

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

December 18, 2020

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

Re: Case No. PU-20-002 (Therm Billing)
Monthly Report – October 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 November 2020.
2. Attachment B consists of copies of the monthly Heating Value Test Reports received from our suppliers for the month of October 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 October 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
Nov-20

Town	Heat Zone	
MDU-303-ALEXANDER	025	1.1277
MDU-308-ARNEGARD	025	1.1277
MDU-314-APPLE VALLEY	271	1.1492
MDU-318-BEACH	032	1.0480
MDU-319-BELFIELD	032	1.0557
MDU-323-BERTHOLD	262	1.1249
MDU-324-BEULAH	032	1.0557
MDU-327-BISMARCK	028	1.1328
MDU-330-BOWMAN	034	0.9403
MDU-337-BURLINGTON	262	1.1492
MDU-343-CARRINGTON	273	1.1482
MDU-344-CLEVELAND	272	1.1411
MDU-364-CAVALIER	273	1.1724
MDU-365-DAWSON	271	1.1411
MDU-368-DES LACS	262	1.1330
MDU-369-DICKINSON	031	0.9403
MDU-374-FT TOTTEN	273	1.1563
MDU-375-DEVILS LAKE	273	1.1563
MDU-379-BARLOW	273	1.1482
MDU-384-EPPING	264	1.0909
MDU-387-ELDRIDGE	272	1.1492
MDU-407-GLADSTONE	031	1.0549
MDU-411-GLEN ULLIN	031	1.0626
MDU-413-GOLVA	032	1.0326
MDU-416-GARRISON	262	1.1330
MDU-417-GRAFTON	273	1.1805
MDU-403-GWINNER	601	1.1498
MDU-429-HEBRON	031	1.0626
MDU-432-HETTINGER	903	2.3875
MDU-449-JAMESTOWN	272	1.1572
MDU-459-KILLDEER	033	1.1088
MDU-463-LANGDON	273	1.1482
MDU-469-LEFOR	031	1.0549
MDU-474-LIGNITE	263	1.0930
MDU-475-LINTON	802	1.0807
MDU-478-LINCOLN	028	1.1328
MDU-488-MCKENZIE	271	1.1492
MDU-494-MEDINA	271	1.1411
MDU-498-MANDAN	028	1.1328
MDU-500-MARMARTH	034	0.9472
MDU-505-MINOT	262	1.1492
MDU-510-MOTT	031	1.0549
MDU-512-MAX	262	1.1249
MDU-513-MILNOR	601	1.1498
MDU-522-NEW ENGLAND	031	1.0473
MDU-524-NEW SALEM	028	1.1088
MDU-532-NEW ROCKFORD	273	1.1482
MDU-539-PARK RIVER	273	1.1724
MDU-540-PALERMO	262	1.1249

MDU-558-RAY	264	1.0909
MDU-561-REGENT	031	1.0473
MDU-563-RHAME	034	0.9333
MDU-564-RICHARDTON	031	1.0473
MDU-568-ROSS	261	1.0896
MDU-572-RUTHVILLE	262	1.1492
MDU-574-SANBORN	272	1.1572
MDU-583-SENTINEL BUTTE	032	1.0480
MDU-588-SOUTH HEART	031	1.0473
MDU-717-SPIRITWOOD	272	1.1572
MDU-590-SPRINGBROOK	264	1.0909
MDU-591-STANLEY	261	1.0975
MDU-593-STEELE	271	1.1411
MDU-594-STERLING	028	1.1328
MDU-598-SHEYENNE	273	1.1563
MDU-605-SURREY	262	1.1492
MDU-610-TAPPEN	271	1.1411
MDU-611-TAYLOR	031	1.0473
MDU-616-TIOGA	260	1.0606
MDU-619-TURTLE LAKE	262	1.1330
MDU-620-TRENTON	024	1.1006
MDU-624-UNDERWOOD	262	1.1330
MDU-625-VALLEY CITY	272	1.1653
MDU-629-WALHALLA	273	1.1724
MDU-632-WATFORD CITY	610	1.1051
MDU-636-WHEELOCK	264	1.0831
MDU-637-WHITE EARTH	261	1.0975
MDU-642-WILLISTON	024	1.1006
MDU-646-WASHBURN	262	1.1411
MDU-647-WILTON	262	1.1249
MDU-664-RIVERDALE	262	1.1330
MDU-691-FAIRVIEW	241	1.1006
MDU-712-MINOT AFB	262	1.1492
MDU-718-FAIRMOUNT	600	1.1464
MDU-732-NEKOMA	273	1.1482
MDU-732-MSR SITE	273	1.1482

Source Daily Summary

October 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	0.7104	1158.8	1179.3	1175.5	1.045	3.174	72.303	20.304	2.809	0.105	0.223	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1395.79
2	0.7101	1158.6	1179.1	1175.2	1.047	3.159	72.307	20.376	2.741	0.107	0.225	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1395.76
3	0.7092	1157.7	1178.2	1174.4	1.056	3.111	72.316	20.590	2.571	0.102	0.217	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1395.68
4	0.7096	1158.9	1179.4	1175.5	1.059	3.081	72.163	20.831	2.511	0.103	0.216	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1396.58
5	0.7118	1160.8	1181.3	1177.5	1.087	3.126	71.771	21.123	2.536	0.104	0.217	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1396.75
6	0.7138	1163.5	1184.1	1180.2	1.092	3.136	71.477	21.295	2.641	0.107	0.219	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1398.14
7	0.7161	1164.3	1184.9	1181.1	1.131	3.246	71.178	21.264	2.842	0.101	0.206	0.015	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1396.83
8	0.7171	1164.1	1184.7	1180.7	1.147	3.330	71.086	21.138	2.966	0.099	0.203	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1395.57
9	0.7120	1158.3	1178.8	1175.0	1.112	3.257	71.931	20.578	2.785	0.099	0.205	0.016	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1393.60
10	0.7186	1165.6	1186.3	1182.3	1.157	3.363	70.963	21.040	3.143	0.100	0.203	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1395.92
11	0.7184	1165.9	1186.6	1182.8	1.151	3.334	71.006	21.034	3.137	0.101	0.206	0.015	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1396.49
12	0.7156	1164.1	1184.7	1180.9	1.115	3.239	71.400	20.924	2.986	0.099	0.204	0.015	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1397.00
13	0.7158	1162.4	1183.0	1179.3	1.137	3.328	71.455	20.665	3.073	0.102	0.208	0.015	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1394.78
14	0.7159	1161.7	1182.3	1178.6	1.138	3.372	71.467	20.631	3.011	0.115	0.233	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1393.91
15	0.7363	1181.9	1202.8	1199.1	1.312	3.793	68.308	22.324	3.838	0.136	0.259	0.016	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1398.36
16	0.7452	1196.7	1217.9	1214.2	1.357	3.659	66.623	23.983	3.995	0.124	0.233	0.014	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1407.43
17	0.7515	1208.1	1229.5	1225.7	1.351	3.566	65.541	24.946	4.242	0.115	0.215	0.012	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1414.81
18	0.7526	1210.1	1231.5	1227.7	1.347	3.553	65.372	25.075	4.307	0.113	0.211	0.012	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1416.10
19	0.7419	1199.8	1221.0	1217.3	1.118	3.527	66.831	24.322	3.893	0.102	0.188	0.011	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1414.27
20	0.7501	1205.6	1227.0	1223.2	1.355	3.578	65.784	24.732	4.206	0.113	0.211	0.012	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1413.25
21	0.7561	1214.0	1235.5	1231.3	1.320	3.682	66.101	23.444	4.546	0.231	0.553	0.063	0.059	0.000	0.000	0.000	0.000	0.000	0.000	1416.90
22	0.7368	1182.1	1203.0	1199.3	1.350	3.772	67.693	23.380	3.483	0.107	0.197	0.011	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1398.09
23	0.7640	1227.6	1249.4	1245.0	1.296	3.615	65.593	23.207	5.168	0.297	0.679	0.073	0.071	0.000	0.000	0.000	0.000	0.000	0.000	1425.23
24	0.7377	1191.0	1212.1	1208.3	1.226	3.494	68.548	22.035	4.194	0.150	0.304	0.025	0.023	0.000	0.000	0.000	0.000	0.000	0.000	1407.59
25	0.7392	1192.8	1214.0	1210.1	1.235	3.512	68.555	21.782	4.338	0.169	0.347	0.031	0.030	0.000	0.000	0.000	0.000	0.000	0.000	1408.16
26	0.7247	1170.7	1191.5	1187.9	1.207	3.545	69.855	21.760	3.326	0.098	0.186	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1396.20
27	0.7273	1177.9	1198.7	1195.1	1.118	3.493	69.506	21.971	3.611	0.099	0.181	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1402.20
28	0.7348	1179.0	1199.9	1196.2	1.348	3.775	68.406	22.354	3.791	0.109	0.198	0.011	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1396.35
29	0.7355	1179.4	1200.3	1196.7	1.354	3.803	68.424	22.173	3.891	0.118	0.215	0.012	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1396.21
30	0.7340	1176.8	1197.7	1194.0	1.363	3.809	68.469	22.358	3.666	0.110	0.204	0.012	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1394.57
31	0.7367	1185.1	1206.1	1202.5	1.234	3.755	68.117	22.563	3.997	0.112	0.202	0.011	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1401.81
Avg	0.7290	1179.0	1199.7	1195.9	1.205	3.458	69.373	22.071	3.492	0.121	0.244	0.019	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1401.62

Source Daily Summary

October 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	0.6928	1141.1	1161.4	1157.8	0.904	2.813	74.996	18.889	2.070	0.089	0.199	0.018	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1391.91
2	0.6913	1139.7	1159.9	1156.3	0.899	2.763	75.192	18.861	1.965	0.086	0.194	0.017	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1391.69
3	0.6910	1138.9	1159.1	1155.5	0.907	2.776	75.301	18.693	1.992	0.089	0.200	0.018	0.023	0.000	0.000	0.000	0.000	0.000	0.000	1390.97
4	0.6905	1138.7	1158.8	1155.3	0.901	2.756	75.325	18.744	1.959	0.085	0.191	0.017	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1391.16
5	0.6905	1138.8	1159.0	1155.4	0.900	2.745	75.314	18.793	1.934	0.085	0.190	0.017	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1391.33
6	0.6898	1138.1	1158.2	1154.7	0.897	2.730	75.372	18.808	1.896	0.082	0.180	0.016	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1391.18
7	0.6900	1138.4	1158.5	1154.9	0.902	2.724	75.353	18.821	1.896	0.083	0.183	0.016	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1391.30
8	0.6912	1139.8	1160.0	1156.4	0.906	2.736	75.192	18.897	1.960	0.084	0.187	0.016	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1391.95
9	0.6902	1138.0	1158.1	1154.5	0.906	2.755	75.433	18.621	1.966	0.086	0.193	0.017	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1390.65
10	0.6893	1136.8	1157.0	1153.4	0.898	2.752	75.597	18.465	1.977	0.085	0.189	0.016	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1390.17
11	0.6888	1135.6	1155.7	1152.2	0.907	2.762	75.764	18.249	1.995	0.088	0.196	0.018	0.023	0.000	0.000	0.000	0.000	0.000	0.000	1389.21
12	0.6881	1135.0	1155.1	1151.5	0.895	2.760	75.812	18.266	1.959	0.084	0.186	0.016	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1389.05
13	0.6893	1136.9	1157.0	1153.5	0.903	2.747	75.587	18.486	1.965	0.085	0.189	0.017	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1390.16
14	0.6888	1136.1	1156.3	1152.7	0.897	2.749	75.605	18.552	1.892	0.083	0.185	0.016	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1389.84
15	0.6899	1137.9	1158.1	1154.5	0.909	2.723	75.460	18.666	1.925	0.086	0.192	0.017	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1390.92
16	0.6898	1137.8	1158.0	1154.4	0.911	2.725	75.486	18.614	1.945	0.086	0.192	0.017	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1390.79
17	0.6894	1137.3	1157.4	1153.9	0.909	2.718	75.585	18.523	1.942	0.087	0.196	0.017	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1390.61
18	0.6890	1136.4	1156.5	1153.0	0.909	2.733	75.631	18.489	1.916	0.087	0.195	0.017	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1389.96
19	0.6893	1137.0	1157.2	1153.6	0.917	2.713	75.584	18.546	1.919	0.086	0.194	0.018	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1390.37
20	0.6881	1135.4	1155.5	1152.0	0.906	2.716	75.777	18.396	1.891	0.085	0.190	0.017	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1389.62
21	0.6894	1137.4	1157.6	1154.0	0.913	2.707	75.546	18.605	1.909	0.087	0.194	0.017	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1390.74
22	0.6883	1135.1	1155.2	1151.7	0.909	2.747	75.770	18.353	1.897	0.087	0.196	0.018	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1389.02
23	0.6900	1138.8	1159.0	1155.4	0.903	2.694	75.448	18.711	1.922	0.086	0.195	0.018	0.023	0.000	0.000	0.000	0.000	0.000	0.000	1391.77
24	0.6895	1137.8	1157.9	1154.4	0.899	2.714	75.494	18.684	1.900	0.083	0.187	0.017	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1391.05
25	0.6890	1136.5	1156.6	1153.1	0.895	2.748	75.578	18.573	1.904	0.082	0.182	0.016	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1390.02
26	0.6897	1137.8	1158.0	1154.7	0.898	2.731	75.356	18.830	1.902	0.080	0.172	0.014	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1391.07
27	0.6866	1132.8	1152.9	1149.6	0.879	2.773	75.933	18.261	1.874	0.079	0.171	0.014	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1388.08
28	0.6893	1137.3	1157.4	1154.2	0.898	2.731	75.396	18.808	1.892	0.078	0.169	0.013	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1390.82
29	0.6884	1136.2	1156.3	1153.1	0.890	2.715	75.621	18.585	1.906	0.080	0.172	0.014	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1390.48
30	0.6887	1136.1	1156.3	1153.1	0.897	2.742	75.553	18.603	1.931	0.078	0.167	0.013	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1390.05
31	0.6933	1143.3	1163.6	1160.3	0.944	2.662	74.790	19.321	1.988	0.084	0.180	0.014	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1394.19
Avg	0.6896	1138.0	1157.6	1154.2	0.903	2.738	75.480	18.635	1.935	0.084	0.187	0.016	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1390.65

