1229.8	1229.2	1.315	3.345	65.158	26.573	3.219	0.125	0.240	0.014	0.011	0.000	0.000	0.000	0.000	0.000	1421.28	
10	0.7191	1189.1	1210.2	1209.7	0.325	3.242	69.628	23.549	3.078	0.063	0.106	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1427.24	
11	0.7192	1198.2	1219.4	1218.9	0.017	3.160	70.131	22.603	3.933	0.060	0.089	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1437.87	
12	0.7161	1193.6	1214.8	1214.3	0.014	3.151	70.431	22.589	3.712	0.043	0.058	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1435.55	
13	0.7088	1182.3	1203.2	1202.7	0.014	3.168	71.096	22.686	2.960	0.032	0.043	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1429.14	
14	0.7137	1188.5	1209.5	1209.0	0.011	3.251	70.710	22.430	3.467	0.051	0.077	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1431.68	
15	0.7201	1197.9	1219.1	1218.6	0.009	3.274	70.489	21.680	4.276	0.098	0.163	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1436.61	
16	0.7223	1200.7	1222.0	1221.5	0.008	3.313	70.174	21.768	4.503	0.093	0.136	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1437.77	
17	0.7171	1190.8	1211.9	1211.4	0.087	3.307	70.393	22.355	3.676	0.072	0.103	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1431.15	
18	0.7470	1204.7	1226.0	1225.5	1.298	3.439	65.443	26.234	3.189	0.129	0.245	0.013	0.010	0.000	0.000	0.000	0.000	0.000	1418.45	
19	0.7296	1182.6	1203.6	1203.1	1.215	3.274	68.604	23.625	2.910	0.116	0.229	0.014	0.012	0.000	0.000	0.000	0.000	0.000	1409.06	
20	0.7210	1173.4	1194.2	1193.7	1.129	3.164	69.938	22.819	2.599	0.108	0.219	0.013	0.012	0.000	0.000	0.000	0.000	0.000	1406.32	
21	0.7212	1174.4	1195.2	1194.7	1.119	3.129	69.880	22.943	2.583	0.105	0.214	0.013	0.012	0.000	0.000	0.000	0.000	0.000	1407.40	
22	0.7185	1170.8	1191.5	1191.0	1.108	3.118	70.389	22.474	2.567	0.104	0.213	0.013	0.013	0.000	0.000	0.000	0.000	0.000	1405.65	
23	0.7139	1165.1	1185.8	1185.3	1.066	3.096	71.160	21.889	2.456	0.099	0.206	0.013	0.013	0.000	0.000	0.000	0.000	0.000	1403.33	
24	0.7278	1181.5	1202.5	1202.0	1.164	3.250	68.726	23.748	2.767	0.109	0.213	0.012	0.010	0.000	0.000	0.000	0.000	0.000	1409.50	
25	0.7228	1176.6	1197.4	1197.0	1.129	3.134	69.638	23.107	2.634	0.109	0.222	0.014	0.013	0.000	0.000	0.000	0.000	0.000	1408.42	
26	0.7163	1167.6	1188.3	1187.9	1.090	3.127	70.819	22.066	2.558	0.103	0.211	0.014	0.014	0.000	0.000	0.000	0.000	0.000	1404.06	
27	0.7161	1168.2	1188.9	1188.4	1.078	3.093	70.772	22.242	2.473	0.102	0.212	0.014	0.014	0.000	0.000	0.000	0.000	0.000	1404.91	
28	0.7183	1171.8	1192.5	1192.1	1.078	3.085	70.521	22.352	2.579	0.111	0.238	0.017	0.018	0.000	0.000	0.000	0.000	0.000	1407.00	
29	0.7305	1184.9	1205.8	1205.4	1.194	3.252	68.317	24.062	2.802	0.116	0.230	0.014	0.013	0.000	0.000	0.000	0.000	0.000	1410.89	
30	0.7328	1203.0	1224.3	1223.8	0.597	3.276	67.498	25.041	3.346	0.086	0.146	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1430.29	
Avg	0.7250	1187.0	1207.8	1207.3	0.784	3.244	69.068	23.582	3.039	0.092	0.173	0.009	0.008	0.000	0.000	0.000	0.000	0.000	1418.54	

Source Daily Summary

November 2021

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	0.6990	1142.8	1163.0	1162.5	0.987	3.168	74.089	19.013	2.392	0.099	0.218	0.015	0.018	0.000	0.000	0.000	0.000	0.000	1391.06	
2	0.7010	1145.5	1165.8	1165.3	0.994	3.174	73.713	19.358	2.408	0.100	0.219	0.015	0.017	0.000	0.000	0.000	0.000	0.000	1392.45	
3	0.6990	1142.3	1162.5	1162.0	0.996	3.187	74.056	19.053	2.353	0.100	0.221	0.015	0.018	0.000	0.000	0.000	0.000	0.000	1390.45	
4	0.6986	1141.0	1161.2	1160.7	0.980	3.245	74.175	18.841	2.404	0.101	0.221	0.015	0.017	0.000	0.000	0.000	0.000	0.000	1389.32	
5	0.6974	1141.0	1161.2	1160.7	0.996	3.109	74.344	18.906	2.299	0.098	0.215	0.016	0.018	0.000	0.000	0.000	0.000	0.000	1390.52	
6	0.6979	1144.0	1164.3	1163.8	0.998	2.976	74.150	19.310	2.234	0.094	0.206	0.015	0.017	0.000	0.000	0.000	0.000	0.000	1393.64	
7	0.6992	1145.7	1166.0	1165.5	1.002	2.982	73.904	19.547	2.238	0.092	0.203	0.015	0.017	0.000	0.000	0.000	0.000	0.000	1394.47	
8	0.6986	1145.6	1165.9	1165.4	0.999	2.940	73.979	19.561	2.195	0.092	0.202	0.015	0.017	0.000	0.000	0.000	0.000	0.000	1394.89	
9	0.7018	1147.6	1167.9	1167.4	0.996	3.123	73.521	19.628	2.385	0.098	0.215	0.015	0.018	0.000	0.000	0.000	0.000	0.000	1394.14	
10	0.6952	1143.1	1163.4	1162.9	0.954	2.843	74.458	19.369	2.082	0.084	0.182	0.013	0.015	0.000	0.000	0.000	0.000	0.000	1395.26	
11	0.6952	1142.9	1163.2	1162.7	0.943	2.864	74.613	19.071	2.195	0.089	0.194	0.014	0.017	0.000	0.000	0.000	0.000	0.000	1395.08	
12	0.6976	1146.2	1166.5	1166.0	0.963	2.866	74.131	19.534	2.192	0.089	0.194	0.014	0.017	0.000	0.000	0.000	0.000	0.000	1396.61	
13	0.6971	1144.2	1164.5	1164.1	0.968	2.933	74.198	19.414	2.176	0.088	0.192	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1394.71	
14	0.6973	1145.2	1165.5	1165.1	0.964	2.894	74.109	19.592	2.136	0.086	0.189	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1395.74	
15	0.6961	1143.0	1163.3	1162.8	0.951	2.937	74.264	19.458	2.101	0.082	0.179	0.013	0.015	0.000	0.000	0.000	0.000	0.000	1394.27	
16	0.6980	1146.9	1167.2	1166.8	0.951	2.881	74.005	19.670	2.187	0.086	0.188	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1397.03	
17	0.6939	1142.3	1162.5	1162.1	0.913	2.831	74.466	19.621	1.897	0.077	0.167	0.013	0.015	0.000	0.000	0.000	0.000	0.000	1395.60	
18	0.6927	1140.6	1160.8	1160.5	0.897	2.847	74.731	19.310	1.939	0.078	0.171	0.013	0.015	0.000	0.000	0.000	0.000	0.000	1394.73	
19	0.6916	1139.6	1159.8	1159.4	0.897	2.804	74.907	19.224	1.900	0.075	0.165	0.012	0.014	0.000	0.000	0.000	0.000	0.000	1394.61	
20	0.6918	1139.8	1160.0	1159.6	0.895	2.817	74.882	19.236	1.895	0.077	0.170	0.013	0.016	0.000	0.000	0.000	0.000	0.000	1394.62	
21	0.6914	1139.7	1159.8	1159.5	0.899	2.781	74.892	19.313	1.851	0.074	0.162	0.012	0.014	0.000	0.000	0.000	0.000	0.000	1394.85	
22	0.6913	1139.2	1159.4	1159.0	0.901	2.793	74.967	19.195	1.871	0.076	0.169	0.013	0.015	0.000	0.000	0.000	0.000	0.000	1394.46	
23	0.6891	1135.3	1155.4	1155.1	0.887	2.843	75.345	18.816	1.846	0.074	0.162	0.012	0.014	0.000	0.000	0.000	0.000	0.000	1391.90	
24	0.6908	1138.3	1158.4	1158.1	0.903	2.800	75.155	18.934	1.917	0.081	0.179	0.014	0.017	0.000	0.000	0.000	0.000	0.000	1393.80	
25	0.6900	1136.9	1157.0	1156.6	0.906	2.809	75.283	18.815	1.899	0.080	0.177	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1392.85	
26	0.6890	1134.9	1155.0	1154.6	0.900	2.848	75.438	18.647	1.892	0.077	0.169	0.013	0.016	0.000	0.000	0.000	0.000	0.000	1391.39	
27	0.6900	1136.2	1156.4	1156.0	0.904	2.846	75.382	18.614	1.945	0.084	0.190	0.016	0.019	0.000	0.000	0.000	0.000	0.000	1392.11	
28	0.6898	1136.3	1156.5	1156.1	0.894	2.840	75.536	18.390	1.999	0.091	0.209	0.018	0.023	0.000	0.000	0.000	0.000	0.000	1392.38	
29	0.6872	1132.0	1152.1	1151.7	0.886	2.869	75.889	18.132	1.922	0.083	0.186	0.015	0.018	0.000	0.000	0.000	0.000	0.000	1389.74	
30	0.6896	1134.2	1154.3	1154.0	0.938	2.876	75.564	18.341	1.944	0.090	0.207	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1390.09	
Avg	0.6946	1141.0	1161.3	1160.9	0.942	2.924	74.605	19.130	2.090	0.087	0.191	0.014	0.017	0.000	0.000	0.000	0.000	0.000	1393.43	

Gas Composition and Properties

Effective November 1, 2021

Source #: 0602160
Name: FAIRVIEW BORDER

Component	Mole %	Liquid Content	Mass %	Property	Total Sample	C6 Plus Fraction
Carbon Dioxide, CO2	1.0587		2.2352	Pressure Base	14.730	
Nitrogen, N2	3.1866		4.2824	Temperature Base	60.00	
Methane, C1	69.9007		53.7957	HCDP @ Sample Pressure	-17.044	
Ethane, C2	22.6891	6.0726	32.7288	Cricondentherm	-1.276	
Propane, C3	2.8008	0.7722	5.9248	HV, Dry @ Base P, T	1196.80	
iso-Butane, iC4	0.1158	0.0379	0.3229	HV, Sat @ Base P, T	1175.97	
n-Butane, nC4	0.2230	0.0704	0.6218	HV, Sat @ Sample P, T	1196.80	
iso-Pentane, iC5	0.0131	0.0048	0.0453	Relative Density	0.7218	
n-Pentane, nC5	0.0110	0.0040	0.0381			
Neo-Pentane, neo						
Hexanes Plus, C6+	0.0012	0.0005	0.0050			
Argon, Ar						
Carbon Monoxide, CO						
Hydrogen, H2						
Oxygen, O2						
Helium, He						
Water, H2O						
Hydrogen Sulfide, H2S						
				C6+: 100		
Totals	100.0000	6.9620	100.0000			

Sample

Date: 11/01/2021 Type:

Tech: Joshua Tipton

Pressure: 430 psi Temp.: °F

Gauge: Gauge H2O:

Atm. Pressure: H2S:

Remarks:

Analysis

Date: Instrument:

Tech: Cylinder: 456

Remarks:

