



UTILITIES CO.

A Subsidiary of MDU Resources Group, Inc.

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

January 13, 2019

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

Re: Case No. PU-19-002 (Therm Billing)  
Monthly Report – November 2019

Montana-Dakota Utilities Co., a Subsidiary of MDU Resources Group, Inc., herewith 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 2019.
2. Attachment B consists of copies of the monthly Heating Value Test Reports received from our suppliers for the month of November 2019.
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 2019.

Please acknowledge receipt by stamping or initialing the duplicate copy of this letter attached hereto and returning the same in the enclosed self-addressed, stamped envelope. Should the Commission or its Staff have any comments or questions with respect to these reports, please call me.

Sincerely,

A handwritten signature in blue ink that reads 'Tamie Aberle'.

Tamie Aberle  
Director of Regulatory Affairs

**Montana-Dakota Utilities Co.**  
**Therm Billing Factors - North Dakota**  
**Dec-19**

Town	Heat Zone	Therm Factor
MDU-303-ALEXANDER	025	1.1325
MDU-308-ARNEGARD	025	1.1325
MDU-314-APPLE VALLEY	271	1.1472
MDU-318-BEACH	032	1.0480
MDU-319-BELFIELD	032	1.0557
MDU-323-BERTHOLD	262	1.1287
MDU-324-BEULAH	032	1.0557
MDU-327-BISMARCK	028	1.0971
MDU-330-BOWMAN	034	0.9883
MDU-337-BURLINGTON	262	1.1530
MDU-343-CARRINGTON	273	1.1463
MDU-344-CLEVELAND	272	1.1382
MDU-364-CAVALIER	273	1.1705
MDU-365-DAWSON	271	1.1392
MDU-368-DES LACS	262	1.1368
MDU-369-DICKINSON	031	1.0662
MDU-374-FT TOTTEN	273	1.1543
MDU-375-DEVILS LAKE	273	1.1543
MDU-379-BARLOW	273	1.1463
MDU-384-EPPING	264	1.0994
MDU-387-ELDRIDGE	272	1.1463
MDU-407-GLADSTONE	031	1.0662
MDU-411-GLEN ULLIN	031	1.0370
MDU-413-GOLVA	032	1.0326
MDU-416-GARRISON	262	1.1368
MDU-417-GRAFTON	273	1.1785
MDU-403-GWINNER	601	1.1527
MDU-429-HEBRON	031	1.0739
MDU-432-HETTINGER	903	2.3875
MDU-449-JAMESTOWN	272	1.1543
MDU-459-KILLDEER	033	1.1079
MDU-463-LANGDON	273	1.1463
MDU-469-LEFOR	031	1.0662
MDU-474-LIGNITE	263	1.0902
MDU-475-LINTON	802	1.0594
MDU-478-LINCOLN	028	1.0971
MDU-488-MCKENZIE	271	1.1472
MDU-494-MEDINA	271	1.1392
MDU-498-MANDAN	028	1.0971
MDU-500-MARMARTH	034	0.9740
MDU-505-MINOT	262	1.1530
MDU-510-MOTT	031	1.0662
MDU-512-MAX	262	1.1268
MDU-513-MILNOR	601	1.1527
MDU-522-NEW ENGLAND	031	1.0585
MDU-524-NEW SALEM	028	1.0739
MDU-532-NEW ROCKFORD	273	1.1463
MDU-539-PARK RIVER	273	1.1705
MDU-540-PALERMO	262	1.1287

MDU-558-RAY	264	1.0805 ✓
MDU-561-REGENT	031	1.0662 ✓
MDU-563-RHAME	034	0.9597 ✓
MDU-564-RICHARDTON	031	1.0585 ✓
MDU-568-ROSS	261	1.1009 ✓
MDU-572-RUTHVILLE	262	1.1530 ✓
MDU-574-SANBORN	272	1.1543 ✓
MDU-583-SENTINEL BUTTE	032	1.0480 ✓
MDU-588-SOUTH HEART	031	1.0585 ✓
MDU-717-SPIRITWOOD	272	1.1543 ✓
MDU-590-SPRINGBROOK	264	1.0805 ✓
MDU-591-STANLEY	261	1.1168 ✓
MDU-593-STEELE	271	1.1392 ✓
MDU-594-STERLING	028	1.0971 ✓
MDU-598-SHEYENNE	273	1.1543 ✓
MDU-605-SURREY	262	1.1530 ✓
MDU-610-TAPPEN	271	1.1392 ✓
MDU-611-TAYLOR	031	1.0585 ✓
MDU-616-TIOGA	260	1.0559 ✓
MDU-619-TURTLE LAKE	262	1.1368 ✓
MDU-620-TRENTON	024	1.1035 ✓
MDU-624-UNDERWOOD	262	1.1368 ✓
MDU-625-VALLEY CITY	272	1.1624 ✓
MDU-629-WALHALLA	273	1.1705 ✓
MDU-632-WATFORD CITY	610	1.1088 ✓
MDU-636-WHEELOCK	264	1.0727 ✓
MDU-637-WHITE EARTH	261	1.1230 ✓
MDU-642-WILLISTON	024	1.1035 ✓
MDU-646-WASHBURN	262	1.1449 ✓
MDU-647-WILTON	262	1.1287 ✓
MDU-664-RIVERDALE	262	1.1349 ✓
MDU-691-FAIRVIEW	241	1.1492 ✓
MDU-712-MINOT AFB	262	1.1492 ✓
MDU-718-FAIRMOUNT	600	1.1503 ✓
MDU-732-NEKOMA	273	1.1463 ✓
MDU-732-MSR SITE	273	1.1463 ✓

# Source Daily Summary

November 2019

Number: 251

Pressure Base: 14.730

Contract Day: 1

Name: SDNY BDR-MNDK JNCTN-SDNY PLT

Temperature Base:

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	0.7131	1176.3	1197.1	1193.7	0.435	3.299	70.326	23.273	2.530	0.049	0.081	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1414.41
2	0.7061	1173.5	1194.3	1191.0	0.120	3.293	71.161	22.937	2.437	0.023	0.028	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1417.94
3	0.7043	1171.3	1192.0	1188.8	0.123	3.252	71.440	22.800	2.337	0.021	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.10
4	0.7041	1173.0	1193.7	1190.5	0.116	3.142	71.595	22.655	2.443	0.022	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.31
5	0.7059	1175.0	1195.8	1192.6	0.114	3.192	71.328	22.765	2.548	0.024	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.94
6	0.7104	1182.3	1203.2	1199.8	0.111	3.172	71.169	22.372	2.973	0.060	0.121	0.010	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1424.05
7	0.7071	1176.9	1197.7	1194.5	0.111	3.192	71.173	22.830	2.638	0.025	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.04
8	0.7072	1176.8	1197.7	1194.4	0.113	3.203	71.086	22.975	2.569	0.024	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.85
9	0.7053	1173.0	1193.8	1190.6	0.118	3.245	71.404	22.681	2.501	0.023	0.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.22
10	0.7085	1179.3	1200.1	1196.9	0.116	3.163	71.382	22.297	2.887	0.049	0.089	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1422.46
11	0.7183	1195.0	1216.2	1212.6	0.110	3.134	70.501	22.363	3.518	0.102	0.226	0.022	0.024	0.000	0.000	0.000	0.000	0.000	0.000	1431.36
12	0.7071	1176.7	1197.6	1194.3	0.121	3.189	70.991	23.194	2.460	0.021	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.82
13	0.7059	1173.0	1193.7	1190.5	0.114	3.311	71.153	22.983	2.394	0.021	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.54
14	0.7030	1168.7	1189.4	1186.2	0.102	3.318	71.632	22.597	2.310	0.019	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1415.31
15	0.7033	1170.9	1191.7	1188.5	0.110	3.203	71.650	22.619	2.378	0.019	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.64
16	0.7075	1176.0	1196.8	1193.6	0.119	3.275	70.967	23.058	2.536	0.021	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.52
17	0.7052	1171.5	1192.2	1189.0	0.113	3.338	71.210	22.977	2.317	0.020	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1416.45
18	0.7104	1167.3	1188.0	1196.6	0.223	3.205	70.621	23.280	2.585	0.034	0.049	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1420.33
19	0.7063	1175.7	1196.5	1193.3	0.112	3.191	71.287	22.763	2.593	0.024	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.34
20	0.7039	1168.5	1189.2	1186.0	0.183	3.292	71.655	22.428	2.378	0.027	0.036	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1414.16
21	0.7074	1177.0	1197.8	1194.7	0.113	3.205	71.141	22.829	2.660	0.025	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.93
22	0.7033	1170.4	1191.1	1187.9	0.111	3.232	71.647	22.620	2.335	0.023	0.031	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1417.00
23	0.7041	1171.5	1192.3	1189.1	0.112	3.234	71.483	22.772	2.353	0.021	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.62
24	0.7015	1167.8	1188.4	1185.3	0.110	3.220	71.910	22.466	2.252	0.019	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1415.69
25	0.7267	1184.1	1205.0	1201.7	0.848	3.468	68.911	23.317	3.149	0.105	0.185	0.009	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1410.41
26	0.7384	1190.3	1211.4	1207.9	1.251	3.577	67.314	24.071	3.400	0.132	0.235	0.011	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1406.40
27	0.7415	1191.1	1212.2	1208.7	1.371	3.635	66.821	24.360	3.425	0.132	0.235	0.011	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1404.36
28	0.7403	1189.2	1210.3	1206.8	1.372	3.636	67.027	24.209	3.362	0.134	0.240	0.011	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1403.24
29	0.7405	1189.7	1210.8	1207.3	1.367	3.633	66.891	24.453	3.252	0.137	0.246	0.012	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1403.64
30	0.7398	1188.2	1209.2	1205.7	1.371	3.652	67.210	23.917	3.464	0.132	0.234	0.011	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1402.50
Avg	0.7129	1177.0	1198.2	1195.3	0.360	3.303	70.470	23.029	2.700	0.050	0.081	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1416.35

Zone 211

# Source Daily Summary

November 2019

Number: 571

Pressure Base: 14.730

Contract Day: 1

Name: WILLISTON BDR-CHARBN STN

Temperature Base:

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	0.6982	1151.8	1172.2	1168.8	0.889	2.688	74.397	19.158	2.522	0.095	0.210	0.018	0.023	0.000	0.000	0.000	0.000	0.000	0.000	1399.46
2	0.7012	1153.3	1173.8	1170.4	0.900	2.858	73.780	19.575	2.535	0.100	0.214	0.017	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1398.41
3	0.7016	1154.0	1174.5	1171.1	0.911	2.840	73.738	19.611	2.539	0.102	0.219	0.018	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1398.78
4	0.7026	1155.7	1176.2	1172.8	0.916	2.824	73.551	19.795	2.553	0.102	0.220	0.018	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1399.85
5	0.7047	1157.6	1178.1	1174.8	0.934	2.880	73.245	19.925	2.639	0.106	0.230	0.019	0.023	0.000	0.000	0.000	0.000	0.000	0.000	1400.04
6	0.7058	1160.5	1181.1	1177.7	0.926	2.812	73.147	20.006	2.722	0.108	0.234	0.020	0.024	0.000	0.000	0.000	0.000	0.000	0.000	1402.47
7	0.7053	1159.6	1180.1	1176.8	0.952	2.790	73.194	19.997	2.698	0.104	0.224	0.018	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1401.80
8	0.7060	1159.0	1179.5	1176.2	0.934	2.919	73.022	20.036	2.728	0.102	0.219	0.017	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1400.39
9	0.7063	1158.6	1179.1	1175.7	0.928	2.976	73.056	19.870	2.798	0.106	0.226	0.018	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1399.64
10	0.7046	1157.5	1178.0	1174.6	0.914	2.904	73.281	19.828	2.718	0.102	0.216	0.017	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1400.02
11	0.7046	1158.8	1179.3	1175.9	0.919	2.824	73.339	19.813	2.743	0.103	0.220	0.018	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1401.47
12	0.7060	1161.2	1181.8	1178.4	0.908	2.814	73.137	19.990	2.763	0.108	0.236	0.020	0.024	0.000	0.000	0.000	0.000	0.000	0.000	1403.12
13	0.7035	1157.7	1178.2	1174.8	0.924	2.774	73.427	19.927	2.593	0.099	0.214	0.018	0.023	0.000	0.000	0.000	0.000	0.000	0.000	1401.32
14	0.7026	1156.6	1177.1	1173.8	0.922	2.757	73.555	19.847	2.574	0.097	0.208	0.017	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1400.97
15	0.7016	1155.9	1176.4	1173.1	0.920	2.710	73.653	19.886	2.502	0.093	0.200	0.016	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1401.15
16	0.7012	1155.5	1176.0	1172.8	0.904	2.719	73.687	19.860	2.522	0.090	0.188	0.014	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1401.13
17	0.7004	1153.7	1174.1	1170.9	0.900	2.770	73.769	19.787	2.470	0.087	0.184	0.015	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1399.60
18	0.7001	1153.1	1173.5	1170.3	0.904	2.774	73.793	19.785	2.448	0.084	0.179	0.014	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1399.15
19	0.7045	1158.1	1178.6	1175.3	0.921	2.848	73.206	20.046	2.640	0.095	0.205	0.017	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1400.87
20	0.7026	1155.6	1176.0	1172.7	0.914	2.838	73.537	19.791	2.573	0.097	0.211	0.018	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1399.63
21	0.7011	1154.9	1175.3	1171.9	0.914	2.742	73.778	19.724	2.502	0.095	0.205	0.018	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1400.22
22	0.6996	1153.9	1174.4	1171.1	0.923	2.638	73.962	19.759	2.398	0.089	0.193	0.017	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1400.72
23	0.7008	1155.4	1175.9	1172.6	0.935	2.645	73.821	19.805	2.451	0.095	0.207	0.018	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1401.28
24	0.7005	1154.3	1174.7	1171.5	0.939	2.676	73.867	19.725	2.459	0.094	0.201	0.017	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1400.29
25	0.7000	1154.6	1175.0	1171.8	0.935	2.624	73.959	19.694	2.455	0.093	0.202	0.017	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1401.07
26	0.6941	1145.0	1165.3	1162.1	0.889	2.716	74.980	18.744	2.355	0.090	0.191	0.016	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1395.40
27	0.7018	1157.0	1177.4	1174.0	0.932	2.647	73.942	19.457	2.611	0.109	0.246	0.024	0.030	0.000	0.000	0.000	0.000	0.000	0.000	1402.06
28	0.7049	1161.7	1182.3	1178.7	0.951	2.617	73.453	19.881	2.664	0.113	0.261	0.026	0.033	0.000	0.000	0.000	0.000	0.000	0.000	1404.70
29	0.7032	1159.3	1179.8	1176.5	0.947	2.609	73.693	19.716	2.619	0.108	0.249	0.027	0.032	0.000	0.000	0.000	0.000	0.000	0.000	1403.62
30	0.6966	1148.3	1168.6	1165.6	0.925	2.703	74.478	19.272	2.273	0.089	0.209	0.024	0.027	0.000	0.000	0.000	0.000	0.000	0.000	1396.88
Avg	0.7023	1156.0	1176.6	1173.2	0.921	2.765	73.633	19.753	2.574	0.099	0.214	0.018	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1400.59