Gas Composition and Properties

Effective October 1, 2020

Attachment B
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Source #: 0602160
Name: FAIRVIEW BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	0.9826		2.1336
Nitrogen, N2	3.0764		4.2521
Methane, C1	73.5794		58.2409
Ethane, C2	19.5619	5.2346	29.0221
Propane, C3	2.4677	0.6802	5.3689
iso-Butane, iC4	0.0911	0.0298	0.2613
n-Butane, nC4	0.2028	0.0640	0.5816
iso-Pentane, iC5	0.0157	0.0057	0.0559
n-Pentane, nC5	0.0167	0.0061	0.0594
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0057	0.0023	0.0242
Water, H2O			
Hydrogen Sulfide, H2S			
Oxygen, O2			
Carbon Monoxide, CO			
Hydrogen, H2			
Helium, He			
Argon, Ar			
Totals	100.0000	6.0230	100.0000

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure	-16.346	
Cricondentherm	-9.305	
HV, Dry @ Base P, T	1168.91	
HV, Sat @ Base P, T	1148.57	
HV, Sat @ Sample P, T	1168.91	
Relative Density	0.7017	
C6+: 100		

Sample

Date: 10/01/2020 Pressure: 525.0
Type: Temperature:
Tech: Joshua Tipton H2O: lbs/mm
 H2S: ppm

Remarks:

Analysis

Date: 10/01/2020 Instrument:
 Cylinder: 342
Tech: Joshua Tipton

Remarks:

Gas Composition and Properties

Effective October 1, 2020

Attachment B
Page 4 of 24

Source #: 0602225
Name: WATFORD CITY WEST BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	1.2619		2.6324
Nitrogen, N2	3.9043		5.1844
Methane, C1	70.0692		53.2830
Ethane, C2	20.2724	5.4259	28.8943
Propane, C3	3.6731	1.0127	7.6774
iso-Butane, iC4	0.2209	0.0723	0.6086
n-Butane, nC4	0.5004	0.1579	1.3786
iso-Pentane, iC5	0.0435	0.0159	0.1488
n-Pentane, nC5	0.0441	0.0160	0.1508
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0102	0.0042	0.0417
Water, H2O			
Hydrogen Sulfide, H2S			
Oxygen, O2			
Carbon Monoxide, CO			
Hydrogen, H2			
Helium, He			
Argon, Ar			
Totals	100.0000	6.7050	100.0000

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure	2.394	
Cricodentherm	11.048	
HV, Dry @ Base P, T	1193.11	
HV, Sat @ Base P, T	1172.35	
HV, Sat @ Sample P, T	1193.11	
Relative Density	0.7306	
C6+: 100		

Sample

Date: 10/01/2020 Pressure: 490.0
 Type: Temperature:
 Tech: Joshua Tipton H2O: lbs/mm
 H2S: ppm

Remarks:

Analysis

Date: 10/01/2020 Instrument:
 Cylinder: 127
 Tech: Joshua Tipton

Remarks:

Source Daily Summary

October 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	0.6816	1115.9	1135.7		0.695	3.614	76.684	16.787	1.947	0.069	0.165	0.015	0.019	0.005					1372.47	
2	0.6793	1112.5	1132.2		0.701	3.601	77.064	16.498	1.870	0.068	0.162	0.015	0.018	0.003					1370.52	
3	0.6793	1111.7	1131.4		0.718	3.623	77.162	16.303	1.905	0.072	0.175	0.017	0.021	0.005					1369.55	
4	0.6797	1113.0	1132.7		0.704	3.603	76.881	16.753	1.812	0.064	0.151	0.013	0.016	0.002					1370.77	
5	0.6780	1110.6	1130.3		0.687	3.611	77.169	16.525	1.768	0.062	0.146	0.013	0.017	0.003					1369.57	
6	0.6777	1110.4	1130.0		0.685	3.605	77.151	16.587	1.757	0.058	0.133	0.011	0.013	0.001					1369.55	
7	0.6777	1110.5	1130.1		0.689	3.595	77.151	16.601	1.745	0.058	0.134	0.011	0.014	0.002					1369.65	
8	0.6803	1114.3	1134.0		0.710	3.569	76.819	16.793	1.868	0.064	0.149	0.012	0.014	0.002					1371.77	
9	0.6752	1105.3	1124.8		0.703	3.655	77.808	15.753	1.834	0.064	0.150	0.013	0.016	0.003					1365.73	
10	0.6729	1102.1	1121.6		0.684	3.654	78.185	15.454	1.796	0.061	0.139	0.011	0.014	0.001					1364.23	
11	0.6742	1104.2	1123.8		0.709	3.613	77.996	15.638	1.799	0.063	0.148	0.014	0.017	0.004					1365.49	
12	0.6700	1098.0	1117.5		0.687	3.633	78.513	15.341	1.653	0.049	0.107	0.008	0.009	0.000					1362.06	
13	0.6695	1096.9	1116.4		0.678	3.659	78.722	15.057	1.679	0.055	0.125	0.011	0.013	0.002					1361.28	
14	0.6677	1094.0	1113.3		0.664	3.694	79.039	14.737	1.661	0.056	0.127	0.010	0.012	0.000					1359.39	
15	0.6686	1094.9	1114.3		0.677	3.698	78.887	14.874	1.651	0.057	0.132	0.011	0.013	0.001					1359.69	
16	0.6654	1089.7	1109.0		0.658	3.749	79.513	14.205	1.660	0.058	0.133	0.011	0.013	0.001					1356.42	
17	0.6646	1088.2	1107.5		0.666	3.754	79.713	13.982	1.655	0.060	0.142	0.012	0.014	0.002					1355.33	
18	0.6632	1086.5	1105.7		0.662	3.735	79.953	13.796	1.630	0.059	0.139	0.011	0.013	0.001					1354.59	
19	0.6657	1089.4	1108.7		0.675	3.764	79.573	14.053	1.691	0.063	0.149	0.013	0.015	0.002					1355.76	
20	0.6650	1089.3	1108.6		0.666	3.723	79.673	14.018	1.690	0.061	0.141	0.012	0.014	0.002					1356.30	
21	0.6650	1088.4	1107.6		0.660	3.788	79.636	14.022	1.661	0.061	0.143	0.012	0.015	0.002					1355.15	
22	0.6656	1089.0	1108.3		0.671	3.787	79.540	14.091	1.682	0.061	0.141	0.011	0.013	0.001					1355.35	
23	0.6605	1082.8	1101.9		0.601	3.800	80.131	13.865	1.427	0.047	0.109	0.009	0.010	0.002					1352.80	
24	0.6620	1084.6	1103.8		0.604	3.821	79.775	14.225	1.426	0.042	0.092	0.007	0.008	0.000					1353.57	
25	0.6629	1085.8	1105.0		0.610	3.820	79.619	14.358	1.449	0.041	0.087	0.007	0.008	0.001					1354.18	
26	0.6556	1074.9	1093.9		0.575	3.856	80.718	13.538	1.231	0.027	0.049	0.002	0.003	0.000					1347.97	
27	0.6500	1066.5	1085.3		0.610	3.820	79.619	14.358	1.449	0.041	0.087	0.007	0.008	0.001					1346.20	
28	0.6430	1055.1	1073.8		0.458	4.055	83.162	11.038	1.168	0.033	0.074	0.004	0.006	0.000					1336.00	
29	0.6533	1072.7	1091.7		0.521	3.856	81.390	12.721	1.373	0.040	0.084	0.007	0.008	0.001					1347.58	
30	0.6632	1086.8	1106.0		0.627	3.764	79.756	14.085	1.615	0.046	0.094	0.006	0.007	0.000					1355.06	
31	0.6823	1115.7	1135.4		0.807	3.526	76.546	16.946	1.960	0.060	0.130	0.010	0.012	0.002					1371.46	
Avg	0.6684	1095.0	1114.2		0.660	3.711	78.824	14.936	1.662	0.056	0.127	0.010	0.013	0.002					1359.85	

Source Daily Summary

October 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	0.7348	1162.2	1182.8	1179.6	0.927	5.436	68.614	20.096	4.505	0.122	0.270	0.015	0.017	0.000	0.000	0.000	0.000	0.000	1376.66	
2	0.7179	1159.3	1179.9	1176.6	0.941	3.999	71.302	19.767	3.645	0.097	0.216	0.015	0.018	0.000	0.000	0.000	0.000	0.000	1389.41	
3	0.7118	1149.7	1170.0	1166.8	0.948	4.010	72.098	19.440	3.138	0.100	0.229	0.017	0.021	0.000	0.000	0.000	0.000	0.000	1383.58	
4	0.7007	1143.2	1163.5	1160.1	0.949	3.361	73.739	19.160	2.447	0.090	0.211	0.019	0.024	0.000	0.000	0.000	0.000	0.000	1386.56	
5	0.7019	1144.7	1165.0	1161.5	0.969	3.354	73.573	19.287	2.454	0.092	0.221	0.021	0.028	0.000	0.000	0.000	0.000	0.000	1387.12	
6	0.7004	1142.7	1163.0	1159.6	0.952	3.359	73.675	19.322	2.371	0.085	0.197	0.017	0.022	0.000	0.000	0.000	0.000	0.000	1386.28	
7	0.7000	1142.2	1162.5	1159.2	0.951	3.355	73.699	19.339	2.352	0.082	0.186	0.016	0.020	0.000	0.000	0.000	0.000	0.000	1386.06	
8	0.6998	1142.9	1163.1	1159.9	0.928	3.328	73.606	19.567	2.292	0.076	0.172	0.014	0.017	0.000	0.000	0.000	0.000	0.000	1387.16	
9	0.6997	1141.6	1161.8	1158.5	0.949	3.369	73.675	19.419	2.301	0.077	0.176	0.015	0.019	0.000	0.000	0.000	0.000	0.000	1385.59	
10	0.7020	1144.9	1165.2	1161.8	0.957	3.366	73.362	19.602	2.404	0.083	0.191	0.015	0.019	0.000	0.000	0.000	0.000	0.000	1387.40	
11	0.7014	1144.0	1164.2	1161.0	0.956	3.370	73.494	19.470	2.394	0.084	0.193	0.017	0.022	0.000	0.000	0.000	0.000	0.000	1386.80	
12	0.7014	1144.9	1165.2	1162.0	0.948	3.321	73.442	19.602	2.390	0.081	0.182	0.015	0.019	0.000	0.000	0.000	0.000	0.000	1388.04	
13	0.7028	1147.4	1167.7	1164.3	0.974	3.266	73.220	19.854	2.376	0.082	0.188	0.017	0.022	0.000	0.000	0.000	0.000	0.000	1389.51	
14	0.6984	1140.8	1161.0	1157.9	0.955	3.285	73.735	19.581	2.212	0.067	0.142	0.010	0.013	0.000	0.000	0.000	0.000	0.000	1386.01	
15	0.6987	1141.1	1161.4	1158.2	0.951	3.294	73.783	19.469	2.240	0.072	0.160	0.014	0.017	0.000	0.000	0.000	0.000	0.000	1386.13	
16	0.6989	1141.2	1161.4	1158.3	0.952	3.309	73.804	19.376	2.278	0.077	0.173	0.013	0.016	0.000	0.000	0.000	0.000	0.000	1385.98	
17	0.6999	1142.5	1162.7	1159.7	0.965	3.301	73.599	19.604	2.249	0.077	0.175	0.014	0.017	0.000	0.000	0.000	0.000	0.000	1386.62	
18	0.7001	1142.0	1162.2	1159.1	0.982	3.332	73.670	19.384	2.334	0.081	0.184	0.014	0.017	0.000	0.000	0.000	0.000	0.000	1385.70	
19	0.6996	1140.2	1160.4	1157.2	1.000	3.365	73.887	19.063	2.363	0.085	0.200	0.017	0.021	0.000	0.000	0.000	0.000	0.000	1383.98	
20	0.6990	1138.9	1159.0	1156.0	1.009	3.377	73.986	18.951	2.359	0.085	0.199	0.016	0.019	0.000	0.000	0.000	0.000	0.000	1383.02	
21	0.7004	1141.3	1161.5	1158.3	1.010	3.360	73.783	19.118	2.392	0.089	0.209	0.017	0.022	0.000	0.000	0.000	0.000	0.000	1384.52	
22	0.6982	1138.2	1158.4	1155.3	0.986	3.372	74.166	18.774	2.382	0.086	0.197	0.016	0.020	0.000	0.000	0.000	0.000	0.000	1383.03	
23	0.6998	1139.9	1160.1	1157.0	1.005	3.392	73.867	19.027	2.383	0.087	0.202	0.017	0.021	0.000	0.000	0.000	0.000	0.000	1383.48	
24	0.6996	1139.5	1159.6	1156.5	0.998	3.414	73.851	19.059	2.361	0.085	0.198	0.016	0.019	0.000	0.000	0.000	0.000	0.000	1383.13	
25	0.7015	1144.5	1164.8	1161.7	0.975	3.319	73.199	20.025	2.212	0.074	0.167	0.013	0.015	0.000	0.000	0.000	0.000	0.000	1387.43	
26	0.7011	1144.9	1165.2	1162.2	0.956	3.284	73.115	20.276	2.141	0.064	0.141	0.010	0.012	0.000	0.000	0.000	0.000	0.000	1388.36	
27	0.7001	1143.5	1163.8	1160.7	0.951	3.284	73.239	20.205	2.115	0.059	0.125	0.009	0.011	0.000	0.000	0.000	0.000	0.000	1387.63	
28	0.6993	1142.5	1162.7	1159.8	0.934	3.294	73.280	20.248	2.059	0.056	0.114	0.007	0.008	0.000	0.000	0.000	0.000	0.000	1387.29	
29	0.7010	1145.7	1166.0	1162.9	0.917	3.282	73.128	20.262	2.197	0.062	0.129	0.010	0.012	0.000	0.000	0.000	0.000	0.000	1389.45	
30	0.7015	1145.4	1165.7	1162.7	0.930	3.333	73.078	20.176	2.268	0.064	0.133	0.009	0.010	0.000	0.000	0.000	0.000	0.000	1388.58	
31	0.6986	1141.0	1161.2	1158.2	0.923	3.338	73.649	19.637	2.239	0.063	0.129	0.010	0.012	0.000	0.000	0.000	0.000	0.000	1386.08	
Avg	0.7023	1144.0	1164.2	1161.0	0.960	3.446	73.301	19.554	2.447	0.080	0.181	0.014	0.018	0.000	0.000	0.000	0.000	0.000	1386.02	