Source Daily Summary

November 2021

Source #: 164
Name: N TIOGA TRANSFER-NESSON 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	0.6976	1123.1	1143.0		0.922	4.329	74.723	16.727	2.902	0.112	0.248	0.016	0.018	0.003					1368.52	
2	0.6990	1125.1	1145.0		0.925	4.335	74.417	17.031	2.908	0.110	0.241	0.015	0.016	0.002					1369.57	
3	0.6976	1123.2	1143.1		0.922	4.329	74.723	16.727	2.903	0.112	0.248	0.016	0.018	0.004					1368.61	
4	0.6995	1124.1	1144.0		0.942	4.464	74.438	16.750	3.025	0.115	0.257	0.016	0.017	0.003					1367.84	
5	0.6959	1122.1	1141.9		0.945	4.202	74.978	16.714	2.763	0.109	0.247	0.017	0.020	0.005					1368.88	
6	0.6929	1121.4	1141.2		0.947	3.959	75.249	16.999	2.505	0.095	0.214	0.014	0.015	0.002					1371.00	
7	0.6969	1127.4	1147.4		0.953	3.960	74.515	17.649	2.583	0.095	0.212	0.014	0.016	0.003					1374.40	
8	0.6913	1121.1	1141.0		0.919	3.871	75.305	17.272	2.329	0.086	0.191	0.012	0.013	0.002					1372.25	
9	0.6997	1128.9	1148.9		0.930	4.166	74.048	17.772	2.739	0.100	0.217	0.013	0.014	0.001					1373.51	
10	0.6865	1120.1	1140.0		0.837	3.605	75.844	17.418	2.053	0.069	0.152	0.010	0.011	0.000					1375.85	
11	0.6863	1118.4	1138.2		0.840	3.682	75.921	17.229	2.083	0.069	0.152	0.011	0.012	0.001					1374.00	
12	0.6897	1122.7	1142.6		0.862	3.710	75.465	17.428	2.263	0.077	0.171	0.011	0.012	0.001					1375.81	
13	0.6912	1122.9	1142.8		0.867	3.835	75.281	17.364	2.366	0.082	0.180	0.012	0.013	0.001					1374.50	
14	0.6902	1123.6	1143.5		0.855	3.711	75.340	17.587	2.234	0.076	0.170	0.012	0.013	0.001					1376.40	
15	0.6900	1123.8	1143.7		0.831	3.721	75.417	17.440	2.327	0.077	0.164	0.011	0.012	0.001					1376.84	
16	0.6944	1131.0	1151.0		0.844	3.676	74.473	18.492	2.245	0.076	0.168	0.012	0.013	0.001					1381.25	
17	0.6814	1116.6	1136.3		0.728	3.511	76.343	17.520	1.701	0.056	0.123	0.008	0.009	0.000					1376.59	
18	0.6816	1117.1	1136.9		0.723	3.507	76.422	17.346	1.789	0.060	0.134	0.009	0.010	0.000					1377.00	
19	0.6799	1114.9	1134.7		0.714	3.489	76.692	17.171	1.727	0.058	0.130	0.009	0.010	0.000					1376.11	
20	0.6791	1114.0	1133.7		0.693	3.498	76.791	17.141	1.670	0.056	0.127	0.010	0.012	0.002					1375.82	
21	0.6775	1111.6	1131.3		0.699	3.489	77.093	16.854	1.668	0.055	0.123	0.009	0.010	0.000					1374.41	
22	0.6784	1113.3	1133.0		0.702	3.465	76.916	17.069	1.641	0.056	0.128	0.010	0.012	0.002					1375.62	
23	0.6753	1108.1	1127.7		0.700	3.498	77.466	16.533	1.612	0.054	0.119	0.008	0.009	0.000					1372.27	
24	0.6760	1108.3	1128.0		0.716	3.515	77.697	16.023	1.775	0.070	0.168	0.015	0.017	0.004					1371.94	
25	0.6734	1104.2	1123.7		0.702	3.550	78.068	15.712	1.733	0.064	0.144	0.011	0.013	0.002					1369.39	
26	0.6749	1106.0	1125.6		0.721	3.550	77.783	15.970	1.749	0.061	0.137	0.011	0.013	0.003					1370.13	
27	0.6776	1110.1	1129.8		0.728	3.536	77.694	15.755	1.954	0.083	0.202	0.019	0.024	0.006					1372.53	
28	0.6740	1104.6	1124.2		0.692	3.595	78.365	15.094	1.900	0.084	0.210	0.022	0.028	0.009					1369.27	
29	0.6708	1099.3	1118.7		0.691	3.617	78.725	14.924	1.763	0.072	0.172	0.015	0.018	0.004					1365.97	
30	0.6765	1104.5	1124.1		0.811	3.656	78.064	15.149	1.931	0.093	0.235	0.023	0.029	0.008					1366.60	
Avg	0.6858	1117.0	1136.8		0.812	3.768	76.142	16.829	2.161	0.079	0.180	0.013	0.015	0.002					1372.76	

Source Daily Summary

November 2021

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	0.7582	1179.5	1200.4	1200.1	0.924	6.569	65.955	19.740	6.009	0.234	0.511	0.028	0.030	0.000	0.000	0.000	0.000	0.000	1378.55	
2	0.7577	1179.8	1200.7	1200.4	0.928	6.494	66.033	19.775	5.967	0.236	0.510	0.027	0.029	0.000	0.000	0.000	0.000	0.000	1379.41	
3	0.7570	1179.2	1200.1	1199.8	0.927	6.469	66.029	19.895	5.928	0.226	0.476	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1379.36	
4	0.7537	1172.8	1193.6	1193.2	0.923	6.556	66.711	19.174	5.815	0.238	0.527	0.027	0.029	0.000	0.000	0.000	0.000	0.000	1374.85	
5	0.7518	1169.3	1190.0	1189.7	0.934	6.579	66.820	19.207	5.740	0.214	0.458	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1372.41	
6	0.7580	1180.4	1201.3	1201.0	0.934	6.473	66.135	19.581	6.043	0.245	0.531	0.029	0.030	0.000	0.000	0.000	0.000	0.000	1379.88	
7	0.7470	1174.1	1194.9	1194.6	1.006	5.730	67.380	20.029	5.155	0.206	0.444	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1382.54	
8	0.7553	1176.6	1197.5	1197.2	0.936	6.457	66.176	19.883	5.867	0.210	0.427	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1377.83	
9	0.7307	1159.1	1179.6	1179.3	1.040	5.063	69.403	19.911	4.050	0.156	0.338	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1380.18	
10	0.7486	1168.3	1189.0	1188.7	0.961	6.305	66.993	19.757	5.328	0.198	0.414	0.021	0.023	0.000	0.000	0.000	0.000	0.000	1374.14	
11	0.7249	1155.6	1176.1	1175.8	0.986	4.814	69.975	20.129	3.669	0.128	0.266	0.016	0.017	0.000	0.000	0.000	0.000	0.000	1381.44	
12	0.7358	1162.1	1182.6	1182.4	0.959	5.481	68.578	20.027	4.436	0.158	0.325	0.017	0.018	0.000	0.000	0.000	0.000	0.000	1378.82	
13	0.7351	1166.3	1187.0	1186.7	0.954	5.167	68.697	20.322	4.333	0.154	0.324	0.030	0.020	0.000	0.000	0.000	0.000	0.000	1384.44	
14	0.7541	1175.9	1196.8	1196.5	0.924	6.406	66.375	19.811	5.786	0.210	0.438	0.025	0.025	0.000	0.000	0.000	0.000	0.000	1378.14	
15	0.7466	1167.5	1188.2	1187.9	0.935	6.198	67.238	19.774	5.239	0.189	0.387	0.020	0.021	0.000	0.000	0.000	0.000	0.000	1375.14	
16	0.7501	1167.4	1188.1	1187.8	0.928	6.543	66.803	19.560	5.508	0.203	0.412	0.022	0.022	0.000	0.000	0.000	0.000	0.000	1371.80	
17	0.7373	1160.3	1180.9	1180.7	0.951	5.741	68.535	19.536	4.666	0.171	0.361	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1375.37	
18	0.7120	1147.9	1168.2	1168.0	0.998	4.064	71.775	19.921	2.908	0.098	0.211	0.012	0.013	0.000	0.000	0.000	0.000	0.000	1384.62	
19	0.7075	1146.2	1166.5	1166.3	0.999	3.741	72.359	20.010	2.601	0.084	0.183	0.011	0.013	0.000	0.000	0.000	0.000	0.000	1386.96	
20	0.6974	1138.0	1158.2	1158.0	1.003	3.282	73.911	19.458	2.105	0.067	0.149	0.011	0.013	0.000	0.000	0.000	0.000	0.000	1386.91	
21	0.6980	1139.3	1159.5	1159.3	1.002	3.269	73.792	19.580	2.122	0.066	0.145	0.011	0.013	0.000	0.000	0.000	0.000	0.000	1387.80	
22	0.6952	1135.4	1155.5	1155.3	0.992	3.256	74.282	19.171	2.078	0.064	0.138	0.009	0.011	0.000	0.000	0.000	0.000	0.000	1385.85	
23	0.6963	1137.5	1157.6	1157.4	0.991	3.232	74.045	19.468	2.038	0.064	0.139	0.010	0.013	0.000	0.000	0.000	0.000	0.000	1387.32	
24	0.6968	1138.4	1158.5	1158.3	0.987	3.231	73.883	19.678	2.005	0.062	0.133	0.010	0.011	0.000	0.000	0.000	0.000	0.000	1387.91	
25	0.6993	1141.4	1161.6	1161.4	1.009	3.248	73.746	19.538	2.159	0.078	0.184	0.017	0.021	0.000	0.000	0.000	0.000	0.000	1389.08	
26	0.6965	1136.7	1156.8	1156.6	1.008	3.276	74.309	18.910	2.204	0.079	0.181	0.015	0.018	0.000	0.000	0.000	0.000	0.000	1386.10	
27	0.6951	1134.2	1154.3	1154.1	1.000	3.303	74.511	18.711	2.224	0.072	0.154	0.011	0.013	0.000	0.000	0.000	0.000	0.000	1384.54	
28	0.6948	1134.1	1154.2	1153.9	1.001	3.287	74.559	18.708	2.177	0.075	0.165	0.012	0.015	0.000	0.000	0.000	0.000	0.000	1384.60	
29	0.6938	1131.1	1151.2	1150.9	0.998	3.368	75.260	17.631	2.355	0.097	0.235	0.024	0.033	0.000	0.000	0.000	0.000	0.000	1382.05	
30	0.6887	1123.4	1143.3	1143.0	0.965	3.411	76.049	16.965	2.264	0.090	0.213	0.019	0.024	0.000	0.000	0.000	0.000	0.000	1377.66	
Avg	0.7258	1156.0	1176.4	1176.1	0.970	4.900	70.211	19.462	3.959	0.146	0.313	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1381.19	

Source Daily Summary

November 2021

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	0.7613	1184.5	1205.5	1205.1	0.931	6.540	65.585	19.914	6.205	0.246	0.521	0.028	0.030	0.000	0.000	0.000	0.000	0.000	1381.66	
2	0.7567	1175.7	1196.5	1196.1	0.929	6.653	66.266	19.334	6.005	0.241	0.517	0.027	0.028	0.000	0.000	0.000	0.000	0.000	1375.48	
3	0.7579	1177.9	1198.7	1198.3	0.934	6.628	66.182	19.340	6.051	0.252	0.553	0.029	0.031	0.000	0.000	0.000	0.000	0.000	1376.88	
4	0.7535	1169.0	1189.7	1189.3	0.937	6.742	66.642	19.054	5.892	0.219	0.465	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1370.62	
5	0.7631	1188.2	1209.2	1208.8	0.941	6.473	65.384	20.061	6.277	0.256	0.548	0.029	0.031	0.000	0.000	0.000	0.000	0.000	1384.25	
6	0.7581	1178.5	1199.3	1198.9	0.937	6.602	65.896	19.776	6.047	0.227	0.466	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1377.45	
7	0.7568	1176.6	1197.4	1197.0	0.936	6.603	66.040	19.756	5.905	0.230	0.480	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1376.37	
8	0.7581	1177.9	1198.8	1198.4	0.932	6.648	65.872	19.762	6.042	0.227	0.466	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1376.76	
9	0.7561	1173.5	1194.2	1193.8	0.934	6.722	66.099	19.615	5.911	0.220	0.452	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1373.43	
10	0.7640	1187.8	1208.8	1208.5	0.929	6.599	65.210	20.035	6.408	0.246	0.514	0.028	0.030	0.000	0.000	0.000	0.000	0.000	1382.98	
11	0.7581	1176.5	1197.4	1197.0	0.928	6.738	65.912	19.589	6.082	0.226	0.471	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1375.15	
12	0.7543	1169.8	1190.6	1190.2	0.931	6.782	66.281	19.490	5.849	0.208	0.415	0.021	0.022	0.000	0.000	0.000	0.000	0.000	1370.83	
13	0.7554	1173.5	1194.3	1193.9	0.930	6.665	66.173	19.664	5.859	0.217	0.446	0.022	0.024	0.000	0.000	0.000	0.000	0.000	1374.08	
14	0.7526	1168.6	1189.3	1189.0	0.932	6.696	66.539	19.443	5.693	0.214	0.441	0.021	0.022	0.000	0.000	0.000	0.000	0.000	1370.93	
15	0.7571	1177.0	1197.9	1197.5	0.928	6.612	66.072	19.655	5.948	0.235	0.499	0.025	0.027	0.000	0.000	0.000	0.000	0.000	1376.68	
16	0.7583	1179.5	1200.4	1200.0	0.928	6.572	65.934	19.736	6.047	0.236	0.491	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1378.48	
17	0.7563	1174.6	1195.4	1195.1	0.930	6.679	66.111	19.523	6.109	0.201	0.403	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1374.60	
18	0.7576	1177.0	1197.9	1197.6	0.928	6.653	65.939	19.664	6.141	0.212	0.419	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1376.29	
19	0.7638	1187.5	1208.5	1208.2	0.917	6.614	65.229	19.951	6.536	0.230	0.468	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1382.83	
20	0.7588	1179.5	1200.4	1200.0	0.923	6.629	65.857	19.687	6.155	0.230	0.469	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1377.99	
21	0.7556	1173.9	1194.7	1194.3	0.923	6.669	66.208	19.521	5.992	0.213	0.427	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1374.36	
22	0.7584	1179.0	1199.9	1199.6	0.927	6.610	65.882	19.734	6.108	0.227	0.463	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1377.84	
23	0.7606	1182.9	1203.8	1203.5	0.927	6.585	65.629	19.864	6.205	0.239	0.496	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1380.32	
24	0.7528	1169.3	1190.0	1189.7	0.932	6.675	66.527	19.410	5.806	0.202	0.405	0.021	0.022	0.000	0.000	0.000	0.000	0.000	1371.52	
25	0.7507	1168.4	1189.1	1188.7	0.935	6.526	66.823	19.419	5.647	0.201	0.408	0.020	0.021	0.000	0.000	0.000	0.000	0.000	1372.39	
26	0.7598	1182.9	1203.9	1203.6	0.934	6.489	65.757	19.899	6.128	0.240	0.500	0.026	0.028	0.000	0.000	0.000	0.000	0.000	1381.17	
27	0.7550	1172.8	1193.6	1193.2	0.932	6.666	66.292	19.519	5.870	0.221	0.452	0.023	0.025	0.000	0.000	0.000	0.000	0.000	1373.63	
28	0.7572	1177.0	1197.8	1197.5	0.929	6.617	66.011	19.705	6.002	0.226	0.462	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1376.57	
29	0.7617	1184.4	1205.4	1205.1	0.929	6.590	65.529	19.846	6.311	0.241	0.498	0.027	0.029	0.000	0.000	0.000	0.000	0.000	1381.12	
30	0.7573	1175.8	1196.6	1196.3	0.932	6.701	65.997	19.576	6.090	0.217	0.439	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1375.06	
Avg	0.7576	1177.0	1198.2	1197.8	0.930	6.633	65.996	19.651	6.044	0.227	0.468	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1376.59	

