



UTILITIES CO.

A Subsidiary of MDU Resources Group, Inc.

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

June 20, 2019

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

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

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

1. Attachment A is a schedule showing the thermal billing factors by community that reflect the BTU values shown on Attachment B and were used for billing purposes in May 2019.
2. Attachment B consists of copies of the monthly Heating Value Test Reports received from our suppliers for the month of April 2019.
3. Attachment C is a listing which states the type of measuring device in place at each zone.
4. Attachment D is a monthly list of the heating value data, by zone, for the most recent 12-month period and an average thereof. It is being provided pursuant to a Staff request.
5. Attachment E provides a brief explanation of the thermal variances, where applicable, for the month of April 2019.

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

Sincerely,

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

Tamie Aberle  
Director of Regulatory Affairs

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

Town	Heat Zone	Therm Factor
MDU-303-ALEXANDER	025	1.1315
MDU-308-ARNEGARD	025	1.1315
MDU-314-APPLE VALLEY	271	1.1395
MDU-318-BEACH	032	1.0526
MDU-319-BELFIELD	032	1.0603
MDU-323-BERTHOLD	262	1.1164
MDU-324-BEULAH	032	1.0603
MDU-327-BISMARCK	028	1.0308
MDU-330-BOWMAN	034	0.9499
MDU-337-BURLINGTON	262	1.1405
MDU-343-CARRINGTON	273	1.1395
MDU-344-CLEVELAND	272	1.1305
MDU-364-CAVALIER	273	1.1636
MDU-365-DAWSON	271	1.1315
MDU-368-DES LACS	262	1.1244
MDU-369-DICKINSON	031	1.0718
MDU-374-FT TOTTEN	273	1.1475
MDU-375-DEVILS LAKE	273	1.1475
MDU-379-BARLOW	273	1.1395
MDU-384-EPPING	264	1.0890
MDU-387-ELDRIDGE	272	1.1385
MDU-407-GLADSTONE	031	1.0718
MDU-411-GLEN ULLIN	031	1.0796
MDU-413-GOLVA	032	1.0371
MDU-416-GARRISON	262	1.1244
MDU-417-GRAFTON	273	1.1716
MDU-429-HEBRON	031	1.0796
MDU-432-HETTINGER	903	2.3875
MDU-449-JAMESTOWN	272	1.1466
MDU-459-KILLDEER	033	1.1079
MDU-463-LANGDON	273	1.1395
MDU-469-LEFOR	031	1.0718
MDU-474-LIGNITE	263	1.0930
MDU-475-LINTON	802	1.0450
MDU-478-LINCOLN	028	1.1038
MDU-488-MCKENZIE	271	1.1395
MDU-494-MEDINA	271	1.1315
MDU-498-MANDAN	028	1.1038
MDU-500-MARMARTH	034	0.9361
MDU-505-MINOT	262	1.1405
MDU-510-MOTT	031	1.0718
MDU-512-MAX	262	1.1405
MDU-522-NEW ENGLAND	031	1.0640
MDU-524-NEW SALEM	028	1.0805
MDU-532-NEW ROCKFORD	273	1.1395
MDU-539-PARK RIVER	273	1.1636
MDU-540-PALERMO	262	1.1164
MDU-558-RAY	264	1.0890
MDU-561-REGENT	031	1.0718

MDU-563-RHAME	034	0.9224
MDU-564-RICHARDTON	031	1.0640
MDU-568-ROSS	261	1.1056
MDU-572-RUTHVILLE	262	1.1405
MDU-574-SANBORN	272	1.1466
MDU-583-SENTINEL BUTTE	032	1.0526
MDU-588-SOUTH HEART	031	1.0640
MDU-717-SPIRITWOOD	272	1.1466
MDU-590-SPRINGBROOK	264	1.0890
MDU-591-STANLEY	261	1.1216
MDU-593-STEELE	271	1.1315
MDU-594-STERLING	028	1.1038
MDU-598-SHEYENNE	273	1.1475
MDU-605-SURREY	262	1.1405
MDU-610-TAPPEN	271	1.1315
MDU-611-TAYLOR	031	1.0640
MDU-616-TIOGA	260	1.0721
MDU-619-TURTLE LAKE	262	1.1244
MDU-620-TRENTON	024	1.1092
MDU-624-UNDERWOOD	262	1.1244
MDU-625-VALLEY CITY	272	1.1546
MDU-629-WALHALLA	273	1.1636
MDU-632-WATFORD CITY	610	1.0937
MDU-636-WHEELOCK	264	1.0812
MDU-637-WHITE EARTH	261	1.1136
MDU-642-WILLISTON	024	1.1092
MDU-646-WASHBURN	262	1.1324
MDU-647-WILTON	262	1.1164
MDU-664-RIVERDALE	262	1.1244
MDU-691-FAIRVIEW	241	1.1301
MDU-712-MINOT AFB	262	1.1405
MDU-718-FAIRMOUNT	600	1.1376
MDU-732-NEKOMA	273	1.1395
MDU-732-MSR SITE	273	1.1395

# Source Daily Summary

April 2019

Number: 251

Pressure Base: 14.730

Contract Day: 1

Name: SDNY BDR-MNDK JNCTN-SDNY PLT

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7272	1170.0	1190.7	1187.5	1.213	3.812	69.620	21.530	3.388	0.149	0.265	0.013	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1393.11
2	0.7288	1170.5	1191.3	1188.0	1.284	3.822	69.436	21.573	3.435	0.152	0.273	0.014	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1392.11
3	0.7387	1188.1	1209.1	1205.6	1.247	3.733	68.476	21.744	4.205	0.197	0.362	0.020	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1403.38
4	0.7292	1169.7	1190.4	1186.9	1.314	3.870	69.397	21.529	3.430	0.156	0.279	0.014	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1390.65
5	0.7296	1170.6	1191.3	1187.9	1.316	3.848	69.213	21.826	3.348	0.152	0.271	0.014	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1391.37
6	0.7341	1179.4	1200.3	1196.8	1.331	3.715	68.176	23.116	3.232	0.145	0.260	0.014	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1397.51
7	0.7351	1181.1	1202.0	1198.5	1.342	3.696	67.945	23.379	3.213	0.144	0.257	0.013	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1398.51
8	0.7373	1184.8	1205.8	1202.2	1.338	3.678	67.663	23.551	3.322	0.151	0.271	0.014	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1400.81
9	0.7363	1183.0	1203.9	1200.5	1.337	3.699	67.750	23.514	3.280	0.142	0.255	0.013	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1399.66
10	0.7273	1182.3	1203.2	1199.9	0.937	3.506	68.855	23.240	3.157	0.108	0.182	0.008	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1407.59
11	0.7352	1181.7	1202.6	1199.3	1.335	3.677	67.750	23.749	3.083	0.138	0.246	0.012	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1399.18
12	0.7375	1185.5	1206.5	1203.1	1.336	3.650	67.634	23.579	3.379	0.143	0.256	0.013	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1401.56
13	0.7351	1182.3	1203.2	1199.7	1.331	3.629	68.117	23.145	3.338	0.148	0.266	0.014	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1400.00
14	0.7352	1182.2	1203.1	1199.7	1.339	3.640	67.972	23.379	3.239	0.146	0.261	0.014	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1399.75
15	0.7355	1182.1	1203.1	1199.6	1.341	3.668	67.870	23.486	3.209	0.144	0.258	0.013	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1399.40
16	0.7359	1182.9	1203.8	1200.3	1.338	3.666	67.736	23.673	3.165	0.142	0.257	0.013	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1399.88
17	0.7117	1180.5	1201.5	1198.1	0.317	3.089	70.951	22.558	2.929	0.060	0.091	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1420.88
18	0.7263	1184.3	1205.3	1201.9	0.889	3.352	69.260	22.858	3.308	0.115	0.200	0.010	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1411.09
19	0.7353	1181.9	1202.8	1199.0	1.346	3.657	68.135	23.062	3.346	0.152	0.276	0.015	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1399.16
20	0.7341	1179.8	1200.7	1197.2	1.346	3.665	68.261	23.018	3.274	0.146	0.264	0.014	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1397.99
21	0.7355	1182.2	1203.2	1199.6	1.344	3.654	67.883	23.495	3.194	0.145	0.261	0.014	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1399.55
22	0.7363	1183.5	1204.5	1200.9	1.342	3.659	67.738	23.606	3.222	0.145	0.262	0.014	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1400.24
23	0.7357	1182.5	1203.4	1199.7	1.343	3.662	67.917	23.382	3.250	0.148	0.271	0.014	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1399.59
24	0.7354	1182.1	1203.0	1199.4	1.350	3.648	67.919	23.442	3.210	0.144	0.261	0.014	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1399.41
25	0.7344	1181.4	1202.3	1198.7	1.346	3.605	68.159	23.226	3.223	0.147	0.267	0.014	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1399.49
26	0.7366	1184.8	1205.8	1202.2	1.347	3.592	67.782	23.571	3.257	0.150	0.273	0.015	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1401.57
27	0.7130	1182.8	1203.7	1200.5	0.318	3.071	70.749	22.719	2.985	0.061	0.092	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1422.29
28	0.7065	1180.2	1201.1	1197.9	0.090	2.961	71.590	22.431	2.836	0.039	0.050	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1425.63
29	0.7091	1184.9	1205.9	1202.6	0.079	2.937	71.247	22.626	3.007	0.045	0.058	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1428.67
30	0.7113	1188.1	1209.2	1205.9	0.077	2.951	70.953	22.748	3.161	0.048	0.062	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1430.34
Avg	0.7300	1181.0	1202.1	1198.6	1.107	3.560	68.739	22.958	3.254	0.130	0.230	0.012	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1403.68

Zone 211

# Source Daily Summary

April 2019

Number: 571

Pressure Base: 14.730

Contract Day: 1

Name: WILLISTON BDR-CHARBN STN

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6927	1142.7	1163.0	1159.9	0.837	2.805	75.069	18.696	2.313	0.081	0.171	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1394.04
2	0.6933	1143.6	1163.8	1160.8	0.848	2.791	74.882	18.965	2.242	0.078	0.165	0.013	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1394.48
3	0.6916	1143.0	1163.2	1160.1	0.826	2.703	75.197	18.774	2.228	0.079	0.165	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1395.47
4	0.6917	1143.6	1163.8	1160.7	0.819	2.687	75.135	18.894	2.194	0.078	0.165	0.013	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1396.10
5	0.6937	1145.2	1165.4	1162.4	0.852	2.730	74.774	19.144	2.235	0.078	0.162	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1396.01
6	0.6938	1144.9	1165.2	1162.2	0.856	2.747	74.672	19.300	2.170	0.074	0.155	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1395.64
7	0.6929	1143.8	1164.0	1161.0	0.846	2.745	74.967	18.925	2.240	0.080	0.169	0.013	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1395.18
8	0.6930	1142.9	1163.1	1160.0	0.852	2.803	74.841	19.063	2.187	0.074	0.154	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1393.93
9	0.6932	1143.7	1163.9	1160.9	0.850	2.778	74.782	19.159	2.182	0.073	0.153	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1394.71
10	0.6918	1142.8	1163.1	1160.0	0.838	2.711	75.134	18.841	2.216	0.075	0.158	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1395.10
11	0.6934	1144.4	1164.6	1161.6	0.854	2.748	74.814	19.103	2.225	0.075	0.156	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1395.34
12	0.6937	1145.1	1165.4	1162.3	0.853	2.734	74.813	19.071	2.262	0.077	0.162	0.013	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1395.89
13	0.6908	1140.6	1160.8	1157.7	0.841	2.752	75.308	18.646	2.194	0.075	0.157	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1393.32
14	0.6918	1141.5	1161.7	1158.6	0.842	2.790	75.286	18.448	2.368	0.077	0.161	0.013	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1393.42
15	0.6911	1140.7	1160.9	1157.8	0.831	2.787	75.293	18.586	2.240	0.076	0.160	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1393.17
16	0.6921	1141.6	1161.8	1158.6	0.841	2.812	75.127	18.693	2.257	0.077	0.164	0.013	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1393.22
17	0.6947	1143.3	1163.6	1160.5	0.838	2.959	74.734	18.776	2.408	0.082	0.174	0.013	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1392.72
18	0.6955	1146.1	1166.4	1163.2	0.862	2.826	74.568	19.114	2.345	0.081	0.174	0.014	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1395.33
19	0.6922	1142.6	1162.8	1159.6	0.842	2.760	75.125	18.736	2.261	0.079	0.167	0.013	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1394.37
20	0.6936	1144.6	1164.9	1161.7	0.852	2.755	74.819	19.060	2.248	0.077	0.162	0.012	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1395.38
21	0.6957	1146.4	1166.7	1163.6	0.856	2.836	74.516	19.151	2.361	0.080	0.171	0.013	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1395.49
22	0.6956	1144.9	1165.2	1162.0	0.848	2.929	74.583	18.948	2.406	0.082	0.176	0.013	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1393.74
23	0.6947	1144.3	1164.6	1161.3	0.848	2.884	74.695	18.943	2.352	0.079	0.169	0.013	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1393.91
24	0.6949	1144.5	1164.8	1161.6	0.850	2.881	74.639	19.022	2.333	0.079	0.167	0.013	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1394.03
25	0.6958	1145.9	1166.2	1162.9	0.856	2.874	74.519	19.111	2.349	0.082	0.176	0.014	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1394.74
26	0.6963	1143.9	1164.2	1161.0	0.836	3.075	74.492	18.828	2.473	0.084	0.182	0.014	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1391.83
27	0.6949	1140.3	1160.5	1157.2	0.803	3.215	74.747	18.448	2.464	0.084	0.185	0.015	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1388.77
28	0.6953	1146.2	1166.5	1163.2	0.829	2.855	74.651	18.958	2.410	0.086	0.176	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1395.58
29	0.6939	1148.9	1169.3	1166.0	0.815	2.577	74.565	19.688	2.112	0.068	0.147	0.012	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1400.33
30	0.6911	1140.2	1160.4	1157.2	0.857	2.783	75.214	18.737	2.146	0.074	0.158	0.013	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1392.49
Avg	0.6935	1144.0	1164.0	1160.8	0.843	2.811	74.865	18.928	2.281	0.078	0.165	0.013	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1394.46

