



UTILITIES CO.

A Subsidiary of MDU Resources Group, Inc.

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

April 8, 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 – February 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 March 2019.
2. Attachment B consists of copies of the monthly Heating Value Test Reports received from our suppliers for the month of February 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 February 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
Mar-19

Town	Heat Zone	Therm Factor
MDU-303-ALEXANDER	025	1.1249
MDU-308-ARNEGARD	025	1.1249
MDU-314-APPLE VALLEY	271	1.1347
MDU-318-BEACH	032	1.0424
MDU-319-BELFIELD	032	1.0501
MDU-323-BERTHOLD	262	1.1173
MDU-324-BEULAH	032	1.0501
MDU-327-BISMARCK	028	1.0932
MDU-330-BOWMAN	034	0.9827
MDU-337-BURLINGTON	262	1.1414
MDU-343-CARRINGTON	273	1.1347
MDU-344-CLEVELAND	272	1.1267
MDU-364-CAVALIER	273	1.1586
MDU-365-DAWSON	271	1.1267
MDU-368-DES LACS	262	1.1254
MDU-369-DICKINSON	031	1.0681
MDU-374-FT TOTTEN	273	1.1427
MDU-375-DEVILS LAKE	273	1.1427
MDU-379-BARLOW	273	1.1347
MDU-384-EPPING	264	1.0852
MDU-387-ELDRIDGE	272	1.1347
MDU-407-GLADSTONE	031	1.0681
MDU-411-GLEN ULLIN	031	1.0758
MDU-413-GOLVA	032	1.0271
MDU-416-GARRISON	262	1.1244
MDU-417-GRAFTON	273	1.1666
MDU-429-HEBRON	031	1.0758
MDU-432-HETTINGER	903	2.3875
MDU-449-JAMESTOWN	272	1.1427
MDU-459-KILLDEER	033	1.1070
MDU-463-LANGDON	273	1.1347
MDU-469-LEFOR	031	1.0681
MDU-474-LIGNITE	263	1.0903
MDU-475-LINTON	802	1.0450
MDU-478-LINCOLN	028	1.1009
MDU-488-MCKENZIE	271	1.1347
MDU-494-MEDINA	271	1.1267
MDU-498-MANDAN	028	1.1009
MDU-500-MARMARTH	034	0.9685
MDU-505-MINOT	262	1.1414
MDU-510-MOTT	031	1.0681
MDU-512-MAX	262	1.1164
MDU-522-NEW ENGLAND	031	1.0603
MDU-524-NEW SALEM	028	1.0777
MDU-532-NEW ROCKFORD	273	1.1347
MDU-539-PARK RIVER	273	1.1586
MDU-540-PALERMO	262	1.1173
MDU-558-RAY	264	1.0852
MDU-561-REGENT	031	1.0681

MDU-563-RHAME	034	0.9543
MDU-564-RICHARDTON	031	1.0603
MDU-568-ROSS	261	1.1065
MDU-572-RUTHVILLE	262	1.1414
MDU-574-SANBORN	272	1.1427
MDU-583-SENTINEL BUTTE	032	1.0424
MDU-588-SOUTH HEART	031	1.0603
MDU-717-SPIRITWOOD	272	1.1427
MDU-590-SPRINGBROOK	264	1.0852
MDU-591-STANLEY	261	1.1225
MDU-593-STEELE	271	1.1267
MDU-594-STERLING	028	1.1009
MDU-598-SHEYENNE	273	1.1427
MDU-605-SURREY	262	1.1414
MDU-610-TAPPEN	271	1.1267
MDU-611-TAYLOR	031	1.0603
MDU-616-TIOGA	260	1.0588
MDU-619-TURTLE LAKE	262	1.1254
MDU-620-TRENTON	024	1.1064
MDU-624-UNDERWOOD	262	1.1254
MDU-625-VALLEY CITY	272	1.1507
MDU-629-WALHALLA	273	1.1586
MDU-632-WATFORD CITY	610	1.0399
MDU-636-WHEELOCK	264	1.0774
MDU-637-WHITE EARTH	261	1.1145
MDU-642-WILLISTON	024	1.1064
MDU-646-WASHBURN	262	1.1334
MDU-647-WILTON	262	1.1173
MDU-664-RIVERDALE	262	1.1254
MDU-691-FAIRVIEW	241	1.1159
MDU-712-MINOT AFB	262	1.1414
MDU-718-FAIRMOUNT	600	1.1356
MDU-732-NEKOMA	273	1.1347
MDU-732-MSR SITE	273	1.1347

Source Daily Summary

February 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	0.7436	1195.4	1216.6	1212.9	1.336	3.615	67.356	23.142	3.971	0.181	0.353	0.023	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1407.27
2	0.7120	1182.1	1203.0	1199.8	0.268	3.091	70.920	22.578	2.986	0.059	0.091	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1422.44
3	0.7038	1175.5	1196.3	1193.2	0.081	3.005	71.963	22.200	2.651	0.041	0.056	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1422.74
4	0.7065	1180.7	1201.6	1198.5	0.073	2.952	71.657	22.333	2.874	0.045	0.063	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1426.30
5	0.7083	1182.3	1203.2	1200.1	0.077	3.028	71.399	22.386	2.992	0.048	0.068	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1426.30
6	0.7026	1173.7	1194.5	1191.5	0.089	2.992	72.166	22.051	2.597	0.042	0.060	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1421.78
7	0.7069	1181.0	1202.0	1198.8	0.086	2.948	71.764	22.072	2.993	0.054	0.078	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1426.26
8	0.7147	1191.0	1212.1	1209.0	0.059	3.116	70.734	22.355	3.579	0.064	0.089	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1430.42
9	0.7058	1176.3	1197.1	1194.1	0.065	3.176	71.137	23.192	2.373	0.026	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.66
10	0.7098	1183.0	1203.9	1200.9	0.066	3.135	70.903	22.944	2.853	0.041	0.056	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1425.74
11	0.7053	1177.6	1198.5	1195.4	0.085	3.014	71.771	22.260	2.776	0.040	0.053	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1423.74
12	0.7089	1184.8	1205.8	1202.7	0.089	2.904	71.342	22.525	3.035	0.044	0.059	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1428.83
13	0.7056	1179.2	1200.0	1197.0	0.090	2.943	71.780	22.253	2.838	0.040	0.054	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1425.27
14	0.7025	1173.1	1193.9	1190.9	0.089	3.015	72.131	22.100	2.584	0.035	0.045	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1421.18
15	0.7138	1183.3	1204.3	1201.2	0.327	3.095	70.750	22.553	3.103	0.065	0.101	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1422.20
16	0.7129	1187.8	1208.9	1205.8	0.162	2.988	70.890	22.537	3.285	0.056	0.079	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1428.39
17	0.7438	1195.8	1217.0	1213.6	1.328	3.628	66.997	23.633	3.945	0.162	0.283	0.013	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1407.67
18	0.7423	1192.8	1214.0	1210.6	1.334	3.656	67.327	23.252	3.959	0.162	0.286	0.013	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1405.62
19	0.7382	1202.4	1223.6	1220.3	0.915	3.328	67.740	23.529	4.124	0.127	0.218	0.010	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1420.93
20	0.7408	1190.0	1211.1	1207.7	1.339	3.680	67.484	23.248	3.751	0.169	0.303	0.015	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1403.72
21	0.7287	1192.8	1214.0	1210.7	0.674	3.381	68.892	23.033	3.720	0.108	0.179	0.007	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1418.86
22	0.7207	1188.4	1209.5	1206.3	0.495	3.175	69.983	22.656	3.446	0.090	0.145	0.006	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1421.43
23	0.7379	1206.8	1228.2	1224.9	0.754	3.268	67.970	23.189	4.468	0.127	0.209	0.009	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1426.48
24	0.7260	1189.3	1210.3	1207.2	0.699	3.309	69.285	22.857	3.571	0.101	0.167	0.007	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1417.35
25	0.7063	1178.5	1199.3	1196.3	0.099	3.034	71.650	22.267	2.858	0.040	0.052	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.77
26	0.7098	1184.4	1205.3	1202.3	0.095	3.012	71.200	22.487	3.096	0.046	0.062	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1427.32
27	0.7121	1189.3	1210.3	1207.3	0.092	2.931	70.950	22.623	3.282	0.051	0.069	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1430.94
28	0.7119	1187.7	1208.7	1205.6	0.091	3.011	70.872	22.731	3.176	0.049	0.068	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1429.25
Avg	0.7172	1186.0	1206.9	1203.7	0.391	3.158	70.322	22.678	3.246	0.075	0.121	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1421.92