Gas Composition and Properties

Effective October 1, 2021

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 2021

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	0.7044	1132.9	1152.9	1152.5	1.240	3.897	72.858	19.427	2.306	0.077	0.171	0.011	0.013	0.000	0.000	0.000	0.000	0.000	1373.72	
2	0.7041	1134.2	1154.3	1153.8	1.248	3.775	72.969	19.440	2.282	0.080	0.178	0.012	0.015	0.000	0.000	0.000	0.000	0.000	1375.63	
3	0.7027	1134.1	1154.1	1153.7	1.228	3.686	73.190	19.382	2.225	0.081	0.181	0.012	0.014	0.000	0.000	0.000	0.000	0.000	1376.79	
4	0.7041	1137.5	1157.7	1157.2	1.229	3.604	72.984	19.622	2.260	0.083	0.189	0.013	0.016	0.000	0.000	0.000	0.000	0.000	1379.63	
5	0.7046	1138.4	1158.5	1158.1	1.224	3.602	72.909	19.689	2.271	0.085	0.192	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1380.23	
6	0.7024	1135.5	1155.6	1155.2	1.239	3.553	73.392	19.248	2.253	0.085	0.195	0.015	0.020	0.000	0.000	0.000	0.000	0.000	1378.81	
7	0.7035	1138.2	1158.4	1158.0	1.230	3.499	73.128	19.584	2.264	0.082	0.185	0.013	0.015	0.000	0.000	0.000	0.000	0.000	1381.11	
8	0.7074	1146.6	1166.9	1166.5	1.211	3.380	72.354	20.485	2.273	0.082	0.185	0.014	0.017	0.000	0.000	0.000	0.000	0.000	1387.50	
9	0.7065	1145.8	1166.1	1165.7	1.201	3.373	72.372	20.577	2.202	0.078	0.172	0.011	0.013	0.000	0.000	0.000	0.000	0.000	1387.26	
10	0.7090	1148.6	1169.0	1168.6	1.208	3.418	71.943	20.895	2.255	0.079	0.176	0.012	0.014	0.000	0.000	0.000	0.000	0.000	1388.32	
11	0.7019	1143.0	1163.3	1162.9	1.067	3.305	73.053	20.222	2.111	0.069	0.150	0.011	0.012	0.000	0.000	0.000	0.000	0.000	1388.51	
12	0.6984	1138.9	1159.0	1158.7	1.030	3.291	73.596	19.855	1.997	0.064	0.143	0.011	0.013	0.000	0.000	0.000	0.000	0.000	1386.88	
13	0.6996	1141.8	1162.0	1161.6	1.020	3.240	73.296	20.239	1.992	0.060	0.128	0.010	0.013	0.000	0.000	0.000	0.000	0.000	1389.25	
14	0.6983	1137.9	1158.1	1157.7	1.052	3.300	73.751	19.580	2.070	0.070	0.153	0.011	0.013	0.000	0.000	0.000	0.000	0.000	1385.89	
15	0.6995	1141.0	1161.2	1160.8	1.035	3.258	73.454	19.953	2.059	0.068	0.151	0.010	0.012	0.000	0.000	0.000	0.000	0.000	1388.36	
16	0.7004	1142.8	1163.1	1162.7	1.018	3.255	73.368	19.957	2.159	0.069	0.148	0.012	0.014	0.000	0.000	0.000	0.000	0.000	1389.71	
17	0.7004	1143.0	1163.3	1162.9	1.018	3.243	73.366	19.957	2.182	0.068	0.145	0.010	0.011	0.000	0.000	0.000	0.000	0.000	1389.97	
18	0.6989	1140.7	1160.9	1160.6	1.029	3.227	73.499	20.008	2.017	0.062	0.137	0.010	0.012	0.000	0.000	0.000	0.000	0.000	1388.63	
19	0.6999	1143.0	1163.2	1162.9	1.007	3.217	73.322	20.155	2.082	0.062	0.136	0.009	0.010	0.000	0.000	0.000	0.000	0.000	1390.39	
20	0.6977	1138.8	1159.0	1158.7	1.006	3.262	73.842	19.541	2.114	0.066	0.146	0.010	0.012	0.000	0.000	0.000	0.000	0.000	1387.54	
21	0.6974	1138.5	1158.7	1158.4	0.996	3.262	73.886	19.522	2.103	0.065	0.143	0.010	0.012	0.000	0.000	0.000	0.000	0.000	1387.53	
22	0.6958	1136.2	1156.3	1156.0	0.997	3.257	74.198	19.228	2.094	0.064	0.139	0.010	0.013	0.000	0.000	0.000	0.000	0.000	1386.22	
23	0.6959	1136.9	1157.0	1156.7	0.988	3.240	74.160	19.308	2.066	0.066	0.146	0.011	0.014	0.000	0.000	0.000	0.000	0.000	1386.94	
24	0.6965	1137.9	1158.1	1157.8	0.982	3.241	73.930	19.627	2.003	0.061	0.133	0.010	0.012	0.000	0.000	0.000	0.000	0.000	1387.63	
25	0.6990	1141.0	1161.2	1160.9	1.003	3.259	73.756	19.538	2.151	0.077	0.181	0.016	0.020	0.000	0.000	0.000	0.000	0.000	1388.82	
26	0.6963	1136.4	1156.5	1156.2	1.009	3.275	74.328	18.919	2.176	0.078	0.181	0.015	0.019	0.000	0.000	0.000	0.000	0.000	1385.93	
27	0.6950	1133.8	1153.9	1153.6	1.006	3.313	74.555	18.663	2.202	0.072	0.159	0.013	0.017	0.000	0.000	0.000	0.000	0.000	1384.08	
28	0.6945	1133.3	1153.3	1153.0	0.993	3.318	74.789	18.334	2.259	0.082	0.189	0.016	0.020	0.000	0.000	0.000	0.000	0.000	1383.90	
29	0.6983	1138.3	1158.5	1158.2	1.001	3.350	74.780	17.824	2.555	0.116	0.295	0.033	0.045	0.000	0.000	0.000	0.000	0.000	1386.30	
30	0.6878	1122.1	1142.0	1141.7	0.960	3.418	76.157	16.900	2.228	0.088	0.207	0.019	0.024	0.000	0.000	0.000	0.000	0.000	1376.92	
Avg	0.7000	1139.0	1158.7	1158.4	1.083	3.377	73.573	19.523	2.174	0.075	0.168	0.013	0.016	0.000	0.000	0.000	0.000	0.000	1384.95	

Source Daily Summary

November 2021

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	0.7623	1188.8	1209.9	1208.9	0.909	6.411	65.491	20.074	6.251	0.256	0.548	0.029	0.030	0.000	0.000	0.000	0.000	0.000	1385.69	
2	0.7531	1176.3	1197.1	1196.2	0.886	6.351	66.701	19.501	5.788	0.232	0.491	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1379.41	
3	0.7538	1176.0	1196.9	1195.9	0.899	6.407	66.844	19.107	5.882	0.251	0.552	0.029	0.029	0.000	0.000	0.000	0.000	0.000	1378.50	
4	0.7449	1164.3	1184.9	1184.0	0.874	6.327	67.893	18.736	5.476	0.208	0.441	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1372.89	
5	0.7618	1188.0	1209.1	1208.1	0.921	6.388	65.627	19.961	6.225	0.260	0.557	0.029	0.030	0.000	0.000	0.000	0.000	0.000	1385.30	
6	0.7589	1182.7	1203.6	1202.7	0.919	6.446	65.877	19.880	6.089	0.239	0.497	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1381.68	
7	0.7561	1177.8	1198.6	1197.7	0.917	6.489	66.172	19.789	5.863	0.233	0.488	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1378.48	
8	0.7578	1180.2	1201.1	1200.2	0.913	6.506	65.972	19.824	6.013	0.235	0.486	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1379.77	
9	0.7543	1173.0	1193.7	1192.7	0.915	6.620	66.349	19.578	5.828	0.219	0.447	0.022	0.022	0.000	0.000	0.000	0.000	0.000	1374.45	
10	0.7635	1189.6	1210.6	1209.6	0.910	6.470	65.297	20.121	6.379	0.249	0.516	0.028	0.029	0.000	0.000	0.000	0.000	0.000	1385.55	
11	0.7570	1177.6	1198.4	1197.5	0.907	6.605	66.067	19.661	6.005	0.228	0.477	0.025	0.025	0.000	0.000	0.000	0.000	0.000	1377.38	
12	0.7467	1166.2	1186.8	1185.9	0.868	6.394	67.327	19.343	5.448	0.193	0.388	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1373.43	
13	0.7488	1170.3	1191.0	1190.1	0.892	6.302	67.168	19.408	5.546	0.211	0.429	0.021	0.022	0.000	0.000	0.000	0.000	0.000	1376.35	
14	0.7501	1167.7	1188.4	1187.5	0.912	6.551	66.898	19.373	5.591	0.210	0.427	0.020	0.020	0.000	0.000	0.000	0.000	0.000	1372.16	
15	0.7547	1175.1	1195.9	1194.9	0.911	6.534	66.466	19.444	5.858	0.236	0.500	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1376.58	
16	0.7584	1182.2	1203.1	1202.0	0.908	6.450	65.928	19.880	6.041	0.241	0.501	0.026	0.026	0.000	0.000	0.000	0.000	0.000	1381.52	
17	0.7556	1176.5	1197.3	1196.3	0.908	6.532	66.163	19.756	5.967	0.207	0.423	0.021	0.022	0.000	0.000	0.000	0.000	0.000	1377.45	
18	0.7554	1176.1	1197.0	1195.9	0.912	6.536	66.185	19.720	5.987	0.208	0.411	0.021	0.021	0.000	0.000	0.000	0.000	0.000	1377.16	
19	0.7635	1189.3	1210.4	1209.4	0.898	6.507	65.296	20.003	6.538	0.233	0.472	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1385.23	
20	0.7577	1180.4	1201.3	1200.4	0.903	6.501	66.024	19.722	6.099	0.231	0.469	0.025	0.025	0.000	0.000	0.000	0.000	0.000	1380.06	
21	0.7560	1177.1	1198.0	1197.1	0.905	6.542	66.171	19.669	6.009	0.219	0.441	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1377.78	
22	0.7566	1178.4	1199.3	1198.4	0.907	6.509	66.161	19.649	6.039	0.227	0.460	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1378.81	
23	0.7589	1182.6	1203.5	1202.7	0.908	6.468	65.928	19.762	6.143	0.241	0.498	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1381.60	
24	0.7447	1168.1	1188.7	1188.0	0.875	6.080	67.754	19.268	5.392	0.196	0.394	0.020	0.020	0.000	0.000	0.000	0.000	0.000	1377.50	
25	0.7449	1163.5	1184.1	1183.3	0.912	6.320	67.642	19.146	5.372	0.189	0.381	0.019	0.019	0.000	0.000	0.000	0.000	0.000	1371.97	
26	0.7583	1183.1	1204.1	1203.2	0.915	6.375	66.046	19.757	6.104	0.244	0.505	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1382.69	
27	0.7538	1173.0	1193.8	1192.9	0.913	6.572	66.505	19.446	5.836	0.224	0.458	0.023	0.023	0.000	0.000	0.000	0.000	0.000	1374.98	
28	0.7551	1176.0	1196.8	1195.9	0.911	6.519	66.325	19.601	5.911	0.226	0.461	0.023	0.023	0.000	0.000	0.000	0.000	0.000	1377.22	
29	0.7611	1186.0	1207.0	1206.1	0.911	6.466	65.675	19.831	6.312	0.244	0.504	0.027	0.029	0.000	0.000	0.000	0.000	0.000	1383.52	
30	0.7559	1175.9	1196.7	1195.8	0.913	6.595	66.229	19.520	6.035	0.219	0.441	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1376.43	
Avg	0.7553	1177.0	1198.2	1197.3	0.905	6.459	66.339	19.618	5.934	0.227	0.469	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1378.72	