Zone 24

# Gas Composition and Properties

Effective April 1, 2019

Source #: 0602160  
Name: FAIRVIEW BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	1.2654		2.6476
Nitrogen, N2	3.5599		4.7412
Methane, C1	69.3265		52.8757
Ethane, C2	22.1243	5.9216	31.6282
Propane, C3	3.3003	0.9100	6.9189
iso-Butane, iC4	0.1384	0.0453	0.3824
n-Butane, nC4	0.2596	0.0819	0.7174
iso-Pentane, iC5	0.0134	0.0049	0.0460
n-Pentane, nC5	0.0111	0.0040	0.0381
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0011	0.0005	0.0045
Water, H2O			
Hydrogen Sulfide, H2S			
Oxygen, O2			
Carbon Monoxide, CO			
Hydrogen, H2			
Helium, He			
Argon, Ar			

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure	-16.971	
Cricondentherm	2.381	
HV, Dry @ Base P, T	1195.56	
HV, Sat @ Base P, T	1174.75	
HV, Sat @ Sample P, T	1195.56	
Relative Density	0.7284	

C6+: 100

Totals	100.0000	6.9680	100.0000
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**Sample**  
Date: 04/01/2019      Pressure: 385.0  
Type:                      Temperature:  
Tech: Kevin Moos      H2O: lbs/mm  
                                 H2S: ppm  
Remarks:

**Analysis**  
Date: 04/01/2019      Instrument:  
                                 Cylinder: 341  
Tech: Kevin Moos  
Remarks:

Zone 241

# Gas Composition and Properties

Effective April 1, 2019

Source #: 0602225  
Name: WATFORD CITY WEST BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	1.1737		2.4435
Nitrogen, N2	3.6535		4.8415
Methane, C1	70.1612		53.2439
Ethane, C2	20.0985	5.3796	28.5880
Propane, C3	4.0733	1.1231	8.4965
iso-Butane, iC4	0.2286	0.0749	0.6285
n-Butane, nC4	0.5087	0.1605	1.3986
iso-Pentane, iC5	0.0441	0.0161	0.1505
n-Pentane, nC5	0.0438	0.0159	0.1495
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0146	0.0060	0.0595
Water, H2O			
Hydrogen Sulfide, H2S			
Oxygen, O2			
Carbon Monoxide, CO			
Hydrogen, H2			
Helium, He			
Argon, Ar			
<b>Totals</b>	<b>100.0000</b>	<b>6.7770</b>	<b>100.0000</b>

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure	5.134	
Cricondentherm	13.694	
HV, Dry @ Base P, T	1201.90	
HV, Sat @ Base P, T	1180.98	
HV, Sat @ Sample P, T	1201.90	
Relative Density	0.7321	

C6+: 100

Sample		
Date: 04/01/2019	Pressure:	490.0
Type:	Temperature:	
Tech: Kevin Moos	H2O:	lbs/mm
	H2S:	ppm
Remarks:		

Analysis	
Date: 04/01/2019	Instrument:
	Cylinder: 360
Tech: Kevin Moos	
Remarks:	

Zone 25

# Source Daily Summary

April 2019

Number: 164		Pressure Base: 14.730											Contract Day: 1								
Name: N TIOGA TRANSFER-NESSON PLT		Temperature Base:											Contract Hour: 9								
Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT	
1	0.6737	1105.1	1124.6		0.649	3.607	77.850	15.957	1.756	0.055	0.110	0.007	0.008	0.000						1367.03	
2	0.6758	1107.3	1126.9		0.682	3.621	77.481	16.270	1.751	0.057	0.117	0.009	0.010	0.002						1367.63	
3	0.6514	1073.5	1092.5		0.433	3.769	81.594	12.798	1.264	0.043	0.086	0.006	0.007	0.000						1350.41	
4	0.6613	1088.0	1107.3		0.458	3.768	80.023	13.984	1.575	0.057	0.117	0.008	0.009	0.001						1358.51	
5	0.6710	1100.6	1120.1		0.638	3.638	78.224	15.712	1.624	0.051	0.100	0.006	0.006	0.000						1364.32	
6	0.6756	1107.7	1127.3		0.679	3.582	77.390	16.514	1.654	0.053	0.109	0.008	0.009	0.001						1368.34	
7	0.6748	1106.8	1126.4		0.642	3.617	77.796	15.873	1.852	0.064	0.134	0.010	0.011	0.001						1368.03	
8	0.6760	1107.7	1127.4		0.684	3.608	77.399	16.393	1.734	0.054	0.109	0.008	0.009	0.001						1368.00	
9	0.6744	1105.2	1124.8		0.665	3.643	77.561	16.323	1.653	0.048	0.095	0.006	0.006	0.000						1366.47	
10	0.6627	1088.2	1107.5		0.574	3.713	79.637	14.480	1.452	0.043	0.086	0.007	0.008	0.001						1357.34	
11	0.6741	1104.9	1124.5		0.669	3.629	77.608	16.298	1.642	0.048	0.094	0.006	0.006	0.000						1366.40	
12	0.6710	1100.6	1120.1		0.643	3.630	78.200	15.782	1.578	0.049	0.101	0.008	0.009	0.001						1364.33	
13	0.6642	1089.6	1108.9		0.609	3.726	79.395	14.640	1.471	0.048	0.097	0.006	0.007	0.000						1357.38	
14	0.6639	1088.0	1107.3		0.621	3.769	79.548	14.378	1.507	0.051	0.107	0.008	0.009	0.001						1355.80	
15	0.6669	1094.1	1113.5		0.604	3.703	79.017	14.895	1.607	0.052	0.106	0.007	0.008	0.000						1360.38	
16	0.6721	1100.5	1120.0		0.654	3.732	78.143	15.551	1.735	0.054	0.111	0.008	0.009	0.002						1362.94	
17	0.6797	1108.4	1128.0		0.668	3.943	77.073	15.946	2.134	0.069	0.145	0.010	0.011	0.001						1364.99	
18	0.6755	1106.4	1126.0		0.682	3.643	77.562	16.133	1.798	0.055	0.112	0.007	0.008	0.001						1366.86	
19	0.6723	1103.5	1123.0		0.651	3.566	78.115	15.773	1.714	0.053	0.108	0.008	0.009	0.002						1366.52	
20	0.6755	1108.2	1127.8		0.673	3.554	77.444	16.443	1.719	0.052	0.102	0.007	0.007	0.000						1369.03	
21	0.6810	1112.9	1132.6		0.701	3.734	76.623	16.814	1.922	0.060	0.125	0.009	0.010	0.002						1369.34	
22	0.6813	1112.7	1132.4		0.675	3.813	76.690	16.520	2.096	0.063	0.127	0.008	0.008	0.000						1368.80	
23	0.6798	1110.0	1129.6		0.671	3.848	76.967	16.246	2.053	0.063	0.130	0.009	0.011	0.003						1366.91	
24	0.6793	1110.4	1130.0		0.675	3.769	76.962	16.420	1.979	0.059	0.120	0.008	0.008	0.000						1367.92	
25	0.6783	1108.1	1127.7		0.682	3.807	77.139	16.235	1.929	0.060	0.127	0.009	0.011	0.002						1366.09	
26	0.6831	1109.5	1129.1		0.627	4.251	76.620	15.843	2.393	0.078	0.166	0.010	0.011	0.000						1363.02	
27	0.6770	1100.9	1120.4		0.577	4.279	77.581	15.106	2.213	0.072	0.153	0.010	0.010	0.000						1358.56	
28	0.6631	1098.0	1117.4		0.238	3.667	79.107	15.505	1.355	0.039	0.078	0.006	0.006	0.000						1369.07	
29	0.6509	1078.3	1097.4		0.281	3.666	80.946	14.248	0.778	0.024	0.051	0.003	0.004	0.000						1360.27	
30	0.6697	1098.7	1118.2		0.658	3.602	78.601	15.304	1.641	0.054	0.116	0.009	0.011	0.002						1363.25	
Avg	0.6718	1101.0	1120.6		0.612	3.730	78.143	15.613	1.719	0.054	0.111	0.008	0.009	0.001						1364.13	

Zone 260

# Source Daily Summary

April 2019

Number: 601		Pressure Base: 14.730											Contract Day: 1							
Name: TIOGA STN-ROBINSON LAKE PLNT		Temperature Base:											Contract Hour: 9							
Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7069	1153.4	1173.8	1170.9	0.901	3.398	72.130	20.916	2.412	0.075	0.148	0.009	0.010	0.000	0.000	0.000	0.000	0.000	1392.93	
2	0.7077	1153.7	1174.1	1171.1	0.929	3.420	71.978	21.057	2.359	0.076	0.156	0.011	0.013	0.000	0.000	0.000	0.000	0.000	1392.34	
3	0.7002	1145.5	1165.8	1162.9	0.754	3.471	73.091	20.276	2.173	0.073	0.142	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1390.03	
4	0.6949	1135.6	1155.7	1152.7	0.764	3.565	74.228	19.016	2.162	0.079	0.161	0.012	0.013	0.000	0.000	0.000	0.000	0.000	1382.93	
5	0.7078	1155.1	1175.5	1172.6	0.917	3.363	71.844	21.321	2.326	0.072	0.141	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1394.02	
6	0.7086	1155.5	1175.9	1172.9	0.953	3.362	71.721	21.433	2.286	0.073	0.150	0.011	0.012	0.000	0.000	0.000	0.000	0.000	1393.63	
7	0.7103	1158.4	1178.9	1175.9	0.907	3.406	71.732	21.074	2.581	0.088	0.184	0.014	0.015	0.000	0.000	0.000	0.000	0.000	1395.52	
8	0.7073	1153.0	1173.4	1170.4	0.927	3.421	71.989	21.101	2.324	0.072	0.144	0.010	0.012	0.000	0.000	0.000	0.000	0.000	1392.00	
9	0.7055	1150.5	1170.8	1167.9	0.902	3.450	72.134	21.089	2.221	0.064	0.125	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1390.70	
10	0.7010	1144.3	1164.5	1161.6	0.862	3.464	72.965	20.351	2.150	0.063	0.126	0.009	0.010	0.000	0.000	0.000	0.000	0.000	1387.50	
11	0.7067	1152.6	1173.0	1170.1	0.920	3.409	71.927	21.302	2.235	0.064	0.126	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1392.05	
12	0.7058	1151.0	1171.4	1168.4	0.909	3.430	72.137	21.093	2.204	0.067	0.138	0.010	0.012	0.000	0.000	0.000	0.000	0.000	1391.07	
13	0.6980	1137.2	1157.3	1154.4	0.874	3.591	73.523	19.710	2.081	0.068	0.135	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1382.05	
14	0.6977	1135.2	1155.3	1152.4	0.897	3.648	73.716	19.354	2.140	0.071	0.149	0.012	0.014	0.000	0.000	0.000	0.000	0.000	1379.93	
15	0.6962	1134.9	1155.0	1152.1	0.850	3.596	74.050	19.036	2.229	0.072	0.145	0.010	0.011	0.000	0.000	0.000	0.000	0.000	1381.06	
16	0.6999	1139.7	1159.9	1156.8	0.870	3.627	73.355	19.630	2.282	0.071	0.142	0.010	0.012	0.000	0.000	0.000	0.000	0.000	1383.13	
17	0.7091	1148.7	1169.1	1166.1	0.880	3.922	72.077	20.033	2.783	0.090	0.188	0.013	0.014	0.000	0.000	0.000	0.000	0.000	1385.06	
18	0.7084	1153.5	1173.9	1171.0	0.939	3.478	71.879	21.017	2.444	0.074	0.149	0.009	0.010	0.000	0.000	0.000	0.000	0.000	1391.54	
19	0.7075	1154.0	1174.4	1171.2	0.921	3.385	72.039	21.019	2.390	0.074	0.148	0.011	0.013	0.000	0.000	0.000	0.000	0.000	1393.02	
20	0.7061	1152.1	1172.5	1169.5	0.903	3.404	72.121	21.064	2.289	0.068	0.134	0.008	0.009	0.000	0.000	0.000	0.000	0.000	1392.09	
21	0.7106	1154.5	1175.0	1171.8	0.924	3.644	71.518	21.142	2.510	0.078	0.161	0.011	0.013	0.000	0.000	0.000	0.000	0.000	1390.56	
22	0.7115	1155.1	1175.6	1172.5	0.888	3.745	71.489	20.884	2.730	0.081	0.164	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1390.48	
23	0.7112	1154.4	1174.9	1171.6	0.901	3.744	71.609	20.736	2.729	0.083	0.172	0.012	0.015	0.000	0.000	0.000	0.000	0.000	1389.80	
24	0.7103	1153.9	1174.3	1171.3	0.902	3.683	71.636	20.900	2.624	0.078	0.158	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1390.21	
25	0.7100	1152.6	1173.0	1169.9	0.920	3.708	71.707	20.823	2.569	0.080	0.167	0.012	0.014	0.000	0.000	0.000	0.000	0.000	1388.87	
26	0.7168	1154.5	1174.9	1171.9	0.847	4.339	70.932	20.325	3.204	0.104	0.221	0.014	0.014	0.000	0.000	0.000	0.000	0.000	1384.59	
27	0.7130	1149.3	1169.7	1166.7	0.810	4.358	71.474	19.963	3.060	0.100	0.209	0.013	0.013	0.000	0.000	0.000	0.000	0.000	1382.03	
28	0.7055	1150.2	1170.6	1135.1	0.324	3.643	76.639	17.593	1.645	0.049	0.095	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1379.52	
29	0.7060	1151.1	1171.5	1129.8	0.543	3.506	76.772	17.733	1.311	0.041	0.083	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1373.95	
30	0.7065	1151.9	1172.3	1169.2	0.951	3.375	72.270	20.802	2.333	0.077	0.163	0.013	0.016	0.000	0.000	0.000	0.000	0.000	1391.44	
Avg	0.7082	1150.0	1170.1	1164.7	0.860	3.585	72.556	20.393	2.359	0.074	0.151	0.010	0.011	0.000	0.000	0.000	0.000	0.000	1388.14	

