



UTILITIES CO.

A Division of MDU Resources Group, Inc.

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

September 14, 2018

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

Re: Case No. PU-18-002 (Therm Billing)
Monthly Report – July 2018

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

1. Attachment A is a schedule showing the thermal billing factors by community that reflect the BTU values shown on Attachment B and were used for billing purposes in August 2018.
2. Attachment B consists of copies of the monthly Heating Value Test Reports received from our suppliers for the month of July 2018.
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 July 2018.

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

Sincerely,

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

Tamie Aberle
Director of Regulatory Affairs

Montana-Dakota Utilities Co.
Therm Billing Factors - North Dakota
Aug-18

Town	Heat Zone	Therm Factor
MDU-303-ALEXANDER	025	1.1353
MDU-308-ARNEGARD	025	1.1353
MDU-314-APPLE VALLEY	271	1.1318
MDU-318-BEACH	032	1.0415
MDU-319-BELFIELD	032	1.0492
MDU-323-BERTHOLD	262	1.1098
MDU-324-BEULAH	032	1.0492
MDU-327-BISMARCK	028	1.1318
MDU-330-BOWMAN	034	0.9227
MDU-337-BURLINGTON	262	1.1337
MDU-343-CARRINGTON	273	1.1318
MDU-344-CLEVELAND	272	1.1238
MDU-364-CAVALIER	273	1.1557
MDU-365-DAWSON	271	1.1238
MDU-368-DES LACS	262	1.1178
MDU-369-DICKINSON	031	1.0681
MDU-374-FT TOTTEN	273	1.1398
MDU-375-DEVILS LAKE	273	1.1398
MDU-379-BARLOW	273	1.1318
MDU-384-EPPING	264	1.0843
MDU-387-ELDRIDGE	272	1.1318
MDU-407-GLADSTONE	031	1.0681
MDU-411-GLEN ULLIN	031	1.0758
MDU-413-GOLVA	032	1.0262
MDU-416-GARRISON	262	1.1178
MDU-417-GRAFTON	273	1.1636
MDU-429-HEBRON	031	1.0758
MDU-432-HETTINGER	903	2.4049
MDU-449-JAMESTOWN	272	1.1398
MDU-459-KILLDEER	033	1.1088
MDU-463-LANGDON	273	1.1318
MDU-469-LEFOR	031	1.0681
MDU-474-LIGNITE	263	1.0607
MDU-475-LINTON	802	1.0585
MDU-478-LINCOLN	028	1.1318
MDU-488-MCKENZIE	271	1.1318
MDU-494-MEDINA	271	1.1238
MDU-498-MANDAN	028	1.1318
MDU-500-MARMARTH	034	0.9093
MDU-505-MINOT	262	1.1337
MDU-510-MOTT	031	1.0681
MDU-512-MAX	262	1.1098
MDU-522-NEW ENGLAND	031	1.0603
MDU-524-NEW SALEM	028	1.1079
MDU-532-NEW ROCKFORD	273	1.1318
MDU-539-PARK RIVER	273	1.1557
MDU-540-PALERMO	262	1.1098
MDU-558-RAY	264	1.0843
MDU-561-REGENT	031	1.0681

MDU-563-RHAME	034	0.8960
MDU-564-RICHARDTON	031	1.0603
MDU-568-ROSS	261	1.1046
MDU-572-RUTHVILLE	262	1.1337
MDU-574-SANBORN	272	1.1398
MDU-583-SENTINEL BUTTE	032	1.0415
MDU-588-SOUTH HEART	031	1.0603
MDU-717-SPIRITWOOD	272	1.1398
MDU-590-SPRINGBROOK	264	1.0843
MDU-591-STANLEY	261	1.1206
MDU-593-STEELE	271	1.1238
MDU-594-STERLING	028	1.1318
MDU-598-SHEYENNE	273	1.1398
MDU-605-SURREY	262	1.1337
MDU-610-TAPPEN	271	1.1238
MDU-611-TAYLOR	031	1.0603
MDU-616-TIOGA	260	1.0360
MDU-619-TURTLE LAKE	262	1.1178
MDU-620-TRENTON	024	1.0854
MDU-624-UNDERWOOD	262	1.1178
MDU-625-VALLEY CITY	272	1.1477
MDU-629-WALHALLA	273	1.1557
MDU-632-WATFORD CITY	610	1.0918
MDU-636-WHEELOCK	264	1.0765
MDU-637-WHITE EARTH	261	1.1126
MDU-642-WILLISTON	024	1.0854
MDU-646-WASHBURN	262	1.1257
MDU-647-WILTON	262	1.1098
MDU-664-RIVERDALE	262	1.1178
MDU-691-FAIRVIEW	241	1.1225
MDU-712-MINOT AFB	262	1.1337
MDU-718-FAIRMOUNT	600	1.1336
MDU-732-NEKOMA	273	1.1318
MDU-732-MSR SITE	273	1.1318

Source Daily Summary

July 2018

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	0.7425	1192.3	1213.4	1209.2	1.287	3.790	66.092	25.358	3.167	0.102	0.184	0.011	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1404.74
2	0.7460	1194.5	1215.6	1211.3	1.261	4.026	65.733	25.019	3.702	0.087	0.156	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1404.04
3	0.7399	1184.3	1205.3	1201.1	1.281	4.034	67.379	23.128	3.788	0.128	0.235	0.014	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1397.79
4	0.7401	1188.5	1209.5	1205.4	1.298	3.775	67.442	23.289	3.767	0.137	0.261	0.017	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1402.55
5	0.7409	1189.6	1210.6	1206.4	1.301	3.773	67.448	23.132	3.916	0.136	0.261	0.017	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1403.10
6	0.7390	1185.9	1206.9	1202.4	1.297	3.821	68.076	22.240	4.110	0.144	0.276	0.019	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1400.51
7	0.7388	1186.6	1207.6	1203.1	1.299	3.765	67.731	22.942	3.886	0.123	0.230	0.013	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1401.52
8	0.7373	1183.9	1204.8	1200.5	1.304	3.782	67.907	22.880	3.740	0.124	0.234	0.015	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1399.77
9	0.7363	1195.6	1216.8	1212.2	0.951	3.508	68.230	22.764	4.148	0.133	0.241	0.014	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1414.67
10	0.7209	1195.3	1216.5	1212.2	0.207	3.213	69.773	22.974	3.606	0.092	0.125	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1429.42
11	0.7150	1193.7	1214.9	1210.8	0.032	3.020	70.441	23.045	3.260	0.088	0.106	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1433.39
12	0.7122	1189.7	1210.8	1206.7	0.032	3.001	70.771	22.972	3.033	0.082	0.100	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1431.39
13	0.7096	1187.0	1208.0	1203.7	0.031	2.923	71.310	22.508	3.046	0.071	0.104	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1430.76
14	0.7227	1180.6	1201.5	1197.3	0.754	3.450	69.684	22.621	3.169	0.107	0.195	0.011	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1410.12
15	0.7346	1179.7	1200.6	1196.4	1.309	3.780	68.242	22.843	3.361	0.149	0.282	0.018	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1397.34
16	0.7357	1181.8	1202.8	1198.4	1.308	3.752	67.896	23.329	3.272	0.142	0.269	0.018	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1398.89
17	0.7337	1178.8	1199.7	1195.4	1.317	3.731	68.438	22.697	3.360	0.146	0.277	0.018	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1397.20
18	0.7303	1176.1	1196.9	1192.7	1.234	3.704	68.841	22.580	3.217	0.135	0.257	0.016	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1397.27
19	0.7316	1174.9	1195.7	1191.4	1.328	3.760	68.638	22.660	3.178	0.138	0.265	0.018	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1394.54
20	0.7328	1176.2	1197.0	1192.8	1.310	3.818	68.501	22.633	3.303	0.141	0.264	0.017	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1394.97
21	0.7358	1181.7	1202.7	1198.4	1.311	3.763	68.164	22.789	3.499	0.152	0.288	0.019	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1398.63
22	0.7348	1179.8	1200.7	1196.5	1.312	3.787	68.310	22.657	3.471	0.150	0.281	0.018	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1397.28
23	0.7332	1176.9	1197.8	1193.5	1.319	3.797	68.583	22.416	3.436	0.144	0.273	0.017	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1395.45
24	0.7337	1177.7	1198.5	1194.4	1.317	3.799	68.498	22.494	3.433	0.147	0.279	0.018	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1395.92
25	0.7336	1177.1	1197.9	1193.9	1.315	3.832	68.533	22.392	3.470	0.149	0.279	0.017	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1395.29
26	0.7350	1180.3	1201.2	1197.2	1.312	3.772	68.248	22.746	3.457	0.150	0.284	0.017	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1397.80
27	0.7288	1168.8	1189.5	1185.5	1.298	3.910	69.398	21.559	3.366	0.150	0.286	0.018	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1390.07
28	0.7278	1166.7	1187.4	1183.3	1.293	3.953	69.585	21.340	3.359	0.150	0.286	0.019	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1388.50
29	0.7282	1167.2	1187.9	1183.9	1.288	3.963	69.554	21.315	3.414	0.149	0.282	0.018	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1388.71
30	0.7268	1165.1	1185.7	1181.5	1.285	3.970	69.969	20.753	3.560	0.151	0.281	0.017	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1387.49
31	0.7254	1162.5	1183.1	1179.1	1.288	3.993	70.130	20.689	3.431	0.153	0.284	0.018	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1385.74
Avg	0.7317	1181.0	1202.2	1197.9	1.112	3.709	68.630	22.670	3.481	0.131	0.239	0.015	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1402.09

Zone 211

Source Daily Summary

July 2018

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	0.6906	1138.4	1158.6	1155.1	0.829	2.883	75.121	18.872	2.069	0.066	0.138	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1390.96
2	0.6913	1139.4	1159.5	1155.9	0.835	2.880	75.105	18.799	2.136	0.070	0.148	0.012	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1391.37
3	0.6918	1140.5	1160.7	1157.2	0.824	2.878	74.989	18.909	2.158	0.071	0.148	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1392.26
4	0.6930	1142.2	1162.4	1158.8	0.835	2.868	74.755	19.166	2.132	0.071	0.148	0.011	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1393.10
5	0.6922	1141.3	1161.5	1157.9	0.833	2.860	74.916	18.990	2.155	0.072	0.150	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1392.75
6	0.6912	1139.6	1159.8	1156.1	0.828	2.875	75.201	18.609	2.237	0.072	0.151	0.011	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1391.70
7	0.6917	1140.9	1161.1	1157.4	0.821	2.850	75.072	18.803	2.202	0.074	0.154	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1392.82
8	0.6922	1142.1	1162.3	1158.7	0.835	2.804	74.921	19.053	2.138	0.072	0.152	0.011	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1393.79
9	0.6903	1138.9	1159.0	1155.4	0.833	2.823	75.243	18.758	2.103	0.072	0.146	0.010	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1391.79
10	0.6901	1138.3	1158.4	1154.8	0.828	2.846	75.343	18.600	2.130	0.074	0.154	0.011	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1391.27
11	0.6898	1137.8	1157.9	1154.3	0.835	2.842	75.384	18.567	2.123	0.073	0.152	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1390.93
12	0.6918	1140.1	1160.3	1156.6	0.854	2.858	75.005	18.902	2.136	0.071	0.149	0.011	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1391.76
13	0.6917	1140.8	1161.0	1157.3	0.825	2.849	75.060	18.823	2.199	0.072	0.149	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1392.74
14	0.6909	1139.6	1159.8	1156.2	0.832	2.833	75.179	18.766	2.150	0.070	0.146	0.010	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1392.11
15	0.6870	1135.4	1155.5	1151.9	0.785	2.796	75.763	18.432	1.998	0.066	0.137	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1390.85
16	0.6865	1134.5	1154.6	1150.9	0.760	2.842	75.796	18.401	1.984	0.064	0.131	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1390.26
17	0.6867	1135.7	1155.9	1152.2	0.771	2.772	75.832	18.373	2.023	0.068	0.139	0.010	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1391.56
18	0.6842	1132.1	1152.1	1148.6	0.763	2.770	76.272	18.004	1.970	0.064	0.134	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1389.63
19	0.6861	1134.6	1154.7	1151.1	0.756	2.802	75.925	18.274	2.022	0.065	0.134	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1390.85
20	0.6867	1135.6	1155.7	1152.0	0.766	2.786	75.848	18.329	2.044	0.067	0.138	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1391.40
21	0.6865	1134.8	1154.9	1151.3	0.765	2.816	75.848	18.332	2.016	0.066	0.136	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1390.66
22	0.6856	1133.8	1153.9	1150.3	0.760	2.806	75.973	18.260	1.980	0.066	0.134	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1390.27
23	0.6874	1136.0	1156.1	1152.4	0.765	2.829	75.677	18.482	2.020	0.068	0.138	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1391.16
24	0.6868	1135.5	1155.6	1152.0	0.770	2.793	75.781	18.434	1.997	0.067	0.136	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1391.21
25	0.6869	1135.4	1155.5	1152.0	0.769	2.809	75.773	18.406	2.021	0.066	0.134	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1391.00
26	0.6856	1134.1	1154.2	1150.6	0.753	2.789	76.061	18.132	2.038	0.068	0.138	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1390.72
27	0.6860	1134.3	1154.4	1150.8	0.761	2.811	75.917	18.288	2.002	0.066	0.134	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1390.47
28	0.6895	1138.7	1158.8	1155.2	0.799	2.816	75.399	18.655	2.072	0.072	0.157	0.013	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1392.24
29	0.6936	1144.3	1164.5	1160.7	0.816	2.827	74.982	18.774	2.259	0.089	0.206	0.020	0.027	0.000	0.000	0.000	0.000	0.000	0.000	1394.89
30	0.6958	1147.7	1168.0	1164.1	0.816	2.819	74.744	18.860	2.386	0.097	0.226	0.022	0.029	0.000	0.000	0.000	0.000	0.000	0.000	1396.88
31	0.6899	1138.6	1158.7	1155.1	0.808	2.845	75.321	18.668	2.115	0.071	0.148	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1391.75
Avg	0.6893	1138.0	1158.2	1154.6	0.801	2.828	75.426	18.604	2.097	0.071	0.148	0.011	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1391.78

