

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

March 2, 2021

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

Re: Case No. PU-20-002 (Therm Billing)  
Monthly Report – December 2020

Montana-Dakota Utilities Co. herewith electronically submits the following information, pursuant to the Ordering paragraphs one and two of the Order issued in Case No. 11,006, dated October 20, 1987 and pursuant to the North Dakota Administrative Code 69-09-01-02, part 2.

1. Attachment A is a schedule showing the thermal billing factors by community that reflect the BTU values shown on Attachment B and were used for billing purposes in January 2021.
2. Attachment B consists of copies of the monthly Heating Value Test Reports received from our suppliers for the month of December 2020.
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 December 2020.

Montana-Dakota respectfully request this electronic filing, in lieu of an original and one copy, be accepted as being in full compliance with the filing requirements of this Commission.

Sincerely,

*/s/ Travis R. Jacobson*

Travis R. Jacobson  
Director of Regulatory Affairs

**Montana-Dakota Utilities Co.**  
**Therm Billing Factors - North Dakota**  
**Jan-21**

<u>Town</u>	<u>Heat Zone</u>	<u>Therm Factor</u>
MDU-303-ALEXANDER	025	1.1268
MDU-308-ARNEGARD	025	1.1268
MDU-314-APPLE VALLEY	271	1.1328
MDU-318-BEACH	032	1.0378
MDU-319-BELFIELD	032	1.0454
MDU-323-BERTHOLD	262	1.1126
MDU-324-BEULAH	032	1.0454
MDU-327-BISMARCK	028	1.0913
MDU-330-BOWMAN	034	0.9816
MDU-337-BURLINGTON	262	1.1366
MDU-343-CARRINGTON	273	1.1318
MDU-344-CLEVELAND	272	1.1238
MDU-364-CAVALIER	273	1.1557
MDU-365-DAWSON	271	1.1248
MDU-368-DES LACS	262	1.1206
MDU-369-DICKINSON	031	1.0587
MDU-374-FT TOTTEN	273	1.1398
MDU-375-DEVILS LAKE	273	1.1398
MDU-379-BARLOW	273	1.1318
MDU-384-EPPING	264	1.0985
MDU-387-ELDRIDGE	272	1.1318
MDU-407-GLADSTONE	031	1.0587
MDU-411-GLEN ULLIN	031	1.0663
MDU-413-GOLVA	032	1.0226
MDU-416-GARRISON	262	1.1206
MDU-417-GRAFTON	273	1.1636
MDU-403-GWINNER	601	1.1379
MDU-429-HEBRON	031	1.0663
MDU-432-HETTINGER	903	2.4049
MDU-449-JAMESTOWN	272	1.1398
MDU-459-KILLDEER	033	1.1070
MDU-463-LANGDON	273	1.1318
MDU-469-LEFOR	031	1.0587
MDU-474-LIGNITE	263	0.0816
MDU-475-LINTON	802	1.0739
MDU-478-LINCOLN	028	1.0913
MDU-488-MCKENZIE	271	1.1328
MDU-494-MEDINA	271	1.1248
MDU-498-MANDAN	028	1.0913
MDU-500-MARMARTH	034	0.9888
MDU-505-MINOT	262	1.1366
MDU-510-MOTT	031	1.0587
MDU-512-MAX	262	1.1366
MDU-513-MILNOR	601	1.1379
MDU-522-NEW ENGLAND	031	1.0510
MDU-524-NEW SALEM	028	1.0682
MDU-532-NEW ROCKFORD	273	1.1318
MDU-539-PARK RIVER	273	1.1557
MDU-540-PALERMO	262	1.1126

MDU-558-RAY	264	1.0985
MDU-561-REGENT	031	1.0587
MDU-563-RHAME	034	0.9743
MDU-564-RICHARDTON	031	1.0510
MDU-568-ROSS	261	1.0868
MDU-572-RUTHVILLE	262	1.1366
MDU-574-SANBORN	272	1.1398
MDU-583-SENTINEL BUTTE	032	1.0378
MDU-588-SOUTH HEART	031	1.0510
MDU-717-SPIRITWOOD	272	1.1398
MDU-590-SPRINGBROOK	264	1.0985
MDU-591-STANLEY	261	1.0947
MDU-593-STEELE	271	1.1248
MDU-594-STERLING	028	1.0913
MDU-598-SHEYENNE	273	1.1398
MDU-605-SURREY	262	1.1366
MDU-610-TAPPEN	271	1.1248
MDU-611-TAYLOR	031	1.0510
MDU-616-TIOGA	260	1.0634
MDU-619-TURTLE LAKE	262	1.1206
MDU-620-TRENTON	024	1.1102
MDU-624-UNDERWOOD	262	1.1206
MDU-625-VALLEY CITY	272	1.1477
MDU-629-WALHALLA	273	1.1557
MDU-632-WATFORD CITY	610	1.1003
MDU-636-WHEELOCK	264	1.0906
MDU-637-WHITE EARTH	261	1.0947
MDU-642-WILLISTON	024	1.1102
MDU-646-WASHBURN	262	1.1286
MDU-647-WILTON	262	1.1126
MDU-664-RIVERDALE	262	1.1206
MDU-691-FAIRVIEW	241	1.1444
MDU-712-MINOT AFB	262	1.1366
MDU-718-FAIRMOUNT	600	1.1356
MDU-732-NEKOMA	273	1.1318
MDU-732-MSR SITE	273	1.1318

# Source Daily Summary

December 2020

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	0.7136	1187.0	1208.1	1204.9	0.046	3.273	70.510	22.794	3.274	0.044	0.057	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1426.82
2	0.7503	1210.1	1231.5	1228.0	1.265	3.470	64.612	27.114	3.224	0.104	0.191	0.010	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1418.36
3	0.7417	1198.7	1219.9	1216.4	1.271	3.342	66.461	25.317	3.302	0.098	0.188	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1413.15
4	0.7415	1195.6	1216.8	1213.3	1.310	3.455	66.770	24.582	3.587	0.095	0.180	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1409.64
5	0.7357	1191.2	1212.2	1208.8	1.225	3.309	67.550	24.405	3.194	0.099	0.194	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1409.95
6	0.7325	1185.1	1206.0	1202.6	1.279	3.303	68.017	24.101	3.002	0.094	0.182	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1405.79
7	0.7312	1185.3	1206.3	1202.9	1.220	3.254	68.403	23.667	3.134	0.098	0.196	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1407.34
8	0.7284	1181.9	1202.8	1199.4	1.197	3.234	68.898	23.278	3.074	0.098	0.195	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1405.97
9	0.7303	1183.7	1204.6	1201.1	1.224	3.265	68.438	23.824	2.888	0.113	0.220	0.014	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1406.18
10	0.7275	1179.4	1200.3	1196.8	1.227	3.253	68.742	23.817	2.597	0.114	0.223	0.014	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1403.90
11	0.7405	1191.9	1213.0	1209.5	1.334	3.554	66.629	25.037	3.077	0.122	0.224	0.012	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1406.15
12	0.7313	1182.9	1203.8	1200.4	1.191	3.451	68.117	24.032	2.866	0.112	0.208	0.012	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1404.37
13	0.7422	1195.1	1216.2	1212.7	1.328	3.527	66.080	25.800	2.913	0.119	0.214	0.011	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1408.37
14	0.7220	1182.8	1203.7	1200.4	0.614	3.465	69.012	23.960	2.750	0.072	0.118	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1413.46
15	0.7055	1173.0	1193.8	1190.6	0.045	3.376	71.498	22.317	2.686	0.035	0.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.99
16	0.7194	1178.5	1199.4	1196.1	0.568	3.554	69.790	22.799	3.110	0.066	0.106	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1410.86
17	0.7403	1190.5	1211.6	1208.1	1.314	3.641	67.193	23.817	3.703	0.109	0.202	0.011	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1404.78
18	0.7435	1195.8	1217.0	1213.4	1.317	3.616	66.747	24.088	3.898	0.111	0.203	0.011	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1407.92
19	0.7409	1189.3	1210.3	1206.8	1.344	3.730	67.177	23.618	3.798	0.111	0.202	0.011	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1402.71
20	0.7371	1182.4	1203.3	1199.9	1.347	3.789	67.824	23.085	3.565	0.131	0.236	0.013	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1398.18
21	0.7385	1185.2	1206.2	1202.8	1.347	3.744	67.590	23.291	3.675	0.119	0.215	0.011	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1400.26
22	0.7371	1184.0	1204.9	1201.5	1.342	3.697	67.828	23.133	3.668	0.112	0.202	0.010	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1400.10
23	0.7441	1195.9	1217.1	1213.6	1.318	3.669	66.433	24.534	3.698	0.117	0.212	0.010	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1407.48
24	0.7392	1187.0	1208.0	1204.6	1.328	3.732	67.224	23.893	3.465	0.119	0.217	0.012	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1401.68
25	0.7366	1182.5	1203.4	1200.0	1.343	3.745	67.767	23.320	3.462	0.122	0.220	0.012	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1398.76
26	0.7311	1181.5	1202.4	1199.0	1.112	3.641	68.227	23.599	3.102	0.109	0.192	0.010	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1402.94
27	0.6977	1156.8	1177.2	1174.1	0.149	3.483	72.195	22.384	1.724	0.026	0.038	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1406.13
28	0.7018	1165.8	1186.5	1183.4	0.067	3.429	71.842	22.334	2.251	0.032	0.044	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.09
29	0.7166	1175.5	1196.4	1193.1	0.553	3.496	69.661	23.698	2.420	0.062	0.104	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1410.09
30	0.7425	1194.8	1216.0	1212.5	1.345	3.547	66.056	25.761	2.934	0.122	0.216	0.011	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1407.81
31	0.7425	1194.8	1216.0	1212.5	1.345	3.547	66.056	25.761	2.934	0.122	0.216	0.011	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1407.81
Avg	0.7317	1186.0	1206.9	1203.5	1.062	3.503	68.043	23.973	3.128	0.097	0.176	0.009	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1407.68

# Source Daily Summary

December 2020

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	0.6997	1152.3	1172.7	1169.6	0.977	2.671	73.842	19.948	2.212	0.098	0.215	0.017	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1398.65
2	0.6999	1152.8	1173.3	1170.1	0.966	2.668	73.766	20.060	2.202	0.095	0.208	0.016	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1399.17
3	0.7010	1154.7	1175.1	1171.9	0.969	2.658	73.646	20.111	2.256	0.099	0.220	0.018	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1400.23
4	0.7004	1153.3	1173.7	1170.6	0.971	2.682	73.691	20.086	2.228	0.095	0.210	0.017	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1399.22
5	0.7004	1153.2	1173.6	1170.4	0.969	2.693	73.711	20.046	2.235	0.096	0.213	0.017	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1399.03
6	0.7006	1153.7	1174.1	1170.9	0.974	2.679	73.710	20.021	2.260	0.098	0.218	0.018	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1399.36
7	0.7007	1153.8	1174.2	1171.0	0.967	2.686	73.736	19.966	2.284	0.099	0.222	0.018	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1399.46
8	0.7006	1153.9	1174.3	1171.1	0.965	2.680	73.743	19.957	2.298	0.100	0.218	0.018	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1399.61
9	0.7016	1155.4	1175.9	1172.7	0.968	2.667	73.575	20.131	2.297	0.099	0.221	0.019	0.023	0.000	0.000	0.000	0.000	0.000	0.000	1400.56
10	0.7007	1154.2	1174.7	1171.5	0.966	2.668	73.693	20.056	2.259	0.099	0.220	0.018	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1399.93
11	0.7019	1156.1	1176.6	1173.4	0.972	2.650	73.541	20.156	2.315	0.101	0.224	0.018	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1401.06
12	0.6976	1148.8	1169.2	1166.0	0.946	2.726	74.453	19.126	2.375	0.105	0.229	0.018	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1396.55
13	0.7000	1154.1	1174.5	1171.4	0.962	2.613	73.768	20.083	2.234	0.097	0.209	0.015	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1400.51
14	0.7013	1156.5	1177.0	1173.8	0.962	2.584	73.696	20.035	2.355	0.104	0.227	0.017	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1402.17
15	0.7068	1160.3	1180.8	1177.5	0.950	2.891	73.064	19.900	2.764	0.120	0.266	0.021	0.025	0.000	0.000	0.000	0.000	0.000	0.000	1401.17
16	0.7047	1157.8	1178.3	1175.0	0.957	2.829	73.325	19.886	2.575	0.118	0.261	0.022	0.027	0.000	0.000	0.000	0.000	0.000	0.000	1400.30
17	0.7028	1157.4	1177.9	1174.7	0.975	2.650	73.475	20.140	2.365	0.109	0.242	0.020	0.024	0.000	0.000	0.000	0.000	0.000	0.000	1401.71
18	0.7009	1155.0	1175.4	1172.3	0.974	2.626	73.606	20.234	2.199	0.102	0.221	0.017	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1400.66
19	0.7018	1156.2	1176.6	1173.4	0.970	2.641	73.568	20.146	2.291	0.106	0.235	0.019	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1401.22
20	0.7003	1153.4	1173.9	1170.7	0.966	2.677	73.651	20.193	2.169	0.095	0.210	0.017	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1399.38
21	0.7007	1154.4	1174.8	1171.7	0.971	2.652	73.595	20.243	2.199	0.095	0.209	0.017	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1400.12
22	0.7015	1155.4	1175.9	1172.8	0.971	2.652	73.560	20.190	2.268	0.100	0.220	0.018	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1400.70
23	0.6993	1153.2	1173.6	1170.5	0.960	2.599	73.825	20.140	2.141	0.097	0.206	0.015	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1400.22
24	0.7001	1153.1	1173.6	1170.4	0.962	2.680	73.730	20.085	2.192	0.098	0.216	0.017	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1399.26
25	0.7016	1155.2	1175.7	1172.5	0.974	2.678	73.543	20.167	2.273	0.101	0.224	0.018	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1400.24
26	0.7013	1154.8	1175.3	1172.1	0.968	2.683	73.565	20.167	2.260	0.098	0.220	0.017	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1400.05
27	0.7017	1155.5	1175.9	1172.8	0.965	2.681	73.529	20.164	2.304	0.100	0.219	0.017	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1400.52
28	0.7029	1157.5	1178.0	1174.9	0.965	2.673	73.509	19.994	2.476	0.107	0.237	0.019	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1401.74
29	0.7020	1156.5	1177.0	1173.9	0.965	2.645	73.639	19.941	2.436	0.104	0.230	0.018	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1401.46
30	0.7025	1157.0	1177.5	1174.3	0.968	2.658	73.555	20.010	2.431	0.104	0.232	0.019	0.023	0.000	0.000	0.000	0.000	0.000	0.000	1401.52
31	0.7020	1156.1	1176.5	1173.3	0.966	2.667	73.739	19.765	2.464	0.110	0.243	0.020	0.025	0.000	0.000	0.000	0.000	0.000	0.000	1400.90
Avg	0.7013	1155.0	1175.3	1172.2	0.966	2.674	73.647	20.037	2.310	0.102	0.224	0.018	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1400.22