Zone 261

# Source Daily Summary

April 2019

Number:	091	Pressure Base:	14.730	Contract Day:	1
Name:	MNT BRD-PLRMO BRD-BIS STN	Temperature Base:		Contract Hour:	9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7371	1161.2	1181.8	1178.7	0.930	5.707	68.223	20.149	4.506	0.143	0.312	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1373.24
2	0.7405	1162.4	1182.9	1179.8	0.930	5.960	67.813	20.016	4.762	0.153	0.337	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1371.38
3	0.7390	1160.0	1180.5	1177.4	0.929	5.958	67.963	20.015	4.639	0.147	0.321	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1370.06
4	0.7415	1166.2	1186.8	1183.7	0.930	5.813	67.706	20.230	4.782	0.157	0.350	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1375.02
5	0.7405	1163.6	1184.2	1181.1	0.926	5.889	67.845	20.058	4.748	0.156	0.345	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1372.83
6	0.7372	1157.7	1178.2	1175.1	0.919	5.951	68.223	19.846	4.572	0.145	0.316	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1368.93
7	0.7401	1162.3	1182.9	1179.7	0.930	5.921	67.883	20.012	4.738	0.153	0.334	0.015	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1371.72
8	0.7416	1163.1	1183.7	1180.5	0.927	6.019	67.724	19.937	4.847	0.159	0.352	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1371.22
9	0.7390	1158.1	1178.6	1175.5	0.926	6.079	68.080	19.666	4.726	0.154	0.338	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1367.78
10	0.7385	1156.5	1177.0	1173.9	0.916	6.147	67.842	20.100	4.526	0.139	0.303	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1366.37
11	0.7404	1161.2	1181.8	1178.7	0.928	6.019	67.848	19.899	4.786	0.154	0.337	0.015	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1370.20
12	0.7384	1157.8	1178.3	1175.2	0.931	6.040	68.123	19.724	4.674	0.150	0.329	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1367.92
13	0.7371	1155.6	1176.1	1173.0	0.943	6.033	68.242	19.724	4.574	0.144	0.313	0.014	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1366.57
14	0.7407	1162.6	1183.2	1180.1	0.929	5.964	67.822	19.967	4.783	0.157	0.346	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1371.49
15	0.7429	1164.7	1185.4	1182.2	0.932	6.035	67.538	20.023	4.921	0.161	0.357	0.016	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1371.97
16	0.7412	1161.7	1182.3	1179.0	0.931	6.064	67.751	19.891	4.829	0.157	0.345	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1369.94
17	0.7427	1163.4	1184.1	1180.9	0.957	6.053	67.579	19.961	4.903	0.160	0.354	0.017	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1370.70
18	0.7429	1164.4	1185.0	1181.9	0.927	6.062	67.521	20.016	4.927	0.161	0.354	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1371.63
19	0.7420	1163.7	1184.3	1180.9	0.925	6.026	67.625	20.016	4.874	0.157	0.346	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1371.58
20	0.7436	1166.0	1186.6	1183.4	0.932	6.023	67.460	20.054	4.976	0.163	0.359	0.017	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1372.83
21	0.7415	1161.7	1182.3	1179.1	0.932	6.090	67.696	19.901	4.849	0.156	0.345	0.016	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1369.70
22	0.7407	1159.6	1180.1	1176.8	0.931	6.139	67.806	19.792	4.803	0.154	0.342	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1368.02
23	0.7411	1160.7	1181.3	1177.9	0.933	6.109	67.738	19.872	4.821	0.154	0.341	0.016	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1368.93
24	0.7433	1165.5	1186.2	1182.8	0.933	6.016	67.522	20.011	4.960	0.164	0.361	0.017	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1372.62
25	0.7451	1168.3	1188.9	1185.8	0.934	6.020	67.298	20.111	5.054	0.169	0.376	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1374.13
26	0.7402	1159.1	1179.6	1176.4	0.935	6.123	67.838	19.821	4.772	0.152	0.331	0.015	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1367.85
27	0.7421	1163.2	1183.8	1180.7	0.934	6.052	67.612	19.995	4.871	0.157	0.347	0.016	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1370.92
28	0.7516	1178.3	1199.2	1196.0	0.921	6.038	66.421	20.603	5.358	0.186	0.426	0.023	0.024	0.000	0.000	0.000	0.000	0.000	0.000	1379.83
29	0.7418	1173.9	1194.7	1191.4	0.894	5.422	67.748	20.619	4.727	0.163	0.378	0.023	0.026	0.000	0.000	0.000	0.000	0.000	0.000	1383.84
30	0.7360	1161.4	1181.9	1178.9	0.934	5.594	68.288	20.304	4.447	0.129	0.281	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1374.44
Avg	0.7410	1163.0	1183.4	1180.2	0.929	5.979	67.759	20.011	4.792	0.155	0.343	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1371.46

Zone 262

# Gas Composition and Properties

Effective April 1, 2019

Source #: 2501030  
Name: LIGNITE PLANT

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	0.1398		0.3157
Nitrogen, N2	3.0840		4.4326
Methane, C1	77.4877		63.7804
Ethane, C2	17.0236	4.5544	26.2635
Propane, C3	2.1835	0.6018	4.9400
iso-Butane, iC4	0.0408	0.0134	0.1217
n-Butane, nC4	0.0232	0.0073	0.0692
iso-Pentane, iC5			
n-Pentane, nC5			
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0174	0.0072	0.0769
Water, H2O			
Hydrogen Sulfide, H2S			
Oxygen, O2			
Carbon Monoxide, CO			
Hydrogen, H2			
Helium, He			
Argon, Ar			

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure	-32.546	
Cricondentherm	-23.203	
HV, Dry @ Base P, T	1147.74	
HV, Sat @ Base P, T	1127.76	
HV, Sat @ Sample P, T	1147.74	
Relative Density	0.6746	

C6+: 100

Totals	100.0000	5.1830	100.0000
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## Sample

Date: 04/01/2019      Pressure: 400.0  
 Type:                      Temperature:  
 Tech: Kevin Moos      H2O: lbs/mm  
                                  H2S: ppm

Remarks:

## Analysis

Date: 04/01/2019      Instrument:  
                                  Cylinder: 321  
 Tech: Kevin Moos

Remarks:

Zone 263

# Gas Composition and Properties

Effective April 1, 2019

Source #: 3002013  
Name: EPPING BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	0.8359		1.8555
Nitrogen, N2	2.9015		4.0997
Methane, C1	75.9563		61.4606
Ethane, C2	18.0094	4.8185	27.3136
Propane, C3	2.0894	0.5759	4.6471
iso-Butane, iC4	0.0589	0.0193	0.1727
n-Butane, nC4	0.1294	0.0408	0.3793
iso-Pentane, iC5	0.0082	0.0030	0.0298
n-Pentane, nC5	0.0087	0.0032	0.0317
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0023	0.0009	0.0100
Water, H2O			
Hydrogen Sulfide, H2S			
Oxygen, O2			
Carbon Monoxide, CO			
Hydrogen, H2			
Helium, He			
Argon, Ar			

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure	-24.584	
Cricondentherm	-19.270	
HV, Dry @ Base P, T	1151.47	
HV, Sat @ Base P, T	1131.43	
HV, Sat @ Sample P, T	1151.47	
Relative Density	0.6863	

C6+: 100

Totals	100.0000	5.4610	100.0000
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Sample			
Date: 04/01/2019	Pressure:	570.0	
Type:	Temperature:		
Tech: Kevin Moos	H2O:	lbs/mm	
	H2S:	ppm	
Remarks:			

Analysis			
Date: 04/01/2019	Instrument:		
	Cylinder:	452	
Tech: Kevin Moos			
Remarks:			

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

Zone 264

# Source Daily Summary

April 2019

Number:	603	Pressure Base:	14.730	Contract Day:	1
Name:	TOIGA 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	0.7091	1156.8	1177.2	1174.0	0.926	3.357	71.799	21.243	2.418	0.076	0.155	0.011	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1394.71
2	0.7085	1155.5	1176.0	1172.9	0.926	3.381	71.845	21.207	2.398	0.075	0.148	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1393.81
3	0.7073	1154.2	1174.6	1171.5	0.913	3.372	72.077	20.995	2.401	0.074	0.147	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1393.35
4	0.7080	1155.0	1175.4	1172.1	0.906	3.393	71.921	21.192	2.330	0.076	0.156	0.011	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1393.62
5	0.7009	1145.5	1165.8	1162.6	0.768	3.516	72.985	20.344	2.145	0.075	0.146	0.010	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1389.18
6	0.7087	1156.6	1177.1	1173.9	0.896	3.376	71.903	21.109	2.441	0.083	0.167	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1394.89
7	0.7087	1156.5	1176.9	1173.8	0.937	3.327	71.713	21.491	2.295	0.072	0.144	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1394.74
8	0.7094	1157.0	1177.5	1174.4	0.934	3.361	71.609	21.514	2.344	0.073	0.145	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1394.75
9	0.7100	1157.6	1178.1	1174.8	0.929	3.393	71.765	21.108	2.517	0.084	0.174	0.013	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1394.75
10	0.7083	1155.1	1175.6	1172.4	0.925	3.391	71.742	21.413	2.314	0.067	0.131	0.008	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1393.51
11	0.7075	1154.2	1174.7	1171.4	0.904	3.401	71.860	21.343	2.274	0.067	0.132	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1393.20
12	0.7077	1154.4	1174.8	1171.6	0.915	3.394	71.755	21.494	2.237	0.063	0.123	0.008	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1393.19
13	0.7078	1154.9	1175.3	1172.1	0.922	3.359	71.841	21.376	2.282	0.067	0.133	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1393.71
14	0.7052	1149.2	1169.6	1166.4	0.914	3.470	72.232	20.998	2.161	0.068	0.137	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1389.46
15	0.7006	1140.0	1160.2	1157.0	0.911	3.606	73.175	19.916	2.148	0.072	0.148	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1382.82
16	0.6967	1135.1	1155.2	1152.1	0.873	3.599	73.905	19.227	2.171	0.068	0.138	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1380.70
17	0.6978	1136.5	1156.6	1153.4	0.884	3.594	73.841	19.175	2.264	0.074	0.147	0.010	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1381.33
18	0.6967	1136.8	1156.9	1153.8	0.835	3.550	73.907	19.281	2.211	0.067	0.131	0.008	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1382.77
19	0.7048	1150.2	1170.6	1167.4	0.920	3.367	72.478	20.713	2.288	0.070	0.141	0.010	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1391.01
20	0.7084	1155.9	1176.4	1173.3	0.942	3.321	71.792	21.386	2.332	0.070	0.139	0.008	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1394.44
21	0.7079	1154.8	1175.2	1171.9	0.919	3.375	71.982	21.093	2.389	0.073	0.146	0.010	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1393.48
22	0.7079	1155.2	1175.7	1172.5	0.911	3.368	71.772	21.458	2.274	0.067	0.133	0.008	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1394.05
23	0.7082	1155.5	1176.0	1172.7	0.920	3.359	71.812	21.378	2.300	0.069	0.139	0.010	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1394.08
24	0.7075	1156.0	1176.5	1173.3	0.888	3.317	71.978	21.189	2.405	0.070	0.135	0.008	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1395.37
25	0.7071	1154.0	1174.4	1171.0	0.904	3.379	72.109	20.985	2.387	0.071	0.140	0.011	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1393.19
26	0.7067	1153.2	1173.7	1170.4	0.914	3.370	72.055	21.140	2.305	0.067	0.131	0.008	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1392.82
27	0.7063	1152.5	1172.9	1169.5	0.895	3.406	72.155	21.029	2.276	0.070	0.143	0.011	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1392.25
28	0.7011	1145.5	1165.8	1162.5	0.777	3.519	73.050	20.169	2.240	0.078	0.150	0.006	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1388.96
29	0.7036	1147.0	1167.3	1164.0	0.759	3.687	72.754	20.087	2.450	0.080	0.161	0.010	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1388.36
30	0.6983	1140.1	1160.3	1157.2	0.847	3.485	73.486	19.834	2.152	0.062	0.118	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1385.22
Avg	0.7056	1151.0	1171.4	1168.2	0.894	3.426	72.310	20.830	2.305	0.072	0.143	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1391.26