Zone 24

Gas Composition and Properties

Effective July 1, 2018

Source #: 0602160
Name: FAIRVIEW BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	1.2725		2.6449
Nitrogen, N2	3.7638		4.9796
Methane, C1	68.5581		51.9441
Ethane, C2	22.4477	6.0084	31.8783
Propane, C3	3.4988	0.9611	7.2865
iso-Butane, iC4	0.1468	0.0479	0.4030
n-Butane, nC4	0.2689	0.0846	0.7381
iso-Pentane, iC5	0.0171	0.0062	0.0583
n-Pentane, nC5	0.0145	0.0052	0.0494
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0000	0.0000	0.0000
Water, H2O			
Hydrogen Sulfide, H2S			
Oxygen, O2	0.0118		0.0178
Carbon Monoxide, CO			
Hydrogen, H2			
Helium, He			
Argon, Ar			

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure	-12.845	
Cricondentherm	4.688	
HV, Dry @ Base P, T	1196.12	
HV, Sat @ Base P, T	1175.30	
HV, Sat @ Sample P, T	1196.12	
Relative Density	0.7315	

C6+: 100

Totals 100.0000 7.1130 100.0000

Sample

Date: 08/01/2018 Pressure: 412.0
Type: Composite Temperature: 0.0
Tech: RR H2O: lbs/mm
H2S: ppm

Remarks:

Analysis

Date: 08/02/2018 Instrument: WBI-201
Cylinder: 300

Tech: MB

Remarks:

Zone 241

Source Daily Summary

July 2018

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	0.6777	1112.5	1132.2		0.682	3.484	77.212	16.581	1.832	0.063	0.127	0.008	0.009	0.000					1372.07	
2	0.6801	1116.3	1136.1		0.695	3.456	76.979	16.631	1.997	0.071	0.146	0.010	0.012	0.003					1374.38	
3	0.6804	1117.6	1137.4		0.679	3.430	76.881	16.779	1.999	0.071	0.143	0.009	0.010	0.000					1375.66	
4	0.6820	1119.7	1139.5		0.702	3.421	76.573	17.091	1.972	0.071	0.146	0.010	0.012	0.002					1376.57	
5	0.6811	1118.1	1137.9		0.694	3.436	76.777	16.843	2.017	0.071	0.144	0.009	0.010	0.000					1375.67	
6	0.6825	1120.3	1140.2		0.693	3.435	76.607	16.922	2.092	0.074	0.151	0.010	0.012	0.002					1376.92	
7	0.6820	1120.0	1139.9		0.679	3.432	76.693	16.841	2.105	0.077	0.154	0.009	0.010	0.000					1377.02	
8	0.6798	1116.5	1136.3		0.679	3.433	77.023	16.647	1.973	0.073	0.149	0.010	0.011	0.002					1374.98	
9	0.6816	1118.9	1138.7		0.698	3.431	76.682	16.940	2.012	0.072	0.145	0.009	0.010	0.000					1376.07	
10	0.6794	1115.2	1134.9		0.691	3.460	77.165	16.419	2.009	0.076	0.154	0.010	0.012	0.004					1373.76	
11	0.6786	1114.0	1133.8		0.693	3.450	77.262	16.378	1.978	0.072	0.146	0.009	0.010	0.000					1373.16	
12	0.6827	1119.5	1139.4		0.739	3.432	76.520	17.050	2.017	0.070	0.145	0.010	0.012	0.003					1375.77	
13	0.6822	1120.3	1140.2		0.688	3.413	76.626	16.951	2.090	0.072	0.142	0.009	0.010	0.000					1377.26	
14	0.6811	1118.5	1138.4		0.699	3.405	76.756	16.913	2.001	0.070	0.139	0.008	0.009	0.000					1376.16	
15	0.6664	1098.7	1118.2		0.515	3.514	79.104	15.055	1.622	0.061	0.116	0.007	0.007	0.000					1366.56	
16	0.6655	1098.2	1117.7		0.496	3.489	79.255	14.961	1.613	0.060	0.112	0.007	0.007	0.000					1366.87	
17	0.6615	1091.5	1110.8		0.464	3.569	80.033	14.139	1.600	0.063	0.118	0.007	0.007	0.000					1362.61	
18	0.6424	1061.3	1080.1		0.352	3.778	83.292	11.254	1.181	0.045	0.087	0.005	0.006	0.000					1344.53	
19	0.6650	1096.6	1116.0		0.479	3.562	79.424	14.652	1.694	0.060	0.114	0.007	0.007	0.000					1365.37	
20	0.6621	1092.4	1111.8		0.462	3.571	79.973	14.125	1.687	0.058	0.109	0.007	0.007	0.000					1363.15	
21	0.6617	1092.1	1111.4		0.470	3.541	79.932	14.335	1.537	0.059	0.112	0.007	0.007	0.000					1363.14	
22	0.6661	1098.8	1118.3		0.497	3.500	79.194	14.972	1.639	0.064	0.121	0.007	0.007	0.000					1367.08	
23	0.6672	1100.7	1120.2		0.506	3.477	78.993	15.173	1.650	0.065	0.122	0.007	0.008	0.000					1368.27	
24	0.6653	1097.9	1117.3		0.500	3.481	79.293	14.943	1.593	0.061	0.114	0.007	0.007	0.000					1366.68	
25	0.6655	1098.1	1117.5		0.493	3.504	79.306	14.844	1.664	0.061	0.114	0.007	0.007	0.000					1366.64	
26	0.6577	1086.8	1106.1		0.401	3.589	80.794	13.372	1.651	0.064	0.115	0.006	0.007	0.000					1360.71	
27	0.6656	1097.2	1116.6		0.505	3.543	79.256	14.891	1.622	0.059	0.111	0.007	0.008	0.000					1365.50	
28	0.6745	1109.6	1129.3		0.583	3.497	78.050	15.691	1.873	0.082	0.181	0.016	0.021	0.006					1371.88	
29	0.6865	1127.8	1147.8		0.634	3.439	76.752	16.188	2.439	0.129	0.324	0.035	0.044	0.015					1382.06	
30	0.6850	1125.6	1145.5		0.662	3.400	76.548	16.763	2.233	0.100	0.227	0.023	0.030	0.015					1380.80	
31	0.6762	1111.3	1131.0		0.643	3.473	77.526	16.288	1.850	0.068	0.134	0.008	0.010	0.000					1372.14	
Avg	0.6731	1107.0	1127.1		0.593	3.485	78.144	15.698	1.847	0.070	0.141	0.010	0.011	0.002					1370.63	

Zone 260

Source Daily Summary

July 2018

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	0.7077	1158.2	1178.7	1175.1	0.897	3.183	72.272	20.835	2.517	0.089	0.181	0.012	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1397.75
2	0.7073	1157.7	1178.2	1174.6	0.901	3.178	72.130	21.130	2.396	0.081	0.164	0.010	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1397.59
3	0.7085	1159.4	1179.9	1176.2	0.908	3.169	72.177	20.880	2.563	0.090	0.185	0.013	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1398.42
4	0.7078	1159.3	1179.8	1176.4	0.878	3.151	72.281	20.814	2.580	0.091	0.183	0.011	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1399.11
5	0.7078	1158.5	1179.1	1175.4	0.901	3.168	72.240	20.876	2.515	0.090	0.183	0.012	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1398.10
6	0.7073	1157.9	1178.4	1174.6	0.887	3.174	72.351	20.739	2.556	0.089	0.180	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1397.97
7	0.7108	1162.1	1182.7	1178.5	0.884	3.257	71.788	21.085	2.683	0.093	0.184	0.011	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1399.38
8	0.7099	1153.7	1174.1	1170.4	0.880	3.689	71.835	20.645	2.647	0.094	0.186	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1390.29
9	0.7075	1157.9	1178.4	1174.6	0.902	3.170	72.471	20.517	2.613	0.097	0.199	0.013	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1397.65
10	0.7076	1158.2	1178.8	1175.0	0.895	3.171	72.314	20.761	2.558	0.092	0.185	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1398.04
11	0.7045	1153.4	1173.8	1170.2	0.889	3.188	72.883	20.223	2.518	0.091	0.183	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1395.21
12	0.7072	1157.5	1177.9	1174.2	0.892	3.187	72.379	20.684	2.562	0.091	0.182	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1397.47
13	0.7060	1155.4	1175.9	1172.0	0.887	3.212	72.540	20.564	2.504	0.089	0.180	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1396.13
14	0.7052	1155.1	1175.6	1171.9	0.900	3.175	72.335	21.060	2.273	0.080	0.159	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1396.22
15	0.7044	1155.1	1175.6	1172.2	0.764	3.141	72.769	20.764	2.300	0.084	0.159	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1398.73
16	0.7030	1154.6	1175.1	1171.5	0.774	3.146	72.771	20.767	2.282	0.083	0.158	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1398.21
17	0.7014	1153.2	1173.6	1169.9	0.741	3.141	73.002	20.633	2.226	0.082	0.155	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1397.95
18	0.7016	1153.7	1174.1	1170.5	0.729	3.144	73.113	20.397	2.335	0.090	0.172	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1398.39
19	0.6947	1142.2	1162.4	1158.8	0.696	3.240	74.294	19.323	2.186	0.083	0.160	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1391.31
20	0.7035	1155.8	1176.3	1172.6	0.742	3.176	72.862	20.479	2.447	0.094	0.181	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1399.02
21	0.7033	1155.3	1175.7	1172.1	0.748	3.171	72.878	20.500	2.421	0.090	0.172	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1398.71
22	0.7028	1155.0	1175.5	1171.9	0.741	3.156	72.936	20.481	2.404	0.090	0.171	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1398.84
23	0.7026	1155.4	1175.9	1172.3	0.762	3.085	72.870	20.733	2.274	0.088	0.168	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1399.49
24	0.7035	1155.4	1175.9	1172.3	0.781	3.134	72.704	20.843	2.260	0.088	0.170	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1398.66
25	0.7020	1153.7	1174.1	1170.6	0.760	3.128	72.956	20.644	2.243	0.085	0.163	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1398.08
26	0.6990	1150.9	1171.3	1167.7	0.660	3.171	73.721	19.701	2.461	0.095	0.172	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1397.57
27	0.6978	1149.4	1169.8	1166.2	0.648	3.165	73.905	19.564	2.443	0.094	0.165	0.008	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1397.03
28	0.6995	1150.0	1170.3	1166.7	0.716	3.187	73.514	19.980	2.334	0.088	0.163	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1396.01
29	0.7068	1158.4	1178.9	1175.1	0.829	3.186	72.425	20.774	2.442	0.098	0.208	0.016	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1398.89
30	0.7119	1166.0	1186.7	1182.4	0.843	3.177	72.197	20.440	2.827	0.132	0.311	0.030	0.042	0.000	0.000	0.000	0.000	0.000	0.000	1402.80
31	0.7170	1174.6	1195.4	1191.0	0.849	3.125	71.456	21.010	3.007	0.140	0.336	0.033	0.044	0.000	0.000	0.000	0.000	0.000	0.000	1407.95
Avg	0.7052	1156.0	1176.7	1173.0	0.816	3.185	72.657	20.576	2.464	0.092	0.184	0.011	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1397.97

