



UTILITIES CO.

A Division of MDU Resources Group, Inc.

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

April 13, 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 – February 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 March 2018.
2. Attachment B consists of copies of the monthly Heating Value Test Reports received from our suppliers for the month of February 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 February 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
Mar-18

Town	Heat Zone	Therm Factor
MDU-303-ALEXANDER	025	1.1088
MDU-308-ARNEGARD	025	1.1088
MDU-314-APPLE VALLEY	271	1.1202
MDU-318-BEACH	032	0.9907
MDU-319-BELFIELD	032	0.9979
MDU-323-BERTHOLD	262	1.1268
MDU-327-BISMARCK	028	1.0501
MDU-330-BOWMAN	034	0.9137
MDU-337-BURLINGTON	262	1.1511
MDU-343-CARRINGTON	273	1.1192
MDU-344-CLEVELAND	272	1.1114
MDU-364-CAVALIER	273	1.1429
MDU-365-DAWSON	271	1.1123
MDU-368-DES LACS	262	1.1349
MDU-369-DICKINSON	031	1.0268
MDU-374-FT TOTTEN	273	1.1271
MDU-375-DEVILS LAKE	273	1.1271
MDU-379-BARLOW	273	1.1192
MDU-384-EPPING	264	1.0966
MDU-387-ELDRIDGE	272	1.1192
MDU-407-GLADSTONE	031	1.0268
MDU-411-GLEN ULLIN	031	1.0342
MDU-413-GOLVA	032	0.9761
MDU-416-GARRISON	262	1.1349
MDU-417-GRAFTON	273	1.1507
MDU-429-HEBRON	031	1.0342
MDU-432-HETTINGER	903	2.3875
MDU-449-JAMESTOWN	272	1.1271
MDU-459-KILLDEER	033	1.1098
MDU-463-LANGDON	273	1.1192
MDU-469-LEFOR	031	1.0268
MDU-474-LIGNITE	263	1.0597
MDU-475-LINTON	802	1.0314
MDU-478-LINCOLN	028	1.0575
MDU-488-MCKENZIE	271	1.1202
MDU-494-MEDINA	271	1.1123
MDU-498-MANDAN	028	1.0575
MDU-500-MARMARTH	034	0.9204
MDU-505-MINOT	262	1.1511
MDU-510-MOTT	031	1.0268
MDU-512-MAX	262	1.1268
MDU-522-NEW ENGLAND	031	1.0194
MDU-524-NEW SALEM	028	1.0352
MDU-532-NEW ROCKFORD	273	1.1192
MDU-539-PARK RIVER	273	1.1429
MDU-540-PALERMO	262	1.1268
MDU-558-RAY	264	1.0966
MDU-561-REGENT	031	1.0268
MDU-563-RHAME	034	0.9069

MDU-564-RICHARDTON	031	1.0194
MDU-568-ROSS	261	1.0999
MDU-572-RUTHVILLE	262	1.1492
MDU-574-SANBORN	272	1.1271
MDU-583-SENTINEL BUTTE	032	0.9907
MDU-588-SOUTH HEART	031	1.0194
MDU-717-SPIRITWOOD	272	1.1271
MDU-590-SPRINGBROOK	264	1.0966
MDU-591-STANLEY	261	1.1159
MDU-593-STEELE	271	1.1123
MDU-598-SHEYENNE	273	1.1271
MDU-605-SURREY	262	1.1511
MDU-610-TAPPEN	271	1.1123
MDU-611-TAYLOR	031	1.0194
MDU-616-TIOGA	260	0.9574
MDU-619-TURTLE LAKE	262	1.1349
MDU-620-TRENTON	024	1.0826
MDU-624-UNDERWOOD	262	1.1330
MDU-625-VALLEY CITY	272	1.1350
MDU-629-WALHALLA	273	1.1429
MDU-632-WATFORD CITY	610	1.0994
MDU-636-WHEELOCK	264	1.0887
MDU-637-WHITE EARTH	261	1.1079
MDU-642-WILLISTON	024	1.0826
MDU-646-WASHBURN	262	1.1430
MDU-647-WILTON	262	1.1268
MDU-664-RIVERDALE	262	1.1330
MDU-691-FAIRVIEW	241	1.1444
MDU-712-MINOT AFB	262	1.1511
MDU-718-FAIRMOUNT	600	1.1307
MDU-732-NEKOMA	273	1.1192
MDU-732-MSR SITE	273	1.1192

Source Daily Summary

February 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 Drv	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6926	1159.3	1179.9	1175.5	0.036	3.018	73.159	22.001	1.751	0.017	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.41
2	0.6958	1164.3	1184.9	1180.6	0.035	3.011	72.735	22.219	1.961	0.018	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.27
3	0.6964	1165.9	1186.6	1182.5	0.036	2.967	72.679	22.261	2.016	0.019	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.62
4	0.6968	1166.2	1186.9	1182.8	0.036	2.987	72.690	22.131	2.112	0.021	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.57
5	0.6930	1161.2	1181.8	1177.6	0.035	2.939	73.253	21.841	1.894	0.018	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1416.29
6	0.6989	1169.2	1189.9	1185.8	0.035	3.007	72.360	22.341	2.213	0.021	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.02
7	0.6948	1162.9	1183.5	1179.3	0.036	3.008	72.903	22.076	1.940	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1416.49
8	0.6967	1165.3	1185.9	1181.9	0.034	3.042	72.562	22.342	1.979	0.019	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.46
9	0.6935	1161.0	1181.5	1177.4	0.036	3.000	73.144	21.875	1.905	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1415.49
10	0.6993	1169.2	1190.0	1185.8	0.035	3.041	72.516	21.971	2.330	0.037	0.061	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1419.60
11	0.6942	1161.8	1182.4	1178.2	0.032	3.020	73.039	21.926	1.943	0.019	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1415.79
12	0.6948	1163.6	1184.2	1180.1	0.036	2.955	72.974	22.012	1.986	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.47
13	0.6972	1166.6	1187.3	1183.0	0.033	3.008	72.565	22.268	2.085	0.019	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.61
14	0.6951	1163.7	1184.3	1180.1	0.037	2.978	72.881	22.112	1.954	0.018	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.27
15	0.6963	1163.4	1184.0	1179.9	0.102	3.020	72.753	22.072	1.998	0.023	0.030	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1415.55
16	0.7230	1182.6	1203.5	1199.1	0.732	3.388	69.472	23.012	3.121	0.096	0.165	0.008	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1412.33
17	0.7434	1194.8	1216.0	1211.5	1.272	3.733	66.885	23.820	3.829	0.157	0.279	0.014	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1406.92
18	0.7408	1194.5	1215.7	1211.2	1.176	3.662	67.071	24.003	3.671	0.142	0.253	0.012	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1409.01
19	0.7169	1175.6	1196.4	1192.1	0.672	3.338	70.292	22.629	2.821	0.087	0.148	0.007	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1409.94
20	0.7197	1180.1	1201.0	1196.7	0.664	3.338	69.843	22.957	2.945	0.089	0.152	0.007	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1412.42
21	0.7288	1185.1	1206.1	1201.8	0.910	3.504	68.686	23.312	3.268	0.111	0.193	0.009	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1409.74
22	0.7381	1191.6	1212.7	1208.2	1.131	3.650	67.423	23.833	3.584	0.130	0.230	0.011	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1408.25
23	0.6981	1164.0	1184.6	1180.5	0.155	3.068	72.646	21.893	2.154	0.033	0.047	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1414.50
24	0.7195	1179.1	1200.0	1195.5	0.662	3.385	69.727	23.161	2.834	0.081	0.138	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1411.45
25	0.7399	1191.9	1213.0	1208.5	1.200	3.696	67.209	23.858	3.640	0.136	0.240	0.012	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1406.82
26	0.7409	1190.1	1211.2	1206.6	1.287	3.766	67.326	23.370	3.817	0.148	0.262	0.013	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1403.70
27	0.7417	1191.8	1212.9	1208.1	1.280	3.755	67.037	23.806	3.679	0.150	0.268	0.013	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1404.85
28	0.7373	1183.3	1204.3	1199.7	1.279	3.854	68.004	22.672	3.731	0.156	0.278	0.014	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1399.08
Avg	0.7116	1174.0	1194.7	1190.4	0.465	3.255	70.851	22.635	2.613	0.065	0.108	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1413.14

Zone 211

Source Daily Summary

February 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 Drv	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6755	1118.1	1137.9	1135.0	0.824	2.702	78.464	15.476	2.307	0.067	0.139	0.010	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1381.37
2	0.6783	1121.6	1141.5	1138.6	0.826	2.751	77.783	16.206	2.209	0.067	0.139	0.010	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1382.82
3	0.6748	1115.7	1135.4	1132.5	0.831	2.778	78.503	15.451	2.209	0.068	0.141	0.010	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1379.04
4	0.6758	1118.8	1138.6	1135.7	0.821	2.696	78.286	15.776	2.198	0.066	0.137	0.010	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1381.86
5	0.6751	1117.6	1137.4	1134.5	0.817	2.712	78.411	15.649	2.185	0.066	0.139	0.010	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1381.08
6	0.6761	1118.9	1138.7	1135.7	0.817	2.731	78.180	15.881	2.167	0.066	0.138	0.010	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1381.60
7	0.6756	1118.2	1138.1	1135.1	0.807	2.731	78.191	15.967	2.089	0.063	0.132	0.010	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1381.42
8	0.6765	1119.6	1139.4	1136.5	0.807	2.739	77.984	16.167	2.087	0.063	0.131	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1382.09
9	0.6760	1118.7	1138.5	1135.6	0.820	2.724	78.141	15.990	2.108	0.064	0.133	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1381.52
10	0.6775	1121.8	1141.7	1138.8	0.812	2.688	77.783	16.427	2.079	0.062	0.130	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1383.86
11	0.6755	1117.9	1137.7	1134.7	0.808	2.746	78.197	15.949	2.087	0.062	0.131	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1381.01
12	0.6783	1121.5	1141.4	1138.4	0.820	2.775	77.685	16.371	2.123	0.065	0.139	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1382.58
13	0.6812	1126.1	1146.0	1143.1	0.812	2.774	77.078	16.992	2.129	0.063	0.132	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1385.37
14	0.6816	1126.7	1146.6	1143.7	0.815	2.772	77.018	17.039	2.137	0.064	0.134	0.010	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1385.65
15	0.6786	1122.0	1141.9	1139.0	0.818	2.769	77.688	16.319	2.176	0.068	0.141	0.010	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1382.99
16	0.6800	1124.6	1144.5	1141.6	0.814	2.756	77.310	16.779	2.127	0.063	0.131	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1384.66
17	0.6806	1124.6	1144.5	1141.6	0.828	2.786	77.280	16.697	2.184	0.067	0.139	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1384.12
18	0.6774	1119.6	1139.5	1136.6	0.827	2.791	77.916	16.069	2.174	0.066	0.137	0.010	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1381.22
19	0.6771	1119.1	1138.9	1136.0	0.829	2.786	78.029	15.927	2.203	0.066	0.139	0.010	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1380.92
20	0.6785	1121.7	1141.5	1138.7	0.830	2.759	77.737	16.250	2.199	0.066	0.137	0.010	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1382.68
21	0.6765	1118.4	1138.3	1135.4	0.819	2.791	78.062	15.949	2.163	0.064	0.133	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1380.68
22	0.6776	1119.2	1139.0	1136.1	0.826	2.840	77.865	16.079	2.165	0.066	0.139	0.010	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1380.44
23	0.6800	1123.0	1142.9	1140.0	0.811	2.858	77.311	16.663	2.137	0.065	0.134	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1382.69
24	0.6800	1123.1	1143.0	1140.1	0.812	2.847	77.230	16.834	2.067	0.062	0.128	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1382.85
25	0.6795	1122.1	1142.0	1139.0	0.818	2.854	77.323	16.744	2.052	0.061	0.127	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1382.10
26	0.6795	1120.8	1140.7	1137.7	0.817	2.928	77.349	16.620	2.076	0.062	0.129	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1380.58
27	0.6799	1120.1	1139.9	1137.0	0.806	3.028	77.228	16.653	2.077	0.062	0.128	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1379.27
28	0.6777	1116.3	1136.1	1133.2	0.834	3.007	77.708	16.168	2.076	0.061	0.127	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1376.88
Avg	0.6779	1121.0	1140.4	1137.5	0.819	2.790	77.776	16.253	2.142	0.064	0.134	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1381.91