Source Daily Summary

November 2021

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	0.7590	1183.6	1204.6	1203.8	0.850	6.503	65.943	19.736	6.139	0.248	0.522	0.029	0.031	0.000	0.000	0.000	0.000	0.000	1382.71	
2	0.7573	1184.1	1205.0	1204.0	0.833	6.341	66.140	19.863	6.008	0.244	0.514	0.028	0.029	0.000	0.000	0.000	0.000	0.000	1384.80	
3	0.7523	1176.6	1197.4	1196.4	0.827	6.342	66.769	19.554	5.749	0.229	0.478	0.026	0.026	0.000	0.000	0.000	0.000	0.000	1380.55	
4	0.7532	1175.0	1195.8	1194.8	0.906	6.400	66.900	19.127	5.824	0.246	0.537	0.029	0.030	0.000	0.000	0.000	0.000	0.000	1377.88	
5	0.7451	1164.0	1184.6	1183.6	0.882	6.350	67.830	18.797	5.459	0.205	0.430	0.023	0.023	0.000	0.000	0.000	0.000	0.000	1372.37	
6	0.7622	1188.1	1209.1	1208.1	0.931	6.414	65.567	19.966	6.248	0.260	0.552	0.030	0.032	0.000	0.000	0.000	0.000	0.000	1384.91	
7	0.7588	1181.7	1202.7	1201.7	0.928	6.483	65.866	19.871	6.078	0.236	0.485	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1380.64	
8	0.7560	1175.6	1196.5	1195.5	0.924	6.600	66.160	19.709	5.847	0.231	0.479	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1376.06	
9	0.7583	1180.4	1201.3	1200.3	0.922	6.531	65.900	19.842	6.039	0.234	0.481	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1379.51	
10	0.7552	1173.7	1194.4	1193.4	0.924	6.643	66.236	19.620	5.869	0.219	0.444	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1374.50	
11	0.7636	1188.9	1210.0	1209.0	0.924	6.501	65.277	20.117	6.368	0.248	0.508	0.029	0.030	0.000	0.000	0.000	0.000	0.000	1384.67	
12	0.7575	1177.5	1198.3	1197.3	0.916	6.637	66.044	19.600	6.048	0.229	0.475	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1376.89	
13	0.7468	1165.8	1186.5	1185.5	0.876	6.414	67.344	19.274	5.472	0.194	0.385	0.020	0.020	0.000	0.000	0.000	0.000	0.000	1372.92	
14	0.7491	1170.4	1191.1	1190.1	0.899	6.319	67.101	19.454	5.551	0.209	0.423	0.022	0.022	0.000	0.000	0.000	0.000	0.000	1376.13	
15	0.7512	1168.9	1189.6	1189.4	0.919	6.575	66.703	19.509	5.622	0.210	0.422	0.020	0.020	0.000	0.000	0.000	0.000	0.000	1372.47	
16	0.7547	1174.3	1195.1	1194.9	0.920	6.565	66.427	19.489	5.829	0.232	0.489	0.025	0.025	0.000	0.000	0.000	0.000	0.000	1375.69	
17	0.7582	1181.1	1202.0	1201.8	0.918	6.488	65.960	19.814	6.036	0.239	0.493	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1380.36	
18	0.7549	1174.4	1195.2	1195.0	0.916	6.583	66.308	19.569	5.953	0.207	0.420	0.022	0.022	0.000	0.000	0.000	0.000	0.000	1375.62	
19	0.7554	1175.5	1196.3	1196.1	0.920	6.564	66.228	19.606	6.032	0.206	0.403	0.021	0.021	0.000	0.000	0.000	0.000	0.000	1376.40	
20	0.7636	1188.7	1209.7	1209.6	0.907	6.539	65.262	20.019	6.527	0.231	0.462	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1384.42	
21	0.7578	1179.8	1200.7	1200.5	0.911	6.533	66.019	19.686	6.113	0.228	0.460	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1379.31	
22	0.7569	1177.8	1198.7	1198.5	0.911	6.569	66.089	19.655	6.064	0.222	0.443	0.023	0.023	0.000	0.000	0.000	0.000	0.000	1377.80	
23	0.7559	1176.4	1197.3	1196.7	0.915	6.560	66.204	19.618	5.997	0.220	0.440	0.023	0.023	0.000	0.000	0.000	0.000	0.000	1377.05	
24	0.7594	1183.0	1203.9	1203.2	0.916	6.479	65.821	19.869	6.137	0.239	0.488	0.026	0.026	0.000	0.000	0.000	0.000	0.000	1381.60	
25	0.7467	1170.0	1190.7	1189.8	0.887	6.129	67.515	19.328	5.493	0.201	0.404	0.021	0.022	0.000	0.000	0.000	0.000	0.000	1377.94	
26	0.7435	1161.5	1182.1	1181.2	0.918	6.303	67.809	19.095	5.296	0.182	0.361	0.018	0.018	0.000	0.000	0.000	0.000	0.000	1370.88	
27	0.7588	1183.6	1204.5	1203.6	0.930	6.368	65.920	19.918	6.082	0.239	0.490	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1382.81	
28	0.7548	1174.2	1195.0	1194.1	0.923	6.579	66.347	19.563	5.856	0.225	0.459	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1375.46	
29	0.7551	1175.3	1196.1	1195.2	0.922	6.547	66.283	19.639	5.897	0.221	0.446	0.022	0.022	0.000	0.000	0.000	0.000	0.000	1376.42	
30	0.7617	1186.6	1207.7	1206.7	0.919	6.470	65.574	19.918	6.321	0.244	0.499	0.027	0.028	0.000	0.000	0.000	0.000	0.000	1383.73	
Avg	0.7554	1177.0	1198.1	1197.3	0.906	6.478	66.318	19.627	5.932	0.226	0.463	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1378.42	

Source Daily Summary

November 2021

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	0.7579	1181.7	1202.6	1202.1	0.853	6.515	66.038	19.715	6.078	0.241	0.504	0.027	0.028	0.000	0.000	0.000	0.000	0.000	1381.41	
2	0.7576	1184.5	1205.5	1204.8	0.835	6.350	66.103	19.859	6.031	0.245	0.519	0.029	0.030	0.000	0.000	0.000	0.000	0.000	1384.91	
3	0.7526	1177.2	1198.1	1197.3	0.824	6.339	66.727	19.578	5.770	0.230	0.482	0.026	0.026	0.000	0.000	0.000	0.000	0.000	1381.00	
4	0.7538	1175.6	1196.4	1195.7	0.909	6.416	66.818	19.153	5.855	0.248	0.541	0.029	0.030	0.000	0.000	0.000	0.000	0.000	1378.03	
5	0.7457	1165.2	1185.8	1185.1	0.883	6.337	67.760	18.837	5.489	0.208	0.439	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1373.16	
6	0.7625	1188.6	1209.7	1209.0	0.932	6.410	65.528	19.987	6.264	0.261	0.555	0.030	0.032	0.000	0.000	0.000	0.000	0.000	1385.24	
7	0.7592	1182.5	1203.4	1202.7	0.930	6.477	65.814	19.900	6.102	0.237	0.488	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1381.08	
8	0.7562	1177.1	1197.9	1197.2	0.927	6.529	66.154	19.762	5.865	0.232	0.482	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1377.54	
9	0.7579	1179.7	1200.6	1199.9	0.923	6.534	65.955	19.812	6.009	0.234	0.481	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1379.04	
10	0.7554	1174.0	1194.8	1194.2	0.924	6.640	66.216	19.627	5.881	0.220	0.446	0.023	0.023	0.000	0.000	0.000	0.000	0.000	1374.71	
11	0.7633	1188.3	1209.4	1208.9	0.926	6.508	65.310	20.091	6.351	0.247	0.507	0.029	0.030	0.000	0.000	0.000	0.000	0.000	1384.22	
12	0.7575	1177.3	1198.2	1197.8	0.918	6.643	66.045	19.591	6.048	0.229	0.475	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1376.72	
13	0.7468	1165.7	1186.3	1186.0	0.877	6.416	67.352	19.266	5.470	0.194	0.386	0.020	0.020	0.000	0.000	0.000	0.000	0.000	1372.82	
14	0.7493	1170.5	1191.3	1190.9	0.899	6.318	67.091	19.454	5.558	0.210	0.425	0.022	0.022	0.000	0.000	0.000	0.000	0.000	1376.24	
15	0.7508	1168.1	1188.8	1188.7	0.920	6.579	66.757	19.481	5.596	0.208	0.419	0.020	0.020	0.000	0.000	0.000	0.000	0.000	1371.98	
16	0.7545	1173.9	1194.7	1194.6	0.920	6.572	66.445	19.474	5.818	0.232	0.488	0.025	0.025	0.000	0.000	0.000	0.000	0.000	1375.41	
17	0.7584	1181.3	1202.2	1202.1	0.920	6.489	65.935	19.827	6.044	0.239	0.493	0.026	0.026	0.000	0.000	0.000	0.000	0.000	1380.45	
18	0.7549	1174.5	1195.3	1195.2	0.917	6.580	66.308	19.567	5.945	0.210	0.427	0.022	0.022	0.000	0.000	0.000	0.000	0.000	1375.72	
19	0.7556	1175.8	1196.6	1196.5	0.921	6.566	66.202	19.614	6.049	0.205	0.403	0.021	0.021	0.000	0.000	0.000	0.000	0.000	1376.52	
20	0.7633	1188.2	1209.3	1209.2	0.909	6.540	65.286	20.018	6.509	0.229	0.458	0.026	0.026	0.000	0.000	0.000	0.000	0.000	1384.12	
21	0.7577	1179.7	1200.6	1200.5	0.912	6.535	66.015	19.690	6.115	0.227	0.457	0.024	0.024	0.000	0.000	0.000	0.000	0.000	1379.21	
22	0.7573	1178.5	1199.4	1199.3	0.912	6.565	66.042	19.675	6.087	0.224	0.448	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1378.24	
23	0.7546	1173.9	1194.7	1194.4	0.916	6.585	66.343	19.557	5.920	0.214	0.424	0.021	0.021	0.000	0.000	0.000	0.000	0.000	1375.32	
24	0.7598	1183.7	1204.6	1204.3	0.918	6.475	65.771	19.893	6.159	0.240	0.491	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1381.99	
25	0.7462	1169.4	1190.1	1189.7	0.888	6.125	67.577	19.296	5.470	0.200	0.401	0.021	0.021	0.000	0.000	0.000	0.000	0.000	1377.62	
26	0.7441	1161.9	1182.5	1182.1	0.920	6.328	67.726	19.123	5.318	0.183	0.365	0.018	0.018	0.000	0.000	0.000	0.000	0.000	1370.85	
27	0.7592	1184.1	1205.0	1204.7	0.929	6.374	65.878	19.927	6.101	0.241	0.495	0.027	0.027	0.000	0.000	0.000	0.000	0.000	1383.04	
28	0.7545	1173.6	1194.4	1194.1	0.923	6.586	66.387	19.537	5.843	0.223	0.455	0.023	0.023	0.000	0.000	0.000	0.000	0.000	1375.05	
29	0.7552	1175.1	1196.0	1195.7	0.926	6.552	66.285	19.626	5.894	0.222	0.449	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1376.22	
30	0.7614	1185.8	1206.8	1206.6	0.921	6.487	65.617	19.873	6.309	0.242	0.496	0.027	0.028	0.000	0.000	0.000	0.000	0.000	1383.07	
Avg	0.7554	1177.0	1198.0	1197.6	0.908	6.479	66.316	19.627	5.932	0.226	0.463	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1378.36	

Source Daily Summary

November 2021

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	0.6859	1130.6	1150.6	1150.1	0.430	3.528	75.074	19.083	1.750	0.045	0.081	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1389.37	
2	0.6838	1126.6	1146.5	1146.0	0.563	3.376	75.719	18.394	1.808	0.047	0.083	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1386.52	
3	0.6671	1100.2	1119.7	1119.1	0.505	3.507	78.701	15.662	1.506	0.039	0.071	0.004	0.005	0.000	0.000	0.000	0.000	0.000	1370.84	
4	0.6669	1101.1	1120.6	1120.0	0.445	3.523	78.768	15.554	1.591	0.039	0.071	0.004	0.005	0.000	0.000	0.000	0.000	0.000	1372.16	
5	0.6670	1101.6	1121.1	1120.5	0.578	3.299	78.920	15.499	1.575	0.043	0.076	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1372.65	
6	0.6822	1117.6	1137.4	1136.8	0.640	3.655	76.767	16.405	2.294	0.075	0.146	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1377.15	
7	0.6929	1115.5	1135.2	1134.7	0.620	4.815	75.337	15.853	3.024	0.109	0.219	0.011	0.011	0.000	0.000	0.000	0.000	0.000	1364.13	
8	0.6764	1114.1	1133.8	1133.3	0.313	3.822	76.922	16.971	1.840	0.044	0.079	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1378.64	
9	0.6874	1124.8	1144.7	1144.2	0.469	3.967	75.209	18.036	2.138	0.060	0.110	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1380.78	
10	0.6995	1138.7	1158.8	1158.3	0.555	4.124	73.646	18.618	2.772	0.089	0.176	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1385.61	
11	0.6850	1129.8	1149.8	1149.3	0.409	3.532	75.440	18.516	1.961	0.048	0.084	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1389.17	
12	0.6710	1109.6	1129.2	1128.8	0.426	3.422	77.884	16.593	1.554	0.040	0.072	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1378.50	
13	0.6726	1110.8	1130.5	1130.0	0.631	3.180	78.014	16.341	1.673	0.052	0.095	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1378.41	
14	0.6696	1107.1	1126.7	1126.2	0.630	3.130	78.492	16.034	1.570	0.048	0.086	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1376.85	
15	0.7150	1142.2	1162.4	1161.9	0.766	5.036	72.120	17.677	3.904	0.151	0.313	0.016	0.016	0.000	0.000	0.000	0.000	0.000	1374.98	
16	0.7116	1140.8	1161.0	1160.5	0.752	4.825	72.585	17.648	3.728	0.141	0.289	0.015	0.016	0.000	0.000	0.000	0.000	0.000	1376.65	
17	0.6543	1082.3	1101.4	1101.0	0.472	3.441	80.887	13.971	1.138	0.031	0.054	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1361.67	
18	0.6593	1091.5	1110.8	1110.3	0.672	3.044	80.275	14.639	1.264	0.035	0.063	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1368.03	
19	0.6788	1111.3	1131.0	1130.5	0.739	3.566	77.478	15.765	2.229	0.071	0.138	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1372.78	
20	0.6515	1080.1	1099.2	1098.8	0.832	2.763	81.900	13.286	1.129	0.030	0.054	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1361.85	
21	0.6445	1070.1	1089.0	1088.6	0.736	2.861	82.965	12.439	0.939	0.021	0.035	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1356.50	
22	0.6591	1093.6	1113.0	1112.5	0.733	2.808	80.475	14.508	1.391	0.031	0.051	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1370.88	
23	0.6562	1084.2	1103.4	1102.9	0.908	2.839	81.356	13.359	1.413	0.041	0.077	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1362.21	
24	0.6719	1113.1	1132.9	1132.4	0.633	2.971	78.002	16.696	1.576	0.041	0.073	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1382.01	
25	0.6662	1103.1	1122.6	1122.2	0.751	2.861	79.214	15.582	1.467	0.042	0.075	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1375.49	
26	0.6913	1132.3	1152.3	1151.9	0.606	3.665	75.018	18.065	2.375	0.085	0.166	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1385.95	
27	0.6916	1140.3	1160.5	1160.1	0.491	3.381	74.642	19.013	2.267	0.070	0.123	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1395.46	
28	0.6986	1149.9	1170.3	1169.8	0.528	3.399	73.395	20.089	2.358	0.076	0.140	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1400.12	
29	0.7104	1152.2	1172.6	1172.1	0.608	4.235	72.139	19.386	3.256	0.117	0.232	0.013	0.013	0.000	0.000	0.000	0.000	0.000	1391.36	
30	0.6931	1143.4	1163.6	1163.2	0.463	3.381	74.028	19.939	1.986	0.065	0.123	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1397.68	
Avg	0.6787	1115.0	1135.0	1134.5	0.597	3.532	77.046	16.654	1.983	0.061	0.115	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1377.81	