Zone 211

Source Daily Summary

February 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	0.6933	1144.1	1164.3	1161.2	0.848	2.767	74.892	18.985	2.225	0.078	0.172	0.014	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1394.97
2	0.6916	1141.6	1161.9	1158.7	0.842	2.764	75.175	18.767	2.175	0.077	0.168	0.014	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1393.73
3	0.6915	1142.2	1162.4	1159.2	0.831	2.733	75.284	18.648	2.201	0.081	0.184	0.016	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1394.54
4	0.6907	1140.7	1160.9	1157.7	0.832	2.751	75.350	18.627	2.159	0.076	0.170	0.015	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1393.46
5	0.6877	1136.9	1157.1	1153.9	0.826	2.708	75.786	18.379	2.049	0.069	0.152	0.013	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1391.93
6	0.6902	1141.0	1161.2	1158.1	0.831	2.684	75.477	18.546	2.182	0.077	0.170	0.014	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1394.42
7	0.6889	1139.2	1159.4	1156.3	0.824	2.683	75.655	18.426	2.153	0.073	0.158	0.013	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1393.55
8	0.6873	1136.7	1156.9	1153.7	0.811	2.699	76.079	17.936	2.189	0.079	0.174	0.015	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1392.14
9	0.6905	1140.8	1161.0	1157.9	0.838	2.715	75.346	18.702	2.127	0.077	0.166	0.013	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1393.85
10	0.6912	1141.9	1162.1	1159.0	0.836	2.717	75.257	18.748	2.159	0.079	0.172	0.014	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1394.50
11	0.6886	1138.0	1158.1	1155.0	0.810	2.752	75.745	18.257	2.161	0.075	0.167	0.014	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1392.29
12	0.6915	1142.0	1162.2	1158.9	0.807	2.786	75.404	18.376	2.306	0.084	0.194	0.018	0.024	0.000	0.000	0.000	0.000	0.000	0.000	1394.15
13	0.6905	1139.9	1160.0	1156.7	0.817	2.803	75.761	17.890	2.374	0.092	0.214	0.020	0.026	0.000	0.000	0.000	0.000	0.000	0.000	1392.56
14	0.6882	1137.6	1157.8	1154.6	0.797	2.748	76.006	17.879	2.256	0.084	0.191	0.017	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1392.33
15	0.6929	1145.1	1165.4	1162.0	0.808	2.725	75.489	18.075	2.506	0.103	0.242	0.022	0.029	0.000	0.000	0.000	0.000	0.000	0.000	1396.49
16	0.6925	1144.3	1164.6	1161.4	0.819	2.718	75.149	18.713	2.304	0.081	0.180	0.015	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1396.08
17	0.6909	1141.3	1161.6	1158.4	0.809	2.768	75.472	18.331	2.322	0.083	0.181	0.015	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1394.04
18	0.6928	1144.5	1164.8	1161.6	0.818	2.732	75.180	18.600	2.362	0.085	0.187	0.016	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1396.03
19	0.6900	1140.4	1160.6	1157.5	0.814	2.734	75.552	18.374	2.243	0.079	0.172	0.014	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1393.80
20	0.6925	1143.5	1163.7	1160.7	0.829	2.758	75.077	18.765	2.298	0.078	0.167	0.013	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1395.09
21	0.6941	1146.6	1166.9	1163.8	0.844	2.694	74.747	19.171	2.276	0.076	0.163	0.013	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1397.29
22	0.6929	1144.1	1164.4	1161.3	0.826	2.759	74.939	18.952	2.259	0.076	0.161	0.012	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1395.49
23	0.6926	1143.4	1163.6	1160.5	0.828	2.768	74.997	18.902	2.245	0.075	0.159	0.012	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1394.92
24	0.6913	1141.6	1161.8	1158.7	0.825	2.766	75.220	18.702	2.230	0.073	0.157	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1393.97
25	0.6897	1139.3	1159.5	1156.3	0.819	2.757	75.590	18.333	2.229	0.075	0.165	0.014	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1392.84
26	0.6913	1141.0	1161.2	1158.1	0.848	2.756	75.417	18.381	2.305	0.081	0.179	0.014	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1393.35
27	0.6914	1141.5	1161.7	1158.6	0.851	2.734	75.265	18.658	2.223	0.075	0.166	0.013	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1393.87
28	0.6951	1145.6	1165.9	1162.7	0.867	2.812	74.620	19.121	2.294	0.080	0.176	0.014	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1395.05
Avg	0.6911	1142.0	1161.8	1158.7	0.827	2.743	75.355	18.544	2.243	0.079	0.175	0.015	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1394.17