Source Daily Summary

October 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	0.7427	1157.2	1177.7	1174.4	0.926	6.479	67.478	19.613	5.011	0.152	0.311	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1363.39
2	0.7435	1159.0	1179.5	1176.3	0.925	6.447	67.459	19.553	5.089	0.160	0.334	0.017	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1364.76
3	0.7427	1157.5	1178.0	1174.7	0.926	6.458	67.498	19.627	4.977	0.155	0.325	0.016	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1363.75
4	0.7416	1158.1	1178.6	1175.4	0.929	6.314	67.643	19.720	4.885	0.153	0.323	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1365.51
5	0.7444	1163.9	1184.5	1181.2	0.931	6.224	67.247	20.051	5.028	0.153	0.329	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1369.67
6	0.7445	1166.2	1186.9	1183.6	0.934	6.082	67.292	20.133	5.027	0.156	0.338	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1372.40
7	0.7418	1161.9	1182.5	1179.2	0.934	6.098	67.605	19.989	4.875	0.148	0.316	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1369.75
8	0.7441	1163.6	1184.2	1180.9	0.933	6.207	67.289	20.042	5.025	0.150	0.320	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1369.64
9	0.7478	1169.1	1189.8	1186.5	0.931	6.225	66.847	20.212	5.217	0.168	0.358	0.020	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1372.66
10	0.7449	1165.7	1186.3	1183.1	0.933	6.152	67.218	20.114	5.050	0.159	0.336	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1371.41
11	0.7474	1169.7	1190.4	1187.1	0.931	6.148	66.907	20.263	5.187	0.167	0.355	0.020	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1373.77
12	0.7426	1162.5	1183.1	1179.9	0.931	6.137	67.500	20.008	4.915	0.153	0.321	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1369.77
13	0.7441	1164.9	1185.5	1182.2	0.935	6.123	67.321	20.106	4.987	0.157	0.332	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1371.19
14	0.7391	1157.7	1178.2	1174.9	0.935	6.096	67.953	19.834	4.707	0.143	0.298	0.016	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1367.29
15	0.7391	1159.0	1179.5	1176.3	0.932	6.019	67.976	19.891	4.702	0.145	0.302	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1368.86
16	0.7383	1158.3	1178.8	1175.6	0.937	5.989	68.073	19.863	4.663	0.142	0.300	0.016	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1368.68
17	0.7358	1155.6	1176.1	1172.8	0.941	5.904	68.452	19.716	4.531	0.137	0.288	0.016	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1367.90
18	0.7341	1153.8	1174.3	1171.0	0.947	5.844	68.729	19.575	4.454	0.135	0.284	0.016	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1367.37
19	0.7371	1158.4	1178.9	1175.7	0.951	5.844	68.321	19.805	4.595	0.145	0.304	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1369.94
20	0.7410	1165.3	1185.9	1182.6	0.947	5.799	67.853	20.041	4.833	0.154	0.332	0.019	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1374.39
21	0.7367	1158.3	1178.8	1175.5	0.942	5.826	68.403	19.747	4.599	0.143	0.304	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1370.17
22	0.7354	1155.7	1176.1	1172.9	0.948	5.859	68.528	19.690	4.512	0.138	0.291	0.016	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1368.26
23	0.7357	1155.4	1175.8	1172.7	0.942	5.905	68.509	19.635	4.544	0.139	0.293	0.016	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1367.73
24	0.7355	1155.6	1176.1	1172.9	0.941	5.879	68.410	19.869	4.460	0.133	0.277	0.015	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1368.13
25	0.7416	1166.1	1186.7	1183.5	0.935	5.824	67.681	20.210	4.844	0.151	0.319	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1374.80
26	0.7413	1164.8	1185.5	1182.2	0.935	5.870	67.697	20.177	4.830	0.145	0.310	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1373.63
27	0.7414	1166.4	1187.0	1183.8	0.931	5.788	67.692	20.269	4.826	0.145	0.313	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1375.39
28	0.7416	1165.5	1186.1	1182.9	0.929	5.863	67.671	20.195	4.839	0.150	0.317	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1374.17
29	0.7365	1160.0	1180.5	1177.4	0.934	5.721	68.344	19.977	4.575	0.135	0.284	0.015	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1372.36
30	0.7392	1160.4	1180.9	1177.8	0.923	5.964	67.942	19.972	4.729	0.142	0.295	0.016	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1370.34
31	0.7385	1160.1	1180.6	1177.4	0.924	5.915	68.072	19.915	4.708	0.142	0.292	0.016	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1370.61
Avg	0.7406	1161.0	1181.7	1178.5	0.935	6.032	67.794	19.929	4.814	0.148	0.313	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1369.92

Gas Composition and Properties

Effective October 1, 2020

Attachment B
Page 8 of 24

Source #: 2501030
Name: LIGNITE PLANT

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	0.2854		0.6519
Nitrogen, N2	2.7763		4.0367
Methane, C1	78.5073		65.3699
Ethane, C2	16.8304	4.5024	26.2669
Propane, C3	1.5850	0.4368	3.6276
iso-Butane, iC4	0.0134	0.0044	0.0404
n-Butane, nC4	0.0022	0.0007	0.0066
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			
Totals	100.0000	4.9440	100.0000

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure	-49.957	
Cricodentherm	-33.361	
HV, Dry @ Base P, T	1136.99	
HV, Sat @ Base P, T	1117.20	
HV, Sat @ Sample P, T	1136.99	
Relative Density	0.6669	
C6+: 100		

Sample

Date: 10/01/2020 Pressure: 410.0
 Type: Temperature:
 Tech: Joshua Tipton H2O: lbs/mm
 H2S: ppm

Remarks:

Analysis

Date: 10/01/2020 Instrument:
 Cylinder: 88F
 Tech: Joshua Tipton

Remarks:

Gas Composition and Properties

Effective October 1, 2020

Attachment B
Page 9 of 24

Source #: 3002013
Name: EPPING BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	0.9166		2.0309
Nitrogen, N2	2.6095		3.6803
Methane, C1	75.7385		61.1715
Ethane, C2	18.5986	4.9763	28.1553
Propane, C3	1.8589	0.5124	4.1268
iso-Butane, iC4	0.0765	0.0250	0.2239
n-Butane, nC4	0.1724	0.0544	0.5045
iso-Pentane, iC5	0.0127	0.0046	0.0461
n-Pentane, nC5	0.0141	0.0051	0.0512
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0022	0.0009	0.0095
Water, H2O			
Hydrogen Sulfide, H2S			
Oxygen, O2			
Carbon Monoxide, CO			
Hydrogen, H2			
Helium, He			
Argon, Ar			
Totals	100.0000	5.5780	100.0000

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure	-25.872	
Cricodentherm	-17.803	
HV, Dry @ Base P, T	1156.30	
HV, Sat @ Base P, T	1136.18	
HV, Sat @ Sample P, T	1156.30	
Relative Density	0.6876	
C6+: 100		

Sample

Date: 10/01/2020 Pressure: 500.0
 Type: Temperature:
 Tech: Joshua Tipton H2O: lbs/mm
 H2S: ppm

Remarks:

Analysis

Date: 10/01/2020 Instrument:
 Cylinder: 370
 Tech: Joshua Tipton

Remarks:

*** End of Report ***

Source Daily Summary

October 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	0.7082	1156.2	1176.7	1173.3	0.942	3.276	72.856	19.437	3.188	0.081	0.185	0.015	0.019	0.000	0.000	0.000	0.000	0.000	1394.99	
2	0.7035	1147.7	1168.1	1164.6	0.965	3.318	73.552	19.013	2.822	0.087	0.202	0.018	0.023	0.000	0.000	0.000	0.000	0.000	1389.29	
3	0.7011	1144.1	1164.4	1161.0	0.949	3.335	73.675	19.253	2.446	0.090	0.210	0.019	0.024	0.000	0.000	0.000	0.000	0.000	1387.35	
4	0.7012	1143.8	1164.0	1160.6	0.968	3.343	73.700	19.193	2.436	0.092	0.220	0.021	0.027	0.000	0.000	0.000	0.000	0.000	1386.73	
5	0.7011	1144.0	1164.3	1160.9	0.954	3.338	73.627	19.331	2.413	0.088	0.207	0.019	0.024	0.000	0.000	0.000	0.000	0.000	1387.22	
6	0.7003	1142.6	1162.9	1159.5	0.955	3.350	73.669	19.367	2.344	0.083	0.192	0.017	0.023	0.000	0.000	0.000	0.000	0.000	1386.26	
7	0.7003	1143.7	1164.0	1160.7	0.931	3.322	73.519	19.642	2.306	0.077	0.172	0.014	0.017	0.000	0.000	0.000	0.000	0.000	1387.63	
8	0.6994	1141.3	1161.5	1158.1	0.949	3.360	73.717	19.405	2.284	0.077	0.175	0.015	0.019	0.000	0.000	0.000	0.000	0.000	1385.49	
9	0.7017	1144.9	1165.2	1161.9	0.950	3.348	73.386	19.628	2.386	0.082	0.187	0.015	0.018	0.000	0.000	0.000	0.000	0.000	1387.71	
10	0.7021	1144.5	1164.8	1161.4	0.966	3.380	73.411	19.510	2.406	0.085	0.201	0.018	0.023	0.000	0.000	0.000	0.000	0.000	1386.86	
11	0.7009	1144.3	1164.6	1161.3	0.937	3.325	73.506	19.571	2.368	0.080	0.179	0.015	0.018	0.000	0.000	0.000	0.000	0.000	1387.84	
12	0.7028	1146.8	1167.1	1163.7	0.978	3.291	73.288	19.714	2.409	0.084	0.196	0.018	0.023	0.000	0.000	0.000	0.000	0.000	1388.87	
13	0.6999	1143.0	1163.3	1160.0	0.961	3.273	73.604	19.605	2.291	0.074	0.162	0.013	0.016	0.000	0.000	0.000	0.000	0.000	1387.27	
14	0.6975	1139.3	1159.4	1156.2	0.956	3.295	73.890	19.443	2.186	0.065	0.140	0.011	0.014	0.000	0.000	0.000	0.000	0.000	1384.98	
15	0.6993	1142.2	1162.4	1159.1	0.945	3.301	73.727	19.458	2.285	0.078	0.175	0.014	0.017	0.000	0.000	0.000	0.000	0.000	1386.73	
16	0.6999	1142.4	1162.6	1159.3	0.970	3.300	73.622	19.563	2.261	0.078	0.176	0.014	0.017	0.000	0.000	0.000	0.000	0.000	1386.46	
17	0.7000	1142.4	1162.6	1159.4	0.968	3.317	73.587	19.566	2.280	0.077	0.175	0.013	0.016	0.000	0.000	0.000	0.000	0.000	1386.36	
18	0.7003	1141.5	1161.7	1158.4	0.996	3.356	73.779	19.152	2.389	0.087	0.203	0.017	0.022	0.000	0.000	0.000	0.000	0.000	1384.91	
19	0.6988	1138.5	1158.7	1155.4	1.007	3.378	74.020	18.928	2.352	0.084	0.196	0.015	0.019	0.000	0.000	0.000	0.000	0.000	1382.81	
20	0.7003	1140.9	1161.1	1157.8	1.017	3.363	73.798	19.101	2.385	0.088	0.209	0.017	0.021	0.000	0.000	0.000	0.000	0.000	1384.16	
21	0.6989	1139.3	1159.5	1156.2	0.988	3.367	74.071	18.839	2.404	0.088	0.204	0.017	0.021	0.000	0.000	0.000	0.000	0.000	1383.66	
22	0.6996	1140.0	1160.2	1156.9	0.999	3.373	73.893	19.043	2.373	0.086	0.197	0.016	0.020	0.000	0.000	0.000	0.000	0.000	1383.83	
23	0.6999	1139.5	1159.7	1156.4	1.005	3.425	73.818	19.064	2.366	0.086	0.201	0.016	0.020	0.000	0.000	0.000	0.000	0.000	1382.92	
24	0.7013	1143.4	1163.6	1160.4	0.986	3.347	73.410	19.663	2.296	0.081	0.185	0.015	0.018	0.000	0.000	0.000	0.000	0.000	1386.29	
25	0.7016	1145.7	1166.0	1162.8	0.959	3.284	73.052	20.301	2.163	0.067	0.149	0.011	0.013	0.000	0.000	0.000	0.000	0.000	1388.76	
26	0.7001	1143.3	1163.5	1160.3	0.957	3.289	73.244	20.197	2.106	0.059	0.127	0.009	0.012	0.000	0.000	0.000	0.000	0.000	1387.35	
27	0.6992	1142.4	1162.7	1159.6	0.934	3.293	73.306	20.210	2.067	0.057	0.116	0.007	0.009	0.000	0.000	0.000	0.000	0.000	1387.24	
28	0.7003	1144.5	1164.7	1161.6	0.927	3.286	73.215	20.207	2.152	0.062	0.130	0.010	0.012	0.000	0.000	0.000	0.000	0.000	1388.55	
29	0.7026	1147.5	1167.8	1164.7	0.930	3.307	72.881	20.392	2.274	0.064	0.133	0.009	0.010	0.000	0.000	0.000	0.000	0.000	1390.02	
30	0.6995	1142.0	1162.2	1159.0	0.933	3.351	73.477	19.782	2.239	0.064	0.133	0.010	0.012	0.000	0.000	0.000	0.000	0.000	1386.33	
31	0.6979	1139.9	1160.1	1157.0	0.922	3.338	73.809	19.448	2.274	0.064	0.127	0.009	0.010	0.000	0.000	0.000	0.000	0.000	1385.51	
Avg	0.7006	1143.0	1163.5	1160.2	0.961	3.330	73.552	19.517	2.353	0.078	0.176	0.014	0.018	0.000	0.000	0.000	0.000	0.000	1386.79	