Source Daily Summary

November 2021

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	0.6861	1131.1	1151.2	1150.7	0.512	3.398	75.195	18.913	1.844	0.048	0.082	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1389.72	
2	0.6704	1106.9	1126.5	1126.1	0.633	3.203	78.256	16.251	1.532	0.042	0.075	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1375.91	
3	0.6666	1102.1	1121.7	1121.2	0.391	3.514	78.702	15.729	1.554	0.037	0.066	0.003	0.004	0.000	0.000	0.000	0.000	0.000	1373.76	
4	0.6674	1103.5	1123.1	1122.6	0.578	3.220	78.820	15.691	1.561	0.044	0.078	0.004	0.005	0.000	0.000	0.000	0.000	0.000	1374.68	
5	0.6615	1094.0	1113.4	1113.0	0.494	3.365	79.754	14.865	1.407	0.039	0.069	0.003	0.004	0.000	0.000	0.000	0.000	0.000	1368.94	
6	0.6612	1094.9	1114.3	1113.8	0.250	3.661	79.412	15.228	1.373	0.028	0.046	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1370.28	
7	0.6854	1130.2	1150.2	1149.8	0.405	3.548	75.211	18.852	1.858	0.044	0.075	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1389.30	
8	0.6822	1124.0	1143.9	1143.5	0.442	3.566	75.890	18.152	1.810	0.047	0.084	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1384.95	
9	0.6853	1131.2	1151.3	1150.9	0.412	3.464	75.377	18.651	1.955	0.048	0.084	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1390.70	
10	0.6823	1127.3	1147.2	1146.9	0.383	3.466	75.826	18.356	1.846	0.043	0.073	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1388.90	
11	0.6725	1113.2	1132.9	1132.6	0.401	3.377	77.594	16.917	1.591	0.042	0.071	0.003	0.004	0.000	0.000	0.000	0.000	0.000	1381.47	
12	0.6723	1111.3	1131.0	1130.6	0.610	3.150	77.994	16.464	1.629	0.052	0.090	0.005	0.006	0.000	0.000	0.000	0.000	0.000	1379.38	
13	0.6695	1107.7	1127.3	1127.0	0.633	3.073	78.477	16.141	1.534	0.047	0.085	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1377.79	
14	0.6639	1099.3	1118.8	1118.5	0.595	3.115	79.374	15.422	1.372	0.041	0.072	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1373.12	
15	0.6573	1089.2	1108.5	1107.7	0.496	3.267	80.346	14.623	1.172	0.033	0.058	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1367.23	
16	0.6520	1078.8	1097.9	1097.6	0.310	3.681	81.109	13.702	1.110	0.031	0.053	0.002	0.003	0.000	0.000	0.000	0.000	0.000	1359.72	
17	0.6693	1107.4	1127.0	1126.7	0.506	3.273	78.305	16.282	1.494	0.047	0.084	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1377.53	
18	0.6608	1093.3	1112.6	1112.3	0.407	3.484	79.667	15.030	1.299	0.039	0.068	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1368.70	
19	0.6642	1102.2	1121.7	1121.4	0.096	3.725	78.878	15.606	1.623	0.029	0.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1376.06	
20	0.6838	1134.1	1154.2	1153.9	0.215	3.448	75.370	18.980	1.864	0.045	0.074	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1395.75	
21	0.6998	1155.0	1175.4	1175.1	0.413	3.381	72.958	20.686	2.357	0.069	0.124	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1405.06	
22	0.6933	1146.8	1167.1	1166.8	0.347	3.367	73.840	20.242	2.029	0.059	0.106	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1401.69	
23	0.6955	1149.4	1169.7	1169.4	0.397	3.341	73.588	20.342	2.142	0.064	0.114	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1402.59	
24	0.6941	1143.4	1163.6	1163.3	0.511	3.387	74.069	19.655	2.162	0.071	0.130	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1396.72	
25	0.6905	1139.2	1159.4	1159.0	0.488	3.351	74.732	19.093	2.120	0.070	0.131	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1395.15	
26	0.6996	1152.7	1173.1	1172.8	0.502	3.356	73.280	20.153	2.478	0.078	0.139	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1402.56	
27	0.6931	1142.5	1162.7	1162.4	0.518	3.350	74.253	19.519	2.142	0.071	0.133	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1396.60	
28	0.6937	1145.8	1166.1	1165.8	0.454	3.303	73.869	20.207	1.965	0.065	0.123	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1400.04	
29	0.6902	1143.8	1164.0	1163.8	0.390	3.196	74.137	20.473	1.639	0.053	0.100	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1401.14	
30	0.6886	1136.0	1156.1	1155.8	0.441	3.440	74.943	18.961	1.997	0.069	0.132	0.008	0.009	0.000	0.000	0.000	0.000	0.000	1393.11	
Avg	0.6784	1121.0	1141.1	1140.7	0.441	3.382	76.641	17.640	1.749	0.050	0.089	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1385.29	

Source Daily Summary

November 2021

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	0.6730	1108.7	1128.3	1127.5	0.829	3.042	78.204	16.021	1.749	0.051	0.092	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1375.42	
2	0.6614	1086.4	1105.6	1104.5	0.617	3.641	80.074	13.960	1.555	0.048	0.093	0.006	0.007	0.000	0.000	0.000	0.000	0.000	1359.42	
3	0.6596	1085.1	1104.3	1103.2	0.572	3.612	80.388	13.733	1.544	0.047	0.091	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1359.76	
4	0.6614	1089.7	1109.0	1108.2	0.603	3.455	80.117	14.093	1.579	0.049	0.093	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1363.64	
5	0.6578	1083.8	1103.0	1101.8	0.517	3.609	80.629	13.605	1.500	0.045	0.085	0.005	0.006	0.000	0.000	0.000	0.000	0.000	1359.96	
6	0.6668	1099.0	1118.5	1117.1	0.472	3.590	78.949	15.162	1.689	0.046	0.083	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1369.76	
7	0.6676	1099.1	1118.5	1117.2	0.517	3.597	78.856	15.186	1.690	0.050	0.093	0.005	0.006	0.000	0.000	0.000	0.000	0.000	1368.96	
8	0.6689	1101.5	1121.0	1119.8	0.527	3.554	78.681	15.331	1.747	0.052	0.097	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1370.70	
9	0.6687	1101.8	1121.3	1119.5	0.498	3.561	78.706	15.301	1.779	0.051	0.093	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1371.27	
10	0.6678	1101.8	1121.3	1120.5	0.535	3.424	78.900	15.245	1.741	0.050	0.093	0.005	0.006	0.000	0.000	0.000	0.000	0.000	1372.16	
11	0.6667	1099.5	1119.0	1118.6	0.562	3.416	79.085	15.123	1.654	0.051	0.097	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1370.47	
12	0.6685	1102.8	1122.3	1121.9	0.576	3.364	78.807	15.391	1.697	0.054	0.101	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1372.69	
13	0.6670	1100.4	1119.9	1119.6	0.578	3.360	79.080	15.153	1.664	0.053	0.099	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1371.32	
14	0.6542	1078.4	1097.5	1097.1	0.611	3.450	81.432	12.937	1.426	0.047	0.085	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1356.90	
15	0.6588	1086.1	1105.3	1104.3	0.507	3.578	80.466	13.779	1.519	0.049	0.091	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1361.77	
16	0.6666	1099.6	1119.0	1118.5	0.554	3.413	79.133	15.071	1.662	0.054	0.101	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1370.65	
17	0.6678	1101.6	1121.1	1120.6	0.561	3.400	78.902	15.288	1.680	0.055	0.102	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1371.85	
18	0.6670	1100.3	1119.8	1119.0	0.396	3.650	78.988	14.970	1.848	0.051	0.088	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1371.04	
19	0.6860	1129.4	1149.4	1148.5	0.382	3.678	75.828	17.446	2.458	0.071	0.124	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1387.68	
20	0.6947	1138.0	1158.1	1157.3	0.615	3.616	74.618	18.225	2.654	0.088	0.164	0.009	0.008	0.000	0.000	0.000	0.000	0.000	1389.56	
21	0.6934	1137.0	1157.2	1156.4	0.591	3.598	74.713	18.303	2.529	0.087	0.161	0.009	0.008	0.000	0.000	0.000	0.000	0.000	1389.61	
22	0.6935	1137.3	1157.4	1156.5	0.610	3.558	74.692	18.380	2.496	0.086	0.160	0.009	0.008	0.000	0.000	0.000	0.000	0.000	1389.85	
23	0.6920	1134.6	1154.6	1153.9	0.633	3.549	74.970	18.145	2.435	0.086	0.163	0.010	0.009	0.000	0.000	0.000	0.000	0.000	1388.03	
24	0.6779	1114.3	1134.0	1133.5	0.597	3.522	77.294	16.350	2.017	0.071	0.134	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1377.23	
25	0.6938	1139.3	1159.5	1158.6	0.570	3.525	74.684	18.354	2.614	0.085	0.152	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1391.97	
26	0.6930	1136.1	1156.2	1155.3	0.664	3.499	74.839	18.270	2.454	0.087	0.167	0.010	0.009	0.000	0.000	0.000	0.000	0.000	1388.96	
27	0.6930	1136.0	1156.2	1155.4	0.660	3.517	74.688	18.534	2.330	0.085	0.165	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1388.80	
28	0.6942	1138.5	1158.7	1157.7	0.657	3.480	74.528	18.679	2.371	0.089	0.174	0.011	0.011	0.000	0.000	0.000	0.000	0.000	1390.67	
29	0.6868	1127.1	1147.1	1146.2	0.570	3.608	75.889	17.321	2.334	0.086	0.170	0.011	0.011	0.000	0.000	0.000	0.000	0.000	1384.05	
30	0.6679	1098.3	1117.8	1116.9	0.522	3.666	78.922	14.937	1.770	0.059	0.110	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1367.68	
Avg	0.6745	1110.0	1129.4	1128.5	0.570	3.518	77.835	15.943	1.940	0.063	0.117	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1375.06	