Zone 265

# Source Daily Summary

April 2019

Number: 043		Pressure Base: 14.730										Contract Day: 1								
Name: BISMARCK STN-CLEVELAND STN		Temperature Base:										Contract Hour: 9								
Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7352	1160.8	1181.3	1177.5	0.912	5.581	68.534	20.079	4.413	0.141	0.308	0.016	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1374.47
2	0.7396	1162.1	1182.7	1178.9	0.911	5.911	68.006	19.908	4.734	0.154	0.339	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1371.95
3	0.7387	1160.8	1181.4	1177.6	0.908	5.912	68.040	19.988	4.642	0.149	0.325	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1371.28
4	0.7401	1165.5	1186.1	1182.3	0.913	5.751	67.953	20.115	4.724	0.157	0.349	0.020	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1375.45
5	0.7434	1169.6	1190.3	1186.4	0.912	5.814	67.574	20.171	4.939	0.168	0.378	0.021	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1377.18
6	0.7356	1157.4	1177.9	1174.1	0.895	5.853	68.504	19.746	4.510	0.145	0.315	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1370.08
7	0.7407	1165.2	1185.8	1182.0	0.912	5.826	67.893	20.027	4.793	0.159	0.352	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1374.55
8	0.7431	1167.5	1188.1	1184.3	0.909	5.917	67.613	20.026	4.954	0.167	0.373	0.021	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1374.99
9	0.7377	1159.4	1179.9	1176.2	0.909	5.901	68.358	19.608	4.687	0.156	0.345	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1370.54
10	0.7101	1135.2	1155.3	1151.7	0.910	4.789	72.554	17.954	3.424	0.108	0.236	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1367.74
11	0.7184	1144.8	1165.0	1161.5	0.878	5.036	71.210	18.701	3.767	0.120	0.261	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1371.24
12	0.7299	1153.5	1174.0	1170.3	0.895	5.547	69.493	19.280	4.307	0.140	0.306	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1370.92
13	0.7358	1157.6	1178.1	1174.3	0.908	5.839	68.545	19.657	4.543	0.148	0.325	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1370.12
14	0.7392	1161.2	1181.7	1177.8	0.911	5.933	68.089	19.805	4.724	0.156	0.344	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1371.19
15	0.7419	1164.8	1185.5	1181.3	0.913	5.961	67.732	19.954	4.878	0.163	0.360	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1373.01
16	0.7436	1168.1	1188.8	1184.6	0.912	5.923	67.499	20.132	4.958	0.166	0.370	0.020	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1375.29
17	0.7418	1164.3	1185.0	1180.9	0.911	5.984	67.748	19.914	4.883	0.162	0.358	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1372.52
18	0.7405	1163.9	1184.5	1180.7	0.898	5.910	67.874	19.988	4.789	0.158	0.347	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1373.24
19	0.7436	1167.9	1188.5	1184.6	0.912	5.938	67.539	20.034	5.001	0.166	0.370	0.020	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1375.00
20	0.7430	1166.0	1186.7	1182.7	0.919	5.979	67.626	19.935	4.969	0.165	0.367	0.020	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1373.42
21	0.7424	1164.9	1185.6	1181.6	0.915	5.995	67.645	19.985	4.904	0.161	0.357	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1372.71
22	0.7435	1166.7	1187.3	1183.3	0.916	5.998	67.523	20.018	4.968	0.166	0.371	0.020	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1373.64
23	0.7430	1166.6	1187.2	1183.3	0.906	5.971	67.608	19.971	4.972	0.165	0.367	0.020	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1373.99
24	0.7431	1167.1	1187.8	1183.9	0.917	5.924	67.663	19.926	4.982	0.169	0.377	0.021	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1374.61
25	0.7455	1170.6	1191.3	1187.4	0.918	5.941	67.329	20.105	5.096	0.173	0.391	0.023	0.024	0.000	0.000	0.000	0.000	0.000	0.000	1376.40
26	0.7409	1163.6	1184.2	1180.4	0.902	5.962	67.859	19.888	4.839	0.159	0.352	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1372.43
27	0.7375	1161.8	1182.3	1178.6	0.883	5.779	68.295	19.895	4.627	0.151	0.334	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1373.51
28	0.7370	1162.2	1182.8	1179.0	0.853	5.747	68.353	19.926	4.598	0.151	0.335	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1374.54
29	0.7462	1181.4	1202.3	1198.3	0.850	5.444	67.222	20.838	4.991	0.178	0.418	0.028	0.031	0.000	0.000	0.000	0.000	0.000	0.000	1388.49
30	0.7341	1161.0	1181.5	1177.8	0.928	5.444	68.591	20.278	4.329	0.126	0.276	0.014	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1375.76
Avg	0.7385	1163.0	1183.3	1179.4	0.905	5.784	68.216	19.862	4.698	0.155	0.343	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1373.68

Zone 271

# Source Daily Summary

April 2019

Number: 063		Pressure Base: 14.730											Contract Day: 1							
Name: CLEVELAND STN-MAPLETON		Temperature Base:											Contract Hour: 9							
Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7392	1160.7	1181.2	1178.0	0.916	5.962	68.029	19.878	4.702	0.150	0.328	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1370.45
2	0.7355	1160.4	1181.0	1177.7	0.919	5.621	68.490	20.078	4.415	0.140	0.303	0.016	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1373.65
3	0.7398	1161.6	1182.1	1178.9	0.918	5.950	67.976	19.902	4.732	0.153	0.332	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1371.05
4	0.7389	1160.4	1181.0	1177.8	0.915	5.943	68.032	19.956	4.650	0.148	0.321	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1370.52
5	0.7396	1164.5	1185.2	1181.9	0.919	5.753	68.002	20.129	4.659	0.154	0.345	0.020	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1374.69
6	0.7438	1169.5	1190.2	1186.9	0.919	5.845	67.532	20.165	4.952	0.169	0.374	0.022	0.023	0.000	0.000	0.000	0.000	0.000	0.000	1376.60
7	0.7358	1156.8	1177.3	1174.1	0.902	5.892	68.487	19.720	4.512	0.144	0.310	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1369.14
8	0.7404	1163.7	1184.3	1181.2	0.919	5.881	67.904	19.992	4.767	0.157	0.342	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1372.99
9	0.7433	1167.0	1187.7	1184.1	0.918	5.946	67.606	19.994	4.959	0.167	0.369	0.021	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1374.23
10	0.7365	1158.4	1178.9	1174.9	0.917	5.839	68.600	19.463	4.649	0.155	0.340	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1370.31
11	0.7082	1133.2	1153.3	1149.6	0.918	4.723	72.864	17.801	3.338	0.105	0.226	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1367.04
12	0.7193	1145.4	1165.7	1161.9	0.885	5.066	71.103	18.736	3.799	0.121	0.262	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1371.06
13	0.7299	1153.3	1173.7	1169.8	0.903	5.561	69.491	19.271	4.299	0.139	0.302	0.016	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1370.37
14	0.7361	1157.7	1178.2	1174.3	0.915	5.847	68.516	19.678	4.540	0.148	0.323	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1369.89
15	0.7395	1161.1	1181.7	1178.4	0.918	5.957	68.044	19.818	4.728	0.156	0.342	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1370.71
16	0.7417	1163.5	1184.1	1180.8	0.920	6.011	67.776	19.874	4.865	0.161	0.354	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1371.52
17	0.7424	1164.7	1185.4	1182.2	0.920	6.001	67.681	19.927	4.910	0.163	0.358	0.020	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1372.38
18	0.7433	1166.7	1187.3	1183.6	0.919	5.968	67.585	19.994	4.962	0.166	0.365	0.021	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1373.83
19	0.7402	1162.9	1183.5	1179.6	0.905	5.933	67.924	19.933	4.772	0.155	0.340	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1372.23
20	0.7438	1167.5	1188.2	1184.3	0.920	5.961	67.490	20.075	4.987	0.164	0.361	0.020	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1374.38
21	0.7440	1167.2	1187.9	1184.0	0.928	5.993	67.488	20.003	5.013	0.166	0.368	0.021	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1373.77
22	0.7422	1163.8	1184.4	1180.4	0.924	6.030	67.685	19.920	4.893	0.160	0.350	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1371.50
23	0.7434	1165.7	1186.4	1182.3	0.924	6.029	67.546	19.970	4.961	0.164	0.363	0.021	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1372.59
24	0.7429	1166.0	1186.7	1182.7	0.910	5.986	67.600	20.005	4.935	0.163	0.359	0.020	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1373.40
25	0.7432	1166.6	1187.3	1183.2	0.927	5.955	67.616	19.971	4.955	0.166	0.368	0.021	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1373.75
26	0.7458	1170.6	1191.4	1187.3	0.927	5.952	67.298	20.119	5.097	0.173	0.387	0.023	0.024	0.000	0.000	0.000	0.000	0.000	0.000	1376.09
27	0.7412	1163.5	1184.1	1180.2	0.910	5.987	67.791	19.946	4.825	0.157	0.345	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1371.90
28	0.7380	1162.4	1182.9	1179.1	0.889	5.786	68.220	19.951	4.635	0.151	0.331	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1373.56
29	0.7368	1161.1	1181.7	1177.7	0.861	5.791	68.354	19.917	4.570	0.148	0.323	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1373.23
30	0.7462	1180.7	1201.6	1197.5	0.848	5.490	67.294	20.668	5.040	0.179	0.420	0.029	0.032	0.000	0.000	0.000	0.000	0.000	0.000	1387.55
Avg	0.7387	1162.0	1182.8	1179.2	0.911	5.822	68.201	19.828	4.704	0.155	0.340	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1372.81

Zone 272

# Source Daily Summary

April 2019

Number:	061	Pressure Base:	14.730	Contract Day:	1
Name:	CLEVELAND STN-GRAFTON BDR	Temperature Base:		Contract Hour:	9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7396	1161.2	1181.7	1178.6	0.918	5.963	67.989	19.887	4.724	0.152	0.331	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1370.70
2	0.7338	1157.4	1177.9	1174.8	0.921	5.640	68.677	19.991	4.325	0.133	0.284	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1371.74
3	0.7331	1150.0	1170.4	1167.3	0.923	6.031	68.669	19.622	4.360	0.124	0.253	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1363.55
4	0.7317	1147.7	1168.1	1165.1	0.920	6.038	68.787	19.644	4.245	0.117	0.234	0.009	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1362.22
5	0.7309	1149.0	1169.3	1166.3	0.926	5.883	68.868	19.788	4.185	0.113	0.222	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1364.39
6	0.7323	1149.4	1169.8	1166.8	0.928	5.981	68.701	19.735	4.297	0.116	0.227	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1363.65
7	0.7315	1149.4	1169.7	1166.7	0.906	5.939	68.917	19.567	4.274	0.124	0.253	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1364.35
8	0.7328	1150.4	1170.8	1167.8	0.925	5.976	68.698	19.673	4.339	0.123	0.248	0.010	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1364.31
9	0.7384	1158.6	1179.1	1175.9	0.922	6.000	68.108	19.802	4.689	0.145	0.307	0.015	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1368.81
10	0.7371	1158.0	1178.6	1175.2	0.917	5.915	68.480	19.491	4.666	0.155	0.338	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1369.35
11	0.7093	1134.0	1154.0	1150.9	0.918	4.773	72.706	17.857	3.384	0.107	0.229	0.013	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1366.96
12	0.7190	1144.9	1165.2	1161.9	0.886	5.072	71.142	18.700	3.790	0.120	0.261	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1370.71
13	0.7299	1152.8	1173.2	1169.9	0.904	5.582	69.499	19.246	4.296	0.139	0.302	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1369.86
14	0.7359	1157.1	1177.6	1174.0	0.916	5.869	68.538	19.633	4.539	0.148	0.321	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1369.30
15	0.7390	1159.8	1180.3	1177.1	0.919	5.985	68.108	19.761	4.700	0.154	0.336	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1369.66
16	0.7422	1164.2	1184.9	1181.6	0.920	6.011	67.718	19.892	4.894	0.164	0.360	0.020	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1371.97
17	0.7416	1163.1	1183.7	1180.6	0.920	6.027	67.772	19.860	4.869	0.161	0.352	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1371.21
18	0.7429	1166.0	1186.7	1183.2	0.921	5.974	67.609	19.986	4.949	0.164	0.359	0.020	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1373.40
19	0.7404	1163.2	1183.8	1180.1	0.906	5.934	67.893	19.951	4.782	0.156	0.341	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1372.38
20	0.7439	1167.6	1188.3	1184.6	0.921	5.961	67.477	20.083	4.991	0.164	0.362	0.020	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1374.44
21	0.7448	1168.6	1189.2	1185.5	0.929	5.980	67.399	20.051	5.056	0.169	0.374	0.021	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1374.65
22	0.7423	1163.9	1184.5	1180.7	0.925	6.035	67.668	19.925	4.897	0.160	0.351	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1371.48
23	0.7438	1166.6	1187.2	1183.5	0.925	6.014	67.505	19.998	4.985	0.165	0.367	0.021	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1373.21
24	0.7434	1166.7	1187.3	1183.6	0.913	5.987	67.538	20.033	4.962	0.164	0.362	0.020	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1373.73
25	0.7436	1167.3	1188.0	1184.3	0.927	5.949	67.569	19.995	4.977	0.168	0.372	0.021	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1374.21
26	0.7459	1170.7	1191.4	1187.7	0.927	5.955	67.292	20.118	5.102	0.173	0.387	0.023	0.023	0.000	0.000	0.000	0.000	0.000	0.000	1376.06
27	0.7418	1164.0	1184.6	1181.0	0.914	5.995	67.734	19.953	4.857	0.159	0.349	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1372.08
28	0.7382	1162.4	1183.0	1179.4	0.890	5.791	68.207	19.948	4.643	0.151	0.332	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1373.55
29	0.7376	1162.4	1183.0	1179.3	0.862	5.779	68.267	19.960	4.613	0.151	0.330	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1374.07
30	0.7484	1184.0	1204.9	1201.0	0.851	5.496	66.946	20.920	5.112	0.183	0.430	0.030	0.033	0.000	0.000	0.000	0.000	0.000	0.000	1389.32
Avg	0.7372	1159.0	1179.9	1176.5	0.913	5.851	68.349	19.769	4.617	0.147	0.319	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1370.84