Zone 24

Gas Composition and Properties

Effective February 1, 2019

Source #: 0602160
Name: FAIRVIEW BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	1.0366		2.1633
Nitrogen, N2	3.5730		4.7464
Methane, C1	69.2166		52.6558
Ethane, C2	21.9442	5.8736	31.2898
Propane, C3	3.8051	1.0492	7.9566
iso-Butane, iC4	0.1378	0.0451	0.3798
n-Butane, nC4	0.2614	0.0825	0.7205
iso-Pentane, iC5	0.0132	0.0048	0.0452
n-Pentane, nC5	0.0103	0.0037	0.0352
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0018	0.0007	0.0074
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	-10.916	
Cricondentherm	5.050	
HV, Dry @ Base P, T	1204.09	
HV, Sat @ Base P, T	1183.13	
HV, Sat @ Sample P, T	1204.09	
Relative Density	0.7303	

C6+: 100

Totals	100.0000	7.0600	100.0000
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Sample

Date: 02/01/2019 Pressure: 430.0
 Type: Temperature:
 Tech: Kevin Moos H2O: lbs/mm
 H2S: ppm

Remarks:

Analysis

Date: 02/01/2019 Instrument:
 Cylinder: 384
 Tech: Kevin Moos

Remarks:

Zone 241

Gas Composition and Properties

Effective February 1, 2019

Source #: 0602225
Name: WATFORD CITY WEST BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	1.1365		2.3676
Nitrogen, N2	3.5237		4.6725
Methane, C1	69.9943		53.1522
Ethane, C2	20.5459	5.4994	29.2436
Propane, C3	4.0495	1.1166	8.4525
iso-Butane, iC4	0.2156	0.0706	0.5932
n-Butane, nC4	0.4670	0.1474	1.2848
iso-Pentane, iC5	0.0332	0.0122	0.1134
n-Pentane, nC5	0.0298	0.0108	0.1018
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0045	0.0019	0.0184
Water, H2O			
Hydrogen Sulfide, H2S			
Oxygen, O2			
Carbon Monoxide, CO			
Hydrogen, H2			
Helium, He			
Argon, Ar			
Totals	100.0000	6.8590	100.0000

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure	-16.678	
Cricondentherm	11.118	
HV, Dry @ Base P, T	1204.30	
HV, Sat @ Base P, T	1183.34	
HV, Sat @ Sample P, T	1204.30	
Relative Density	0.7316	

C6+: 100

Sample		
Date: 02/01/2019	Pressure:	270.0
Type:	Temperature:	
Tech: Kevin Moos	H2O:	lbs/mm
	H2S:	ppm
Remarks:		

Analysis	
Date: 02/01/2019	Instrument:
	Cylinder:
Tech: Kevin Moos	
Remarks:	

Zone 25

Source Daily Summary

February 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	0.6739	1106.6	1126.2		0.656	3.518	78.042	15.720	1.819	0.065	0.145	0.013	0.016	0.004						1368.77	
2	0.6669	1096.0	1115.4		0.615	3.575	79.225	14.709	1.636	0.063	0.144	0.013	0.016	0.004						1362.64	
3	0.6618	1088.3	1107.5		0.556	3.647	80.313	13.575	1.620	0.072	0.173	0.018	0.022	0.006						1358.33	
4	0.6642	1092.3	1111.6		0.585	3.588	79.723	14.269	1.592	0.063	0.145	0.014	0.017	0.004						1360.83	
5	0.6642	1092.7	1112.1		0.593	3.550	79.706	14.343	1.567	0.061	0.141	0.014	0.018	0.006						1361.40	
6	0.6507	1072.7	1091.7		0.479	3.680	82.036	12.245	1.353	0.054	0.123	0.012	0.014	0.004						1350.15	
7	0.6311	1043.3	1061.7		0.338	3.836	85.329	9.429	0.934	0.036	0.081	0.007	0.009	0.001						1333.44	
8	0.6459	1064.4	1083.2		0.443	3.786	82.889	11.382	1.315	0.049	0.111	0.010	0.012	0.003						1344.70	
9	0.6665	1096.6	1116.1		0.599	3.517	79.447	14.414	1.787	0.065	0.144	0.012	0.014	0.002						1363.92	
10	0.6646	1093.8	1113.2		0.571	3.550	79.815	14.056	1.751	0.068	0.155	0.014	0.016	0.003						1362.37	
11	0.6591	1085.6	1104.9		0.527	3.598	80.786	13.175	1.673	0.064	0.144	0.013	0.016	0.004						1357.79	
12	0.6599	1086.6	1105.9		0.510	3.637	80.890	12.864	1.773	0.079	0.192	0.020	0.025	0.009						1358.21	
13	0.6688	1100.3	1119.8		0.574	3.541	79.436	14.114	1.969	0.089	0.215	0.023	0.029	0.011						1366.18	
14	0.6664	1097.4	1116.9		0.545	3.542	79.965	13.582	1.959	0.096	0.240	0.026	0.033	0.011						1364.93	
15	0.6697	1102.4	1121.9		0.546	3.543	79.672	13.598	2.151	0.112	0.287	0.032	0.041	0.018						1367.76	
16	0.6631	1092.4	1111.8		0.551	3.532	80.076	13.868	1.712	0.067	0.154	0.015	0.019	0.006						1362.08	
17	0.6702	1102.1	1121.6		0.594	3.540	78.970	14.679	1.912	0.077	0.180	0.018	0.023	0.008						1366.87	
18	0.6690	1100.8	1120.3		0.573	3.538	79.199	14.480	1.888	0.079	0.189	0.020	0.025	0.009						1366.51	
19	0.6634	1091.9	1111.2		0.558	3.577	79.869	14.114	1.671	0.059	0.128	0.011	0.012	0.002						1361.16	
20	0.6686	1100.2	1119.7		0.580	3.530	79.010	14.824	1.833	0.064	0.134	0.011	0.012	0.003						1366.14	
21	0.6530	1075.9	1094.9		0.468	3.715	81.667	12.461	1.490	0.056	0.121	0.010	0.011	0.001						1351.81	
22	0.6683	1098.4	1117.9		0.582	3.606	79.038	14.733	1.820	0.064	0.134	0.010	0.011	0.001						1364.23	
23	0.6675	1096.8	1116.2		0.589	3.621	79.088	14.766	1.729	0.060	0.125	0.010	0.011	0.002						1363.02	
24	0.6588	1083.9	1103.1		0.540	3.666	80.547	13.550	1.511	0.053	0.113	0.008	0.010	0.001						1355.84	
25	0.6573	1081.5	1100.7		0.525	3.689	81.060	12.891	1.587	0.064	0.149	0.014	0.017	0.005						1354.43	
26	0.6591	1082.0	1101.1		0.577	3.745	80.795	13.004	1.622	0.067	0.157	0.013	0.016	0.004						1353.23	
27	0.6551	1075.0	1094.1		0.585	3.787	81.287	12.708	1.432	0.055	0.126	0.009	0.011	0.001						1348.59	
28	0.6731	1103.9	1123.4		0.676	3.576	78.318	15.278	1.895	0.071	0.156	0.012	0.014	0.003						1366.19	
Avg	0.6622	1089.0	1108.7		0.555	3.615	80.221	13.672	1.679	0.067	0.154	0.014	0.018	0.005						1359.34	