Source Daily Summary

November 2021

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	0.6954	1165.2	1185.8	1184.6	0.000	2.976	71.976	23.863	1.149	0.013	0.023	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1422.07	-19.94
2	0.6956	1165.4	1186.1	1184.8	0.000	2.982	71.928	23.895	1.170	0.010	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1422.13	-19.95
3	0.6955	1165.2	1185.8	1184.4	0.000	2.992	71.980	23.809	1.182	0.012	0.024	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1421.88	-19.76
4	0.6966	1167.0	1187.7	1186.4	0.000	2.983	71.808	23.940	1.232	0.013	0.023	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1423.00	-19.06
5	0.6968	1167.5	1188.1	1186.8	0.000	2.976	71.758	23.999	1.230	0.012	0.023	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1423.33	-18.95
6	0.6956	1165.6	1186.3	1184.9	0.000	2.969	71.993	23.792	1.211	0.012	0.022	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1422.38	-19.61
7	0.6955	1165.6	1186.2	1184.9	0.000	2.964	71.950	23.890	1.172	0.009	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1422.42	-19.95
8	0.6959	1166.3	1186.9	1185.4	0.000	2.958	71.917	23.901	1.189	0.012	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1422.86	-19.53
9	0.6953	1165.3	1186.0	1184.6	0.000	2.962	72.020	23.810	1.172	0.012	0.024	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1422.29	-19.85
10	0.6941	1163.6	1184.2	1183.1	0.000	2.955	72.195	23.709	1.106	0.012	0.022	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1421.41	-20.66
11	0.6907	1157.6	1178.1	1177.2	0.000	3.004	72.662	23.389	0.924	0.009	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.53	-23.27
12	0.6916	1159.4	1179.9	1178.6	0.000	2.976	72.616	23.356	1.020	0.011	0.020	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1418.80	-22.28
13	0.6912	1158.8	1179.3	1178.1	0.000	2.972	72.722	23.234	1.036	0.012	0.022	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1418.53	-22.35
14	0.6910	1158.5	1179.1	1177.7	0.000	2.969	72.787	23.148	1.058	0.012	0.023	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1418.41	-22.35
15	0.6927	1161.2	1181.8	1180.3	0.000	2.968	72.517	23.337	1.140	0.013	0.024	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1419.91	-21.22
16	0.6916	1159.4	1180.0	1179.0	0.000	2.978	72.615	23.342	1.030	0.012	0.022	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1418.83	-22.15
17	0.6907	1158.0	1178.5	1177.3	0.000	2.977	72.735	23.284	0.980	0.009	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.05	-22.97
18	0.6924	1160.2	1180.8	1179.4	0.000	2.998	72.607	23.188	1.168	0.013	0.024	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1419.05	-21.30
19	0.6934	1162.3	1182.9	1181.3	0.000	2.963	72.545	23.155	1.296	0.014	0.025	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1420.57	-20.27
20	0.6927	1160.2	1180.7	1179.5	0.000	3.030	72.619	23.071	1.238	0.014	0.026	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1418.65	-20.93
21	0.6914	1158.4	1178.9	1177.5	0.000	3.022	72.767	23.016	1.169	0.010	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.74	-22.02
22	0.6940	1163.3	1183.9	1182.3	0.000	2.962	72.444	23.233	1.319	0.014	0.026	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1421.13	-19.88
23	0.6934	1161.5	1182.1	1180.7	0.000	3.017	72.488	23.192	1.264	0.013	0.024	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1419.55	-20.52
24	0.6951	1164.3	1184.9	1183.6	0.000	3.005	72.341	23.257	1.275	0.032	0.077	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1421.21	-18.45
25	0.6934	1161.3	1181.8	1180.2	0.000	3.027	72.522	23.124	1.286	0.014	0.026	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1419.29	-20.48
26	0.6933	1161.4	1182.0	1180.5	0.000	3.007	72.537	23.138	1.279	0.014	0.024	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1419.59	-20.52
27	0.6928	1160.4	1180.9	1179.6	0.000	3.028	72.562	23.148	1.234	0.011	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.80	-21.11
28	0.6880	1154.9	1175.3	1173.4	0.000	2.911	73.401	22.632	0.995	0.017	0.040	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1416.99	-23.63
29	0.6892	1155.5	1176.0	1174.4	0.000	2.985	73.026	23.019	0.938	0.011	0.020	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1416.55	-23.77
30	0.6915	1158.6	1179.1	1177.9	0.000	3.019	72.631	23.287	1.028	0.012	0.022	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1417.92	-22.31
Avg	0.6932	1162.0	1182.3	1181.0	0.000	2.984	72.422	23.405	1.150	0.013	0.024	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1420.03	-20.97

Source Daily Summary

November 2021

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	0.5802	966.1	983.2	982.8	0.106	4.102	94.639	0.853	0.237	0.019	0.037	0.002	0.005	0.000	0.000	0.000	0.000	0.000	1291.17	
2	0.5723	962.5	979.5	979.1	0.107	3.583	95.989	0.298	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.79	
3	0.5723	962.7	979.7	979.2	0.109	3.572	95.985	0.311	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.03	
4	0.5920	992.3	1009.8	1009.2	0.331	3.279	92.493	3.613	0.263	0.011	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1312.45	
5	0.5723	962.5	979.6	979.1	0.109	3.576	95.993	0.299	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.88	
6	0.5723	962.6	979.7	979.2	0.109	3.567	96.003	0.299	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.05	
7	0.5722	962.7	979.7	979.3	0.108	3.562	96.008	0.299	0.014	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.15	
8	0.5722	962.6	979.7	979.3	0.108	3.566	96.006	0.298	0.014	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.08	
9	0.5722	962.6	979.7	979.2	0.106	3.568	96.006	0.297	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.08	
10	0.5722	962.7	979.7	979.3	0.107	3.564	96.009	0.297	0.014	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.15	
11	0.5723	962.4	979.4	979.1	0.106	3.595	95.979	0.297	0.014	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.60	
12	0.5723	962.5	979.6	979.2	0.105	3.578	95.997	0.297	0.014	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.91	
13	0.5722	962.6	979.6	979.2	0.106	3.574	96.001	0.297	0.014	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.97	
14	0.5722	962.6	979.6	979.2	0.106	3.572	96.004	0.296	0.014	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.02	
15	0.5722	962.7	979.7	979.2	0.106	3.564	96.010	0.297	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.16	
16	0.5722	962.6	979.7	979.3	0.106	3.567	96.008	0.297	0.014	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.11	
17	0.5727	961.5	978.6	978.3	0.106	3.685	95.888	0.297	0.015	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1293.03	
18	0.5722	962.7	979.8	979.4	0.107	3.560	96.014	0.297	0.014	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.22	
19	0.5722	962.8	979.8	979.4	0.107	3.556	96.018	0.298	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.31	
20	0.5722	962.8	979.8	979.5	0.106	3.552	96.021	0.298	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.38	
21	0.5722	962.7	979.7	979.4	0.106	3.564	96.010	0.297	0.014	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.14	
22	0.5722	962.7	979.7	979.3	0.107	3.561	96.013	0.297	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.21	
23	0.5725	962.6	979.6	979.2	0.108	3.596	95.947	0.324	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.68	
24	0.5728	963.5	980.5	980.3	0.114	3.559	95.905	0.393	0.021	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.58	
25	0.5722	962.6	979.6	979.3	0.106	3.572	96.003	0.297	0.014	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.02	
26	0.5722	962.7	979.7	979.4	0.107	3.562	96.011	0.298	0.014	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.18	
27	0.5722	962.7	979.7	979.4	0.107	3.561	96.011	0.298	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.19	
28	0.5722	962.7	979.7	979.4	0.107	3.563	96.010	0.298	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.17	
29	0.5722	962.8	979.8	979.4	0.107	3.554	96.018	0.299	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.33	
30	0.5722	962.7	979.8	979.4	0.107	3.557	96.015	0.298	0.014	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.26	
Avg	0.5732	964.0	980.8	980.4	0.115	3.580	95.834	0.431	0.031	0.008	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.48	

Gas Composition and Properties

Effective November 1, 2021

Source #: 2702230
Name: WATFORD CITY EAST BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	1.2414		3.0138
Nitrogen, N2	2.9765		4.5997
Methane, C1	86.4946		76.5456
Ethane, C2	8.7585	2.3419	14.5280
Propane, C3	0.4952	0.1364	1.2046
iso-Butane, iC4	0.0138	0.0045	0.0442
n-Butane, nC4	0.0200	0.0063	0.0641
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	2.4890	100.0000

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure	-76.397	
Cricondentherm	-67.916	
HV, Dry @ Base P, T	1047.02	
HV, Sat @ Base P, T	1028.80	
HV, Sat @ Sample P, T	1047.02	
Relative Density	0.6271	
C6+: 100		

Sample

Date: 11/01/2021 Type:

Tech: Joshua Tipton

Pressure: 465.000 psi Temp.: °F

Gauge: Gauge H2O:

Atm. Pressure: H2S:

Remarks:

Analysis

Date: Instrument:

 Cylinder: 387

Tech:

Remarks:

October-21

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	
11/1/2021	11/2/2021	0	0	0.00	4,324	4,971	1150.6	1150.600	11/1/2021
11/2/2021	11/3/2021	0	0	0.00	4,288	4,910	1146.5	1146.500	11/2/2021
11/3/2021	11/4/2021	0	0	0.00	3,532	3,953	1119.7	1119.700	11/3/2021
11/4/2021	11/5/2021	0	0	0.00	2,687	3,010	1120.6	1120.600	11/4/2021
11/5/2021	11/6/2021	0	0	0.00	2,435	2,731	1121.1	1121.100	11/5/2021
11/6/2021	11/7/2021	0	0	0.00	2,374	2,704	1138.5	1138.500	11/6/2021
11/7/2021	11/8/2021	0	0	0.00	2,677	3,015	1135.2	1135.200	11/7/2021
11/8/2021	11/9/2021	0	0	0.00	3,067	3,484	1133.8	1133.800	11/8/2021
11/9/2021	11/10/2021	0	0	0.00	2,547	2,914	1144.7	1144.700	11/9/2021
11/10/2021	11/11/2021	0	0	0.00	3,391	3,931	1158.8	1158.800	11/10/2021
11/11/2021	11/12/2021	0	0	0.00	5,124	5,891	1149.8	1149.800	11/11/2021
11/12/2021	11/13/2021	0	0	0.00	5,400	6,099	1129.2	1129.200	11/12/2021
11/13/2021	11/14/2021	0	0	0.00	4,389	4,962	1130.5	1130.500	11/13/2021
11/14/2021	11/15/2021	0	0	0.00	3,430	3,864	1126.7	1126.700	11/14/2021
11/15/2021	11/16/2021	0	0	0.00	3,088	3,594	1162.4	1162.400	11/15/2021
11/16/2021	11/17/2021	0	0	0.00	3,891	4,478	1161	1161.000	11/16/2021
11/17/2021	11/18/2021	0	0	0.00	6,044	6,657	1101.4	1101.400	11/17/2021
11/18/2021	11/19/2021	2,997	3,258	1087.40	4,892	5,433	1110.8	1101.910	11/18/2021
11/19/2021	11/20/2021	0	0	0.00	3,550	4,008	1131	1131.000	11/19/2021
11/20/2021	11/21/2021	0	0	0.00	4,117	4,524	1099.2	1099.200	11/20/2021
11/21/2021	11/22/2021	0	0	0.00	5,456	5,942	1089	1089.000	11/21/2021
11/22/2021	11/23/2021	0	0	0.00	3,906	4,346	1113	1113.000	11/22/2021
11/23/2021	11/24/2021	0	0	0.00	3,807	4,193	1103.4	1103.400	11/23/2021
11/24/2021	11/25/2021	0	0	0.00	6,447	7,300	1132.9	1132.900	11/24/2021
11/25/2021	11/26/2021	0	0	0.00	5,089	5,712	1122.6	1122.600	11/25/2021
11/26/2021	11/27/2021	0	0	0.00	3,060	3,521	1152.3	1152.300	11/26/2021
11/27/2021	11/28/2021	0	0	0.00	3,719	4,321	1160.5	1160.500	11/27/2021
11/28/2021	11/29/2021	0	0	0.00	3,134	3,672	1170.3	1170.300	11/28/2021
11/29/2021	11/30/2021	0	0	0.00	2,926	3,424	1172.6	1172.600	11/29/2021
11/30/2021	12/1/2021	0	0	0.00	3,418	3,978	1163.6	1163.600	11/30/2021