# Gas Composition and Properties

Effective December 1, 2020

Attachment B  
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Source #: 0602160  
Name: FAIRVIEW BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	1.1751		2.4744
Nitrogen, N2	3.3244		4.4558
Methane, C1	69.7009		53.5000
Ethane, C2	22.5529	6.0362	32.4463
Propane, C3	2.8672	0.7905	6.0492
iso-Butane, iC4	0.1168	0.0383	0.3248
n-Butane, nC4	0.2359	0.0744	0.6560
iso-Pentane, iC5	0.0131	0.0048	0.0452
n-Pentane, nC5	0.0122	0.0044	0.0421
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0015	0.0006	0.0062
Water, H2O			
Hydrogen Sulfide, H2S			
Oxygen, O2			
Carbon Monoxide, CO			
Hydrogen, H2			
Helium, He			
Argon, Ar			
<b>Totals</b>	<b>100.0000</b>	<b>6.9490</b>	<b>100.0000</b>

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure	-11.018	
Cricondentherm	-0.545	
HV, Dry @ Base P, T	1194.54	
HV, Sat @ Base P, T	1173.75	
HV, Sat @ Sample P, T	1194.54	
Relative Density	0.7238	
C6+: 100		

## Sample

Date: 12/01/2020      Pressure: 510.0  
 Type:                      Temperature:  
 Tech: Joshua Tipton      H2O: lbs/mm  
    H2S: ppm

Remarks:

## Analysis

Date: 12/01/2020      Instrument:  
    Cylinder: 342  
 Tech: Joshua Tipton

Remarks:

# Gas Composition and Properties

Effective December 1, 2020

Attachment B  
Page 4 of 24

Source #: 0602225  
Name: WATFORD CITY WEST BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	1.2864		2.6845
Nitrogen, N2	3.7006		4.9157
Methane, C1	70.4893		53.6218
Ethane, C2	19.7829	5.2949	28.2068
Propane, C3	3.8600	1.0643	8.0710
iso-Butane, iC4	0.2381	0.0780	0.6562
n-Butane, nC4	0.5405	0.1705	1.4896
iso-Pentane, iC5	0.0470	0.0172	0.1608
n-Pentane, nC5	0.0480	0.0174	0.1642
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0072	0.0030	0.0294
Water, H2O			
Hydrogen Sulfide, H2S			
Oxygen, O2			
Carbon Monoxide, CO			
Hydrogen, H2			
Helium, He			
Argon, Ar			
<b>Totals</b>	<b>100.0000</b>	<b>6.6450</b>	<b>100.0000</b>

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure	-1.576	
Cricondenthem	12.351	
HV, Dry @ Base P, T	1195.43	
HV, Sat @ Base P, T	1174.62	
HV, Sat @ Sample P, T	1195.43	
Relative Density	0.7303	
C6+: 100		

**Sample**  
Date: 12/01/2020      Pressure: 405.0  
Type:                      Temperature:  
Tech: Joshua Tipton      H2O: lbs/mm  
   H2S: ppm

Remarks:

**Analysis**  
Date: 12/01/2020      Instrument:  
   Cylinder: BC18  
Tech: Joshua Tipton

Remarks:

# Source Daily Summary

December 2020

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	0.6888	1124.6	1144.6		0.864	3.499	75.603	17.658	2.064	0.078	0.188	0.017	0.022	0.006					1375.98	
2	0.6880	1124.4	1144.3		0.844	3.477	75.620	17.764	2.014	0.074	0.173	0.014	0.017	0.003					1376.40	
3	0.6884	1125.2	1145.1		0.842	3.470	75.569	17.809	2.012	0.075	0.181	0.016	0.020	0.005					1376.98	
4	0.6881	1124.2	1144.1		0.845	3.495	75.680	17.616	2.069	0.076	0.181	0.016	0.019	0.004					1376.08	
5	0.6886	1124.5	1144.4		0.851	3.511	75.696	17.507	2.115	0.080	0.194	0.018	0.023	0.006					1376.00	
6	0.6900	1126.8	1146.8		0.855	3.499	75.533	17.574	2.195	0.086	0.209	0.019	0.024	0.006					1377.37	
7	0.6908	1128.8	1148.8		0.845	3.465	75.473	17.604	2.252	0.090	0.217	0.021	0.027	0.007					1379.02	
8	0.6912	1130.5	1150.6		0.833	3.420	75.369	17.737	2.303	0.088	0.204	0.019	0.023	0.005					1380.69	
9	0.6929	1132.8	1152.9		0.850	3.407	75.133	17.931	2.315	0.091	0.217	0.021	0.027	0.007					1381.85	
10	0.6901	1128.0	1148.0		0.839	3.457	75.456	17.738	2.184	0.084	0.199	0.018	0.021	0.004					1378.77	
11	0.6830	1117.5	1137.2		0.759	3.562	76.568	16.815	1.998	0.077	0.182	0.017	0.020	0.004					1372.87	
12	0.6759	1106.3	1125.9		0.710	3.643	77.795	15.700	1.873	0.072	0.170	0.015	0.018	0.004					1366.35	
13	0.6721	1100.4	1119.8		0.715	3.643	78.344	15.320	1.739	0.063	0.147	0.012	0.014	0.002					1362.82	
14	0.6704	1097.9	1117.3		0.663	3.708	78.805	14.766	1.757	0.073	0.184	0.017	0.022	0.005					1361.51	
15	0.6886	1126.0	1145.9		0.799	3.502	75.731	17.470	2.150	0.085	0.209	0.020	0.026	0.007					1377.76	
16	0.6937	1124.4	1144.3		0.807	4.069	74.677	17.912	2.172	0.088	0.215	0.022	0.028	0.011					1370.73	
17	0.6936	1133.4	1153.5		0.837	3.454	75.101	17.840	2.363	0.102	0.245	0.022	0.028	0.007					1381.91	
18	0.6969	1117.2	1137.0		0.739	3.460	75.343	16.609	3.560	0.070	0.168	0.015	0.018	0.017					1387.33	
19	0.6974	1128.0	1148.0		0.786	3.435	74.909	17.574	2.828	0.122	0.281	0.026	0.032	0.007					1386.96	
20	0.6921	1122.3	1142.2		0.802	4.054	74.903	17.772	2.122	0.084	0.207	0.020	0.025	0.009					1369.76	
21	0.6917	1131.3	1151.4		0.813	3.445	75.169	18.044	2.179	0.086	0.211	0.020	0.024	0.009					1381.22	
22	0.7216	1120.1	1139.9		0.749	3.405	73.026	16.454	6.031	0.075	0.182	0.017	0.023	0.038					1409.00	
23	0.7155	1101.1	1120.6		0.624	3.511	74.477	14.566	6.561	0.062	0.149	0.013	0.018	0.017					1405.16	
24	0.7290	1121.0	1140.8		0.743	3.363	72.455	16.158	6.925	0.080	0.199	0.020	0.027	0.029					1416.18	
25	0.7222	1127.5	1147.5		0.796	3.422	72.709	16.985	5.693	0.088	0.221	0.022	0.029	0.034					1407.88	
26	0.7147	1125.3	1145.2		0.774	3.424	73.427	17.016	4.995	0.080	0.198	0.019	0.026	0.036					1402.11	
27	0.6880	1124.8	1144.7		0.797	3.522	75.723	17.561	2.074	0.082	0.197	0.018	0.022	0.004					1376.89	
28	0.6934	1121.3	1141.2		0.796	3.522	75.437	17.063	2.853	0.081	0.199	0.019	0.024	0.006					1381.50	
29	0.6853	1120.7	1140.6		0.779	3.543	76.145	17.228	1.993	0.079	0.191	0.018	0.021	0.004					1374.63	
30	0.6903	1118.6	1138.4		0.796	4.122	75.221	17.410	2.115	0.084	0.202	0.019	0.024	0.006					1366.98	
31	0.6865	1121.8	1141.7		0.794	3.570	76.065	17.143	2.087	0.083	0.206	0.020	0.026	0.006					1374.73	
Avg	0.6935	1122.0	1141.7		0.792	3.551	75.392	17.108	2.826	0.082	0.198	0.018	0.023	0.010					1381.08	

# Source Daily Summary

December 2020

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	0.6997	1139.7	1159.8	1156.7	1.017	3.375	73.870	19.072	2.342	0.087	0.199	0.017	0.021	0.000	0.000	0.000	0.000	0.000	1383.32	
2	0.7025	1144.4	1164.6	1161.5	1.018	3.350	73.490	19.327	2.458	0.094	0.220	0.019	0.024	0.000	0.000	0.000	0.000	0.000	1386.23	
3	0.7008	1141.1	1161.3	1158.0	1.027	3.375	73.767	19.103	2.377	0.090	0.215	0.020	0.025	0.000	0.000	0.000	0.000	0.000	1383.89	
4	0.6996	1140.3	1160.5	1157.4	1.008	3.347	73.867	19.117	2.334	0.087	0.202	0.017	0.021	0.000	0.000	0.000	0.000	0.000	1384.13	
5	0.7007	1142.1	1162.3	1159.1	1.019	3.326	73.703	19.274	2.338	0.088	0.209	0.019	0.024	0.000	0.000	0.000	0.000	0.000	1385.14	
6	0.6992	1139.2	1159.4	1156.3	1.007	3.369	74.018	18.898	2.371	0.089	0.208	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1383.28	
7	0.6995	1139.4	1159.6	1156.3	1.010	3.389	74.035	18.810	2.402	0.091	0.218	0.020	0.026	0.000	0.000	0.000	0.000	0.000	1383.06	
8	0.7011	1142.0	1162.2	1158.9	1.015	3.371	73.880	18.852	2.494	0.099	0.239	0.022	0.028	0.000	0.000	0.000	0.000	0.000	1384.62	
9	0.7008	1142.3	1162.5	1159.2	1.000	3.349	73.972	18.771	2.514	0.100	0.242	0.023	0.030	0.000	0.000	0.000	0.000	0.000	1385.24	
10	0.7014	1144.5	1164.8	1161.6	0.978	3.301	73.892	18.837	2.608	0.102	0.234	0.021	0.027	0.000	0.000	0.000	0.000	0.000	1387.42	
11	0.7031	1147.0	1167.3	1164.0	0.992	3.287	73.569	19.172	2.589	0.101	0.237	0.022	0.029	0.000	0.000	0.000	0.000	0.000	1388.72	
12	0.7018	1144.8	1165.1	1161.9	0.994	3.299	73.703	19.126	2.501	0.098	0.231	0.021	0.027	0.000	0.000	0.000	0.000	0.000	1387.35	
13	0.7013	1143.6	1163.8	1160.7	0.994	3.323	73.777	19.046	2.491	0.097	0.226	0.020	0.026	0.000	0.000	0.000	0.000	0.000	1386.42	
14	0.7016	1144.4	1164.6	1161.5	0.988	3.317	73.685	19.161	2.483	0.096	0.225	0.020	0.025	0.000	0.000	0.000	0.000	0.000	1387.04	
15	0.7002	1142.0	1162.3	1159.2	0.991	3.318	73.684	19.389	2.308	0.083	0.192	0.015	0.019	0.000	0.000	0.000	0.000	0.000	1385.70	
16	0.7022	1143.8	1164.1	1160.8	1.017	3.363	73.680	19.050	2.486	0.102	0.252	0.023	0.029	0.000	0.000	0.000	0.000	0.000	1385.73	
17	0.7044	1148.4	1168.8	1165.5	0.986	3.325	73.297	19.439	2.546	0.102	0.250	0.024	0.031	0.000	0.000	0.000	0.000	0.000	1389.24	
18	0.7055	1150.5	1170.8	1167.5	0.989	3.304	73.125	19.600	2.570	0.103	0.250	0.025	0.034	0.000	0.000	0.000	0.000	0.000	1390.50	
19	0.7075	1153.3	1173.7	1170.4	1.008	3.287	72.946	19.603	2.704	0.116	0.278	0.026	0.033	0.000	0.000	0.000	0.000	0.000	1392.03	
20	0.7019	1144.9	1165.1	1161.9	0.982	3.320	73.497	19.478	2.371	0.091	0.216	0.020	0.026	0.000	0.000	0.000	0.000	0.000	1387.38	
21	0.7039	1148.6	1169.0	1165.7	0.980	3.284	73.328	19.489	2.525	0.100	0.241	0.022	0.029	0.000	0.000	0.000	0.000	0.000	1389.89	
22	0.7042	1148.7	1169.1	1165.8	0.986	3.294	73.286	19.527	2.509	0.100	0.242	0.024	0.032	0.000	0.000	0.000	0.000	0.000	1389.71	
23	0.7054	1150.8	1171.2	1167.9	0.989	3.280	73.055	19.740	2.539	0.101	0.245	0.023	0.029	0.000	0.000	0.000	0.000	0.000	1391.04	
24	0.7043	1148.3	1168.6	1165.3	1.000	3.313	73.221	19.600	2.470	0.100	0.242	0.023	0.031	0.000	0.000	0.000	0.000	0.000	1389.06	
25	0.7029	1145.7	1166.0	1162.9	0.999	3.337	73.239	19.737	2.347	0.089	0.213	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1387.49	
26	0.7038	1147.6	1168.0	1164.7	0.992	3.314	73.361	19.441	2.479	0.102	0.254	0.024	0.031	0.000	0.000	0.000	0.000	0.000	1388.80	
27	0.7068	1150.3	1170.7	1167.4	1.034	3.368	72.983	19.580	2.581	0.110	0.279	0.028	0.037	0.000	0.000	0.000	0.000	0.000	1389.06	
28	0.7045	1147.8	1168.1	1164.8	1.001	3.357	73.183	19.605	2.452	0.100	0.249	0.024	0.031	0.000	0.000	0.000	0.000	0.000	1388.29	
29	0.7034	1146.9	1167.2	1164.1	0.984	3.336	73.282	19.586	2.440	0.096	0.230	0.020	0.025	0.000	0.000	0.000	0.000	0.000	1388.37	
30	0.7028	1145.6	1165.8	1162.6	0.994	3.343	73.446	19.410	2.422	0.098	0.238	0.022	0.028	0.000	0.000	0.000	0.000	0.000	1387.32	
31	0.7024	1144.9	1165.2	1162.1	0.985	3.361	73.445	19.440	2.394	0.096	0.232	0.021	0.026	0.000	0.000	0.000	0.000	0.000	1386.96	
Avg	0.7026	1145.0	1165.5	1162.3	0.999	3.332	73.525	19.299	2.466	0.097	0.233	0.021	0.027	0.000	0.000	0.000	0.000	0.000	1387.18	