Zone 260

Source Daily Summary

February 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	0.7206	1178.2	1199.1	1195.1	0.917	3.138	71.139	21.015	3.152	0.156	0.383	0.043	0.057	0.000	0.000	0.000	0.000	0.000	0.000	1408.70
2	0.7102	1161.3	1181.9	1178.6	0.926	3.179	71.980	20.983	2.591	0.093	0.206	0.018	0.023	0.000	0.000	0.000	0.000	0.000	0.000	1399.06
3	0.7078	1157.0	1177.5	1174.3	0.939	3.197	72.204	20.966	2.383	0.086	0.187	0.016	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1396.25
4	0.7128	1164.8	1185.5	1182.0	0.926	3.211	71.918	20.738	2.711	0.124	0.303	0.030	0.040	0.000	0.000	0.000	0.000	0.000	0.000	1400.58
5	0.7097	1159.6	1180.2	1176.8	0.930	3.229	72.055	20.926	2.484	0.099	0.229	0.021	0.028	0.000	0.000	0.000	0.000	0.000	0.000	1397.50
6	0.7068	1155.2	1175.6	1172.3	0.927	3.244	72.373	20.786	2.346	0.087	0.194	0.018	0.024	0.000	0.000	0.000	0.000	0.000	0.000	1394.87
7	0.7060	1155.7	1176.1	1172.8	0.864	3.224	72.666	20.440	2.453	0.095	0.213	0.019	0.025	0.000	0.000	0.000	0.000	0.000	0.000	1396.33
8	0.7091	1158.7	1179.2	1176.0	0.930	3.238	72.092	20.910	2.477	0.095	0.215	0.019	0.024	0.000	0.000	0.000	0.000	0.000	0.000	1396.91
9	0.7129	1165.8	1186.5	1182.9	0.902	3.191	71.884	20.825	2.713	0.120	0.295	0.030	0.041	0.000	0.000	0.000	0.000	0.000	0.000	1401.68
10	0.7097	1159.5	1180.0	1176.8	0.925	3.248	72.086	20.749	2.667	0.093	0.199	0.015	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1397.35
11	0.7103	1161.3	1181.9	1178.6	0.907	3.220	72.107	20.689	2.701	0.102	0.230	0.019	0.024	0.000	0.000	0.000	0.000	0.000	0.000	1398.91
12	0.7113	1162.8	1183.4	1180.1	0.905	3.226	71.975	20.744	2.770	0.104	0.231	0.020	0.025	0.000	0.000	0.000	0.000	0.000	0.000	1399.72
13	0.7151	1168.3	1189.0	1185.5	0.909	3.235	71.677	20.722	2.972	0.124	0.295	0.029	0.038	0.000	0.000	0.000	0.000	0.000	0.000	1402.51
14	0.7158	1169.9	1190.7	1186.9	0.892	3.228	71.738	20.558	3.045	0.135	0.325	0.034	0.046	0.000	0.000	0.000	0.000	0.000	0.000	1403.63
15	0.7170	1171.8	1192.5	1188.8	0.895	3.228	71.631	20.576	3.078	0.145	0.359	0.038	0.050	0.000	0.000	0.000	0.000	0.000	0.000	1404.64
16	0.7209	1178.3	1199.1	1194.9	0.877	3.220	71.467	20.333	3.382	0.170	0.432	0.050	0.068	0.000	0.000	0.000	0.000	0.000	0.000	1408.35
17	0.7112	1163.0	1183.6	1180.0	0.886	3.226	72.069	20.681	2.720	0.108	0.250	0.025	0.034	0.000	0.000	0.000	0.000	0.000	0.000	1399.97
18	0.7120	1164.2	1184.8	1181.3	0.893	3.223	72.025	20.608	2.825	0.111	0.257	0.025	0.034	0.000	0.000	0.000	0.000	0.000	0.000	1400.58
19	0.7119	1164.3	1184.9	1181.3	0.882	3.228	71.983	20.699	2.784	0.109	0.255	0.025	0.034	0.000	0.000	0.000	0.000	0.000	0.000	1400.73
20	0.7103	1161.6	1182.2	1178.8	0.881	3.238	72.128	20.661	2.705	0.104	0.235	0.021	0.027	0.000	0.000	0.000	0.000	0.000	0.000	1399.27
21	0.7080	1158.9	1179.5	1176.3	0.861	3.223	72.304	20.656	2.654	0.088	0.182	0.014	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1398.33
22	0.7089	1159.9	1180.4	1177.1	0.859	3.251	72.258	20.600	2.684	0.098	0.212	0.017	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1398.52
23	0.7085	1158.8	1179.3	1176.2	0.870	3.262	72.241	20.645	2.664	0.093	0.193	0.014	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1397.75
24	0.7071	1156.3	1176.8	1173.6	0.876	3.273	72.419	20.557	2.580	0.088	0.179	0.013	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1396.09
25	0.7069	1155.2	1175.6	1172.5	0.906	3.277	72.282	20.828	2.434	0.081	0.167	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1394.98
26	0.7124	1163.8	1184.5	1181.1	0.926	3.232	71.740	20.997	2.724	0.103	0.232	0.020	0.026	0.000	0.000	0.000	0.000	0.000	0.000	1399.90
27	0.7187	1168.8	1189.4	1186.1	1.053	3.331	70.857	21.425	2.895	0.116	0.270	0.023	0.029	0.000	0.000	0.000	0.000	0.000	0.000	1399.61
28	0.7189	1167.8	1188.4	1185.2	1.110	3.327	70.714	21.641	2.778	0.113	0.268	0.022	0.027	0.000	0.000	0.000	0.000	0.000	0.000	1398.28
Avg	0.7118	1163.0	1183.8	1180.4	0.913	3.234	71.929	20.784	2.728	0.109	0.250	0.023	0.030	0.000	0.000	0.000	0.000	0.000	0.000	1399.68