Alliance Pipeline

DAILY ANALYSIS --- USA
ND07MD1 --- Hankinson Sales
November 2021

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%	HeI Mol%
1	1,145.488	0.6540	85.1500	9.4157	3.0995	0.3388	0.5549	0.0632	0.0509	0.0259	0.9542	0.3376	0.0094
2	1,150.906	0.6576	84.8160	9.4610	3.3089	0.3675	0.6052	0.0652	0.0514	0.0254	0.9407	0.3489	0.0098
3	1,154.285	0.6595	84.5753	9.5259	3.5170	0.3656	0.5952	0.0629	0.0494	0.0243	0.9412	0.3336	0.0096
4	1,151.311	0.6572	84.8191	9.4495	3.4375	0.3464	0.5646	0.0576	0.0464	0.0224	0.9198	0.3269	0.0099
5	1,153.762	0.6595	84.5968	9.4583	3.5501	0.3569	0.5939	0.0640	0.0497	0.0221	0.9481	0.3493	0.0109
6	1,154.226	0.6592	84.6217	9.5216	3.5098	0.3605	0.5812	0.0662	0.0532	0.0257	0.9181	0.3325	0.0095
7	1,155.437	0.6606	84.4499	9.5384	3.5643	0.3659	0.6002	0.0697	0.0569	0.0293	0.9834	0.3323	0.0095
8	1,156.127	0.6606	84.5148	9.5184	3.5620	0.3696	0.6042	0.0726	0.0584	0.0297	0.9195	0.3413	0.0096
9	1,156.315	0.6602	84.5170	9.5857	3.5439	0.3667	0.5974	0.0698	0.0567	0.0281	0.8989	0.3262	0.0096
10	1,154.965	0.6595	84.6143	9.5034	3.5312	0.3629	0.5874	0.0684	0.0558	0.0282	0.9107	0.3282	0.0096
11	1,153.599	0.6588	84.6639	9.5037	3.4892	0.3559	0.5771	0.0658	0.0531	0.0276	0.9257	0.3284	0.0095
12	1,152.898	0.6583	84.6958	9.5053	3.4919	0.3485	0.5613	0.0627	0.0502	0.0253	0.9224	0.3271	0.0095
13	1,155.854	0.6604	84.4327	9.6133	3.5933	0.3580	0.5765	0.0659	0.0524	0.0271	0.9397	0.3320	0.0090
14	1,154.174	0.6596	84.5219	9.5782	3.5284	0.3566	0.5694	0.0663	0.0518	0.0267	0.9557	0.3358	0.0091
15	1,153.359	0.6590	84.5473	9.6136	3.5043	0.3490	0.5517	0.0633	0.0497	0.0256	0.9472	0.3389	0.0094
16	1,153.687	0.6592	84.4858	9.6822	3.5031	0.3426	0.5521	0.0621	0.0504	0.0251	0.9546	0.3326	0.0094
17	1,155.112	0.6599	84.3825	9.7815	3.5114	0.3429	0.5586	0.0641	0.0523	0.0274	0.9341	0.3357	0.0095
18	1,157.802	0.6613	84.1902	9.9570	3.5340	0.3505	0.5714	0.0667	0.0547	0.0287	0.9070	0.3304	0.0094
19	1,155.703	0.6600	84.3207	9.9085	3.4872	0.3422	0.5461	0.0629	0.0526	0.0282	0.9160	0.3263	0.0093
20	1,157.299	0.6610	84.2334	9.9070	3.5249	0.3520	0.5715	0.0671	0.0560	0.0299	0.9332	0.3157	0.0093
21	1,153.149	0.6583	84.4207	9.9450	3.4078	0.3240	0.5224	0.0561	0.0444	0.0237	0.9279	0.3188	0.0093
22	1,152.891	0.6581	84.4348	9.9633	3.3958	0.3204	0.5115	0.0560	0.0453	0.0241	0.9147	0.3247	0.0094
23	1,154.981	0.6609	84.0362	10.0962	3.5078	0.3263	0.5351	0.0571	0.0446	0.0228	1.0303	0.3345	0.0092
24	1,151.993	0.6573	84.5936	9.8525	3.3673	0.3244	0.5123	0.0565	0.0456	0.0241	0.8897	0.3246	0.0094
25	1,155.679	0.6598	84.3903	9.8222	3.5027	0.3433	0.5590	0.0629	0.0514	0.0281	0.9097	0.3210	0.0093
26	1,152.483	0.6589	84.3749	9.8519	3.4852	0.3258	0.5150	0.0538	0.0418	0.0211	0.9658	0.3554	0.0092
27	1,152.294	0.6579	84.6067	9.7228	3.4204	0.3396	0.5313	0.0588	0.0461	0.0220	0.8922	0.3513	0.0090
28	1,148.258	0.6551	85.0043	9.4650	3.3427	0.3266	0.5102	0.0542	0.0423	0.0212	0.8830	0.3413	0.0092
29	1,152.096	0.6578	84.6929	9.6171	3.4307	0.3429	0.5421	0.0587	0.0456	0.0242	0.8855	0.3510	0.0092
30	1,154.662	0.6596	84.4620	9.7023	3.5094	0.3529	0.5796	0.0566	0.0446	0.0232	0.9108	0.3494	0.0091
Volume	1,153.678	0.6590	84.5396	9.6691	3.4715	0.3474	0.5611	0.0625	0.0501	0.0256	0.9293	0.3344	0.0094
Weight Avg Energy	1,153.683	0.6590	84.5392	9.6693	3.4717	0.3474	0.5611	0.0626	0.0501	0.0256	0.9293	0.3344	0.0094



Alliance Pipeline

DAILY ANALYSIS --- USA
 ND14MD1 --- Milnor Sales
 November 2021

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	1,145.621	0.6543	85.1342	9.4179	3.1034	0.3419	0.5594	0.0627	0.0499	0.0252	0.9536	0.3423	0.0096
2	1,150.489	0.6573	84.8619	9.4365	3.2968	0.3664	0.6011	0.0653	0.0514	0.0260	0.9344	0.3503	0.0098
3	1,154.513	0.6597	84.5646	9.5235	3.5289	0.3669	0.5973	0.0625	0.0491	0.0242	0.9430	0.3306	0.0095
4	1,151.965	0.6578	84.7524	9.4718	3.4638	0.3486	0.5684	0.0584	0.0469	0.0227	0.9289	0.3282	0.0099
5	1,154.421	0.6601	84.5358	9.4810	3.5703	0.3599	0.6009	0.0642	0.0498	0.0224	0.9502	0.3545	0.0109
6	1,153.119	0.6586	84.7085	9.4566	3.4856	0.3577	0.5769	0.0663	0.0535	0.0258	0.9260	0.3335	0.0096
7	1,158.183	0.6628	84.2190	9.5963	3.6620	0.3768	0.6244	0.0741	0.0606	0.0313	1.0070	0.3392	0.0092
8	1,155.822	0.6603	84.5390	9.5289	3.5476	0.3675	0.5990	0.0715	0.0572	0.0289	0.9127	0.3382	0.0096
9	1,156.729	0.6605	84.4932	9.5975	3.5523	0.3690	0.6017	0.0698	0.0567	0.0284	0.8975	0.3243	0.0096
10	1,155.024	0.6596	84.6129	9.4973	3.5353	0.3641	0.5892	0.0681	0.0556	0.0281	0.9113	0.3284	0.0096
11	1,153.962	0.6590	84.6485	9.5086	3.4940	0.3591	0.5819	0.0663	0.0535	0.0279	0.9255	0.3252	0.0095
12	1,152.750	0.6582	84.7145	9.5017	3.4853	0.3477	0.5591	0.0626	0.0502	0.0253	0.9189	0.3254	0.0094
13	1,155.995	0.6606	84.4126	9.6306	3.5953	0.3579	0.5761	0.0659	0.0524	0.0272	0.9419	0.3311	0.0090
14	1,154.125	0.6596	84.5293	9.5711	3.5306	0.3553	0.5676	0.0667	0.0524	0.0269	0.9565	0.3345	0.0091
15	1,153.387	0.6591	84.5401	9.6242	3.5029	0.3484	0.5513	0.0630	0.0496	0.0255	0.9468	0.3387	0.0094
16	1,153.604	0.6591	84.4971	9.6885	3.4950	0.3418	0.5502	0.0618	0.0502	0.0252	0.9501	0.3307	0.0094
17	1,155.518	0.6602	84.3533	9.8143	3.5087	0.3441	0.5607	0.0647	0.0529	0.0279	0.9279	0.3359	0.0095
18	1,157.709	0.6613	84.1833	9.9674	3.5325	0.3490	0.5688	0.0662	0.0544	0.0286	0.9103	0.3301	0.0094
19	1,155.941	0.6602	84.3098	9.9062	3.4946	0.3440	0.5492	0.0633	0.0530	0.0284	0.9181	0.3242	0.0093
20	1,157.422	0.6612	84.2228	9.9112	3.5235	0.3526	0.5731	0.0680	0.0571	0.0308	0.9352	0.3166	0.0092
21	1,153.051	0.6583	84.4279	9.9539	3.4019	0.3221	0.5189	0.0559	0.0443	0.0240	0.9215	0.3204	0.0093
22	1,153.049	0.6583	84.4251	9.9690	3.3985	0.3210	0.5135	0.0561	0.0453	0.0240	0.9144	0.3237	0.0094
23	1,154.388	0.6604	84.1040	10.0712	3.4863	0.3242	0.5291	0.0567	0.0444	0.0229	1.0179	0.3343	0.0092
24	1,152.292	0.6575	84.5568	9.8966	3.3668	0.3236	0.5105	0.0559	0.0454	0.0244	0.8881	0.3226	0.0093
25	1,155.479	0.6598	84.3807	9.8277	3.5063	0.3416	0.5551	0.0621	0.0505	0.0275	0.9170	0.3223	0.0093
26	1,152.045	0.6586	84.4239	9.8270	3.4683	0.3255	0.5133	0.0539	0.0419	0.0210	0.9587	0.3573	0.0092
27	1,152.316	0.6580	84.6112	9.7144	3.4222	0.3400	0.5321	0.0590	0.0464	0.0223	0.8914	0.3520	0.0089
28	1,147.325	0.6547	85.0884	9.3950	3.3245	0.3254	0.5098	0.0540	0.0418	0.0213	0.8847	0.3458	0.0093
29	1,152.518	0.6580	84.6574	9.6494	3.4379	0.3434	0.5420	0.0587	0.0458	0.0243	0.8828	0.3491	0.0092
30	1,154.441	0.6594	84.4951	9.7051	3.4895	0.3519	0.5763	0.0569	0.0450	0.0235	0.8995	0.3481	0.0091
Volume	1,153.589	0.6589	84.5543	9.6632	3.4619	0.3484	0.5632	0.0625	0.0501	0.0257	0.9271	0.3341	0.0094
Weight Avg Energy	1,153.599	0.6589	84.5535	9.6637	3.4621	0.3485	0.5633	0.0626	0.0501	0.0257	0.9271	0.3341	0.0094

November-21

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		
11/1/2021	11/2/2021	432	522	1207.9	632	662	1047	1112.328	11/1/2021
11/2/2021	11/3/2021	402	486	1207.9	513	537	1047	1117.690	11/2/2021
11/3/2021	11/4/2021	348	420	1207.9	423	442	1047	1119.624	11/3/2021
11/4/2021	11/5/2021	238	288	1207.9	223	233	1047	1130.068	11/4/2021
11/5/2021	11/6/2021	259	312	1207.9	261	273	1047	1127.141	11/5/2021
11/6/2021	11/7/2021	263	317	1207.9	280	293	1047	1124.931	11/6/2021
11/7/2021	11/8/2021	335	404	1207.9	406	425	1047	1119.742	11/7/2021
11/8/2021	11/9/2021	350	423	1207.9	421	441	1047	1120.042	11/8/2021
11/9/2021	11/10/2021	301	364	1207.9	288	302	1047	1129.226	11/9/2021
11/10/2021	11/11/2021	374	451	1207.9	447	468	1047	1120.297	11/10/2021
11/11/2021	11/12/2021	495	598	1207.9	751	786	1047	1110.921	11/11/2021
11/12/2021	11/13/2021	448	541	1207.9	623	652	1047	1114.305	11/12/2021
11/13/2021	11/14/2021	402	486	1207.9	499	522	1047	1118.789	11/13/2021
11/14/2021	11/15/2021	347	419	1207.9	468	490	1047	1115.506	11/14/2021
11/15/2021	11/16/2021	270	326	1207.9	298	312	1047	1123.484	11/15/2021
11/16/2021	11/17/2021	442	534	1207.9	581	608	1047	1116.519	11/16/2021
11/17/2021	11/18/2021	557	673	1207.9	854	894	1047	1110.516	11/17/2021
11/18/2021	11/19/2021	357	431	1207.9	747	782	1047	1099.030	11/18/2021
11/19/2021	11/20/2021	271	328	1207.9	602	631	1047	1096.947	11/19/2021
11/20/2021	11/21/2021	301	364	1207.9	705	738	1047	1095.142	11/20/2021
11/21/2021	11/22/2021	376	454	1207.9	832	871	1047	1097.081	11/21/2021
11/22/2021	11/23/2021	263	317	1207.9	572	599	1047	1097.679	11/22/2021
11/23/2021	11/24/2021	291	351	1207.9	612	640	1047	1098.851	11/23/2021
11/24/2021	11/25/2021	503	608	1207.9	973	1,018	1047	1101.832	11/24/2021
11/25/2021	11/26/2021	297	359	1207.9	616	645	1047	1099.341	11/25/2021
11/26/2021	11/27/2021	206	249	1207.9	475	497	1047	1095.672	11/26/2021
11/27/2021	11/28/2021	291	351	1207.9	633	662	1047	1097.673	11/27/2021
11/28/2021	11/29/2021	211	255	1207.9	482	504	1047	1095.990	11/28/2021
11/29/2021	11/30/2021	233	282	1207.9	570	596	1047	1093.687	11/29/2021
11/30/2021	12/1/2021	252	304	1207.9	609	637	1047	1094.093	11/30/2021
		10,115	12,217	1207.9000	16,396	17,160	1047.0000	1109.8049	