Zone 223

# Source Daily Summary

April 2019

Number: 041

Pressure Base: 14.730

Contract Day: 1

Name: BISMARCK STN-GLEN ULLIN STN

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6395	1075.8	1094.8	1091.9	0.907	1.784	84.316	12.077	0.801	0.033	0.065	0.007	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1365.81
2	0.6437	1083.4	1102.6	1099.5	0.799	1.875	83.300	13.152	0.770	0.030	0.059	0.007	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1370.96
3	0.6494	1088.6	1107.8	1106.0	0.869	1.998	82.325	13.646	1.015	0.042	0.082	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1372.09
4	0.6472	1085.3	1104.5	1102.1	0.904	1.937	82.809	13.252	0.981	0.034	0.067	0.007	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1369.95
5	0.6624	1097.4	1116.8	1113.7	0.898	2.632	80.532	14.064	1.686	0.055	0.116	0.008	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1369.02
6	0.6475	1086.3	1105.5	1103.2	0.903	1.910	82.593	13.601	0.905	0.026	0.052	0.004	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1370.90
7	0.7244	1150.8	1171.2	1168.0	0.914	5.169	70.435	18.928	4.093	0.134	0.295	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1373.13
8	0.7413	1164.5	1185.1	1181.8	0.910	5.930	67.821	19.930	4.851	0.161	0.357	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1373.17
9	0.6458	1082.6	1101.7	1099.6	0.930	1.931	82.867	13.355	0.836	0.024	0.048	0.003	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1368.18
10	0.6484	1087.3	1106.6	1103.6	0.929	1.888	82.558	13.624	0.906	0.028	0.058	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1370.95
11	0.6524	1094.7	1114.1	1111.0	0.799	2.007	81.578	14.655	0.859	0.029	0.061	0.006	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1376.04
12	0.6574	1101.6	1121.1	1118.0	0.757	2.126	80.489	15.632	0.919	0.025	0.047	0.003	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1379.44
13	0.6653	1113.7	1133.4	1130.2	0.695	2.228	78.996	16.929	1.038	0.034	0.067	0.006	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1386.22
14	0.6783	1120.3	1140.2	1136.9	0.757	2.951	77.188	17.138	1.765	0.059	0.124	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1381.08
15	0.7303	1157.3	1177.7	1174.4	0.861	5.411	69.352	19.649	4.245	0.141	0.309	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1375.16
16	0.7434	1167.7	1188.4	1185.0	0.912	5.928	67.523	20.117	4.945	0.166	0.368	0.020	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1375.00
17	0.7362	1162.9	1183.5	1180.2	0.880	5.592	68.571	19.839	4.582	0.154	0.341	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1376.26
18	0.6882	1147.3	1167.6	1164.4	0.259	3.003	73.842	21.631	1.168	0.031	0.060	0.003	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1404.17
19	0.7348	1162.4	1183.0	1179.6	0.877	5.501	68.746	19.856	4.504	0.150	0.330	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1376.88
20	0.7433	1166.6	1187.3	1183.9	0.919	5.976	67.582	19.959	4.987	0.166	0.370	0.020	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1373.80
21	0.7419	1164.0	1184.6	1181.3	0.915	6.007	67.704	19.945	4.877	0.160	0.353	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1372.05
22	0.7431	1165.9	1186.6	1183.2	0.916	5.999	67.582	19.988	4.944	0.165	0.367	0.020	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1373.21
23	0.6758	1122.9	1142.8	1139.5	0.228	3.356	76.736	17.985	1.599	0.034	0.056	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1386.99
24	0.6893	1150.3	1170.7	1167.5	0.092	3.177	73.265	22.325	1.073	0.022	0.043	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1406.83
25	0.6880	1151.5	1171.9	1168.7	0.051	3.045	73.232	22.784	0.844	0.014	0.028	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1409.58
26	0.6810	1141.8	1162.0	1158.8	0.024	3.017	74.606	21.486	0.844	0.010	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1404.80
27	0.6777	1134.5	1154.6	1151.5	0.393	2.584	76.052	19.841	1.042	0.030	0.052	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1399.25
28	0.6787	1130.7	1150.7	1147.6	0.298	3.050	75.959	19.293	1.309	0.032	0.053	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1393.55
29	0.6729	1119.2	1139.0	1135.9	0.253	3.281	77.259	17.597	1.510	0.036	0.056	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1385.20
30	0.6811	1129.3	1149.3	1146.1	0.572	2.944	76.423	18.120	1.733	0.070	0.119	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1389.25
Avg	0.6870	1127.0	1146.8	1143.8	0.681	3.474	75.741	17.680	2.188	0.070	0.147	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1380.96

Zone 28

# Source Daily Summary

April 2019

Number: 271

Pressure Base: 14.730

Contract Day: 1

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

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6844	1150.8	1171.2	1168.2	0.000	2.827	73.678	22.849	0.631	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.40	
2	0.6843	1150.4	1170.8	1167.8	0.000	2.846	73.679	22.835	0.625	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.99	
3	0.6841	1150.3	1170.7	1167.7	0.038	2.766	73.828	22.690	0.657	0.009	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.18	
4	0.6840	1150.8	1171.2	1168.2	0.000	2.789	73.738	22.847	0.610	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.86	
5	0.6834	1149.3	1169.6	1166.6	0.039	2.770	73.960	22.550	0.659	0.009	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.51	
6	0.6474	1086.9	1106.1	1103.3	0.882	1.891	82.607	13.688	0.857	0.025	0.046	0.002	0.003	0.000	0.000	0.000	0.000	0.000	1371.53	
7	0.6453	1082.9	1102.1	1099.3	0.927	1.868	83.003	13.331	0.807	0.022	0.040	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1368.76	
8	0.6438	1080.9	1100.1	1097.2	0.946	1.813	83.424	12.897	0.834	0.026	0.053	0.003	0.004	0.000	0.000	0.000	0.000	0.000	1367.88	
9	0.6448	1082.3	1101.4	1098.6	0.938	1.836	83.172	13.169	0.805	0.024	0.050	0.002	0.003	0.000	0.000	0.000	0.000	0.000	1368.53	
10	0.6776	1138.5	1158.7	1155.8	0.161	2.687	75.280	21.204	0.641	0.010	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1404.35	
11	0.6771	1133.9	1154.0	1151.0	0.450	2.478	76.248	19.692	1.032	0.033	0.059	0.003	0.004	0.000	0.000	0.000	0.000	0.000	1399.15	
12	0.6782	1135.9	1156.0	1153.0	0.446	2.467	76.086	19.814	1.079	0.035	0.064	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1400.46	
13	0.6782	1136.8	1157.0	1154.0	0.380	2.508	75.922	20.087	1.004	0.032	0.060	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1401.66	
14	0.6775	1134.7	1154.8	1151.8	0.431	2.502	76.163	19.741	1.066	0.032	0.058	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1399.65	
15	0.6809	1141.9	1162.1	1159.1	0.251	2.651	75.039	21.104	0.889	0.022	0.040	0.002	0.003	0.000	0.000	0.000	0.000	0.000	1405.13	
16	0.6844	1150.3	1170.7	1167.7	0.000	2.852	73.674	22.831	0.629	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.89	
17	0.6790	1136.9	1157.0	1154.0	0.434	2.499	75.903	19.983	1.074	0.033	0.065	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1400.87	
18	0.6739	1125.7	1145.7	1142.7	0.119	3.180	76.644	18.693	1.308	0.023	0.033	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1392.36	
19	0.6797	1141.5	1161.7	1158.6	0.011	2.938	74.758	21.516	0.758	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1405.74	
20	0.6836	1149.9	1170.2	1167.1	0.000	2.812	73.840	22.697	0.636	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.05	
21	0.6835	1148.9	1169.3	1166.2	0.000	2.859	73.839	22.666	0.621	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.01	
22	0.6836	1149.5	1169.8	1166.8	0.000	2.828	73.847	22.682	0.629	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.66	
23	0.6841	1150.4	1170.7	1167.6	0.000	2.825	73.754	22.759	0.647	0.007	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.20	
24	0.6791	1138.5	1158.7	1155.6	0.023	3.037	75.038	20.982	0.894	0.011	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1402.78	
25	0.6780	1135.5	1155.6	1152.6	0.218	2.823	75.640	20.273	0.987	0.022	0.036	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1400.19	
26	0.6767	1133.4	1153.5	1150.5	0.466	2.444	76.396	19.514	1.081	0.033	0.059	0.003	0.004	0.000	0.000	0.000	0.000	0.000	1399.00	
27	0.6788	1131.4	1151.4	1148.4	0.299	3.023	75.956	19.278	1.354	0.034	0.053	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1394.28	
28	0.6719	1118.1	1137.9	1134.9	0.231	3.283	77.383	17.539	1.478	0.034	0.050	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1384.96	
29	0.6726	1117.6	1137.4	1134.4	0.451	3.047	77.677	17.137	1.538	0.052	0.087	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1383.56	
30	0.6683	1115.1	1134.9	1131.9	0.061	3.382	77.614	17.661	1.239	0.019	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1385.04	
Avg	0.6749	1132.0	1151.7	1148.7	0.273	2.684	76.260	19.824	0.902	0.020	0.034	0.001	0.002	0.000	0.000	0.000	0.000	0.000	1398.52	

Zone 31

# Source Daily Summary

April 2019

Number: 051

Pressure Base: 14.730

Contract Day: 1

Name: CABIN CRK STN-BELFIELD TRSFR

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6711	1114.9	1134.7	1131.8	0.735	2.625	78.775	15.822	1.843	0.066	0.117	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1381.83	
2	0.6773	1121.7	1141.6	1138.1	0.736	2.794	77.794	16.328	2.126	0.074	0.130	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1383.88	
3	0.6771	1121.5	1141.4	1138.1	0.801	2.684	77.958	16.210	2.096	0.081	0.147	0.011	0.011	0.000	0.000	0.000	0.000	0.000	1383.85	
4	0.6756	1119.4	1139.2	1136.1	0.836	2.627	78.111	16.244	1.948	0.076	0.137	0.011	0.010	0.000	0.000	0.000	0.000	0.000	1382.71	
5	0.6732	1117.3	1137.1	1133.9	0.828	2.545	78.505	16.017	1.892	0.070	0.125	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1382.54	
6	0.6747	1118.9	1138.7	1135.5	0.814	2.610	78.152	16.328	1.890	0.068	0.121	0.009	0.008	0.000	0.000	0.000	0.000	0.000	1382.98	
7	0.6726	1115.8	1135.6	1132.4	0.800	2.620	78.404	16.219	1.773	0.062	0.107	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1381.36	
8	0.6716	1114.8	1134.6	1131.4	0.823	2.543	78.675	15.994	1.775	0.063	0.112	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1381.26	
9	0.6691	1111.9	1131.6	1128.5	0.748	2.605	79.079	15.614	1.766	0.062	0.110	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1380.16	
10	0.6671	1106.1	1125.7	1123.0	0.488	3.163	79.074	15.332	1.809	0.047	0.077	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1375.08	
11	0.6705	1111.7	1131.4	1128.7	0.527	3.083	78.577	15.746	1.915	0.053	0.089	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1378.52	
12	0.6693	1110.6	1130.3	1127.5	0.581	2.955	78.864	15.568	1.875	0.054	0.092	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1378.37	
13	0.6694	1110.2	1129.9	1127.1	0.543	3.044	78.830	15.514	1.917	0.053	0.088	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1377.82	
14	0.6684	1109.1	1128.7	1126.0	0.582	2.964	79.039	15.398	1.852	0.055	0.095	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1377.35	
15	0.6693	1113.2	1132.9	1130.0	0.909	2.299	79.171	15.776	1.643	0.064	0.118	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1381.52	
16	0.6553	1096.6	1116.0	1112.9	0.940	1.953	81.356	14.565	1.068	0.036	0.069	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1375.36	
17	0.6635	1107.2	1126.9	1122.9	0.989	1.993	80.396	14.839	1.597	0.060	0.108	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1380.15	
18	0.6719	1118.5	1138.3	1134.4	1.036	2.025	78.928	16.046	1.749	0.069	0.126	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1385.46	
19	0.6703	1116.4	1136.1	1132.6	1.018	2.031	79.086	16.051	1.607	0.065	0.121	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1384.48	
20	0.6690	1115.0	1134.8	1131.6	1.020	1.988	79.369	15.808	1.604	0.066	0.124	0.010	0.011	0.000	0.000	0.000	0.000	0.000	1384.14	
21	0.6681	1114.0	1133.7	1130.5	1.023	1.966	79.527	15.681	1.601	0.066	0.118	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1383.74	
22	0.6686	1114.7	1134.5	1131.1	1.023	1.966	79.387	15.857	1.566	0.064	0.117	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1384.17	
23	0.6662	1112.2	1131.9	1129.0	1.023	1.898	79.933	15.341	1.596	0.066	0.123	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1383.48	
24	0.6699	1116.1	1135.8	1132.9	1.032	1.992	79.219	15.917	1.629	0.066	0.124	0.010	0.011	0.000	0.000	0.000	0.000	0.000	1384.48	
25	0.6739	1116.0	1135.8	1132.9	0.683	2.905	78.155	16.124	1.951	0.061	0.106	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1380.31	
26	0.6737	1111.4	1131.1	1127.7	0.378	3.630	77.807	15.975	2.069	0.051	0.082	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1374.87	
27	0.6623	1096.4	1115.8	1112.4	0.238	3.682	79.709	14.408	1.866	0.038	0.055	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1367.96	
28	0.6637	1097.6	1117.0	1113.8	0.390	3.514	79.664	14.462	1.822	0.052	0.085	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1367.91	
29	0.6682	1109.7	1129.3	1125.7	0.862	2.481	79.385	15.357	1.706	0.068	0.121	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1378.28	
30	0.6591	1092.7	1112.1	1108.4	0.328	3.471	80.374	13.991	1.729	0.040	0.061	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1366.64	
Avg	0.6693	1112.0	1131.4	1128.2	0.758	2.622	79.043	15.618	1.776	0.061	0.107	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1379.69	