Zone 261

Source Daily Summary

February 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	0.7410	1170.0	1190.7	1187.5	0.922	5.549	67.885	20.354	4.701	0.167	0.377	0.022	0.023	0.000	0.000	0.000	0.000	0.000	0.000	1379.86
2	0.7347	1160.3	1180.9	1177.7	0.926	5.545	68.577	20.124	4.346	0.142	0.311	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1374.35
3	0.7310	1156.1	1176.6	1173.6	0.929	5.452	68.991	20.058	4.152	0.130	0.274	0.008	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1372.90
4	0.7315	1155.8	1176.3	1173.3	0.928	5.513	68.890	20.074	4.197	0.127	0.259	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1372.14
5	0.7322	1157.1	1177.6	1174.7	0.921	5.506	68.862	20.047	4.221	0.136	0.288	0.010	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1373.07
6	0.7309	1154.6	1175.1	1172.1	0.927	5.538	68.927	20.078	4.142	0.124	0.250	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1371.22
7	0.7268	1152.6	1173.0	1170.1	0.930	5.274	69.208	20.470	3.901	0.083	0.133	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1372.72
8	0.7327	1161.9	1182.5	1179.6	0.932	5.248	68.581	20.663	4.268	0.107	0.191	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1378.27
9	0.7315	1153.5	1173.9	1171.0	0.930	5.655	68.610	20.341	4.184	0.100	0.174	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1369.39
10	0.7346	1158.3	1178.8	1175.8	0.923	5.665	68.336	20.341	4.361	0.124	0.243	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1372.13
11	0.7372	1164.0	1184.6	1181.5	0.920	5.564	68.116	20.491	4.443	0.141	0.302	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1376.40
12	0.7339	1159.7	1180.2	1177.2	0.921	5.517	68.509	20.359	4.278	0.130	0.269	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1374.42
13	0.7370	1164.4	1185.0	1181.9	0.922	5.518	68.251	20.359	4.445	0.146	0.325	0.016	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1377.05
14	0.7308	1153.5	1173.9	1170.9	0.927	5.598	68.867	20.106	4.161	0.113	0.216	0.006	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1369.97
15	0.7370	1163.7	1184.4	1181.3	0.922	5.557	68.261	20.277	4.490	0.146	0.320	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1376.30
16	0.7413	1171.6	1192.3	1189.0	0.917	5.488	67.885	20.390	4.718	0.165	0.384	0.024	0.028	0.000	0.000	0.000	0.000	0.000	0.000	1381.41
17	0.7394	1167.7	1188.4	1185.2	0.921	5.539	67.997	20.404	4.606	0.154	0.344	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1378.72
18	0.7363	1161.8	1182.4	1179.3	0.921	5.608	68.340	20.192	4.457	0.144	0.312	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1374.71
19	0.7368	1163.7	1184.3	1181.1	0.917	5.549	68.373	20.153	4.485	0.150	0.337	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1376.35
20	0.7394	1165.5	1186.1	1183.0	0.922	5.677	68.011	20.196	4.661	0.156	0.344	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1376.05
21	0.7325	1159.9	1180.4	1177.4	0.904	5.401	68.918	20.029	4.283	0.138	0.301	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1375.95
22	0.7350	1159.6	1180.1	1177.0	0.904	5.647	68.611	19.896	4.447	0.146	0.320	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1373.27
23	0.7390	1164.0	1184.6	1181.5	0.915	5.735	68.026	20.174	4.634	0.150	0.334	0.016	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1374.77
24	0.7313	1153.6	1174.0	1171.0	0.921	5.643	68.819	20.053	4.227	0.113	0.214	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1369.67
25	0.7353	1160.1	1180.6	1177.6	0.921	5.624	68.403	20.219	4.377	0.136	0.297	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1373.57
26	0.7358	1159.4	1179.9	1176.8	0.931	5.700	68.324	20.171	4.428	0.136	0.291	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1372.23
27	0.7403	1166.8	1187.4	1184.3	0.945	5.647	67.852	20.370	4.655	0.154	0.342	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1376.75
28	0.7410	1166.5	1187.1	1184.3	0.943	5.716	67.725	20.397	4.691	0.152	0.339	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1376.11
Avg	0.7352	1161.0	1181.5	1178.4	0.924	5.560	68.434	20.242	4.391	0.136	0.289	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1374.63

Zone 2b2

Gas Composition and Properties

Effective February 1, 2019

Source #: 2501030
Name: LIGNITE PLANT

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	0.1142		0.2593
Nitrogen, N2	2.8917		4.1791
Methane, C1	77.9549		64.5183
Ethane, C2	17.0321	4.5565	26.4214
Propane, C3	1.9482	0.5369	4.4320
iso-Butane, iC4	0.0343	0.0112	0.1029
n-Butane, nC4	0.0155	0.0049	0.0465
iso-Pentane, iC5			
n-Pentane, nC5			
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0091	0.0037	0.0405
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	-38.289	
Cricondentherm	-27.336	
HV, Dry @ Base P, T	1145.80	
HV, Sat @ Base P, T	1125.86	
HV, Sat @ Sample P, T	1145.80	
Relative Density	0.6709	

C6+: 100

Totals	100.0000	5.1140	100.0000
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Sample		
Date: 02/01/2019	Pressure:	420.0
Type:	Temperature:	
Tech: Kevin Moos	H2O:	lbs/mm
	H2S:	ppm
Remarks:		

Analysis		
Date: 02/01/2019	Instrument:	
	Cylinder:	337
Tech: Kevin Moos		
Remarks:		

Zone 263

Gas Composition and Properties

Effective February 1, 2019

Source #: 3002013
Name: EPPING BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	0.7895		1.7636
Nitrogen, N2	2.7423		3.8993
Methane, C1	76.8656		62.5906
Ethane, C2	17.2994	4.6284	26.4031
Propane, C3	2.0687	0.5702	4.6302
iso-Butane, iC4	0.0643	0.0211	0.1897
n-Butane, nC4	0.1443	0.0455	0.4257
iso-Pentane, iC5	0.0103	0.0038	0.0377
n-Pentane, nC5	0.0114	0.0041	0.0417
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0042	0.0017	0.0184
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	-22.429	
Cricondentherm	-19.882	
HV, Dry @ Base P, T	1148.46	
HV, Sat @ Base P, T	1128.47	
HV, Sat @ Sample P, T	1148.46	
Relative Density	0.6820	

C6+: 100

Totals	100.0000	5.2750	100.0000
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Sample		
Date: 02/01/2019	Pressure:	630.0
Type:	Temperature:	
Tech: Kevin Moos	H2O:	lbs/mm
	H2S:	ppm
Remarks:		

Analysis	
Date: 02/01/2019	Instrument:
	Cylinder:
Tech: Kevin Moos	
Remarks:	