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	11/1/2021 0:00	12/1/2021 0:00	GLNU1 - GLEN ULLIN	11/1/2021	11/2/2021	1089	0.6433	-48.9	1357.754041	1.0275	2.3079	83.4579	11.9022	1.1018	0.0227	0.0383	0.001	0.0004	N/A	0	0.117	0.0236	0.3827	0.0792	0.0502	0.0008
NBPL	11/1/2021 0:00	12/1/2021 0:00	GLNU1 - GLEN ULLIN	11/2/2021	11/3/2021	1084	0.6393	-51	1355.741624	0.9994	2.2697	83.95	11.4243	1.0262	0.0225	0.0412	0.0017	0.0014	N/A	0.0001	0.2407	0.0229	0.3987	0.0758	0.0481	0.0008
NBPL	11/1/2021 0:00	12/1/2021 0:00	GLNU1 - GLEN ULLIN	11/3/2021	11/4/2021	1083	0.6397	-50.7	1354.067397	1.0201	2.3232	84.0282	11.2539	1.0778	0.0246	0.0449	0.0016	0.0013	N/A	0	0.2015	0.0232	0.405	0.0785	0.0492	0.0008
NBPL	11/1/2021 0:00	12/1/2021 0:00	GLNU1 - GLEN ULLIN	11/4/2021	11/5/2021	1073	0.6344	-55.5	1347.15676	1.0388	2.3702	84.9767	10.3737	0.9765	0.0195	0.0327	0.0002	0.0002	N/A	0	0.1951	0.0235	0.4132	0.0864	0.0564	0.0008
NBPL	11/1/2021 0:00	12/1/2021 0:00	GLNU1 - GLEN ULLIN	11/5/2021	11/6/2021	1070	0.6325	-57	1345.406473	1.0393	2.4011	85.3648	9.9515	0.9718	0.0193	0.0321	0	0.0001	N/A	0	0.1963	0.0238	0.4219	0.0811	0.0548	0.0008
NBPL	11/1/2021 0:00	12/1/2021 0:00	GLNU1 - GLEN ULLIN	11/6/2021	11/7/2021	1069	0.6322	-56.3	1344.467968	1.0311	2.415	85.6609	9.6376	1.0541	0.0229	0.0406	0.0001	0.0001	N/A	0.0002	0.1236	0.024	0.405	0.0814	0.0534	0.0008
NBPL	11/1/2021 0:00	12/1/2021 0:00	GLNU1 - GLEN ULLIN	11/7/2021	11/8/2021	1058	0.6252	-61.8	1338.061833	1.0466	2.4057	86.9589	8.3484	1.003	0.0194	0.0317	0	0	N/A	0	0.1624	0.0241	0.4163	0.0754	0.0492	0.0008
NBPL	11/1/2021 0:00	12/1/2021 0:00	GLNU1 - GLEN ULLIN	11/8/2021	11/9/2021	1057	0.6252	-62.3	1336.797124	1.0583	2.4264	86.8572	8.4237	0.9681	0.0174	0.0283	0	0	N/A	0	0.1967	0.024	0.4303	0.0735	0.048	0.0008
NBPL	11/1/2021 0:00	12/1/2021 0:00	GLNU1 - GLEN ULLIN	11/9/2021	11/10/2021	1055	0.6242	-62.8	1335.386061	1.0656	2.4814	87.0788	8.1041	0.9918	0.0183	0.0307	0	0	N/A	0	0.2049	0.0244	0.4267	0.0719	0.0503	0.0008
NBPL	11/1/2021 0:00	12/1/2021 0:00	GLNU1 - GLEN ULLIN	11/10/2021	11/11/2021	1055	0.624	-62.6	1335.550004	1.048	2.4559	87.2291	7.9957	1.029	0.0198	0.0328	0	0	N/A	0	0.1654	0.0244	0.4075	0.0726	0.0507	0.0008
NBPL	11/1/2021 0:00	12/1/2021 0:00	GLNU1 - GLEN ULLIN	11/11/2021	11/12/2021	1054	0.6226	-63.8	1335.783433	1.0263	2.4267	87.33	7.9647	0.9656	0.0185	0.0304	0	0	N/A	0	0.2133	0.0245	0.3801	0.0856	0.0536	0.0008
NBPL	11/1/2021 0:00	12/1/2021 0:00	GLNU1 - GLEN ULLIN	11/12/2021	11/13/2021	1054	0.6226	-63.8	1335.783433	1.0265	2.4268	87.3245	7.9699	0.9661	0.0185	0.0304	0	0	N/A	0	0.2128	0.0245	0.3769	0.0893	0.0539	0.0008
NBPL	11/1/2021 0:00	12/1/2021 0:00	GLNU1 - GLEN ULLIN	11/13/2021	11/14/2021	1054	0.6226	-63.8	1335.783433	1.0265	2.4268	87.3245	7.9699	0.9661	0.0185	0.0304	0	0	N/A	0	0.2128	0.0245	0.4187	0.0902	0.057	0.0008
NBPL	11/1/2021 0:00	12/1/2021 0:00	GLNU1 - GLEN ULLIN	11/14/2021	11/15/2021	1054	0.6226	-63.8	1335.783433	1.0265	2.4268	87.3245	7.9699	0.9661	0.0185	0.0304	0	0	N/A	0	0.2128	0.0245	0.4339	0.0981	0.0636	0.0008
NBPL	11/1/2021 0:00	12/1/2021 0:00	GLNU1 - GLEN ULLIN	11/15/2021	11/16/2021	1054	0.6226	-63.8	1335.783433	1.0265	2.4268	87.3245	7.9699	0.9661	0.0185	0.0304	0	0	N/A	0	0.2128	0.0245	0.4394	0.1005	0.0647	0.0008
NBPL	11/1/2021 0:00	12/1/2021 0:00	GLNU1 - GLEN ULLIN	11/16/2021	11/17/2021	1054	0.6226	-63.8	1335.783433	1.0265	2.4268	87.3245	7.9699	0.9661	0.0185	0.0304	0	0	N/A	0	0.2128	0.0245	0.4072	0.0896	0.0528	0.0008
NBPL	11/1/2021 0:00	12/1/2021 0:00	GLNU1 - GLEN ULLIN	11/17/2021	11/18/2021	1054	0.6226	-63.8	1335.783433	1.0265	2.4268	87.3245	7.9699	0.9661	0.0185	0.0304	0	0	N/A	0	0.2128	0.0245	0.3916	0.0787	0.0449	0.0008
NBPL	11/1/2021 0:00	12/1/2021 0:00	GLNU1 - GLEN ULLIN	11/18/2021	11/19/2021	1054	0.6226	-63.8	1335.783433	1.0265	2.4268	87.3245	7.9699	0.9661	0.0185	0.0304	0	0	N/A	0	0.2128	0.0245	0.4195	0.0811	0.0469	0.0008
NBPL	11/1/2021 0:00	12/1/2021 0:00	GLNU1 - GLEN ULLIN	11/19/2021	11/20/2021	1054	0.6226	-63.8	1335.783433	1.0265	2.4268	87.3245	7.9699	0.9661	0.0185	0.0304	0	0	N/A	0	0.2128	0.0245	0.4196	0.0806	0.0467	0.0008
NBPL	11/1/2021 0:00	12/1/2021 0:00	GLNU1 - GLEN ULLIN	11/20/2021	11/21/2021	1054	0.6226	-63.8	1335.783433	1.0265	2.4268	87.3245	7.9699	0.9661	0.0185	0.0304	0	0	N/A	0	0.2128	0.0245	0.4144	0.0899	0.0509	0.0008
NBPL	11/1/2021 0:00	12/1/2021 0:00	GLNU1 - GLEN ULLIN	11/21/2021	11/22/2021	1054	0.6226	-63.8	1335.783433	1.0265	2.4268	87.3245	7.9699	0.9661	0.0185	0.0304	0	0	N/A	0	0.2128	0.0245	0.4176	0.0881	0.0497	0.0008
NBPL	11/1/2021 0:00	12/1/2021 0:00	GLNU1 - GLEN ULLIN	11/22/2021	11/23/2021	1054	0.6226	-63.8	1335.783433	1.0265	2.4268	87.3245	7.9699	0.9661	0.0185	0.0304	0	0	N/A	0	0.2128	0.0245	0.4494	0.0878	0.0484	0.0008
NBPL	11/1/2021 0:00	12/1/2021 0:00	GLNU1 - GLEN ULLIN	11/23/2021	11/24/2021	1054	0.6226	-63.8	1335.783433	1.0265	2.4268	87.3245	7.9699	0.9661	0.0185	0.0304	0	0	N/A	0	0.2128	0.0245	0.4269	0.0776	0.044	0.0008
NBPL	11/1/2021 0:00	12/1/2021 0:00	GLNU1 - GLEN ULLIN	11/24/2021	11/25/2021	1054	0.6226	-63.8	1335.783433	1.0265	2.4268	87.3245	7.9699	0.9661	0.0185	0.0304	0	0	N/A	0	0.2128	0.0245	0.3873	0.0703	0.0378	0.0008
NBPL	11/1/2021 0:00	12/1/2021 0:00	GLNU1 - GLEN ULLIN	11/25/2021	11/26/2021	1054	0.6226	-63.8	1335.783433	1.0265	2.4268	87.3245	7.9699	0.9661	0.0185	0.0304	0	0	N/A	0	0.2128	0.0245	0.4138	0.0734	0.0406	0.0008
NBPL	11/1/2021 0:00	12/1/2021 0:00	GLNU1 - GLEN ULLIN	11/26/2021	11/27/2021	1054	0.6226	-63.8	1335.783433	1.0265	2.4268	87.3245	7.9699	0.9661	0.0185	0.0304	0	0	N/A	0	0.2128	0.0245	0.4317	0.0679	0.0409	0.0008
NBPL	11/1/2021 0:00	12/1/2021 0:00	GLNU1 - GLEN ULLIN	11/27/2021	11/28/2021	1054	0.6226	-63.8	1335.783433	1.0265	2.4268	87.3245	7.9699	0.9661	0.0185	0.0304	0	0	N/A	0	0.2128	0.0245	0.436	0.0634	0.0395	0.0008
NBPL	11/1/2021 0:00	12/1/2021 0:00	GLNU1 - GLEN ULLIN	11/28/2021	11/29/2021	1054	0.6226	-63.8	1335.783433	1.0265	2.4268	87.3245	7.9699	0.9661	0.0185	0.0304	0	0	N/A	0	0.2128	0.0245	0.4377	0.0895	0.0506	0.0008
NBPL	11/1/2021 0:00	12/1/2021 0:00	GLNU1 - GLEN ULLIN	11/29/2021	11/30/2021	1054	0.6226	-63.8	1335.783433	1.0265	2.4268	87.3245	7.9699	0.9661	0.0185	0.0304	0	0	N/A	0	0.2128	0.0245	0.4471	0.091	0.0529	0.0008
NBPL	11/1/2021 0:00	12/1/2021 0:00	GLNU1 - GLEN ULLIN	11/30/2021	12/1/2021	1054	0.6226	-63.8	1335.783433	1.0265	2.4268	87.3245	7.9699	0.9661	0.0185	0.0304	0	0	N/A	0	0.2128	0.0245	0.4441	0.1009	0.0514	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	NOV21	OCT21	SEP21	AUG21	JUL21	JUN 21	MAY 21	APR 21	MAR 21	FEB 21	JAN 21	DEC 20	ZONE
MT/ND	211	Sidney Border - MonDak Tfr - Sidney Plt	1203	1208	1201	1213	1216	1210	1152	1204	1198	1208	1206	1209	1207	211
ND	24	Williston Border - Charbonneau Station	1170	1161	1159	1167	1173	1172	1164	1168	1167	1176	1176	1177	1175	24
ND	25	Watford City West Border	1201	1208	1206	1205	1211	1203	1199	1202	1199	1194	1194	1195	1195	25
ND	28	Bismarck Station - Glen Ullin Station	1159	1135	1185	1196	1202	1200	1202	1161	1117	1148	1110	1121	1135	28
ND	31	Dickinson Brd - Belfield Trf - G Ullin Stn	1139	1141	1141	1130	1191	1123	1129	1160	1154	1127	1113	1122	1131	31
ND/MT	32	Cabin Creek Station - Belfied Transfer	1125	1129	1132	1136	1162	1135	1127	1122	1124	1121	1091	1105	1119	32
ND	33	Little Knife Plant	1177	1182	1177	1179	1182	1184	1179	1175	1173	1172	1171	1172	1172	33
ND	34	Badlands Plant/Bowman Border	1034	981	1022	1059	1025	980	980	989	981	1040	1079	1172	1094	34
ND	43	Watford City East Border	1101	1047	1060	1062	1088	1109	1119	1123	1119	1126	1106	1104	1147	43
ND/MT	241	Fairview Border	1192	1197	1162	1193	1201	1213	1185	1173	1185	1198	1204	1192	1195	241
ND	260	North Tioga Transfer - Nesson Plant	1150	1137	1135	1145	1159	1167	1153	1159	1148	1160	1149	1144	1142	260
ND	261	Tioga Comp Station - Robinson Lake Plan	1183	1176	1197	1192	1194	1196	1195	1193	1180	1173	1171	1168	1166	261
ND	262	Minot Bdr - Palermo Bdr - Bismarck Stn	1195	1198	1211	1203	1202	1200	1203	1195	1189	1191	1187	1184	1181	262
ND	263	Lignite Plant	1137	1131	1131	1134	1129	1143	1147	1137	1147	1148	1125	1133	1134	263
ND	264	Epping Border	1163	1152	1145	1164	1167	1172	1165	1163	1165	1168	1168	1167	1165	264
ND	265	Tioga Comp Station - County Line Plant	1167	1159	1166	1165	1163	1166	1165	1172	1170	1172	1171	1168	1166	265
ND	266	County Line Plant	1173	1183	1174	1185	1175	1174	1169	1171	1169	1174	1176	1164	1166	266
ND	271	Bismarck Station - Cleveland Station	1192	1198	1208	1197	1202	1200	1202	1196	1186	1191	1165	1180	1179	271
ND	272	Cleveland Station - Mapleton	1192	1198	1211	1196	1202	1199	1200	1196	1185	1190	1165	1179	1178	272
ND	273	Cleveland Station - Grafton Border	1191	1198	1210	1195	1202	1200	1200	1195	1184	1189	1164	1179	1178	273
ND	550	Mandan Border / NBPL-St Anthony	1155	1135	1173	1196	1196	1190	1182	1161	1120	1148	1110	1121	1133	550
ND	610	MDU-Watford City BTU	1135	1110	1130	1098	1106	1121	1132	1162	1158	1158	1141	1140	1167	610
ND	802	NBPL - Linton	1095	1086	1089	1094	1090	1089	1090	1094	1093	1099	1101	1103	1111	802
ND	903	Hettinger Propane	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	903
ND	600	Alliance Pipeline - Hankinson	1154	1158	1158	1158	1153	1156	1157	1158	1154	1150	1146	1148	1155	600
ND	601	Alliance Pipeline - Milnor	1154	1157	1158	1158	1153	1156	1157	1158	1154	1150	1146	1148	1155	602

THERMAL ZONE VARIANCE DOCUMENTATION		
November 2021		
<i>ZONE</i>	<i>BTU VARIANCE</i>	<i>REASON</i>
28	-50	Direction/Blend
550	-38	Blend
34	-41	Blend
261	-21	Operational