Zone 32

# Source Daily Summary

April 2019

Number: 111

Pressure Base: 14.730

Contract Day: 1

Name: LITTLE KNIFE PLANT

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6861	1153.7	1174.1	1169.4	0.000	2.816	73.320	23.225	0.624	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.11	-26.31
2	0.6862	1153.4	1173.8	1168.9	0.000	2.834	73.303	23.229	0.618	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.79	-26.34
3	0.6854	1153.0	1173.4	1168.8	0.000	2.785	73.473	23.110	0.618	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.10	-26.64
4	0.6861	1154.0	1174.4	1169.7	0.000	2.792	73.361	23.177	0.655	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.55	-26.17
5	0.6858	1153.2	1173.6	1169.1	0.000	2.813	73.384	23.165	0.623	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.89	-26.48
6	0.6855	1152.6	1173.0	1168.2	0.000	2.816	73.445	23.109	0.617	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.56	-26.68
7	0.6860	1153.0	1173.4	1168.9	0.000	2.844	73.354	23.148	0.641	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.47	-26.37
8	0.6868	1153.7	1174.2	1169.5	0.000	2.872	73.199	23.263	0.651	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.57	-26.00
9	0.6862	1152.9	1173.3	1168.8	0.000	2.872	73.272	23.240	0.602	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.07	-26.48
10	0.6867	1153.4	1173.9	1168.9	0.000	2.880	73.177	23.326	0.602	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.30	-26.25
11	0.6855	1152.1	1172.5	1167.7	0.000	2.853	73.422	23.100	0.611	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.86	-26.76
12	0.6854	1152.2	1172.6	1167.8	0.000	2.835	73.444	23.106	0.602	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.10	-26.83
13	0.6857	1152.6	1173.0	1168.3	0.000	2.842	73.391	23.129	0.624	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.27	-26.57
14	0.6861	1152.5	1172.9	1168.1	0.000	2.879	73.323	23.155	0.629	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.81	-26.46
15	0.6855	1152.2	1172.6	1168.1	0.000	2.839	73.446	23.077	0.624	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.09	-26.70
16	0.6857	1152.2	1172.6	1168.1	0.000	2.866	73.387	23.112	0.621	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.78	-26.64
17	0.6860	1152.6	1173.0	1168.4	0.000	2.867	73.340	23.154	0.623	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.96	-26.50
18	0.6852	1152.3	1172.7	1168.0	0.000	2.810	73.523	23.013	0.640	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.45	-26.71
19	0.6850	1151.7	1172.1	1167.7	0.000	2.823	73.571	22.949	0.643	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.97	-26.87
20	0.6853	1151.8	1172.2	1167.7	0.000	2.854	73.472	23.035	0.625	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.67	-26.80
21	0.6851	1151.6	1171.9	1167.3	0.000	2.845	73.522	22.999	0.620	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.64	-26.93
22	0.6853	1152.3	1172.8	1168.0	0.000	2.815	73.495	23.045	0.630	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.41	-26.72
23	0.6863	1153.7	1174.2	1169.5	0.000	2.828	73.302	23.205	0.651	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.04	-26.15
24	0.6865	1153.1	1173.5	1168.7	0.000	2.885	73.248	23.214	0.639	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.05	-26.23
25	0.6856	1151.7	1172.1	1167.6	0.000	2.886	73.408	23.072	0.620	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.26	-26.76
26	0.6860	1152.4	1172.8	1168.4	0.000	2.882	73.331	23.149	0.624	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.68	-26.53
27	0.6858	1151.5	1171.9	1167.6	0.000	2.913	73.337	23.146	0.590	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.89	-26.83
28	0.6851	1151.1	1171.5	1166.7	0.000	2.875	73.477	23.053	0.582	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.05	-27.14
29	0.6864	1154.0	1174.5	1169.8	0.000	2.821	73.266	23.265	0.635	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.29	-26.13
30	0.6862	1153.4	1173.8	1168.9	0.000	2.836	73.293	23.240	0.616	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.77	-26.35
Avg	0.6858	1153.0	1173.1	1168.4	0.000	2.846	73.376	23.140	0.623	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.25	-26.54

Zone 33

# Source Daily Summary

April 2019

Number: 351

Pressure Base: 14.730

Contract Day: 1

Name: BADLANDS PLANT

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.5727	961.9	978.9	976.3	0.109	3.656	95.902	0.308	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.52
2	0.5727	961.8	978.9	976.3	0.109	3.658	95.901	0.308	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.48
3	0.5728	961.4	978.4	975.9	0.107	3.698	95.865	0.306	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1289.78
4	0.5726	962.0	979.1	976.4	0.109	3.637	95.921	0.308	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.85
5	0.5726	962.1	979.1	976.5	0.109	3.634	95.924	0.308	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.92
6	0.5726	962.1	979.1	976.5	0.109	3.634	95.924	0.308	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.93
7	0.5726	962.0	979.0	976.3	0.109	3.644	95.914	0.308	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.73
8	0.5727	961.9	978.9	976.3	0.109	3.654	95.904	0.309	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.56
9	0.5726	962.1	979.1	976.5	0.109	3.636	95.922	0.309	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.89
10	0.5726	962.0	979.0	976.5	0.109	3.642	95.916	0.309	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.78
11	0.5726	962.1	979.1	976.6	0.109	3.633	95.924	0.309	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.94
12	0.5726	962.0	979.0	976.4	0.108	3.644	95.914	0.308	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.74
13	0.5726	962.0	979.0	976.4	0.109	3.641	95.917	0.309	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.79
14	0.5726	962.1	979.1	976.5	0.109	3.630	95.927	0.309	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.98
15	0.5726	962.1	979.1	976.5	0.109	3.632	95.925	0.309	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.95
16	0.5727	961.9	978.9	976.3	0.108	3.653	95.907	0.307	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.57
17	0.5730	961.1	978.1	975.4	0.105	3.734	95.833	0.304	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1289.17
18	0.5726	962.0	979.0	976.4	0.108	3.640	95.919	0.308	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.81
19	0.5727	961.9	979.0	976.2	0.108	3.648	95.911	0.308	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.68
20	0.5727	961.9	978.9	976.2	0.108	3.656	95.903	0.308	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.54
21	0.5727	961.9	979.0	976.3	0.108	3.650	95.907	0.310	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.65
22	0.5727	961.8	978.8	976.2	0.107	3.661	95.899	0.308	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.47
23	0.5731	960.6	977.6	974.9	0.105	3.778	95.791	0.303	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1288.37
24	0.5726	962.0	979.0	976.3	0.109	3.641	95.917	0.309	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.79
25	0.5726	962.1	979.1	976.4	0.108	3.636	95.921	0.309	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.89
26	0.5726	962.0	979.0	976.4	0.108	3.645	95.914	0.309	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.74
27	0.5726	962.0	979.1	976.4	0.109	3.638	95.920	0.308	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.84
28	0.5727	961.9	979.0	976.3	0.108	3.648	95.911	0.308	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.67
29	0.5726	962.1	979.1	976.5	0.109	3.632	95.925	0.309	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.95
30	0.5726	962.0	979.0	976.4	0.109	3.644	95.913	0.310	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.75
Avg	0.5727	962.0	978.9	976.3	0.108	3.653	95.906	0.308	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.59

Zone 34

# Source Daily Summary

April 2019

Number: 471

Pressure Base: 14.730

Contract Day:

Name: SPRING CREEK I - SAX VALVE I

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6776	1113.8	1133.5	1130.7	1.052	2.847	75.658	20.217	0.222	0.001	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1373.82	-35.88
2	0.6765	1112.8	1132.5	1129.6	1.047	2.807	75.903	20.009	0.230	0.001	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1373.75	-36.37
3	0.6790	1116.7	1136.5	1133.6	1.038	2.824	75.347	20.584	0.205	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1375.96	-35.04
4	0.6794	1118.3	1138.1	1135.2	1.038	2.762	75.285	20.698	0.215	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1377.57	-34.63
5	0.6841	1127.0	1147.0	1144.0	1.026	2.690	74.410	21.576	0.294	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1383.52	-31.53
6	0.6705	1103.0	1122.5	1119.6	1.066	2.816	77.203	18.617	0.293	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1367.64	-39.61
7	0.6704	1102.6	1122.1	1119.3	1.064	2.825	77.194	18.660	0.253	0.001	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1367.39	-39.89
8	0.6719	1104.3	1123.8	1121.0	1.065	2.871	76.844	18.985	0.233	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1367.84	-39.20
9	0.6842	1126.5	1146.5	1143.5	1.026	2.736	74.354	21.607	0.269	0.003	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1382.75	-31.59
10	0.6861	1130.5	1150.5	1147.6	1.010	2.692	73.983	22.022	0.281	0.004	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1385.77	-30.30
11	0.6782	1118.3	1138.1	1135.2	1.028	2.667	75.586	20.450	0.262	0.002	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1378.72	-34.82
12	0.6764	1114.4	1134.1	1131.2	1.037	2.718	75.992	19.965	0.274	0.004	0.008	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1375.75	-35.82
13	0.6786	1113.2	1132.9	1130.0	1.045	2.982	75.493	20.216	0.253	0.003	0.007	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1372.11	-35.41
14	0.6765	1107.7	1127.4	1124.4	1.057	3.101	75.939	19.615	0.274	0.004	0.009	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1367.49	-36.76
15	0.6776	1110.4	1130.1	1127.1	1.052	3.053	75.992	19.346	0.525	0.009	0.020	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1369.57	-34.77
16	0.6885	1137.3	1157.5	1154.1	0.997	2.498	75.708	18.613	1.955	0.059	0.135	0.015	0.019	0.000	0.000	0.000	0.000	0.000	1391.55	-18.13
17	0.7132	1170.6	1191.3	1188.2	0.995	2.792	72.152	20.344	3.402	0.122	0.189	0.002	0.001	0.000	0.000	0.000	0.000	0.000	1407.11	-6.14
18	0.6748	1108.6	1128.3	1125.4	1.057	2.891	76.369	19.315	0.365	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1370.27	-37.00
19	0.6775	1112.9	1132.6	1129.7	1.049	2.891	75.907	19.701	0.449	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1372.87	-35.15
20	0.6795	1116.4	1136.2	1133.3	1.045	2.875	75.389	20.340	0.349	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1375.14	-34.36
21	0.6803	1117.6	1137.4	1134.5	1.048	2.874	75.273	20.415	0.387	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1375.77	-33.77
22	0.6791	1115.7	1135.5	1132.6	1.044	2.877	75.464	20.279	0.333	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1374.73	-34.68
23	0.6775	1112.9	1132.6	1129.7	1.052	2.893	75.824	19.854	0.374	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1372.80	-35.43
24	0.6788	1114.8	1134.6	1131.7	1.039	2.915	75.844	19.527	0.670	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1373.86	-33.54
25	0.6783	1113.8	1133.5	1130.6	1.043	2.924	75.989	19.334	0.705	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1373.08	-33.69
26	0.6746	1107.9	1127.5	1124.6	1.061	2.904	76.443	19.207	0.379	0.002	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1369.63	-37.12
27	0.6773	1112.1	1131.8	1128.9	1.052	2.913	76.148	19.239	0.642	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1372.10	-34.56
28	0.6783	1113.1	1132.8	1129.9	1.054	2.950	75.976	19.323	0.691	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1372.23	-33.85
29	0.6777	1112.7	1132.4	1129.5	1.049	2.923	76.011	19.416	0.595	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1372.36	-34.51
30	0.6775	1111.4	1131.1	1128.2	1.060	2.965	75.898	19.634	0.440	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1371.04	-35.42
Avg	0.6793	1117.0	1136.4	1133.4	1.043	2.849	75.653	19.904	0.527	0.008	0.014	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1375.47	-33.63