Zone 24

Gas Composition and Properties

Source #: 0602160
Name: FAIRVIEW BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	1.0685		2.2170
Nitrogen, N2	3.5848		4.7344
Methane, C1	67.9838		51.4180
Ethane, C2	23.4845	6.2862	33.2919
Propane, C3	3.4639	0.9515	7.2011
iso-Butane, iC4	0.1410	0.0460	0.3864
n-Butane, nC4	0.2418	0.0761	0.6626
iso-Pentane, iC5	0.0121	0.0044	0.0412
n-Pentane, nC5	0.0093	0.0034	0.0316
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0000	0.0000	0.0000
Water, H2O			
Hydrogen Sulfide, H2S			
Oxygen, O2	0.0105		0.0158
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	-13.677	
Cricondentherm	4.960	
HV, Dry @ Base P, T	1206.33	
HV, Sat @ Base P, T	1185.34	
HV, Sat @ Sample P, T	1206.33	
Relative Density	0.7328	

C6+: 100

Totals	100.0002	7.3670	100.0000
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Sample

Date: 03/01/2018 Pressure: 410.0
 Type: Composite Temperature: 0.0
 Tech: RR H2O: lbs/mm
 H2S: ppm

Remarks:

Analysis

Date: 03/02/2018 Instrument: WBI-64
 Cylinder: 338

Tech: MB

Remarks:

Zone 241

Gas Composition and Properties

Source #: 0602225
Name: WATFORD CITY WEST BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	1.1144		2.3736
Nitrogen, N2	3.0745		4.1683
Methane, C1	71.9148		55.8349
Ethane, C2	20.3011	5.4331	29.5430
Propane, C3	3.0344	0.8336	6.4757
iso-Butane, iC4	0.1640	0.0535	0.4613
n-Butane, nC4	0.3353	0.1055	0.9432
iso-Pentane, iC5	0.0270	0.0099	0.0943
n-Pentane, nC5	0.0268	0.0097	0.0936
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0000	0.0000	0.0000
Water, H2O			
Hydrogen Sulfide, H2S			
Oxygen, O2	0.0078		0.0121
Carbon Monoxide, CO			
Hydrogen, H2			
Helium, He			
Argon, Ar			
Totals	100.0001	6.4460	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	1183.98	
HV, Sat @ Base P, T	1163.38	
HV, Sat @ Sample P, T	1183.98	
Relative Density	0.7139	

C6+: 100

Sample

Date: 03/01/2018 Pressure: 444.0
 Type: Composite Temperature: 0.0
 Tech: ES H2O: lbs/mm
 H2S: ppm

Remarks:

Analysis

Date: 03/02/2018 Instrument: WBI-62
 Cylinder: 377

Tech: MB

Remarks:

Zone 25

Source Daily Summary

February 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 Drv	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.5819	969.0	986.1		0.006	4.242	93.920	1.729	0.083	0.005	0.012	0.001	0.001	0.000					1289.79	
2	0.5824	968.5	985.6		0.008	4.325	93.799	1.763	0.086	0.005	0.012	0.001	0.001	0.000					1288.48	
3	0.5829	969.0	986.1		0.007	4.340	93.693	1.857	0.084	0.005	0.012	0.001	0.001	0.000					1288.62	
4	0.5823	968.2	985.4		0.007	4.326	93.821	1.744	0.083	0.005	0.012	0.001	0.001	0.000					1288.35	
5	0.5830	970.6	987.8		0.007	4.249	93.697	1.933	0.092	0.005	0.013	0.001	0.001	0.000					1290.69	
6	0.5834	970.9	988.1		0.007	4.263	93.693	1.890	0.099	0.018	0.024	0.001	0.002	0.002					1290.67	
7	0.5856	974.5	991.7		0.007	4.254	93.182	2.440	0.096	0.005	0.012	0.001	0.001	0.001					1293.01	
8	0.5827	969.5	986.7		0.007	4.283	93.754	1.851	0.085	0.005	0.012	0.001	0.001	0.000					1289.63	
9	0.5827	969.8	986.9		0.007	4.272	93.747	1.869	0.085	0.005	0.012	0.001	0.001	0.000					1289.92	
10	0.5817	969.2	986.4		0.007	4.208	93.972	1.710	0.083	0.005	0.012	0.001	0.001	0.000					1290.32	
11	0.5818	969.2	986.4		0.008	4.219	93.938	1.731	0.085	0.005	0.012	0.001	0.001	0.000					1290.20	
12	0.5815	970.4	987.5		0.007	4.119	94.029	1.738	0.086	0.005	0.013	0.001	0.001	0.000					1292.08	
13	0.5813	968.9	986.0		0.007	4.195	94.051	1.640	0.084	0.005	0.013	0.001	0.001	0.002					1290.28	
14	0.5813	967.7	984.9		0.007	4.260	94.054	1.573	0.083	0.005	0.013	0.002	0.002	0.002					1288.80	
15	0.5812	966.0	983.1		0.007	4.363	94.038	1.490	0.082	0.005	0.012	0.001	0.002	0.000					1286.50	
16	0.5817	966.7	983.8		0.008	4.365	93.938	1.586	0.084	0.005	0.012	0.001	0.002	0.000					1286.93	
17	0.5828	970.4	987.6		0.007	4.242	93.733	1.910	0.087	0.005	0.012	0.001	0.001	0.001					1290.67	
18	0.5827	968.8	985.9		0.007	4.330	93.755	1.802	0.085	0.005	0.012	0.001	0.001	0.003					1288.61	
19	0.5824	969.2	986.4		0.008	4.279	93.812	1.792	0.086	0.005	0.012	0.001	0.002	0.002					1289.49	
20	0.5822	968.4	985.6		0.006	4.308	93.842	1.743	0.082	0.005	0.012	0.001	0.001	0.000					1288.68	
21	0.5826	969.4	986.6		0.007	4.283	93.770	1.834	0.086	0.005	0.012	0.001	0.001	0.000					1289.56	
22	0.5823	968.4	985.6		0.008	4.310	93.836	1.741	0.085	0.005	0.012	0.001	0.001	0.000					1288.63	
23	0.5823	968.6	985.7		0.008	4.304	93.842	1.733	0.091	0.005	0.013	0.001	0.002	0.000					1288.79	
24	0.5818	967.5	984.6		0.008	4.327	93.920	1.639	0.086	0.005	0.012	0.001	0.002	0.000					1287.87	
25	0.5820	968.3	985.4		0.007	4.299	93.881	1.708	0.085	0.005	0.012	0.001	0.002	0.000					1288.70	
26	0.5821	968.6	985.8		0.008	4.288	93.867	1.729	0.088	0.005	0.013	0.001	0.002	0.000					1289.02	
27	0.5839	964.5	981.6		0.008	4.703	93.451	1.731	0.086	0.005	0.011	0.001	0.001	0.003					1281.62	
28	0.5843	965.9	983.0		0.008	4.662	93.353	1.873	0.086	0.005	0.011	0.001	0.001	0.000					1282.95	
Avg	0.5825	969.0	985.9		0.007	4.308	93.800	1.778	0.086	0.005	0.013	0.001	0.001	0.001					1288.89	

Zone 260

Source Daily Summary

February 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 Drv	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7055	1153.6	1174.0	1170.3	0.851	3.331	72.358	20.932	2.232	0.082	0.180	0.015	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1394.37
2	0.7064	1154.5	1174.9	1171.1	0.855	3.350	72.360	20.745	2.375	0.088	0.193	0.015	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1394.60
3	0.7011	1146.7	1167.0	1163.3	0.824	3.383	73.049	20.313	2.182	0.074	0.153	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1390.39
4	0.7015	1148.3	1168.6	1164.8	0.812	3.339	72.866	20.637	2.115	0.070	0.141	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1391.96
5	0.7054	1153.4	1173.8	1169.9	0.861	3.318	72.498	20.714	2.292	0.087	0.194	0.016	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1394.22
6	0.7054	1153.6	1174.0	1170.1	0.848	3.322	72.587	20.546	2.376	0.089	0.197	0.016	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1394.48
7	0.7047	1152.9	1173.3	1169.3	0.832	3.324	72.819	20.257	2.421	0.094	0.210	0.019	0.024	0.000	0.000	0.000	0.000	0.000	0.000	1394.27
8	0.7026	1149.0	1169.3	1165.6	0.853	3.333	72.907	20.373	2.276	0.077	0.158	0.011	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1391.74
9	0.7016	1147.9	1168.2	1164.3	0.845	3.317	73.208	20.050	2.292	0.082	0.175	0.014	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1391.32
10	0.7016	1147.3	1167.6	1163.8	0.845	3.361	73.183	20.015	2.312	0.081	0.173	0.013	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1390.56
11	0.7026	1148.6	1168.9	1165.1	0.865	3.340	72.976	20.267	2.275	0.079	0.169	0.013	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1391.17
12	0.7048	1152.2	1172.6	1168.9	0.867	3.326	72.657	20.502	2.330	0.087	0.194	0.016	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1393.35
13	0.7027	1148.8	1169.1	1165.3	0.864	3.337	73.019	20.187	2.299	0.083	0.179	0.014	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1391.31
14	0.7025	1149.1	1169.4	1165.6	0.847	3.333	72.973	20.254	2.332	0.077	0.160	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1391.88
15	0.7012	1147.4	1167.7	1164.0	0.858	3.289	73.234	20.081	2.269	0.078	0.163	0.012	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1391.17
16	0.7033	1150.1	1170.5	1166.8	0.868	3.311	72.847	20.398	2.292	0.081	0.174	0.013	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1392.37
17	0.7046	1152.2	1172.6	1168.9	0.874	3.298	72.617	20.597	2.338	0.080	0.170	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1393.59
18	0.7034	1150.8	1171.1	1167.4	0.859	3.296	72.815	20.448	2.305	0.080	0.169	0.012	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1393.03
19	0.7054	1153.5	1173.9	1170.1	0.861	3.309	72.571	20.576	2.364	0.088	0.195	0.016	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1394.37
20	0.7022	1148.3	1168.6	1164.9	0.870	3.317	73.035	20.222	2.286	0.078	0.164	0.012	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1391.23
21	0.7026	1150.1	1170.5	1166.8	0.833	3.294	72.949	20.345	2.312	0.079	0.164	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1393.12
22	0.7025	1148.9	1169.3	1165.6	0.867	3.303	72.952	20.340	2.278	0.076	0.159	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1391.81
23	0.7034	1150.3	1170.6	1166.9	0.877	3.296	72.855	20.360	2.344	0.079	0.165	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1392.48
24	0.7039	1151.2	1171.6	1167.7	0.874	3.294	72.894	20.231	2.409	0.086	0.181	0.014	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1392.99
25	0.7019	1148.1	1168.5	1164.5	0.869	3.298	73.222	19.980	2.343	0.081	0.173	0.014	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1391.24
26	0.7027	1149.2	1169.5	1165.8	0.871	3.300	72.989	20.243	2.330	0.078	0.163	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1391.91
27	0.7048	1153.0	1173.4	1169.6	0.871	3.271	72.657	20.523	2.407	0.080	0.165	0.012	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1394.30
28	0.7033	1151.0	1171.4	1167.9	0.865	3.258	72.817	20.490	2.308	0.077	0.158	0.011	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1393.49
Avg	0.7034	1150.0	1170.7	1166.9	0.857	3.316	72.854	20.380	2.310	0.081	0.173	0.013	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1392.60