Zone 261

Source Daily Summary

July 2018

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	0.7329	1152.1	1172.5	1168.9	0.869	5.962	68.694	19.653	4.427	0.135	0.248	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1366.41
2	0.7308	1144.1	1164.4	1160.7	0.865	6.257	68.951	19.207	4.344	0.127	0.238	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1358.90
3	0.7301	1143.6	1163.8	1160.1	0.861	6.233	69.038	19.204	4.285	0.129	0.240	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1358.88
4	0.7305	1144.9	1165.1	1161.5	0.864	6.185	68.970	19.327	4.274	0.129	0.243	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1360.07
5	0.7284	1141.3	1161.5	1157.7	0.865	6.213	69.243	19.157	4.149	0.126	0.238	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1357.67
6	0.7352	1153.3	1173.7	1169.6	0.876	6.093	68.439	19.605	4.541	0.149	0.282	0.008	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1365.65
7	0.7444	1168.8	1189.5	1185.2	0.885	5.994	67.298	20.204	5.097	0.169	0.331	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1375.47
8	0.7427	1165.6	1186.3	1182.2	0.878	6.038	67.495	20.095	4.992	0.163	0.316	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1373.29
9	0.7353	1151.9	1172.3	1168.3	0.873	6.192	68.394	19.545	4.567	0.142	0.270	0.009	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1363.93
10	0.7282	1137.4	1157.6	1153.7	0.866	6.425	69.276	18.876	4.200	0.120	0.225	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1353.31
11	0.7281	1132.1	1152.2	1148.4	0.871	6.728	69.261	18.548	4.267	0.110	0.205	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1347.11
12	0.7262	1131.5	1151.5	1146.7	0.868	6.616	69.532	18.587	4.080	0.109	0.200	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1347.38
13	0.7252	1133.4	1153.5	1149.3	0.866	6.388	69.636	18.760	4.039	0.107	0.196	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1351.31
14	0.7259	1131.9	1151.9	1148.0	0.867	6.543	69.527	18.673	4.070	0.111	0.200	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1348.85
15	0.7278	1134.2	1154.3	1150.6	0.867	6.581	69.269	18.752	4.207	0.113	0.203	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1349.84
16	0.7258	1132.2	1152.3	1148.5	0.864	6.523	69.561	18.614	4.136	0.107	0.190	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1349.33
17	0.7288	1138.7	1158.9	1154.9	0.861	6.409	69.204	18.871	4.338	0.111	0.200	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1354.29
18	0.7224	1127.3	1147.3	1143.5	0.862	6.496	70.045	18.387	3.912	0.105	0.189	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1346.73
19	0.7195	1120.2	1140.0	1136.2	0.863	6.666	70.388	18.064	3.732	0.101	0.181	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1340.84
20	0.7182	1116.4	1136.1	1132.4	0.863	6.775	70.550	17.880	3.653	0.099	0.178	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1337.50
21	0.7192	1120.1	1140.0	1136.3	0.868	6.627	70.439	18.084	3.702	0.097	0.180	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1341.13
22	0.7192	1122.8	1142.7	1139.1	0.869	6.460	70.459	18.240	3.692	0.096	0.180	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1344.36
23	0.7231	1128.4	1148.4	1144.7	0.871	6.488	69.955	18.434	3.945	0.104	0.195	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1347.30
24	0.7226	1127.9	1147.8	1144.1	0.868	6.479	70.014	18.421	3.915	0.103	0.194	0.004	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1347.14
25	0.7229	1128.8	1148.8	1145.2	0.868	6.449	69.961	18.503	3.913	0.103	0.197	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1348.03
26	0.7245	1131.8	1151.8	1148.3	0.868	6.416	69.746	18.660	3.996	0.105	0.201	0.005	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1350.07
27	0.7236	1130.3	1150.3	1146.6	0.868	6.419	69.872	18.587	3.946	0.104	0.198	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1349.18
28	0.7241	1131.7	1151.7	1148.0	0.872	6.377	69.785	18.705	3.953	0.104	0.198	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1350.34
29	0.7267	1136.1	1156.2	1152.5	0.874	6.355	69.464	18.844	4.141	0.109	0.205	0.005	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1353.09
30	0.7261	1134.2	1154.3	1150.4	0.874	6.407	69.558	18.727	4.119	0.105	0.200	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1351.46
31	0.7207	1126.1	1146.1	1142.4	0.869	6.406	70.239	18.425	3.772	0.100	0.184	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1346.82
Avg	0.7271	1136.0	1156.2	1152.4	0.868	6.394	69.428	18.827	4.142	0.116	0.216	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1352.76

Zone 262

Gas Composition and Properties

Effective July 1, 2018

Source #: 3002013
Name: EPPING BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	0.8153		1.8140
Nitrogen, N2	2.8609		4.0517
Methane, C1	76.1490		61.7592
Ethane, C2	17.9963	4.8149	27.3570
Propane, C3	1.9678	0.5406	4.3867
iso-Butane, iC4	0.0636	0.0208	0.1869
n-Butane, nC4	0.1292	0.0406	0.3796
iso-Pentane, iC5	0.0084	0.0031	0.0306
n-Pentane, nC5	0.0094	0.0034	0.0343
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0000	0.0000	0.0000
Water, H2O			
Hydrogen Sulfide, H2S			
Oxygen, O2	0.0000		0.0000
Carbon Monoxide, CO			
Hydrogen, H2			
Helium, He			
Argon, Ar			
Totals	99.9999	5.4240	100.0000

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure		
Cricondentherm		
HV, Dry @ Base P, T	1147.71	
HV, Sat @ Base P, T	1127.74	
HV, Sat @ Sample P, T	1147.71	
Relative Density	0.6835	
C6+: 100		

Sample
 Date: 08/01/2018 Pressure: 520.0
 Type: Composite Temperature: 0.0
 Tech: ES H2O: lbs/mm
 H2S: ppm
 Remarks:

Analysis
 Date: 08/02/2018 Instrument: WBI- 203
 Cylinder: 387
 Tech: MB
 Remarks:

Zone 264

Source Daily Summary

July 2018

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	0.7074	1157.8	1178.3	1174.7	0.897	3.186	72.306	20.807	2.510	0.088	0.179	0.012	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1397.49
2	0.7072	1157.4	1177.9	1174.5	0.900	3.181	72.166	21.089	2.397	0.082	0.164	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1397.38
3	0.7082	1158.9	1179.4	1175.9	0.905	3.174	72.236	20.816	2.565	0.090	0.185	0.013	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1398.14
4	0.7077	1159.2	1179.7	1176.3	0.877	3.151	72.286	20.817	2.573	0.091	0.182	0.011	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1399.05
5	0.7076	1158.3	1178.8	1175.3	0.899	3.167	72.244	20.900	2.496	0.088	0.180	0.011	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1398.01
6	0.7073	1158.0	1178.5	1175.1	0.887	3.174	72.348	20.742	2.556	0.089	0.180	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1397.98
7	0.7108	1162.1	1182.7	1179.1	0.884	3.255	71.788	21.086	2.684	0.093	0.184	0.011	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1399.41
8	0.7099	1153.7	1174.1	1170.7	0.880	3.688	71.837	20.645	2.647	0.094	0.186	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1390.29
9	0.7075	1157.9	1178.4	1174.9	0.902	3.170	72.470	20.518	2.614	0.097	0.200	0.013	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1397.68
10	0.7076	1158.3	1178.8	1175.3	0.895	3.172	72.314	20.761	2.556	0.092	0.185	0.011	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1398.04
11	0.7045	1153.3	1173.7	1170.3	0.890	3.190	72.888	20.218	2.516	0.091	0.183	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1395.12
12	0.7077	1158.1	1178.6	1175.0	0.904	3.177	72.345	20.709	2.553	0.092	0.190	0.013	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1397.66
13	0.7063	1156.0	1176.5	1173.0	0.909	3.180	72.322	20.938	2.380	0.082	0.167	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1396.48
14	0.7057	1156.3	1176.8	1173.4	0.891	3.180	72.489	20.642	2.502	0.090	0.181	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1396.94
15	0.7051	1156.0	1176.4	1172.9	0.892	3.159	72.545	20.640	2.481	0.087	0.174	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1396.90
16	0.7036	1154.5	1175.0	1171.5	0.803	3.164	72.779	20.624	2.361	0.085	0.164	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1397.48
17	0.7011	1153.2	1173.6	1170.1	0.726	3.134	73.130	20.450	2.300	0.084	0.157	0.008	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1398.27
18	0.7022	1155.0	1175.4	1171.9	0.725	3.129	73.037	20.434	2.397	0.091	0.168	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1399.34
19	0.7009	1152.1	1172.5	1169.0	0.714	3.190	73.287	20.156	2.369	0.091	0.173	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1397.23
20	0.7028	1154.8	1175.3	1171.9	0.720	3.197	72.960	20.391	2.459	0.088	0.167	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1398.62
21	0.7022	1154.0	1174.4	1171.0	0.709	3.212	73.108	20.194	2.502	0.089	0.166	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1398.15
22	0.7029	1155.4	1175.9	1172.5	0.730	3.151	72.963	20.421	2.466	0.086	0.162	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1399.27
23	0.7014	1153.8	1174.2	1170.8	0.718	3.131	73.128	20.424	2.326	0.089	0.166	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1398.77
24	0.7085	1127.4	1147.4	1142.3	0.704	5.372	71.391	19.914	2.337	0.091	0.171	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1362.34
25	0.7017	1152.8	1173.2	1169.7	0.712	3.236	73.050	20.394	2.339	0.088	0.163	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1397.13
26	0.6988	1150.2	1170.6	1167.1	0.657	3.198	73.721	19.697	2.447	0.094	0.168	0.008	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1396.96
27	0.6966	1148.2	1168.5	1165.0	0.603	3.194	74.245	19.110	2.565	0.099	0.169	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1396.74
28	0.6967	1146.2	1166.5	1163.0	0.662	3.240	74.015	19.465	2.355	0.086	0.158	0.008	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1394.19
29	0.7014	1151.9	1172.3	1168.8	0.739	3.215	73.157	20.266	2.361	0.085	0.159	0.008	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1396.43
30	0.7109	1163.9	1184.5	1180.6	0.852	3.205	72.174	20.602	2.688	0.123	0.290	0.028	0.038	0.000	0.000	0.000	0.000	0.000	0.000	1401.26
31	0.7210	1180.5	1201.5	1196.9	0.857	3.126	71.106	21.052	3.200	0.159	0.395	0.044	0.060	0.000	0.000	0.000	0.000	0.000	0.000	1411.01
Avg	0.7053	1155.0	1175.8	1172.2	0.808	3.268	72.640	20.481	2.500	0.093	0.184	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1396.77

Zone 265

Source Daily Summary

July 2018

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	0.7273	1140.6	1160.8	1156.8	0.847	6.173	69.466	19.005	4.127	0.127	0.237	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1357.90
2	0.7411	1165.3	1185.9	1181.7	0.865	5.937	67.830	19.908	4.925	0.167	0.336	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1374.08
3	0.7347	1154.5	1175.0	1170.9	0.858	6.001	68.547	19.603	4.553	0.143	0.272	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1367.48
4	0.7348	1152.8	1173.2	1169.2	0.861	6.111	68.490	19.544	4.578	0.138	0.257	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1365.39
5	0.7303	1144.1	1164.4	1160.5	0.856	6.222	69.048	19.178	4.321	0.128	0.229	0.009	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1359.34
6	0.7217	1128.6	1148.6	1144.6	0.845	6.380	70.171	18.427	3.871	0.106	0.188	0.007	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1348.91
7	0.7279	1135.7	1155.8	1151.6	0.853	6.520	69.381	18.583	4.342	0.111	0.197	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1351.55
8	0.7252	1131.5	1151.6	1147.4	0.854	6.518	69.719	18.455	4.145	0.105	0.189	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1349.08
9	0.7236	1131.4	1151.5	1147.3	0.851	6.376	69.920	18.563	3.975	0.108	0.193	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1350.48
10	0.7243	1131.4	1151.4	1147.4	0.849	6.453	69.833	18.493	4.051	0.111	0.195	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1349.71
11	0.7269	1133.6	1153.6	1149.7	0.853	6.554	69.477	18.580	4.202	0.116	0.204	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1349.94
12	0.7233	1129.3	1149.3	1145.3	0.849	6.482	69.957	18.402	4.010	0.103	0.182	0.007	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1348.21
13	0.7251	1133.3	1153.3	1149.3	0.847	6.411	69.757	18.524	4.153	0.107	0.188	0.007	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1351.27
14	0.7289	1140.5	1160.7	1156.6	0.845	6.334	69.299	18.775	4.410	0.114	0.208	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1356.28
15	0.7200	1125.8	1145.7	1141.8	0.848	6.386	70.426	18.253	3.790	0.103	0.181	0.007	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1347.10
16	0.7179	1118.8	1138.6	1134.8	0.848	6.619	70.689	17.866	3.694	0.099	0.173	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1340.68
17	0.7173	1116.5	1136.2	1132.4	0.848	6.709	70.754	17.746	3.656	0.098	0.176	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1338.41
18	0.7177	1122.4	1142.3	1138.4	0.853	6.373	70.729	18.113	3.645	0.095	0.177	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1345.18
19	0.7215	1130.2	1150.2	1146.2	0.846	6.261	70.297	18.383	3.887	0.106	0.203	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1350.98
20	0.7217	1127.3	1147.3	1143.4	0.853	6.447	70.240	18.225	3.917	0.105	0.197	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1347.32
21	0.7217	1128.2	1148.2	1144.4	0.852	6.396	70.212	18.327	3.900	0.102	0.195	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1348.41
22	0.7219	1128.7	1148.7	1144.9	0.852	6.389	70.185	18.349	3.906	0.103	0.199	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1348.72
23	0.7235	1131.8	1151.8	1147.8	0.852	6.349	69.961	18.533	3.981	0.106	0.203	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1350.93
24	0.7217	1128.4	1148.4	1144.3	0.850	6.389	70.197	18.359	3.897	0.101	0.191	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1348.57
25	0.7234	1132.2	1152.3	1148.2	0.853	6.310	69.984	18.553	3.970	0.108	0.206	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1351.59
26	0.7223	1129.6	1149.6	1145.6	0.858	6.352	70.094	18.494	3.901	0.100	0.187	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1349.59
27	0.7237	1132.0	1152.0	1147.9	0.857	6.343	69.945	18.524	4.017	0.103	0.194	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1350.99
28	0.7189	1125.3	1145.2	1141.2	0.853	6.315	70.557	18.278	3.703	0.100	0.181	0.007	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1347.47
29	0.7189	1130.0	1150.0	1146.0	0.843	6.042	70.643	18.433	3.741	0.099	0.184	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1353.07
30	0.7218	1135.2	1155.3	1151.4	0.849	5.985	70.268	18.691	3.883	0.107	0.199	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1356.56
31	0.7234	1135.6	1155.7	1151.8	0.856	6.098	70.106	18.579	4.011	0.116	0.216	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1355.60
Avg	0.7243	1133.0	1153.3	1149.3	0.852	6.330	69.877	18.572	4.038	0.111	0.204	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1351.96