Zone 24

# Gas Composition and Properties

Effective November 1, 2019

Source #: 0602160  
Name: FAIRVIEW BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	1.1156		2.3279
Nitrogen, N2	3.5720		4.7444
Methane, C1	68.4670		52.0781
Ethane, C2	23.3337	6.2456	33.2663
Propane, C3	3.1707	0.8743	6.6291
iso-Butane, iC4	0.1110	0.0364	0.3059
n-Butane, nC4	0.2089	0.0659	0.5757
iso-Pentane, iC5	0.0112	0.0041	0.0383
n-Pentane, nC5	0.0093	0.0034	0.0318
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0006	0.0002	0.0025
Water, H2O			
Hydrogen Sulfide, H2S			
Oxygen, O2			
Carbon Monoxide, CO			
Hydrogen, H2			
Helium, He			
Argon, Ar			

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure	-11.646	
Cricodentherm	1.879	
HV, Dry @ Base P, T	1202.38	
HV, Sat @ Base P, T	1181.45	
HV, Sat @ Sample P, T	1202.38	
Relative Density	0.7304	

C6+: 100

Totals 100.0000 7.2290 100.0000

Sample			
Date: 11/01/2019	Pressure:	477.0	
Type:	Temperature:		
Tech: Kevin Moos	H2O:	lbs/mm	
	H2S:	ppm	
Remarks:			

Analysis			
Date: 11/01/2019	Instrument:		
	Cylinder:	356	
Tech: Kevin Moos			
Remarks:			

Zone 241

# Gas Composition and Properties

Effective November 1, 2019

Attachment B  
Page 4 of 24

Source #: 0602225  
Name: WATFORD CITY WEST BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	1.1787		2.4589
Nitrogen, N2	3.9662		5.2667
Methane, C1	69.8675		53.1305
Ethane, C2	20.5309	5.4951	29.2633
Propane, C3	3.7121	1.0235	7.7591
iso-Butane, iC4	0.2005	0.0657	0.5524
n-Butane, nC4	0.4516	0.1425	1.2442
iso-Pentane, iC5	0.0393	0.0144	0.1344
n-Pentane, nC5	0.0404	0.0147	0.1382
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0128	0.0053	0.0523
Water, H2O			
Hydrogen Sulfide, H2S			
Oxygen, O2			
Carbon Monoxide, CO			
Hydrogen, H2			
Helium, He			
Argon, Ar			
<b>Totals</b>	<b>100.0000</b>	<b>6.7600</b>	<b>100.0000</b>

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure	-8.873	
Cricodentherm	10.372	
HV, Dry @ Base P, T	1194.21	
HV, Sat @ Base P, T	1173.43	
HV, Sat @ Sample P, T	1194.21	
Relative Density	0.7305	

C6+: 100

Sample		
Date: 11/01/2019	Pressure:	330.0
Type:	Temperature:	
Tech: Kevin Moos	H2O:	lbs/mm
	H2S:	ppm
Remarks:		

Analysis		
Date: 11/01/2019	Instrument:	
	Cylinder:	400
Tech: Kevin Moos		
Remarks:		

Zone 25

# Source Daily Summary

November 2019

Number: 164

Pressure Base: 14.730

Contract Day: 1

Name: N TIOGA TRANSFER-NESSON PLT

Temperature Base:

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	0.6833	1120.4	1140.3		0.761	3.406	76.486	17.059	2.027	0.066	0.151	0.016	0.021	0.008					1376.20	
2	0.6879	1125.8	1145.7		0.816	3.430	75.313	18.338	1.910	0.057	0.119	0.008	0.009	0.000					1378.18	
3	0.6875	1124.8	1144.7		0.816	3.430	75.313	18.338	1.910	0.057	0.119	0.008	0.009	0.000					1380.54	
4	0.6898	1128.5	1148.5		0.813	3.440	74.937	18.715	1.892	0.058	0.126	0.009	0.010	0.000					1379.68	
5	0.6943	1132.6	1152.6		0.829	3.599	74.331	18.850	2.151	0.067	0.148	0.011	0.012	0.001					1380.05	
6	0.6929	1131.0	1151.0		0.827	3.565	74.517	18.778	2.093	0.065	0.138	0.009	0.009	0.000					1379.56	
7	0.6941	1131.1	1151.2		0.840	3.651	74.461	18.576	2.227	0.069	0.153	0.010	0.012	0.001					1378.48	
8	0.6964	1133.9	1154.0		0.810	3.733	74.112	18.730	2.367	0.072	0.152	0.010	0.014	0.001					1379.72	
9	0.6971	1133.4	1153.5		0.824	3.808	74.150	18.431	2.527	0.076	0.158	0.011	0.013	0.001					1378.38	
10	0.6949	1131.9	1152.0		0.819	3.706	74.460	18.356	2.406	0.075	0.153	0.010	0.013	0.001					1378.68	
11	0.6867	1119.5	1139.4		0.738	3.810	75.828	17.165	2.227	0.068	0.139	0.010	0.013	0.000					1371.75	
12	0.6942	1132.4	1152.5		0.742	3.724	74.547	18.357	2.354	0.076	0.162	0.016	0.021	0.003					1380.03	
13	0.6929	1131.5	1151.6		0.798	3.572	74.691	18.442	2.269	0.068	0.136	0.012	0.012	0.000					1380.23	
14	0.6901	1126.9	1146.9		0.786	3.612	75.180	17.983	2.214	0.066	0.134	0.011	0.012	0.002					1377.32	
15	0.6930	1130.2	1150.3		0.842	3.591	74.675	18.440	2.221	0.067	0.141	0.010	0.012	0.000					1378.59	
16	0.6930	1130.2	1150.3		0.842	3.591	74.675	18.440	2.221	0.067	0.141	0.010	0.012	0.000					1378.59	
17	0.6938	1130.3	1150.3		0.822	3.693	74.632	18.259	2.349	0.071	0.149	0.011	0.012	0.001					1377.82	
18	0.6914	1128.4	1148.4		0.796	3.625	74.994	18.066	2.298	0.067	0.136	0.009	0.009	0.000					1377.92	
19	0.6965	1134.1	1154.2		0.809	3.737	74.098	18.716	2.392	0.072	0.152	0.011	0.012	0.003					1379.85	
20	0.6913	1127.8	1147.8		0.759	3.702	75.008	18.023	2.256	0.072	0.154	0.012	0.013	0.002					1377.36	
21	0.6862	1122.2	1142.1		0.722	3.627	75.740	17.649	2.039	0.063	0.133	0.011	0.013	0.002					1375.51	
22	0.6827	1119.4	1139.2		0.723	3.474	76.124	17.712	1.790	0.052	0.106	0.009	0.009	0.000					1375.51	
23	0.6843	1122.0	1141.9		0.731	3.452	75.885	17.906	1.836	0.055	0.114	0.009	0.010	0.001					1377.12	
24	0.6850	1122.5	1142.4		0.732	3.479	75.829	17.849	1.926	0.058	0.113	0.007	0.008	0.000					1377.13	
25	0.6814	1117.1	1136.8		0.723	3.487	76.427	17.382	1.796	0.053	0.111	0.009	0.010	0.001					1374.04	
26	0.6657	1093.2	1112.5		0.614	3.636	79.193	14.844	1.561	0.046	0.092	0.007	0.007	0.000					1360.37	
27	0.6848	1121.2	1141.1		0.768	3.483	75.912	17.737	1.906	0.056	0.117	0.010	0.011	0.001					1375.76	
28	0.6876	1125.3	1145.3		0.784	3.479	75.393	18.175	1.980	0.057	0.114	0.008	0.009	0.000					1377.89	
29	0.6872	1125.1	1145.0		0.773	3.471	75.444	18.165	1.960	0.056	0.113	0.008	0.009	0.000					1378.04	
30	0.6874	1124.8	1144.7		0.804	3.462	75.467	18.110	1.951	0.059	0.123	0.010	0.011	0.001					1377.44	
Avg	0.6891	1126.0	1145.9		0.782	3.582	75.261	18.053	2.102	0.064	0.133	0.010	0.012	0.001					1377.26	

Zone 260

# Source Daily Summary

November 2019

Number: 601

Pressure Base: 14.730

Contract Day: 1

Name: TIOGA STN-ROBINSON LAKE PLNT

Temperature Base:

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	0.7014	1144.1	1164.4	1161.3	0.965	3.353	73.032	20.279	2.150	0.065	0.136	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1387.03
2	0.7022	1144.2	1164.4	1160.9	0.962	3.419	73.363	19.552	2.402	0.082	0.183	0.015	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1386.09
3	0.7017	1145.5	1165.8	1162.7	0.948	3.323	72.948	20.419	2.143	0.065	0.134	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1388.40
4	0.7022	1145.1	1165.3	1162.3	0.980	3.346	72.880	20.435	2.137	0.066	0.136	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1387.40
5	0.7037	1148.1	1168.4	1165.3	0.969	3.322	72.601	20.728	2.150	0.066	0.141	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1389.51
6	0.7267	1161.2	1181.8	1178.6	0.948	4.703	69.564	20.693	3.695	0.117	0.249	0.015	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1383.20
7	0.7317	1163.3	1183.9	1180.8	0.942	5.049	68.992	20.457	4.118	0.132	0.278	0.015	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1381.03
8	0.7271	1160.4	1181.0	1177.8	0.958	4.774	69.463	20.721	3.688	0.116	0.248	0.015	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1381.87
9	0.7448	1169.0	1189.7	1186.7	0.914	5.975	67.217	20.325	5.044	0.155	0.333	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1375.34
10	0.7468	1173.5	1194.3	1191.2	0.919	5.884	67.006	20.480	5.154	0.164	0.353	0.020	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1378.73
11	0.7384	1165.1	1185.7	1182.7	0.926	5.591	68.126	20.237	4.630	0.149	0.307	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1376.75
12	0.7252	1156.9	1177.4	1174.3	0.917	4.867	69.836	20.240	3.761	0.117	0.235	0.013	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1379.54
13	0.7259	1160.3	1180.8	1177.7	0.909	4.745	69.732	20.449	3.778	0.116	0.241	0.014	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1382.89
14	0.7229	1157.8	1178.3	1175.2	0.906	4.612	70.159	20.354	3.600	0.110	0.229	0.014	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1382.84
15	0.7252	1158.7	1179.3	1176.1	0.934	4.736	69.787	20.469	3.709	0.111	0.226	0.013	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1381.63
16	0.7235	1158.0	1178.5	1175.4	0.954	4.594	70.007	20.552	3.517	0.109	0.234	0.016	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1382.29
17	0.7496	1178.6	1199.5	1196.3	0.919	5.831	66.642	20.741	5.277	0.173	0.373	0.021	0.023	0.000	0.000	0.000	0.000	0.000	0.000	1382.15
18	0.7479	1175.9	1196.7	1193.4	0.920	5.834	66.919	20.543	5.206	0.170	0.365	0.021	0.023	0.000	0.000	0.000	0.000	0.000	0.000	1380.49
19	0.7319	1164.4	1185.0	1181.9	0.926	5.035	69.037	20.326	4.233	0.131	0.280	0.016	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1382.01
20	0.7427	1170.2	1190.9	1187.9	0.921	5.693	67.547	20.414	4.913	0.151	0.325	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1378.71
21	0.7463	1172.7	1193.4	1190.4	0.920	5.878	67.103	20.404	5.143	0.163	0.350	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1378.29
22	0.7243	1161.4	1181.9	1178.8	0.924	4.502	69.829	20.856	3.523	0.109	0.228	0.014	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1385.74
23	0.7050	1150.3	1170.7	1167.6	0.931	3.364	72.327	20.945	2.216	0.066	0.132	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1390.98
24	0.7035	1148.7	1169.0	1165.9	0.931	3.321	72.672	20.631	2.224	0.067	0.134	0.009	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1390.48
25	0.7038	1148.9	1169.2	1166.1	0.922	3.349	72.650	20.572	2.287	0.068	0.133	0.008	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1390.42
26	0.7034	1148.1	1168.4	1165.3	0.931	3.347	72.681	20.608	2.211	0.065	0.134	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1389.82
27	0.7028	1147.2	1167.5	1164.5	0.933	3.338	72.837	20.411	2.266	0.067	0.131	0.008	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1389.44
28	0.7001	1143.2	1163.4	1160.3	0.922	3.347	73.332	19.981	2.201	0.065	0.131	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1387.15
29	0.7005	1144.3	1164.6	1161.5	0.899	3.349	73.205	20.135	2.205	0.064	0.124	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1388.20
30	0.7016	1145.1	1165.4	1162.3	0.933	3.353	73.048	20.213	2.241	0.066	0.128	0.008	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1388.09
Avg	0.7204	1157.0	1177.5	1174.4	0.933	4.394	70.485	20.439	3.394	0.106	0.221	0.013	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1384.22