Zone 261

Source Daily Summary

February 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 Wat	Heating Value Drv	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7330	1170.4	1191.2	1187.9	0.871	4.851	68.466	21.588	3.684	0.150	0.344	0.022	0.024	0.000	0.000	0.000	0.000	0.000	0.000	1387.95
2	0.7338	1170.7	1191.4	1188.2	0.878	4.905	68.401	21.486	3.784	0.153	0.350	0.022	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1387.46
3	0.7309	1164.7	1185.3	1182.3	0.867	5.011	68.652	21.323	3.702	0.137	0.288	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1383.23
4	0.7329	1170.0	1190.7	1187.6	0.857	4.892	68.437	21.583	3.710	0.148	0.334	0.020	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1387.55
5	0.7319	1168.7	1189.4	1186.3	0.877	4.847	68.574	21.529	3.675	0.144	0.322	0.016	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1386.98
6	0.7331	1169.3	1190.0	1186.9	0.875	4.927	68.478	21.407	3.792	0.149	0.335	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1386.54
7	0.7326	1169.8	1190.5	1187.3	0.866	4.868	68.563	21.401	3.786	0.148	0.331	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1387.51
8	0.7323	1168.5	1189.2	1186.0	0.875	4.899	68.527	21.490	3.708	0.145	0.321	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1386.33
9	0.7316	1168.0	1188.7	1185.5	0.870	4.869	68.703	21.377	3.640	0.152	0.346	0.021	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1386.39
10	0.7292	1167.8	1188.5	1185.3	0.871	4.658	69.045	21.404	3.505	0.145	0.331	0.021	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1388.41
11	0.7264	1162.7	1183.3	1180.2	0.881	4.694	69.307	21.290	3.393	0.130	0.279	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1385.04
12	0.7331	1169.8	1190.5	1187.3	0.879	4.893	68.446	21.565	3.664	0.154	0.354	0.022	0.023	0.000	0.000	0.000	0.000	0.000	0.000	1387.02
13	0.7336	1169.5	1190.2	1187.0	0.877	4.957	68.373	21.531	3.709	0.154	0.354	0.022	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1386.28
14	0.7338	1169.4	1190.1	1187.0	0.873	4.983	68.339	21.528	3.731	0.153	0.350	0.021	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1386.04
15	0.7330	1170.0	1190.7	1187.5	0.874	4.879	68.490	21.485	3.737	0.151	0.343	0.021	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1387.39
16	0.7328	1170.3	1191.0	1187.9	0.879	4.831	68.499	21.550	3.714	0.149	0.338	0.019	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1388.02
17	0.7344	1171.7	1192.4	1189.3	0.881	4.890	68.262	21.656	3.775	0.152	0.344	0.019	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1388.13
18	0.7339	1170.8	1191.6	1188.5	0.875	4.910	68.287	21.634	3.779	0.149	0.332	0.016	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1387.59
19	0.7350	1173.2	1193.9	1190.8	0.875	4.868	68.172	21.757	3.770	0.155	0.356	0.022	0.024	0.000	0.000	0.000	0.000	0.000	0.000	1389.28
20	0.7315	1168.0	1188.7	1185.6	0.881	4.850	68.657	21.452	3.651	0.145	0.326	0.018	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1386.48
21	0.7337	1170.8	1191.6	1188.4	0.869	4.898	68.364	21.575	3.764	0.150	0.339	0.019	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1387.74
22	0.7340	1170.3	1191.1	1187.9	0.883	4.936	68.283	21.613	3.761	0.149	0.337	0.018	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1386.91
23	0.7357	1171.3	1192.1	1188.9	0.887	5.025	68.039	21.677	3.834	0.152	0.344	0.019	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1386.49
24	0.7367	1172.7	1193.4	1190.3	0.884	5.046	67.924	21.691	3.899	0.157	0.358	0.020	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1387.11
25	0.7377	1172.9	1193.7	1190.4	0.884	5.121	67.809	21.665	3.953	0.160	0.364	0.021	0.024	0.000	0.000	0.000	0.000	0.000	0.000	1386.43
26	0.7376	1172.7	1193.5	1190.2	0.881	5.135	67.792	21.683	3.945	0.159	0.362	0.021	0.023	0.000	0.000	0.000	0.000	0.000	0.000	1386.21
27	0.7377	1172.8	1193.6	1190.4	0.886	5.133	67.786	21.665	3.969	0.158	0.359	0.021	0.023	0.000	0.000	0.000	0.000	0.000	0.000	1386.25
28	0.7405	1176.1	1197.0	1193.9	0.881	5.190	67.520	21.556	4.296	0.158	0.357	0.020	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1387.70
Avg	0.7337	1170.0	1190.8	1187.7	0.876	4.927	68.364	21.541	3.762	0.150	0.339	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1386.95

Zone 2b2

Gas Composition and Properties

Source #: 2501030
Name: LIGNITE PLANT

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	0.1288		0.2922
Nitrogen, N2	3.3463		4.8323
Methane, C1	77.7609		64.3068
Ethane, C2	16.7115	4.4706	25.9034
Propane, C3	1.9019	0.5225	4.3232
iso-Butane, iC4	0.0431	0.0141	0.1291
n-Butane, nC4	0.0266	0.0084	0.0797
iso-Pentane, iC5	0.0000	0.0000	0.0000
n-Pentane, nC5	0.0000	0.0000	0.0000
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0000	0.0000	0.0000
Water, H2O			
Hydrogen Sulfide, H2S			
Oxygen, O2	0.0808		0.1333
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	-39.459	
Cricondentherm	-29.720	
HV, Dry @ Base P, T	1134.88	
HV, Sat @ Base P, T	1115.13	
HV, Sat @ Sample P, T	1134.88	
Relative Density	0.6703	

C6+: 100

Totals	99.9999	5.0150	100.0000
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Sample

Date: 03/01/2018 Pressure: 500.0
 Type: Composite Temperature: 0.0
 Tech: ES H2O: lbs/mm
 H2S: ppm

Remarks:

Analysis

Date: 03/02/2018 Instrument: WBI-63
 Cylinder: 356

Tech: MB

Remarks:

Zone 263

Source Daily Summary

February 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 Drv	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7059	1154.3	1174.7	1171.5	0.849	3.327	72.305	20.972	2.246	0.083	0.184	0.015	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1394.82
2	0.7063	1154.3	1174.8	1171.6	0.856	3.351	72.362	20.755	2.368	0.087	0.190	0.015	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1394.50
3	0.7012	1146.8	1167.1	1164.0	0.825	3.380	73.029	20.342	2.175	0.074	0.153	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1390.49
4	0.7019	1148.9	1169.3	1166.2	0.813	3.331	72.806	20.695	2.122	0.071	0.143	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1392.41
5	0.7054	1153.3	1173.7	1170.5	0.861	3.318	72.499	20.718	2.287	0.086	0.193	0.016	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1394.16
6	0.7054	1153.6	1174.1	1170.8	0.848	3.321	72.580	20.552	2.377	0.089	0.197	0.016	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1394.54
7	0.7053	1153.7	1174.1	1170.8	0.833	3.328	72.772	20.249	2.454	0.097	0.221	0.020	0.025	0.000	0.000	0.000	0.000	0.000	0.000	1394.64
8	0.7025	1148.8	1169.1	1166.0	0.854	3.335	72.924	20.358	2.270	0.077	0.159	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1391.59
9	0.7012	1147.5	1167.8	1164.6	0.841	3.314	73.259	20.016	2.285	0.081	0.173	0.014	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1391.22
10	0.7018	1147.4	1167.7	1164.5	0.849	3.360	73.153	20.053	2.301	0.081	0.174	0.013	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1390.59
11	0.7028	1148.8	1169.2	1165.9	0.868	3.340	72.948	20.283	2.281	0.079	0.170	0.013	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1391.27
12	0.7046	1151.7	1172.1	1168.9	0.865	3.332	72.689	20.480	2.322	0.086	0.191	0.015	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1393.05
13	0.7026	1148.5	1168.9	1165.6	0.865	3.341	73.041	20.155	2.304	0.083	0.178	0.014	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1391.11
14	0.7027	1149.2	1169.6	1166.5	0.849	3.331	72.956	20.265	2.337	0.077	0.160	0.011	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1391.97
15	0.7016	1148.2	1168.5	1165.3	0.862	3.279	73.149	20.174	2.265	0.078	0.165	0.012	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1391.65
16	0.7038	1150.7	1171.0	1167.9	0.871	3.315	72.773	20.459	2.296	0.081	0.175	0.013	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1392.56
17	0.7046	1152.3	1172.7	1169.6	0.872	3.295	72.608	20.613	2.335	0.080	0.170	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1393.70
18	0.7038	1151.3	1171.6	1168.5	0.861	3.294	72.759	20.498	2.308	0.081	0.171	0.013	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1393.29
19	0.7055	1153.7	1174.1	1170.9	0.862	3.306	72.558	20.586	2.368	0.088	0.196	0.016	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1394.50
20	0.7022	1148.2	1168.6	1165.4	0.870	3.318	73.041	20.215	2.286	0.078	0.165	0.012	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1391.19
21	0.7028	1150.5	1170.8	1167.7	0.834	3.287	72.904	20.404	2.304	0.079	0.163	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1393.38
22	0.7026	1149.1	1169.5	1166.4	0.869	3.302	72.938	20.347	2.282	0.077	0.161	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1391.89
23	0.7034	1150.3	1170.7	1167.6	0.876	3.296	72.850	20.366	2.344	0.079	0.165	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1392.51
24	0.7040	1151.3	1171.7	1168.5	0.875	3.291	72.876	20.252	2.408	0.086	0.181	0.014	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1393.08
25	0.7019	1148.1	1168.4	1165.1	0.869	3.299	73.228	19.977	2.340	0.081	0.173	0.014	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1391.19
26	0.7034	1150.3	1170.7	1167.5	0.874	3.295	72.857	20.375	2.328	0.078	0.164	0.013	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1392.54
27	0.7049	1153.2	1173.6	1170.5	0.871	3.267	72.619	20.569	2.405	0.080	0.164	0.011	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1394.51
28	0.7037	1151.6	1172.0	1168.8	0.871	3.255	72.747	20.560	2.305	0.077	0.159	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1393.74
Avg	0.7035	1151.0	1170.9	1167.8	0.858	3.315	72.830	20.403	2.311	0.081	0.173	0.013	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1392.72

Zone 265

Source Daily Summary

February 2018

Number:	043	Pressure Base:	14.730	Contract Day:	1
Name:	BISMARCK STN-CLEVELAND STN	Temperature Base:		Contract Hour:	9