*** End of Report ***

Zone 264

Source Daily Summary

February 2019

Number: 603

Pressure Base: 14.730

Contract Day: 1

Name: TIOGA STN-COUNTY LINE PLANT

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7161	1171.2	1191.9	1188.2	0.919	3.143	71.458	21.079	2.906	0.125	0.300	0.030	0.040	0.000	0.000	0.000	0.000	0.000	0.000	1404.88
2	0.7163	1171.0	1191.7	1187.9	0.920	3.167	71.531	20.938	2.913	0.132	0.318	0.035	0.045	0.000	0.000	0.000	0.000	0.000	0.000	1404.39
3	0.7085	1158.4	1178.9	1175.5	0.934	3.190	72.113	21.021	2.427	0.087	0.190	0.017	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1397.17
4	0.7113	1162.5	1183.0	1179.5	0.928	3.215	72.057	20.699	2.650	0.115	0.275	0.027	0.035	0.000	0.000	0.000	0.000	0.000	0.000	1399.20
5	0.7088	1158.4	1178.9	1175.5	0.928	3.228	72.166	20.863	2.446	0.097	0.223	0.021	0.027	0.000	0.000	0.000	0.000	0.000	0.000	1396.84
6	0.7081	1157.0	1177.5	1174.1	0.928	3.242	72.253	20.805	2.425	0.093	0.211	0.019	0.025	0.000	0.000	0.000	0.000	0.000	0.000	1395.92
7	0.7071	1156.3	1176.7	1173.2	0.904	3.234	72.493	20.576	2.428	0.095	0.219	0.022	0.029	0.000	0.000	0.000	0.000	0.000	0.000	1395.87
8	0.7061	1155.0	1175.5	1172.1	0.888	3.244	72.493	20.667	2.397	0.087	0.189	0.015	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1395.45
9	0.7151	1169.0	1189.7	1186.0	0.917	3.180	71.675	20.878	2.804	0.132	0.331	0.035	0.047	0.000	0.000	0.000	0.000	0.000	0.000	1403.33
10	0.7092	1159.0	1179.5	1176.2	0.916	3.245	72.140	20.758	2.613	0.092	0.200	0.016	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1397.23
11	0.7097	1160.0	1180.6	1177.3	0.911	3.234	72.147	20.681	2.678	0.097	0.214	0.017	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1398.01
12	0.7108	1162.1	1182.7	1179.3	0.905	3.226	72.049	20.713	2.717	0.105	0.239	0.021	0.027	0.000	0.000	0.000	0.000	0.000	0.000	1399.33
13	0.7129	1165.1	1185.7	1182.3	0.910	3.230	71.799	20.801	2.851	0.110	0.249	0.022	0.028	0.000	0.000	0.000	0.000	0.000	0.000	1400.86
14	0.7168	1171.4	1192.1	1188.3	0.896	3.224	71.619	20.609	3.099	0.138	0.334	0.034	0.046	0.000	0.000	0.000	0.000	0.000	0.000	1404.45
15	0.7164	1170.5	1191.2	1187.4	0.902	3.238	71.691	20.551	3.047	0.141	0.345	0.036	0.049	0.000	0.000	0.000	0.000	0.000	0.000	1403.68
16	0.7176	1173.1	1193.8	1189.9	0.881	3.222	71.646	20.480	3.157	0.149	0.370	0.040	0.054	0.000	0.000	0.000	0.000	0.000	0.000	1405.56
17	0.7183	1174.3	1195.0	1190.9	0.883	3.214	71.581	20.530	3.151	0.153	0.386	0.042	0.058	0.000	0.000	0.000	0.000	0.000	0.000	1406.17
18	0.7106	1162.3	1182.8	1179.3	0.886	3.222	72.154	20.594	2.743	0.106	0.241	0.023	0.031	0.000	0.000	0.000	0.000	0.000	0.000	1399.65
19	0.7128	1165.4	1186.0	1182.3	0.893	3.232	71.861	20.762	2.816	0.112	0.262	0.026	0.036	0.000	0.000	0.000	0.000	0.000	0.000	1401.15
20	0.7117	1163.9	1184.5	1180.9	0.879	3.235	72.051	20.609	2.788	0.113	0.264	0.025	0.033	0.000	0.000	0.000	0.000	0.000	0.000	1400.48
21	0.7083	1158.6	1179.2	1176.0	0.887	3.227	72.193	20.796	2.609	0.085	0.175	0.012	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1397.75
22	0.7076	1158.3	1178.8	1175.5	0.852	3.238	72.425	20.512	2.651	0.092	0.196	0.015	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1397.91
23	0.7096	1160.3	1180.8	1177.6	0.878	3.259	72.101	20.748	2.676	0.096	0.206	0.016	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1398.45
24	0.7083	1158.3	1178.8	1175.5	0.875	3.269	72.298	20.572	2.667	0.093	0.193	0.015	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1397.26
25	0.7057	1153.6	1174.1	1170.9	0.888	3.289	72.475	20.648	2.436	0.080	0.161	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1394.28
26	0.7097	1159.9	1180.5	1177.2	0.917	3.237	71.988	20.952	2.582	0.092	0.199	0.015	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1397.87
27	0.7187	1169.7	1190.4	1186.8	1.032	3.308	70.918	21.372	2.909	0.119	0.282	0.026	0.034	0.000	0.000	0.000	0.000	0.000	0.000	1400.66
28	0.7177	1167.5	1188.1	1184.8	1.056	3.319	70.983	21.371	2.830	0.116	0.273	0.023	0.029	0.000	0.000	0.000	0.000	0.000	0.000	1399.01
Avg	0.7118	1163.0	1183.9	1180.4	0.911	3.233	71.941	20.771	2.729	0.109	0.252	0.023	0.031	0.000	0.000	0.000	0.000	0.000	0.000	1399.74