Zone 261

# Source Daily Summary

November 2019

Number: 091

Pressure Base: 14.730

Contract Day: 1

Name: MNT BRD-PLRMO BRD-BIS STN

Temperature Base:

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	0.7456	1170.9	1191.7	1169.7	0.932	5.898	67.243	20.250	5.118	0.166	0.353	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1376.94
2	0.7473	1171.8	1192.5	1169.2	0.930	6.018	67.018	20.211	5.253	0.172	0.360	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1376.26
3	0.7478	1172.2	1192.9	1169.9	0.927	6.039	66.961	20.222	5.274	0.174	0.364	0.020	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1376.30
4	0.7460	1169.1	1189.8	1170.9	0.927	6.065	67.185	20.078	5.183	0.170	0.353	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1374.27
5	0.7466	1170.0	1190.7	1186.3	0.928	6.058	67.092	20.155	5.215	0.167	0.348	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1374.86
6	0.7471	1169.7	1190.4	1187.3	0.924	6.131	66.921	20.289	5.197	0.159	0.343	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1374.07
7	0.7481	1173.2	1194.0	1190.8	0.927	6.007	66.860	20.376	5.268	0.165	0.359	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1377.23
8	0.7485	1173.1	1193.9	1190.7	0.931	6.046	66.785	20.409	5.259	0.169	0.362	0.020	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1376.72
9	0.7455	1168.2	1188.9	1185.8	0.930	6.065	67.200	20.138	5.119	0.167	0.343	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1373.75
10	0.7453	1167.9	1188.6	1185.4	0.928	6.071	67.149	20.243	5.090	0.158	0.328	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1373.53
11	0.7454	1169.2	1189.9	1186.7	0.932	5.993	67.164	20.280	5.116	0.158	0.324	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1374.98
12	0.7462	1170.6	1191.3	1188.2	0.933	5.982	67.047	20.365	5.149	0.159	0.330	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1375.90
13	0.7537	1182.4	1203.4	1200.1	0.927	5.970	66.173	20.747	5.541	0.188	0.405	0.024	0.026	0.000	0.000	0.000	0.000	0.000	0.000	1382.80
14	0.7538	1182.9	1203.8	1200.6	0.928	5.952	66.180	20.731	5.559	0.190	0.409	0.024	0.026	0.000	0.000	0.000	0.000	0.000	0.000	1383.25
15	0.7486	1174.1	1194.9	1191.8	0.928	5.994	66.816	20.402	5.280	0.172	0.365	0.021	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1377.85
16	0.7482	1173.6	1194.4	1191.3	0.930	5.988	66.870	20.357	5.289	0.166	0.359	0.020	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1377.61
17	0.7475	1172.3	1193.0	1189.9	0.929	6.003	66.948	20.321	5.244	0.164	0.352	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1376.70
18	0.7486	1173.8	1194.6	1191.5	0.931	6.007	66.833	20.344	5.313	0.168	0.363	0.020	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1377.51
19	0.7468	1170.9	1191.6	1188.4	0.930	6.024	67.014	20.304	5.175	0.164	0.349	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1375.65
20	0.7459	1170.2	1190.9	1187.8	0.932	5.974	67.147	20.267	5.144	0.160	0.338	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1375.75
21	0.7466	1171.2	1192.0	1188.8	0.930	5.980	67.059	20.303	5.181	0.163	0.346	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1376.29
22	0.7489	1174.9	1195.7	1192.5	0.929	5.979	66.769	20.447	5.298	0.171	0.366	0.021	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1378.41
23	0.7467	1170.6	1191.3	1188.2	0.926	6.030	67.065	20.228	5.194	0.164	0.352	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1375.50
24	0.7487	1174.5	1195.3	1192.2	0.927	5.985	66.819	20.377	5.310	0.170	0.369	0.021	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1378.19
25	0.7473	1171.7	1192.5	1189.3	0.926	6.026	66.967	20.301	5.222	0.165	0.354	0.020	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1376.18
26	0.7442	1168.4	1189.1	1185.9	0.927	5.935	67.372	20.208	5.023	0.159	0.338	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1375.15
27	0.7443	1168.6	1189.3	1186.1	0.928	5.931	67.332	20.262	5.018	0.157	0.335	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1375.30
28	0.7468	1170.7	1191.4	1188.3	0.929	6.032	66.990	20.328	5.187	0.160	0.338	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1375.51
29	0.7467	1170.4	1191.1	1188.0	0.932	6.042	67.000	20.312	5.179	0.160	0.339	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1375.18
30	0.7479	1171.0	1191.7	1188.6	0.934	6.111	66.894	20.232	5.266	0.166	0.359	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1374.84
Avg	0.7474	1172.0	1192.7	1187.0	0.929	6.011	66.962	20.316	5.222	0.166	0.353	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1376.42

Zone 2b2

# Gas Composition and Properties

Effective November 1, 2019

Attachment B  
Page 8 of 24

Source #: 2501030  
Name: LIGNITE PLANT

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	0.2191		0.4959
Nitrogen, N2	2.7711		3.9919
Methane, C1	77.9833		64.3332
Ethane, C2	16.6486	4.4540	25.7430
Propane, C3	2.3285	0.6417	5.2800
iso-Butane, iC4	0.0304	0.0100	0.0909
n-Butane, nC4	0.0133	0.0042	0.0398
iso-Pentane, iC5			
n-Pentane, nC5			
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0057	0.0023	0.0253
Water, H2O			
Hydrogen Sulfide, H2S			
Oxygen, O2			
Carbon Monoxide, CO			
Hydrogen, H2			
Helium, He			
Argon, Ar			

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure	-29.742	
Cricodentherm	-25.360	
HV, Dry @ Base P, T	1148.55	
HV, Sat @ Base P, T	1128.56	
HV, Sat @ Sample P, T	1148.55	
Relative Density	0.6731	

C6+: 100

Totals	100.0000	5.1120	100.0000
--------	----------	--------	----------

Sample		
Date: 11/01/2019	Pressure:	590.0
Type:	Temperature:	
Tech: Kevin Moos	H2O:	lbs/mm
	H2S:	ppm
Remarks:		

Analysis		
Date: 11/01/2019	Instrument:	
	Cylinder:	390
Tech: Kevin Moos		
Remarks:		

Zone 263

# Gas Composition and Properties

Effective November 1, 2019

Attachment B  
Page 9 of 24

Source #: 3002013  
Name: EPPING BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	0.8547		1.8830
Nitrogen, N2	2.6064		3.6551
Methane, C1	75.5676		60.6875
Ethane, C2	18.2131	4.8733	27.4153
Propane, C3	2.4228	0.6678	5.3481
iso-Butane, iC4	0.0880	0.0288	0.2560
n-Butane, nC4	0.2024	0.0638	0.5889
iso-Pentane, iC5	0.0185	0.0068	0.0668
n-Pentane, nC5	0.0213	0.0077	0.0769
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0052	0.0021	0.0224
Water, H2O			
Hydrogen Sulfide, H2S			
Oxygen, O2			
Carbon Monoxide, CO			
Hydrogen, H2			
Helium, He			
Argon, Ar			
<b>Totals</b>	<b>100.0000</b>	<b>5.6510</b>	<b>100.0000</b>

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure	-18.328	
Cricodentherm	-12.037	
HV, Dry @ Base P, T	1164.08	
HV, Sat @ Base P, T	1143.82	
HV, Sat @ Sample P, T	1164.08	
Relative Density	0.6916	

C6+: 100

Sample			
Date:	11/01/2019	Pressure:	520.0
Type:		Temperature:	
Tech:	Kevin Moos	H2O:	lbs/mm
		H2S:	ppm
Remarks:			

Analysis			
Date:	11/01/2019	Instrument:	
		Cylinder:	349
Tech:	Kevin Moos		
Remarks:			

\*\*\* End of Report \*\*\*

Zone 264

# Source Daily Summary

November 2019

Number: 603

Pressure Base: 14.730

Contract Day: 1

Name: TIOGA STN-COUNTY LINE PLANT

Temperature Base:

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	0.7026	1146.3	1166.6	1163.4	0.962	3.334	72.876	20.404	2.185	0.069	0.146	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1388.49
2	0.7003	1145.6	1165.8	1162.4	0.926	3.220	73.531	19.753	2.305	0.071	0.159	0.014	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1389.67
3	0.7018	1145.3	1165.6	1162.3	0.959	3.324	72.992	20.328	2.174	0.065	0.137	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1388.06
4	0.7037	1147.6	1167.9	1164.7	0.980	3.330	72.674	20.596	2.182	0.068	0.145	0.011	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1388.96
5	0.7025	1146.3	1166.6	1163.5	0.970	3.313	72.784	20.600	2.115	0.064	0.134	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1388.63
6	0.7071	1152.6	1173.0	1169.8	0.998	3.322	72.005	21.240	2.192	0.069	0.149	0.011	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1391.64
7	0.7039	1148.5	1168.8	1165.7	0.955	3.334	72.535	20.790	2.167	0.065	0.135	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1389.88
8	0.7039	1148.0	1168.3	1165.1	0.996	3.305	72.599	20.721	2.138	0.067	0.148	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1389.19
9	0.7045	1149.3	1169.6	1166.5	0.961	3.329	72.495	20.767	2.220	0.067	0.139	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1390.28
10	0.7031	1146.8	1167.1	1163.8	0.951	3.368	72.861	20.303	2.280	0.070	0.143	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1388.53
11	0.7030	1146.9	1167.2	1164.1	0.944	3.367	72.888	20.228	2.343	0.072	0.139	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1388.77
12	0.7041	1147.5	1167.8	1164.6	0.954	3.417	72.711	20.334	2.339	0.073	0.149	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1388.39
13	0.7008	1144.8	1165.1	1161.9	0.851	3.423	73.265	19.909	2.302	0.074	0.151	0.011	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1388.44
14	0.7054	1151.0	1171.4	1168.2	0.934	3.346	72.487	20.625	2.362	0.073	0.148	0.011	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1391.45
15	0.7050	1150.1	1170.5	1167.2	0.938	3.363	72.588	20.464	2.407	0.073	0.145	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1390.71
16	0.7063	1150.2	1170.6	1167.3	0.986	3.401	72.365	20.645	2.343	0.073	0.155	0.013	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1389.53
17	0.7048	1149.9	1170.2	1167.0	0.942	3.348	72.587	20.517	2.372	0.071	0.142	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1390.68
18	0.7031	1147.2	1167.5	1164.3	0.948	3.347	72.886	20.271	2.313	0.070	0.142	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1389.04
19	0.7014	1144.9	1165.2	1162.0	0.937	3.341	73.140	20.086	2.281	0.066	0.130	0.008	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1388.03
20	0.7042	1149.2	1169.6	1166.3	0.937	3.346	72.637	20.536	2.313	0.069	0.138	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1390.36
21	0.7044	1149.6	1170.0	1166.8	0.933	3.345	72.444	20.857	2.208	0.065	0.130	0.008	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1390.73
22	0.7056	1152.0	1172.4	1169.0	0.899	3.368	72.439	20.686	2.337	0.077	0.163	0.013	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1392.23
23	0.7050	1151.0	1171.3	1168.2	0.931	3.325	72.332	20.984	2.211	0.066	0.132	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1391.74
24	0.7033	1148.9	1169.2	1166.0	0.927	3.295	72.704	20.638	2.215	0.067	0.132	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1390.91
25	0.7035	1148.6	1169.0	1165.8	0.921	3.335	72.681	20.588	2.258	0.067	0.132	0.008	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1390.47
26	0.7042	1149.0	1169.4	1166.1	0.932	3.361	72.600	20.603	2.277	0.069	0.137	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1390.18
27	0.7033	1148.6	1168.9	1165.7	0.926	3.318	72.713	20.574	2.256	0.066	0.129	0.008	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1390.51
28	0.7005	1143.5	1163.8	1160.6	0.929	3.350	73.290	19.986	2.221	0.067	0.135	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1387.23
29	0.7018	1146.2	1166.5	1163.4	0.917	3.337	72.919	20.430	2.192	0.064	0.124	0.008	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1389.14
30	0.7022	1146.7	1167.0	1163.9	0.912	3.344	72.891	20.414	2.228	0.065	0.127	0.008	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1389.43
Avg	0.7035	1148.0	1168.4	1165.2	0.942	3.342	72.731	20.496	2.258	0.069	0.140	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1389.71

Zone 265

# Source Daily Summary

November 2019

Number: 043

Pressure Base: 14.730

Contract Day: 1

Name: BISMARCK STN-CLEVELAND STN

Temperature Base:

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	0.7216	1151.6	1172.0	1168.4	0.722	5.148	70.679	18.999	4.031	0.127	0.265	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1376.47
2	0.7232	1152.7	1173.1	1169.5	0.721	5.240	70.465	19.000	4.139	0.133	0.273	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1376.16
3	0.7315	1159.5	1180.0	1176.4	0.787	5.507	69.259	19.455	4.508	0.147	0.304	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1376.35
4	0.7189	1146.1	1166.4	1163.0	0.716	5.247	71.100	18.577	3.946	0.128	0.260	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1372.41
5	0.7146	1141.8	1162.1	1158.6	0.703	5.118	71.752	18.283	3.759	0.119	0.242	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1371.44
6	0.7141	1144.4	1164.7	1161.2	0.706	4.914	71.777	18.556	3.665	0.117	0.240	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1374.97
7	0.7095	1136.9	1157.0	1153.6	0.741	4.880	72.660	17.766	3.587	0.110	0.231	0.013	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1370.41
8	0.7179	1148.6	1168.9	1165.3	0.792	4.880	71.490	18.477	3.928	0.129	0.271	0.017	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1376.31
9	0.7157	1144.6	1164.9	1161.3	0.795	4.913	71.853	18.150	3.863	0.128	0.266	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1373.63
10	0.7011	1129.8	1149.8	1146.3	0.707	4.579	73.935	17.255	3.191	0.103	0.204	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1369.92
11	0.7024	1135.1	1155.2	1151.7	0.714	4.368	73.681	17.735	3.174	0.101	0.201	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1375.07
12	0.7029	1134.6	1154.7	1151.1	0.736	4.416	73.636	17.665	3.216	0.102	0.203	0.013	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1373.96
13	0.7251	1159.7	1180.2	1176.6	0.756	4.935	70.355	19.257	4.218	0.142	0.299	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1382.65
14	0.7325	1164.9	1185.5	1181.8	0.812	5.228	69.230	19.688	4.530	0.152	0.322	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1381.84
15	0.7333	1162.8	1183.3	1179.6	0.836	5.395	69.110	19.566	4.579	0.153	0.321	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1378.57
16	0.7291	1158.8	1179.3	1175.6	0.796	5.303	69.678	19.353	4.399	0.140	0.298	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1377.85
17	0.7322	1160.5	1181.0	1177.3	0.808	5.472	69.187	19.510	4.544	0.143	0.304	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1376.96
18	0.7382	1166.5	1187.1	1183.3	0.842	5.619	68.321	19.877	4.831	0.151	0.326	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1378.43
19	0.7378	1166.8	1187.5	1183.6	0.840	5.570	68.305	20.044	4.728	0.153	0.324	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1379.12
20	0.7300	1158.5	1179.0	1175.3	0.780	5.432	69.327	19.680	4.339	0.133	0.279	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1376.69
21	0.7226	1153.1	1173.5	1169.8	0.686	5.210	70.373	19.306	4.029	0.120	0.251	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1377.27
22	0.7381	1167.7	1188.3	1184.6	0.819	5.576	68.290	20.007	4.791	0.154	0.327	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1379.89
23	0.7438	1169.9	1190.6	1186.9	0.890	5.866	67.499	20.124	5.074	0.162	0.347	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1377.21
24	0.7457	1172.4	1193.1	1189.4	0.897	5.877	67.282	20.190	5.186	0.167	0.362	0.020	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1378.43
25	0.7286	1158.2	1178.8	1175.1	0.735	5.383	69.578	19.534	4.319	0.134	0.286	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1377.70
26	0.7226	1153.1	1173.5	1170.0	0.701	5.184	70.401	19.298	4.009	0.122	0.257	0.014	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1377.31
27	0.7206	1153.8	1174.3	1170.7	0.681	4.984	70.557	19.591	3.814	0.113	0.236	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1380.09
28	0.7177	1151.3	1171.7	1168.2	0.653	4.908	70.945	19.462	3.683	0.107	0.220	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1379.86
29	0.7198	1152.1	1172.5	1168.9	0.670	5.034	70.751	19.300	3.874	0.114	0.235	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1378.73
30	0.7208	1152.6	1173.0	1169.4	0.682	5.082	70.575	19.399	3.881	0.115	0.241	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1378.33
Avg	0.7237	1154.0	1174.0	1170.4	0.757	5.176	70.402	19.103	4.128	0.131	0.273	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1376.80

Zone 271

# Source Daily Summary

November 2019

Number: 063

Pressure Base: 14.730

Contract Day: 1

Name: CLEVELAND STN-MAPLETON

Temperature Base:

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	0.7304	1158.8	1179.3	1175.4	0.796	5.429	69.423	19.453	4.432	0.141	0.294	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1376.53
2	0.7212	1150.8	1171.2	1167.3	0.723	5.160	70.742	18.948	4.012	0.126	0.260	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1375.82
3	0.7240	1153.1	1173.5	1169.6	0.728	5.281	70.338	19.051	4.168	0.133	0.271	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1375.82
4	0.7314	1159.2	1179.8	1175.7	0.789	5.506	69.286	19.447	4.493	0.146	0.300	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1376.12
5	0.7166	1143.7	1164.0	1160.0	0.699	5.196	71.445	18.431	3.831	0.123	0.248	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1371.74
6	0.7150	1142.0	1162.2	1158.3	0.713	5.131	71.716	18.274	3.780	0.120	0.241	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1371.17
7	0.7139	1143.8	1164.0	1159.9	0.710	4.925	71.825	18.510	3.654	0.115	0.235	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1374.34
8	0.7092	1136.3	1156.4	1152.4	0.751	4.883	72.715	17.711	3.577	0.110	0.228	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1369.79
9	0.7188	1149.4	1169.8	1165.6	0.797	4.914	71.324	18.581	3.951	0.129	0.269	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1376.30
10	0.7156	1144.2	1164.4	1160.3	0.799	4.922	71.867	18.146	3.843	0.127	0.261	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1373.13
11	0.7011	1129.5	1149.5	1145.4	0.709	4.597	73.944	17.233	3.189	0.102	0.201	0.013	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1369.40
12	0.7017	1133.9	1154.0	1150.0	0.718	4.369	73.809	17.633	3.150	0.100	0.197	0.013	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1374.25
13	0.7050	1136.0	1156.2	1152.3	0.744	4.507	73.314	17.807	3.296	0.103	0.205	0.013	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1373.66
14	0.7252	1159.3	1179.8	1175.8	0.763	4.959	70.352	19.224	4.226	0.141	0.296	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1382.01
15	0.7326	1164.3	1184.9	1180.8	0.820	5.261	69.224	19.649	4.538	0.151	0.318	0.020	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1380.99
16	0.7333	1162.2	1182.8	1178.8	0.840	5.421	69.122	19.526	4.582	0.152	0.318	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1377.87
17	0.7290	1158.1	1178.6	1174.7	0.800	5.328	69.694	19.321	4.391	0.139	0.293	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1377.09
18	0.7323	1160.4	1180.9	1177.1	0.811	5.490	69.158	19.523	4.541	0.142	0.300	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1376.61
19	0.7384	1166.0	1186.7	1183.5	0.848	5.657	68.287	19.868	4.833	0.150	0.321	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1377.64
20	0.7376	1165.9	1186.5	1183.3	0.846	5.593	68.342	20.007	4.707	0.151	0.317	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1378.21
21	0.7273	1155.4	1175.8	1172.7	0.764	5.397	69.717	19.486	4.213	0.128	0.266	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1375.39
22	0.7232	1153.0	1173.4	1170.3	0.696	5.255	70.309	19.285	4.058	0.121	0.250	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1376.52
23	0.7381	1167.0	1187.7	1184.5	0.824	5.607	68.278	20.005	4.777	0.152	0.321	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1379.07
24	0.7442	1169.9	1190.6	1187.5	0.895	5.889	67.436	20.161	5.077	0.161	0.342	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1376.87
25	0.7458	1172.1	1192.8	1188.9	0.902	5.904	67.228	20.242	5.164	0.165	0.354	0.020	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1377.83
26	0.7280	1157.1	1177.6	1173.7	0.736	5.394	69.678	19.459	4.290	0.133	0.280	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1376.83
27	0.7229	1152.9	1173.3	1169.5	0.710	5.219	70.360	19.283	4.025	0.122	0.254	0.014	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1376.59
28	0.7201	1152.9	1173.3	1169.6	0.684	4.999	70.646	19.497	3.804	0.113	0.232	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1379.23
29	0.7181	1151.5	1171.9	1168.2	0.657	4.936	70.884	19.480	3.697	0.107	0.218	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1379.51
30	0.7205	1152.4	1172.8	1169.2	0.678	5.067	70.651	19.342	3.891	0.114	0.233	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1378.37
Avg	0.7240	1153.0	1173.8	1170.0	0.765	5.207	70.371	19.086	4.140	0.131	0.271	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1376.16

Zone 272

# Source Daily Summary

November 2019

Number: 061

Pressure Base: 14.730

Contract Day: 1

Name: CLEVELAND STN-GRAFTON BDR

Temperature Base:

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	0.7303	1158.4	1178.9	1175.6	0.798	5.440	69.436	19.435	4.426	0.141	0.293	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1376.18
2	0.7211	1150.6	1171.0	1167.7	0.723	5.164	70.760	18.933	4.006	0.126	0.260	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1375.63
3	0.7237	1152.6	1173.0	1169.6	0.728	5.284	70.384	19.019	4.154	0.132	0.270	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1375.50
4	0.7312	1158.6	1179.1	1175.8	0.790	5.525	69.306	19.423	4.480	0.145	0.299	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1375.56
5	0.7184	1145.2	1165.5	1162.3	0.713	5.252	71.189	18.518	3.918	0.126	0.255	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1371.81
6	0.7148	1141.6	1161.8	1158.5	0.710	5.143	71.738	18.253	3.770	0.119	0.240	0.013	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1370.82
7	0.7139	1143.7	1163.9	1160.7	0.712	4.935	71.825	18.487	3.663	0.116	0.237	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1374.16
8	0.7093	1136.3	1156.4	1153.2	0.750	4.886	72.703	17.726	3.572	0.110	0.228	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1369.79
9	0.7188	1149.3	1169.6	1166.3	0.797	4.921	71.327	18.568	3.953	0.130	0.270	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1376.14
10	0.7156	1144.1	1164.4	1161.1	0.800	4.928	71.859	18.148	3.844	0.127	0.261	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1373.05
11	0.7009	1129.1	1149.1	1145.8	0.709	4.601	73.974	17.206	3.182	0.102	0.201	0.013	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1369.15
12	0.7022	1134.3	1154.4	1150.9	0.717	4.396	73.718	17.675	3.170	0.100	0.198	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1374.20
13	0.7039	1135.1	1155.2	1151.7	0.744	4.463	73.491	17.720	3.250	0.103	0.203	0.013	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1373.54
14	0.7247	1158.0	1178.5	1175.2	0.764	4.983	70.400	19.196	4.194	0.139	0.288	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1381.05
15	0.7329	1164.5	1185.1	1181.8	0.823	5.271	69.188	19.652	4.555	0.152	0.320	0.020	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1380.97
16	0.7335	1162.0	1182.6	1179.2	0.844	5.446	69.086	19.528	4.588	0.152	0.318	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1377.48
17	0.7295	1158.6	1179.1	1175.6	0.803	5.340	69.623	19.351	4.415	0.140	0.295	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1377.21
18	0.7329	1160.8	1181.4	1177.8	0.816	5.504	69.082	19.549	4.569	0.143	0.302	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1376.66
19	0.7384	1166.1	1186.8	1183.6	0.847	5.653	68.284	19.876	4.834	0.150	0.321	0.018	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1377.74
20	0.7384	1166.6	1187.3	1184.1	0.852	5.618	68.243	20.016	4.758	0.154	0.323	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1378.28
21	0.7292	1157.0	1177.5	1174.4	0.777	5.453	69.435	19.617	4.285	0.131	0.272	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1375.55
22	0.7226	1152.4	1172.8	1169.8	0.692	5.245	70.387	19.248	4.034	0.120	0.248	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1376.36
23	0.7369	1165.2	1185.8	1182.8	0.822	5.610	68.409	19.958	4.714	0.147	0.307	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1378.03
24	0.7411	1164.4	1185.0	1182.0	0.901	5.931	67.734	20.059	4.905	0.146	0.298	0.014	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1373.21
25	0.7445	1169.5	1190.2	1187.0	0.907	5.932	67.342	20.197	5.095	0.158	0.334	0.017	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1376.03
26	0.7282	1157.3	1177.8	1174.6	0.739	5.404	69.645	19.459	4.306	0.133	0.282	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1376.79
27	0.7226	1152.4	1172.8	1169.6	0.710	5.217	70.411	19.249	4.012	0.122	0.253	0.014	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1376.33
28	0.7200	1152.5	1172.9	1169.8	0.684	5.008	70.667	19.471	3.801	0.113	0.232	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1378.94
29	0.7179	1151.1	1171.5	1168.3	0.658	4.940	70.914	19.455	3.687	0.107	0.217	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1379.23
30	0.7202	1152.0	1172.4	1169.2	0.677	5.069	70.688	19.316	3.880	0.114	0.233	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1378.14
Avg	0.7239	1153.0	1173.4	1170.1	0.767	5.219	70.375	19.077	4.134	0.130	0.269	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1375.79

Zone 273

# Source Daily Summary

November 2019

Number: 041

Pressure Base: 14.730

Contract Day: 1

Name: BISMARCK STN-GLEN ULLIN STN

Temperature Base:

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	0.6665	1103.9	1123.4	1120.3	0.264	3.587	78.539	15.997	1.528	0.031	0.049	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1372.90
2	0.6658	1102.7	1122.2	1119.1	0.265	3.599	78.595	16.003	1.453	0.031	0.049	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1372.05
3	0.6667	1104.5	1124.0	1120.9	0.263	3.576	78.387	16.266	1.422	0.031	0.049	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1373.38
4	0.6615	1095.2	1114.6	1111.5	0.277	3.629	79.340	15.368	1.297	0.032	0.051	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1367.20
5	0.6608	1093.1	1112.5	1109.4	0.337	3.598	79.613	15.020	1.327	0.037	0.061	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1365.32
6	0.6678	1104.9	1124.4	1121.3	0.422	3.411	78.520	16.021	1.492	0.046	0.078	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1372.72
7	0.6577	1089.1	1108.4	1105.3	0.501	3.299	80.544	14.180	1.343	0.045	0.076	0.007	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1363.48
8	0.6606	1098.5	1118.0	1114.6	0.569	2.891	80.172	14.853	1.365	0.047	0.083	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1372.18
9	0.6572	1093.1	1112.5	1109.1	0.569	2.908	80.846	14.186	1.327	0.050	0.091	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1368.84
10	0.6548	1088.8	1108.1	1104.9	0.497	3.049	81.052	14.069	1.204	0.041	0.070	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1366.06
11	0.6617	1100.9	1120.4	1117.1	0.514	2.942	79.802	15.275	1.330	0.044	0.075	0.009	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1373.93
12	0.6602	1097.9	1117.4	1114.1	0.546	2.929	80.151	14.916	1.309	0.047	0.081	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1371.81
13	0.6679	1110.9	1130.6	1127.3	0.425	3.046	78.700	16.113	1.561	0.048	0.087	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1380.03
14	0.6660	1108.9	1128.5	1125.2	0.476	2.913	78.946	16.139	1.396	0.042	0.071	0.009	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1379.48
15	0.6626	1101.5	1121.0	1117.7	0.501	3.004	79.607	15.423	1.325	0.045	0.077	0.009	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1373.82
16	0.6615	1099.2	1118.6	1115.4	0.380	3.229	79.525	15.506	1.254	0.035	0.058	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1372.06
17	0.6614	1099.1	1118.6	1115.4	0.310	3.327	79.397	15.643	1.237	0.029	0.047	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1372.17
18	0.6634	1103.2	1122.7	1119.5	0.267	3.341	78.928	16.124	1.265	0.026	0.041	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1375.10
19	0.6709	1118.5	1138.3	1135.0	0.306	3.056	77.496	17.811	1.238	0.031	0.050	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1386.27
20	0.6694	1110.8	1130.5	1127.3	0.250	3.463	77.758	17.110	1.335	0.029	0.048	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1378.44
21	0.6663	1107.1	1126.7	1123.6	0.129	3.582	78.137	16.792	1.319	0.017	0.022	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1377.09
22	0.6677	1109.7	1129.4	1126.3	0.170	3.490	77.958	16.989	1.340	0.021	0.030	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1378.92
23	0.6736	1112.9	1132.6	1129.4	0.248	3.735	77.246	16.967	1.701	0.035	0.060	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1376.73
24	0.6652	1104.1	1123.7	1120.6	0.187	3.572	78.416	16.489	1.276	0.023	0.034	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1374.51
25	0.6657	1105.6	1125.2	1122.1	0.157	3.575	78.223	16.755	1.241	0.019	0.027	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1375.84
26	0.6669	1107.7	1127.3	1124.2	0.196	3.499	78.171	16.723	1.354	0.022	0.032	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1377.18
27	0.6766	1123.0	1142.9	1139.8	0.238	3.417	76.559	18.065	1.644	0.029	0.044	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1386.18
28	0.6779	1124.1	1144.0	1140.9	0.274	3.418	76.328	18.270	1.625	0.032	0.050	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1386.20
29	0.6742	1118.2	1138.0	1134.8	0.249	3.466	77.024	17.582	1.597	0.031	0.047	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1382.67
30	0.6760	1118.9	1138.7	1135.6	0.279	3.542	76.685	17.812	1.595	0.032	0.050	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1381.78
Avq	0.6658	1105.0	1124.8	1121.6	0.335	3.336	78.689	16.149	1.390	0.034	0.056	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1375.15

Zone 28

# Source Daily Summary

November 2019

Number: 271

Pressure Base: 14.730

Contract Day: 1

Name: DCKSN BRD-BLFD TSF-G.U. STN

Temperature Base:

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	0.6646	1101.6	1121.1	1118.2	0.251	3.568	78.820	15.825	1.457	0.030	0.048	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1372.05
2	0.6657	1103.8	1123.3	1120.5	0.251	3.544	78.549	16.160	1.417	0.030	0.047	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1373.57
3	0.6602	1094.1	1113.5	1110.7	0.259	3.604	79.541	15.226	1.287	0.030	0.050	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1367.19
4	0.6592	1091.9	1111.2	1108.4	0.290	3.591	79.810	14.934	1.287	0.032	0.054	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1365.57
5	0.6651	1101.5	1121.0	1118.1	0.394	3.411	78.970	15.643	1.456	0.044	0.074	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1371.31
6	0.6651	1101.4	1120.9	1118.0	0.421	3.369	79.033	15.569	1.480	0.043	0.075	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1371.25
7	0.6556	1090.7	1110.0	1107.1	0.582	2.885	81.091	13.996	1.299	0.046	0.082	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1367.65
8	0.6567	1093.4	1112.8	1110.1	0.562	2.890	80.818	14.214	1.356	0.048	0.088	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1369.63
9	0.6551	1090.4	1109.7	1106.8	0.475	3.017	80.936	14.232	1.216	0.039	0.068	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1367.85
10	0.6588	1096.6	1116.1	1113.2	0.500	2.947	80.309	14.815	1.301	0.041	0.071	0.009	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1371.80
11	0.6613	1100.5	1120.0	1117.1	0.588	2.857	79.898	15.148	1.361	0.047	0.081	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1373.56
12	0.6642	1105.2	1124.8	1121.8	0.418	3.055	79.339	15.554	1.486	0.046	0.085	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1376.89
13	0.6658	1109.8	1129.4	1126.5	0.454	2.873	78.966	16.146	1.435	0.040	0.069	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1380.94
14	0.6624	1102.6	1122.2	1119.3	0.506	2.912	79.667	15.408	1.365	0.045	0.080	0.009	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1375.54
15	0.6606	1098.8	1118.3	1115.5	0.362	3.192	79.654	15.435	1.254	0.034	0.057	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1372.72
16	0.6610	1099.8	1119.3	1116.5	0.294	3.281	79.424	15.676	1.242	0.029	0.046	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1373.43
17	0.6624	1102.7	1122.2	1119.4	0.271	3.264	79.144	15.976	1.268	0.027	0.042	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1375.68
18	0.6743	1125.3	1145.2	1142.3	0.281	2.991	76.776	18.615	1.248	0.031	0.051	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1391.42
19	0.6673	1109.4	1129.1	1126.2	0.243	3.364	78.088	16.957	1.271	0.028	0.044	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1378.91
20	0.6651	1106.3	1125.9	1123.0	0.110	3.546	78.352	16.636	1.318	0.017	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1377.37
21	0.6665	1108.3	1127.9	1125.0	0.157	3.486	78.152	16.839	1.317	0.020	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1378.36
22	0.6674	1108.1	1127.7	1124.8	0.207	3.505	78.147	16.666	1.414	0.024	0.035	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1377.19
23	0.6648	1104.4	1124.0	1121.1	0.177	3.535	78.467	16.490	1.276	0.022	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1375.30
24	0.6658	1107.0	1126.6	1123.7	0.152	3.511	78.203	16.833	1.254	0.020	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1377.46
25	0.6629	1101.4	1120.9	1118.0	0.162	3.564	78.801	16.167	1.258	0.020	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1373.47
26	0.6715	1116.7	1136.5	1133.6	0.196	3.385	77.421	17.388	1.552	0.024	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1383.65
27	0.6763	1121.9	1141.7	1138.9	0.269	3.409	76.639	17.973	1.625	0.033	0.051	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1385.13
28	0.6757	1121.5	1141.3	1138.4	0.251	3.407	76.731	17.905	1.627	0.031	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1385.21
29	0.6739	1117.3	1137.1	1134.2	0.253	3.489	77.055	17.528	1.596	0.031	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1381.89
30	0.6745	1118.1	1137.9	1135.0	0.249	3.502	76.944	17.615	1.605	0.033	0.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1382.28
Avg	0.6650	1105.0	1124.6	1121.7	0.320	3.298	78.792	16.119	1.378	0.033	0.054	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1375.81

Zone 31

# Source Daily Summary

November 2019

Number: 051

Pressure Base: 14.730

Contract Day: 1

Name: CABIN CRK STN-BELFIELD TRSFR

Temperature Base:

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	0.6845	1133.7	1153.8	1150.2	1.150	2.117	76.952	17.386	2.107	0.093	0.169	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1391.18
2	0.6925	1143.7	1164.0	1160.3	1.212	2.155	75.790	18.119	2.375	0.112	0.204	0.017	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1395.40
3	0.6798	1126.9	1146.8	1143.3	1.122	2.129	77.649	16.915	1.927	0.083	0.151	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1387.66
4	0.6923	1143.6	1163.9	1160.3	1.205	2.156	75.787	18.144	2.369	0.110	0.199	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1395.47
5	0.6903	1140.7	1160.9	1157.3	1.194	2.164	76.056	17.987	2.274	0.104	0.190	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1393.91
6	0.7011	1155.5	1176.0	1172.3	1.266	2.169	74.469	19.025	2.672	0.129	0.232	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1401.02
7	0.6438	1067.5	1086.4	1083.1	0.496	3.320	83.415	11.263	1.348	0.053	0.091	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1350.54
8	0.6326	1050.4	1069.0	1065.8	0.316	3.575	85.090	9.862	1.055	0.034	0.058	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1340.96
9	0.6329	1050.9	1069.5	1066.2	0.315	3.579	85.021	9.930	1.054	0.034	0.058	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1341.18
10	0.6340	1052.0	1070.6	1067.4	0.340	3.583	84.816	10.084	1.079	0.034	0.056	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1341.37
11	0.7073	1163.5	1184.1	1180.4	1.312	2.190	73.572	19.590	2.890	0.143	0.260	0.021	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1404.56
12	0.7075	1163.6	1184.2	1180.4	1.313	2.203	73.522	19.627	2.891	0.143	0.259	0.021	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1404.46
13	0.7057	1161.1	1181.7	1177.9	1.300	2.200	73.807	19.427	2.831	0.139	0.253	0.021	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1403.29
14	0.7057	1161.5	1182.0	1178.3	1.298	2.186	73.835	19.384	2.859	0.141	0.255	0.021	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1403.68
15	0.6885	1135.3	1155.4	1151.7	1.056	2.534	76.447	17.188	2.421	0.115	0.206	0.017	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1388.84
16	0.6349	1054.3	1073.0	1069.7	0.313	3.560	84.560	10.446	1.034	0.031	0.049	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1343.49
17	0.6792	1121.3	1141.2	1137.7	0.927	2.707	77.839	16.047	2.173	0.100	0.178	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1381.09
18	0.7074	1163.9	1184.5	1180.9	1.305	2.188	73.571	19.574	2.914	0.145	0.261	0.021	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1404.90
19	0.6385	1059.0	1077.8	1074.4	0.515	3.309	84.437	10.315	1.265	0.054	0.091	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1345.04
20	0.6964	1146.9	1167.2	1163.2	1.162	2.408	75.254	18.147	2.633	0.128	0.231	0.019	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1395.16
21	0.6893	1135.5	1155.6	1151.6	1.083	2.554	76.338	17.222	2.441	0.116	0.211	0.018	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1388.49
22	0.6478	1072.7	1091.7	1088.0	0.523	3.338	82.688	11.882	1.405	0.055	0.094	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1352.97
23	0.6382	1058.1	1076.8	1073.2	0.422	3.475	84.241	10.546	1.190	0.043	0.072	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1344.73
24	0.6288	1043.9	1062.4	1058.9	0.291	3.656	85.667	9.355	0.952	0.029	0.045	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1336.68
25	0.6341	1051.8	1070.5	1066.9	0.304	3.653	84.700	10.211	1.044	0.031	0.049	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1341.13
26	0.6405	1061.0	1079.8	1076.2	0.327	3.664	83.566	11.166	1.178	0.035	0.056	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1346.00
27	0.6404	1060.9	1079.7	1076.2	0.327	3.664	83.565	11.166	1.180	0.035	0.057	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1346.03
28	0.6403	1060.8	1079.6	1076.3	0.327	3.664	83.565	11.166	1.180	0.035	0.057	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1346.03
29	0.6402	1060.7	1079.5	1076.7	0.327	3.664	83.565	11.166	1.180	0.035	0.057	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1346.03
30	0.6401	1060.6	1079.4	1076.7	0.327	3.664	83.565	11.166	1.180	0.035	0.057	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1346.03
Avg	0.6665	1102.0	1121.6	1118.0	0.779	2.914	79.778	14.450	1.837	0.079	0.140	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1370.24

Zone 32

# Source Daily Summary

November 2019

Number: 111

Pressure Base: 14.730

Contract Day: 1

Name: LITTLE KNIFE PLANT

Temperature Base:

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	0.6863	1153.2	1173.7	1168.7	0.000	2.861	73.336	23.098	0.691	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.39	-26.06
2	0.6854	1151.9	1172.3	1167.2	0.000	2.854	73.506	22.953	0.672	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.73	-26.59
3	0.6855	1151.8	1172.2	1167.3	0.000	2.862	73.484	22.976	0.663	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.62	-26.61
4	0.6848	1150.8	1171.2	1166.3	0.000	2.866	73.582	22.903	0.634	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.00	-27.05
5	0.6846	1151.0	1171.4	1166.4	0.000	2.833	73.637	22.877	0.637	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.46	-27.08
6	0.6843	1150.5	1170.8	1165.9	0.000	2.838	73.696	22.818	0.633	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.10	-27.27
7	0.6850	1151.5	1171.9	1166.6	0.000	2.836	73.588	22.899	0.663	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.73	-26.80
8	0.6848	1151.8	1172.2	1167.6	0.000	2.809	73.630	22.872	0.674	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.15	-26.77
9	0.6851	1152.2	1172.6	1168.1	0.000	2.813	73.554	22.958	0.660	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.32	-26.68
10	0.6846	1151.1	1171.5	1166.7	0.000	2.824	73.627	22.920	0.615	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.62	-27.16
11	0.6844	1150.8	1171.2	1165.6	0.000	2.823	73.662	22.890	0.610	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.46	-27.28
12	0.6850	1152.1	1172.5	1167.1	0.000	2.801	73.591	22.935	0.658	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.41	-26.74
13	0.6855	1152.7	1173.2	1168.1	0.000	2.814	73.483	23.022	0.666	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.64	-26.45
14	0.6851	1152.0	1172.4	1167.2	0.000	2.822	73.566	22.924	0.672	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.14	-26.65
15	0.6857	1152.8	1173.2	1168.2	0.000	2.829	73.480	22.974	0.702	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.49	-26.27
16	0.6844	1151.2	1171.6	1166.8	0.000	2.798	73.702	22.836	0.650	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.97	-27.08
17	0.6844	1151.5	1171.8	1166.7	0.000	2.786	73.715	22.822	0.662	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.23	-26.99
18	0.6845	1151.8	1172.2	1167.0	0.000	2.773	73.702	22.845	0.666	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.57	-26.91
19	0.6844	1151.5	1171.9	1166.7	0.000	2.787	73.694	22.855	0.650	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.23	-27.03
20	0.6840	1151.6	1172.0	1167.2	0.000	2.737	73.776	22.843	0.630	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.85	-27.22
21	0.6836	1150.6	1171.0	1165.9	0.000	2.762	73.851	22.745	0.628	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.00	-27.49
22	0.6845	1151.3	1171.7	1166.8	0.000	2.801	73.686	22.847	0.652	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.99	-27.03
23	0.6849	1151.4	1171.8	1166.9	0.000	2.831	73.605	22.893	0.657	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.72	-26.88
24	0.6843	1150.7	1171.1	1166.3	0.000	2.823	73.692	22.842	0.629	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.42	-27.25
25	0.6848	1151.6	1172.0	1166.9	0.000	2.816	73.616	22.904	0.650	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.97	-26.91
26	0.6846	1151.4	1171.8	1166.8	0.000	2.812	73.646	22.878	0.650	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.91	-26.98
27	0.6844	1150.9	1171.3	1166.7	0.000	2.825	73.665	22.864	0.631	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.48	-27.17
28	0.6840	1150.2	1170.6	1165.8	0.000	2.828	73.735	22.803	0.620	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.08	-27.43
29	0.6848	1151.7	1172.1	1167.1	0.000	2.812	73.602	22.932	0.640	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.07	-26.92
30	0.6850	1152.1	1172.5	1167.4	0.000	2.798	73.569	22.985	0.633	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.47	-26.84
Avg	0.6848	1152.0	1171.9	1166.9	0.000	2.816	73.623	22.897	0.650	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.94	-26.92