Day	Relative Densitv	Heating Value Wet	Heating Value Drv	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7049	1137.4	1157.6	1153.9	0.661	4.547	72.876	18.677	2.872	0.106	0.232	0.015	0.016	0.000	0.000	0.000	0.000	0.000	1375.42	
2	0.6945	1125.6	1145.6	1141.9	0.612	4.365	74.699	17.353	2.613	0.102	0.223	0.016	0.017	0.000	0.000	0.000	0.000	0.000	1371.24	
3	0.7012	1133.4	1153.5	1149.8	0.633	4.482	73.559	18.156	2.798	0.107	0.234	0.015	0.016	0.000	0.000	0.000	0.000	0.000	1374.19	
4	0.6970	1128.9	1148.9	1145.2	0.616	4.396	74.195	17.795	2.652	0.101	0.217	0.014	0.015	0.000	0.000	0.000	0.000	0.000	1372.77	
5	0.6965	1129.0	1149.0	1145.3	0.679	4.242	74.417	17.663	2.639	0.104	0.223	0.016	0.017	0.000	0.000	0.000	0.000	0.000	1373.41	
6	0.6964	1128.7	1148.7	1144.9	0.695	4.226	74.537	17.486	2.682	0.108	0.231	0.017	0.018	0.000	0.000	0.000	0.000	0.000	1373.09	
7	0.6939	1125.2	1145.1	1141.4	0.688	4.216	74.997	17.080	2.651	0.106	0.227	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1371.28	
8	0.6907	1121.3	1141.2	1137.5	0.677	4.165	75.561	16.665	2.569	0.104	0.223	0.017	0.018	0.000	0.000	0.000	0.000	0.000	1369.77	
9	0.6911	1121.8	1141.7	1138.0	0.667	4.188	75.312	17.022	2.473	0.098	0.208	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1370.00	
10	0.6889	1120.3	1140.2	1136.5	0.623	4.144	75.557	17.004	2.353	0.093	0.198	0.014	0.015	0.000	0.000	0.000	0.000	0.000	1370.34	
11	0.6900	1122.8	1142.7	1139.0	0.650	4.054	75.386	17.230	2.363	0.093	0.195	0.014	0.015	0.000	0.000	0.000	0.000	0.000	1372.27	
12	0.6894	1122.3	1142.1	1138.5	0.611	4.088	75.409	17.254	2.334	0.089	0.187	0.014	0.014	0.000	0.000	0.000	0.000	0.000	1372.24	
13	0.6975	1129.9	1149.9	1146.2	0.665	4.303	74.200	17.833	2.630	0.105	0.229	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1373.51	
14	0.7143	1148.9	1169.2	1165.3	0.726	4.629	71.460	19.593	3.141	0.127	0.285	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1380.08	
15	0.7066	1141.3	1161.5	1157.7	0.651	4.489	72.570	19.031	2.868	0.111	0.246	0.016	0.017	0.000	0.000	0.000	0.000	0.000	1378.35	
16	0.7024	1136.7	1156.8	1153.1	0.638	4.395	73.306	18.495	2.797	0.107	0.232	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1376.90	
17	0.7069	1142.3	1162.5	1158.8	0.662	4.433	72.533	19.119	2.867	0.110	0.242	0.016	0.017	0.000	0.000	0.000	0.000	0.000	1379.34	
18	0.7086	1145.0	1165.3	1161.6	0.645	4.455	72.257	19.293	2.953	0.114	0.249	0.016	0.017	0.000	0.000	0.000	0.000	0.000	1380.98	
19	0.7064	1142.4	1162.6	1158.9	0.642	4.413	72.574	19.141	2.848	0.109	0.240	0.016	0.017	0.000	0.000	0.000	0.000	0.000	1379.95	
20	0.7056	1141.1	1161.4	1157.6	0.646	4.407	72.717	19.028	2.826	0.108	0.237	0.016	0.017	0.000	0.000	0.000	0.000	0.000	1379.23	
21	0.7057	1140.9	1161.1	1157.3	0.657	4.421	72.740	18.938	2.867	0.108	0.237	0.016	0.017	0.000	0.000	0.000	0.000	0.000	1378.75	
22	0.7086	1144.2	1164.5	1160.7	0.664	4.474	72.282	19.216	2.971	0.113	0.247	0.016	0.017	0.000	0.000	0.000	0.000	0.000	1380.02	
23	0.7088	1144.6	1164.8	1161.0	0.706	4.406	72.302	19.227	2.960	0.114	0.251	0.016	0.017	0.000	0.000	0.000	0.000	0.000	1380.23	
24	0.7117	1147.2	1167.5	1163.7	0.733	4.477	71.889	19.406	3.074	0.120	0.266	0.017	0.018	0.000	0.000	0.000	0.000	0.000	1380.58	
25	0.7224	1158.5	1179.0	1175.1	0.784	4.715	70.235	20.334	3.440	0.138	0.311	0.020	0.022	0.000	0.000	0.000	0.000	0.000	1383.79	
26	0.7326	1168.6	1189.3	1185.2	0.841	4.971	68.630	21.230	3.778	0.154	0.349	0.023	0.025	0.000	0.000	0.000	0.000	0.000	1386.09	
27	0.7346	1170.7	1191.4	1187.3	0.854	5.018	68.275	21.471	3.825	0.155	0.353	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1386.59	
28	0.7307	1168.3	1189.0	1184.9	0.825	4.838	69.070	20.855	3.891	0.146	0.331	0.021	0.023	0.000	0.000	0.000	0.000	0.000	1387.49	
Avg	0.7049	1139.0	1159.0	1155.2	0.684	4.427	72.984	18.628	2.883	0.112	0.247	0.017	0.018	0.000	0.000	0.000	0.000	0.000	1377.07	

Zone 271

Source Daily Summary

February 2018

Number:	063	Pressure Base:	14.730	Contract Day:	1
Name:	CLEVELAND STN-MAPLETON	Temperature Base:		Contract Hour:	9

Day	Relative Densitiv	Heating Value Wet	Heating Value Drv	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7072	1139.5	1159.6	1156.2	0.691	4.590	72.622	18.719	2.975	0.115	0.253	0.017	0.018	0.000					1375.59	
2	0.6955	1126.5	1146.5	1143.0	0.621	4.388	74.451	17.613	2.587	0.098	0.212	0.015	0.015	0.000					1371.35	
3	0.7016	1133.4	1153.5	1150.1	0.657	4.484	73.557	18.100	2.819	0.109	0.239	0.017	0.018	0.000					1373.72	
4	0.6985	1129.9	1149.9	1146.5	0.613	4.475	73.963	17.893	2.705	0.102	0.219	0.015	0.015	0.000					1372.49	
5	0.6967	1128.2	1148.2	1144.8	0.655	4.344	74.323	17.685	2.648	0.101	0.214	0.015	0.015	0.000					1372.24	
6	0.6951	1126.7	1146.7	1143.2	0.693	4.228	74.720	17.376	2.622	0.104	0.222	0.017	0.017	0.000					1371.95	
7	0.6962	1127.5	1147.4	1144.0	0.698	4.274	74.619	17.322	2.712	0.108	0.231	0.017	0.018	0.000					1371.80	
8	0.6909	1121.2	1141.0	1137.6	0.687	4.183	75.519	16.677	2.579	0.103	0.218	0.017	0.017	0.000					1369.27	
9	0.6917	1122.2	1142.1	1138.6	0.688	4.194	75.309	16.917	2.542	0.101	0.214	0.017	0.017	0.000					1369.77	
10	0.6894	1118.9	1138.7	1135.3	0.644	4.239	75.557	16.825	2.406	0.096	0.202	0.015	0.015	0.000					1368.11	
11	0.6893	1121.1	1141.0	1137.6	0.655	4.082	75.551	17.021	2.372	0.094	0.196	0.014	0.014	0.000					1370.88	
12	0.6894	1122.4	1142.2	1138.8	0.616	4.075	75.375	17.339	2.300	0.087	0.181	0.013	0.013	0.000					1372.30	
13	0.6910	1122.3	1142.2	1138.7	0.647	4.179	75.272	17.140	2.431	0.096	0.203	0.015	0.015	0.000					1370.64	
14	0.7066	1140.0	1160.2	1156.6	0.697	4.496	72.697	18.812	2.892	0.116	0.254	0.018	0.019	0.000					1376.72	
15	0.7136	1148.2	1168.5	1165.0	0.708	4.632	71.511	19.625	3.094	0.122	0.271	0.018	0.020	0.000					1379.92	
16	0.7023	1135.7	1155.9	1152.3	0.631	4.447	73.306	18.479	2.771	0.105	0.228	0.015	0.016	0.000					1375.89	
17	0.7058	1140.5	1160.7	1157.2	0.661	4.443	72.738	18.915	2.864	0.109	0.238	0.016	0.017	0.000					1378.19	
18	0.7092	1145.2	1165.4	1162.0	0.664	4.473	72.136	19.406	2.929	0.112	0.245	0.017	0.018	0.000					1380.49	
19	0.7071	1142.7	1162.9	1159.5	0.639	4.467	72.497	19.103	2.909	0.111	0.241	0.016	0.017	0.000					1379.53	
20	0.7049	1140.1	1160.3	1156.9	0.639	4.420	72.808	18.970	2.791	0.106	0.232	0.016	0.017	0.000					1378.55	
21	0.7047	1139.4	1159.6	1156.2	0.651	4.426	72.861	18.885	2.815	0.105	0.227	0.015	0.016	0.000					1377.93	
22	0.7079	1142.9	1163.1	1159.7	0.663	4.488	72.415	19.096	2.952	0.112	0.242	0.016	0.017	0.000					1379.08	
23	0.7095	1144.8	1165.0	1161.6	0.674	4.510	72.105	19.352	2.972	0.112	0.242	0.016	0.016	0.000					1379.75	
24	0.7085	1143.6	1163.8	1160.4	0.744	4.385	72.433	19.059	2.978	0.115	0.253	0.017	0.017	0.000					1379.24	
25	0.7169	1152.5	1172.9	1169.3	0.752	4.614	71.053	19.899	3.238	0.127	0.280	0.018	0.019	0.000					1381.85	
26	0.7265	1161.9	1182.4	1178.8	0.813	4.855	69.608	20.625	3.584	0.144	0.325	0.022	0.024	0.000					1383.77	
27	0.7344	1169.9	1190.6	1186.9	0.856	5.042	68.339	21.367	3.840	0.155	0.352	0.023	0.025	0.000					1385.83	
28	0.7319	1167.7	1188.4	1184.7	0.852	4.943	68.743	21.172	3.753	0.150	0.339	0.023	0.025	0.000					1385.67	
Avg	0.7044	1138.0	1157.8	1154.3	0.686	4.442	73.075	18.550	2.860	0.111	0.242	0.017	0.018	0.000					1376.16	

Zone 272

Source Daily Summary

February 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 Drv	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7071	1139.4	1159.5	1156.3	0.691	4.592	72.629	18.711	2.973	0.115	0.253	0.017	0.018	0.000	0.000	0.000	0.000	0.000	1375.50	
2	0.6967	1127.9	1147.9	1144.8	0.628	4.401	74.265	17.739	2.621	0.100	0.215	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1371.90	
3	0.7016	1133.3	1153.4	1150.2	0.657	4.487	73.556	18.099	2.817	0.109	0.239	0.017	0.018	0.000	0.000	0.000	0.000	0.000	1373.65	
4	0.6985	1129.8	1149.8	1146.6	0.614	4.479	73.963	17.890	2.703	0.102	0.219	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1372.38	
5	0.6966	1128.1	1148.1	1145.0	0.655	4.345	74.329	17.678	2.646	0.101	0.214	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1372.17	
6	0.6954	1127.1	1147.1	1143.8	0.691	4.239	74.655	17.426	2.628	0.104	0.223	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1372.08	
7	0.6965	1127.8	1147.8	1144.5	0.697	4.287	74.555	17.366	2.719	0.108	0.232	0.017	0.018	0.000	0.000	0.000	0.000	0.000	1371.87	
8	0.6912	1121.4	1141.3	1138.1	0.684	4.195	75.472	16.711	2.583	0.103	0.218	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1369.34	
9	0.6920	1122.6	1142.5	1139.2	0.690	4.195	75.268	16.943	2.552	0.101	0.216	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1369.94	
10	0.6896	1119.3	1139.1	1135.9	0.645	4.244	75.506	16.864	2.412	0.096	0.203	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1368.24	
11	0.6898	1121.8	1141.7	1138.5	0.642	4.109	75.430	17.123	2.378	0.094	0.196	0.014	0.014	0.000	0.000	0.000	0.000	0.000	1371.21	
12	0.6894	1122.4	1142.3	1139.1	0.615	4.080	75.359	17.351	2.300	0.087	0.181	0.013	0.013	0.000	0.000	0.000	0.000	0.000	1372.31	
13	0.6911	1122.4	1142.3	1139.1	0.646	4.185	75.253	17.150	2.435	0.096	0.204	0.015	0.016	0.000	0.000	0.000	0.000	0.000	1370.66	
14	0.7069	1140.2	1160.4	1157.1	0.699	4.508	72.646	18.838	2.902	0.117	0.255	0.018	0.018	0.000	0.000	0.000	0.000	0.000	1376.69	
15	0.7137	1148.3	1168.6	1165.4	0.710	4.639	71.482	19.640	3.097	0.123	0.272	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1379.84	
16	0.7023	1135.7	1155.8	1152.6	0.632	4.450	73.302	18.480	2.771	0.105	0.229	0.015	0.016	0.000	0.000	0.000	0.000	0.000	1375.81	
17	0.7059	1140.5	1160.7	1157.5	0.662	4.450	72.721	18.920	2.868	0.109	0.238	0.016	0.016	0.000	0.000	0.000	0.000	0.000	1378.10	
18	0.7091	1144.9	1165.2	1162.0	0.665	4.479	72.148	19.391	2.926	0.112	0.245	0.017	0.018	0.000	0.000	0.000	0.000	0.000	1380.28	
19	0.7070	1142.4	1162.6	1159.4	0.639	4.475	72.513	19.086	2.904	0.111	0.240	0.016	0.016	0.000	0.000	0.000	0.000	0.000	1379.28	
20	0.7058	1141.0	1161.2	1158.0	0.646	4.435	72.680	19.038	2.823	0.108	0.236	0.016	0.018	0.000	0.000	0.000	0.000	0.000	1378.82	
21	0.7049	1139.5	1159.7	1156.5	0.653	4.434	72.829	18.903	2.818	0.105	0.228	0.015	0.016	0.000	0.000	0.000	0.000	0.000	1377.87	
22	0.7080	1143.0	1163.2	1160.0	0.665	4.491	72.398	19.105	2.952	0.112	0.243	0.016	0.017	0.000	0.000	0.000	0.000	0.000	1379.04	
23	0.7093	1144.5	1164.7	1161.6	0.674	4.512	72.132	19.330	2.966	0.111	0.242	0.016	0.017	0.000	0.000	0.000	0.000	0.000	1379.56	
24	0.7086	1143.5	1163.8	1160.5	0.743	4.394	72.419	19.067	2.976	0.115	0.252	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1379.12	
25	0.7170	1152.6	1173.0	1169.7	0.753	4.619	71.020	19.921	3.242	0.127	0.280	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1381.87	
26	0.7270	1162.3	1182.9	1179.4	0.816	4.867	69.529	20.672	3.599	0.145	0.326	0.022	0.024	0.000	0.000	0.000	0.000	0.000	1383.86	
27	0.7348	1170.3	1191.0	1187.5	0.859	5.052	68.268	21.414	3.851	0.156	0.352	0.023	0.025	0.000	0.000	0.000	0.000	0.000	1385.93	
28	0.7324	1168.2	1188.9	1185.4	0.854	4.962	68.646	21.233	3.767	0.151	0.341	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1385.72	
Avg	0.7046	1138.0	1158.0	1154.8	0.687	4.450	73.035	18.575	2.865	0.112	0.243	0.017	0.018	0.000	0.000	0.000	0.000	0.000	1376.18	