# Source Daily Summary

December 2020

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	0.7382	1157.0	1177.5	1174.3	0.944	6.042	68.135	19.705	4.714	0.136	0.290	0.016	0.017	0.000	0.000	0.000	0.000	0.000	1367.26	
2	0.7366	1154.4	1174.8	1171.7	0.946	6.044	68.335	19.616	4.616	0.132	0.278	0.016	0.017	0.000	0.000	0.000	0.000	0.000	1365.72	
3	0.7364	1155.7	1176.1	1173.0	0.943	5.956	68.348	19.734	4.569	0.137	0.281	0.016	0.017	0.000	0.000	0.000	0.000	0.000	1367.36	
4	0.7368	1155.3	1175.7	1172.6	0.942	6.020	68.276	19.718	4.598	0.134	0.280	0.016	0.017	0.000	0.000	0.000	0.000	0.000	1366.52	
5	0.7379	1156.8	1177.2	1174.1	0.940	6.034	68.162	19.714	4.694	0.137	0.287	0.016	0.017	0.000	0.000	0.000	0.000	0.000	1367.28	
6	0.7381	1157.3	1177.8	1174.7	0.941	6.015	68.166	19.706	4.705	0.140	0.293	0.017	0.018	0.000	0.000	0.000	0.000	0.000	1367.77	
7	0.7406	1161.8	1182.3	1179.2	0.940	5.977	67.875	19.853	4.864	0.145	0.309	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1370.71	
8	0.7407	1161.5	1182.1	1178.9	0.941	6.010	67.846	19.854	4.844	0.151	0.315	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1370.21	
9	0.7388	1159.5	1180.0	1176.9	0.937	5.960	68.098	19.771	4.753	0.144	0.300	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1369.60	
10	0.7398	1161.3	1181.9	1178.7	0.939	5.939	67.959	19.872	4.804	0.144	0.304	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1370.82	
11	0.7415	1168.2	1188.9	1185.7	0.944	5.670	67.851	20.110	4.888	0.157	0.337	0.021	0.022	0.000	0.000	0.000	0.000	0.000	1377.39	
12	0.7370	1159.2	1179.7	1176.6	0.941	5.802	68.363	19.783	4.635	0.141	0.298	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1370.95	
13	0.7394	1162.8	1183.4	1180.2	0.939	5.810	67.980	20.054	4.740	0.140	0.300	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1372.98	
14	0.7366	1160.6	1181.1	1178.0	0.954	5.658	68.379	19.996	4.548	0.138	0.293	0.017	0.018	0.000	0.000	0.000	0.000	0.000	1373.00	
15	0.7410	1166.4	1187.0	1183.8	0.948	5.726	67.871	20.107	4.817	0.155	0.332	0.020	0.022	0.000	0.000	0.000	0.000	0.000	1375.71	
16	0.7432	1167.8	1188.4	1185.2	0.938	5.865	67.500	20.248	4.909	0.159	0.337	0.020	0.022	0.000	0.000	0.000	0.000	0.000	1375.27	
17	0.7416	1166.5	1187.1	1184.0	0.940	5.787	67.744	20.166	4.842	0.152	0.327	0.020	0.022	0.000	0.000	0.000	0.000	0.000	1375.28	
18	0.7401	1162.7	1183.3	1180.2	0.947	5.866	67.957	19.944	4.768	0.153	0.324	0.020	0.021	0.000	0.000	0.000	0.000	0.000	1372.25	
19	0.7405	1164.4	1185.0	1181.9	0.940	5.808	67.884	20.076	4.782	0.151	0.321	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1373.89	
20	0.7368	1157.9	1178.4	1175.3	0.938	5.863	68.338	19.808	4.581	0.140	0.296	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1369.67	
21	0.7374	1158.9	1179.4	1176.3	0.941	5.859	68.258	19.849	4.614	0.142	0.299	0.018	0.020	0.000	0.000	0.000	0.000	0.000	1370.20	
22	0.7386	1159.9	1180.5	1177.4	0.940	5.905	68.088	19.910	4.668	0.144	0.305	0.018	0.020	0.000	0.000	0.000	0.000	0.000	1370.37	
23	0.7324	1152.8	1173.2	1170.1	0.950	5.744	68.900	19.676	4.303	0.126	0.268	0.016	0.017	0.000	0.000	0.000	0.000	0.000	1367.70	
24	0.7381	1159.5	1180.1	1176.9	0.942	5.881	68.131	19.942	4.624	0.143	0.301	0.017	0.019	0.000	0.000	0.000	0.000	0.000	1370.35	
25	0.7408	1161.9	1182.5	1179.3	0.940	5.993	67.826	19.902	4.833	0.149	0.318	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1370.62	
26	0.7407	1161.5	1182.0	1178.9	0.946	5.995	67.833	19.917	4.802	0.148	0.318	0.019	0.021	0.000	0.000	0.000	0.000	0.000	1370.26	
27	0.7414	1163.2	1183.8	1180.7	0.938	5.970	67.743	19.985	4.855	0.149	0.321	0.019	0.021	0.000	0.000	0.000	0.000	0.000	1371.62	
28	0.7391	1160.3	1180.9	1177.8	0.938	5.933	68.031	19.889	4.716	0.147	0.309	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1370.36	
29	0.7399	1161.6	1182.1	1179.0	0.945	5.923	67.947	19.926	4.752	0.150	0.318	0.019	0.021	0.000	0.000	0.000	0.000	0.000	1371.05	
30	0.7396	1160.7	1181.2	1178.1	0.937	5.961	67.979	19.856	4.776	0.144	0.311	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1370.28	
31	0.7407	1163.0	1183.6	1180.5	0.941	5.908	67.874	19.937	4.831	0.148	0.321	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1372.09	
Avg	0.7390	1161.0	1181.2	1178.1	0.942	5.901	68.054	19.891	4.724	0.144	0.306	0.018	0.020	0.000	0.000	0.000	0.000	0.000	1370.79	

# Gas Composition and Properties

Effective December 1, 2020

Attachment B  
Page 8 of 24

Source #: 2501030  
Name: LIGNITE PLANT

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	0.1971		0.4509
Nitrogen, N2	3.0071		4.3789
Methane, C1	78.5912		65.5383
Ethane, C2	16.6098	4.4433	25.9616
Propane, C3	1.5745	0.4339	3.6090
iso-Butane, iC4	0.0152	0.0050	0.0459
n-Butane, nC4	0.0051	0.0016	0.0154
iso-Pentane, iC5			
n-Pentane, nC5			
Neo-Pentane, NeoC5			
Hexanes Plus, C6+			
Water, H2O			
Hydrogen Sulfide, H2S			
Oxygen, O2			
Carbon Monoxide, CO			
Hydrogen, H2			
Helium, He			
Argon, Ar			
<b>Totals</b>	<b>100.0000</b>	<b>4.8840</b>	<b>100.0000</b>

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure	-56.484	
Cricodentherm	-34.125	
HV, Dry @ Base P, T	1133.79	
HV, Sat @ Base P, T	1114.06	
HV, Sat @ Sample P, T	1133.79	
Relative Density	0.6658	
C6+: 100		

Sample		
Date: 12/01/2020	Pressure:	340.0
Type:	Temperature:	
Tech: Joshua Tipton	H2O:	lbs/mm
	H2S:	ppm
Remarks:		

Analysis		
Date: 12/01/2020	Instrument:	
	Cylinder:	322
Tech: Joshua Tipton		
Remarks:		

# Gas Composition and Properties

Effective December 1, 2020

Attachment B  
Page 9 of 24

Source #: 3002013  
Name: EPPING BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	0.9490		2.0836
Nitrogen, N2	2.6206		3.6624
Methane, C1	75.0072		60.0313
Ethane, C2	18.8573	5.0458	28.2880
Propane, C3	2.1953	0.6051	4.8294
iso-Butane, iC4	0.0994	0.0325	0.2882
n-Butane, nC4	0.2305	0.0727	0.6684
iso-Pentane, iC5	0.0173	0.0063	0.0623
n-Pentane, nC5	0.0203	0.0074	0.0731
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0031	0.0013	0.0133
Water, H2O			
Hydrogen Sulfide, H2S			
Oxygen, O2			
Carbon Monoxide, CO			
Hydrogen, H2			
Helium, He			
Argon, Ar			
<b>Totals</b>	<b>100.0000</b>	<b>5.7710</b>	<b>100.0000</b>

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure	-16.784	
Cricondentherm	-12.017	
HV, Dry @ Base P, T	1165.19	
HV, Sat @ Base P, T	1144.91	
HV, Sat @ Sample P, T	1165.19	
Relative Density	0.6939	
C6+: 100		

## Sample

Date: 12/01/2020      Pressure: 570.0  
 Type:                      Temperature:  
 Tech: Joshua Tipton      H2O: lbs/mm  
    H2S: ppm

Remarks:

## Analysis

Date: 12/01/2020      Instrument:  
    Cylinder: 364  
 Tech: Joshua Tipton

Remarks:

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

# Source Daily Summary

December 2020

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	0.7016	1142.9	1163.2	1159.9	1.018	3.353	73.630	19.220	2.432	0.092	0.214	0.018	0.023	0.000	0.000	0.000	0.000	0.000	1385.38	
2	0.7019	1142.7	1162.9	1159.6	1.029	3.378	73.605	19.210	2.417	0.093	0.222	0.020	0.026	0.000	0.000	0.000	0.000	0.000	1384.76	
3	0.6997	1140.3	1160.5	1157.3	1.011	3.350	73.868	19.101	2.341	0.087	0.203	0.017	0.022	0.000	0.000	0.000	0.000	0.000	1384.04	
4	0.7006	1141.8	1162.0	1158.8	1.016	3.332	73.711	19.278	2.326	0.088	0.207	0.019	0.024	0.000	0.000	0.000	0.000	0.000	1384.99	
5	0.6990	1139.2	1159.3	1156.1	1.010	3.357	74.023	18.927	2.353	0.087	0.205	0.017	0.021	0.000	0.000	0.000	0.000	0.000	1383.34	
6	0.6996	1139.4	1159.6	1156.3	1.009	3.393	74.002	18.854	2.390	0.091	0.216	0.020	0.025	0.000	0.000	0.000	0.000	0.000	1383.04	
7	0.7002	1140.5	1160.7	1157.4	1.016	3.379	73.999	18.761	2.470	0.096	0.231	0.021	0.026	0.000	0.000	0.000	0.000	0.000	1383.68	
8	0.7015	1142.8	1163.0	1159.7	1.012	3.360	73.848	18.876	2.505	0.101	0.246	0.023	0.030	0.000	0.000	0.000	0.000	0.000	1385.25	
9	0.7011	1144.0	1164.3	1161.0	0.974	3.311	73.978	18.728	2.616	0.103	0.240	0.022	0.029	0.000	0.000	0.000	0.000	0.000	1387.08	
10	0.7033	1147.4	1167.7	1164.4	0.993	3.283	73.516	19.232	2.589	0.101	0.235	0.022	0.029	0.000	0.000	0.000	0.000	0.000	1388.99	
11	0.7020	1145.2	1165.5	1162.2	0.991	3.294	73.694	19.119	2.519	0.099	0.234	0.021	0.028	0.000	0.000	0.000	0.000	0.000	1387.69	
12	0.7018	1144.5	1164.7	1161.5	1.001	3.308	73.680	19.151	2.491	0.097	0.226	0.020	0.025	0.000	0.000	0.000	0.000	0.000	1386.97	
13	0.7022	1145.1	1165.4	1162.2	0.988	3.319	73.607	19.217	2.496	0.097	0.228	0.021	0.026	0.000	0.000	0.000	0.000	0.000	1387.45	
14	0.7010	1143.0	1163.3	1160.0	0.995	3.332	73.605	19.379	2.362	0.087	0.201	0.017	0.021	0.000	0.000	0.000	0.000	0.000	1386.03	
15	0.7014	1143.0	1163.3	1160.1	1.013	3.342	73.687	19.168	2.417	0.097	0.234	0.019	0.024	0.000	0.000	0.000	0.000	0.000	1385.65	
16	0.7038	1147.1	1167.4	1164.0	1.001	3.337	73.447	19.247	2.552	0.104	0.256	0.025	0.032	0.000	0.000	0.000	0.000	0.000	1388.08	
17	0.7056	1150.8	1171.2	1167.8	0.982	3.309	73.087	19.637	2.569	0.103	0.253	0.026	0.034	0.000	0.000	0.000	0.000	0.000	1390.78	
18	0.7055	1150.3	1170.7	1167.3	1.007	3.291	73.120	19.607	2.561	0.104	0.254	0.024	0.032	0.000	0.000	0.000	0.000	0.000	1390.31	
19	0.7054	1150.3	1170.6	1167.3	0.988	3.310	73.142	19.560	2.581	0.109	0.258	0.023	0.029	0.000	0.000	0.000	0.000	0.000	1390.42	
20	0.7037	1147.9	1168.3	1165.0	0.990	3.294	73.328	19.503	2.498	0.099	0.238	0.022	0.028	0.000	0.000	0.000	0.000	0.000	1389.25	
21	0.7043	1149.0	1169.4	1166.0	0.985	3.290	73.282	19.517	2.521	0.102	0.247	0.024	0.031	0.000	0.000	0.000	0.000	0.000	1389.93	
22	0.7053	1150.8	1171.2	1167.9	0.989	3.272	73.058	19.756	2.528	0.101	0.243	0.023	0.029	0.000	0.000	0.000	0.000	0.000	1391.12	
23	0.7055	1150.3	1170.7	1167.3	1.000	3.296	73.082	19.681	2.529	0.103	0.252	0.025	0.032	0.000	0.000	0.000	0.000	0.000	1390.38	
24	0.7022	1144.3	1164.6	1161.4	1.000	3.354	73.334	19.655	2.328	0.087	0.205	0.016	0.020	0.000	0.000	0.000	0.000	0.000	1386.48	
25	0.7041	1148.3	1168.6	1165.3	0.992	3.307	73.258	19.577	2.459	0.101	0.251	0.024	0.030	0.000	0.000	0.000	0.000	0.000	1389.26	
26	0.7057	1149.3	1169.6	1166.2	1.021	3.349	73.167	19.448	2.569	0.108	0.274	0.027	0.036	0.000	0.000	0.000	0.000	0.000	1388.85	
27	0.7060	1149.5	1169.9	1166.4	1.020	3.365	73.007	19.674	2.503	0.105	0.266	0.026	0.034	0.000	0.000	0.000	0.000	0.000	1388.86	
28	0.7036	1147.2	1167.5	1164.3	0.979	3.340	73.233	19.641	2.438	0.095	0.229	0.020	0.025	0.000	0.000	0.000	0.000	0.000	1388.59	
29	0.7025	1145.0	1165.3	1162.0	0.993	3.346	73.510	19.347	2.415	0.098	0.239	0.023	0.029	0.000	0.000	0.000	0.000	0.000	1386.99	
30	0.7034	1146.2	1166.5	1163.3	0.995	3.356	73.310	19.536	2.417	0.098	0.239	0.021	0.027	0.000	0.000	0.000	0.000	0.000	1387.57	
31	0.7021	1145.5	1165.8	1162.5	0.973	3.315	73.541	19.369	2.428	0.096	0.230	0.021	0.027	0.000	0.000	0.000	0.000	0.000	1387.94	
Avg	0.7028	1146.0	1165.9	1162.6	1.000	3.330	73.496	19.322	2.472	0.098	0.235	0.022	0.028	0.000	0.000	0.000	0.000	0.000	1387.39	