Zone 33

# Source Daily Summary

November 2019

Number: 351

Pressure Base: 14.730

Contract Day: 1

Name: BADLANDS PLANT

Temperature Base:

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	0.6646	1092.9	1112.2	1109.2	0.386	3.893	79.252	14.665	1.657	0.048	0.088	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1361.13
2	0.6638	1093.1	1112.5	1109.4	0.387	3.806	79.395	14.635	1.632	0.047	0.086	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1362.21
3	0.6644	1093.0	1112.4	1109.3	0.386	3.872	79.290	14.650	1.650	0.049	0.091	0.006	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1361.43
4	0.6618	1093.4	1112.8	1109.8	0.382	3.604	79.713	14.617	1.558	0.044	0.073	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1364.70
5	0.6495	1071.2	1090.2	1087.2	0.345	3.863	81.960	12.344	1.364	0.043	0.071	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1349.37
6	0.6395	1052.6	1071.3	1068.3	0.311	4.098	83.788	10.474	1.213	0.041	0.065	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1336.45
7	0.6391	1051.6	1070.2	1067.2	0.311	4.126	83.869	10.356	1.219	0.042	0.066	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1335.53
8	0.6483	1068.9	1087.8	1084.8	0.337	3.895	82.188	12.104	1.355	0.042	0.068	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1347.86
9	0.6545	1080.9	1100.0	1097.0	0.355	3.720	81.033	13.345	1.427	0.042	0.069	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1356.54
10	0.6484	1068.7	1087.6	1084.8	0.336	3.919	82.174	12.077	1.374	0.042	0.069	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1347.54
11	0.6456	1062.7	1081.5	1078.6	0.328	4.038	82.702	11.458	1.353	0.043	0.069	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1342.80
12	0.6468	1065.0	1083.8	1080.8	0.331	4.002	82.492	11.685	1.367	0.043	0.070	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1344.48
13	0.6480	1067.5	1086.4	1083.4	0.337	3.957	82.256	11.951	1.378	0.043	0.069	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1346.37
14	0.6494	1070.6	1089.6	1086.6	0.340	3.889	82.009	12.248	1.393	0.043	0.069	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1348.92
15	0.6496	1071.1	1090.0	1087.0	0.341	3.882	81.963	12.297	1.396	0.043	0.069	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1349.24
16	0.6588	1089.4	1108.7	1105.7	0.372	3.584	80.231	14.214	1.478	0.042	0.070	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1362.73
17	0.6603	1093.1	1112.5	1109.4	0.405	3.449	79.994	14.541	1.483	0.043	0.074	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1365.80
18	0.6634	1091.8	1111.2	1107.9	0.599	3.517	80.031	13.895	1.737	0.067	0.128	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1360.95
19	0.6612	1090.0	1109.3	1106.3	0.388	3.743	79.865	14.315	1.544	0.047	0.086	0.006	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1361.07
20	0.6634	1092.5	1111.8	1108.8	0.380	3.817	79.433	14.636	1.584	0.047	0.090	0.006	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1361.81
21	0.6639	1093.2	1112.6	1109.5	0.381	3.816	79.346	14.713	1.594	0.047	0.089	0.006	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1362.23
22	0.6632	1093.2	1112.6	1109.5	0.381	3.754	79.457	14.692	1.574	0.046	0.085	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1362.93
23	0.6634	1093.3	1112.6	1109.5	0.381	3.763	79.440	14.692	1.578	0.047	0.086	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1362.83
24	0.6628	1092.2	1111.5	1108.5	0.374	3.783	79.527	14.612	1.564	0.046	0.084	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1362.14
25	0.6624	1092.6	1112.0	1108.9	0.381	3.714	79.607	14.597	1.563	0.046	0.082	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1363.02
26	0.6631	1092.2	1111.6	1108.5	0.383	3.795	79.519	14.556	1.600	0.047	0.087	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1361.85
27	0.6628	1092.6	1112.0	1109.0	0.383	3.745	79.554	14.591	1.585	0.046	0.084	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1362.65
28	0.6630	1093.3	1112.7	1109.7	0.382	3.720	79.502	14.689	1.568	0.046	0.082	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1363.33
29	0.6624	1093.7	1113.1	1110.1	0.379	3.650	79.599	14.685	1.552	0.045	0.081	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1364.40
30	0.6620	1093.6	1112.9	1110.0	0.378	3.619	79.666	14.670	1.534	0.044	0.078	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1364.66
Avg	0.6570	1083.0	1102.2	1099.1	0.372	3.801	80.628	13.567	1.496	0.045	0.079	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1356.57

Zone 34

# Source Daily Summary

November 2019

Number: 471

Pressure Base: 14.730

Contract Day:

Name: SPRING CREEK I - SAX VALVE I

Temperature Base:

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	0.7012	1152.2	1172.6	1169.6	1.039	2.731	72.178	22.522	1.510	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1397.17	-18.48
2	0.7016	1153.4	1173.8	1170.8	1.035	2.710	72.282	22.238	1.719	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1398.11	-17.55
3	0.7016	1153.5	1173.9	1170.9	1.038	2.697	72.327	22.165	1.757	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1398.25	-17.40
4	0.7002	1151.2	1171.6	1168.6	1.041	2.703	72.385	22.325	1.530	0.008	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1396.85	-18.84
5	0.7080	1162.9	1183.5	1180.5	1.027	2.732	71.783	21.932	2.490	0.017	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1403.32	-12.09
6	0.6923	1136.4	1156.5	1153.5	1.059	2.829	73.811	20.956	1.329	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1386.71	-24.32
7	0.6801	1116.3	1136.1	1133.2	1.073	2.895	75.282	20.405	0.341	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1374.42	-34.18
8	0.6876	1129.1	1149.1	1146.2	1.060	2.834	73.892	21.745	0.459	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1382.63	-29.43
9	0.6896	1133.1	1153.1	1150.2	1.052	2.800	73.469	22.209	0.457	0.005	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1385.38	-28.19
10	0.6816	1118.9	1138.7	1135.8	1.066	2.888	74.970	20.740	0.331	0.002	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1376.08	-33.36
11	0.6793	1114.8	1134.6	1131.7	1.066	2.922	75.447	20.206	0.355	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1373.38	-34.60
12	0.6795	1115.9	1135.7	1132.8	1.062	2.877	75.347	20.425	0.286	0.001	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1374.55	-34.67
13	0.6793	1116.6	1136.4	1133.4	1.072	2.805	75.386	20.469	0.264	0.002	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1375.55	-34.69
14	0.6815	1120.4	1140.2	1137.3	1.078	2.773	74.970	20.894	0.276	0.003	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1377.99	-33.28
15	0.6949	1143.3	1163.6	1160.6	1.047	2.682	72.769	22.657	0.833	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1392.56	-23.87
16	0.7020	1154.7	1175.1	1172.1	1.039	2.662	72.345	22.091	1.843	0.010	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1399.25	-16.81
17	0.6970	1146.8	1167.1	1164.1	1.046	2.663	72.720	22.363	1.192	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1394.70	-21.58
18	0.7037	1158.4	1178.9	1175.8	1.033	2.599	72.247	22.071	1.994	0.019	0.031	0.002	0.003	0.000	0.000	0.000	0.000	0.000	1402.05	-14.87
19	0.6980	1150.9	1171.3	1168.3	1.046	2.499	73.118	21.589	1.694	0.021	0.030	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1398.74	-18.66
20	0.6847	1128.6	1148.6	1145.6	1.067	2.589	74.562	21.273	0.497	0.005	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1384.81	-30.25
21	0.6768	1114.1	1133.9	1130.9	1.093	2.690	75.953	19.968	0.293	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1375.02	-35.76
22	0.6786	1117.8	1137.6	1134.7	1.078	2.652	75.744	20.091	0.421	0.004	0.009	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1377.78	-33.92
23	0.6780	1115.8	1135.6	1132.7	1.081	2.717	75.801	19.996	0.403	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1375.91	-34.69
24	0.6779	1115.9	1135.7	1132.7	1.084	2.692	75.874	19.913	0.436	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1376.16	-34.63
25	0.6775	1114.0	1133.8	1130.9	1.085	2.774	75.910	19.813	0.417	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1374.19	-35.09
26	0.6753	1109.3	1128.9	1126.0	1.089	2.850	76.268	19.468	0.324	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1370.56	-36.92
27	0.6746	1107.7	1127.3	1124.4	1.097	2.870	76.403	19.313	0.315	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1369.27	-37.42
28	0.6863	1128.3	1148.3	1145.3	1.062	2.769	73.952	21.942	0.274	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1382.84	-30.70
29	0.6846	1125.0	1144.9	1142.0	1.067	2.800	74.296	21.567	0.268	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1380.52	-31.75
30	0.6901	1134.3	1154.4	1151.4	1.054	2.770	73.262	22.545	0.365	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1386.39	-28.31
Avg	0.6881	1131.0	1151.4	1148.4	1.061	2.749	74.158	21.196	0.822	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1384.71	-27.88

Zone 43

November-19

ZONE 550

MANDAN BORDER

Start Date	End Date	NBPL - St Anthony			Mandan Border			Weighted AVG BTU	
		MCF	DK	BTU	MCF	DK	BTU Zone 28		
11/1/2019	11/2/2019				4011	4505	1.1234	1.123	11/1/2019
11/2/2019	11/3/2019				3643	4090	1.1222	1.122	11/2/2019
11/3/2019	11/4/2019				3842	4317	1.1240	1.124	11/3/2019
11/4/2019	11/5/2019				5360	5970	1.1146	1.115	11/4/2019
11/5/2019	11/6/2019				5327	5928	1.1125	1.113	11/5/2019
11/6/2019	11/7/2019				6208	6982	1.1244	1.124	11/6/2019
11/7/2019	11/8/2019				5479	6071	1.1084	1.108	11/7/2019
11/8/2019	11/9/2019				3620	4045	1.1180	1.118	11/8/2019
11/9/2019	11/10/2019				4159	4625	1.1125	1.113	11/9/2019
11/10/2019	11/11/2019				6486	7185	1.1081	1.108	11/10/2019
11/11/2019	11/12/2019				7297	8176	1.1204	1.120	11/11/2019
11/12/2019	11/13/2019				5227	5841	1.1174	1.117	11/12/2019
11/13/2019	11/14/2019				4927	5575	1.1306	1.131	11/13/2019
11/14/2019	11/15/2019				3731	4209	1.1285	1.129	11/14/2019
11/15/2019	11/16/2019	302	334	1.1060	4058	4549	1.1210	1.120	11/15/2019
11/16/2019	11/17/2019				3381	3782	1.1186	1.119	11/16/2019
11/17/2019	11/18/2019				3069	3434	1.1186	1.119	11/17/2019
11/18/2019	11/19/2019				3097	3477	1.1227	1.123	11/18/2019
11/19/2019	11/20/2019				3302	3762	1.1383	1.138	11/19/2019
11/20/2019	11/21/2019				4873	5505	1.1305	1.131	11/20/2019
11/21/2019	11/22/2019				4934	5559	1.1267	1.127	11/21/2019
11/22/2019	11/23/2019				3871	4372	1.1294	1.129	11/22/2019
11/23/2019	11/24/2019				3081	3489	1.1326	1.133	11/23/2019
11/24/2019	11/25/2019				2943	3309	1.1237	1.124	11/24/2019
11/25/2019	11/26/2019				3964	4460	1.1252	1.125	11/25/2019
11/26/2019	11/27/2019				4722	5326	1.1273	1.127	11/26/2019
11/27/2019	11/28/2019				5114	5844	1.1429	1.143	11/27/2019
11/28/2019	11/29/2019				5136	5875	1.1440	1.144	11/28/2019
11/29/2019	11/30/2019				4750	5406	1.1380	1.138	11/29/2019
11/30/2019	12/1/2019				5044	5744	1.1387	1.139	11/30/2019
		302	334	1.1060	134,656	151,412	1.1248	1.1247	