Zone 273

Source Daily Summary

February 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 Drv	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6505	1073.7	1092.8	1089.8	0.305	3.856	81.591	12.880	1.266	0.035	0.057	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1351.71
2	0.6478	1069.8	1088.7	1085.8	0.316	3.831	82.125	12.392	1.232	0.036	0.059	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1349.47
3	0.6514	1076.3	1095.4	1092.4	0.294	3.806	81.372	13.181	1.247	0.035	0.056	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1353.93
4	0.6515	1076.8	1095.8	1092.9	0.317	3.752	81.407	13.161	1.258	0.037	0.059	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1354.41
5	0.6463	1070.6	1089.6	1086.5	0.442	3.449	82.642	12.139	1.201	0.043	0.067	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1351.95
6	0.6451	1069.0	1087.9	1084.8	0.462	3.400	82.947	11.863	1.193	0.046	0.072	0.009	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1351.17
7	0.6433	1066.3	1085.1	1082.0	0.479	3.376	83.297	11.542	1.174	0.045	0.070	0.009	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1349.55
8	0.6391	1059.5	1078.3	1075.2	0.470	3.403	84.020	10.914	1.072	0.042	0.063	0.009	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1345.48
9	0.6454	1068.8	1087.7	1084.7	0.452	3.459	82.745	12.100	1.128	0.040	0.062	0.008	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1350.62
10	0.6465	1070.1	1089.0	1086.0	0.388	3.576	82.398	12.426	1.108	0.036	0.056	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1351.19
11	0.6476	1073.7	1092.7	1089.6	0.421	3.416	82.285	12.609	1.162	0.038	0.057	0.007	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1354.48
12	0.6522	1080.5	1099.6	1096.6	0.382	3.492	81.363	13.419	1.236	0.038	0.058	0.007	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1358.31
13	0.6490	1074.6	1093.7	1090.6	0.390	3.532	81.997	12.773	1.199	0.038	0.058	0.007	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1354.28
14	0.6538	1082.3	1101.5	1098.5	0.283	3.681	80.911	13.759	1.272	0.034	0.052	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1358.98
15	0.6557	1085.7	1104.9	1102.0	0.251	3.701	80.452	14.257	1.253	0.031	0.047	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1361.30
16	0.6521	1079.1	1098.2	1095.3	0.262	3.747	81.154	13.539	1.210	0.032	0.048	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1356.74
17	0.6552	1085.4	1104.6	1101.7	0.246	3.682	80.482	14.311	1.195	0.030	0.046	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1361.44
18	0.6575	1090.0	1109.3	1106.4	0.220	3.656	80.013	14.805	1.230	0.028	0.042	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1364.83
19	0.6559	1086.8	1106.0	1103.1	0.239	3.674	80.344	14.455	1.207	0.030	0.045	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1362.43
20	0.6572	1088.2	1107.4	1104.5	0.262	3.678	80.190	14.499	1.281	0.033	0.049	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1362.81
21	0.6564	1086.8	1106.0	1103.1	0.261	3.688	80.424	14.185	1.348	0.034	0.051	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1361.89
22	0.6559	1086.5	1105.8	1102.8	0.256	3.666	80.468	14.216	1.305	0.033	0.048	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1362.07
23	0.6507	1083.5	1102.7	1099.8	0.340	3.227	81.466	13.785	1.108	0.027	0.041	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1363.81
24	0.6494	1082.7	1101.9	1099.0	0.372	3.110	81.679	13.746	1.024	0.026	0.039	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1364.09
25	0.6501	1082.5	1101.6	1098.7	0.363	3.206	81.561	13.729	1.065	0.027	0.041	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1363.03
26	0.6500	1084.3	1103.5	1100.5	0.367	3.081	81.510	13.985	0.992	0.024	0.036	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1365.43
27	0.6446	1079.4	1098.5	1095.6	0.444	2.752	82.597	13.286	0.866	0.020	0.031	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1364.98
28	0.6514	1093.0	1112.3	1109.4	0.455	2.546	81.246	14.839	0.857	0.021	0.033	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1374.93
Avg	0.6504	1079.0	1097.9	1094.9	0.348	3.480	81.596	13.314	1.167	0.034	0.051	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1358.05

Zone 28

Source Daily Summary

February 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 Drv	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6478	1071.1	1090.1	1087.4	0.302	3.765	82.122	12.460	1.247	0.035	0.060	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1351.30
2	0.6473	1070.0	1089.0	1086.3	0.290	3.811	82.183	12.371	1.245	0.034	0.058	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1350.33
3	0.6510	1076.7	1095.7	1093.0	0.274	3.773	81.430	13.171	1.255	0.033	0.055	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1354.91
4	0.6472	1071.7	1090.7	1087.9	0.368	3.575	82.369	12.337	1.237	0.039	0.064	0.007	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1352.56
5	0.6440	1067.8	1086.7	1083.7	0.441	3.402	83.100	11.756	1.179	0.042	0.066	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1350.86
6	0.6432	1066.9	1085.8	1083.0	0.442	3.378	83.301	11.538	1.208	0.044	0.072	0.009	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1350.65
7	0.6395	1061.4	1080.2	1077.4	0.456	3.342	83.978	10.979	1.123	0.042	0.065	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1347.59
8	0.6413	1063.2	1082.0	1079.2	0.463	3.395	83.575	11.350	1.100	0.039	0.063	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1347.89
9	0.6451	1068.7	1087.6	1084.9	0.390	3.529	82.696	12.143	1.137	0.036	0.057	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1350.95
10	0.6462	1071.8	1090.8	1088.0	0.382	3.457	82.472	12.446	1.140	0.035	0.056	0.007	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1353.70
11	0.6516	1080.5	1099.6	1096.8	0.339	3.503	81.395	13.433	1.232	0.035	0.054	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1359.01
12	0.6474	1073.2	1092.2	1089.4	0.397	3.459	82.342	12.476	1.214	0.038	0.061	0.007	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1354.20
13	0.6514	1079.4	1098.5	1095.8	0.293	3.620	81.370	13.376	1.247	0.033	0.052	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1357.87
14	0.6544	1084.8	1104.1	1101.3	0.233	3.658	80.686	14.080	1.260	0.030	0.047	0.004	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1361.65
15	0.6517	1079.2	1098.3	1095.7	0.249	3.723	81.217	13.493	1.234	0.030	0.047	0.004	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1357.40
16	0.6532	1082.6	1101.8	1099.1	0.239	3.675	80.863	13.940	1.201	0.029	0.046	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1360.07
17	0.6561	1088.4	1107.7	1105.0	0.214	3.635	80.244	14.622	1.212	0.027	0.042	0.003	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1364.33
18	0.6539	1084.9	1104.1	1101.4	0.207	3.650	80.683	14.177	1.211	0.027	0.041	0.003	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1362.23
19	0.6557	1086.5	1105.7	1103.0	0.250	3.658	80.460	14.261	1.283	0.032	0.050	0.004	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1362.33
20	0.6550	1085.6	1104.9	1102.1	0.236	3.663	80.620	14.083	1.310	0.031	0.049	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1361.99
21	0.6546	1085.0	1104.2	1101.5	0.244	3.656	80.730	13.949	1.331	0.032	0.050	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1361.55
22	0.6567	1089.6	1108.9	1106.1	0.223	3.605	80.234	14.567	1.288	0.030	0.046	0.004	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1365.15
23	0.6583	1093.0	1112.3	1109.6	0.216	3.562	79.813	15.121	1.212	0.028	0.043	0.004	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1367.74
24	0.6567	1089.4	1108.7	1105.9	0.228	3.613	80.178	14.666	1.232	0.030	0.046	0.004	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1364.87
25	0.6596	1096.0	1115.4	1112.7	0.187	3.543	79.442	15.607	1.153	0.025	0.039	0.003	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1370.21
26	0.6651	1107.4	1127.0	1124.2	0.145	3.426	78.203	17.100	1.070	0.021	0.032	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1378.67
27	0.6730	1119.9	1139.8	1137.0	0.248	3.254	77.030	18.058	1.311	0.035	0.058	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1386.09
28	0.6737	1118.3	1138.1	1135.3	0.230	3.442	76.849	18.063	1.323	0.033	0.054	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1383.37
Avg	0.6529	1083.0	1101.8	1099.0	0.292	3.563	81.057	13.772	1.221	0.033	0.053	0.005	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1360.34

Zone 31

Source Daily Summary

February 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 Drv	Heating Value As Dal	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6372	1052.7	1071.4	1068.1	0.370	3.793	84.350	10.155	1.216	0.040	0.066	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1338.91	
2	0.6414	1059.0	1077.8	1074.5	0.341	3.843	83.482	10.977	1.247	0.038	0.062	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1342.58	
3	0.6412	1058.2	1077.0	1073.8	0.338	3.876	83.511	10.918	1.246	0.038	0.062	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1341.79	
4	0.6224	1040.7	1059.1	1055.3	0.930	2.274	88.212	7.391	0.998	0.067	0.094	0.019	0.014	0.000	0.000	0.000	0.000	0.000	1338.96	
5	0.6247	1043.6	1062.1	1058.1	0.880	2.388	87.775	7.705	1.052	0.068	0.098	0.019	0.014	0.000	0.000	0.000	0.000	0.000	1340.11	
6	0.6255	1044.4	1062.9	1059.1	0.860	2.444	87.561	7.870	1.073	0.066	0.095	0.018	0.013	0.000	0.000	0.000	0.000	0.000	1340.40	
7	0.6154	1031.6	1049.8	1045.8	1.049	1.989	89.738	6.142	0.882	0.068	0.094	0.021	0.015	0.000	0.000	0.000	0.000	0.000	1334.57	
8	0.6192	1033.7	1052.0	1048.1	1.033	2.246	88.849	6.795	0.907	0.059	0.083	0.017	0.013	0.000	0.000	0.000	0.000	0.000	1333.28	
9	0.6266	1041.5	1060.0	1056.3	0.798	2.816	87.050	8.173	1.014	0.051	0.075	0.013	0.010	0.000	0.000	0.000	0.000	0.000	1335.67	
10	0.6197	1034.7	1053.0	1049.0	1.022	2.244	88.744	6.914	0.908	0.058	0.081	0.017	0.013	0.000	0.000	0.000	0.000	0.000	1334.06	
11	0.6215	1036.9	1055.2	1051.3	0.994	2.326	88.354	7.215	0.946	0.057	0.080	0.016	0.012	0.000	0.000	0.000	0.000	0.000	1334.94	
12	0.6179	1032.5	1050.8	1046.8	1.063	2.146	89.171	6.556	0.888	0.060	0.084	0.018	0.013	0.000	0.000	0.000	0.000	0.000	1333.13	
13	0.6395	1057.9	1076.6	1073.2	0.389	3.659	83.966	10.628	1.244	0.040	0.062	0.007	0.005	0.000	0.000	0.000	0.000	0.000	1343.09	
14	0.6451	1066.3	1085.1	1081.8	0.313	3.789	82.769	11.711	1.316	0.036	0.057	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1347.90	
15	0.6410	1059.4	1078.1	1074.9	0.330	3.803	83.549	10.965	1.249	0.037	0.058	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1343.42	
16	0.6467	1069.2	1088.1	1084.8	0.301	3.785	82.422	12.067	1.326	0.035	0.055	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1349.86	
17	0.6458	1068.5	1087.4	1084.1	0.282	3.772	82.565	11.971	1.316	0.034	0.051	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1349.91	
18	0.6454	1067.1	1086.0	1082.8	0.311	3.775	82.665	11.856	1.292	0.036	0.056	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1348.61	
19	0.6481	1071.3	1090.3	1087.0	0.311	3.771	82.177	12.289	1.350	0.037	0.057	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1351.13	
20	0.6487	1072.9	1091.9	1088.6	0.301	3.750	82.089	12.367	1.388	0.037	0.058	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1352.40	
21	0.6468	1069.7	1088.7	1085.5	0.301	3.761	82.418	12.085	1.336	0.036	0.055	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1350.46	
22	0.6487	1073.1	1092.1	1089.0	0.308	3.725	82.080	12.415	1.370	0.037	0.056	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1352.70	
23	0.6484	1071.5	1090.5	1087.2	0.323	3.770	82.173	12.249	1.378	0.038	0.060	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1351.01	
24	0.6463	1068.7	1087.6	1084.4	0.303	3.771	82.516	11.989	1.319	0.036	0.055	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1349.67	
25	0.6581	1088.1	1107.4	1104.1	0.403	3.547	80.595	13.708	1.603	0.050	0.082	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1361.78	
26	0.6709	1107.3	1126.9	1123.6	0.502	3.435	78.464	15.505	1.911	0.063	0.106	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1372.49	
27	0.6695	1103.4	1122.9	1119.5	0.496	3.546	78.688	15.224	1.867	0.062	0.104	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1369.14	
28	0.6648	1094.0	1113.3	1109.9	0.497	3.674	79.522	14.367	1.764	0.061	0.103	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1362.26	
Avg	0.6402	1061.0	1080.1	1076.7	0.548	3.276	84.123	10.650	1.264	0.048	0.073	0.010	0.007	0.000	0.000	0.000	0.000	0.000	1346.58	