# Source Daily Summary

December 2020

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	0.7367	1156.2	1176.7	1172.7	0.924	5.982	68.351	19.641	4.645	0.136	0.288	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1367.67
2	0.7368	1156.6	1177.1	1173.1	0.929	5.965	68.322	19.691	4.640	0.135	0.286	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1367.97
3	0.7357	1156.0	1176.5	1172.5	0.925	5.901	68.474	19.689	4.562	0.136	0.282	0.015	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1368.33
4	0.7355	1155.6	1176.1	1172.4	0.926	5.910	68.477	19.701	4.538	0.136	0.281	0.015	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1368.00
5	0.7370	1157.4	1177.9	1174.4	0.922	5.947	68.299	19.714	4.664	0.137	0.287	0.015	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1368.75
6	0.7371	1157.8	1178.3	1174.8	0.923	5.929	68.311	19.705	4.667	0.139	0.293	0.016	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1369.13
7	0.7387	1160.8	1181.3	1177.8	0.921	5.896	68.151	19.768	4.779	0.144	0.306	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1371.18
8	0.7388	1161.3	1181.9	1178.0	0.917	5.878	68.119	19.844	4.746	0.148	0.310	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1371.75
9	0.7382	1160.3	1180.9	1176.9	0.918	5.882	68.215	19.756	4.744	0.145	0.305	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1371.11
10	0.7399	1163.1	1183.7	1179.7	0.921	5.868	67.948	19.970	4.801	0.146	0.309	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1372.78
11	0.7390	1165.0	1185.6	1181.7	0.926	5.659	68.155	20.005	4.746	0.150	0.320	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1375.90
12	0.7379	1163.5	1184.1	1180.2	0.917	5.659	68.324	19.892	4.706	0.148	0.316	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1375.13
13	0.7354	1160.5	1181.1	1177.2	0.900	5.638	68.569	19.878	4.550	0.137	0.293	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1373.90
14	0.7293	1154.9	1175.3	1171.5	0.901	5.408	69.398	19.676	4.203	0.123	0.261	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1372.97
15	0.7368	1163.3	1183.9	1180.0	0.925	5.559	68.474	19.927	4.609	0.149	0.318	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1375.92
16	0.7372	1164.8	1185.4	1181.5	0.903	5.541	68.459	19.910	4.663	0.155	0.328	0.020	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1377.27
17	0.7408	1166.6	1187.3	1183.4	0.920	5.737	67.862	20.154	4.806	0.154	0.327	0.020	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1376.12
18	0.7412	1166.6	1187.3	1183.4	0.925	5.766	67.827	20.110	4.841	0.156	0.334	0.020	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1375.77
19	0.7394	1164.6	1185.2	1181.4	0.925	5.717	68.065	20.047	4.734	0.152	0.322	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1375.10
20	0.7363	1158.9	1179.4	1175.6	0.921	5.785	68.440	19.803	4.573	0.142	0.300	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1371.20
21	0.7368	1159.7	1180.3	1176.4	0.922	5.780	68.371	19.849	4.596	0.142	0.303	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1371.73
22	0.7362	1160.3	1180.8	1177.0	0.906	5.716	68.463	19.856	4.578	0.143	0.302	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1372.93
23	0.7157	1142.5	1162.7	1159.1	0.816	5.012	71.375	18.898	3.547	0.105	0.221	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1371.15
24	0.7204	1146.0	1166.3	1162.6	0.851	5.189	70.724	19.063	3.794	0.115	0.239	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1370.84
25	0.7325	1157.3	1177.7	1174.0	0.877	5.598	69.024	19.608	4.427	0.138	0.293	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1372.79
26	0.7304	1154.1	1174.5	1170.8	0.876	5.593	69.341	19.399	4.342	0.132	0.283	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1371.02
27	0.7287	1153.8	1174.2	1170.5	0.862	5.473	69.596	19.376	4.248	0.131	0.281	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1372.25
28	0.7265	1153.0	1173.4	1169.7	0.843	5.343	69.913	19.325	4.141	0.129	0.273	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1373.40
29	0.7241	1150.5	1170.8	1167.2	0.843	5.269	70.292	19.140	4.028	0.127	0.268	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1372.69
30	0.7239	1148.6	1169.0	1165.3	0.845	5.363	70.276	19.078	4.025	0.123	0.260	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1370.67
31	0.7358	1160.4	1180.9	1177.1	0.899	5.682	68.606	19.703	4.622	0.142	0.309	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1373.40
Avg	0.7342	1158.0	1178.6	1174.8	0.901	5.666	68.781	19.683	4.502	0.138	0.293	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1372.22

# Source Daily Summary

December 2020

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	0.7350	1154.3	1174.7	1171.5	0.927	5.935	68.664	19.468	4.518	0.150	0.305	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1366.91
2	0.7372	1156.3	1176.7	1173.5	0.933	6.008	68.280	19.672	4.655	0.136	0.284	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1367.25
3	0.7371	1156.2	1176.7	1173.5	0.936	6.001	68.289	19.675	4.650	0.134	0.282	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1367.22
4	0.7363	1156.2	1176.7	1173.5	0.933	5.926	68.385	19.736	4.573	0.136	0.279	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1368.05
5	0.7361	1155.8	1176.3	1173.1	0.934	5.939	68.389	19.737	4.555	0.136	0.279	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1367.66
6	0.7374	1157.2	1177.7	1174.5	0.930	5.979	68.246	19.718	4.674	0.137	0.284	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1368.13
7	0.7376	1157.7	1178.2	1175.0	0.931	5.965	68.245	19.717	4.679	0.139	0.290	0.016	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1368.51
8	0.7388	1160.5	1181.0	1177.8	0.928	5.917	68.120	19.787	4.769	0.143	0.301	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1370.64
9	0.7388	1160.9	1181.5	1178.3	0.922	5.898	68.118	19.827	4.744	0.147	0.306	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1371.18
10	0.7384	1159.8	1180.3	1177.1	0.926	5.917	68.191	19.747	4.739	0.144	0.300	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1370.25
11	0.7400	1162.4	1183.0	1179.8	0.928	5.902	67.955	19.919	4.809	0.146	0.305	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1371.91
12	0.7388	1164.6	1185.2	1182.0	0.935	5.648	68.203	19.980	4.726	0.150	0.318	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1375.59
13	0.7364	1160.6	1181.2	1178.0	0.921	5.687	68.509	19.780	4.622	0.143	0.301	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1373.11
14	0.7346	1158.8	1179.3	1176.2	0.906	5.653	68.701	19.774	4.511	0.136	0.285	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1372.66
15	0.7293	1154.4	1174.8	1171.7	0.905	5.431	69.403	19.649	4.201	0.123	0.258	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1372.35
16	0.7362	1162.3	1182.9	1179.7	0.927	5.560	68.558	19.886	4.572	0.147	0.311	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1375.26
17	0.7375	1164.4	1185.1	1181.8	0.909	5.581	68.389	19.951	4.653	0.153	0.323	0.020	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1376.56
18	0.7407	1165.9	1186.5	1183.3	0.928	5.759	67.871	20.138	4.790	0.152	0.321	0.020	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1375.30
19	0.7412	1165.6	1186.3	1183.0	0.933	5.811	67.848	20.038	4.844	0.156	0.329	0.020	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1374.57
20	0.7394	1163.9	1184.5	1181.3	0.931	5.751	68.060	20.022	4.731	0.150	0.316	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1374.20
21	0.7365	1158.4	1178.9	1175.8	0.928	5.819	68.406	19.805	4.570	0.141	0.295	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1370.43
22	0.7368	1159.1	1179.6	1176.4	0.931	5.804	68.376	19.824	4.589	0.141	0.297	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1370.89
23	0.7349	1158.7	1179.2	1176.0	0.903	5.698	68.658	19.753	4.518	0.140	0.295	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1372.16
24	0.7149	1140.5	1160.7	1157.6	0.823	5.048	71.510	18.761	3.516	0.103	0.214	0.012	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1369.44
25	0.7212	1146.0	1166.3	1163.2	0.857	5.248	70.620	19.064	3.831	0.115	0.239	0.013	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1370.12
26	0.7326	1156.7	1177.2	1174.1	0.883	5.627	69.001	19.616	4.415	0.137	0.287	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1372.05
27	0.7304	1153.5	1173.9	1170.8	0.883	5.620	69.323	19.408	4.323	0.131	0.278	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1370.24
28	0.7288	1153.3	1173.7	1170.6	0.868	5.506	69.586	19.338	4.260	0.130	0.277	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1371.50
29	0.7260	1151.7	1172.1	1169.0	0.849	5.368	69.999	19.230	4.126	0.128	0.268	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1372.27
30	0.7243	1150.0	1170.3	1167.2	0.850	5.312	70.261	19.114	4.039	0.127	0.265	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1371.83
31	0.7240	1148.0	1168.3	1165.2	0.851	5.403	70.250	19.068	4.022	0.121	0.255	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1369.76
Avg	0.7341	1157.0	1177.7	1174.5	0.908	5.701	68.788	19.652	4.491	0.138	0.289	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1371.23

# Source Daily Summary

December 2020

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	0.7335	1152.2	1172.6	1169.4	0.923	5.926	68.834	19.424	4.424	0.146	0.292	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1365.86
2	0.7378	1157.1	1177.6	1174.4	0.932	6.014	68.228	19.666	4.691	0.140	0.295	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1367.70
3	0.7372	1156.3	1176.8	1173.6	0.938	6.000	68.274	19.691	4.647	0.135	0.282	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1367.26
4	0.7361	1155.8	1176.2	1173.1	0.934	5.942	68.398	19.714	4.568	0.134	0.277	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1367.59
5	0.7363	1156.0	1176.5	1173.4	0.935	5.937	68.379	19.738	4.561	0.137	0.281	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1367.79
6	0.7374	1157.1	1177.6	1174.4	0.932	5.984	68.247	19.715	4.670	0.137	0.284	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1367.98
7	0.7376	1157.7	1178.2	1175.0	0.932	5.961	68.250	19.719	4.674	0.139	0.290	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1368.54
8	0.7393	1160.6	1181.1	1177.9	0.932	5.946	68.054	19.794	4.791	0.144	0.302	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1370.35
9	0.7385	1160.4	1181.0	1177.8	0.922	5.895	68.163	19.809	4.724	0.146	0.304	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1370.93
10	0.7388	1160.3	1180.8	1177.6	0.927	5.921	68.149	19.752	4.764	0.145	0.304	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1370.49
11	0.7401	1162.5	1183.1	1179.9	0.929	5.911	67.935	19.922	4.815	0.147	0.306	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1371.83
12	0.7398	1164.7	1185.4	1182.2	0.933	5.738	68.045	19.982	4.794	0.151	0.318	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1374.80
13	0.7377	1163.0	1183.6	1180.4	0.925	5.660	68.357	19.866	4.692	0.147	0.312	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1374.66
14	0.7352	1159.4	1179.9	1176.8	0.907	5.672	68.611	19.807	4.543	0.137	0.287	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1372.78
15	0.7293	1154.4	1174.8	1171.7	0.905	5.428	69.399	19.662	4.198	0.122	0.256	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1372.38
16	0.7373	1163.3	1183.9	1180.7	0.933	5.592	68.399	19.954	4.619	0.148	0.314	0.019	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1375.39
17	0.7390	1166.1	1186.8	1183.6	0.915	5.606	68.186	20.035	4.730	0.156	0.330	0.020	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1377.17
18	0.7410	1166.2	1186.9	1183.7	0.928	5.767	67.826	20.155	4.807	0.153	0.323	0.020	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1375.44
19	0.7416	1166.3	1187.0	1183.8	0.933	5.807	67.786	20.078	4.866	0.156	0.331	0.020	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1375.02
20	0.7396	1164.3	1184.9	1181.7	0.933	5.751	68.030	20.035	4.743	0.151	0.319	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1374.40
21	0.7366	1158.6	1179.1	1176.0	0.929	5.817	68.392	19.816	4.573	0.141	0.296	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1370.54
22	0.7372	1159.6	1180.1	1177.0	0.933	5.813	68.314	19.849	4.611	0.142	0.301	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1371.11
23	0.7371	1160.1	1180.6	1177.5	0.920	5.788	68.328	19.879	4.606	0.142	0.301	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1371.83
24	0.7162	1142.2	1162.4	1159.3	0.819	5.076	71.336	18.818	3.595	0.106	0.223	0.013	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1370.19
25	0.7201	1144.9	1165.2	1162.1	0.856	5.213	70.772	19.013	3.773	0.112	0.234	0.013	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1369.84
26	0.7325	1156.6	1177.1	1174.0	0.885	5.621	69.013	19.617	4.406	0.136	0.287	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1372.04
27	0.7308	1153.8	1174.3	1171.2	0.884	5.629	69.275	19.426	4.341	0.132	0.279	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1370.34
28	0.7288	1153.0	1173.4	1170.3	0.870	5.514	69.591	19.331	4.252	0.130	0.277	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1371.23
29	0.7269	1152.8	1173.2	1170.1	0.851	5.385	69.873	19.280	4.175	0.129	0.273	0.016	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1372.70
30	0.7239	1149.6	1169.9	1166.8	0.850	5.303	70.309	19.101	4.016	0.126	0.263	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1371.68
31	0.7241	1148.4	1168.8	1165.7	0.851	5.387	70.246	19.078	4.026	0.123	0.258	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1370.14
Avg	0.7344	1158.0	1178.0	1174.9	0.910	5.710	68.742	19.669	4.506	0.138	0.290	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1371.29