Source Daily Summary

October 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	0.7434	1161.1	1181.7	1177.8	0.909	6.335	67.387	19.822	5.049	0.152	0.317	0.015	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1367.31
2	0.7422	1158.8	1179.3	1175.5	0.909	6.364	67.649	19.534	5.025	0.158	0.330	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1365.64
3	0.7431	1160.8	1181.4	1177.5	0.908	6.331	67.497	19.695	5.039	0.160	0.337	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1367.14
4	0.7416	1159.7	1180.3	1176.3	0.910	6.253	67.698	19.689	4.927	0.158	0.332	0.017	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1367.24
5	0.7443	1165.8	1186.4	1182.5	0.913	6.132	67.313	20.056	5.059	0.157	0.336	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1371.90
6	0.7428	1166.4	1187.0	1183.0	0.916	5.950	67.562	20.084	4.957	0.156	0.337	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1373.96
7	0.7425	1164.7	1185.3	1181.3	0.915	6.027	67.539	20.079	4.927	0.152	0.326	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1372.25
8	0.7429	1164.3	1184.9	1180.8	0.915	6.081	67.524	19.977	4.988	0.152	0.327	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1371.49
9	0.7494	1173.7	1194.5	1190.4	0.913	6.126	66.722	20.287	5.352	0.176	0.381	0.021	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1376.48
10	0.7436	1165.5	1186.1	1182.2	0.914	6.074	67.448	20.021	5.009	0.160	0.338	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1372.27
11	0.7481	1172.9	1193.7	1189.7	0.913	6.047	66.848	20.385	5.227	0.172	0.367	0.020	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1376.81
12	0.7427	1164.5	1185.1	1181.2	0.912	6.060	67.525	20.041	4.942	0.156	0.328	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1371.85
13	0.7434	1165.8	1186.5	1182.6	0.916	6.040	67.459	20.066	4.985	0.160	0.337	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1372.77
14	0.7378	1158.6	1179.1	1175.4	0.919	5.949	68.153	19.866	4.640	0.143	0.299	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1369.47
15	0.7383	1160.7	1181.3	1177.5	0.915	5.875	68.085	19.985	4.658	0.145	0.304	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1371.50
16	0.7384	1159.9	1180.4	1176.6	0.919	5.930	68.067	19.936	4.669	0.145	0.303	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1370.41
17	0.7353	1156.9	1177.4	1173.6	0.922	5.814	68.496	19.820	4.491	0.138	0.289	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1369.80
18	0.7340	1155.4	1175.8	1172.0	0.928	5.772	68.730	19.679	4.439	0.135	0.285	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1369.21
19	0.7297	1152.2	1172.6	1168.9	0.934	5.558	69.382	19.464	4.230	0.130	0.274	0.014	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1369.46
20	0.7310	1159.4	1179.9	1176.2	0.896	5.297	69.283	19.747	4.309	0.138	0.297	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1376.77
21	0.7288	1156.8	1177.3	1173.6	0.857	5.306	69.472	19.782	4.146	0.130	0.277	0.015	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1375.80
22	0.7231	1150.1	1170.5	1166.9	0.812	5.249	70.225	19.439	3.892	0.116	0.241	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1373.22
23	0.7252	1151.2	1171.6	1167.9	0.816	5.377	69.979	19.379	4.040	0.123	0.257	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1372.47
24	0.7267	1152.3	1172.7	1169.1	0.837	5.415	69.696	19.594	4.058	0.121	0.253	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1372.42
25	0.7278	1154.7	1175.2	1171.5	0.870	5.327	69.672	19.538	4.162	0.129	0.272	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1374.17
26	0.7292	1158.5	1179.0	1175.4	0.865	5.225	69.520	19.700	4.248	0.131	0.279	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1377.46
27	0.7393	1165.3	1186.0	1182.2	0.910	5.689	68.041	20.107	4.766	0.144	0.310	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1376.06
28	0.7407	1166.0	1186.7	1182.8	0.913	5.775	67.830	20.162	4.814	0.150	0.320	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1375.54
29	0.7368	1162.2	1182.8	1178.9	0.917	5.637	68.337	20.059	4.585	0.139	0.295	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1374.68
30	0.7367	1159.4	1180.0	1176.2	0.905	5.813	68.334	19.873	4.619	0.137	0.289	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1371.53
31	0.7331	1158.6	1179.1	1175.5	0.859	5.600	68.822	19.848	4.431	0.134	0.277	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1373.87
Avg	0.7375	1161.0	1181.3	1177.5	0.899	5.820	68.268	19.862	4.667	0.145	0.307	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1372.29

Source Daily Summary

October 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	0.7480	1169.6	1190.3	1186.6	0.919	6.230	66.714	20.406	5.212	0.151	0.333	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1373.02
2	0.7441	1161.8	1182.4	1178.5	0.917	6.345	67.303	19.851	5.085	0.153	0.317	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1367.43
3	0.7424	1158.4	1178.9	1175.0	0.917	6.397	67.613	19.527	5.032	0.158	0.325	0.016	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1364.93
4	0.7436	1160.9	1181.4	1177.5	0.916	6.354	67.433	19.715	5.055	0.160	0.333	0.017	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1366.80
5	0.7428	1161.3	1181.9	1178.0	0.919	6.247	67.529	19.810	4.966	0.159	0.334	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1368.08
6	0.7442	1164.8	1185.4	1182.2	0.921	6.171	67.282	20.086	5.027	0.154	0.325	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1370.81
7	0.7430	1166.0	1186.6	1183.4	0.924	5.975	67.520	20.110	4.947	0.155	0.331	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1373.37
8	0.7428	1164.2	1184.8	1181.6	0.922	6.071	67.498	20.060	4.939	0.152	0.322	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1371.41
9	0.7432	1164.3	1184.9	1181.7	0.923	6.097	67.454	20.043	4.975	0.152	0.322	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1371.20
10	0.7498	1173.7	1194.5	1191.2	0.921	6.151	66.641	20.341	5.352	0.176	0.374	0.021	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1376.09
11	0.7444	1166.3	1186.9	1183.7	0.922	6.096	67.303	20.117	5.029	0.161	0.336	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1372.36
12	0.7478	1171.7	1192.5	1189.2	0.921	6.081	66.891	20.315	5.220	0.170	0.361	0.020	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1375.65
13	0.7429	1164.3	1185.0	1181.7	0.920	6.072	67.493	20.063	4.937	0.155	0.324	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1371.50
14	0.7437	1165.5	1186.1	1182.5	0.924	6.073	67.395	20.111	4.972	0.158	0.330	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1372.06
15	0.7370	1157.3	1177.8	1174.1	0.927	5.944	68.278	19.782	4.606	0.141	0.291	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1368.59
16	0.7382	1159.8	1180.3	1176.3	0.922	5.908	68.135	19.893	4.666	0.145	0.300	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1370.44
17	0.7385	1159.6	1180.1	1176.1	0.926	5.944	68.074	19.908	4.674	0.144	0.299	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1369.90
18	0.7359	1157.1	1177.6	1173.5	0.930	5.848	68.433	19.809	4.524	0.138	0.287	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1369.35
19	0.7336	1154.6	1175.1	1171.0	0.936	5.773	68.804	19.615	4.425	0.134	0.281	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1368.58
20	0.7299	1152.4	1172.8	1168.8	0.942	5.551	69.383	19.449	4.240	0.131	0.273	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1369.44
21	0.7305	1158.8	1179.3	1175.3	0.896	5.281	69.363	19.730	4.270	0.136	0.289	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1376.51
22	0.7291	1156.4	1176.9	1172.9	0.864	5.346	69.443	19.750	4.162	0.130	0.273	0.015	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1374.97
23	0.7223	1149.0	1169.4	1165.5	0.811	5.240	70.351	19.376	3.849	0.114	0.234	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1372.63
24	0.7261	1152.0	1172.4	1168.4	0.820	5.408	69.854	19.427	4.082	0.124	0.257	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1372.46
25	0.7272	1152.3	1172.7	1168.8	0.846	5.443	69.616	19.638	4.060	0.120	0.249	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1371.94
26	0.7284	1155.5	1176.0	1172.1	0.875	5.315	69.611	19.586	4.179	0.130	0.272	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1374.61
27	0.7297	1158.4	1179.0	1175.0	0.874	5.262	69.452	19.708	4.267	0.131	0.275	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1376.84
28	0.7409	1166.9	1187.6	1184.4	0.919	5.726	67.799	20.247	4.816	0.146	0.312	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1376.40
29	0.7411	1165.4	1186.1	1182.1	0.924	5.830	67.747	20.193	4.807	0.149	0.314	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1374.44
30	0.7372	1162.0	1182.6	1178.6	0.924	5.676	68.275	20.059	4.605	0.139	0.291	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1374.03
31	0.7366	1159.2	1179.7	1175.8	0.911	5.811	68.347	19.880	4.599	0.137	0.284	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1371.25
Avg	0.7382	1161.0	1181.5	1177.8	0.908	5.860	68.162	19.890	4.696	0.145	0.305	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1371.84

Source Daily Summary

October 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	0.7480	1169.6	1190.3	1186.9	0.919	6.231	66.712	20.400	5.215	0.152	0.334	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1373.02
2	0.7440	1161.5	1182.1	1178.5	0.918	6.352	67.317	19.837	5.078	0.152	0.316	0.016	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1367.18
3	0.7425	1158.5	1179.0	1175.5	0.918	6.397	67.600	19.532	5.038	0.158	0.326	0.016	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1365.02
4	0.7438	1161.1	1181.7	1178.1	0.917	6.354	67.412	19.726	5.063	0.160	0.334	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1366.93
5	0.7427	1161.0	1181.6	1178.0	0.920	6.259	67.536	19.793	4.964	0.159	0.334	0.018	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1367.78
6	0.7443	1165.0	1185.6	1182.4	0.921	6.167	67.274	20.089	5.033	0.154	0.327	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1370.97
7	0.7426	1165.6	1186.2	1183.1	0.924	5.964	67.572	20.093	4.925	0.154	0.330	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1373.23
8	0.7432	1164.4	1185.1	1182.0	0.923	6.088	67.453	20.061	4.961	0.153	0.324	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1371.38
9	0.7413	1161.8	1182.4	1179.1	0.924	6.074	67.678	19.979	4.851	0.147	0.312	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1369.98
10	0.7490	1172.1	1192.9	1189.7	0.921	6.169	66.739	20.280	5.309	0.173	0.367	0.021	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1375.01
11	0.7442	1165.9	1186.5	1183.4	0.922	6.102	67.333	20.089	5.020	0.160	0.336	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1372.07
12	0.7479	1171.8	1192.6	1189.5	0.921	6.083	66.888	20.306	5.227	0.171	0.363	0.021	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1375.68
13	0.7429	1164.0	1184.6	1181.5	0.921	6.087	67.495	20.047	4.937	0.155	0.324	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1371.17
14	0.7444	1166.4	1187.1	1183.7	0.925	6.076	67.320	20.132	5.012	0.161	0.337	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1372.58
15	0.7381	1158.4	1178.9	1175.4	0.927	5.978	68.129	19.832	4.662	0.143	0.297	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1368.86
16	0.7386	1160.4	1181.0	1177.2	0.923	5.903	68.088	19.919	4.685	0.146	0.303	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1370.85
17	0.7386	1159.2	1179.8	1176.1	0.925	5.971	68.060	19.887	4.685	0.144	0.297	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1369.47
18	0.7359	1157.1	1177.6	1173.9	0.931	5.847	68.432	19.808	4.525	0.138	0.288	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1369.36
19	0.7340	1154.9	1175.3	1172.0	0.937	5.792	68.745	19.632	4.444	0.135	0.282	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1368.53
20	0.7300	1152.3	1172.7	1169.4	0.943	5.565	69.376	19.436	4.245	0.131	0.273	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1369.19
21	0.7306	1158.7	1179.2	1175.9	0.897	5.298	69.345	19.717	4.281	0.137	0.291	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1376.26
22	0.7290	1156.2	1176.7	1173.4	0.866	5.346	69.458	19.739	4.157	0.130	0.273	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1374.86
23	0.7227	1149.1	1169.4	1166.1	0.817	5.268	70.300	19.362	3.876	0.115	0.237	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1372.29
24	0.7259	1151.5	1171.9	1168.6	0.821	5.410	69.888	19.406	4.066	0.124	0.256	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1372.18
25	0.7271	1152.1	1172.5	1169.2	0.846	5.451	69.633	19.615	4.058	0.120	0.250	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1371.72
26	0.7283	1155.3	1175.7	1172.5	0.876	5.325	69.621	19.566	4.178	0.130	0.272	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1374.37
27	0.7296	1158.1	1178.6	1175.0	0.874	5.276	69.460	19.690	4.262	0.131	0.276	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1376.50
28	0.7407	1166.5	1187.1	1184.0	0.919	5.734	67.827	20.221	4.808	0.145	0.311	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1376.07
29	0.7416	1166.4	1187.0	1183.3	0.926	5.814	67.693	20.232	4.830	0.150	0.319	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1375.13
30	0.7375	1162.4	1183.0	1179.6	0.925	5.683	68.232	20.073	4.622	0.140	0.293	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1374.14
31	0.7369	1159.2	1179.7	1176.5	0.912	5.834	68.305	19.881	4.614	0.138	0.285	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1371.02
Avg	0.7383	1161.0	1181.4	1178.0	0.908	5.868	68.159	19.883	4.698	0.145	0.305	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1371.70