Zone 32

Source Daily Summary

February 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 Drv	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6904	1156.2	1176.7	1171.4	0.000	3.064	72.482	23.739	0.699	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.83
2	0.6904	1155.0	1175.5	1170.3	0.000	3.129	72.480	23.677	0.700	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.50
3	0.6902	1154.7	1175.2	1170.6	0.000	3.131	72.479	23.716	0.660	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.30
4	0.6899	1154.8	1175.3	1170.0	0.000	3.101	72.534	23.687	0.663	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.69
5	0.6911	1156.8	1177.3	1172.0	0.000	3.096	72.406	23.748	0.708	0.012	0.025	0.002	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1412.78
6	0.6900	1155.6	1176.1	1170.9	0.000	3.058	72.550	23.699	0.678	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.58
7	0.6901	1155.6	1176.0	1170.7	0.000	3.076	72.532	23.684	0.693	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.34
8	0.6897	1154.7	1175.2	1170.5	0.000	3.088	72.578	23.656	0.663	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.78
9	0.6898	1155.4	1175.8	1170.8	0.000	3.055	72.570	23.701	0.659	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.48
10	0.6894	1154.8	1175.2	1170.1	0.000	3.053	72.641	23.632	0.659	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.21
11	0.6897	1155.0	1175.4	1170.6	0.000	3.072	72.582	23.673	0.659	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.08
12	0.6898	1155.0	1175.5	1170.5	0.000	3.077	72.578	23.655	0.674	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.05
13	0.6899	1155.1	1175.6	1170.4	0.000	3.086	72.556	23.658	0.686	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.00
14	0.6903	1154.8	1175.2	1170.4	0.000	3.143	72.475	23.673	0.695	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.21
15	0.6893	1154.3	1174.7	1169.8	0.000	3.073	72.652	23.619	0.642	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.69
16	0.6899	1155.7	1176.2	1171.0	0.000	3.048	72.560	23.698	0.680	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.77
17	0.6889	1154.6	1175.0	1170.0	0.000	3.023	72.749	23.553	0.661	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.40
18	0.6892	1155.2	1175.6	1170.5	0.000	3.018	72.678	23.636	0.654	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.77
19	0.6888	1154.9	1175.4	1169.9	0.000	2.990	72.784	23.549	0.662	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.93
20	0.6892	1155.5	1176.0	1171.0	0.000	2.988	72.690	23.660	0.648	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.32
21	0.6903	1157.0	1177.5	1172.3	0.000	3.005	72.478	23.830	0.672	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.95
22	0.6893	1155.7	1176.2	1171.0	0.000	2.986	72.686	23.649	0.664	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.43
23	0.6897	1156.5	1176.9	1171.8	0.000	2.978	72.606	23.738	0.664	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.94
24	0.6896	1156.5	1177.0	1172.0	0.000	2.967	72.637	23.716	0.665	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.05
25	0.6894	1156.8	1177.3	1172.2	0.000	2.930	72.681	23.702	0.673	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.66
26	0.6889	1157.1	1177.6	1172.4	0.000	2.867	72.805	23.623	0.689	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1415.51
27	0.6899	1155.7	1176.2	1171.2	0.000	3.048	72.556	23.705	0.677	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.75
28	0.6909	1156.0	1176.4	1171.3	0.000	3.125	72.375	23.779	0.706	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.06
Avg	0.6898	1156.0	1176.0	1170.9	0.000	3.046	72.565	23.681	0.673	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.68

Zone 33

Gas Composition and Properties

Source #: 1202160
Name: BOWMAN BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	0.2321		0.6048
Nitrogen, N2	3.4604		5.7399
Methane, C1	94.0188		89.3085
Ethane, C2	1.9955	0.5321	3.5530
Propane, C3	0.2261	0.0621	0.5904
iso-Butane, iC4	0.0203	0.0066	0.5904
n-Butane, nC4	0.0216	0.0068	0.0743
iso-Pentane, iC5	0.0028	0.0010	0.0120
n-Pentane, nC5	0.0020	0.0007	0.0085
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0000	0.0000	0.0000
Water, H2O			
Hydrogen Sulfide, H2S			
Oxygen, O2	0.0204		
Carbon Monoxide, CO			
Hydrogen, H2			
Helium, He			
Argon, Ar			
Totals	100.0000	0.6100	100.4818

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure		
Cricondentherm		
HV, Dry @ Base P, T	996.12	
HV, Sat @ Base P, T	978.78	
HV, Sat @ Sample P, T	996.12	
Relative Density	0.5840	

C6+: 100

Sample			
Date: 07/01/2016	Pressure:	380.0	
Type: Spot	Temperature:		
Tech: MG	H2O:	lbs/mm	
	H2S:	ppm	
Remarks:			

Analysis			
Date: 07/05/2016	Instrument:	WBI- 447	
	Cylinder:	100	
Tech: MB			
Remarks: Inactive			

Zone 34

Source Daily Summary

February 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 Drv	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6830	1126.2	1146.2	1143.1	0.992	2.678	75.139	20.437	0.692	0.017	0.037	0.003	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1383.67
2	0.6822	1125.3	1145.3	1142.2	0.987	2.665	75.341	20.242	0.685	0.021	0.048	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1383.36
3	0.6827	1126.8	1146.7	1143.6	0.981	2.635	75.175	20.498	0.638	0.019	0.043	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1384.58
4	0.6847	1128.4	1148.4	1144.7	0.993	2.701	75.236	20.132	0.737	0.043	0.112	0.019	0.026	0.000	0.000	0.000	0.000	0.000	0.000	1384.23
5	0.6861	1131.1	1151.2	1147.8	0.993	2.669	74.793	20.668	0.724	0.034	0.087	0.013	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1386.31
6	0.6818	1124.9	1144.8	1141.7	0.985	2.661	75.297	20.396	0.599	0.015	0.036	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1383.17
7	0.6832	1126.8	1146.8	1143.5	0.991	2.663	75.345	20.108	0.767	0.030	0.074	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1384.02
8	0.6857	1131.6	1151.7	1148.6	0.980	2.630	74.682	20.862	0.772	0.018	0.044	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1387.42
9	0.6855	1130.9	1151.0	1147.9	0.987	2.639	74.751	20.790	0.736	0.025	0.058	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1386.82
10	0.6868	1132.1	1152.1	1149.0	0.989	2.691	74.390	21.168	0.675	0.023	0.052	0.006	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1386.90
11	0.6870	1133.4	1153.5	1150.4	0.979	2.643	74.419	21.105	0.778	0.020	0.045	0.004	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1388.35
12	0.6816	1123.9	1143.8	1140.9	0.981	2.713	75.272	20.350	0.662	0.007	0.013	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1382.19
13	0.6835	1125.5	1145.4	1142.4	0.975	2.801	75.213	20.031	0.920	0.016	0.035	0.004	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1382.20
14	0.6778	1115.5	1135.2	1132.3	0.989	2.862	75.748	19.977	0.423	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1375.63
15	0.6781	1117.9	1137.7	1134.8	0.990	2.737	75.592	20.390	0.286	0.001	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1378.36
16	0.6920	1140.2	1160.4	1157.3	0.974	2.701	73.697	21.498	1.034	0.024	0.056	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1391.57
17	0.6922	1140.5	1160.7	1157.6	0.972	2.702	73.715	21.416	1.105	0.023	0.054	0.006	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1391.83
18	0.6884	1134.7	1154.8	1151.8	0.974	2.694	74.743	20.109	1.408	0.020	0.044	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1388.62
19	0.6910	1139.3	1159.5	1156.4	0.974	2.668	73.786	21.516	0.986	0.019	0.042	0.004	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1391.47
20	0.6809	1122.0	1141.9	1139.0	0.988	2.745	75.499	20.016	0.729	0.007	0.014	0.001	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1380.65
21	0.6775	1116.7	1136.5	1133.6	0.990	2.745	75.917	19.865	0.472	0.004	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1377.61
22	0.6762	1112.4	1132.1	1129.2	0.990	2.889	76.110	19.586	0.405	0.006	0.012	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1373.54
23	0.6799	1119.8	1139.7	1136.7	0.986	2.788	75.762	19.695	0.698	0.020	0.043	0.003	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1378.92
24	0.6793	1119.8	1139.7	1136.7	0.991	2.728	75.764	19.877	0.577	0.018	0.039	0.003	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1379.50
25	0.6918	1141.0	1161.2	1158.0	0.969	2.641	73.454	22.102	0.744	0.024	0.053	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1392.79
26	0.6952	1145.8	1166.1	1162.9	0.960	2.689	73.029	22.187	1.035	0.028	0.060	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1395.14
27	0.6836	1125.3	1145.2	1142.2	0.993	2.797	74.713	20.987	0.475	0.011	0.021	0.001	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1381.87
28	0.6874	1133.3	1153.4	1150.4	0.985	2.675	74.365	21.085	0.814	0.022	0.046	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1387.91
Avg	0.6845	1128.0	1148.2	1145.2	0.983	2.709	74.891	20.611	0.735	0.018	0.042	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1384.59