# Source Daily Summary

December 2020

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	0.6960	1131.1	1151.1	1147.8	0.781	3.915	74.403	18.061	2.569	0.085	0.165	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1376.51
2	0.6800	1115.9	1135.7	1132.5	0.579	3.643	76.562	17.214	1.838	0.052	0.098	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1373.96
3	0.6847	1118.4	1138.2	1135.0	0.586	3.924	75.815	17.428	2.068	0.057	0.110	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1372.33
4	0.6938	1125.6	1145.5	1142.3	0.600	4.322	74.483	17.817	2.558	0.070	0.136	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1372.04
5	0.7053	1140.3	1160.5	1157.2	0.627	4.460	72.643	19.016	3.007	0.078	0.152	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1378.64
6	0.7051	1138.1	1158.3	1155.0	0.721	4.427	72.948	18.536	3.079	0.090	0.179	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1376.28
7	0.7073	1141.6	1161.9	1158.6	0.699	4.455	72.653	18.666	3.210	0.097	0.198	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1378.28
8	0.7238	1150.1	1170.5	1167.2	0.825	5.297	70.191	19.330	3.959	0.121	0.248	0.014	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1372.71
9	0.7108	1141.7	1162.0	1158.7	0.745	4.712	72.087	18.785	3.351	0.098	0.199	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1374.95
10	0.6847	1123.9	1143.8	1140.6	0.573	3.610	75.794	17.829	2.022	0.057	0.102	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1379.01
11	0.6784	1118.1	1137.9	1134.8	0.559	3.389	76.639	17.653	1.617	0.048	0.084	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1378.34
12	0.6747	1111.9	1131.6	1128.5	0.612	3.338	77.481	16.796	1.621	0.050	0.090	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1374.45
13	0.6775	1116.9	1136.6	1133.6	0.553	3.390	76.874	17.358	1.686	0.047	0.082	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1377.69
14	0.6732	1111.0	1130.7	1127.2	0.571	3.322	77.601	16.844	1.532	0.043	0.076	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1374.77
15	0.6731	1111.0	1130.6	1124.6	0.626	3.229	77.760	16.675	1.566	0.048	0.085	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1374.83
16	0.6693	1105.5	1125.1	1120.4	0.630	3.203	78.457	16.079	1.491	0.046	0.083	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1371.89
17	0.6628	1094.7	1114.1	1111.0	0.543	3.376	79.450	15.195	1.321	0.038	0.067	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1365.24
18	0.6717	1108.7	1128.3	1125.2	0.560	3.340	77.911	16.499	1.565	0.042	0.073	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1373.44
19	0.6697	1104.3	1123.9	1120.7	0.559	3.410	78.319	16.031	1.553	0.042	0.076	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1370.15
20	0.6670	1100.6	1120.1	1117.0	0.520	3.448	78.725	15.700	1.490	0.039	0.069	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1368.28
21	0.6701	1106.8	1126.4	1123.3	0.516	3.370	78.103	16.393	1.508	0.037	0.065	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1372.77
22	0.6705	1107.6	1127.3	1124.2	0.524	3.343	78.051	16.452	1.513	0.040	0.068	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1373.40
23	0.6723	1110.1	1129.7	1126.7	0.554	3.315	77.751	16.732	1.529	0.040	0.070	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1374.61
24	0.6694	1106.6	1126.2	1123.1	0.584	3.209	78.325	16.312	1.444	0.042	0.074	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1373.24
25	0.6701	1109.4	1129.0	1126.0	0.466	3.289	77.967	16.754	1.418	0.036	0.063	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1375.96
26	0.6707	1108.3	1128.0	1124.9	0.535	3.296	77.982	16.624	1.445	0.039	0.070	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1374.14
27	0.6673	1104.3	1123.8	1120.8	0.536	3.222	78.618	16.131	1.374	0.039	0.069	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1372.58
28	0.6655	1102.4	1122.0	1118.9	0.515	3.200	78.846	16.053	1.281	0.035	0.062	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1372.13
29	0.6654	1102.2	1121.7	1118.7	0.536	3.180	78.886	16.008	1.282	0.036	0.063	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1371.83
30	0.6650	1102.0	1121.5	1118.5	0.519	3.177	78.946	15.973	1.280	0.035	0.062	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1372.06
31	0.6656	1103.2	1122.7	1119.6	0.522	3.157	78.858	16.053	1.305	0.035	0.062	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1372.89
Avg	0.6794	1115.0	1135.0	1131.7	0.590	3.612	76.746	17.000	1.887	0.054	0.100	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1373.85

# Source Daily Summary

December 2020

**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	0.6635	1101.0	1120.5	1117.7	0.420	3.248	78.967	16.110	1.176	0.029	0.048	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1372.43
2	0.6661	1105.3	1124.9	1122.1	0.435	3.210	78.527	16.505	1.241	0.030	0.051	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1375.06
3	0.6742	1117.5	1137.3	1134.4	0.329	3.389	77.115	17.461	1.625	0.032	0.049	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1381.84
4	0.6846	1129.4	1149.4	1146.5	0.510	3.355	75.657	18.354	1.993	0.047	0.078	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1386.05
5	0.6824	1126.8	1146.7	1143.8	0.541	3.265	76.352	17.585	2.058	0.065	0.121	0.007	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1384.95
6	0.6785	1120.0	1139.9	1136.9	0.517	3.345	76.660	17.602	1.752	0.043	0.074	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1380.68
7	0.6776	1119.5	1139.3	1136.4	0.507	3.314	76.798	17.535	1.721	0.042	0.075	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1380.87
8	0.6770	1117.9	1137.6	1134.7	0.503	3.360	76.934	17.343	1.732	0.044	0.076	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1379.50
9	0.6784	1119.7	1139.5	1136.0	0.518	3.394	76.729	17.433	1.785	0.049	0.082	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1379.62
10	0.6768	1117.2	1136.9	1134.0	0.515	3.368	76.923	17.402	1.654	0.048	0.081	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1378.82
11	0.6736	1112.2	1131.9	1129.0	0.569	3.281	77.564	16.889	1.556	0.047	0.084	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1376.03
12	0.6756	1115.7	1135.4	1131.9	0.503	3.393	77.232	17.006	1.733	0.046	0.078	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1377.55
13	0.6733	1111.5	1131.2	1128.3	0.575	3.294	77.599	16.844	1.555	0.044	0.079	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1375.36
14	0.6718	1109.5	1129.2	1126.3	0.610	3.216	77.941	16.564	1.534	0.045	0.080	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1374.51
15	0.6697	1107.1	1126.7	1123.9	0.618	3.159	78.359	16.220	1.508	0.045	0.081	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1373.59
16	0.6630	1096.5	1115.9	1113.2	0.540	3.286	79.431	15.285	1.345	0.038	0.067	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1367.40
17	0.6684	1104.6	1124.1	1121.2	0.534	3.317	78.496	16.025	1.510	0.040	0.068	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1371.77
18	0.6683	1104.4	1123.9	1121.1	0.533	3.321	78.492	16.031	1.509	0.039	0.068	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1371.67
19	0.6636	1097.9	1117.3	1114.6	0.501	3.316	79.278	15.423	1.381	0.035	0.061	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1368.52
20	0.6678	1104.4	1123.9	1121.1	0.495	3.333	78.495	16.098	1.477	0.036	0.062	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1372.16
21	0.6691	1106.3	1125.9	1123.1	0.514	3.308	78.291	16.281	1.495	0.039	0.067	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1373.22
22	0.6714	1110.6	1130.2	1127.4	0.496	3.291	77.859	16.693	1.552	0.038	0.067	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1376.19
23	0.6701	1109.1	1128.8	1125.9	0.542	3.184	78.126	16.564	1.468	0.037	0.072	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1375.75
24	0.6698	1110.8	1130.4	1127.6	0.467	3.172	78.032	16.809	1.413	0.034	0.065	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1378.07
25	0.6697	1110.5	1130.2	1127.2	0.380	3.240	77.972	17.025	1.304	0.027	0.052	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1378.55
26	0.6696	1110.3	1130.0	1127.2	0.380	3.240	77.972	17.025	1.304	0.027	0.052	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1378.55
27	0.6695	1110.0	1129.7	1127.2	0.380	3.240	77.972	17.025	1.304	0.027	0.052	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1378.55
28	0.6694	1109.8	1129.5	1127.2	0.380	3.240	77.972	17.025	1.304	0.027	0.052	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1378.55
29	0.6693	1109.7	1129.3	1127.2	0.380	3.240	77.972	17.025	1.304	0.027	0.052	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1378.55
30	0.6691	1109.5	1129.1	1127.2	0.482	3.088	78.705	16.327	1.298	0.032	0.061	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1375.98
31	0.6690	1109.3	1128.9	1127.2	0.481	3.084	78.759	16.286	1.296	0.030	0.058	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1375.82
Avg	0.6716	1111.0	1130.8	1127.7	0.489	3.274	77.845	16.768	1.512	0.038	0.068	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1376.65

# Source Daily Summary

December 2020

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	0.6689	1105.6	1125.2	1121.5	0.823	2.858	78.791	15.888	1.497	0.047	0.084	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1372.56	
2	0.6806	1122.5	1142.4	1138.6	0.871	2.849	77.005	17.143	1.934	0.065	0.115	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1381.57	
3	0.6676	1104.0	1123.6	1119.9	0.840	2.809	79.013	15.750	1.451	0.046	0.080	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1371.92	
4	0.6756	1114.7	1134.5	1131.0	0.914	2.795	77.972	16.290	1.828	0.066	0.118	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1376.95	
5	0.6742	1113.1	1132.8	1129.0	0.996	2.629	78.365	16.015	1.778	0.071	0.127	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1376.47	
6	0.6666	1102.6	1122.1	1118.3	0.927	2.667	79.459	15.275	1.505	0.055	0.098	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1371.18	
7	0.6556	1084.9	1104.1	1100.4	0.749	2.983	81.171	13.689	1.274	0.044	0.078	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1360.46	
8	0.6557	1084.6	1103.8	1100.1	0.724	3.042	81.130	13.695	1.277	0.043	0.077	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1360.04	
9	0.6558	1084.8	1104.0	1100.2	0.723	3.050	81.103	13.706	1.285	0.044	0.078	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1360.06	
10	0.6705	1105.5	1125.1	1121.3	0.865	2.946	78.894	15.339	1.745	0.069	0.124	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1370.81	
11	0.6703	1105.2	1124.8	1121.4	0.857	2.956	78.911	15.331	1.736	0.068	0.122	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1370.67	
12	0.6704	1105.8	1125.4	1122.0	0.882	2.892	78.958	15.298	1.751	0.071	0.128	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1371.30	
13	0.6700	1105.0	1124.5	1121.2	0.851	2.953	78.935	15.354	1.693	0.070	0.126	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1370.67	
14	0.6738	1110.7	1130.4	1127.0	0.934	2.834	78.442	15.733	1.809	0.080	0.145	0.011	0.011	0.000	0.000	0.000	0.000	0.000	1373.87	
15	0.6668	1100.1	1119.5	1116.2	0.822	2.996	79.469	14.879	1.628	0.067	0.121	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1367.83	
16	0.6693	1103.9	1123.4	1120.1	0.856	2.943	79.093	15.198	1.691	0.071	0.128	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1370.04	
17	0.6733	1110.0	1129.6	1126.2	0.920	2.851	78.506	15.690	1.792	0.078	0.141	0.011	0.011	0.000	0.000	0.000	0.000	0.000	1373.48	
18	0.6606	1090.6	1109.9	1106.7	0.602	3.323	80.111	14.397	1.441	0.041	0.074	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1362.49	
19	0.6595	1089.3	1108.6	1105.4	0.551	3.384	80.209	14.326	1.419	0.037	0.066	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1361.95	
20	0.6551	1083.1	1102.3	1099.0	0.588	3.287	81.097	13.584	1.321	0.041	0.072	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1358.75	
21	0.6578	1087.3	1106.5	1103.2	0.648	3.197	80.745	13.865	1.399	0.048	0.086	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1361.16	
22	0.6565	1084.6	1103.8	1100.6	0.640	3.250	81.007	13.548	1.404	0.050	0.089	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1359.15	
23	0.6633	1095.5	1114.9	1111.6	0.740	3.076	79.955	14.495	1.552	0.060	0.107	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1365.68	
24	0.6609	1091.9	1111.3	1107.9	0.696	3.125	80.332	14.176	1.500	0.056	0.100	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1363.83	
25	0.6604	1091.2	1110.5	1107.3	0.713	3.107	80.448	14.056	1.501	0.058	0.103	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1363.31	
26	0.6606	1091.5	1110.8	1107.6	0.750	3.048	80.509	13.976	1.528	0.062	0.110	0.009	0.008	0.000	0.000	0.000	0.000	0.000	1363.51	
27	0.6672	1100.7	1120.2	1116.9	0.853	2.946	79.589	14.642	1.743	0.074	0.133	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1368.22	
28	0.6729	1109.5	1129.2	1125.8	0.948	2.805	78.675	15.483	1.836	0.082	0.148	0.012	0.012	0.000	0.000	0.000	0.000	0.000	1373.25	
29	0.6639	1096.9	1116.4	1113.1	0.747	3.029	79.855	14.634	1.552	0.060	0.107	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1366.93	
30	0.6692	1104.9	1124.5	1121.2	0.845	2.897	79.134	15.168	1.745	0.069	0.123	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1371.31	
31	0.6644	1097.5	1116.9	1113.6	0.810	2.949	79.968	14.429	1.633	0.069	0.123	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1367.04	
Avg	0.6657	1099.0	1118.7	1115.3	0.796	2.983	79.576	14.873	1.589	0.060	0.107	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1367.95	