Source Daily Summary

October 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	0.6890	1118.9	1138.7	1135.4	0.940	3.763	75.528	17.300	2.276	0.059	0.122	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1368.76
2	0.6834	1111.5	1131.2	1127.9	0.924	3.703	76.646	16.291	2.237	0.062	0.125	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1365.34
3	0.7297	1149.1	1169.4	1165.9	0.912	5.776	69.525	18.949	4.389	0.136	0.285	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1365.95
4	0.7407	1157.5	1178.0	1174.4	0.910	6.296	67.809	19.602	4.874	0.154	0.323	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1365.56
5	0.7444	1165.8	1186.5	1182.8	0.913	6.139	67.311	20.040	5.065	0.158	0.338	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1371.84
6	0.7421	1165.6	1186.2	1182.5	0.916	5.927	67.666	20.054	4.912	0.154	0.333	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1373.73
7	0.7427	1164.7	1185.3	1181.7	0.915	6.046	67.512	20.075	4.938	0.152	0.327	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1372.06
8	0.7420	1163.0	1183.5	1179.9	0.916	6.083	67.626	19.935	4.935	0.150	0.321	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1370.70
9	0.7492	1173.4	1194.2	1190.5	0.913	6.123	66.750	20.273	5.345	0.175	0.378	0.021	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1376.34
10	0.7438	1165.9	1186.5	1182.8	0.915	6.069	67.429	20.030	5.018	0.161	0.341	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1372.52
11	0.7482	1173.1	1193.9	1190.3	0.913	6.046	66.835	20.387	5.236	0.173	0.369	0.021	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1376.96
12	0.7423	1163.8	1184.4	1180.9	0.913	6.064	67.579	20.000	4.928	0.155	0.327	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1371.44
13	0.7156	1142.8	1163.1	1159.6	0.933	4.806	71.538	18.828	3.542	0.107	0.223	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1371.75
14	0.6787	1112.6	1132.3	1129.0	0.953	3.157	77.075	16.969	1.710	0.043	0.085	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1371.46
15	0.6640	1102.0	1121.5	1118.3	0.951	2.434	79.176	16.484	0.918	0.013	0.022	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1373.03
16	0.6720	1107.1	1126.7	1123.5	0.935	2.889	78.176	16.411	1.482	0.034	0.067	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1371.29
17	0.6675	1102.4	1121.9	1118.7	0.940	2.750	78.902	16.010	1.310	0.029	0.054	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1370.06
18	0.6610	1097.6	1117.0	1113.8	0.958	2.405	79.788	15.916	0.896	0.013	0.021	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1370.69
19	0.6605	1097.1	1116.5	1113.3	0.949	2.401	79.894	15.816	0.902	0.014	0.022	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1370.60
20	0.6649	1107.5	1127.1	1124.4	0.729	2.515	78.706	17.096	0.915	0.014	0.023	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1379.31
21	0.6711	1122.5	1142.4	1139.2	0.445	2.621	77.089	18.998	0.812	0.014	0.021	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1391.24
22	0.6836	1131.2	1151.3	1148.0	0.391	3.334	75.725	18.477	1.932	0.049	0.084	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1389.19
23	0.6854	1130.6	1150.7	1147.3	0.342	3.613	75.500	18.262	2.126	0.052	0.093	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1386.61
24	0.6848	1129.0	1149.0	1145.7	0.415	3.548	75.469	18.488	1.951	0.044	0.077	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1385.21
25	0.6791	1122.3	1142.2	1138.9	0.619	3.103	77.009	17.195	1.848	0.067	0.136	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1382.84
26	0.6738	1117.6	1137.4	1134.2	0.642	2.862	77.629	17.217	1.512	0.043	0.082	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1382.40
27	0.6822	1124.4	1144.3	1141.0	0.620	3.272	76.240	17.808	1.913	0.048	0.089	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1382.28
28	0.6939	1129.5	1149.5	1146.2	0.774	3.824	74.891	17.600	2.648	0.080	0.164	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1376.72
29	0.6859	1131.9	1151.9	1148.6	0.490	3.364	75.371	18.672	1.961	0.046	0.085	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1387.60
30	0.6603	1098.9	1118.4	1115.3	0.792	2.515	79.893	15.729	1.014	0.020	0.034	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1373.04
31	0.6750	1121.5	1141.4	1138.2	0.439	3.048	76.867	18.214	1.353	0.028	0.046	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1385.99
Avg	0.6986	1132.0	1152.3	1149.0	0.784	4.081	73.973	18.165	2.739	0.079	0.162	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1375.89

Source Daily Summary

October 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	0.6507	1085.9	1105.2	1102.2	0.894	2.244	81.665	14.426	0.745	0.010	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1366.89
2	0.6562	1092.5	1111.9	1108.8	0.912	2.332	80.604	15.330	0.794	0.011	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1369.41
3	0.6635	1103.6	1123.1	1120.1	0.934	2.305	79.495	16.165	1.012	0.034	0.047	0.005	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1375.66
4	0.6593	1098.6	1118.1	1114.9	0.928	2.223	80.210	15.650	0.931	0.025	0.032	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1373.85
5	0.6568	1095.6	1115.0	1111.9	0.916	2.188	80.754	15.119	0.956	0.027	0.034	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1372.70
6	0.6514	1088.1	1107.3	1104.2	0.910	2.155	81.573	14.576	0.758	0.012	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1368.83
7	0.6513	1088.3	1107.5	1104.6	0.894	2.152	81.609	14.542	0.773	0.012	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1369.26
8	0.6500	1086.8	1106.1	1103.0	0.885	2.133	81.870	14.303	0.777	0.013	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1368.79
9	0.6545	1091.8	1111.1	1108.2	0.898	2.239	81.009	14.978	0.842	0.013	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1370.24
10	0.6608	1097.9	1117.3	1114.3	0.945	2.389	79.825	15.882	0.923	0.015	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1371.34
11	0.6611	1097.5	1117.0	1114.1	0.942	2.442	79.734	15.946	0.901	0.014	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1370.58
12	0.6663	1103.8	1123.3	1120.5	0.958	2.530	78.714	16.813	0.952	0.013	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1372.98
13	0.6623	1099.4	1118.9	1116.1	0.912	2.482	79.488	16.152	0.931	0.014	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1371.76
14	0.6584	1095.6	1115.0	1112.2	0.903	2.360	80.203	15.663	0.840	0.012	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1371.03
15	0.6622	1101.8	1121.3	1118.3	0.893	2.364	79.459	16.354	0.897	0.013	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1374.70
16	0.6625	1102.1	1121.6	1118.7	0.891	2.371	79.414	16.388	0.904	0.013	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1374.85
17	0.6826	1146.2	1166.5	1163.5	0.054	2.852	74.143	22.261	0.673	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1408.65
18	0.6834	1148.8	1169.1	1166.0	0.000	2.849	73.894	22.602	0.639	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.06
19	0.6832	1148.5	1168.8	1165.7	0.000	2.849	73.943	22.547	0.645	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1410.89
20	0.6811	1140.9	1161.1	1158.1	0.170	2.857	74.832	21.195	0.905	0.016	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1403.69
21	0.6884	1138.1	1158.3	1155.2	0.270	3.550	74.827	19.032	2.167	0.053	0.094	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1392.83
22	0.6858	1133.0	1153.1	1150.0	0.308	3.562	75.365	18.473	2.138	0.052	0.093	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1389.15
23	0.6816	1125.4	1145.3	1142.3	0.357	3.558	76.068	17.901	1.983	0.045	0.079	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1384.06
24	0.6892	1136.9	1157.0	1154.0	0.452	3.418	75.245	18.369	2.222	0.083	0.178	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1390.50
25	0.6860	1136.8	1157.0	1153.9	0.389	3.225	75.198	19.168	1.860	0.052	0.097	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1393.65
26	0.6873	1139.1	1159.3	1156.2	0.319	3.310	75.018	19.173	2.021	0.053	0.095	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1395.16
27	0.6882	1140.8	1161.0	1158.1	0.292	3.338	74.662	19.607	1.983	0.043	0.071	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1396.31
28	0.6873	1141.3	1161.5	1158.5	0.255	3.278	74.552	20.085	1.720	0.039	0.068	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1397.85
29	0.6888	1147.1	1167.4	1164.4	0.191	3.163	74.013	20.957	1.598	0.029	0.048	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1403.43
30	0.6794	1127.3	1147.3	1144.3	0.214	3.455	75.879	18.805	1.561	0.034	0.052	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1388.65
31	0.6763	1120.7	1140.5	1137.6	0.368	3.332	76.698	17.949	1.556	0.036	0.059	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1383.66
Avg	0.6708	1116.0	1135.9	1132.9	0.589	2.758	77.741	17.626	1.213	0.026	0.043	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1383.63

Source Daily Summary

October 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	0.6610	1099.9	1119.4	1116.0	0.950	2.276	80.037	15.608	1.042	0.029	0.050	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1373.61
2	0.6635	1102.7	1122.3	1118.8	0.973	2.299	79.578	15.996	1.069	0.028	0.049	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1374.61
3	0.6709	1112.8	1132.5	1129.0	1.006	2.333	78.365	16.923	1.245	0.044	0.071	0.007	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1379.38
4	0.6686	1110.1	1129.7	1126.4	1.022	2.256	78.791	16.614	1.201	0.041	0.063	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1378.44
5	0.6668	1108.4	1128.0	1124.7	1.008	2.205	79.268	16.115	1.272	0.047	0.071	0.007	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1378.24
6	0.6635	1103.0	1122.5	1119.2	1.016	2.218	79.708	15.841	1.126	0.031	0.053	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1374.89
7	0.6601	1099.1	1118.6	1115.4	0.994	2.165	80.314	15.381	1.056	0.030	0.052	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1373.63
8	0.6615	1101.1	1120.6	1117.4	0.988	2.187	80.073	15.548	1.111	0.031	0.054	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1374.66
9	0.6626	1102.2	1121.8	1118.5	0.987	2.223	79.857	15.715	1.125	0.031	0.054	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1374.90
10	0.6685	1108.8	1128.5	1125.2	1.017	2.332	78.761	16.576	1.217	0.032	0.056	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1377.00
11	0.6707	1110.6	1130.3	1127.0	0.992	2.467	78.215	17.055	1.182	0.030	0.052	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1377.00
12	0.6717	1112.0	1131.7	1128.4	0.978	2.504	77.915	17.391	1.136	0.026	0.044	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1377.60
13	0.6722	1112.0	1131.7	1128.5	0.989	2.526	77.871	17.366	1.166	0.028	0.047	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1377.20
14	0.6657	1106.0	1125.5	1122.3	0.900	2.421	78.900	16.736	0.983	0.021	0.035	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1376.36
15	0.6715	1113.0	1132.7	1129.5	1.006	2.383	78.120	17.182	1.213	0.032	0.056	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1379.01
16	0.6681	1109.5	1129.1	1126.0	1.001	2.280	78.806	16.631	1.184	0.033	0.057	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1378.20
17	0.6676	1108.7	1128.3	1125.3	1.005	2.278	78.951	16.450	1.211	0.035	0.061	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1377.69
18	0.6708	1111.5	1131.2	1128.3	1.015	2.386	78.304	16.968	1.227	0.033	0.058	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1377.98
19	0.6706	1111.1	1130.8	1127.9	1.012	2.394	78.389	16.837	1.262	0.035	0.062	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1377.73
20	0.6711	1109.2	1128.8	1124.9	0.832	2.838	78.491	16.053	1.637	0.050	0.087	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1374.68
21	0.6696	1106.0	1125.5	1121.7	0.836	2.882	78.792	15.720	1.619	0.050	0.089	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1372.30
22	0.6674	1104.4	1124.0	1120.4	0.869	2.716	79.309	15.357	1.584	0.054	0.097	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1372.65
23	0.6706	1110.5	1130.2	1126.7	0.986	2.468	78.760	16.089	1.528	0.056	0.098	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1376.92
24	0.6719	1111.0	1130.7	1127.0	0.857	2.759	78.369	16.257	1.592	0.053	0.098	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1376.20
25	0.6754	1117.5	1137.3	1134.1	0.893	2.637	77.923	16.583	1.783	0.061	0.104	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1380.64
26	0.6714	1111.9	1131.6	1128.2	0.984	2.461	78.608	16.226	1.560	0.053	0.094	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1377.86
27	0.6660	1103.9	1123.5	1120.1	0.907	2.558	79.419	15.560	1.423	0.044	0.078	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1373.49
28	0.6719	1113.3	1133.0	1129.5	1.046	2.333	78.571	16.342	1.539	0.055	0.098	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1379.00
29	0.6657	1105.1	1124.6	1121.3	1.042	2.258	79.444	15.915	1.214	0.042	0.075	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1375.20
30	0.6662	1105.4	1124.9	1121.5	1.027	2.312	79.325	15.978	1.230	0.042	0.075	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1375.04
31	0.6596	1094.0	1113.4	1110.0	0.902	2.568	80.492	14.702	1.214	0.041	0.071	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1367.76
Avg	0.6678	1108.0	1127.2	1123.9	0.969	2.417	78.959	16.249	1.289	0.039	0.068	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1376.13