Zone 271

Source Daily Summary

July 2018

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	0.7308	1149.8	1170.2		0.753	4.775	70.958	19.836	3.247	0.122	0.270	0.018	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1378.88
2	0.7301	1148.2	1168.5		0.746	4.727	71.303	19.549	3.241	0.124	0.273	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1378.52
3	0.7293	1146.6	1166.9		0.731	4.708	71.620	19.366	3.158	0.119	0.262	0.017	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1377.43
4	0.7285	1144.9	1165.2		0.722	4.703	71.642	19.419	3.106	0.117	0.256	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1377.34
5	0.7277	1143.4	1163.6		0.677	4.642	72.169	19.044	3.073	0.114	0.248	0.016	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1377.21
6	0.7270	1141.8	1162.0		0.686	4.662	72.262	18.896	3.074	0.120	0.265	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1376.39
7	0.7262	1140.1	1160.3		0.695	4.640	72.479	18.766	3.008	0.118	0.260	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1375.30
8	0.7254	1138.5	1158.7		0.705	4.498	72.890	18.625	2.892	0.111	0.241	0.017	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1375.48
9	0.7247	1137.0	1157.1		0.687	4.519	72.932	18.654	2.828	0.108	0.237	0.017	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1374.97
10	0.7239	1135.3	1155.4	1144.8	0.679	4.432	73.439	18.221	2.844	0.110	0.240	0.017	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1374.86
11	0.7231	1133.7	1153.8	1150.9	0.676	4.476	73.513	18.104	2.841	0.111	0.245	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1373.75
12	0.7223	1132.1	1152.1	1149.6	0.627	4.525	73.589	18.096	2.796	0.106	0.230	0.015	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1373.28
13	0.7216	1130.5	1150.5	1147.3	0.612	4.463	73.938	17.930	2.706	0.102	0.219	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1372.88
14	0.7208	1128.9	1148.9	1145.6	0.610	4.437	74.136	17.837	2.639	0.099	0.213	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1372.25
15	0.7200	1127.2	1147.2	1144.4	0.592	4.424	74.325	17.713	2.612	0.097	0.208	0.014	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1371.96
16	0.7192	1125.7	1145.6	1142.5	0.659	4.243	74.797	17.397	2.571	0.098	0.205	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1371.69
17	0.7185	1124.0	1143.9	1140.3	0.577	4.401	74.809	17.354	2.537	0.094	0.200	0.013	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1370.28
18	0.7177	1122.4	1142.3	1139.3	0.853	6.373	70.729	18.113	3.645	0.095	0.177	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1345.18
19	0.7215	1130.2	1150.2	1147.1	0.846	6.261	70.297	18.383	3.887	0.106	0.203	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1350.98
20	0.7217	1127.3	1147.3	1144.2	0.853	6.447	70.240	18.225	3.917	0.105	0.197	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1347.32
21	0.7217	1128.2	1148.2	1145.2	0.852	6.396	70.212	18.327	3.900	0.102	0.195	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1348.41
22	0.7219	1128.7	1148.7	1145.6	0.852	6.389	70.185	18.349	3.906	0.103	0.199	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1348.72
23	0.7235	1131.8	1151.8	1148.7	0.852	6.349	69.961	18.534	3.981	0.106	0.203	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1350.93
24	0.7216	1128.2	1148.2	1145.1	0.851	6.392	70.207	18.353	3.890	0.101	0.191	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1348.43
25	0.7221	1128.4	1148.4	1145.4	0.859	6.412	70.113	18.414	3.894	0.102	0.191	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1348.29
26	0.7236	1131.9	1151.9	1148.9	0.861	6.340	69.904	18.618	3.955	0.106	0.200	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1351.00
27	0.7222	1128.6	1148.5	1145.6	0.866	6.395	70.095	18.442	3.909	0.098	0.181	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1348.43
28	0.7224	1129.2	1149.2	1146.2	0.875	6.364	70.060	18.512	3.888	0.101	0.185	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1348.97
29	0.7191	1126.8	1146.8	1143.8	0.858	6.228	70.509	18.431	3.685	0.099	0.178	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1349.23
30	0.7191	1129.8	1149.8	1146.9	0.851	6.061	70.596	18.450	3.745	0.099	0.183	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1352.73
31	0.7252	1139.4	1159.5	1156.5	0.862	6.024	69.811	18.885	4.074	0.113	0.211	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1358.48
Avg	0.7233	1133.0	1153.6	1146.1	0.756	5.345	71.733	18.479	3.337	0.107	0.218	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1363.53

Zone 272

Source Daily Summary

July 2018

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	0.7304	1148.0	1168.3		0.748	4.735	71.302	19.538	3.242	0.124	0.273	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1378.31
2	0.7296	1146.5	1166.8		0.720	4.495	72.193	18.974	3.203	0.119	0.259	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1379.73
3	0.7289	1145.0	1165.3		0.717	4.531	72.171	18.946	3.219	0.119	0.259	0.018	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1379.24
4	0.7281	1143.5	1163.8		0.677	4.690	72.019	19.080	3.132	0.115	0.252	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1377.15
5	0.7274	1142.0	1162.2		0.718	4.741	71.990	19.042	3.098	0.117	0.275	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1375.47
6	0.7266	1140.5	1160.7		0.696	4.667	72.382	18.803	3.044	0.118	0.258	0.016	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1375.27
7	0.7259	1139.0	1159.2		0.690	4.644	72.603	18.642	3.008	0.118	0.259	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1374.81
8	0.7251	1137.5	1157.6		0.663	4.531	72.950	18.602	2.875	0.109	0.237	0.016	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1375.46
9	0.7244	1136.0	1156.1		0.676	4.548	73.047	18.399	2.940	0.115	0.243	0.016	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1374.71
10	0.7237	1134.5	1154.6	1151.7	0.688	4.574	73.154	18.342	2.856	0.110	0.241	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1373.01
11	0.7229	1132.9	1153.0	1151.0	0.666	4.468	73.395	18.349	2.761	0.105	0.226	0.014	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1374.07
12	0.7222	1131.5	1151.5	1148.0	0.627	4.416	74.077	17.710	2.772	0.113	0.249	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1373.54
13	0.7214	1130.0	1150.0	1147.2	0.611	4.461	73.951	17.925	2.702	0.102	0.219	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1372.86
14	0.7207	1128.4	1148.4	1145.5	0.610	4.440	74.145	17.825	2.638	0.099	0.213	0.014	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1372.12
15	0.7199	1126.9	1146.9	1143.9	0.598	4.413	74.389	17.672	2.596	0.097	0.208	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1371.68
16	0.7192	1125.5	1145.4	1142.1	0.590	4.400	74.611	17.514	2.560	0.095	0.203	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1370.98
17	0.7184	1123.9	1143.8	1140.3	0.578	4.402	74.812	17.354	2.536	0.094	0.199	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1370.20
18	0.7177	1122.4	1142.3	1139.4	0.853	6.373	70.729	18.113	3.645	0.095	0.177	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1345.19
19	0.7215	1130.2	1150.2	1147.3	0.846	6.261	70.297	18.384	3.887	0.106	0.203	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1350.98
20	0.7217	1127.3	1147.3	1144.3	0.853	6.447	70.240	18.225	3.917	0.105	0.197	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1347.32
21	0.7217	1128.2	1148.2	1145.3	0.852	6.396	70.212	18.327	3.900	0.102	0.195	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1348.41
22	0.7219	1128.7	1148.7	1145.7	0.852	6.389	70.185	18.349	3.906	0.103	0.199	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1348.72
23	0.7235	1131.8	1151.8	1148.7	0.852	6.349	69.961	18.534	3.981	0.106	0.203	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1350.93
24	0.7216	1128.2	1148.2	1145.1	0.851	6.393	70.206	18.353	3.891	0.101	0.191	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1348.43
25	0.7219	1128.1	1148.1	1145.1	0.859	6.415	70.136	18.399	3.884	0.101	0.190	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1348.05
26	0.7235	1131.5	1151.6	1148.6	0.862	6.345	69.924	18.604	3.944	0.106	0.200	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1350.73
27	0.7220	1128.2	1148.2	1145.2	0.866	6.398	70.120	18.426	3.898	0.097	0.181	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1348.22
28	0.7219	1128.2	1148.2	1145.2	0.871	6.383	70.130	18.450	3.869	0.100	0.182	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1348.26
29	0.7190	1126.6	1146.5	1143.5	0.856	6.234	70.529	18.411	3.679	0.099	0.178	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1349.03
30	0.7190	1129.6	1149.6	1146.7	0.849	6.061	70.611	18.447	3.735	0.099	0.183	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1352.64
31	0.7253	1139.6	1159.8	1156.8	0.863	6.021	69.794	18.895	4.081	0.113	0.212	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1358.63
Avg	0.7231	1133.0	1153.0	1146.2	0.750	5.343	71.815	18.408	3.335	0.106	0.218	0.012	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1363.36