# Alliance Pipeline

DAILY ANALYSIS --- USA  
 ND07MD1 --- Hankinson Sales  
 November 2019

DAY	Heating Value (BTU/lb)	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	1,173.064	0.6738	82.9504	10.0415	4.1417	0.4358	0.8079	0.0749	0.0572	0.0260	1.0547	0.3986	0.0114
2	1,171.464	0.6724	83.1053	9.9982	4.0757	0.4313	0.7905	0.0748	0.0575	0.0257	1.0396	0.3902	0.0111
3	1,171.034	0.6723	83.0694	10.0634	4.0638	0.4230	0.7753	0.0731	0.0560	0.0253	1.0413	0.3980	0.0115
4	1,168.750	0.6703	83.3570	9.9137	4.0115	0.4127	0.7560	0.0708	0.0538	0.0243	1.0048	0.3853	0.0101
5	1,166.966	0.6686	83.5709	9.8373	3.9372	0.4072	0.7446	0.0693	0.0511	0.0247	0.9737	0.3730	0.0109
6	1,165.329	0.6674	83.6670	9.8614	3.8680	0.3982	0.7208	0.0658	0.0504	0.0240	0.9528	0.3804	0.0112
7	1,165.980	0.6676	83.6415	9.9362	3.8177	0.4018	0.7292	0.0714	0.0530	0.0266	0.9311	0.3806	0.0109
8	1,163.643	0.6661	83.8093	9.8938	3.7242	0.3943	0.7122	0.0687	0.0534	0.0265	0.9276	0.3793	0.0108
9	1,164.906	0.6673	83.6929	9.8448	3.8393	0.4008	0.7207	0.0679	0.0532	0.0253	0.9616	0.3827	0.0108
10	1,162.993	0.6656	83.9214	9.7583	3.7612	0.3930	0.7096	0.0669	0.0522	0.0253	0.9252	0.3760	0.0110
11	1,162.304	0.6648	84.0435	9.7018	3.7172	0.3933	0.7088	0.0697	0.0529	0.0267	0.9086	0.3669	0.0106
12	1,162.392	0.6649	84.0548	9.6696	3.7208	0.3980	0.7163	0.0711	0.0535	0.0261	0.9159	0.3634	0.0105
13	1,163.812	0.6662	83.8607	9.7554	3.7996	0.3979	0.7187	0.0693	0.0524	0.0241	0.9376	0.3739	0.0104
14	1,163.229	0.6658	83.8803	9.7989	3.7418	0.3981	0.7150	0.0685	0.0520	0.0255	0.9415	0.3679	0.0104
15	1,166.506	0.6683	83.6386	9.7641	3.9074	0.4141	0.7640	0.0688	0.0526	0.0249	0.9925	0.3624	0.0104
16	1,163.396	0.6667	83.7724	9.7754	3.7621	0.4020	0.7451	0.0688	0.0522	0.0262	1.0233	0.3623	0.0102
17	1,165.925	0.6691	83.4713	9.8706	3.8592	0.4151	0.7727	0.0707	0.0539	0.0248	1.0707	0.3811	0.0098
18	1,166.979	0.6691	83.5552	9.7928	3.8887	0.4229	0.7862	0.0712	0.0554	0.0260	1.0161	0.3757	0.0098
19	1,167.598	0.6695	83.4961	9.8238	3.9116	0.4234	0.7854	0.0717	0.0558	0.0272	1.0159	0.3794	0.0098
20	1,166.135	0.6700	83.4034	9.7583	3.9495	0.4185	0.7888	0.0694	0.0541	0.0253	1.1444	0.3792	0.0093
21	1,164.828	0.6679	83.6668	9.7502	3.8362	0.4129	0.7616	0.0704	0.0547	0.0263	1.0336	0.3779	0.0094
22	1,163.666	0.6677	83.6626	9.7384	3.8204	0.4074	0.7532	0.0706	0.0543	0.0254	1.0750	0.3829	0.0097
23	1,164.598	0.6686	83.5543	9.7628	3.8741	0.4094	0.7608	0.0693	0.0533	0.0256	1.0901	0.3902	0.0100
24	1,166.483	0.6694	83.4572	9.8599	3.8820	0.4180	0.7797	0.0712	0.0536	0.0244	1.0599	0.3845	0.0095
25	1,167.306	0.6701	83.4043	9.8345	3.9266	0.4246	0.7861	0.0731	0.0556	0.0264	1.0664	0.3926	0.0099
26	1,166.722	0.6689	83.5792	9.7928	3.8833	0.4218	0.7741	0.0719	0.0556	0.0268	0.9931	0.3914	0.0100
27	1,166.354	0.6687	83.6163	9.7731	3.8719	0.4216	0.7699	0.0731	0.0559	0.0263	0.9829	0.3988	0.0102
28	1,168.020	0.6701	83.4465	9.7973	3.9567	0.4284	0.7911	0.0724	0.0546	0.0255	1.0253	0.3923	0.0099
29	1,170.831	0.6728	83.1230	9.8542	4.0984	0.4386	0.8237	0.0737	0.0552	0.0255	1.1021	0.3959	0.0097
30	1,166.454	0.6694	83.5123	9.7461	3.9388	0.4186	0.7798	0.0707	0.0534	0.0245	1.0566	0.3895	0.0097
Volume	1,166.257	0.6686	83.5686	9.8263	3.8866	0.4125	0.7573	0.0706	0.0539	0.0256	1.0069	0.3814	0.0103
Weight Avg Energy	1,166.264	0.6686	83.5680	9.8265	3.8869	0.4125	0.7573	0.0706	0.0539	0.0256	1.0069	0.3815	0.0103

NOVA



# Alliance Pipeline

DAILY ANALYSIS --- USA  
 ND14MD1 --- Milnor Sales  
 November 2019

DAY	Heating Value (BTU/#3)	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	1,173.203	0.6739	82.9497	10.0415	4.1409	0.4369	0.8101	0.0755	0.0578	0.0262	1.0519	0.3983	0.0113
2	1,171.027	0.6723	83.1177	10.0038	4.0629	0.4286	0.7852	0.0740	0.0568	0.0255	1.0420	0.3923	0.0112
3	1,171.227	0.6725	83.0662	10.0519	4.0770	0.4235	0.7773	0.0735	0.0560	0.0253	1.0403	0.3977	0.0113
4	1,168.307	0.6699	83.4060	9.8955	3.9945	0.4115	0.7531	0.0704	0.0531	0.0242	0.9986	0.3829	0.0101
5	1,166.793	0.6684	83.5876	9.8460	3.9281	0.4057	0.7394	0.0686	0.0507	0.0247	0.9667	0.3715	0.0109
6	1,164.040	0.6666	83.7713	9.8342	3.8115	0.3942	0.7113	0.0660	0.0505	0.0241	0.9429	0.3827	0.0113
7	1,166.608	0.6681	83.5932	9.9379	3.8504	0.4040	0.7359	0.0708	0.0530	0.0265	0.9364	0.3810	0.0109
8	1,162.796	0.6656	83.8444	9.9097	3.6898	0.3895	0.6983	0.0682	0.0536	0.0268	0.9260	0.3828	0.0110
9	1,164.979	0.6674	83.6796	9.8652	3.8350	0.4001	0.7208	0.0671	0.0530	0.0256	0.9600	0.3827	0.0110
10	1,162.743	0.6654	83.9464	9.7528	3.7470	0.3921	0.7079	0.0674	0.0521	0.0257	0.9239	0.3737	0.0109
11	1,162.589	0.6650	84.0296	9.7005	3.7273	0.3947	0.7121	0.0702	0.0532	0.0268	0.9082	0.3667	0.0106
12	1,162.389	0.6650	84.0403	9.6816	3.7211	0.3976	0.7157	0.0708	0.0533	0.0258	0.9178	0.3657	0.0106
13	1,163.970	0.6663	83.8417	9.7844	3.7950	0.3977	0.7172	0.0693	0.0522	0.0244	0.9363	0.3714	0.0103
14	1,163.410	0.6660	83.8719	9.7730	3.7607	0.4000	0.7193	0.0690	0.0523	0.0258	0.9494	0.3681	0.0103
15	1,166.148	0.6682	83.6579	9.7594	3.8925	0.4127	0.7634	0.0687	0.0525	0.0247	0.9956	0.3622	0.0104
16	1,163.353	0.6668	83.7512	9.7783	3.7633	0.4033	0.7469	0.0688	0.0521	0.0261	1.0357	0.3640	0.0103
17	1,165.851	0.6689	83.5091	9.8671	3.8443	0.4149	0.7707	0.0711	0.0545	0.0252	1.0526	0.3805	0.0100
18	1,167.444	0.6695	83.5318	9.7807	3.9118	0.4256	0.7929	0.0715	0.0555	0.0261	1.0192	0.3753	0.0095
19	1,167.213	0.6694	83.5136	9.8181	3.9023	0.4224	0.7810	0.0709	0.0557	0.0270	1.0184	0.3807	0.0098
20	1,166.218	0.6702	83.3775	9.7697	3.9566	0.4177	0.7888	0.0694	0.0540	0.0251	1.1519	0.3800	0.0093
21	1,164.475	0.6676	83.7210	9.7236	3.8223	0.4130	0.7590	0.0707	0.0547	0.0262	1.0258	0.3743	0.0094
22	1,163.859	0.6681	83.6136	9.7541	3.8352	0.4072	0.7553	0.0702	0.0542	0.0253	1.0909	0.3842	0.0098
23	1,164.561	0.6685	83.5804	9.7510	3.8689	0.4102	0.7612	0.0696	0.0533	0.0254	1.0818	0.3883	0.0100
24	1,166.650	0.6695	83.4404	9.8823	3.8770	0.4186	0.7805	0.0713	0.0537	0.0246	1.0556	0.3864	0.0095
25	1,167.597	0.6704	83.3857	9.8391	3.9378	0.4256	0.7881	0.0731	0.0557	0.0266	1.0649	0.3935	0.0099
26	1,166.496	0.6688	83.6105	9.7805	3.8745	0.4210	0.7718	0.0718	0.0556	0.0269	0.9853	0.3921	0.0100
27	1,166.581	0.6690	83.5894	9.7878	3.8822	0.4207	0.7690	0.0737	0.0561	0.0265	0.9842	0.4004	0.0101
28	1,169.016	0.6711	83.3409	9.8101	4.0064	0.4325	0.8047	0.0727	0.0545	0.0254	1.0498	0.3934	0.0098
29	1,170.353	0.6725	83.1513	9.8646	4.0776	0.4342	0.8156	0.0733	0.0551	0.0257	1.0925	0.4005	0.0097
30	1,165.927	0.6692	83.5596	9.7064	3.9349	0.4165	0.7777	0.0703	0.0529	0.0240	1.0575	0.3906	0.0097
Volume	1,165.814	0.6684	83.6068	9.8156	3.8677	0.4109	0.7542	0.0705	0.0539	0.0257	1.0042	0.3804	0.0103
Weight Avg Energy	1,165.820	0.6684	83.6062	9.8157	3.8680	0.4109	0.7542	0.0705	0.0539	0.0257	1.0043	0.3804	0.0103

100  
 100  
 100

November-19

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		
11/1/2019	11/2/2019	449	536	1.1942	520	610	1.1726	1.183	11/1/2019
11/2/2019	11/3/2019	432	516	1.1942	361	424	1.1738	1.185	11/2/2019
11/3/2019	11/4/2019	427	510	1.1942	479	562	1.1739	1.183	11/3/2019
11/4/2019	11/5/2019	479	572	1.1942	637	747	1.1716	1.181	11/4/2019
11/5/2019	11/6/2019	480	573	1.1942	686	814	1.1835	1.188	11/5/2019
11/6/2019	11/7/2019	543	648	1.1942	901	1041	1.1565	1.171	11/6/2019
11/7/2019	11/8/2019	483	577	1.1942	680	772	1.1361	1.160	11/7/2019
11/8/2019	11/9/2019	394	470	1.1942	287	329	1.1491	1.175	11/8/2019
11/9/2019	11/10/2019	449	536	1.1942	558	643	1.1531	1.171	11/9/2019
11/10/2019	11/11/2019	568	679	1.1942	830	945	1.1387	1.161	11/10/2019
11/11/2019	11/12/2019	602	719	1.1942	996	1131	1.1346	1.157	11/11/2019
11/12/2019	11/13/2019	484	578	1.1942	634	720	1.1357	1.161	11/12/2019
11/13/2019	11/14/2019	456	544	1.1942	492	559	1.1364	1.164	11/13/2019
11/14/2019	11/15/2019	429	512	1.1942	475	542	1.1402	1.166	11/14/2019
11/15/2019	11/16/2019	385	460	1.1942	286	333	1.1636	1.181	11/15/2019
11/16/2019	11/17/2019	412	493	1.1942	370	435	1.1751	1.185	11/16/2019
11/17/2019	11/18/2019	386	461	1.1942	262	305	1.1671	1.183	11/17/2019
11/18/2019	11/19/2019	400	478	1.1942	311	367	1.1789	1.188	11/18/2019
11/19/2019	11/20/2019	420	502	1.1942	348	408	1.1713	1.184	11/19/2019
11/20/2019	11/21/2019	504	602	1.1942	650	746	1.1486	1.169	11/20/2019
11/21/2019	11/22/2019	484	578	1.1942	554	628	1.1339	1.162	11/21/2019
11/22/2019	11/23/2019	449	536	1.1942	378	430	1.1376	1.168	11/22/2019
11/23/2019	11/24/2019	428	511	1.1942	311	353	1.1356	1.170	11/23/2019
11/24/2019	11/25/2019	426	509	1.1942	333	378	1.1357	1.169	11/24/2019
11/25/2019	11/26/2019	467	558	1.1942	476	540	1.1338	1.164	11/25/2019
11/26/2019	11/27/2019	481	574	1.1942	543	613	1.1289	1.160	11/26/2019
11/27/2019	11/28/2019	532	635	1.1942	631	711	1.1273	1.158	11/27/2019
11/28/2019	11/29/2019	528	631	1.1942	557	640	1.1483	1.171	11/28/2019
11/29/2019	11/30/2019	496	592	1.1942	541	620	1.1449	1.168	11/29/2019
11/30/2019	12/1/2019	513	613	1.1942	584	673	1.1544	1.173	11/30/2019
		13,986	16,703		15,671	18,019	1.1514	1.1719	