# Source Daily Summary

December 2020

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	0.6843	1150.3	1170.6	1166.2	0.000	2.847	73.701	22.804	0.633	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.91	-27.28
2	0.6844	1151.0	1171.3	1166.3	0.000	2.813	73.684	22.856	0.631	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.67	-27.16
3	0.6846	1151.1	1171.5	1166.7	0.000	2.821	73.662	22.850	0.651	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.68	-27.00
4	0.6847	1151.3	1171.7	1167.1	0.000	2.817	73.664	22.837	0.666	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.81	-26.90
5	0.6846	1151.4	1171.8	1166.9	0.000	2.803	73.678	22.842	0.661	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.04	-26.93
6	0.6844	1151.0	1171.4	1166.8	0.000	2.815	73.698	22.820	0.651	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.66	-27.07
7	0.6849	1151.6	1172.0	1167.3	0.000	2.826	73.595	22.906	0.658	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.90	-26.79
8	0.6849	1151.4	1171.7	1167.1	0.000	2.836	73.614	22.869	0.665	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.64	-26.83
9	0.6851	1151.5	1171.9	1167.3	0.000	2.848	73.559	22.921	0.655	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.57	-26.79
10	0.6849	1151.6	1172.0	1167.1	0.000	2.820	73.596	22.923	0.645	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.97	-26.86
11	0.6851	1152.4	1172.8	1168.0	0.000	2.788	73.581	22.953	0.661	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.75	-26.64
12	0.6845	1151.8	1172.2	1167.5	0.000	2.773	73.663	22.923	0.625	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.56	-27.03
13	0.6844	1151.2	1171.6	1166.9	0.000	2.803	73.627	22.966	0.589	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.94	-27.26
14	0.6845	1151.9	1172.3	1167.2	0.000	2.765	73.651	22.962	0.607	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.72	-27.10
15	0.6844	1151.8	1172.2	1167.0	0.000	2.766	73.686	22.902	0.630	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.63	-27.06
16	0.6845	1151.6	1171.9	1167.2	0.000	2.785	73.677	22.891	0.631	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.28	-27.08
17	0.6845	1152.2	1172.6	1167.7	0.000	2.751	73.669	22.933	0.632	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.03	-26.96
18	0.6843	1151.8	1172.2	1167.4	0.000	2.755	73.685	22.938	0.607	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.77	-27.17
19	0.6845	1152.1	1172.5	1167.8	0.000	2.751	73.683	22.909	0.642	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.01	-26.93
20	0.6844	1152.2	1172.6	1168.0	0.000	2.742	73.680	22.932	0.631	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.17	-26.97
21	0.6851	1153.2	1173.6	1168.7	0.000	2.744	73.571	23.017	0.652	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.66	-26.57
22	0.6844	1151.9	1172.3	1167.7	0.000	2.757	73.660	22.967	0.601	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.82	-27.14
23	0.6845	1152.1	1172.5	1167.6	0.000	2.756	73.635	22.991	0.602	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.93	-27.07
24	0.6847	1152.3	1172.8	1167.8	0.000	2.757	73.647	22.933	0.647	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.05	-26.83
25	0.6843	1152.0	1172.4	1167.7	0.000	2.738	73.726	22.883	0.637	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.08	-27.04
26	0.6840	1151.6	1172.0	1166.9	0.000	2.734	73.769	22.863	0.619	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.89	-27.25
27	0.6840	1151.5	1171.9	1167.2	0.000	2.745	73.744	22.886	0.609	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.73	-27.28
28	0.6842	1152.0	1172.4	1167.4	0.000	2.730	73.713	22.930	0.612	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.19	-27.14
29	0.6840	1151.8	1172.2	1167.5	0.000	2.726	73.743	22.925	0.592	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.07	-27.33
30	0.6843	1152.0	1172.4	1167.3	0.000	2.736	73.710	22.918	0.622	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.13	-27.09
31	0.6847	1152.8	1173.2	1168.3	0.000	2.733	73.652	22.949	0.652	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.55	-26.76
Avg	0.6845	1152.0	1172.2	1167.3	0.000	2.777	73.665	22.910	0.633	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.51	-27.01

# Source Daily Summary

December 2020

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	0.6551	1079.5	1098.6	1095.7	0.611	3.480	80.951	13.645	1.194	0.037	0.071	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1354.07
2	0.6511	1072.2	1091.1	1088.3	0.591	3.572	81.695	12.885	1.139	0.036	0.070	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1349.16
3	0.6529	1075.6	1094.6	1091.7	0.594	3.533	81.348	13.247	1.161	0.036	0.071	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1351.55
4	0.6538	1077.1	1096.2	1093.2	0.595	3.519	81.162	13.450	1.159	0.036	0.068	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1352.58
5	0.6523	1074.7	1093.7	1090.8	0.593	3.532	81.435	13.193	1.136	0.035	0.066	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1351.03
6	0.6514	1071.9	1090.9	1088.0	0.584	3.623	81.619	12.916	1.141	0.036	0.069	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1348.57
7	0.6497	1069.5	1088.5	1085.5	0.575	3.627	81.928	12.637	1.120	0.036	0.068	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1347.28
8	0.6501	1068.8	1087.7	1084.7	0.570	3.719	81.877	12.559	1.150	0.038	0.075	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1345.91
9	0.6487	1066.7	1085.6	1082.6	0.563	3.721	82.121	12.354	1.121	0.037	0.071	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1344.79
10	0.6496	1068.9	1087.8	1084.9	0.570	3.671	81.942	12.569	1.131	0.037	0.069	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1346.47
11	0.6521	1075.4	1094.4	1091.5	0.580	3.487	81.481	13.192	1.150	0.035	0.064	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1352.17
12	0.6535	1078.3	1097.4	1094.5	0.583	3.441	81.219	13.479	1.170	0.035	0.064	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1354.34
13	0.6526	1076.6	1095.6	1092.8	0.578	3.468	81.385	13.301	1.160	0.035	0.064	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1353.11
14	0.6517	1075.5	1094.5	1091.6	0.574	3.458	81.549	13.167	1.146	0.035	0.063	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1352.65
15	0.6508	1074.3	1093.3	1090.4	0.570	3.444	81.724	13.023	1.131	0.035	0.062	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1352.18
16	0.6492	1073.2	1092.2	1089.2	0.565	3.374	81.992	12.881	1.089	0.033	0.056	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1352.37
17	0.6497	1074.2	1093.2	1090.2	0.562	3.369	81.892	12.980	1.100	0.033	0.056	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1353.06
18	0.6510	1074.9	1094.0	1091.1	0.561	3.440	81.685	13.066	1.141	0.035	0.062	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1352.76
19	0.6518	1075.1	1094.1	1091.1	0.558	3.517	81.533	13.111	1.169	0.036	0.066	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1352.02
20	0.6508	1074.2	1093.2	1090.2	0.551	3.483	81.708	13.007	1.143	0.035	0.063	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1352.00
21	0.6513	1073.6	1092.6	1089.6	0.549	3.577	81.631	12.952	1.175	0.037	0.069	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1350.63
22	0.6513	1075.0	1094.0	1091.1	0.544	3.495	81.625	13.058	1.169	0.035	0.064	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1352.44
23	0.6530	1077.5	1096.6	1093.7	0.548	3.493	81.338	13.294	1.212	0.037	0.067	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1353.85
24	0.6551	1080.5	1099.7	1096.7	0.547	3.509	80.979	13.565	1.277	0.039	0.072	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1355.48
25	0.6531	1076.8	1095.9	1093.0	0.538	3.558	81.339	13.203	1.242	0.038	0.071	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1352.93
26	0.6553	1080.8	1099.9	1096.9	0.545	3.511	80.959	13.573	1.290	0.039	0.072	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1355.66
27	0.6547	1080.0	1099.2	1096.2	0.543	3.502	81.061	13.502	1.273	0.038	0.070	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1355.33
28	0.6521	1077.2	1096.3	1093.4	0.538	3.446	81.502	13.189	1.213	0.036	0.065	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1354.37
29	0.6517	1076.4	1095.4	1092.6	0.534	3.457	81.598	13.086	1.213	0.037	0.065	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1353.84
30	0.6531	1077.9	1097.0	1094.0	0.534	3.505	81.348	13.235	1.258	0.038	0.070	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1354.17
31	0.6533	1077.8	1096.9	1093.9	0.529	3.531	81.324	13.228	1.268	0.039	0.071	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1353.92
Avg	0.6520	1075.0	1094.2	1091.3	0.564	3.518	81.514	13.114	1.176	0.036	0.067	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1351.96

# Gas Composition and Properties

Effective December 1, 2020

Attachment B  
Page 19 of 24

Source #: 2702230  
Name: WATFORD CITY EAST BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	1.0696		2.3819
Nitrogen, N2	2.6194		3.7131
Methane, C1	74.4393		60.4280
Ethane, C2	21.5941	5.7775	32.8563
Propane, C3	0.2758	0.0760	0.6154
iso-Butane, iC4	0.0006	0.0002	0.0018
n-Butane, nC4	0.0012	0.0004	0.0035
iso-Pentane, iC5			
n-Pentane, nC5			
Neo-Pentane, NeoC5			
Hexanes Plus, C6+			
Water, H2O			
Hydrogen Sulfide, H2S			
Oxygen, O2			
Carbon Monoxide, CO			
Hydrogen, H2			
Helium, He			
Argon, Ar			
<b>Totals</b>	<b>100.0000</b>	<b>5.8540</b>	<b>100.0000</b>

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure	-43.640	
Cricondentherm	-31.547	
HV, Dry @ Base P, T	1147.03	
HV, Sat @ Base P, T	1127.07	
HV, Sat @ Sample P, T	1147.03	
Relative Density	0.6841	

C6+: 100

## Sample

Date: 12/01/2020      Pressure: 538.0  
 Type:                      Temperature:  
 Tech: Joshua Tipton      H2O: lbs/mm  
    H2S: ppm

Remarks:

## Analysis

Date: 12/01/2020      Instrument:  
    Cylinder: 321  
 Tech: Joshua Tipton

Remarks:

December-20

ZONE 550

MANDAN BORDER

Start Date	End Date	NBPL - St Anthony			WBI - Mandan Border			Weighted AVG BTU	
		MCF	DK	BTU	MCF	DK	BTU Zone 28		
12/1/2020	12/2/2020				4110	4732	1.1511	1.151	12/1/2020
12/2/2020	12/3/2020	884	990	1.1199	4299	4874	1.1357	1.133	12/2/2020
12/3/2020	12/4/2020				3874	4411	1.1382	1.138	12/3/2020
12/4/2020	12/5/2020				3597	4122	1.1455	1.146	12/4/2020
12/5/2020	12/6/2020				3618	4199	1.1605	1.161	12/5/2020
12/6/2020	12/7/2020				3616	4186	1.1583	1.158	12/6/2020
12/7/2020	12/8/2020				3252	3777	1.1619	1.162	12/7/2020
12/8/2020	12/9/2020				2986	3501	1.1705	1.171	12/8/2020
12/9/2020	12/10/2020				3256	3784	1.1620	1.162	12/9/2020
12/10/2020	12/11/2020				4563	5218	1.1438	1.144	12/10/2020
12/11/2020	12/12/2020				5212	5932	1.1379	1.138	12/11/2020
12/12/2020	12/13/2020				5409	6122	1.1316	1.132	12/12/2020
12/13/2020	12/14/2020				6932	7877	1.1366	1.137	12/13/2020
12/14/2020	12/15/2020	6627	7335	1.1067	0	0	1.1307	1.107	12/14/2020
12/15/2020	12/16/2020	6240	6902	1.1060	0	0	1.1306	1.106	12/15/2020
12/16/2020	12/17/2020	1660	1834	1.1047	3482	3914	1.1251	1.119	12/16/2020
12/17/2020	12/18/2020				4657	5191	1.1141	1.114	12/17/2020
12/18/2020	12/19/2020				5984	6752	1.1283	1.128	12/18/2020
12/19/2020	12/20/2020				4367	4907	1.1239	1.124	12/19/2020
12/20/2020	12/21/2020				4315	4833	1.1201	1.120	12/20/2020
12/21/2020	12/22/2020				4009	4516	1.1264	1.126	12/21/2020
12/22/2020	12/23/2020				4853	5473	1.1273	1.127	12/22/2020
12/23/2020	12/24/2020				7306	8253	1.1297	1.130	12/23/2020
12/24/2020	12/25/2020				6130	6904	1.1262	1.126	12/24/2020
12/25/2020	12/26/2020				4639	5239	1.1290	1.129	12/25/2020
12/26/2020	12/27/2020				4821	5438	1.1280	1.128	12/26/2020
12/27/2020	12/28/2020				5548	6235	1.1238	1.124	12/27/2020
12/28/2020	12/29/2020				5914	6635	1.1220	1.122	12/28/2020
12/29/2020	12/30/2020				5751	6450	1.1217	1.122	12/29/2020
12/30/2020	12/31/2020				6225	6982	1.1215	1.122	12/30/2020
12/31/2020	1/1/2021				5166	5800	1.1227	1.123	12/31/2020
		15,411	17,061	1.1093	137,891	156,257	1.1350	1.1331	