Zone 43

Feb-18

ZONE 550

MANDAN BORDER

Begin Date	End Date	NBPL - St Anthony			01970 WBI - Mandan Border			BTU Zone 28	Weighted AVG BTU	
		MCF	DK	BTU	MCF	DK	BTU			
2/1/2018	2/2/2018	2045	2190	1.0707	6195	6767	1.0928	1.087	2/1/2018	
2/2/2018	2/3/2018	2063	2209	1.0708	4534	4936	1.0887	1.083	2/2/2018	
2/3/2018	2/4/2018	2078	2224	1.0700	6672	7309	1.0954	1.089	2/3/2018	
2/4/2018	2/5/2018	2067	2215	1.0719	6310	6914	1.0958	1.090	2/4/2018	
2/5/2018	2/6/2018	2063	2212	1.0723	6866	7481	1.0896	1.086	2/5/2018	
2/6/2018	2/7/2018	2083	2232	1.0719	6473	7043	1.0879	1.084	2/6/2018	
2/7/2018	2/8/2018	1922	2055	1.0693	6205	6731	1.0851	1.081	2/7/2018	
2/8/2018	2/9/2018	2245	2402	1.0709	6482	6988	1.0783	1.076	2/8/2018	
2/9/2018	2/10/2018	2100	2257	1.0748	6705	7293	1.0877	1.085	2/9/2018	
2/10/2018	2/11/2018	2091	2248	1.0750	5570	6069	1.0890	1.085	2/10/2018	
2/11/2018	2/12/2018	2070	2211	1.0683	6114	6689	1.0927	1.087	2/11/2018	
2/12/2018	2/13/2018	2044	2178	1.0659	6295	6921	1.0996	1.091	2/12/2018	
2/13/2018	2/14/2018	2038	2171	1.0651	3885	4249	1.0937	1.084	2/13/2018	
2/14/2018	2/15/2018	2061	2189	1.0623	2483	2736	1.1015	1.084	2/14/2018	
2/15/2018	2/16/2018	2071	2196	1.0603	6148	6791	1.1049	1.094	2/15/2018	
2/16/2018	2/17/2018	2085	2222	1.0653	4068	4468	1.0982	1.087	2/16/2018	
2/17/2018	2/18/2018	2102	2244	1.0674	3757	4152	1.1046	1.091	2/17/2018	
2/18/2018	2/19/2018	2115	2259	1.0680	5456	6052	1.1093	1.098	2/18/2018	
2/19/2018	2/20/2018	2073	2215	1.0686	5947	6578	1.1060	1.096	2/19/2018	
2/20/2018	2/21/2018	2073	2211	1.0666	5971	6613	1.1074	1.097	2/20/2018	
2/21/2018	2/22/2018	1057	1124	1.0633	6589	7288	1.1060	1.100	2/21/2018	
2/22/2018	2/23/2018	1030	1092	1.0596	5549	6135	1.1058	1.099	2/22/2018	
2/23/2018	2/24/2018	1039	1101	1.0593	5683	6258	1.1027	1.096	2/23/2018	
2/24/2018	2/25/2018	999	1061	1.0627	5248	5782	1.1019	1.096	2/24/2018	
2/25/2018	2/26/2018	1055	1126	1.0669	3946	4346	1.1016	1.094	2/25/2018	
2/26/2018	2/27/2018	1073	1147	1.0686	3604	3979	1.1035	1.095	2/26/2018	
2/27/2018	2/28/2018	1084	1155	1.0659	4206	4611	1.0985	1.092	2/27/2018	
2/28/2018	3/1/2018	1046	1119	1.0698	3819	4248	1.1123	1.103	2/28/2018	
		49,872	53,265	1.0676	150,780	165,427	1.0979	1.0904		



Alliance Pipeline

DAILY ANALYSIS — USA
 ND07MD1 — Hankinson Sales
 February 2018

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	1,152.863	0.6619	84.4705	9.1535	3.6776	0.3733	0.6448	0.0616	0.0519	0.0299	1.0749	0.4507	0.0114
2	1,151.917	0.6608	84.6360	9.0594	3.6477	0.3712	0.6445	0.0605	0.0515	0.0289	1.0556	0.4333	0.0114
3	1,148.811	0.6594	84.7823	8.9776	3.5952	0.3547	0.6194	0.0571	0.0471	0.0265	1.0604	0.4676	0.0120
4	1,149.789	0.6605	84.7157	8.8394	3.7508	0.3559	0.6200	0.0576	0.0486	0.0272	1.1092	0.4639	0.0117
5	1,157.276	0.6653	84.1175	9.1378	3.9636	0.3846	0.6654	0.0628	0.0514	0.0285	1.1156	0.4613	0.0116
6	1,157.463	0.6648	84.1335	9.2187	3.9384	0.3779	0.6499	0.0628	0.0512	0.0278	1.0868	0.4414	0.0118
7	1,155.632	0.6636	84.2315	9.2166	3.8781	0.3656	0.6328	0.0587	0.0484	0.0274	1.0900	0.4389	0.0119
8	1,154.987	0.6634	84.2744	9.1732	3.8734	0.3623	0.6292	0.0590	0.0485	0.0279	1.0864	0.4536	0.0120
9	1,154.469	0.6631	84.2773	9.2280	3.8085	0.3624	0.6334	0.0584	0.0483	0.0283	1.0962	0.4473	0.0119
10	1,153.675	0.6628	84.3262	9.1826	3.7940	0.3616	0.6318	0.0582	0.0484	0.0278	1.1006	0.4570	0.0120
11	1,151.395	0.6618	84.4346	9.1069	3.7443	0.3546	0.6167	0.0580	0.0484	0.0271	1.1333	0.4639	0.0123
12	1,152.960	0.6624	84.3563	9.1675	3.7837	0.3589	0.6221	0.0575	0.0484	0.0265	1.1099	0.4572	0.0119
13	1,152.783	0.6629	84.3347	9.0947	3.8007	0.3654	0.6376	0.0593	0.0504	0.0273	1.1595	0.4588	0.0116
14	1,153.732	0.6631	84.3305	9.1129	3.8213	0.3686	0.6408	0.0590	0.0500	0.0264	1.1220	0.4567	0.0117
15	1,153.723	0.6631	84.3245	9.1311	3.8094	0.3686	0.6392	0.0599	0.0505	0.0269	1.1182	0.4599	0.0117
16	1,153.804	0.6632	84.3187	9.1190	3.8101	0.3716	0.6484	0.0593	0.0498	0.0268	1.1224	0.4624	0.0116
17	1,154.511	0.6646	84.0857	9.1846	3.9050	0.3690	0.6382	0.0586	0.0495	0.0258	1.2073	0.4648	0.0115
18	1,154.940	0.6645	84.1270	9.1418	3.9257	0.3720	0.6449	0.0578	0.0486	0.0257	1.1877	0.4571	0.0116
19	1,151.748	0.6624	84.3887	9.0936	3.7305	0.3692	0.6442	0.0582	0.0494	0.0264	1.1645	0.4635	0.0116
20	1,150.585	0.6610	84.5084	9.1623	3.6264	0.3634	0.6179	0.0601	0.0503	0.0261	1.1070	0.4666	0.0115
21	1,150.155	0.6611	84.5068	9.1214	3.6401	0.3628	0.6172	0.0602	0.0505	0.0260	1.1362	0.4672	0.0114
22	1,151.519	0.6617	84.5133	9.0474	3.6975	0.3712	0.6454	0.0595	0.0501	0.0261	1.1114	0.4666	0.0115
23	1,153.108	0.6629	84.3625	9.0807	3.7754	0.3762	0.6569	0.0593	0.0503	0.0262	1.1395	0.4614	0.0115
24	1,150.867	0.6619	84.4830	9.0259	3.6674	0.3776	0.6640	0.0590	0.0498	0.0264	1.1758	0.4596	0.0114
25	1,149.133	0.6609	84.5438	9.0527	3.6007	0.3678	0.6368	0.0595	0.0504	0.0272	1.1858	0.4637	0.0115
26	1,147.627	0.6593	84.7267	9.0361	3.5114	0.3620	0.6190	0.0593	0.0502	0.0271	1.1404	0.4565	0.0113
27	1,149.006	0.6602	84.6659	9.0345	3.5390	0.3696	0.6470	0.0609	0.0513	0.0279	1.1342	0.4583	0.0113
28	1,148.909	0.6598	84.7533	8.9868	3.5373	0.3695	0.6383	0.0629	0.0531	0.0289	1.0976	0.4607	0.0116
Volume	1,152.405	0.6622	84.4190	9.1031	3.7447	0.3674	0.6373	0.0595	0.0499	0.0272	1.1224	0.4579	0.0117
Weight Avg Energy	1,152.410	0.6622	84.4186	9.1032	3.7450	0.3674	0.6373	0.0595	0.0499	0.0272	1.1224	0.4579	0.0117

Handwritten initials/signature

Feb-18

ZONE 610

Watford City

01325

Watford City West Border

01312

Watford City East Border

Weighted

Begin Date	End Date	BTU			BTU			AVG BTU	
		MCF	DK	Zone 25	MCF	DK	Zone 43		
2/1/2018	2/2/2018	776	919	1.184	781	895	1.146	1.165	2/1/2018
2/2/2018	2/3/2018	719	851	1.184	535	613	1.145	1.167	2/2/2018
2/3/2018	2/4/2018	841	996	1.184	717	822	1.147	1.167	2/3/2018
2/4/2018	2/5/2018	839	994	1.184	749	860	1.148	1.167	2/4/2018
2/5/2018	2/6/2018	897	1062	1.184	835	961	1.151	1.168	2/5/2018
2/6/2018	2/7/2018	869	1029	1.184	829	949	1.145	1.165	2/6/2018
2/7/2018	2/8/2018	789	934	1.184	718	824	1.147	1.166	2/7/2018
2/8/2018	2/9/2018	860	1018	1.184	741	855	1.152	1.169	2/8/2018
2/9/2018	2/10/2018	896	1061	1.184	831	956	1.151	1.168	2/9/2018
2/10/2018	2/11/2018	829	982	1.184	703	810	1.152	1.169	2/10/2018
2/11/2018	2/12/2018	876	1038	1.184	769	887	1.154	1.170	2/11/2018
2/12/2018	2/13/2018	887	1051	1.184	812	929	1.144	1.165	2/12/2018
2/13/2018	2/14/2018	719	851	1.184	552	632	1.145	1.167	2/13/2018
2/14/2018	2/15/2018	602	713	1.184	464	526	1.135	1.163	2/14/2018
2/15/2018	2/16/2018	873	1034	1.184	715	814	1.138	1.163	2/15/2018
2/16/2018	2/17/2018	723	856	1.184	498	577	1.160	1.174	2/16/2018
2/17/2018	2/18/2018	712	843	1.184	465	540	1.161	1.175	2/17/2018
2/18/2018	2/19/2018	828	980	1.184	654	755	1.155	1.171	2/18/2018
2/19/2018	2/20/2018	812	962	1.184	683	790	1.160	1.173	2/19/2018
2/20/2018	2/21/2018	869	1029	1.184	758	865	1.142	1.164	2/20/2018
2/21/2018	2/22/2018	785	929	1.184	729	828	1.137	1.161	2/21/2018
2/22/2018	2/23/2018	784	929	1.184	773	875	1.132	1.158	2/22/2018
2/23/2018	2/24/2018	759	898	1.184	640	729	1.140	1.164	2/23/2018
2/24/2018	2/25/2018	667	790	1.184	576	657	1.140	1.164	2/24/2018
2/25/2018	2/26/2018	614	727	1.184	432	502	1.161	1.175	2/25/2018
2/26/2018	2/27/2018	605	716	1.184	523	610	1.166	1.176	2/26/2018
2/27/2018	2/28/2018	637	754	1.184	562	644	1.145	1.166	2/27/2018
2/28/2018	3/1/2018	633	750	1.184	571	659	1.153	1.169	2/28/2018