Source Daily Summary

October 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	0.6850	1152.2	1172.6	1168.1	0.000	2.793	73.601	22.922	0.668	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.58	-26.68
2	0.6855	1152.5	1172.9	1168.1	0.000	2.827	73.508	22.961	0.689	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.36	-26.40
3	0.6855	1152.7	1173.1	1168.4	0.000	2.817	73.502	22.980	0.687	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.60	-26.37
4	0.6857	1152.7	1173.1	1168.6	0.000	2.831	73.505	22.929	0.720	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.43	-26.21
5	0.6855	1152.6	1173.0	1168.5	0.000	2.815	73.524	22.949	0.697	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.57	-26.36
6	0.6856	1152.9	1173.3	1168.7	0.000	2.814	73.510	22.950	0.710	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.72	-26.24
7	0.6847	1152.2	1172.6	1168.1	0.000	2.766	73.696	22.829	0.693	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.85	-26.69
8	0.6846	1151.7	1172.1	1167.5	0.000	2.787	73.684	22.841	0.672	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.39	-26.84
9	0.6852	1152.9	1173.3	1168.7	0.000	2.774	73.557	22.985	0.669	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.16	-26.52
10	0.6855	1153.0	1173.4	1169.1	0.000	2.794	73.520	22.982	0.690	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.01	-26.34
11	0.6850	1152.6	1173.0	1168.4	0.000	2.774	73.600	22.940	0.671	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.00	-26.60
12	0.6851	1152.5	1172.9	1168.6	0.000	2.790	73.561	22.977	0.656	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.78	-26.64
13	0.6855	1152.4	1172.8	1168.4	0.000	2.833	73.490	22.992	0.670	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.24	-26.49
14	0.6857	1152.5	1172.9	1168.4	0.000	2.838	73.448	23.037	0.662	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.27	-26.46
15	0.6856	1152.0	1172.4	1167.3	0.000	2.864	73.467	22.989	0.665	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.68	-26.54
16	0.6854	1151.7	1172.1	1167.5	0.000	2.869	73.481	22.981	0.654	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.46	-26.66
17	0.6849	1151.3	1171.7	1167.0	0.000	2.839	73.572	22.943	0.631	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.60	-26.96
18	0.6849	1151.4	1171.8	1166.6	0.000	2.838	73.576	22.929	0.643	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.67	-26.88
19	0.6850	1151.6	1172.0	1166.7	0.000	2.824	73.585	22.928	0.647	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.92	-26.84
20	0.6852	1151.5	1171.9	1167.1	0.000	2.860	73.518	22.958	0.647	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.46	-26.77
21	0.6856	1151.7	1172.1	1167.2	0.000	2.884	73.448	22.991	0.662	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.33	-26.57
22	0.6851	1151.3	1171.7	1166.9	0.000	2.861	73.534	22.952	0.638	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.34	-26.87
23	0.6852	1151.3	1171.7	1166.3	0.000	2.866	73.524	22.954	0.641	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.30	-26.84
24	0.6850	1151.0	1171.3	1166.1	0.008	2.868	73.567	22.891	0.649	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.90	-26.86
25	0.6848	1150.9	1171.3	1166.5	0.000	2.859	73.591	22.894	0.641	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.15	-26.99
26	0.6851	1151.2	1171.5	1166.6	0.000	2.874	73.535	22.927	0.649	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.12	-26.84
27	0.6856	1151.7	1172.1	1167.1	0.000	2.876	73.489	22.933	0.686	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.41	-26.50
28	0.6859	1152.1	1172.5	1167.4	0.000	2.885	73.423	22.990	0.686	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.51	-26.36
29	0.6858	1152.2	1172.6	1167.7	0.000	2.879	73.440	22.969	0.697	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.61	-26.31
30	0.6861	1152.7	1173.1	1168.6	0.000	2.875	73.381	23.032	0.696	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.94	-26.16
31	0.6855	1152.0	1172.4	1167.9	0.000	2.856	73.480	22.980	0.668	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.79	-26.53
Avg	0.6853	1152.0	1172.4	1167.7	0.000	2.836	73.526	22.952	0.669	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.01	-26.59

Source Daily Summary

October 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	0.6312	1048.7	1067.3	1064.0	0.643	3.057	85.333	10.196	0.710	0.022	0.033	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1340.22
2	0.6215	1034.1	1052.4	1049.2	0.557	3.169	87.069	8.568	0.586	0.020	0.027	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1331.77
3	0.6219	1034.4	1052.7	1049.4	0.562	3.180	87.000	8.613	0.593	0.020	0.028	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1331.74
4	0.6236	1039.3	1057.7	1054.3	0.614	2.959	86.843	8.852	0.666	0.024	0.036	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1336.27
5	0.6292	1047.6	1066.2	1062.8	0.655	2.912	85.806	9.843	0.716	0.025	0.037	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1341.01
6	0.6373	1060.2	1079.0	1075.5	0.707	2.824	84.439	11.065	0.865	0.036	0.052	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1348.50
7	0.6369	1060.5	1079.2	1075.8	0.723	2.748	84.484	11.126	0.835	0.031	0.044	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1349.23
8	0.6321	1053.4	1072.0	1068.6	0.683	2.790	85.395	10.241	0.806	0.032	0.044	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1345.27
9	0.6295	1049.3	1067.8	1064.5	0.679	2.802	85.782	9.960	0.714	0.024	0.035	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1342.84
10	0.6274	1046.7	1065.3	1061.8	0.651	2.801	86.145	9.657	0.683	0.023	0.034	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1341.83
11	0.6283	1048.3	1066.9	1063.7	0.661	2.779	85.997	9.786	0.711	0.024	0.036	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1342.85
12	0.6297	1049.4	1068.0	1064.7	0.657	2.851	85.711	9.993	0.726	0.023	0.035	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1342.71
13	0.6311	1049.7	1068.3	1065.1	0.643	2.978	85.429	10.135	0.751	0.024	0.035	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1341.73
14	0.6105	1020.1	1038.2	1035.1	0.464	3.120	89.131	6.761	0.480	0.018	0.022	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1325.50
15	0.5718	964.0	981.0	978.3	0.115	3.432	96.120	0.309	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.41
16	0.5718	964.0	981.0	978.3	0.115	3.431	96.123	0.308	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.42
17	0.5719	963.6	980.7	978.0	0.113	3.468	96.090	0.306	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1293.78
18	0.5719	963.5	980.6	977.9	0.112	3.471	96.091	0.303	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1293.72
19	0.6181	1025.2	1043.4	1040.5	0.216	3.902	87.821	6.960	1.016	0.030	0.049	0.002	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1323.68
20	0.6842	1116.1	1135.9	1132.6	0.392	4.310	76.069	16.610	2.402	0.065	0.135	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1370.03
21	0.6788	1109.8	1129.5	1126.3	0.543	3.957	76.923	16.381	2.010	0.056	0.116	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1367.71
22	0.6703	1100.2	1119.7	1116.6	0.561	3.710	78.334	15.561	1.682	0.046	0.092	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1364.49
23	0.6611	1087.6	1106.9	1108.5	0.562	3.637	79.319	14.858	1.491	0.041	0.080	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1360.69
24	0.6518	1075.1	1094.1	1108.5	0.562	3.637	79.319	14.858	1.491	0.041	0.080	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1360.69
25	0.6426	1062.5	1081.3	1108.6	0.562	3.637	79.319	14.858	1.491	0.041	0.080	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1360.69
26	0.6333	1049.9	1068.5	1108.6	0.562	3.637	79.319	14.858	1.491	0.041	0.080	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1360.69
27	0.6241	1037.3	1055.7	1108.5	0.562	3.637	79.319	14.858	1.491	0.041	0.080	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1360.69
28	0.6148	1024.8	1042.9	1040.0	0.322	3.454	88.339	7.097	0.731	0.022	0.030	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1326.80
29	0.6274	1029.4	1047.7	1044.7	0.291	4.399	86.208	7.779	1.193	0.040	0.080	0.004	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1319.74
30	0.6268	1031.6	1049.9	979.9	0.113	3.351	96.145	0.346	0.032	0.009	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1296.31
31	0.6263	1033.9	1052.2	979.9	0.113	3.351	96.145	0.346	0.032	0.009	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1296.31
Avg	0.6270	1041.0	1059.7	1057.1	0.475	3.335	86.180	9.077	0.853	0.028	0.045	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1335.69

Gas Composition and Properties

Effective October 1, 2020

Attachment B
Page 19 of 24

Source #: 2702230
Name: WATFORD CITY EAST BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	1.0637		2.3907
Nitrogen, N2	2.4314		3.4785
Methane, C1	75.7965		62.0996
Ethane, C2	20.3933	5.4559	31.3166
Propane, C3	0.3082	0.0849	0.6941
iso-Butane, iC4	0.0025	0.0008	0.0074
n-Butane, nC4	0.0044	0.0014	0.0131
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			
Totals	100.0000	5.5430	100.0000

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure	-60.530	
Cricodentherm	-34.367	
HV, Dry @ Base P, T	1140.38	
HV, Sat @ Base P, T	1120.53	
HV, Sat @ Sample P, T	1140.38	
Relative Density	0.6778	
C6+: 100		

Sample
Date: 10/01/2020 Pressure: 360.0
Type: Temperature:
Tech: Joshua Tipton H2O: lbs/mm
 H2S: ppm

Remarks:

Analysis
Date: 10/01/2020 Instrument:
 Cylinder: 2
Tech: Joshua Tipton

Remarks:

October-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		
10/1/2020	10/2/2020				2045	2328	1.1387	1.139	10/1/2020
10/2/2020	10/3/2020				1981	2238	1.1312	1.131	10/2/2020
10/3/2020	10/4/2020				1650	1931	1.1694	1.169	10/3/2020
10/4/2020	10/5/2020				1352	1594	1.1780	1.178	10/4/2020
10/5/2020	10/6/2020				1142	1356	1.1865	1.187	10/5/2020
10/6/2020	10/7/2020				1013	1202	1.1862	1.186	10/6/2020
10/7/2020	10/8/2020				1286	1524	1.1853	1.185	10/7/2020
10/8/2020	10/9/2020				1144	1356	1.1835	1.184	10/8/2020
10/9/2020	10/10/2020				1158	1384	1.1942	1.194	10/9/2020
10/10/2020	10/11/2020				1018	1209	1.1865	1.187	10/10/2020
10/11/2020	10/12/2020				1490	1778	1.1939	1.194	10/11/2020
10/12/2020	10/13/2020				1918	2272	1.1844	1.184	10/12/2020
10/13/2020	10/14/2020				1647	1918	1.1631	1.163	10/13/2020
10/14/2020	10/15/2020				2747	3101	1.1323	1.132	10/14/2020
10/15/2020	10/16/2020				3175	3561	1.1215	1.122	10/15/2020
10/16/2020	10/17/2020				3175	3578	1.1267	1.127	10/16/2020
10/17/2020	10/18/2020				3893	4364	1.1219	1.122	10/17/2020
10/18/2020	10/19/2020				4369	4881	1.1170	1.117	10/18/2020
10/19/2020	10/20/2020				4042	4513	1.1165	1.117	10/19/2020
10/20/2020	10/21/2020				4346	4903	1.1271	1.127	10/20/2020
10/21/2020	10/22/2020				4173	4767	1.1424	1.142	10/21/2020
10/22/2020	10/23/2020				4574	5267	1.1513	1.151	10/22/2020
10/23/2020	10/24/2020				4604	5296	1.1507	1.151	10/23/2020
10/24/2020	10/25/2020				4736	5441	1.1490	1.149	10/24/2020
10/25/2020	10/26/2020				5362	6122	1.1422	1.142	10/25/2020
10/26/2020	10/27/2020				5705	6488	1.1374	1.137	10/26/2020
10/27/2020	10/28/2020				3754	4290	1.1443	1.144	10/27/2020
10/28/2020	10/29/2020				3472	3984	1.1495	1.150	10/28/2020
10/29/2020	10/30/2020				3848	4429	1.1519	1.152	10/29/2020
10/30/2020	10/31/2020				3567	3986	1.1184	1.118	10/30/2020
10/31/2020	11/1/2020				3968	4525	1.1414	1.141	10/31/2020
		0	0	#DIV/0!	92,354	105,586	1.1523	1.1523	