Zone 2b5

Source Daily Summary

February 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	0.7288	1161.5	1182.1	1178.3	0.801	5.103	69.722	19.622	4.232	0.149	0.332	0.020	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1381.31
2	0.7230	1152.3	1172.7	1168.9	0.787	5.149	70.379	19.356	3.880	0.129	0.284	0.017	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1375.77
3	0.7109	1139.8	1160.0	1156.4	0.705	4.891	72.138	18.513	3.391	0.108	0.230	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1372.57
4	0.7072	1136.5	1156.6	1153.1	0.689	4.774	72.814	18.062	3.287	0.109	0.235	0.014	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1372.09
5	0.7074	1135.5	1155.6	1152.0	0.700	4.839	72.743	18.068	3.291	0.106	0.226	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1370.64
6	0.7061	1133.6	1153.6	1150.1	0.714	4.815	73.035	17.775	3.296	0.108	0.229	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1369.56
7	0.7029	1132.2	1152.2	1148.6	0.709	4.601	73.669	17.435	3.213	0.110	0.233	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1371.01
8	0.7032	1139.0	1159.2	1155.4	0.705	4.218	73.853	17.539	3.244	0.124	0.276	0.020	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1378.94
9	0.7205	1151.2	1171.5	1167.6	0.800	4.953	71.054	18.816	3.884	0.139	0.311	0.021	0.023	0.000	0.000	0.000	0.000	0.000	0.000	1376.89
10	0.7260	1154.6	1175.1	1171.2	0.823	5.230	70.013	19.385	4.089	0.134	0.293	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1375.79
11	0.7367	1164.4	1185.0	1181.1	0.895	5.523	68.366	20.218	4.483	0.149	0.329	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1377.39
12	0.7360	1164.7	1185.4	1181.3	0.899	5.434	68.411	20.373	4.376	0.146	0.324	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1378.40
13	0.7353	1163.4	1184.0	1180.0	0.902	5.448	68.543	20.234	4.361	0.146	0.326	0.019	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1377.43
14	0.7116	1141.0	1161.2	1157.5	0.698	4.901	72.135	18.401	3.472	0.114	0.247	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1373.20
15	0.7059	1134.8	1154.9	1151.3	0.667	4.792	73.039	17.846	3.290	0.107	0.229	0.014	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1371.24
16	0.7128	1142.0	1162.2	1158.5	0.708	4.938	72.145	18.134	3.639	0.125	0.274	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1373.21
17	0.7220	1153.4	1173.8	1170.0	0.758	5.024	70.666	19.167	3.919	0.132	0.293	0.019	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1378.10
18	0.7228	1153.3	1173.7	1170.0	0.759	5.104	70.465	19.274	3.950	0.130	0.284	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1377.28
19	0.7193	1149.5	1169.9	1166.2	0.737	5.047	70.907	19.126	3.767	0.121	0.263	0.015	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1376.02
20	0.7207	1150.1	1170.4	1166.7	0.743	5.126	70.771	19.051	3.879	0.126	0.272	0.015	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1375.44
21	0.7206	1153.4	1173.8	1170.1	0.735	4.930	70.695	19.414	3.815	0.122	0.261	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1379.52
22	0.7189	1149.1	1169.4	1165.7	0.753	5.006	71.015	19.039	3.777	0.122	0.260	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1375.95
23	0.7223	1150.6	1170.9	1167.3	0.782	5.195	70.525	19.114	3.952	0.128	0.274	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1374.45
24	0.7181	1147.0	1167.4	1163.7	0.744	5.068	71.182	18.789	3.812	0.121	0.256	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1374.30
25	0.7141	1143.7	1163.9	1160.3	0.750	4.891	71.718	18.701	3.568	0.113	0.234	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1374.08
26	0.7125	1141.5	1161.7	1158.1	0.746	4.875	71.982	18.526	3.498	0.112	0.233	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1373.05
27	0.7128	1141.1	1161.3	1157.7	0.745	4.928	72.038	18.324	3.571	0.116	0.248	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1372.26
28	0.7224	1150.2	1170.5	1166.8	0.815	5.175	70.630	18.937	3.995	0.131	0.284	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1373.90
Avg	0.7179	1147.0	1167.8	1164.1	0.760	4.999	71.238	18.830	3.747	0.124	0.269	0.016	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1374.99

Zone 271

Source Daily Summary

February 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	0.7231	1154.1	1174.6	1171.0	0.788	5.043	70.514	19.223	3.964	0.135	0.295	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1377.82	
2	0.7275	1159.0	1179.5	1176.0	0.793	5.144	69.849	19.594	4.113	0.144	0.321	0.021	0.022	0.000	0.000	0.000	0.000	0.000	1379.52	
3	0.7177	1146.6	1166.9	1163.5	0.756	5.043	71.111	19.047	3.648	0.117	0.249	0.014	0.014	0.000	0.000	0.000	0.000	0.000	1374.02	
4	0.7065	1135.1	1155.2	1151.8	0.688	4.798	72.888	18.022	3.250	0.105	0.222	0.013	0.014	0.000	0.000	0.000	0.000	0.000	1370.97	
5	0.7077	1135.8	1155.9	1152.5	0.701	4.851	72.718	18.055	3.310	0.108	0.229	0.014	0.014	0.000	0.000	0.000	0.000	0.000	1370.62	
6	0.7076	1135.0	1155.1	1151.8	0.709	4.869	72.768	17.965	3.326	0.108	0.227	0.013	0.014	0.000	0.000	0.000	0.000	0.000	1369.87	
7	0.7051	1132.5	1152.5	1149.1	0.735	4.756	73.275	17.592	3.273	0.110	0.229	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1369.10	
8	0.6979	1129.0	1149.0	1145.8	0.680	4.372	74.550	16.972	3.055	0.109	0.231	0.016	0.015	0.000	0.000	0.000	0.000	0.000	1371.94	
9	0.7121	1146.4	1166.7	1163.4	0.767	4.508	72.491	18.184	3.563	0.135	0.304	0.023	0.025	0.000	0.000	0.000	0.000	0.000	1379.15	
10	0.7241	1153.2	1173.6	1170.4	0.813	5.158	70.366	19.176	4.018	0.135	0.296	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1375.74	
11	0.7318	1159.0	1179.5	1176.4	0.869	5.434	69.100	19.832	4.286	0.140	0.304	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1375.49	
12	0.7385	1166.6	1187.2	1184.0	0.907	5.544	68.067	20.450	4.508	0.151	0.333	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1378.15	
13	0.7355	1163.2	1183.8	1180.6	0.909	5.466	68.477	20.306	4.345	0.143	0.314	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1376.95	
14	0.7270	1155.3	1175.8	1172.2	0.833	5.263	69.824	19.565	4.042	0.135	0.298	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1375.62	
15	0.7064	1135.3	1155.4	1151.9	0.660	4.819	72.913	17.975	3.277	0.105	0.222	0.014	0.014	0.000	0.000	0.000	0.000	0.000	1371.27	
16	0.7084	1136.3	1156.4	1153.0	0.692	4.889	72.700	17.951	3.386	0.112	0.239	0.015	0.016	0.000	0.000	0.000	0.000	0.000	1370.63	
17	0.7113	1139.6	1159.8	1156.5	0.709	4.878	72.101	18.642	3.325	0.104	0.217	0.012	0.012	0.000	0.000	0.000	0.000	0.000	1372.47	
18	0.7143	1143.2	1163.4	1160.1	0.680	4.878	71.904	18.701	3.451	0.113	0.243	0.015	0.016	0.000	0.000	0.000	0.000	0.000	1374.99	
19	0.7170	1146.4	1166.7	1163.4	0.724	4.987	71.319	18.935	3.643	0.117	0.247	0.014	0.014	0.000	0.000	0.000	0.000	0.000	1375.03	
20	0.7201	1149.9	1170.3	1166.8	0.744	5.087	70.779	19.184	3.790	0.122	0.261	0.016	0.016	0.000	0.000	0.000	0.000	0.000	1375.67	
21	0.7214	1151.2	1171.6	1168.1	0.747	5.121	70.648	19.169	3.885	0.127	0.272	0.016	0.016	0.000	0.000	0.000	0.000	0.000	1376.02	
22	0.7196	1152.8	1173.2	1169.8	0.736	4.875	70.840	19.397	3.751	0.119	0.253	0.014	0.015	0.000	0.000	0.000	0.000	0.000	1379.67	
23	0.7197	1148.5	1168.8	1165.4	0.764	5.105	70.910	18.976	3.832	0.124	0.261	0.014	0.014	0.000	0.000	0.000	0.000	0.000	1374.36	
24	0.7228	1150.3	1170.7	1167.4	0.784	5.252	70.456	19.101	3.977	0.128	0.271	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1373.63	
25	0.7172	1145.8	1166.1	1162.7	0.744	5.061	71.320	18.707	3.772	0.119	0.249	0.014	0.014	0.000	0.000	0.000	0.000	0.000	1373.56	
26	0.7141	1143.1	1163.4	1160.0	0.755	4.917	71.723	18.670	3.564	0.112	0.232	0.013	0.013	0.000	0.000	0.000	0.000	0.000	1373.36	
27	0.7119	1140.6	1160.8	1157.4	0.744	4.879	72.092	18.435	3.482	0.111	0.230	0.014	0.013	0.000	0.000	0.000	0.000	0.000	1372.43	
28	0.7139	1141.5	1161.7	1158.3	0.757	4.992	71.871	18.370	3.615	0.117	0.247	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1371.56	
Avg	0.7172	1146.0	1166.5	1163.2	0.757	5.000	71.342	18.793	3.695	0.122	0.261	0.016	0.016	0.000	0.000	0.000	0.000	0.000	1374.27	