Zone 273

Source Daily Summary

July 2018

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	0.7275	1140.9	1161.1	1157.6	0.847	6.172	69.443	19.017	4.140	0.128	0.238	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1358.11	
2	0.7388	1161.1	1181.6	1177.9	0.863	5.974	68.120	19.746	4.781	0.163	0.324	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1371.35	
3	0.7351	1155.3	1175.8	1172.0	0.857	5.992	68.505	19.621	4.582	0.144	0.276	0.012	0.012	0.000	0.000	0.000	0.000	0.000	1368.03	
4	0.7360	1154.8	1175.2	1171.6	0.862	6.101	68.347	19.610	4.651	0.142	0.265	0.011	0.011	0.000	0.000	0.000	0.000	0.000	1366.60	
5	0.7314	1146.3	1166.6	1163.0	0.857	6.190	68.912	19.272	4.383	0.131	0.236	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1360.92	
6	0.7212	1127.7	1147.6	1144.0	0.845	6.390	70.237	18.386	3.836	0.106	0.187	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1348.24	
7	0.7255	1131.5	1151.6	1147.6	0.847	6.405	69.903	18.533	3.974	0.114	0.211	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1350.27	
8	0.7249	1130.0	1150.0	1145.9	0.846	6.353	70.101	18.542	3.803	0.118	0.222	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1349.85	
9	0.7246	1130.2	1150.2	1148.0	0.845	6.332	70.019	18.576	3.866	0.120	0.227	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1351.01	
10	0.7243	1131.0	1151.1	1147.6	0.849	6.437	69.869	18.503	4.014	0.113	0.201	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1349.80	
11	0.7265	1133.1	1153.2	1149.6	0.852	6.546	69.526	18.566	4.178	0.115	0.203	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1349.78	
12	0.7235	1129.5	1149.5	1145.9	0.849	6.490	69.929	18.413	4.018	0.104	0.184	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1348.24	
13	0.7249	1132.8	1152.8	1149.1	0.848	6.423	69.776	18.516	4.131	0.107	0.187	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1350.85	
14	0.7286	1139.8	1159.9	1156.2	0.846	6.349	69.337	18.743	4.391	0.113	0.206	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1355.69	
15	0.7207	1127.2	1147.2	1143.7	0.847	6.370	70.334	18.303	3.846	0.103	0.183	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1348.13	
16	0.7183	1119.7	1139.5	1135.9	0.848	6.598	70.640	17.915	3.712	0.100	0.175	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1341.40	
17	0.7173	1116.4	1136.2	1132.6	0.848	6.711	70.757	17.742	3.656	0.099	0.176	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1338.36	
18	0.7175	1121.9	1141.7	1138.2	0.853	6.385	70.756	18.091	3.632	0.094	0.176	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1344.75	
19	0.7211	1129.8	1149.8	1146.1	0.845	6.258	70.338	18.370	3.866	0.105	0.201	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1350.76	
20	0.7218	1127.3	1147.3	1143.7	0.854	6.456	70.219	18.233	3.921	0.105	0.197	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1347.25	
21	0.7217	1128.2	1148.2	1144.6	0.852	6.395	70.219	18.319	3.902	0.102	0.195	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1348.40	
22	0.7213	1127.5	1147.5	1143.9	0.852	6.402	70.263	18.299	3.869	0.102	0.197	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1347.93	
23	0.7235	1131.4	1151.5	1147.9	0.852	6.369	69.962	18.508	3.984	0.106	0.203	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1350.53	
24	0.7220	1129.0	1149.0	1145.4	0.851	6.375	70.165	18.390	3.909	0.102	0.193	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1349.06	
25	0.7232	1131.8	1151.9	1148.3	0.852	6.319	70.016	18.516	3.969	0.107	0.205	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1351.27	
26	0.7221	1129.4	1149.4	1145.9	0.857	6.349	70.122	18.484	3.885	0.100	0.188	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1349.48	
27	0.7232	1131.0	1151.0	1147.5	0.858	6.359	69.996	18.490	3.992	0.101	0.189	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1350.27	
28	0.7189	1125.1	1145.0	1141.4	0.853	6.326	70.560	18.264	3.705	0.099	0.180	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1347.23	
29	0.7186	1128.8	1148.8	1145.3	0.843	6.081	70.689	18.363	3.731	0.098	0.182	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1352.02	
30	0.7211	1133.8	1153.9	1150.3	0.850	5.995	70.347	18.670	3.818	0.106	0.196	0.009	0.008	0.000	0.000	0.000	0.000	0.000	1355.70	
31	0.7243	1137.4	1157.6	1153.9	0.856	6.071	69.999	18.652	4.068	0.117	0.219	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1356.93	
Avg	0.7242	1133.0	1153.0	1149.4	0.851	6.322	69.916	18.569	4.007	0.112	0.207	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1351.88	

Zone 28

Source Daily Summary

July 2018

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	0.7135	1130.6	1150.6	1146.8	0.681	5.743	71.398	18.355	3.531	0.097	0.183	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1359.30	
2	0.7251	1137.7	1157.8	1153.9	0.843	6.150	69.896	18.604	4.133	0.122	0.235	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1356.52	
3	0.6958	1119.1	1139.0	1135.0	0.856	4.504	75.086	16.102	3.116	0.114	0.200	0.012	0.011	0.000	0.000	0.000	0.000	0.000	1362.59	
4	0.6780	1118.7	1138.5	1134.7	0.902	2.782	78.933	14.160	2.794	0.143	0.248	0.022	0.017	0.000	0.000	0.000	0.000	0.000	1379.41	
5	0.6779	1118.9	1138.8	1134.8	0.894	2.769	78.941	14.171	2.797	0.143	0.247	0.022	0.016	0.000	0.000	0.000	0.000	0.000	1379.82	
6	0.6909	1125.7	1145.6	1141.3	0.885	3.593	76.498	15.437	3.170	0.137	0.244	0.020	0.016	0.000	0.000	0.000	0.000	0.000	1375.41	
7	0.6998	1126.4	1146.4	1142.0	0.870	4.416	74.540	16.498	3.317	0.122	0.210	0.015	0.012	0.000	0.000	0.000	0.000	0.000	1367.15	
8	0.7016	1118.5	1138.3	1134.3	0.863	5.076	73.882	16.633	3.237	0.107	0.182	0.011	0.009	0.000	0.000	0.000	0.000	0.000	1356.02	
9	0.7241	1131.8	1151.8	1148.2	0.809	6.466	69.975	18.224	4.213	0.106	0.195	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1350.48	
10	0.7212	1123.8	1143.7	1140.1	0.810	6.681	70.325	17.845	4.044	0.100	0.184	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1343.64	
11	0.7219	1133.3	1153.4	1149.7	0.810	6.162	70.280	18.413	4.036	0.100	0.187	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1354.40	
12	0.7176	1123.6	1143.5	1139.9	0.825	6.331	70.844	17.943	3.775	0.095	0.175	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1346.74	
13	0.7220	1128.4	1148.4	1144.3	0.830	6.450	70.229	18.168	3.999	0.110	0.202	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1348.31	
14	0.7217	1128.1	1148.1	1144.0	0.827	6.442	70.291	18.102	4.025	0.106	0.193	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1348.27	
15	0.7253	1132.0	1152.0	1148.3	0.831	6.537	69.794	18.277	4.226	0.114	0.208	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1349.53	
16	0.7222	1127.3	1147.3	1143.2	0.828	6.539	70.206	18.047	4.075	0.104	0.188	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1346.84	
17	0.7228	1129.3	1149.3	1145.2	0.827	6.468	70.149	18.136	4.110	0.104	0.190	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1348.70	
18	0.7184	1133.1	1153.2	1149.6	0.715	5.994	70.473	18.900	3.650	0.091	0.166	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1357.48	
19	0.7231	1130.0	1150.1	1146.1	0.847	6.420	70.141	18.150	4.132	0.106	0.192	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1349.32	
20	0.7174	1118.6	1138.4	1134.6	0.843	6.587	70.884	17.588	3.838	0.087	0.162	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1340.99	
21	0.6909	1125.7	1145.6	1141.6	0.885	3.593	76.498	15.437	3.170	0.137	0.243	0.020	0.016	0.000	0.000	0.000	0.000	0.000	1375.05	
22	0.6998	1126.4	1146.4	1142.5	0.870	4.416	74.540	16.498	3.317	0.122	0.210	0.014	0.012	0.000	0.000	0.000	0.000	0.000	1367.15	
23	0.7016	1118.5	1138.3	1134.5	0.863	5.076	73.882	16.632	3.237	0.107	0.182	0.011	0.009	0.000	0.000	0.000	0.000	0.000	1355.87	
24	0.7244	1132.0	1152.1	1148.1	0.809	6.476	69.941	18.226	4.234	0.106	0.195	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1350.51	
25	0.7212	1123.8	1143.7	1140.2	0.810	6.681	70.325	17.844	4.045	0.100	0.184	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1343.65	
26	0.7219	1133.3	1153.4	1149.9	0.810	6.162	70.280	18.413	4.036	0.100	0.187	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1354.40	
27	0.7176	1123.6	1143.5	1139.9	0.826	6.332	70.844	17.943	3.775	0.095	0.175	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1346.74	
28	0.7177	1123.7	1143.6	1140.0	0.829	6.335	70.790	18.013	3.751	0.096	0.174	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1346.71	
29	0.7233	1128.6	1148.6	1145.1	0.828	6.559	70.073	18.081	4.146	0.106	0.193	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1347.38	
30	0.7223	1126.5	1146.5	1142.5	0.828	6.592	70.191	18.004	4.078	0.105	0.190	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1345.84	
31	0.7222	1127.3	1147.3	1143.4	0.827	6.539	70.206	18.047	4.075	0.104	0.188	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1346.84	
Avg	0.7130	1127.0	1146.5	1142.7	0.832	5.705	71.946	17.448	3.745	0.109	0.197	0.009	0.008	0.000	0.000	0.000	0.000	0.000	1354.87	

Zone 31

Source Daily Summary

July 2018

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	0.6711	1122.1	1142.0	1138.1	0.818	2.061	79.115	15.926	1.782	0.107	0.157	0.019	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1390.60
2	0.6625	1104.5	1124.0	1120.3	0.700	2.512	80.435	14.469	1.627	0.092	0.137	0.016	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1377.53
3	0.6653	1095.3	1114.7	1111.2	0.482	3.664	79.576	14.202	1.870	0.073	0.117	0.009	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1363.42
4	0.6645	1095.5	1114.9	1111.3	0.534	3.497	79.873	13.985	1.890	0.078	0.125	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1364.44
5	0.6697	1103.4	1123.0	1119.4	0.524	3.519	78.957	14.731	2.033	0.079	0.138	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1368.97
6	0.6753	1112.3	1132.0	1128.5	0.546	3.468	78.080	15.420	2.226	0.085	0.156	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1374.32
7	0.6781	1114.8	1134.5	1130.9	0.568	3.550	77.737	15.454	2.415	0.091	0.166	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1374.45
8	0.6762	1113.5	1133.2	1129.7	0.537	3.495	77.947	15.476	2.286	0.086	0.155	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1374.84
9	0.6784	1118.2	1138.0	1089.7	0.411	3.605	77.095	16.557	2.113	0.074	0.130	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1378.49
10	0.7018	1153.0	1173.4	1161.3	0.989	2.805	74.183	18.716	2.914	0.130	0.233	0.016	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1397.30
11	0.6785	1128.7	1148.7	1144.9	0.954	2.148	78.094	16.380	2.091	0.116	0.181	0.020	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1391.16
12	0.6745	1124.4	1144.3	1140.4	0.920	2.083	78.657	16.146	1.878	0.111	0.168	0.020	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1389.94
13	0.6728	1123.5	1143.4	1139.5	0.970	1.900	79.207	15.641	1.942	0.121	0.180	0.022	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1390.57
14	0.6783	1130.2	1150.2	1146.2	0.955	2.039	78.116	16.514	2.044	0.116	0.179	0.020	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1393.11
15	0.6790	1130.2	1150.2	1146.2	0.954	2.105	77.937	16.650	2.027	0.115	0.178	0.019	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1392.41
16	0.6805	1132.7	1152.8	1148.8	0.977	2.055	77.726	16.834	2.071	0.118	0.184	0.020	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1394.03
17	0.6790	1132.3	1152.4	1148.4	0.953	1.976	77.953	16.769	2.012	0.117	0.185	0.020	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1395.07
18	0.6746	1126.2	1146.2	1142.4	0.860	2.074	78.324	16.721	1.760	0.089	0.145	0.014	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1392.16
19	0.6736	1124.4	1144.3	1140.5	0.906	2.023	78.608	16.412	1.789	0.090	0.146	0.014	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1390.92
20	0.6625	1104.7	1124.2	1120.6	0.764	2.404	80.327	14.711	1.593	0.067	0.118	0.009	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1377.91
21	0.6685	1104.8	1124.4	1120.8	0.608	3.192	79.188	14.867	1.926	0.072	0.131	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1371.97
22	0.6755	1113.7	1133.4	1129.7	0.534	3.424	77.795	15.973	2.041	0.077	0.139	0.009	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1375.78
23	0.6652	1097.7	1117.1	1113.6	0.481	3.509	79.445	14.632	1.749	0.061	0.109	0.007	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1366.54
24	0.6762	1112.7	1132.4	1128.9	0.600	3.444	77.861	15.691	2.160	0.081	0.146	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1373.94
25	0.6751	1114.0	1133.8	1130.2	0.497	3.424	77.781	16.066	2.010	0.073	0.133	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1376.61
26	0.6740	1112.9	1132.7	1129.1	0.453	3.448	78.003	15.830	2.048	0.072	0.131	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1376.46
27	0.6735	1112.8	1132.5	1128.9	0.426	3.452	78.025	15.873	2.010	0.071	0.128	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1376.77
28	0.6738	1110.9	1130.5	1127.0	0.465	3.541	78.174	15.437	2.137	0.081	0.148	0.009	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1374.04
29	0.6750	1114.1	1133.8	1130.2	0.447	3.484	77.778	16.041	2.016	0.076	0.141	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1376.81
30	0.6751	1113.4	1133.1	1129.5	0.505	3.447	77.976	15.682	2.136	0.083	0.153	0.009	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1375.85
31	0.6756	1114.7	1134.5	1130.9	0.529	3.375	78.049	15.532	2.250	0.087	0.159	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1376.98
Avg	0.6743	1117.0	1136.3	1130.9	0.673	2.927	78.323	15.785	2.027	0.090	0.151	0.013	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1380.43