21,700 25,696

18,615 21,364

1.1483

1.1675

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)	HENANES PLUS (mole percent)	HYDROGEN (mole percent)	HELIUM (mole percent)	PRODUCTION DATE	POSTING DATE	ChangeTimestamp	NOTES
11587	GLEN ULLIN	1073.3	0.622	1360.8	-63.9	1.5577	0.825	86.9672	9.8718	0.5213	0.0245	0.0137	0.0015	0.0016	0	0	0.1977	0.0191	1/31/2018	2/1/2018	2/1/2018 3:16:05 PM	
11587	GLEN ULLIN	1070.5	0.6205	1359	-65.9	1.5518	0.8491	87.2317	9.6693	0.4643	0.0178	0.0106	0.0006	0.0007	0	0	0.1873	0.0191	2/1/2018	2/2/2018	2/2/2018 3:16:31 PM	
11587	GLEN ULLIN	1070.8	0.6212	1358.6	-65.1	1.5935	0.8484	87.1199	9.7074	0.4827	0.0228	0.0126	0.0012	0.0014	0	0.0001	0.1945	0.0191	2/2/2018	2/3/2018	2/3/2018 3:14:02 PM	
11587	GLEN ULLIN	1070	0.6202	1358.7	-66	1.5859	0.8223	87.2752	9.6149	0.4584	0.0209	0.0124	0.0009	0.0013	0	0.0001	0.1895	0.0191	2/3/2018	2/4/2018	2/4/2018 3:16:32 PM	
11587	GLEN ULLIN	1072	0.6213	1360	-62.2	1.5668	0.8237	87.166	9.6879	0.497	0.0323	0.0174	0.0038	0.0035	0	0.0021	0.1801	0.0191	2/4/2018	2/5/2018	2/5/2018 3:19:26 PM	
11587	GLEN ULLIN	1072	0.6213	1360	-62.2	1.5668	0.8237	87.166	9.6879	0.497	0.0323	0.0174	0.0038	0.0035	0	0.0021	0.1801	0.0191	2/4/2018	2/6/2018	2/6/2018 3:14:27 PM	
11587	GLEN ULLIN	1072.1	0.621	1360.5	-63.8	1.5075	0.839	87.2672	9.6192	0.5231	0.0267	0.0177	0.002	0.0027	0	0.0008	0.1776	0.0191	2/6/2018	2/7/2018	2/7/2018 3:16:51 PM	
11587	GLEN ULLIN	1068.4	0.6183	1358.8	-65.3	1.5141	0.8177	87.7086	9.157	0.5195	0.0279	0.0169	0.0025	0.0025	0	0.0011	0.216	0.0191	2/7/2018	2/8/2018	2/8/2018 3:15:39 PM	
11587	GLEN ULLIN	1071.2	0.6206	1359.8	-61	1.5403	0.8324	87.3701	9.444	0.5406	0.0358	0.0239	0.0036	0.0045	0	0.0023	0.1865	0.0191	2/8/2018	2/9/2018	2/9/2018 3:17:12 PM	
11587	GLEN ULLIN	1075.4	0.6237	1361.7	-59.4	1.5439	0.851	86.8237	9.9331	0.5808	0.0356	0.0258	0.0033	0.0048	0	0.0022	0.1781	0.0191	2/9/2018	2/10/2018	2/10/2018 3:12:34 PM	
11587	GLEN ULLIN	1074.5	0.6233	1361	-62.3	1.5356	0.87	86.7746	10.0616	0.5014	0.0284	0.0166	0.0024	0.0027	0	0.001	0.1883	0.0191	2/10/2018	2/11/2018	2/11/2018 3:12:37 PM	
11587	GLEN ULLIN	1067.9	0.6183	1358.1	-67.3	1.4892	0.8516	87.7248	9.2504	0.453	0.0211	0.0119	0.0012	0.0014	0	0.0001	0.1779	0.0191	2/11/2018	2/12/2018	2/12/2018 3:14:08 PM	
11587	GLEN ULLIN	1065.7	0.6165	1357.3	-69	1.4708	0.8381	88.0202	8.9917	0.4469	0.0147	0.0086	0	0	0	0	0.1924	0.0191	2/12/2018	2/13/2018	2/13/2018 3:20:42 PM	
11587	GLEN ULLIN	1065	0.6169	1355.9	-68.8	1.547	0.8434	87.9359	8.9888	0.4454	0.0172	0.0097	0.0005	0.0006	0	0.0001	0.1947	0.0191	2/13/2018	2/14/2018	2/14/2018 3:17:27 PM	
11587	GLEN ULLIN	1062.1	0.6138	1355.7	-71.4	1.401	0.8564	88.5955	8.5444	0.3882	0.0157	0.009	0.0002	0.0002	0	0	0.1731	0.019	2/14/2018	2/15/2018	2/15/2018 3:18:30 PM	
11587	GLEN ULLIN	1060	0.6126	1354.3	-72.9	1.431	0.8478	88.7499	8.4269	0.3332	0.0124	0.0073	0	0	0	0	0.1741	0.019	2/15/2018	2/16/2018	2/16/2018 3:20:27 PM	
11587	GLEN ULLIN	1066.2	0.6165	1357.9	-68.6	1.4337	0.8477	88.0558	8.9781	0.4445	0.0192	0.0121	0.0008	0.0009	0	0.0001	0.1898	0.019	2/16/2018	2/17/2018	2/17/2018 3:13:24 PM	
11587	GLEN ULLIN	1067.3	0.6175	1358.2	-67.4	1.4406	0.861	87.8996	9.0928	0.469	0.0203	0.0111	0.0015	0.0014	0	0.0003	0.1864	0.019	2/17/2018	2/18/2018	2/18/2018 3:13:08 PM	
11587	GLEN ULLIN	1067.9	0.618	1358.4	-67.5	1.4582	0.8529	87.832	9.1708	0.4698	0.0188	0.0113	0.0009	0.0013	0	0	0.1673	0.019	2/18/2018	2/19/2018	2/19/2018 3:14:36 PM	
11587	GLEN ULLIN	1069.4	0.6189	1359.3	-67	1.4761	0.8423	87.5784	9.4173	0.4644	0.0161	0.0091	0.0003	0.0004	0	0	0.1798	0.019	2/19/2018	2/20/2018	2/20/2018 3:14:56 PM	
11587	GLEN ULLIN	1065.6	0.6165	1357.2	-68.9	1.4661	0.8434	88.0894	8.9235	0.46	0.0166	0.0095	0.0003	0.0003	0	0	0.1744	0.019	2/20/2018	2/21/2018	2/21/2018 3:17:56 PM	
11587	GLEN ULLIN	1063.3	0.6147	1356.2	-70.4	1.435	0.8453	88.4261	8.6458	0.4276	0.0161	0.0098	0.0004	0.0005	0	0.0001	0.1781	0.019	2/21/2018	2/22/2018	2/22/2018 3:17:27 PM	
11587	GLEN ULLIN	1059	0.611	1354.8	-73.6	1.3632	0.8325	89.1017	8.1287	0.3567	0.0137	0.0083	0.0002	0.0005	0	0	0.1783	0.019	2/22/2018	2/23/2018	2/23/2018 3:14:00 PM	
11587	GLEN ULLIN	1059.9	0.6125	1354.3	-72.2	1.4356	0.8419	88.8179	8.2795	0.3895	0.0174	0.0102	0.0005	0.0009	0	0	0.1887	0.019	2/23/2018	2/24/2018	2/24/2018 3:12:24 PM	
11587	GLEN ULLIN	1062.7	0.6143	1355.9	-70.9	1.4519	0.837	88.4434	8.662	0.3834	0.0169	0.0097	0.0005	0.0007	0	0	0.1788	0.0169	2/24/2018	2/25/2018	2/25/2018 3:13:41 PM	
11587	GLEN ULLIN	1067.5	0.6175	1358.5	-68.3	1.4582	0.838	87.8042	9.2679	0.4039	0.0171	0.0094	0.0006	0.0004	0	0.0001	0.1856	0.0163	2/25/2018	2/26/2018	2/26/2018 3:14:33 PM	
11587	GLEN ULLIN	1068.8	0.618	1359.6	-67.2	1.4396	0.8318	87.7615	9.2914	0.4513	0.0185	0.0099	0.0013	0.001	0	0.0004	0.1779	0.0163	2/26/2018	2/27/2018	2/27/2018 3:19:00 PM	
11587	GLEN ULLIN	1065.4	0.6157	1357.8	-69.6	1.4074	0.8419	88.2031	8.9089	0.4212	0.0147	0.0086	0.0001	0.0001	0	0	0.1791	0.015	2/27/2018	2/28/2018	2/28/2018 3:15:57 PM	
11587	GLEN ULLIN	1070.3	0.6199	1359.4	-66.1	1.5042	0.8479	87.3989	9.5429	0.4769	0.0192	0.011	0.0006	0.0007	0	0	0.1826	0.015	2/28/2018	3/1/2018	3/1/2018 3:18:56 PM	

29 record(s) retrieved

FORM 2021

NORTH DAKOTA HEATING VALUE ZONES		
ZONES	MEASURING DEVICE	LOCATION
211	Chromatograph	Sidney Border
24	Monthly Sampler	Williston Border
241	Monthly Sampler	Fairview Border
25	Monthly Sampler	Watford City West Border
260	Chromatograph	North Tioga Transfer
261	Chromatograph	Tioga Comp Station – Robinson Lake Plant
262	Chromatograph	Minot Border
263	Monthly Sampler	Lignite Plant
264	Monthly Sampler	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	Monthly Sampler	Bowman Border
43	Chromatograph	Spring Creek
550	Monthly Sampler & Chromatograph	Mandan Border
600	Chromatograph	Hankinson Area
610	Monthly Sampler & Chromatograph	Watford City
802	Chromatograph	Linton

MONTANA DAKOTA UTILITIES CO
 NORTH DAKOTA
 HEATING VALUE DATA

STATE	ZONE	ZONE BOUNDARY	12 MONTH AVERAGE	FEB 18	JAN 18	DEC 17	NOV 17	OCT 17	SEPT 17	AUG 17	JULY 17	JUNE 17	MAY 17	APRIL 17	MAR 17	ZONE
MT/ND	211	Sidney Border - MonDak Trf - Sidney Plt	1198	1195	1185	1193	1210	1201	1200	1204	1201	1191	1206	1191	1194	211
ND	24	Williston Border - Charbonneau Station	1146	1140	1138	1143	1144	1144	1142	1142	1141	1141	1148	1158	1171	24
ND	25	Watford City West Border	1193	1184	1174	1165	1169	1204	1205	1202	1206	1204	1200	1199	1199	25
ND	28	Bismarck Station - Glen Ullin Station	1153	1098	1096	1114	1111	1173	1196	1195	1194	1188	1191	1161	1118	28
ND	31	Dickinson Brd - Belfield Trf - G Ullin Stn	1131	1102	1095	1111	1110	1132	1100	1169	1179	1171	1137	1147	1118	31
ND/MT	32	Cabin Creek Station - Beltied Transfer	1107	1080	1072	1096	1090	1113	1103	1136	1157	1122	1097	1104	1112	32
ND	33	Little Knife Plant	1177	1176	1175	1174	1174	1174	1177	1181	1180	1177	1177	1178	1176	33
ND	34	Bowman Border	996	996	996	996	996	996	996	996	996	996	996	996	996	34
ND	43	Spring Creek I - Sax Valve I	1143	1148	1153	1165	1158	1143	1147	1151	1141	1126	1136	1141	1102	43
ND/MT	241	Fairview Border	1182	1206	1203	1190	1204	1196	1175	1169	1165	1161	1168	1167	1179	241
ND	260	North Tioga Transfer - Nesson Plant	1021	986	1021	998	992	996	987	993	1002	1087	1090	1082	0	260
ND	261	Tioga Comp Station - Robinson Lake Plant	1165	1171	1173	1167	1170	1176	1175	1177	1183	1181	1176	1170	1065	261
ND	262	Minot Bdr - Palermo Bdr - Bismarck Stn	1192	1191	1193	1196	1190	1194	1196	1195	1193	1189	1192	1189	1181	262
ND	263	Lignite Plant	1128	1135	1114	1120	1143	1141	1123	1143	1146	1135	1115	1103	1115	263
ND	264	Epping Border	1143	1144	1161	1142	1133	1134	1136	1133	1138	1133	1145	1154	1158	264
ND	265	Tioga Comp Station - County Line Plant	1175	1171	1174	1167	1170	1176	1176	1177	1184	1181	1176	1170	1174	265
ND	266	County Line Plant	1184	1185	1183	1181	1184	1185	1189	1184	1191	1183	1185	1185	1173	266
ND	271	Bismarck Station - Cleveland Station	1182	1159	1161	1176	1179	1192	1196	1195	1194	1188	1192	1189	1163	271
ND	272	Cleveland Station - Mapleton	1181	1158	1160	1177	1179	1192	1196	1195	1193	1188	1191	1187	1161	272
ND	273	Cleveland Station - Grafton Border	1182	1158	1160	1177	1179	1192	1196	1195	1194	1189	1192	1187	1162	273
ND	550	Mandan Border / NBPL - St Anthony	1090	1090	1088	1099	1093									550
ND	610	MDU-Watford City BTU	1177	1168	1164	1165	1165	1189	1190	1183	1185	1176	1183	1188	1171	610
ND	802	Linton	1064	1068	1069	1073	1075	1064	1065	1062	1057	1054	1063	1059	1054	802
ND	903	Heltinger Propane	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	903

**THERMAL ZONE VARIANCE
DOCUMENTATION**

February 2018

<i>ZONE</i>	<i>BTU VARIANCE</i>	<i>REASON</i>
260	-35	Operational Change
263	21	Operational Change