# Alliance Pipeline

DAILY ANALYSIS --- USA  
 ND07MD1 --- Hankinson Sales  
 December 2020

DAY	Heating Value (BTU/ft3)	Relative Density	C1 Mol%	C2 Mol%	C3 Mol%	IC4 Mol%	NC4 Mol%	IC5 Mol%	NC5 Mol%	C6+ Mol%	N2 Mol%	CO2 Mol%	Hel Mol%
1	1,158.460	0.6637	84.5840	8.9638	3.6861	0.4433	0.7716	0.0785	0.0605	0.0319	0.9503	0.4195	0.0104
2	1,157.713	0.6628	84.6772	8.9915	3.6368	0.4383	0.7527	0.0758	0.0595	0.0320	0.8997	0.4259	0.0106
3	1,159.183	0.6641	84.4594	9.1220	3.6916	0.4353	0.7548	0.0759	0.0588	0.0322	0.9245	0.4350	0.0104
4	1,159.194	0.6646	84.3517	9.1636	3.7450	0.4141	0.7360	0.0789	0.0622	0.0335	0.9748	0.4297	0.0103
5	1,156.979	0.6628	84.6007	9.0533	3.6571	0.4112	0.7255	0.0773	0.0611	0.0338	0.9387	0.4308	0.0105
6	1,155.289	0.6615	84.7495	9.0024	3.5967	0.3990	0.7170	0.0766	0.0594	0.0342	0.9288	0.4261	0.0104
7	1,155.585	0.6615	84.7291	9.0186	3.6162	0.3972	0.7104	0.0770	0.0604	0.0329	0.9361	0.4115	0.0107
8	1,156.046	0.6621	84.6663	9.0392	3.6303	0.3997	0.7143	0.0784	0.0617	0.0339	0.9488	0.4168	0.0105
9	1,155.275	0.6618	84.6833	9.0491	3.6090	0.3959	0.7025	0.0776	0.0615	0.0334	0.9456	0.4315	0.0105
10	1,155.592	0.6614	84.7657	9.0115	3.5897	0.3994	0.7131	0.0789	0.0624	0.0354	0.9254	0.4084	0.0102
11	1,158.483	0.6637	84.5000	9.0541	3.7197	0.4114	0.7466	0.0806	0.0633	0.0337	0.9762	0.4044	0.0101
12	1,157.526	0.6631	84.5589	9.0774	3.6654	0.4030	0.7307	0.0817	0.0647	0.0360	0.9514	0.4206	0.0103
13	1,155.199	0.6614	84.8226	8.9074	3.6122	0.3972	0.7161	0.0809	0.0657	0.0368	0.9326	0.4183	0.0102
14	1,155.744	0.6617	84.8662	8.7955	3.6611	0.4039	0.7332	0.0819	0.0661	0.0372	0.9201	0.4243	0.0105
15	1,153.158	0.6604	84.9570	8.7658	3.6161	0.3919	0.7026	0.0773	0.0628	0.0349	0.9574	0.4239	0.0102
16	1,150.278	0.6590	84.9969	8.9014	3.4381	0.3830	0.6729	0.0781	0.0637	0.0353	0.9952	0.4252	0.0101
17	1,153.968	0.6610	84.8361	8.9180	3.5692	0.3982	0.7023	0.0815	0.0655	0.0358	0.9616	0.4217	0.0103
18	1,156.516	0.6626	84.6526	8.9836	3.6551	0.4024	0.7249	0.0830	0.0666	0.0372	0.9581	0.4265	0.0102
19	1,155.963	0.6621	84.7178	8.9533	3.6473	0.4007	0.7119	0.0836	0.0665	0.0369	0.9505	0.4214	0.0102
20	1,156.127	0.6626	84.5988	9.0246	3.6660	0.3987	0.7182	0.0790	0.0624	0.0334	0.9866	0.4217	0.0105
21	1,155.865	0.6623	84.6064	9.0604	3.6453	0.3976	0.7138	0.0784	0.0598	0.0305	0.9796	0.4180	0.0102
22	1,158.383	0.6639	84.4126	9.1781	3.7062	0.4061	0.7243	0.0812	0.0617	0.0309	0.9613	0.4271	0.0104
23	1,159.521	0.6645	84.3432	9.2176	3.7086	0.4142	0.7432	0.0828	0.0631	0.0323	0.9597	0.4250	0.0103
24	1,156.271	0.6623	84.6088	9.1177	3.5885	0.4089	0.7266	0.0788	0.0606	0.0298	0.9514	0.4187	0.0104
25	1,154.137	0.6612	84.7958	8.9415	3.5481	0.4052	0.7283	0.0803	0.0621	0.0314	0.9800	0.4170	0.0102
26	1,153.668	0.6610	84.7927	8.9662	3.5360	0.4009	0.7263	0.0758	0.0590	0.0303	0.9740	0.4288	0.0102
27	1,151.970	0.6596	84.9223	8.9548	3.4767	0.3897	0.7060	0.0723	0.0564	0.0298	0.9608	0.4206	0.0105
28	1,151.253	0.6592	84.9608	8.9494	3.4588	0.3852	0.6969	0.0709	0.0559	0.0292	0.9568	0.4259	0.0102
29	1,149.003	0.6580	85.0886	8.8845	3.3866	0.3809	0.6859	0.0703	0.0555	0.0289	0.9898	0.4188	0.0102
30	1,141.382	0.6531	85.5360	8.8916	3.0475	0.3534	0.6016	0.0692	0.0560	0.0295	0.9854	0.4194	0.0104
31	1,141.417	0.6531	85.5264	8.8930	3.0583	0.3529	0.5984	0.0687	0.0556	0.0293	0.9878	0.4192	0.0103
<b>Volume</b>	<b>1,154.673</b>	<b>0.6614</b>	<b>84.7543</b>	<b>8.9952</b>	<b>3.5759</b>	<b>0.4006</b>	<b>0.7131</b>	<b>0.0778</b>	<b>0.0613</b>	<b>0.0330</b>	<b>0.9565</b>	<b>0.4220</b>	<b>0.0103</b>
<b>Weight Avg Energy</b>	<b>1,154.689</b>	<b>0.6614</b>	<b>84.7533</b>	<b>8.9955</b>	<b>3.5765</b>	<b>0.4007</b>	<b>0.7133</b>	<b>0.0778</b>	<b>0.0613</b>	<b>0.0330</b>	<b>0.9564</b>	<b>0.4220</b>	<b>0.0103</b>



# Alliance Pipeline

DAILY ANALYSIS --- USA  
 ND14MD1 --- Milnor Sales  
 December 2020

DAY	Heating Value (BTU/ft3)	Relative Density	C1 Mol%	C2 Mol%	C3 Mol%	IC4 Mol%	NC4 Mol%	IC5 Mol%	NC5 Mol%	C6+ Mol%	N2 Mol%	CO2 Mol%	Hel Mol%
1	1,158.490	0.6638	84.5734	8.9833	3.6800	0.4430	0.7704	0.0785	0.0605	0.0320	0.9471	0.4216	0.0105
2	1,158.084	0.6630	84.6465	9.0186	3.6421	0.4385	0.7541	0.0757	0.0595	0.0323	0.8924	0.4298	0.0104
3	1,159.938	0.6647	84.3842	9.1605	3.7191	0.4349	0.7574	0.0765	0.0595	0.0324	0.9259	0.4392	0.0104
4	1,158.822	0.6643	84.3895	9.1438	3.7337	0.4134	0.7331	0.0790	0.0623	0.0335	0.9740	0.4274	0.0103
5	1,156.817	0.6627	84.6145	9.0474	3.6514	0.4107	0.7248	0.0770	0.0609	0.0340	0.9380	0.4308	0.0105
6	1,155.991	0.6620	84.6956	9.0306	3.6157	0.4003	0.7241	0.0768	0.0593	0.0338	0.9314	0.4219	0.0104
7	1,155.335	0.6615	84.7414	9.0159	3.6109	0.3956	0.7060	0.0767	0.0605	0.0331	0.9364	0.4127	0.0107
8	1,156.219	0.6623	84.6519	9.0409	3.6384	0.3998	0.7167	0.0786	0.0619	0.0338	0.9504	0.4171	0.0105
9	1,155.561	0.6620	84.6583	9.0654	3.6164	0.3972	0.7036	0.0774	0.0613	0.0334	0.9448	0.4317	0.0104
10	1,155.834	0.6617	84.7330	9.0247	3.5993	0.3993	0.7154	0.0793	0.0626	0.0353	0.9306	0.4102	0.0103
11	1,158.557	0.6639	84.4967	9.0502	3.7228	0.4118	0.7475	0.0811	0.0638	0.0341	0.9745	0.4075	0.0100
12	1,157.196	0.6629	84.5881	9.0633	3.6570	0.4013	0.7275	0.0817	0.0647	0.0360	0.9515	0.4186	0.0103
13	1,154.914	0.6610	84.8896	8.8947	3.5891	0.3966	0.7116	0.0807	0.0659	0.0372	0.9038	0.4205	0.0103
14	1,155.624	0.6618	84.8610	8.7767	3.6717	0.4037	0.7339	0.0817	0.0659	0.0372	0.9329	0.4248	0.0105
15	1,153.238	0.6606	84.9448	8.7646	3.6238	0.3909	0.7021	0.0779	0.0635	0.0354	0.9591	0.4274	0.0104
16	1,149.071	0.6583	85.0762	8.8991	3.3745	0.3808	0.6636	0.0783	0.0639	0.0355	0.9908	0.4272	0.0102
17	1,155.308	0.6619	84.7491	8.9239	3.6315	0.4013	0.7140	0.0819	0.0659	0.0360	0.9629	0.4231	0.0103
18	1,156.605	0.6627	84.6571	8.9797	3.6561	0.4033	0.7260	0.0834	0.0667	0.0372	0.9545	0.4259	0.0101
19	1,155.687	0.6620	84.7393	8.9358	3.6440	0.3997	0.7095	0.0837	0.0666	0.0370	0.9516	0.4226	0.0102
20	1,156.946	0.6632	84.5271	9.0677	3.6850	0.4017	0.7235	0.0798	0.0626	0.0330	0.9868	0.4222	0.0105
21	1,155.958	0.6624	84.5854	9.0810	3.6494	0.3968	0.7119	0.0777	0.0591	0.0301	0.9793	0.4191	0.0102
22	1,159.106	0.6643	84.3668	9.2026	3.7248	0.4085	0.7292	0.0817	0.0620	0.0311	0.9577	0.4252	0.0104
23	1,159.132	0.6644	84.3729	9.2023	3.6952	0.4133	0.7417	0.0825	0.0633	0.0325	0.9600	0.4261	0.0103
24	1,156.156	0.6623	84.6156	9.1076	3.5888	0.4084	0.7265	0.0791	0.0606	0.0296	0.9540	0.4194	0.0104
25	1,154.384	0.6615	84.7469	8.9729	3.5524	0.4050	0.7308	0.0801	0.0620	0.0316	0.9867	0.4213	0.0102
26	1,153.466	0.6608	84.8283	8.9441	3.5314	0.4006	0.7257	0.0756	0.0588	0.0301	0.9688	0.4264	0.0102
27	1,151.406	0.6593	84.9599	8.9430	3.4616	0.3872	0.6998	0.0714	0.0560	0.0296	0.9589	0.4221	0.0105
28	1,151.374	0.6594	84.9509	8.9492	3.4658	0.3856	0.6986	0.0708	0.0556	0.0290	0.9594	0.4248	0.0102
29	1,148.678	0.6578	85.1178	8.8721	3.3754	0.3795	0.6828	0.0707	0.0558	0.0290	0.9882	0.4183	0.0102
30	1,141.621	0.6533	85.5156	8.9044	3.0530	0.3540	0.6030	0.0693	0.0561	0.0296	0.9843	0.4202	0.0104
31	1,141.502	0.6533	85.5207	8.8910	3.0644	0.3534	0.5991	0.0686	0.0556	0.0292	0.9869	0.4210	0.0103
<b>Volume</b>	<b>1,155.157</b>	<b>0.6617</b>	<b>84.7266</b>	<b>8.9980</b>	<b>3.5965</b>	<b>0.4019</b>	<b>0.7160</b>	<b>0.0783</b>	<b>0.0618</b>	<b>0.0333</b>	<b>0.9542</b>	<b>0.4230</b>	<b>0.0103</b>
<b>Weight Avg Energy</b>	<b>1,155.171</b>	<b>0.6617</b>	<b>84.7262</b>	<b>8.9980</b>	<b>3.5969</b>	<b>0.4019</b>	<b>0.7161</b>	<b>0.0783</b>	<b>0.0618</b>	<b>0.0333</b>	<b>0.9541</b>	<b>0.4230</b>	<b>0.0103</b>

December-20

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		
12/1/2020	12/2/2020	395	472	1.1954	606	695	1.1470	1.166	12/1/2020
12/2/2020	12/3/2020	395	472	1.1954	655	751	1.1470	1.165	12/2/2020
12/3/2020	12/4/2020	346	414	1.1954	512	587	1.1470	1.167	12/3/2020
12/4/2020	12/5/2020	344	412	1.1954	448	514	1.1470	1.168	12/4/2020
12/5/2020	12/6/2020	348	415	1.1954	492	565	1.1470	1.167	12/5/2020
12/6/2020	12/7/2020	347	415	1.1954	495	568	1.1470	1.167	12/6/2020
12/7/2020	12/8/2020	327	391	1.1954	437	501	1.1470	1.168	12/7/2020
12/8/2020	12/9/2020	318	381	1.1954	361	414	1.1470	1.170	12/8/2020
12/9/2020	12/10/2020	355	424	1.1954	457	525	1.1470	1.168	12/9/2020
12/10/2020	12/11/2020	434	519	1.1954	658	755	1.1470	1.166	12/10/2020
12/11/2020	12/12/2020	444	530	1.1954	639	733	1.1470	1.167	12/11/2020
12/12/2020	12/13/2020	458	547	1.1954	719	825	1.1470	1.166	12/12/2020
12/13/2020	12/14/2020	578	691	1.1954	963	1105	1.1470	1.165	12/13/2020
12/14/2020	12/15/2020	508	607	1.1954	798	915	1.1470	1.166	12/14/2020
12/15/2020	12/16/2020	434	519	1.1954	637	731	1.1470	1.167	12/15/2020
12/16/2020	12/17/2020	417	499	1.1954	651	747	1.1470	1.166	12/16/2020
12/17/2020	12/18/2020	413	494	1.1954	562	645	1.1470	1.168	12/17/2020
12/18/2020	12/19/2020	490	586	1.1954	778	892	1.1470	1.166	12/18/2020
12/19/2020	12/20/2020	389	466	1.1954	511	587	1.1470	1.168	12/19/2020
12/20/2020	12/21/2020	383	457	1.1954	511	586	1.1470	1.168	12/20/2020
12/21/2020	12/22/2020	376	449	1.1954	451	518	1.1470	1.169	12/21/2020
12/22/2020	12/23/2020	452	540	1.1954	680	780	1.1470	1.166	12/22/2020
12/23/2020	12/24/2020	539	644	1.1954	830	952	1.1470	1.166	12/23/2020
12/24/2020	12/25/2020	412	492	1.1954	565	648	1.1470	1.167	12/24/2020
12/25/2020	12/26/2020	409	490	1.1954	557	638	1.1470	1.167	12/25/2020
12/26/2020	12/27/2020	418	499	1.1954	584	670	1.1470	1.167	12/26/2020
12/27/2020	12/28/2020	463	553	1.1954	706	809	1.1470	1.166	12/27/2020
12/28/2020	12/29/2020	473	565	1.1954	779	894	1.1470	1.165	12/28/2020
12/29/2020	12/30/2020	478	571	1.1954	751	861	1.1470	1.166	12/29/2020
12/30/2020	12/31/2020	453	542	1.1954	700	802	1.1470	1.166	12/30/2020
12/31/2020	1/1/2021	416	498	1.1954	597	685	1.1470	1.167	12/31/2020
		13,012	15,554	1.1954	19,090	21,898	1.1470	1.1668	