Alliance Pipeline

DAILY ANALYSIS --- USA
 ND07MD1 --- Hankinson Sales
 October 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	1,176.635	0.6772	82.4441	10.3141	4.2367	0.4637	0.8170	0.0787	0.0599	0.0249	1.1239	0.4259	0.0110
2	1,175.120	0.6755	82.7377	10.1554	4.1611	0.4616	0.8030	0.0836	0.0654	0.0326	1.0787	0.4099	0.0110
3	1,175.090	0.6757	82.7091	10.2135	4.0535	0.4782	0.8675	0.0797	0.0602	0.0255	1.0924	0.4097	0.0108
4	1,170.348	0.6733	83.0726	9.8945	4.0345	0.4471	0.8298	0.0814	0.0586	0.0255	1.0959	0.4499	0.0102
5	1,169.007	0.6722	83.2283	9.7548	4.0603	0.4307	0.8157	0.0807	0.0576	0.0253	1.1055	0.4309	0.0102
6	1,171.446	0.6738	82.9169	10.0511	4.0642	0.4297	0.8131	0.0768	0.0609	0.0327	1.1304	0.4139	0.0103
7	1,168.541	0.6716	83.2046	9.9089	3.9857	0.4222	0.7978	0.0745	0.0563	0.0273	1.0902	0.4226	0.0099
8	1,166.164	0.6696	83.4800	9.7928	3.9333	0.4225	0.7459	0.0725	0.0553	0.0283	1.0350	0.4241	0.0105
9	1,166.877	0.6701	83.3938	9.8384	3.9560	0.4308	0.7383	0.0733	0.0569	0.0300	1.0521	0.4204	0.0101
10	1,169.290	0.6714	83.3295	9.8476	3.9189	0.4527	0.8285	0.0747	0.0583	0.0307	1.0400	0.4092	0.0099
11	1,167.361	0.6702	83.5372	9.6311	3.9174	0.4538	0.8274	0.0738	0.0573	0.0295	1.0611	0.4014	0.0100
12	1,171.013	0.6740	83.0818	9.6822	4.1249	0.4671	0.8761	0.0739	0.0578	0.0300	1.1938	0.4027	0.0095
13	1,170.978	0.6730	83.2440	9.6722	4.0728	0.4720	0.8638	0.0750	0.0578	0.0305	1.1048	0.3976	0.0096
14	1,169.823	0.6727	83.2301	9.6791	4.1174	0.4400	0.8229	0.0757	0.0600	0.0306	1.1126	0.4216	0.0098
15	1,169.367	0.6727	83.2641	9.5907	4.1472	0.4384	0.8237	0.0777	0.0603	0.0297	1.1385	0.4197	0.0100
16	1,168.342	0.6716	83.3806	9.5755	4.1013	0.4331	0.8071	0.0773	0.0597	0.0296	1.1103	0.4155	0.0100
17	1,169.394	0.6720	83.3344	9.6390	4.1188	0.4327	0.8050	0.0772	0.0599	0.0300	1.0776	0.4155	0.0099
18	1,171.249	0.6743	82.9729	9.7693	4.2257	0.4355	0.8264	0.0757	0.0566	0.0275	1.1796	0.4210	0.0097
19	1,171.222	0.6742	83.0501	9.6724	4.2089	0.4454	0.8474	0.0788	0.0593	0.0295	1.1855	0.4133	0.0095
20	1,171.766	0.6746	82.9846	9.7294	4.2278	0.4442	0.8374	0.0797	0.0603	0.0295	1.1769	0.4209	0.0093
21	1,167.748	0.6725	83.2346	9.5810	4.1271	0.4339	0.8190	0.0767	0.0570	0.0265	1.1993	0.4354	0.0095
22	1,154.259	0.6635	84.5283	8.7895	3.7602	0.4081	0.7537	0.0737	0.0567	0.0256	1.1495	0.4461	0.0086
23	1,144.424	0.6571	85.4375	8.2674	3.4607	0.3895	0.7052	0.0731	0.0570	0.0272	1.1096	0.4652	0.0075
24	1,148.730	0.6579	85.3953	8.3840	3.5501	0.4008	0.7136	0.0674	0.0560	0.0273	0.9578	0.4393	0.0085
25	1,159.649	0.6647	84.3670	9.1046	3.7946	0.4194	0.7514	0.0735	0.0594	0.0283	0.9723	0.4202	0.0094
26	1,159.507	0.6651	84.0888	9.3556	3.9197	0.3893	0.6336	0.0717	0.0573	0.0294	1.0267	0.4181	0.0098
27	1,160.155	0.6655	84.0730	9.3724	3.9030	0.3945	0.6476	0.0740	0.0602	0.0313	1.0043	0.4297	0.0100
28	1,160.644	0.6658	84.0324	9.3699	3.9470	0.3886	0.6465	0.0757	0.0611	0.0304	1.0202	0.4187	0.0096
29	1,160.109	0.6650	84.1443	9.3607	3.8766	0.3885	0.6529	0.0755	0.0610	0.0320	0.9741	0.4239	0.0105
30	1,162.550	0.6666	84.0173	9.2576	4.0944	0.3916	0.6517	0.0743	0.0611	0.0325	1.0087	0.4005	0.0103
31	1,160.937	0.6652	84.2172	9.2050	3.9738	0.3883	0.6493	0.0773	0.0650	0.0380	0.9813	0.3938	0.0108
Volume	1,165.873	0.6698	83.5698	9.5562	3.9970	0.4283	0.7725	0.0759	0.0590	0.0293	1.0815	0.4206	0.0099
Weight Avg Energy	1,165.922	0.6699	83.5652	9.5591	3.9981	0.4284	0.7729	0.0759	0.0590	0.0293	1.0818	0.4206	0.0099



Alliance Pipeline

DAILY ANALYSIS --- USA
 ND14MD1 --- Milnor Sales
 October 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	1,176.170	0.6768	82.5015	10.2906	4.2207	0.4621	0.8120	0.0783	0.0598	0.0252	1.1179	0.4208	0.0110
2	1,175.044	0.6755	82.7548	10.1474	4.1463	0.4635	0.8087	0.0837	0.0656	0.0328	1.0762	0.4102	0.0109
3	1,174.998	0.6758	82.6921	10.2233	4.0544	0.4759	0.8668	0.0797	0.0598	0.0253	1.0947	0.4172	0.0107
4	1,170.577	0.6733	83.0919	9.8621	4.0629	0.4448	0.8297	0.0814	0.0581	0.0253	1.0908	0.4429	0.0101
5	1,169.177	0.6724	83.1825	9.8021	4.0607	0.4291	0.8127	0.0796	0.0572	0.0252	1.1121	0.4285	0.0103
6	1,171.110	0.6736	82.9508	10.0337	4.0553	0.4285	0.8111	0.0766	0.0608	0.0322	1.1290	0.4117	0.0102
7	1,168.699	0.6718	83.1904	9.9190	3.9912	0.4222	0.7978	0.0743	0.0561	0.0272	1.0893	0.4224	0.0101
8	1,165.475	0.6691	83.5291	9.7783	3.9195	0.4203	0.7309	0.0723	0.0553	0.0283	1.0294	0.4262	0.0105
9	1,167.135	0.6704	83.3989	9.8172	3.9499	0.4351	0.7554	0.0736	0.0571	0.0302	1.0527	0.4198	0.0101
10	1,169.381	0.6716	83.2981	9.8840	3.9138	0.4513	0.8261	0.0744	0.0587	0.0309	1.0391	0.4135	0.0100
11	1,167.555	0.6707	83.4851	9.6421	3.9355	0.4545	0.8290	0.0739	0.0571	0.0295	1.0805	0.4028	0.0101
12	1,170.810	0.6738	83.1291	9.6482	4.1209	0.4678	0.8776	0.0735	0.0577	0.0295	1.1857	0.4003	0.0095
13	1,171.233	0.6732	83.2127	9.6922	4.0835	0.4716	0.8625	0.0751	0.0578	0.0305	1.1036	0.4011	0.0096
14	1,169.675	0.6727	83.2322	9.6617	4.1329	0.4362	0.8196	0.0758	0.0601	0.0302	1.1201	0.4214	0.0098
15	1,170.023	0.6731	83.2176	9.6251	4.1563	0.4398	0.8281	0.0785	0.0612	0.0303	1.1313	0.4219	0.0100
16	1,169.620	0.6726	83.2570	9.6420	4.1377	0.4352	0.8151	0.0780	0.0606	0.0301	1.1114	0.4229	0.0100
17	1,170.299	0.6726	83.2486	9.6963	4.1401	0.4349	0.8089	0.0774	0.0600	0.0300	1.0784	0.4156	0.0098
18	1,171.510	0.6747	82.9383	9.7562	4.2445	0.4385	0.8345	0.0759	0.0570	0.0272	1.1983	0.4201	0.0096
19	1,171.453	0.6744	83.0499	9.6742	4.2071	0.4468	0.8503	0.0798	0.0601	0.0303	1.1788	0.4134	0.0095
20	1,171.436	0.6745	83.0046	9.7113	4.2202	0.4435	0.8383	0.0791	0.0599	0.0300	1.1821	0.4218	0.0093
21	1,167.661	0.6724	83.2586	9.5734	4.1214	0.4337	0.8160	0.0772	0.0576	0.0267	1.1938	0.4320	0.0096
22	1,155.190	0.6641	84.3824	8.9692	3.7436	0.4062	0.7450	0.0731	0.0564	0.0258	1.1458	0.4435	0.0090
23	1,144.272	0.6572	85.4978	8.1490	3.4961	0.3934	0.7184	0.0717	0.0563	0.0268	1.1136	0.4698	0.0073
24	1,150.973	0.6589	85.2421	8.5413	3.5805	0.4039	0.7159	0.0679	0.0565	0.0272	0.9248	0.4309	0.0089
25	1,160.442	0.6655	84.2173	9.1815	3.8516	0.4158	0.7405	0.0737	0.0587	0.0281	1.0132	0.4101	0.0095
26	1,159.323	0.6650	84.1144	9.3510	3.9123	0.3882	0.6294	0.0714	0.0575	0.0296	1.0115	0.4250	0.0098
27	1,160.324	0.6657	84.0531	9.3765	3.9113	0.3957	0.6496	0.0743	0.0603	0.0304	1.0070	0.4316	0.0100
28	1,159.649	0.6652	84.1220	9.3056	3.9293	0.3857	0.6424	0.0752	0.0601	0.0301	1.0191	0.4210	0.0096
29	1,159.544	0.6645	84.2361	9.3026	3.8668	0.3879	0.6480	0.0753	0.0607	0.0318	0.9601	0.4200	0.0107
30	1,162.373	0.6666	84.0093	9.2632	4.0921	0.3910	0.6492	0.0740	0.0608	0.0322	1.0180	0.3997	0.0104
31	1,161.543	0.6656	84.1446	9.2580	3.9941	0.3890	0.6486	0.0767	0.0642	0.0367	0.9812	0.3961	0.0107
Volume	1,165.753	0.6698	83.5812	9.5368	4.0130	0.4249	0.7667	0.0757	0.0591	0.0295	1.0831	0.4201	0.0099
Weight Avg Energy	1,165.788	0.6698	83.5778	9.5389	4.0139	0.4250	0.7669	0.0757	0.0591	0.0296	1.0833	0.4200	0.0099

October-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		
10/1/2020	10/2/2020	215	256	1.1931	187	213	1.1404	1.169	10/1/2020
10/2/2020	10/3/2020	187	223	1.1931	178	203	1.1404	1.167	10/2/2020
10/3/2020	10/4/2020	188	224	1.1931	162	185	1.1404	1.169	10/3/2020
10/4/2020	10/5/2020	137	163	1.1931	86	98	1.1404	1.173	10/4/2020
10/5/2020	10/6/2020	137	164	1.1931	99	113	1.1404	1.171	10/5/2020
10/6/2020	10/7/2020	143	171	1.1931	85	97	1.1404	1.173	10/6/2020
10/7/2020	10/8/2020	165	196	1.1931	125	142	1.1404	1.170	10/7/2020
10/8/2020	10/9/2020	161	192	1.1931	115	131	1.1404	1.171	10/8/2020
10/9/2020	10/10/2020	161	192	1.1931	137	156	1.1404	1.169	10/9/2020
10/10/2020	10/11/2020	119	142	1.1931	74	84	1.1404	1.173	10/10/2020
10/11/2020	10/12/2020	200	239	1.1931	185	210	1.1404	1.168	10/11/2020
10/12/2020	10/13/2020	217	258	1.1931	203	232	1.1404	1.168	10/12/2020
10/13/2020	10/14/2020	205	245	1.1931	184	210	1.1404	1.168	10/13/2020
10/14/2020	10/15/2020	279	333	1.1931	391	446	1.1404	1.162	10/14/2020
10/15/2020	10/16/2020	315	376	1.1931	416	474	1.1404	1.163	10/15/2020
10/16/2020	10/17/2020	309	369	1.1931	414	473	1.1404	1.163	10/16/2020
10/17/2020	10/18/2020	380	454	1.1931	598	682	1.1404	1.161	10/17/2020
10/18/2020	10/19/2020	392	467	1.1931	607	693	1.1404	1.161	10/18/2020
10/19/2020	10/20/2020	375	448	1.1931	529	603	1.1404	1.162	10/19/2020
10/20/2020	10/21/2020	409	487	1.1931	612	697	1.1404	1.162	10/20/2020
10/21/2020	10/22/2020	372	444	1.1931	540	616	1.1404	1.162	10/21/2020
10/22/2020	10/23/2020	471	562	1.1931	769	877	1.1404	1.160	10/22/2020
10/23/2020	10/24/2020	454	542	1.1931	706	805	1.1404	1.161	10/23/2020
10/24/2020	10/25/2020	476	568	1.1931	725	827	1.1404	1.161	10/24/2020
10/25/2020	10/26/2020	476	567	1.1931	746	851	1.1404	1.161	10/25/2020
10/26/2020	10/27/2020	471	562	1.1931	799	911	1.1404	1.160	10/26/2020
10/27/2020	10/28/2020	328	392	1.1931	462	527	1.1404	1.162	10/27/2020
10/28/2020	10/29/2020	333	397	1.1931	526	600	1.1404	1.161	10/28/2020
10/29/2020	10/30/2020	299	357	1.1931	426	485	1.1404	1.162	10/29/2020
10/30/2020	10/31/2020	240	287	1.1931	268	306	1.1404	1.165	10/30/2020
10/31/2020	11/1/2020	369	441	1.1931	575	656	1.1404	1.161	10/31/2020
		8,983	10,718	1.1931	11,929	13,603	1.1404	1.1652	