Zone 43

April-19

ZONE 550

MANDAN BORDER

NBPL - St Anthony

Weighted

Start Date	End Date	NBPL - St Anthony			Zone 28			AVG BTU	
		MCF	DK	BTU	MCF	DK	BTU		
4/1/2019	4/2/2019	566	618	1.0916	3116	3414	1.0948	1.094	4/1/2019
4/2/2019	4/3/2019				3658	4051	1.1026	1.103	4/2/2019
4/3/2019	4/4/2019				3603	3992	1.1078	1.108	4/3/2019
4/4/2019	4/5/2019				3289	3632	1.1045	1.105	4/4/2019
4/5/2019	4/6/2019				2826	3154	1.1168	1.117	4/5/2019
4/6/2019	4/7/2019				2704	2990	1.1055	1.106	4/6/2019
4/7/2019	4/8/2019				1815	2124	1.1712	1.171	4/7/2019
4/8/2019	4/9/2019				2192	2597	1.1851	1.185	4/8/2019
4/9/2019	4/10/2019				3880	4276	1.1017	1.102	4/9/2019
4/10/2019	4/11/2019				4952	5479	1.1066	1.107	4/10/2019
4/11/2019	4/12/2019				5176	5766	1.1141	1.114	4/11/2019
4/12/2019	4/13/2019				4094	4592	1.1211	1.121	4/12/2019
4/13/2019	4/14/2019				3028	3428	1.1334	1.133	4/13/2019
4/14/2019	4/15/2019				3333	3804	1.1402	1.140	4/14/2019
4/15/2019	4/16/2019				2745	3235	1.1777	1.178	4/15/2019
4/16/2019	4/17/2019				2091	2490	1.1884	1.188	4/16/2019
4/17/2019	4/18/2019	165	181	1.0996	3007	3555	1.1835	1.179	4/17/2019
4/18/2019	4/19/2019				2626	3066	1.1676	1.168	4/18/2019
4/19/2019	4/20/2019				1329	1570	1.1830	1.183	4/19/2019
4/20/2019	4/21/2019				1261	1497	1.1873	1.187	4/20/2019
4/21/2019	4/22/2019				1941	2302	1.1846	1.185	4/21/2019
4/22/2019	4/23/2019				1662	1974	1.1866	1.187	4/22/2019
4/23/2019	4/24/2019				1303	1491	1.1428	1.143	4/23/2019
4/24/2019	4/25/2019				1524	1784	1.1707	1.171	4/24/2019
4/25/2019	4/26/2019				2263	2652	1.1719	1.172	4/25/2019
4/26/2019	4/27/2019				1825	2120	1.1620	1.162	4/26/2019
4/27/2019	4/28/2019				2553	2948	1.1546	1.155	4/27/2019
4/28/2019	4/29/2019				3591	4132	1.1507	1.151	4/28/2019
4/29/2019	4/30/2019				3785	4312	1.1390	1.139	4/29/2019
4/30/2019	5/1/2019				3204	3680	1.1493	1.149	4/30/2019
		731	799	1.0956	84,376	96,107	1.1468	1.1467	



# Alliance Pipeline

DAILY ANALYSIS — USA  
 ND07MD1 — Hankinson Sales  
 April 2019

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	1,161.468	0.6652	84.0826	9.4322	3.9064	0.4072	0.6768	0.0626	0.0471	0.0245	0.9610	0.3879	0.0116
2	1,161.591	0.6656	84.0326	9.4752	3.8475	0.4220	0.7059	0.0607	0.0471	0.0244	0.9716	0.4015	0.0116
3	1,162.070	0.6659	84.0759	9.4595	3.7117	0.4424	0.7944	0.0643	0.0477	0.0246	0.9594	0.4086	0.0116
4	1,165.212	0.6681	83.8527	9.4858	3.8359	0.4549	0.8312	0.0663	0.0498	0.0245	0.9859	0.4009	0.0121
5	1,164.855	0.6686	83.6920	9.6141	3.8348	0.4426	0.8170	0.0648	0.0484	0.0244	1.0285	0.4209	0.0124
6	1,166.176	0.6695	83.5537	9.7257	3.8575	0.4483	0.8159	0.0654	0.0492	0.0235	1.0173	0.4316	0.0120
7	1,163.538	0.6679	83.8071	9.5107	3.8136	0.4487	0.8169	0.0620	0.0466	0.0221	1.0324	0.4278	0.0120
8	1,160.320	0.6656	84.0675	9.4236	3.7020	0.4331	0.7847	0.0633	0.0464	0.0233	1.0356	0.4094	0.0111
9	1,158.082	0.6645	84.2473	9.2978	3.6499	0.4264	0.7745	0.0623	0.0480	0.0242	1.0243	0.4348	0.0107
10	1,157.821	0.6637	84.3842	9.2317	3.6359	0.4263	0.7705	0.0624	0.0490	0.0236	0.9764	0.4293	0.0107
11	1,157.685	0.6638	84.3863	9.1962	3.6509	0.4255	0.7744	0.0634	0.0482	0.0233	0.9840	0.4371	0.0108
12	1,159.772	0.6654	84.2024	9.2607	3.7110	0.4387	0.7929	0.0652	0.0499	0.0251	1.0106	0.4326	0.0107
13	1,159.195	0.6653	84.1268	9.3603	3.6986	0.4257	0.7774	0.0615	0.0471	0.0237	1.0232	0.4451	0.0106
14	1,157.376	0.6646	84.2484	9.2338	3.6814	0.4267	0.7725	0.0590	0.0451	0.0227	1.0420	0.4576	0.0108
15	1,156.372	0.6638	84.3449	9.2020	3.6571	0.4126	0.7587	0.0598	0.0458	0.0239	1.0290	0.4560	0.0102
16	1,160.275	0.6660	84.0460	9.4104	3.7272	0.4315	0.7833	0.0609	0.0454	0.0235	1.0124	0.4486	0.0109
17	1,163.847	0.6696	83.5275	9.6149	3.8739	0.4431	0.8203	0.0614	0.0444	0.0209	1.1228	0.4600	0.0107
18	1,164.041	0.6690	83.6589	9.5166	3.8913	0.4444	0.8294	0.0591	0.0431	0.0204	1.0803	0.4457	0.0107
19	1,164.609	0.6682	83.7861	9.5275	3.8785	0.4435	0.8102	0.0596	0.0441	0.0206	0.9801	0.4386	0.0114
20	1,167.803	0.6701	83.4706	9.7840	3.9186	0.4518	0.8232	0.0601	0.0451	0.0213	0.9923	0.4215	0.0114
21	1,167.747	0.6699	83.5356	9.7225	3.9093	0.4553	0.8289	0.0632	0.0474	0.0234	0.9903	0.4128	0.0112
22	1,167.631	0.6701	83.5154	9.7114	3.9304	0.4540	0.8248	0.0630	0.0472	0.0223	1.0022	0.4180	0.0114
23	1,166.837	0.6695	83.5709	9.7078	3.8978	0.4513	0.8180	0.0609	0.0460	0.0219	1.0018	0.4128	0.0108
24	1,166.613	0.6693	83.5665	9.7488	3.8661	0.4513	0.8140	0.0621	0.0456	0.0217	0.9968	0.4158	0.0113
25	1,164.443	0.6677	83.7925	9.6011	3.8399	0.4354	0.7966	0.0603	0.0450	0.0224	0.9923	0.4030	0.0116
26	1,164.830	0.6680	83.7552	9.6332	3.8510	0.4371	0.7891	0.0602	0.0473	0.0225	0.9751	0.4169	0.0122
27	1,164.906	0.6681	83.6945	9.6793	3.8410	0.4344	0.7962	0.0621	0.0463	0.0214	1.0166	0.3967	0.0115
28	1,165.959	0.6684	83.7084	9.6518	3.8729	0.4422	0.8057	0.0614	0.0461	0.0227	0.9870	0.3904	0.0113
29	1,158.271	0.6603	84.6749	9.5555	3.4588	0.4089	0.6837	0.0581	0.0456	0.0227	0.6947	0.3852	0.0120
30	1,162.440	0.6645	84.0921	9.7408	3.6642	0.4205	0.7219	0.0574	0.0450	0.0222	0.8371	0.3873	0.0115
Volume	1,162.775	0.6670	83.9077	9.5126	3.7922	0.4368	0.7890	0.0619	0.0467	0.0229	0.9971	0.4219	0.0113
Weight Avg Energy	1,162.785	0.6670	83.9068	9.5131	3.7925	0.4368	0.7890	0.0619	0.0467	0.0229	0.9971	0.4219	0.0113

*2019  
 0050*

April-19

ZONE 610

Watford City

Watford City West Border

Watford City East Border

Weighted

Start Date	End Date	BTU			BTU			AVG BTU	
		MCF	DK	Zone 25	MCF	DK	Zone 43		
4/1/2019	4/2/2019	405	487	1.2019	425	480	1.1335	1.167	4/1/2019
4/2/2019	4/3/2019	426	512	1.2019	494	560	1.1325	1.165	4/2/2019
4/3/2019	4/4/2019	389	467	1.2019	289	328	1.1365	1.174	4/3/2019
4/4/2019	4/5/2019	312	375	1.2019	192	218	1.1381	1.178	4/4/2019
4/5/2019	4/6/2019	361	434	1.2019	227	260	1.1470	1.181	4/5/2019
4/6/2019	4/7/2019	367	441	1.2019	284	319	1.1225	1.167	4/6/2019
4/7/2019	4/8/2019	295	354	1.2019	156	175	1.1221	1.174	4/7/2019
4/8/2019	4/9/2019	319	383	1.2019	256	288	1.1238	1.167	4/8/2019
4/9/2019	4/10/2019	405	486	1.2019	340	390	1.1465	1.177	4/9/2019
4/10/2019	4/11/2019	463	557	1.2019	519	597	1.1505	1.175	4/10/2019
4/11/2019	4/12/2019	438	526	1.2019	424	483	1.1381	1.171	4/11/2019
4/12/2019	4/13/2019	424	510	1.2019	430	488	1.1341	1.168	4/12/2019
4/13/2019	4/14/2019	357	429	1.2019	236	267	1.1329	1.174	4/13/2019
4/14/2019	4/15/2019	346	416	1.2019	238	268	1.1274	1.172	4/14/2019
4/15/2019	4/16/2019	352	423	1.2019	239	271	1.1301	1.173	4/15/2019
4/16/2019	4/17/2019	315	379	1.2019	171	198	1.1575	1.186	4/16/2019
4/17/2019	4/18/2019	350	420	1.2019	199	234	1.1913	1.198	4/17/2019
4/18/2019	4/19/2019	306	368	1.2019	151	171	1.1283	1.178	4/18/2019
4/19/2019	4/20/2019	203	244	1.2019	60	68	1.1326	1.186	4/19/2019
4/20/2019	4/21/2019	252	302	1.2019	99	112	1.1362	1.183	4/20/2019
4/21/2019	4/22/2019	273	328	1.2019	129	146	1.1374	1.181	4/21/2019
4/22/2019	4/23/2019	278	334	1.2019	120	137	1.1355	1.182	4/22/2019
4/23/2019	4/24/2019	255	306	1.2019	99	112	1.1326	1.183	4/23/2019
4/24/2019	4/25/2019	260	312	1.2019	94	106	1.1346	1.184	4/24/2019
4/25/2019	4/26/2019	361	433	1.2019	224	254	1.1335	1.176	4/25/2019
4/26/2019	4/27/2019	327	393	1.2019	174	196	1.1275	1.176	4/26/2019
4/27/2019	4/28/2019	379	456	1.2019	334	378	1.1318	1.169	4/27/2019
4/28/2019	4/29/2019	434	522	1.2019	473	536	1.1328	1.166	4/28/2019
4/29/2019	4/30/2019	447	537	1.2019	505	572	1.1324	1.165	4/29/2019
4/30/2019	5/1/2019	421	506	1.2019	407	460	1.1311	1.167	4/30/2019