Zone 32

Source Daily Summary

July 2018

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	0.6898	1154.7	1175.1	1170.8	0.000	3.103	72.623	23.527	0.731	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.57	-24.66
2	0.6899	1155.3	1175.8	1171.5	0.000	3.066	72.632	23.546	0.740	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.33	-24.53
3	0.6896	1154.5	1174.9	1170.7	0.000	3.087	72.691	23.468	0.737	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.64	-24.74
4	0.6882	1152.6	1173.0	1168.6	0.000	3.076	72.946	23.253	0.709	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1410.68	-25.51
5	0.6894	1154.4	1174.8	1170.5	0.000	3.082	72.729	23.429	0.743	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.62	-24.78
6	0.6910	1155.9	1176.4	1172.0	0.000	3.134	72.462	23.579	0.806	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.92	-23.88
7	0.6902	1154.8	1175.2	1170.8	0.000	3.131	72.600	23.468	0.785	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.32	-24.34
8	0.6897	1153.6	1174.1	1169.7	0.000	3.147	72.695	23.372	0.768	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1410.50	-24.72
9	0.6897	1154.2	1174.7	1170.1	0.000	3.117	72.698	23.392	0.776	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.15	-24.60
10	0.6902	1155.5	1176.0	1171.6	0.000	3.082	72.578	23.574	0.749	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.27	-24.38
11	0.6900	1154.9	1175.4	1171.0	0.000	3.104	72.587	23.566	0.726	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.68	-24.59
12	0.6897	1154.1	1174.5	1170.0	0.000	3.128	72.648	23.476	0.732	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1410.95	-24.78
13	0.6904	1155.5	1176.0	1171.5	0.000	3.102	72.541	23.587	0.754	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.04	-24.31
14	0.6900	1154.3	1174.8	1170.3	0.008	3.139	72.572	23.521	0.742	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1410.89	-24.51
15	0.6896	1153.6	1174.0	1169.7	0.000	3.148	72.634	23.499	0.703	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1410.48	-24.97
16	0.6906	1155.2	1175.7	1171.0	0.000	3.144	72.460	23.646	0.734	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.42	-24.35
17	0.6895	1155.4	1175.8	1171.3	0.000	3.025	72.701	23.536	0.720	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.81	-24.70
18	0.6899	1155.2	1175.6	1171.3	0.000	3.080	72.606	23.571	0.727	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.10	-24.58
19	0.6892	1154.1	1174.6	1170.1	0.000	3.072	72.747	23.453	0.711	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.60	-25.01
20	0.6903	1155.3	1175.8	1171.1	0.000	3.107	72.507	23.657	0.712	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.90	-24.49
21	0.6905	1155.0	1175.5	1171.1	0.000	3.148	72.462	23.652	0.722	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.28	-24.43
22	0.6908	1155.0	1175.5	1171.0	0.000	3.171	72.397	23.712	0.703	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.01	-24.44
23	0.6889	1153.3	1173.8	1169.3	0.000	3.097	72.777	23.417	0.692	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1410.88	-25.25
24	0.6879	1155.3	1175.8	1171.4	0.000	2.883	73.107	23.235	0.739	0.011	0.022	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1414.29	-24.79
25	0.6871	1154.1	1174.6	1170.2	0.000	2.879	73.190	23.209	0.708	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.70	-25.65
26	0.6867	1153.4	1173.8	1169.4	0.000	2.886	73.241	23.172	0.686	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.24	-25.93
27	0.6868	1152.9	1173.3	1168.9	0.000	2.925	73.207	23.183	0.672	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.53	-26.04
28	0.6873	1153.7	1174.1	1169.6	0.000	2.920	73.114	23.277	0.676	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.04	-25.77
29	0.6890	1153.8	1174.2	1169.8	0.008	3.077	72.742	23.449	0.707	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.29	-25.00
30	0.6901	1154.7	1175.1	1170.7	0.000	3.126	72.565	23.573	0.721	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.31	-24.65
31	0.6891	1153.7	1174.2	1170.1	0.000	3.091	72.730	23.476	0.688	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.19	-25.15
Avg	0.6894	1154.0	1174.9	1170.5	0.001	3.073	72.716	23.467	0.726	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.76	-24.82

Zone 33

Source Daily Summary

July 2018

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	0.5970	990.4	1007.9	1004.7	0.232	4.013	91.562	3.660	0.470	0.026	0.033	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1301.44
2	0.6031	1001.6	1019.3	1016.0	0.228	3.910	90.452	4.757	0.585	0.027	0.035	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1309.45
3	0.5794	970.8	988.0	984.8	0.127	3.713	94.693	1.297	0.150	0.012	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.98
4	0.5766	967.3	984.5	981.3	0.119	3.673	95.197	0.904	0.092	0.011	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1293.47
5	0.5737	962.7	979.7	976.6	0.108	3.699	95.711	0.438	0.034	0.009	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.53
6	0.5729	961.3	978.4	975.1	0.106	3.709	95.852	0.309	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1289.63
7	0.5729	961.3	978.3	975.1	0.106	3.714	95.849	0.308	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1289.54
8	0.5728	961.5	978.6	975.3	0.106	3.689	95.871	0.309	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1289.98
9	0.5935	986.2	1003.7	1000.3	0.131	4.091	92.294	2.845	0.557	0.026	0.048	0.002	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1299.77
10	0.5726	962.0	979.1	975.8	0.107	3.641	95.917	0.310	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.84
11	0.5723	963.1	980.2	976.8	0.110	3.539	96.010	0.311	0.021	0.008	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1292.66
12	0.5724	962.8	979.8	976.7	0.110	3.569	95.984	0.310	0.018	0.008	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1292.09
13	0.5723	962.9	980.0	976.8	0.109	3.555	95.998	0.310	0.018	0.008	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1292.36
14	0.5723	963.0	980.1	976.8	0.109	3.543	96.009	0.311	0.018	0.008	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1292.58
15	0.5723	962.8	979.9	976.8	0.108	3.561	95.993	0.310	0.018	0.008	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1292.27
16	0.5724	962.8	979.9	976.7	0.108	3.565	95.988	0.311	0.018	0.008	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1292.21
17	0.5724	962.8	979.8	976.7	0.109	3.566	95.986	0.311	0.018	0.008	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1292.16
18	0.5723	962.9	980.0	976.9	0.109	3.555	95.998	0.311	0.018	0.008	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1292.37
19	0.5724	962.8	979.8	976.7	0.109	3.568	95.988	0.309	0.017	0.008	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1292.12
20	0.5897	967.9	985.0	981.8	0.095	4.910	92.829	1.602	0.482	0.025	0.051	0.002	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1279.73
21	0.5740	963.3	980.4	977.1	0.107	3.693	95.652	0.492	0.044	0.009	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1291.02
22	0.5745	966.1	983.2	979.9	0.113	3.557	95.615	0.632	0.068	0.010	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.25
23	0.5733	962.5	979.6	976.3	0.108	3.674	95.784	0.395	0.028	0.009	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.72
24	0.5730	960.9	977.9	974.6	0.105	3.755	95.810	0.307	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1288.80
25	0.5729	961.2	978.2	975.0	0.105	3.722	95.843	0.307	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1289.42
26	0.5729	961.3	978.3	975.1	0.105	3.715	95.847	0.309	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1289.52
27	0.5729	961.3	978.3	975.1	0.106	3.715	95.847	0.308	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1289.51
28	0.5729	961.4	978.4	975.2	0.106	3.703	95.859	0.308	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1289.72
29	0.5728	961.5	978.5	975.3	0.106	3.695	95.866	0.309	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1289.87
30	0.5729	961.3	978.3	974.9	0.105	3.712	95.851	0.308	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1289.58
31	0.5727	961.7	978.7	975.3	0.106	3.672	95.888	0.310	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.28
Avg	0.5761	966.0	983.0	979.7	0.117	3.723	95.292	0.759	0.092	0.011	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1292.03

*** End of Report ***

Zone 34

Source Daily Summary

July 2018

Number: 471

Pressure Base: 14.730

Contract Day:

Name: SPRING CREEK I - SAX VALVE I

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6944	1142.9	1163.1	1160.1	0.977	2.767	72.485	23.243	0.511	0.006	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1392.55	-25.16
2	0.6797	1118.4	1138.2	1135.3	1.012	2.824	75.326	20.483	0.346	0.003	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1377.38	-33.94
3	0.6767	1112.3	1132.0	1129.1	1.026	2.892	75.893	19.885	0.296	0.003	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1372.91	-36.04
4	0.6860	1128.7	1148.7	1145.7	0.998	2.810	74.031	21.814	0.338	0.003	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1383.64	-30.48
5	0.6854	1130.7	1150.7	1147.7	0.946	2.713	74.093	21.919	0.319	0.003	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1386.79	-28.07
6	0.6891	1134.1	1154.1	1151.1	0.985	2.794	73.339	22.583	0.292	0.003	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1387.12	-28.89
7	0.6867	1129.8	1149.8	1146.7	0.994	2.821	73.812	22.080	0.284	0.003	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1384.21	-30.29
8	0.6888	1133.5	1153.6	1150.6	0.992	2.786	73.708	21.918	0.580	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1386.74	-27.96
9	0.6906	1136.3	1156.4	1153.4	0.986	2.790	73.701	21.605	0.870	0.015	0.029	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1388.35	-25.30
10	0.6810	1116.8	1136.6	1135.7	1.021	2.916	75.297	20.177	0.583	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1376.36	-32.98
11	0.6580	1091.6	1110.9	1108.2	0.857	2.641	79.546	16.707	0.241	0.003	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1366.90	-37.55
12	0.6788	1117.3	1137.1	1134.1	0.992	2.828	76.021	19.324	0.794	0.013	0.024	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1376.97	-32.10
13	0.6793	1115.8	1135.5	1132.5	1.022	2.929	75.506	20.087	0.450	0.003	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1374.56	-34.10
14	0.6865	1129.4	1149.4	1146.4	0.995	2.813	74.089	21.600	0.492	0.004	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1384.04	-29.71
15	0.6995	1151.5	1171.9	1168.8	0.970	2.732	71.898	23.415	0.957	0.010	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1397.91	-20.87
16	0.6971	1147.0	1167.4	1164.3	0.971	2.774	72.229	23.203	0.801	0.009	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1394.93	-22.76
17	0.6949	1143.8	1164.0	1161.0	0.975	2.760	72.552	23.021	0.673	0.008	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1393.18	-24.29
18	0.6903	1136.2	1156.3	1153.2	0.986	2.775	73.278	22.482	0.467	0.004	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1388.50	-27.58
19	0.6970	1147.7	1168.1	1165.0	0.973	2.720	72.248	23.245	0.793	0.008	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1395.87	-22.72
20	0.6873	1130.6	1150.6	1147.6	0.995	2.817	74.015	21.578	0.583	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1384.68	-28.90
21	0.6816	1121.3	1141.2	1138.2	1.008	2.825	75.035	20.690	0.436	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1379.10	-32.61
22	0.6821	1122.3	1142.2	1139.2	1.009	2.814	74.887	20.887	0.395	0.003	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1379.76	-32.42
23	0.6885	1133.3	1153.4	1150.4	0.995	2.766	73.763	21.890	0.574	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1386.82	-28.12
24	0.6856	1128.1	1148.1	1145.1	1.001	2.798	74.340	21.298	0.554	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1383.38	-29.89
25	0.6807	1119.9	1139.8	1136.8	1.011	2.825	75.190	20.552	0.415	0.003	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1378.25	-33.15
26	0.6899	1135.5	1155.6	1152.6	0.995	2.763	73.719	21.698	0.810	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1388.06	-26.51
27	0.6968	1147.2	1167.5	1164.5	0.975	2.728	72.287	23.205	0.781	0.009	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1395.43	-22.87
28	0.6982	1149.7	1170.0	1167.0	0.972	2.712	72.080	23.357	0.854	0.010	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1397.06	-21.86
29	0.6968	1147.2	1167.6	1164.5	0.973	2.727	72.271	23.242	0.766	0.008	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1395.51	-22.95
30	0.6980	1149.0	1169.3	1166.3	0.974	2.737	72.164	23.185	0.918	0.009	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1396.37	-21.81
31	0.6941	1142.6	1162.8	1159.7	0.979	2.751	72.657	22.987	0.611	0.006	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1392.51	-24.98
Avg	0.6877	1132.0	1152.0	1149.0	0.986	2.785	73.918	21.721	0.574	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1386.00	-28.29