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	Changestimestamp	NOTES
11587	GLEN ULLIN	1104.4	0.651	1368.8	-46.5	2.2457	0.9397	81.5808	14.3654	0.7809	0.0178	0.0111	0.0003	0.0003	N/A	0	0.0341	0.024	9/30/2020	10/1/2020	10/1/2020 4:18:44 PM	
11587	GLEN ULLIN	1105	0.6515	1369	-46.3	2.25	0.9432	81.4764	14.464	0.7832	0.0152	0.01	0.0001	0	N/A	0	0.0346	0.0234	10/1/2020	10/2/2020	10/2/2020 4:25:48 PM	
11587	GLEN ULLIN	1116.1	0.6601	1373.8	-39.7	2.3515	0.9687	79.9487	15.6779	0.9351	0.0297	0.0209	0.0021	0.0026	N/A	0.0013	0.0379	0.0236	10/2/2020	10/3/2020	10/3/2020 4:48:29 PM	
11587	GLEN ULLIN	1120.2	0.6622	1376.6	-37.6	2.2807	0.9819	79.6414	15.9581	0.9985	0.0379	0.028	0.0029	0.0042	N/A	0.0016	0.0415	0.0235	10/3/2020	10/4/2020	10/4/2020 4:21:16 PM	
11587	GLEN ULLIN	1116.4	0.6589	1375.4	-39.8	2.2142	0.9699	80.2693	15.4286	0.9841	0.0323	0.0249	0.0021	0.0034	N/A	0.001	0.047	0.0232	10/4/2020	10/5/2020	10/5/2020 4:13:51 PM	
11587	GLEN ULLIN	1113.6	0.6567	1374.2	-40.8	2.1871	0.965	80.7123	15.029	0.977	0.0327	0.0249	0.0021	0.0031	N/A	0.0014	0.0424	0.0232	10/5/2020	10/6/2020	10/6/2020 4:48:03 PM	
11587	GLEN ULLIN	1105	0.6504	1370.2	-46.8	2.1309	0.9489	81.7015	14.3562	0.7666	0.0152	0.0104	0	0	N/A	0	0.0477	0.0227	10/6/2020	10/7/2020	10/7/2020 4:19:40 PM	
11587	GLEN ULLIN	1106.9	0.6516	1371.2	-45.8	2.1615	0.9361	81.4927	14.5069	0.8123	0.0181	0.0117	0	0	N/A	0	0.0376	0.0232	10/7/2020	10/8/2020	10/8/2020 4:24:39 PM	
11587	GLEN ULLIN	1104.4	0.6496	1370.3	-46.5	2.134	0.928	81.7119	14.2083	0.8203	0.0199	0.0127	0.0001	0.0001	N/A	0	0.1421	0.0227	10/8/2020	10/9/2020	10/9/2020 4:14:48 PM	
11587	GLEN ULLIN	1111.3	0.6558	1372.3	-42.9	2.2704	0.9502	80.5985	15.1176	0.9029	0.0201	0.0128	0	0	N/A	0	0.104	0.0235	10/9/2020	10/10/2020	10/10/2020 4:17:49 PM	
11587	GLEN ULLIN	1116.9	0.6615	1373.2	-39.7	2.4427	0.9674	79.4555	15.9836	0.9658	0.0214	0.0134	0.0001	0.0002	N/A	0	0.1256	0.0245	10/10/2020	10/11/2020	10/11/2020 4:19:12 PM	
11587	GLEN ULLIN	1116.4	0.6611	1373	-40.1	2.4422	0.9657	79.5619	15.9247	0.9493	0.0208	0.0132	0	0	N/A	0	0.0979	0.0244	10/11/2020	10/12/2020	10/12/2020 4:19:59 PM	
11587	GLEN ULLIN	1122.6	0.6666	1374.9	-37	2.5516	0.9885	78.4824	16.8053	1.0049	0.0212	0.0134	0	0.0001	N/A	0	0.108	0.0247	10/12/2020	10/13/2020	10/13/2020 4:20:01 PM	
11587	GLEN ULLIN	1114.6	0.6598	1372.2	-40.9	2.4187	0.9678	79.7888	15.7426	0.9176	0.0203	0.0133	0	0.0001	N/A	0	0.1065	0.0244	10/13/2020	10/14/2020	10/14/2020 4:23:00 PM	
11587	GLEN ULLIN	1116.2	0.6602	1373.7	-40.7	2.3573	0.9691	79.7331	15.8875	0.9056	0.0186	0.0121	0	0	N/A	0	0.0935	0.0232	10/14/2020	10/15/2020	10/15/2020 4:14:47 PM	
11587	GLEN ULLIN	1116.1	0.6592	1374.7	-40.9	2.2987	0.9511	79.8997	15.7757	0.9099	0.0203	0.0127	0	0	N/A	0	0.1095	0.0224	10/15/2020	10/16/2020	10/16/2020 4:15:34 PM	
11587	GLEN ULLIN	1109.8	0.6544	1371.9	-43.9	2.2239	0.9493	80.8476	14.9635	0.8553	0.0188	0.0121	0	0	N/A	0	0.1072	0.0223	10/16/2020	10/17/2020	10/17/2020 4:10:55 PM	
11587	GLEN ULLIN	1114.5	0.659	1372.8	-41.2	2.3549	0.9641	79.9626	15.6214	0.9255	0.0205	0.0131	0	0	N/A	0	0.1152	0.0227	10/17/2020	10/18/2020	10/18/2020 4:07:44 PM	
11587	GLEN ULLIN	1114.5	0.6591	1372.8	-40.9	2.364	0.9676	79.8629	15.6623	0.9316	0.0213	0.0135	0.0001	0.0001	N/A	0	0.1535	0.0231	10/18/2020	10/19/2020	10/19/2020 4:43:32 PM	
11587	GLEN ULLIN	1117.4	0.6615	1373.8	-38.9	2.4467	0.9503	79.3608	15.9246	1.0488	0.0243	0.0153	0.0001	0	N/A	0	0.2056	0.0235	10/19/2020	10/20/2020	10/20/2020 4:24:08 PM	
11587	GLEN ULLIN	1100.1	0.6474	1367.2	-47.7	2.176	0.9313	82.1412	13.6811	0.8406	0.022	0.0142	0.0002	0.0004	N/A	0	0.171	0.0219	10/20/2020	10/21/2020	10/21/2020 4:16:28 PM	
11587	GLEN ULLIN	1106.2	0.6517	1370.3	-44.6	2.1586	0.9672	81.4323	14.3687	0.8714	0.0264	0.0189	0.001	0.0016	N/A	0.0006	0.1316	0.022	10/21/2020	10/22/2020	10/22/2020 4:18:01 PM	
11587	GLEN ULLIN	1106.8	0.6514	1371.3	-44.6	2.127	0.9488	81.3952	14.3917	0.8853	0.0269	0.0185	0.001	0.0015	N/A	0.0002	0.1826	0.0216	10/22/2020	10/23/2020	10/23/2020 4:25:38 PM	
11587	GLEN ULLIN	1113.8	0.6577	1373.4	-40.6	2.2748	0.9613	80.341	15.2299	0.9888	0.0325	0.0228	0.0015	0.0023	N/A	0.0005	0.1218	0.0229	10/23/2020	10/24/2020	10/24/2020 4:13:25 PM	
11587	GLEN ULLIN	1105.6	0.6509	1370.4	-44.8	2.1345	0.9596	81.5791	14.2363	0.8712	0.0294	0.0213	0.0012	0.0019	N/A	0.0007	0.1429	0.022	10/24/2020	10/25/2020	10/25/2020 4:13:19 PM	
11587	GLEN ULLIN	1101.9	0.6488	1368	-47.2	2.1538	0.9654	81.7956	14.0551	0.7905	0.0198	0.013	0.0001	0.0002	N/A	0	0.1844	0.0222	10/25/2020	10/26/2020	10/26/2020 4:16:50 PM	
11587	GLEN ULLIN	1101.1	0.6483	1367.5	-47.2	2.1528	0.9688	81.8607	13.949	0.7982	0.0219	0.014	0.0004	0.0007	N/A	0	0.2116	0.0222	10/26/2020	10/27/2020	10/27/2020 4:19:41 PM	
11587	GLEN ULLIN	1098.3	0.6465	1365.9	-48.5	2.1724	0.9541	82.1367	13.689	0.7599	0.0213	0.0126	0.0005	0.0008	N/A	0	0.2309	0.0219	10/27/2020	10/28/2020	10/28/2020 4:17:37 PM	
11587	GLEN ULLIN	1101.3	0.6488	1367.3	-46.8	2.1973	0.9602	81.7299	14.0092	0.8132	0.0235	0.0136	0.0011	0.0011	N/A	0	0.229	0.0221	10/28/2020	10/29/2020	10/29/2020 4:20:37 PM	
11587	GLEN ULLIN	1101.7	0.6493	1367.2	-46.8	2.2153	0.9649	81.6249	14.1185	0.7987	0.0207	0.0127	0.0005	0.0004	N/A	0	0.2213	0.0223	10/29/2020	10/30/2020	10/30/2020 4:20:30 PM	
11587	GLEN ULLIN	1101.5	0.6489	1367.4	-47	2.213	0.9503	81.727	14.0401	0.8079	0.021	0.0139	0.0002	0.0004	N/A	0.0001	0.2036	0.0224	10/30/2020	10/31/2020	10/31/2020 4:25:42 PM	
11587	GLEN ULLIN	1102.6	0.6504	1367.2	-46.1	2.2692	0.96	81.4467	14.2144	0.8436	0.0203	0.013	0.0001	0.0002	N/A	0	0.2096	0.023	10/31/2020	11/1/2020	11/1/2020 4:18:53 PM	

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

MONTANA DAKOTA UTILITIES CO
NORTH DAKOTA
HEATING VALUE DATA

STATE	ZONE	ZONE BOUNDARY	12 MONTH AVERAGE	OCT 20	SEPT 20	AUG 20	JULY 20	JUNE 20	MAY 20	APR 20	MAR 20	FEB 20	JAN 20	DEC 19	NOV 19	ZONE
MT/ND	211	Sidney Border - MonDak Tfr - Sidney Plt	1198	1200	1202	1196	1191	1169	1174	1202	1211	1215	1207	1209	1198	211
ND	24	Williston Border - Charbonneau Station	1164	1158	1157	1157	1153	1163	1159	1155	1169	1171	1172	1173	1177	24
ND	25	Watford City West Border	1193	1193	1194	1191	1194	1161	1206	1188	1202	1204	1196	1192	1194	25
ND	28	Bismarck Station - Glen Ullin Station	1151	1152	1174	1195	1190	1186	1129	1149	1138	1126	1123	1128	1125	28
ND	31	Dickinson Brd - Belfield Trf - G Ullin Stn	1119	1136	1125	1104	1092	1085	1093	1150	1138	1126	1122	1128	1125	31
ND/MT	32	Cabin Creek Station - Belfied Transfer	1111	1127	1134	1120	1115	1109	1109	1133	1103	1096	1093	1074	1122	32
ND	33	Little Knife Plant	1176	1172	1174	1179	1183	1182	1179	1175	1173	1175	1174	1173	1172	33
ND	34	Badlands Plant/Bowman Border	1048	1060	1025	984	984	1036	1047	1048	1024	1073	1082	1110	1102	34
ND	43	Watford City East Border	1146	1140	1139	1137	1142	1138	1151	1157	1152	1151	1154	1144	1151	43
ND/MT	241	Fairview Border	1181	1169	1157	1172	1153	1159	1164	1182	1195	1203	1209	1206	1202	241
ND	260	North Tioga Transfer - Nesson Plant	1115	1114	1131	1129	1116	1116	1099	1096	1132	1111	1089	1106	1146	260
ND	261	Tioga Comp Station - Robinson Lake Plant	1172	1164	1162	1172	1167	1177	1178	1179	1174	1173	1168	1166	1178	261
ND	262	Minot Bdr - Palermo Bdr - Bismarck Stn	1187	1182	1191	1195	1189	1192	1193	1190	1180	1180	1176	1184	1193	262
ND	263	Lignite Plant	1147	1137	1149	1147	1143	1149	1146	1146	1160	1143	1145	1149	1149	263
ND	264	Epping Border	1157	1156	1155	1147	1147	1153	1168	1147	1157	1165	1163	1162	1164	264
ND	265	Tioga Comp Station - County Line Plant	1170	1164	1163	1173	1168	1178	1158	1180	1174	1174	1168	1167	1168	265
ND	266	County Line Plant	1176	1161	1190	1194	1191	1194	1168	1193	1164	1161	1162	1165	1170	266
ND	271	Bismarck Station - Cleveland Station	1180	1181	1191	1195	1190	1193	1190	1186	1169	1165	1159	1168	1174	271
ND	272	Cleveland Station - Mapleton	1180	1182	1191	1195	1190	1192	1189	1185	1169	1165	1159	1168	1174	272
ND	273	Cleveland Station - Grafton Border	1180	1181	1190	1194	1190	1192	1189	1184	1169	1165	1159	1168	1173	273
ND	550	Mandan Border / NBPL-St Anthony	1147	1152	1174	1190	1181	1186	1129	1149	1119	1117	1115	1121	1125	550
ND	610	MDU-Watford City BTU	1167	1165	1170	1163	1163	1149	1182	1171	1169	1168	1168	1161	1172	610
ND	802	NBPL - Linton	1101	1110	1120	1102	1088	1082	1086	1105	1102	1102	1102	1102	1107	802
ND	903	Hettinger Propane	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	903
ND	600	Alliance Pipeline - Hankinson	1162	1166	1166	1160	1158	1164	1158	1163	1164	1162	1160	1159	1166	600
ND	601	Alliance Pipeline - Milnor	1162	1166	1167	1161	1158	1164	1157	1158	1164	1162	1160	1159	1166	602

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

THERMAL ZONE VARIANCE DOCUMENTATION		
October 2020		
<i>ZONE</i>	<i>BTU VARIANCE</i>	<i>REASON</i>
28	-22	Operational
34	35	Operational