ROW ID	LOCATION DESCRIPTION	GROSS HEATING VALUE (BTU/CF)	SPECIFIC GRAVITY	WOBBE (calc)	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	1117	0.6595	1375.4	-40.6	2.2187	0.9899	79.844	15.8568	0.9026	0.0212	0.0137	0	0	N/A	0	0.1304	0.0229	11/30/2020	12/1/2020	12/1/2020 4:34:06 PM	
11587	GLEN ULLIN	1118	0.6598	1376.4	-39.9	2.2054	0.9734	79.8506	15.7933	0.9814	0.0234	0.015	0	0	N/A	0	0.1349	0.0227	12/1/2020	12/2/2020	12/2/2020 4:49:17 PM	
11587	GLEN ULLIN	1117.1	0.6589	1376.2	-40.2	2.1709	0.9793	79.9912	15.6537	0.9817	0.0237	0.015	0.0003	0.0004	N/A	0	0.1617	0.0222	12/2/2020	12/3/2020	12/3/2020 4:52:58 PM	
11587	GLEN ULLIN	1115.9	0.6579	1375.8	-41	2.1556	0.9702	80.2154	15.4926	0.9657	0.0217	0.0138	0.0001	0.0002	N/A	0	0.1423	0.0224	12/3/2020	12/4/2020	12/4/2020 5:49:25 PM	
11587	GLEN ULLIN	1118.3	0.6603	1376.2	-39.8	2.2285	0.9799	79.6934	15.9661	0.928	0.0249	0.0152	0.0009	0.001	N/A	0	0.139	0.0232	12/4/2020	12/5/2020	12/5/2020 4:22:05 PM	
11587	GLEN ULLIN	1118.5	0.6606	1376.2	-39.9	2.2406	0.9812	79.6263	16.0447	0.9145	0.023	0.0146	0.0001	0.0004	N/A	0	0.1313	0.0233	12/5/2020	12/6/2020	12/6/2020 4:17:28 PM	
11587	GLEN ULLIN	1118.1	0.6603	1376	-40.2	2.2404	0.9786	79.6659	16.0343	0.8963	0.0208	0.0135	0	0	N/A	0	0.127	0.0234	12/6/2020	12/7/2020	12/7/2020 4:20:01 PM	
11587	GLEN ULLIN	1119	0.6608	1376.5	-39.7	2.2425	0.9749	79.5862	16.0714	0.9325	0.0215	0.0137	0.0002	0.0003	N/A	0	0.1334	0.0235	12/7/2020	12/8/2020	12/8/2020 4:48:15 PM	
11587	GLEN ULLIN	1117.8	0.66	1376	-40.3	2.2354	0.9731	79.7342	15.9619	0.9093	0.0199	0.0132	0	0.0001	N/A	0	0.1296	0.0233	12/8/2020	12/9/2020	12/9/2020 4:18:57 PM	
11587	GLEN ULLIN	1117.4	0.6595	1375.9	-40.4	2.2058	0.9798	79.8092	15.8644	0.9262	0.0198	0.0132	0	0	N/A	0	0.1585	0.0231	12/9/2020	12/10/2020	12/10/2020 4:23:00 PM	
11587	GLEN ULLIN	1115.3	0.6585	1374.5	-41.2	2.261	0.9617	79.9609	15.6996	0.902	0.0197	0.0129	0	0	N/A	0	0.1595	0.0229	12/10/2020	12/11/2020	12/11/2020 4:16:46 PM	
11587	GLEN ULLIN	1112.8	0.6568	1373.1	-42	2.2538	0.9607	80.3601	15.2905	0.928	0.0211	0.0142	0	0	N/A	0	0.1488	0.0229	12/11/2020	12/12/2020	12/12/2020 4:28:24 PM	
11587	GLEN ULLIN	1113.1	0.6568	1373.5	-42	2.2479	0.9558	80.3751	15.3044	0.9272	0.0216	0.014	0	0	N/A	0	0.1311	0.0229	12/12/2020	12/13/2020	12/13/2020 4:27:05 PM	
11587	GLEN ULLIN	1110.6	0.6546	1372.7	-43.3	2.1842	0.9587	80.8565	14.9154	0.9096	0.0224	0.0143	0	0	N/A	0	0.1164	0.0225	12/13/2020	12/14/2020	12/14/2020 4:26:01 PM	
11587	GLEN ULLIN	1106.5	0.6516	1370.7	-45.5	2.1452	0.9603	81.387	14.516	0.8193	0.02	0.0129	0	0	N/A	0	0.1169	0.0224	12/14/2020	12/15/2020	12/15/2020 4:27:46 PM	
11587	GLEN ULLIN	1105.8	0.651	1370.5	-46	2.1245	0.9662	81.5149	14.4568	0.7843	0.0197	0.0126	0	0.0002	N/A	0	0.0987	0.0222	12/15/2020	12/16/2020	12/16/2020 4:24:15 PM	
11587	GLEN ULLIN	1105	0.6504	1370.2	-46.2	2.1221	0.9615	81.5812	14.3615	0.788	0.0215	0.0135	0.0002	0.0003	N/A	0	0.128	0.0223	12/16/2020	12/17/2020	12/17/2020 4:44:51 PM	
11587	GLEN ULLIN	1108.2	0.6532	1371.2	-44.6	2.202	0.9542	81.0892	14.7929	0.8065	0.0233	0.0148	0.0003	0.0005	N/A	0	0.0929	0.0234	12/17/2020	12/18/2020	12/18/2020 4:27:44 PM	
11587	GLEN ULLIN	1108.2	0.6528	1371.6	-44.4	2.1648	0.9557	81.2023	14.6488	0.8586	0.0232	0.0161	0.0005	0.0011	N/A	0	0.1059	0.0229	12/18/2020	12/19/2020	12/19/2020 4:30:41 PM	
11587	GLEN ULLIN	1107.9	0.6527	1371.3	-44.3	2.1802	0.9526	81.2248	14.6233	0.8481	0.0256	0.0181	0.0009	0.0019	N/A	0.0003	0.1012	0.0231	12/19/2020	12/20/2020	12/20/2020 4:24:59 PM	
11587	GLEN ULLIN	1107.9	0.653	1371	-45.1	2.1928	0.9606	81.1477	14.7883	0.7828	0.0196	0.0132	0.0002	0.0005	N/A	0	0.071	0.0235	12/20/2020	12/21/2020	12/21/2020 4:26:21 PM	
11587	GLEN ULLIN	1107.5	0.6527	1370.9	-45.4	2.201	0.9494	81.1623	14.8016	0.759	0.018	0.0117	0	0	N/A	0	0.0738	0.0234	12/21/2020	12/22/2020	12/22/2020 4:32:32 PM	
11587	GLEN ULLIN	1106.5	0.6521	1370.3	-45.9	2.1933	0.955	81.2709	14.7067	0.7428	0.0186	0.0117	0	0	N/A	0	0.0778	0.0233	12/22/2020	12/23/2020	12/23/2020 4:26:42 PM	
11587	GLEN ULLIN	1105.4	0.651	1370.1	-46.3	2.1442	0.9667	81.4197	14.553	0.7422	0.0182	0.0115	0	0	N/A	0	0.1217	0.0229	12/23/2020	12/24/2020	12/24/2020 4:20:37 PM	
11587	GLEN ULLIN	1105.6	0.6513	1369.9	-46	2.1616	0.9654	81.3261	14.595	0.7501	0.0194	0.0123	0	0.0001	N/A	0	0.1473	0.0227	12/24/2020	12/25/2020	12/25/2020 4:26:37 PM	
11587	GLEN ULLIN	1105.6	0.651	1370.3	-45.9	2.1722	0.9447	81.3613	14.5334	0.7746	0.0218	0.0138	0.0001	0.0002	N/A	0	0.1553	0.0227	12/25/2020	12/26/2020	12/26/2020 4:27:05 PM	
11587	GLEN ULLIN	1105.2	0.6511	1369.6	-45.9	2.2063	0.9448	81.3182	14.5293	0.7765	0.0218	0.0132	0	0.0002	N/A	0	0.1672	0.0226	12/26/2020	12/27/2020	12/27/2020 4:26:18 PM	
11587	GLEN ULLIN	1105.5	0.6516	1369.5	-45.8	2.2094	0.9581	81.2534	14.605	0.7675	0.0197	0.0123	0	0	N/A	0	0.1517	0.0228	12/27/2020	12/28/2020	12/28/2020 4:28:42 PM	
11587	GLEN ULLIN	1106.7	0.6522	1370.3	-45.3	2.1855	0.9636	81.1738	14.6814	0.7896	0.0214	0.013	0	0	N/A	0	0.1491	0.0226	12/28/2020	12/29/2020	12/29/2020 4:26:03 PM	
11587	GLEN ULLIN	1105.9	0.6516	1370	-45.7	2.1719	0.9679	81.2973	14.5796	0.7811	0.0209	0.0129	0	0	N/A	0	0.1458	0.0226	12/29/2020	12/30/2020	12/30/2020 4:23:32 PM	
11587	GLEN ULLIN	1105.1	0.6508	1369.9	-46.1	2.1511	0.9616	81.4279	14.4728	0.7751	0.0205	0.0129	0	0	N/A	0	0.1557	0.0225	12/30/2020	12/31/2020	12/31/2020 4:14:03 PM	
11587	GLEN ULLIN	1105.5	0.6513	1369.9	-45.7	2.1697	0.963	81.3545	14.5076	0.7928	0.0215	0.0133	0.0001	0.0002	N/A	0	0.1554	0.0222	12/31/2020	1/1/2021	1/1/2021 4:19:27 PM	

32 record(s) retrieved

<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	Accumulated Sample	Watford City East Border
550	Accumulated Sample & Chromatograph	Mandan Border
600	Chromatograph	Hankinson Area
601	Chromatograph	Milnor Area
610	Accumulated Sample & Chromatograph	Watford City
802	Chromatograph	Linton

MONTANA DAKOTA UTILITIES CO  
NORTH DAKOTA  
HEATING VALUE DATA

STATE	ZONE	ZONE BOUNDARY	12 MONTH AVERAGE	DEC 20	NOV 20	OCT 20	SEPT 20	AUG 20	JULY 20	JUNE 20	MAY 20	APR 20	MAR 20	FEB 20	JAN 20	ZONE
MT/ND	211	Sidney Border - MonDak Trf - Sidney Pll	1198	1207	1198	1200	1202	1196	1191	1169	1174	1202	1211	1215	1207	211
ND	24	Williston Border - Charbonneau Station	1163	1175	1167	1158	1157	1157	1153	1163	1159	1155	1169	1171	1172	24
ND	25	Watford City West Border	1193	1195	1193	1193	1194	1191	1194	1161	1206	1188	1202	1204	1196	25
ND	28	Bismarck Station - Glen Ullin Station	1152	1135	1131	1152	1174	1195	1190	1186	1129	1149	1138	1126	1123	28
ND	31	Dickinson Brd - Belfield Trf - G Ullin Stn	1119	1131	1129	1136	1125	1104	1092	1085	1093	1150	1138	1126	1122	31
ND/MT	32	Cabin Creek Station - Belfied Transfer	1115	1119	1123	1127	1134	1120	1115	1109	1109	1133	1103	1096	1093	32
ND	33	Little Knife Plant	1176	1172	1172	1172	1174	1179	1183	1182	1179	1175	1173	1175	1174	33
ND	34	Badlands Plant/Bowman Border	1044	1094	1070	1060	1025	984	984	1036	1047	1048	1024	1073	1082	34
ND	43 1/	Watford City East Border	1146	1147	1147	1140	1139	1137	1142	1138	1151	1157	1152	1151	1154	43
ND/MT	241	Fairview Border	1180	1195	1203	1169	1157	1172	1153	1159	1164	1182	1195	1203	1209	241
ND	260	North Tioga Transfer - Nesson Plant	1117	1142	1134	1114	1131	1129	1116	1116	1099	1096	1132	1111	1089	260
ND	261	Tioga Comp Station - Robinson Lake Plan	1170	1166	1159	1164	1162	1172	1167	1177	1178	1179	1174	1173	1168	261
ND	262	Minot Bdr - Palermo Bdr - Bismarck Stn	1186	1181	1178	1182	1191	1195	1189	1192	1193	1190	1180	1180	1176	262
ND	263	Lignite Plant	1145	1134	1137	1137	1149	1147	1143	1149	1146	1146	1160	1143	1145	263
ND	264	Epping Border	1157	1165	1163	1156	1155	1147	1147	1153	1168	1147	1157	1165	1163	264
ND	265	Tioga Comp Station - County Line Plant	1169	1166	1159	1164	1163	1173	1168	1178	1158	1180	1174	1174	1168	265
ND	266	County Line Plant	1176	1166	1165	1161	1190	1194	1191	1194	1168	1193	1164	1161	1162	266
ND	271	Bismarck Station - Cleveland Station	1181	1179	1174	1181	1191	1195	1190	1193	1190	1186	1169	1165	1159	271
ND	272	Cleveland Station - Mapleton	1181	1178	1173	1182	1191	1195	1190	1192	1189	1185	1169	1165	1159	272
ND	273	Cleveland Station - Grafton Border	1180	1178	1173	1181	1190	1194	1190	1192	1189	1184	1169	1165	1159	273
ND	550	Mandan Border / NBPL-St Anthony	1148	1133	1131	1152	1174	1190	1181	1186	1129	1149	1119	1117	1115	550
ND	610	MDU-Watford City BTU	1167	1167	1166	1165	1170	1163	1163	1149	1182	1171	1169	1168	1168	610
ND	802	NBPL - Linton	1102	1111	1113	1110	1120	1102	1088	1082	1086	1105	1102	1102	1102	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	1155	1155	1166	1166	1160	1158	1164	1158	1163	1164	1162	1160	600
ND	601	Alliance Pipeline - Milnor	1161	1155	1155	1166	1167	1161	1158	1164	1157	1158	1164	1162	1160	602

1/ Values for June 2020 forward reflect the BTU from the accumulated sampler and previous values were from the chromatograph

<b>THERMAL ZONE VARIANCE DOCUMENTATION</b>		
<b>December 2020</b>		
<b><i>ZONE</i></b>	<b><i>BTU VARIANCE</i></b>	<b><i>REASON</i></b>
34	24	Operational – Blend of Gas