10,520 12,640

7,988 9,072

1.1364

1.1754

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	Changefimestamp	NOTES
11587	GLEN ULLIN	1093.6	0.6381	1369.1	-45.6	1.712	0.9191	84.2438	11.9979	0.8119	0.0648	0.0337	0.0088	0.0078	0	0.0043	0.178	0.0179	3/31/2019	4/1/2019	4/1/2019 4:08:09 PM	
11587	GLEN ULLIN	1091.7	0.6366	1368.3	-47	1.698	0.9091	84.5401	11.6932	0.8348	0.0644	0.0324	0.0083	0.0073	0	0.0037	0.1909	0.0178	4/1/2019	4/2/2019	4/2/2019 4:07:18 PM	
11587	GLEN ULLIN	1099.5	0.6435	1370.7	-40.7	1.8692	0.9141	83.2413	12.6019	0.9897	0.0752	0.0385	0.0097	0.0087	0	0.0055	0.2274	0.0187	4/2/2019	4/3/2019	4/3/2019 4:04:39 PM	
11587	GLEN ULLIN	1103.3	0.6461	1372.6	-42.4	1.8909	0.9137	82.7188	13.0872	1.038	0.0662	0.0339	0.0076	0.0068	0	0.0028	0.215	0.019	4/3/2019	4/4/2019	4/4/2019 4:11:45 PM	
11587	GLEN ULLIN	1099.1	0.6423	1371.4	-46.6	1.8	0.9024	83.4077	12.6601	0.9389	0.0521	0.027	0.0046	0.0042	0	0.0017	0.1831	0.0184	4/4/2019	4/5/2019	4/5/2019 4:04:54 PM	
11587	GLEN ULLIN	1102.3	0.6453	1372.3	-45.8	1.8718	0.9189	82.6326	13.382	0.8814	0.0453	0.0232	0.0038	0.0034	0	0.0015	0.2173	0.019	4/5/2019	4/6/2019	4/6/2019 3:40:22 PM	
11587	GLEN ULLIN	1100.2	0.6439	1371	-47.5	1.8595	0.9261	82.8424	13.2198	0.8427	0.0375	0.0212	0.0025	0.0025	0	0.0011	0.226	0.0189	4/6/2019	4/7/2019	4/7/2019 3:45:10 PM	
11587	GLEN ULLIN	1098.3	0.643	1369.7	-48.1	1.8634	0.9389	83.0445	13.0051	0.8295	0.0439	0.0228	0.0031	0.0029	0	0.0007	0.2262	0.0191	4/7/2019	4/8/2019	4/8/2019 3:45:05 PM	
11587	GLEN ULLIN	1098.9	0.6433	1370.2	-46.4	1.8175	0.9589	83.1503	12.8861	0.8673	0.0559	0.0272	0.0051	0.0046	0	0.0017	0.2064	0.019	4/8/2019	4/9/2019	4/9/2019 3:40:38 PM	
11587	GLEN ULLIN	1101	0.6446	1371.4	-46.8	1.8439	0.9414	82.8339	13.2367	0.8586	0.0448	0.0223	0.0037	0.0033	0	0.001	0.1915	0.0191	4/9/2019	4/10/2019	4/10/2019 3:44:47 PM	
11587	GLEN ULLIN	1103.2	0.6458	1372.8	-44.1	1.8292	0.9381	82.7499	13.2461	0.9217	0.0664	0.031	0.0063	0.0056	0	0.0018	0.1849	0.0189	4/10/2019	4/11/2019	4/11/2019 3:47:05 PM	
11587	GLEN ULLIN	1102.2	0.645	1372.4	-44.1	1.8265	0.9334	82.9117	13.0711	0.9544	0.0601	0.0282	0.0063	0.0054	0	0.0026	0.182	0.0189	4/11/2019	4/12/2019	4/12/2019 3:39:54 PM	
11587	GLEN ULLIN	1104.8	0.6473	1373.2	-43.3	1.8843	0.9329	82.4661	13.4195	0.9966	0.0566	0.0273	0.0058	0.0049	0	0.0021	0.1847	0.0193	4/12/2019	4/13/2019	4/13/2019 3:40:02 PM	
11587	GLEN ULLIN	1105.6	0.6476	1373.8	-41.7	1.8789	0.9257	82.394	13.4893	0.9752	0.0673	0.0312	0.0083	0.0069	0	0.0031	0.201	0.0191	4/13/2019	4/14/2019	4/14/2019 3:37:14 PM	
11587	GLEN ULLIN	1104.7	0.6472	1373.1	-43	1.8922	0.926	82.4906	13.4423	0.9602	0.0573	0.0286	0.0064	0.0056	0	0.0029	0.1682	0.0195	4/14/2019	4/15/2019	4/15/2019 3:38:51 PM	
11587	GLEN ULLIN	1101.9	0.6453	1371.7	-45.7	1.8745	0.9336	82.7397	13.2744	0.8911	0.0487	0.0255	0.0043	0.004	0	0.0016	0.1835	0.0193	4/15/2019	4/16/2019	4/16/2019 3:42:28 PM	
11587	GLEN ULLIN	1099.7	0.6431	1371.3	-46.4	1.8145	0.9187	83.2456	12.8031	0.9318	0.0488	0.0259	0.0046	0.0043	0	0.0018	0.182	0.019	4/16/2019	4/17/2019	4/17/2019 3:48:22 PM	
11587	GLEN ULLIN	1102.5	0.6447	1373.1	-45.8	1.811	0.9074	82.9925	12.9837	1.03	0.0468	0.0255	0.0028	0.0027	0	0.0007	0.1786	0.0188	4/17/2019	4/18/2019	4/18/2019 3:42:30 PM	
11587	GLEN ULLIN	1104.5	0.6467	1373.5	-44.8	1.8748	0.9152	82.4729	13.5509	0.9104	0.0486	0.0253	0.0042	0.0042	0	0.0014	0.1729	0.0193	4/18/2019	4/19/2019	4/19/2019 3:39:03 PM	
11587	GLEN ULLIN	1101.3	0.6438	1372.5	-46.5	1.8058	0.9107	83.0295	13.1584	0.8394	0.0469	0.0236	0.0047	0.0042	0	0.0021	0.1566	0.0187	4/19/2019	4/20/2019	4/20/2019 3:42:57 PM	
11587	GLEN ULLIN	1099	0.6418	1371.8	-49	1.7433	0.9163	83.404	12.8853	0.8215	0.0359	0.0207	0.0022	0.0024	0	0.0007	0.1499	0.0184	4/20/2019	4/21/2019	4/21/2019 3:39:12 PM	
11587	GLEN ULLIN	1102	0.6441	1373.1	-47.5	1.773	0.917	82.9498	13.3076	0.822	0.0377	0.0204	0.0023	0.0024	0	0.0011	0.149	0.0188	4/21/2019	4/22/2019	4/22/2019 3:39:58 PM	
11587	GLEN ULLIN	1098.3	0.6406	1372.2	-48.2	1.6768	0.9122	83.7515	12.5427	0.8637	0.0503	0.0255	0.0039	0.0038	0	0.0013	0.1505	0.0182	4/22/2019	4/23/2019	4/23/2019 3:37:37 PM	
11587	GLEN ULLIN	1102	0.6443	1372.9	-45.1	1.789	0.9197	82.9614	13.1553	0.8987	0.046	0.0231	0.0048	0.004	0	0.0031	0.1782	0.0188	4/23/2019	4/24/2019	4/24/2019 3:40:04 PM	
11587	GLEN ULLIN	1103.1	0.6454	1373.1	-44.9	1.8282	0.9206	82.7715	13.287	0.9227	0.0471	0.0234	0.005	0.0044	0	0.0025	0.1698	0.019	4/24/2019	4/25/2019	4/25/2019 3:41:03 PM	
11587	GLEN ULLIN	1101.6	0.6441	1372.6	-47.2	1.803	0.9142	82.9644	13.1737	0.8906	0.0378	0.0208	0.0026	0.0026	0	0.0009	0.171	0.0189	4/25/2019	4/26/2019	4/26/2019 3:41:08 PM	
11587	GLEN ULLIN	1100.5	0.643	1372.4	-46.2	1.7753	0.91	83.2835	12.8415	0.9204	0.0498	0.0254	0.0052	0.0046	0	0.0019	0.1622	0.0188	4/26/2019	4/27/2019	4/27/2019 3:38:55 PM	
11587	GLEN ULLIN	1101.8	0.644	1373	-44.7	1.7884	0.9117	83.1342	12.9391	0.9549	0.0535	0.0271	0.006	0.0051	0	0.0029	0.1595	0.0187	4/27/2019	4/28/2019	4/28/2019 3:38:18 PM	
11587	GLEN ULLIN	1099	0.6414	1372.3	-48.4	1.7039	0.916	83.5171	12.7542	0.8512	0.0425	0.0237	0.0029	0.0029	0	0.001	0.1666	0.0181	4/28/2019	4/29/2019	4/29/2019 3:38:23 PM	
11587	GLEN ULLIN	1101.2	0.6414	1375	-41.1	1.589	0.9015	83.7476	12.446	0.9773	0.0669	0.0466	0.0067	0.0082	0	0.006	0.1886	0.0173	4/29/2019	4/30/2019	4/30/2019 3:46:56 PM	
11587	GLEN ULLIN	1106.2	0.6461	1376.2	-38.6	1.7159	0.9122	82.9672	12.9501	1.0948	0.0785	0.0561	0.008	0.0103	0	0.0055	0.1835	0.0179	4/30/2019	5/1/2019	5/1/2019 3:39:11 PM	

31 record(s) retrieved

201902

<b>NORTH DAKOTA HEATING VALUE ZONES</b>		
<b>ZONES</b>	<b>MEASURING DEVICE</b>	<b>LOCATION</b>
211	Chromatograph	Sidney Border
24	Chromatograph	Williston Border
241	Accumulated Sample	Fairview Border
25	Accumulated Sample	Watford City West Border
260	Chromatograph	North Tioga Transfer
261	Chromatograph	Tioga Comp Station – Robinson Lake Plant
262	Chromatograph	Minot Border
263	Accumulated Sample	Lignite Plant
264	Accumulated Sample	Epping Border
265	Chromatograph	Tioga Comp Station – County Line Plant
271	Chromatograph	Bismarck – Cleveland
272	Chromatograph	Cleveland – Mapleton
273	Chromatograph	Cleveland – Grafton
28	Chromatograph	Bismarck Station
31	Chromatograph	Dickinson Border
32	Chromatograph	Cabin Creek Station
33	Chromatograph	Little Knife Plant
34	Chromatograph	Bowman Border
43	Chromatograph	Spring Creek
550	Accumulated Sample & Chromatograph	Mandan Border
600	Chromatograph	Hankinson Area
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	APR 19	MAR 19	FEB 19	JAN 19	DEC 18	NOV 18	OCT 18	SEPT 18	AUG 18	JULY 18	JUNE 18	MAY 18	ZONE
MT/ND	211	Sidney Border - MonDak Tfr - Sidney Pit	1199	1202	1205	1207	1202	1200	1207	1202	1191	1203	1202	1171	1193	211
ND	24	Williston Border - Charbonneau Station	1154	1164	1166	1162	1163	1164	1163	1140	1152	1136	1158	1141	1135	24
ND	25	Walford City West Border	1199	1202	1198	1204	1191	1196	1199	1200	1197	1204	1202	1192	1192	25
ND	28	Bismarck Station - Glen Ullin Station	1147	1147	1144	1115	1141	1120	1112	1153	1173	1162	1153	1173	1172	28
ND	31	Dickinson Brd - Belfield Trf - G Ullin Stn	1137	1152	1143	1116	1139	1132	1110	1134	1144	1132	1147	1139	1158	31
ND/MT	32	Cabin Creek Station - Belfied Transfer	1116	1131	1139	1104	1128	1093	1068	1110	1106	1133	1136	1127	1113	32
ND	33	Little Knife Plant	1174	1173	1173	1172	1172	1173	1174	1172	1172	1176	1175	1174	1176	33
ND	34	Badlands Plant/Bowman Border	1020	979	1013	1062	1048	1042	1073	1063	1018	979	983	984	996	34
ND	43	Spring Creek I - Sax Valve I	1119	1136	1127	1061	1044	1051	1062	1144	1158	1172	1152	1155	1160	43
ND/MT	241	Fairview Border	1186	1196	1188	1204	1173	1181	1193	1175	1186	1195	1196	1180	1168	241
ND	260	North Tioga Transfer - Nesson Plant	1100	1121	1127	1109	1113	1104	1095	1102	1120	1101	1127	1089	989	260
ND	261	Tioga Comp Station - Robinson Lake Plant	1177	1170	1179	1184	1180	1173	1177	1183	1181	1175	1177	1178	1169	261
ND	262	Minot Bdr - Palermo Bdr - Bismarck Stn	1177	1183	1182	1182	1183	1182	1182	1179	1175	1160	1156	1175	1180	262
ND	263	Lignite Plant	1141	1148	1149	1146	1149	1146	1127	1140	1146	1162	1135	1115	1128	263
ND	264	Epping Border	1145	1151	1153	1148	1149	1147	1153	1139	1135	1135	1148	1148	1129	264
ND	265	Tioga Comp Station - County Line Plant	1178	1171	1181	1184	1179	1173	1177	1183	1182	1178	1176	1178	1175	265
ND	266	County Line Plant	1178	1174	1176	1170	1177	1179	1180	1181	1180	1178	1181	1181	1180	266
ND	271	Bismarck Station - Cleveland Station	1173	1183	1181	1168	1176	1180	1180	1178	1162	1153	1173	1173	1173	271
ND	272	Cleveland Station - Mapleton	1173	1183	1180	1167	1176	1180	1179	1177	1173	1160	1154	1173	1172	272
ND	273	Cleveland Station - Grafton Border	1173	1180	1181	1167	1176	1180	1179	1177	1173	1161	1153	1173	1171	273
ND	550	Mandan Border / NBPL-St Anthony	1140	1147	1119	1107	1121	1106	1102	1145	1173	1162	1150	1173	1172	550
ND	610	MDU-Walford City BTU	1150	1175	1158	1113	1101	1109	1131	1180	1181	1175	1152	1156	1164	610
ND	802	NBPL - Linton	1090	1101	1083	1083	1083	1084	1086	1092	1092	1101	1097	1083	802	
ND	903	Hettinger Propane	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	903
ND	600	Alliance Pipeline - Hankinson	1156	1163	1157	1151	1155	1153	1155	1155	1160	1159	1159	1153	1148	600

**THERMAL ZONE VARIANCE  
DOCUMENTATION**

**April 2019**

<b><i>ZONE</i></b>	<b><i>BTU VARIANCE</i></b>	<b><i>REASON</i></b>
34	-34	Source of Gas
431	29	Operational Change