Zone 43

July-18

ZONE 550

MANDAN BORDER

01970

WBI - Mandan Border
WBI Meter #0202220

NBPL - St Anthony

Weighted

Begin Date	End Date	MCF	DK	BTU	MCF	DK	BTU Zone 28	AVG BTU	
7/1/2018	7/2/2018				829	963	1.1611	1.161	7/1/2018
7/2/2018	7/3/2018				894	1054	1.1816	1.182	7/2/2018
7/3/2018	7/4/2018				821	966	1.1758	1.176	7/3/2018
7/4/2018	7/5/2018				749	882	1.1752	1.175	7/4/2018
7/5/2018	7/6/2018				803	937	1.1666	1.167	7/5/2018
7/6/2018	7/7/2018				749	859	1.1476	1.148	7/6/2018
7/7/2018	7/8/2018				766	883	1.1516	1.152	7/7/2018
7/8/2018	7/9/2018				756	870	1.1500	1.150	7/8/2018
7/9/2018	7/10/2018				926	1065	1.1502	1.150	7/9/2018
7/10/2018	7/11/2018				821	945	1.1511	1.151	7/10/2018
7/11/2018	7/12/2018				855	986	1.1532	1.153	7/11/2018
7/12/2018	7/13/2018				807	928	1.1495	1.150	7/12/2018
7/13/2018	7/14/2018				784	903	1.1528	1.153	7/13/2018
7/14/2018	7/15/2018				684	793	1.1599	1.160	7/14/2018
7/15/2018	7/16/2018	1761	1926	1.0935	747	857	1.1472	1.109	7/15/2018
7/16/2018	7/17/2018	5739	6276	1.0935	795	906	1.1395	1.099	7/16/2018
7/17/2018	7/18/2018				853	969	1.1362	1.136	7/17/2018
7/18/2018	7/19/2018				877	1001	1.1417	1.142	7/18/2018
7/19/2018	7/20/2018				813	935	1.1498	1.150	7/19/2018
7/20/2018	7/21/2018				804	923	1.1473	1.147	7/20/2018
7/21/2018	7/22/2018				788	905	1.1482	1.148	7/21/2018
7/22/2018	7/23/2018				811	930	1.1475	1.148	7/22/2018
7/23/2018	7/24/2018				848	976	1.1515	1.152	7/23/2018
7/24/2018	7/25/2018				860	988	1.1490	1.149	7/24/2018
7/25/2018	7/26/2018				923	1063	1.1519	1.152	7/25/2018
7/26/2018	7/27/2018				838	963	1.1494	1.149	7/26/2018
7/27/2018	7/28/2018				747	859	1.1510	1.151	7/27/2018
7/28/2018	7/29/2018				649	743	1.1450	1.145	7/28/2018
7/29/2018	7/30/2018				898	1032	1.1488	1.149	7/29/2018
7/30/2018	7/31/2018				899	1037	1.1539	1.154	7/30/2018
7/31/2018	8/1/2018				821	951	1.1576	1.158	7/31/2018
		7,500	8,202	1.0935	25,215	29,072	1.1530	1.1504	



Alliance Pipeline

DAILY ANALYSIS — USA
 ND07MD1 — Hankinson Sales
 July 2018

DAY	Heating Value (BTU/lbs)	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	1,159.959	0.6671	83.6590	9.6364	3.9888	0.3609	0.6206	0.0598	0.0502	0.0331	1.1122	0.4690	0.0100
2	1,158.889	0.6652	83.9217	9.5790	3.8987	0.3578	0.6108	0.0595	0.0501	0.0334	1.0381	0.4408	0.0100
3	1,160.679	0.6674	83.6716	9.6054	3.9821	0.3726	0.6431	0.0622	0.0522	0.0334	1.1132	0.4540	0.0102
4	1,160.431	0.6670	83.7091	9.6273	3.9511	0.3689	0.6418	0.0615	0.0520	0.0328	1.0899	0.4556	0.0101
5	1,160.882	0.6674	83.5637	9.7895	3.9472	0.3647	0.6360	0.0566	0.0468	0.0300	1.0980	0.4575	0.0100
6	1,161.949	0.6680	83.5188	9.7775	3.9679	0.3737	0.6587	0.0586	0.0487	0.0302	1.1057	0.4501	0.0100
7	1,163.112	0.6692	83.4665	9.6975	4.0262	0.3857	0.6761	0.0658	0.0547	0.0331	1.1047	0.4795	0.0101
8	1,162.189	0.6685	83.6296	9.5675	3.9895	0.3893	0.6872	0.0676	0.0558	0.0345	1.0938	0.4751	0.0099
9	1,157.467	0.6653	83.8675	9.6085	3.7931	0.3669	0.6330	0.0626	0.0528	0.0339	1.1204	0.4513	0.0100
10	1,161.545	0.6680	83.5168	9.8351	3.8821	0.3776	0.6667	0.0620	0.0514	0.0329	1.0939	0.4715	0.0099
11	1,158.438	0.6661	83.6962	9.7979	3.7830	0.3649	0.6302	0.0604	0.0499	0.0329	1.1002	0.4746	0.0098
12	1,159.948	0.6669	83.7016	9.6834	3.8748	0.3732	0.6527	0.0622	0.0520	0.0329	1.0876	0.4699	0.0098
13	1,158.732	0.6658	83.8366	9.6317	3.8260	0.3715	0.6418	0.0620	0.0519	0.0328	1.0837	0.4520	0.0099
14	1,159.716	0.6661	83.8035	9.6655	3.8352	0.3752	0.6527	0.0617	0.0517	0.0332	1.0673	0.4437	0.0102
15	1,158.027	0.6653	83.8909	9.6347	3.7904	0.3672	0.6341	0.0620	0.0515	0.0330	1.0599	0.4666	0.0099
16	1,158.702	0.6659	83.8114	9.6691	3.8105	0.3706	0.6427	0.0615	0.0511	0.0329	1.0687	0.4717	0.0097
17	1,157.216	0.6650	83.8830	9.6640	3.7744	0.3606	0.6224	0.0593	0.0495	0.0317	1.0709	0.4742	0.0099
18	1,157.544	0.6650	83.9224	9.6166	3.7763	0.3649	0.6355	0.0607	0.0509	0.0327	1.0578	0.4722	0.0101
19	1,156.351	0.6645	83.9850	9.5861	3.7381	0.3620	0.6257	0.0622	0.0525	0.0322	1.0686	0.4775	0.0101
20	1,156.900	0.6648	83.9852	9.5417	3.7582	0.3676	0.6455	0.0622	0.0524	0.0322	1.0678	0.4773	0.0100
21	1,155.382	0.6638	84.0735	9.5555	3.6925	0.3603	0.6214	0.0624	0.0525	0.0327	1.0638	0.4754	0.0099
22	1,153.818	0.6631	84.1273	9.5422	3.6539	0.3529	0.6103	0.0603	0.0505	0.0303	1.0742	0.4879	0.0101
23	1,153.693	0.6629	84.1543	9.5154	3.6611	0.3531	0.6106	0.0597	0.0496	0.0291	1.0818	0.4758	0.0096
24	1,154.662	0.6635	84.0967	9.5451	3.6622	0.3593	0.6286	0.0611	0.0511	0.0307	1.0745	0.4809	0.0097
25	1,153.204	0.6628	84.1946	9.4715	3.6431	0.3539	0.6124	0.0608	0.0514	0.0320	1.0737	0.4969	0.0098
26	1,156.312	0.6647	83.9740	9.5525	3.7584	0.3644	0.6324	0.0611	0.0518	0.0306	1.0761	0.4891	0.0095
27	1,158.253	0.6663	83.7681	9.6269	3.8438	0.3677	0.6480	0.0609	0.0518	0.0290	1.1090	0.4849	0.0099
28	1,161.674	0.6677	83.5176	9.8478	3.9044	0.3731	0.6568	0.0611	0.0522	0.0288	1.1015	0.4465	0.0100
29	1,161.369	0.6673	83.5462	9.9298	3.8185	0.3744	0.6554	0.0617	0.0524	0.0307	1.0569	0.4638	0.0100
30	1,159.609	0.6666	83.6886	9.7146	3.8757	0.3676	0.6417	0.0609	0.0515	0.0293	1.1042	0.4561	0.0098
31	1,160.000	0.6667	83.6813	9.7362	3.8645	0.3712	0.6468	0.0622	0.0524	0.0291	1.0870	0.4596	0.0098
Volume	1,158.584	0.6659	83.8034	9.6527	3.8306	0.3675	0.6394	0.0614	0.0515	0.0318	1.0839	0.4679	0.0099
Weight Avg Energy	1,158.590	0.6659	83.8030	9.6529	3.8308	0.3675	0.6394	0.0614	0.0515	0.0318	1.0840	0.4678	0.0099

Handwritten signature

July-18

ZONE 610

Watford City

01325
Watford City West Border
WBI Meter #0602225

01312
Watford City East Border
WBI Meter #2702230

Weighted

Begin Date	End Date	MCF	DK	BTU Zone 25	MCF	DK	BTU Zone 43	AVG BTU	
7/1/2018	7/2/2018	2	2	1.204	140	163	1.163	1.164	7/1/2018
7/2/2018	7/3/2018	3	4	1.204	120	137	1.138	1.140	7/2/2018
7/3/2018	7/4/2018	0	0	1.204	123	139	1.132	1.132	7/3/2018
7/4/2018	7/5/2018	1	1	1.204	138	158	1.149	1.149	7/4/2018
7/5/2018	7/6/2018	2	2	1.204	127	147	1.151	1.152	7/5/2018
7/6/2018	7/7/2018	0	0	1.204	104	120	1.154	1.154	7/6/2018
7/7/2018	7/8/2018	0	0	1.204	108	125	1.150	1.150	7/7/2018
7/8/2018	7/9/2018	1	1	1.204	117	135	1.154	1.154	7/8/2018
7/9/2018	7/10/2018	0	0	1.204	111	128	1.156	1.156	7/9/2018
7/10/2018	7/11/2018	0	0	1.204	110	124	1.137	1.137	7/10/2018
7/11/2018	7/12/2018	0	0	1.204	117	132	1.111	1.111	7/11/2018
7/12/2018	7/13/2018	0	0	1.204	136	155	1.137	1.137	7/12/2018
7/13/2018	7/14/2018	0	0	1.204	107	122	1.136	1.136	7/13/2018
7/14/2018	7/15/2018	0	0	1.204	114	131	1.149	1.149	7/14/2018
7/15/2018	7/16/2018	0	0	1.204	118	138	1.172	1.172	7/15/2018
7/16/2018	7/17/2018	0	0	1.204	118	137	1.167	1.167	7/16/2018
7/17/2018	7/18/2018	0	0	1.204	112	130	1.164	1.164	7/17/2018
7/18/2018	7/19/2018	0	0	1.204	121	140	1.156	1.156	7/18/2018
7/19/2018	7/20/2018	0	0	1.204	125	146	1.168	1.168	7/19/2018
7/20/2018	7/21/2018	0	0	1.204	114	131	1.151	1.151	7/20/2018
7/21/2018	7/22/2018	0	0	1.204	110	126	1.141	1.141	7/21/2018
7/22/2018	7/23/2018	2	2	1.204	117	134	1.142	1.143	7/22/2018
7/23/2018	7/24/2018	1	1	1.204	125	144	1.153	1.153	7/23/2018
7/24/2018	7/25/2018	0	0	1.204	125	144	1.148	1.148	7/24/2018
7/25/2018	7/26/2018	1	1	1.204	122	139	1.140	1.141	7/25/2018
7/26/2018	7/27/2018	3	3	1.204	133	153	1.156	1.157	7/26/2018
7/27/2018	7/28/2018	1	1	1.204	128	149	1.168	1.168	7/27/2018
7/28/2018	7/29/2018	0	0	1.204	111	130	1.170	1.170	7/28/2018
7/29/2018	7/30/2018	0	0	1.204	122	142	1.168	1.168	7/29/2018
7/30/2018	7/31/2018	1	1	1.204	114	134	1.169	1.169	7/30/2018
7/31/2018	8/1/2018	0	0	1.204	131	152	1.163		7/31/2018
		18	19		3,718	4,285	1.1520	1.1519	