ROW ID	LOCATION DESCRIPTION	GROSS HEATING VALUE (BTU/CF)	SPECIFIC GRAVITY	WOBBE (cal)	CRICONDENTHERM (deg F)	NITROGEN (mole percent)	CARBON DIOXIDE (mole percent)	METHANE (mole percent)	ETHANE (mole percent)	PROPANE (mole percent)	NORMAL BUTANE (mole percent)	ISO BUTANE (mole percent)	PENTANE (mole percent)	ISO PENTANE (mole percent)	NEO PENTANE (mole percent)	HEXANES PLUS (mole percent)	HYDROGEN (mole percent)	HELIUM (mole percent)	PRODUCTION DATE	POSTING DATE	Changetimestamp	NOTES
11587	GLEN ULLIN	1105.6	0.6478	1373.7	-45.1	1.9484	0.8905	82.415	13.459	1.0895	0.0315	0.0186	0.001	0.0013	0	0	0.1251	0.0202	10/31/2019	11/1/2019	11/1/2019 4:16:22 PM	
11587	GLEN ULLIN	1110.6	0.6515	1376	-41.9	1.9886	0.893	81.8162	13.9237	1.175	0.0426	0.0237	0.0028	0.0026	0	0.0004	0.1106	0.0209	11/1/2019	11/2/2019	11/2/2019 4:23:17 PM	
11587	GLEN ULLIN	1114.9	0.6551	1377.5	-39.9	2.0773	0.8868	81.1271	14.4101	1.2882	0.0373	0.0226	0.002	0.002	0	0.0001	0.1255	0.0212	11/2/2019	11/3/2019	11/3/2019 4:18:55 PM	
11587	GLEN ULLIN	1114.6	0.6556	1376.6	-40	2.1367	0.89	80.9332	14.5598	1.2562	0.0331	0.0206	0.0014	0.0015	0	0	0.1458	0.0217	11/3/2019	11/4/2019	11/4/2019 4:25:53 PM	
11587	GLEN ULLIN	1117	0.6571	1378	-38.8	2.147	0.8864	80.592	14.8412	1.2695	0.0398	0.0244	0.0018	0.0019	0	0.0001	0.1744	0.0217	11/4/2019	11/5/2019	11/5/2019 4:21:53 PM	
11587	GLEN ULLIN	1116.7	0.6562	1378.5	-39.1	2.0516	0.8994	81.1432	14.4346	1.3369	0.0401	0.0255	0.0018	0.002	0	0.0002	0.0435	0.0214	11/5/2019	11/6/2019	11/6/2019 4:29:14 PM	
11587	GLEN ULLIN	1112.5	0.6529	1376.8	-41.6	1.9939	0.8973	81.7257	14.0387	1.2256	0.0378	0.0229	0.0015	0.0018	0	0.0001	0.0337	0.0211	11/6/2019	11/7/2019	11/7/2019 4:11:00 PM	
11587	GLEN ULLIN	1104.4	0.6481	1371.9	-45.7	2.0038	0.9133	82.4334	13.6316	0.907	0.0386	0.0229	0.0024	0.0028	0	0.0005	0.022	0.0218	11/7/2019	11/8/2019	11/8/2019 4:18:39 PM	
11587	GLEN ULLIN	1104.9	0.6486	1371.9	-45.5	2.0397	0.9037	82.2864	13.7619	0.8836	0.043	0.0234	0.0028	0.0029	0	0.0003	0.0305	0.0218	11/8/2019	11/9/2019	11/9/2019 4:16:09 PM	
11587	GLEN ULLIN	1109.3	0.6521	1373.7	-43.6	2.1001	0.9087	81.5459	14.4336	0.885	0.0401	0.0229	0.0027	0.003	0	0.0006	0.036	0.0217	11/9/2019	11/10/2019	11/10/2019 4:16:43 PM	
11587	GLEN ULLIN	1103.6	0.6475	1371.4	-47.1	2.0116	0.9094	82.4143	13.7258	0.832	0.0312	0.0188	0.0014	0.0018	0	0.0001	0.0328	0.021	11/10/2019	11/11/2019	11/11/2019 4:19:04 PM	
11587	GLEN ULLIN	1098.5	0.6438	1369.1	-49	1.9758	0.9017	83.1699	12.9871	0.8433	0.0349	0.0201	0.0016	0.0019	0	0	0.0434	0.0206	11/11/2019	11/12/2019	11/12/2019 4:20:29 PM	
11587	GLEN ULLIN	1100	0.6453	1369.3	-48.8	2.0251	0.9063	82.7775	13.4092	0.7673	0.0326	0.0181	0.0013	0.0016	0	0	0.0401	0.0211	11/12/2019	11/13/2019	11/13/2019 4:25:05 PM	
11587	GLEN ULLIN	1103.1	0.6478	1370.5	-46.2	2.0609	0.9129	82.3175	13.6568	0.8676	0.0439	0.0235	0.0024	0.0026	0	0.0001	0.0909	0.0211	11/13/2019	11/14/2019	11/14/2019 4:23:00 PM	
11587	GLEN ULLIN	1105.4	0.6487	1372.4	-44.7	2.0339	0.8981	82.1737	13.7456	0.9295	0.0545	0.0281	0.003	0.0033	0	0.0001	0.1093	0.021	11/14/2019	11/15/2019	11/15/2019 4:25:31 PM	
11587	GLEN ULLIN	1109.9	0.6516	1375	-42.1	2.0438	0.8896	81.6802	14.0432	1.0923	0.0541	0.0285	0.0029	0.0031	0	0	0.1413	0.0212	11/15/2019	11/16/2019	11/16/2019 4:24:43 PM	
11587	GLEN ULLIN	1108.1	0.6503	1374.1	-42.7	2.0296	0.8913	82.0067	13.6504	1.1898	0.0424	0.0239	0.0022	0.0023	0	0	0.1404	0.0212	11/16/2019	11/17/2019	11/17/2019 4:24:33 PM	
11587	GLEN ULLIN	1106.1	0.6493	1372.6	-44.4	2.066	0.8841	81.9234	13.8485	1.0064	0.0393	0.0217	0.0018	0.002	0	0	0.1856	0.0213	11/17/2019	11/18/2019	11/18/2019 4:24:42 PM	
11587	GLEN ULLIN	1106.4	0.6487	1373.7	-42.8	2.0031	0.8765	82.2192	13.4479	1.1523	0.0511	0.0271	0.0033	0.0032	0	0.0008	0.1947	0.0208	11/18/2019	11/19/2019	11/19/2019 4:28:48 PM	
11587	GLEN ULLIN	1111.5	0.6524	1376.1	-40.1	2.0438	0.8768	81.6415	13.8194	1.3006	0.062	0.0351	0.0029	0.0032	0	0.0001	0.1938	0.021	11/19/2019	11/20/2019	11/20/2019 4:27:50 PM	
11587	GLEN ULLIN	1104.7	0.6486	1371.6	-44.5	2.087	0.8825	82.0939	13.6265	1.021	0.047	0.0266	0.0021	0.0022	0	0	0.1903	0.0212	11/20/2019	11/21/2019	11/21/2019 4:26:18 PM	
11587	GLEN ULLIN	1104.4	0.6481	1371.8	-45.2	2.0496	0.8912	82.0887	13.7035	0.9716	0.0389	0.0221	0.0021	0.0021	0	0	0.2093	0.021	11/21/2019	11/22/2019	11/22/2019 3:59:07 PM	
11587	GLEN ULLIN	1104.1	0.6491	1370.4	-45.2	2.1247	0.9134	81.8773	13.8588	0.9448	0.0352	0.0199	0.0019	0.0019	0	0	0.2009	0.0211	11/22/2019	11/23/2019	11/23/2019 4:03:13 PM	
11587	GLEN ULLIN	1105.6	0.6505	1370.8	-44.5	2.1723	0.9096	81.6646	14.0464	0.9651	0.0344	0.0195	0.0018	0.0018	0	0	0.1629	0.0219	11/23/2019	11/24/2019	11/24/2019 4:08:09 PM	
11587	GLEN ULLIN	1105.4	0.6504	1370.7	-44.4	2.1695	0.9103	81.6876	13.9934	0.981	0.0357	0.0202	0.0018	0.0018	0	0	0.1768	0.022	11/24/2019	11/25/2019	11/25/2019 4:03:27 PM	
11587	GLEN ULLIN	1102.5	0.6488	1368.7	-46	2.1897	0.9151	81.8966	13.8369	0.9026	0.0304	0.0173	0.0016	0.0016	0	0	0.1863	0.022	11/25/2019	11/26/2019	11/26/2019 4:09:05 PM	
11587	GLEN ULLIN	1101.7	0.6484	1368.2	-46.5	2.2006	0.9174	81.906	13.8489	0.8576	0.0303	0.0172	0.0016	0.0016	0	0	0.1971	0.0219	11/26/2019	11/27/2019	11/27/2019 4:10:33 PM	
11587	GLEN ULLIN	1099.6	0.6464	1367.7	-47.5	2.1656	0.8987	82.3206	13.4992	0.8551	0.0311	0.0172	0.0017	0.0017	0	0	0.1874	0.0217	11/27/2019	11/28/2019	11/28/2019 4:12:09 PM	
11587	GLEN ULLIN	1110.1	0.6534	1373.3	-42.2	2.1394	0.9327	81.1745	14.4808	1.0085	0.045	0.0241	0.0026	0.0025	0	0.0001	0.1685	0.0214	11/28/2019	11/29/2019	11/29/2019 4:11:59 PM	
11587	GLEN ULLIN	1108	0.6519	1372.3	-43.4	2.1362	0.9251	81.4049	14.3136	0.9654	0.0394	0.0217	0.0022	0.0021	0	0	0.1677	0.0217	11/29/2019	11/30/2019	11/30/2019 4:12:36 PM	
11587	GLEN ULLIN	1105.8	0.6496	1372	-44.8	2.0885	0.9047	81.7758	14.0383	0.9251	0.0376	0.0206	0.0022	0.0021	0	0	0.1839	0.0214	11/30/2019	12/1/2019	12/1/2019 4:13:48 PM	

31 record(s) retrieved

*None*

<b>NORTH DAKOTA HEATING VALUE ZONES</b>		
<b>ZONES</b>	<b>MEASURING DEVICE</b>	<b>LOCATION</b>
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	Chromatograph	Spring Creek
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	NOV 19	OCT 19	SEPT 19	AUG 19	JULY 19	JUNE 19	MAY 19	APR 19	MAR 19	FEB 19	JAN 19	DEC 18	ZONE
MT/ND	211	Sidney Border - MonDak Trf - Sidney Plt	1205	1198	1210	1218	1200	1199	1208	1207	1202	1205	1207	1202	1200	211
ND	24	Williston Border - Charbonneau Station	1163	1177	1160	1164	1165	1165	1152	1158	1164	1166	1162	1163	1164	24
ND	25	Watford City West Border	1197	1194	1199	1195	1197	1195	1199	1188	1202	1198	1204	1191	1196	25
ND	28	Bismarck Station - Glen Ullin Station	1157	1125	1137	1189	1196	1186	1205	1178	1147	1144	1115	1141	1120	28
ND	31	Dickinson Brd - Belfield Trf - G Ullin Stn	1140	1125	1137	1163	1114	1128	1168	1165	1152	1143	1116	1139	1132	31
ND/MT	32	Cabin Creek Station - Belfied Transfer	1128	1122	1134	1130	1137	1133	1147	1138	1131	1139	1104	1128	1093	32
ND	33	Little Knife Plant	1173	1172	1173	1174	1175	1175	1174	1173	1173	1173	1173	1172	1173	33
ND	34	Badlands Plant/Bowman Border	1022	1102	1054	1001	1013	989	978	979	979	1013	1062	1048	1042	34
ND	43	Spring Creek I - Sax Valve I	1120	1151	1143	1144	1150	1140	1149	1148	1136	1127	1061	1044	1051	43
ND/MT	241	Fairview Border	1196	1202	1208	1210	1194	1191	1200	1202	1196	1188	1204	1173	1181	241
ND	260	North Tioga Transfer - Nesson Plant	1124	1146	1126	1136	1135	1132	1115	1118	1121	1127	1109	1113	1104	260
ND	261	Tioga Comp Station - Robinson Lake Plan	1178	1178	1174	1189	1189	1179	1175	1164	1170	1179	1184	1180	1173	261
ND	262	Minot Bdr - Palermo Bdr - Bismarck Stn	1190	1193	1195	1193	1197	1198	1205	1185	1183	1182	1182	1183	1182	262
ND	263	Lignite Plant	1152	1149	1146	1146	1163	1164	1160	1152	1148	1149	1146	1149	1146	263
ND	264	Epping Border	1151	1164	1144	1148	1155	1154	1150	1143	1151	1153	1148	1149	1147	264
ND	265	Tioga Comp Station - County Line Plant	1175	1168	1169	1176	1177	1175	1175	1177	1171	1181	1184	1179	1173	265
ND	266	County Line Plant	1172	1170	1170	1172	1170	1166	1170	1171	1174	1176	1170	1177	1179	266
ND	271	Bismarck Station - Cleveland Station	1186	1174	1189	1191	1197	1196	1206	1186	1183	1181	1168	1176	1180	271
ND	272	Cleveland Station - Mapleton	1185	1174	1188	1191	1196	1195	1204	1185	1180	1181	1167	1176	1180	272
ND	273	Cleveland Station - Grafton Border	1184	1173	1188	1190	1195	1194	1204	1185	1180	1181	1167	1176	1180	273
ND	550	Mandan Border / NBPL-St Anthony	1151	1125	1137	1189	1196	1186	1202	1176	1147	1119	1107	1121	1106	550
ND	610	MDU-Watford City BTU	1159	1172	1174	1178	1181	1180	1187	1176	1175	1158	1113	1101	1109	610
ND	802	NBPL - Linton	1093	1107	1098	1094	1094	1091	1098	1101	1101	1083	1083	1083	1084	802
ND	903	Hettinger Propane	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	903
ND	600	Alliance Pipeline - Hankinson	1161	1166	1170	1167	1162	1161	1158	1169	1163	1157	1151	1155	1153	600
ND	601	Alliance Pipeline - Milnor	1161	1166	1170	1167	1162	1160	1156	1169	1162	1156	1151	1155	1153	602

<b>THERMAL ZONE VARIANCE DOCUMENTATION</b>		
<b>November 2019</b>		
<b><i>ZONE</i></b>	<b><i>BTU VARIANCE</i></b>	<b><i>REASON</i></b>
34	48	Blend of Gas
260	20	Operational
264	20	Operational