ROW ID	LOCATION DESCRIPTION	GROSS HEATING VALUE (BTU/CF)	SPECIFIC GRAVITY	WOBBE (cal)	CRICONDENTHERM (deg F)	NITROGEN (mole percent)	CARBON DIOXIDE (mole percent)	METHANE (mole percent)	ETHANE (mole percent)	PROPANE (mole percent)	NORMAL BUTANE (mole percent)	ISO BUTANE (mole percent)	PENTANE (mole percent)	ISO PENTANE (mole percent)	NEO PENTANE (mole percent)	HEXANES PLUS (mole percent)	HYDROGEN (mole percent)	HELIUM (mole percent)	PRODUCTION DATE	POSTING DATE	ChangeTimestamp	NOTES
11587	GLEN ULLIN	1113.4	0.6485	1382.6	-20.7	1.5059	0.9074	83.4233	12.214	1.5102	0.1418	0.1119	0.0175	0.024	0	0.017	0.1097	0.0173	6/30/2018	7/1/2018	7/1/2018 3:31:18 PM	
11587	GLEN ULLIN	1112.1	0.6477	1381.8	-20.2	1.5092	0.9099	83.5053	12.1216	1.4828	0.1419	0.1109	0.0179	0.0245	0	0.0178	0.1409	0.0174	7/1/2018	7/2/2018	7/2/2018 3:33:50 PM	
11587	GLEN ULLIN	1106.6	0.6447	1378.2	-22.7	1.5446	0.9178	83.9477	11.6753	1.4215	0.1353	0.1061	0.0169	0.0229	0	0.0161	0.1788	0.0169	7/2/2018	7/3/2018	7/3/2018 3:31:09 PM	
11587	GLEN ULLIN	1105	0.6437	1377.3	-23.5	1.5597	0.912	84.107	11.5487	1.3878	0.1352	0.1062	0.0168	0.0228	0	0.0157	0.1713	0.0169	7/3/2018	7/4/2018	7/4/2018 3:31:10 PM	
11587	GLEN ULLIN	1108.4	0.6462	1378.8	-24.2	1.5919	0.9092	83.5588	12.0923	1.3676	0.1328	0.104	0.0161	0.0219	0	0.0146	0.1737	0.017	7/4/2018	7/5/2018	7/5/2018 3:33:35 PM	
11587	GLEN ULLIN	1112.2	0.6488	1380.8	-23.5	1.6068	0.9123	83.0775	12.4846	1.4312	0.1349	0.1041	0.0162	0.0219	0	0.0145	0.1791	0.017	7/5/2018	7/6/2018	7/6/2018 3:34:12 PM	
11587	GLEN ULLIN	1113.5	0.6495	1381.7	-22.5	1.5937	0.9136	83.0246	12.553	1.4393	0.1413	0.1089	0.017	0.0231	0	0.0151	0.1534	0.0171	7/6/2018	7/7/2018	7/7/2018 3:36:33 PM	
11587	GLEN ULLIN	1112.5	0.6479	1382.1	-20.3	1.4964	0.9178	83.5295	12.0771	1.4902	0.1543	0.1209	0.019	0.0261	0	0.0168	0.1351	0.0168	7/7/2018	7/8/2018	7/8/2018 3:31:19 PM	
11587	GLEN ULLIN	1111.2	0.6471	1381.3	-21.5	1.4886	0.9229	83.5269	12.145	1.4235	0.1416	0.1104	0.0175	0.0239	0	0.0167	0.1666	0.0163	7/8/2018	7/9/2018	7/9/2018 3:33:40 PM	
11587	GLEN ULLIN	1111.9	0.647	1382.3	-21.6	1.4373	0.9249	83.5361	12.1848	1.4226	0.14	0.1092	0.0175	0.0237	0	0.0167	0.1716	0.0157	7/9/2018	7/10/2018	7/10/2018 3:37:55 PM	
11587	GLEN ULLIN	1113.7	0.6499	1381.5	-23.5	1.5869	0.9331	82.8954	12.7062	1.4251	0.1287	0.0998	0.0155	0.021	0	0.0146	0.1566	0.017	7/10/2018	7/11/2018	7/11/2018 3:35:28 PM	
11587	GLEN ULLIN	1111.5	0.648	1380.8	-23.1	1.5411	0.9326	83.2567	12.4585	1.353	0.134	0.104	0.0166	0.0224	0	0.0155	0.149	0.0166	7/11/2018	7/12/2018	7/12/2018 3:33:40 PM	
11587	GLEN ULLIN	1109.3	0.6457	1380.5	-22.3	1.4737	0.9177	83.7468	11.9882	1.3948	0.132	0.1061	0.0166	0.0229	0	0.0166	0.1686	0.0161	7/12/2018	7/13/2018	7/13/2018 3:43:43 PM	
11587	GLEN ULLIN	1112.1	0.6484	1381.1	-21.9	1.556	0.928	83.1548	12.5145	1.38	0.13	0.102	0.0163	0.0221	0	0.0168	0.1631	0.0164	7/13/2018	7/14/2018	7/14/2018 3:33:45 PM	
11587	GLEN ULLIN	1113.4	0.6492	1381.8	-23.1	1.5317	0.9367	83.0217	12.725	1.3478	0.1273	0.1012	0.0156	0.0217	0	0.0157	0.1391	0.0165	7/14/2018	7/15/2018	7/15/2018 3:38:04 PM	
11587	GLEN ULLIN	1118.4	0.6521	1385	-22.1	1.5348	0.9191	82.4863	13.1983	1.4244	0.1292	0.1016	0.0161	0.0219	0	0.0157	0.1362	0.0164	7/15/2018	7/16/2018	7/16/2018 3:40:40 PM	
11587	GLEN ULLIN	1111.3	0.6472	1381.3	-27.1	1.5404	0.8962	83.244	12.6258	1.3002	0.1116	0.0858	0.0134	0.0181	0	0.0128	0.1345	0.0172	7/16/2018	7/17/2018	7/17/2018 3:39:22 PM	
11587	GLEN ULLIN	1102.4	0.6415	1376.4	-33.5	1.5941	0.8559	84.0126	12.1208	1.0722	0.0891	0.0659	0.0107	0.014	0	0.0102	0.1364	0.0181	7/17/2018	7/18/2018	7/18/2018 3:34:32 PM	
11587	GLEN ULLIN	1091.1	0.6338	1370.5	-41.5	1.5741	0.8415	85.0773	11.4502	0.7932	0.0515	0.0348	0.0048	0.0059	0	0.0087	0.1423	0.0181	7/18/2018	7/19/2018	7/19/2018 3:37:58 PM	
11587	GLEN ULLIN	1086	0.6305	1367.7	-55.8	1.5928	0.8252	85.5452	11.1185	0.6944	0.0378	0.0199	0.0026	0.0025	0	0.0012	0.1415	0.0181	7/19/2018	7/20/2018	7/20/2018 3:35:47 PM	
11587	GLEN ULLIN	1087.2	0.6314	1368.2	-55.4	1.5688	0.8532	85.3989	11.2448	0.707	0.0381	0.0207	0.0026	0.0026	0	0.0007	0.1459	0.0175	7/20/2018	7/21/2018	7/21/2018 3:33:59 PM	
11587	GLEN ULLIN	1085.9	0.6312	1366.8	-55.9	1.6154	0.8566	85.4286	11.1674	0.7039	0.035	0.0198	0.0024	0.0024	0	0.0006	0.1511	0.0178	7/21/2018	7/22/2018	7/22/2018 3:33:52 PM	
11587	GLEN ULLIN	1085	0.6301	1366.8	-56.4	1.5623	0.8585	85.6369	11.046	0.6653	0.0374	0.0207	0.0026	0.0027	0	0.0011	0.1501	0.0175	7/22/2018	7/23/2018	7/23/2018 3:34:21 PM	
11587	GLEN ULLIN	1086.6	0.6312	1367.7	-55.9	1.5691	0.863	85.4029	11.253	0.6844	0.0343	0.0187	0.0022	0.0022	0	0.0009	0.1532	0.0173	7/23/2018	7/24/2018	7/24/2018 3:37:33 PM	
11587	GLEN ULLIN	1082.7	0.6286	1365.6	-57.8	1.5463	0.868	85.9067	10.7847	0.6598	0.0343	0.018	0.0023	0.0022	0	0.0006	0.1601	0.0174	7/24/2018	7/25/2018	7/25/2018 3:36:38 PM	
11587	GLEN ULLIN	1081	0.6281	1364	-58.3	1.5876	0.8762	85.9682	10.7256	0.5996	0.0375	0.0189	0.003	0.0027	0	0.0009	0.1629	0.0175	7/25/2018	7/26/2018	7/26/2018 3:35:43 PM	
11587	GLEN ULLIN	1084.7	0.6306	1366	-56	1.5946	0.8783	85.5666	11.0416	0.6872	0.0369	0.0195	0.0028	0.0027	0	0.0012	0.1507	0.0177	7/26/2018	7/27/2018	7/27/2018 3:35:52 PM	
11587	GLEN ULLIN	1091	0.6353	1368.8	-52.3	1.6736	0.8705	84.6752	11.805	0.7417	0.0427	0.0223	0.0037	0.0035	0	0.0013	0.1428	0.0179	7/27/2018	7/28/2018	7/28/2018 3:35:02 PM	
11587	GLEN ULLIN	1089.9	0.6344	1368.4	-52.6	1.6551	0.8713	84.8918	11.5998	0.7546	0.044	0.0225	0.0039	0.0035	0	0.0016	0.1345	0.0177	7/28/2018	7/29/2018	7/29/2018 3:36:01 PM	
11587	GLEN ULLIN	1088	0.6329	1367.6	-55.1	1.6526	0.8549	85.0958	11.4816	0.7026	0.0357	0.0188	0.0024	0.0023	0	0.0004	0.1355	0.0178	7/29/2018	7/30/2018	7/30/2018 3:43:35 PM	
11587	GLEN ULLIN	1089.5	0.6336	1368.7	-54.3	1.6342	0.8525	85.1774	11.4907	0.7236	0.0388	0.021	0.0028	0.0028	0	0.0009	0.0502	0.0171	7/30/2018	7/31/2018	7/31/2018 3:37:35 PM	
11587	GLEN ULLIN	1088.7	0.6333	1368	-55.3	1.6662	0.8405	85.2789	11.4558	0.6914	0.035	0.0189	0.0023	0.0023	0	0.0007	0.0087	0	7/31/2018	8/1/2018	8/1/2018 3:35:54 PM	

32 record(s) retrieved

Done

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	Chromatograph	Spring Creek
550	Accumulated Sample & Chromatograph	Mandan Border
600	Chromatograph	Hankinson 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	JULY 18	JUNE 18	MAY 18	APRIL 18	MARCH 18	FEB 18	JAN 18	DEC 17	NOV 17	OCT 17	SEPT 17	AUG 17	ZONE
MT/ND	211	Sidney Border - MonDak Tfr - Sidney Plt	1196	1202	1171	1193	1191	1211	1195	1185	1193	1210	1201	1200	1204	211
ND	24	Williston Border - Charbonneau Station	1142	1158	1141	1135	1136	1140	1140	1138	1143	1144	1144	1142	1142	24
ND	25	Watford City West Border	1189	1204	1202	1192	1185	1179	1184	1174	1165	1169	1204	1205	1202	25
ND	28	Bismarck Station - Glen Ullin Station	1147	1153	1173	1172	1163	1121	1098	1096	1114	1111	1173	1196	1195	28
ND	31	Dickinson Brd - Belfield Trf - G Ullin Stn	1127	1147	1139	1158	1134	1122	1102	1095	1111	1110	1132	1100	1169	31
ND/MT	32	Cabin Creek Station - Belfied Transfer	1107	1136	1127	1113	1116	1104	1080	1072	1096	1090	1113	1103	1136	32
ND	33	Little Knife Plant	1176	1175	1174	1176	1175	1175	1176	1175	1174	1174	1174	1177	1181	33
ND	34	Badlands Plant/Bowman Border	994	983	984	996	996	996	996	996	996	996	996	996	996	34
ND	43	Spring Creek I - Sax Valve I	1155	1152	1155	1160	1164	1158	1148	1153	1165	1158	1143	1147	1151	43
ND/MT	241	Fairview Border	1187	1196	1180	1168	1151	1205	1206	1203	1190	1204	1196	1175	1169	241
ND	260	North Tioga Transfer - Nesson Plant	1013	1127	1089	989	989	987	986	1021	998	992	996	987	993	260
ND	261	Tioga Comp Station - Robinson Lake Plan	1174	1177	1178	1169	1176	1173	1171	1173	1167	1170	1176	1175	1177	261
ND	262	Minot Bdr - Palermo Bdr - Bismarck Stn	1189	1156	1175	1180	1198	1199	1191	1193	1196	1190	1194	1196	1195	262
ND	263	Lignite Plant	1129	1135	1115	1128	1135	1115	1135	1114	1120	1143	1141	1123	1143	263
ND	264	Epping Border	1138	1148	1148	1129	1128	1118	1144	1161	1142	1133	1134	1136	1133	264
ND	265	Tioga Comp Station - County Line Plant	1174	1176	1178	1175	1176	1173	1171	1174	1167	1170	1176	1176	1177	265
ND	266	County Line Plant	1183	1181	1181	1180	1181	1182	1185	1183	1181	1184	1185	1189	1184	266
ND	271	Bismarck Station - Cleveland Station	1178	1153	1173	1173	1194	1187	1159	1161	1176	1179	1192	1196	1195	271
ND	272	Cleveland Station - Mapleton	1178	1154	1173	1172	1194	1187	1158	1160	1177	1179	1192	1196	1195	272
ND	273	Cleveland Station - Grafton Border	1178	1153	1173	1171	1192	1187	1158	1160	1177	1179	1192	1196	1195	273
ND	550	Mandan Border / NBPL-St Anthony		1150	1173	1172	1163	1100	1090	1088	1099	1093				550
ND	610	MDU-Watford City BTU	1170	1152	1156	1164	1174	1170	1168	1164	1165	1165	1189	1190	1183	610
ND	802	Linton	1075	1101	1097	1083	1074	1069	1068	1069	1073	1075	1064	1065	1062	802
ND	903	Heltinger Propane	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	903

**THERMAL ZONE VARIANCE
DOCUMENTATION**

July 2018

ZONE	<i>BTU VARIANCE</i>	<i>REASON</i>
211	31	Operational Change
28	-20	Operational Change
260	38	Operational Change
263	20	Operational Change
271	-20	Operational Change
272	-19	Operational Change
273	-20	Operational Change