Zone 272

Source Daily Summary

February 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	0.7232	1154.2	1174.7	1171.2	0.790	5.046	70.496	19.231	3.968	0.135	0.296	0.018	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1377.81
2	0.7281	1159.9	1180.5	1177.1	0.795	5.143	69.763	19.639	4.148	0.145	0.323	0.021	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1380.03
3	0.7177	1146.5	1166.8	1163.6	0.757	5.046	71.109	19.045	3.649	0.117	0.249	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1373.97
4	0.7065	1135.0	1155.1	1151.9	0.688	4.802	72.887	18.018	3.250	0.105	0.222	0.013	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1370.89
5	0.7079	1136.1	1156.2	1153.1	0.701	4.849	72.689	18.077	3.320	0.108	0.229	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1370.85
6	0.7076	1134.9	1155.0	1151.9	0.709	4.872	72.767	17.967	3.323	0.108	0.227	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1369.80
7	0.7053	1132.5	1152.6	1149.4	0.735	4.764	73.252	17.606	3.275	0.109	0.229	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1369.06
8	0.6982	1129.3	1149.3	1146.2	0.682	4.377	74.509	16.992	3.066	0.109	0.233	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1372.06
9	0.7124	1147.0	1167.3	1164.0	0.766	4.499	72.468	18.183	3.591	0.136	0.306	0.023	0.025	0.000	0.000	0.000	0.000	0.000	0.000	1379.58
10	0.7242	1153.3	1173.8	1170.6	0.813	5.155	70.362	19.175	4.025	0.136	0.297	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1375.86
11	0.7318	1159.0	1179.6	1176.4	0.869	5.437	69.086	19.845	4.285	0.140	0.304	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1375.49
12	0.7387	1166.8	1187.4	1184.2	0.908	5.555	68.028	20.465	4.520	0.151	0.334	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1378.16
13	0.7356	1163.2	1183.8	1180.6	0.910	5.472	68.464	20.309	4.348	0.144	0.315	0.018	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1376.90
14	0.7273	1155.8	1176.2	1172.8	0.835	5.265	69.782	19.586	4.057	0.136	0.300	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1375.81
15	0.7067	1135.6	1155.7	1152.5	0.662	4.824	72.861	18.008	3.288	0.106	0.223	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1371.40
16	0.7084	1136.3	1156.4	1153.1	0.691	4.889	72.714	17.929	3.393	0.112	0.240	0.015	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1370.63
17	0.7113	1139.6	1159.8	1156.6	0.709	4.878	72.101	18.642	3.325	0.104	0.217	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1372.47
18	0.7143	1143.2	1163.4	1160.2	0.680	4.878	71.904	18.701	3.451	0.113	0.243	0.015	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1374.99
19	0.7173	1146.8	1167.1	1163.9	0.726	4.984	71.268	18.980	3.649	0.117	0.248	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1375.28
20	0.7203	1150.1	1170.5	1167.1	0.745	5.089	70.754	19.202	3.794	0.122	0.262	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1375.74
21	0.7215	1151.1	1171.5	1168.1	0.749	5.134	70.632	19.169	3.888	0.126	0.271	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1375.79
22	0.7202	1153.0	1173.4	1170.1	0.739	4.907	70.772	19.389	3.787	0.121	0.257	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1379.41
23	0.7198	1149.2	1169.6	1166.3	0.760	5.067	70.893	19.048	3.821	0.123	0.259	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1375.26
24	0.7228	1150.4	1170.8	1167.5	0.788	5.237	70.459	19.119	3.967	0.128	0.271	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1373.79
25	0.7184	1146.8	1167.1	1163.8	0.749	5.103	71.141	18.786	3.819	0.121	0.253	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1373.66
26	0.7144	1143.5	1163.8	1160.5	0.756	4.913	71.692	18.687	3.579	0.113	0.233	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1373.61
27	0.7125	1141.2	1161.4	1158.1	0.749	4.896	71.988	18.494	3.503	0.112	0.232	0.014	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1372.54
28	0.7136	1141.5	1161.7	1158.4	0.753	4.968	71.910	18.381	3.594	0.117	0.246	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1371.89
Avg	0.7174	1147.0	1166.8	1163.5	0.758	5.002	71.313	18.810	3.703	0.122	0.261	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1374.38

Zone 223

Source Daily Summary

February 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	0.6637	1100.6	1120.1	1117.1	0.248	3.546	79.160	15.403	1.537	0.038	0.060	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1371.68	
2	0.6739	1114.7	1134.5	1131.4	0.304	3.561	77.439	16.786	1.760	0.051	0.088	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1378.68	
3	0.6619	1096.8	1116.2	1113.2	0.235	3.633	79.420	15.144	1.468	0.036	0.057	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1368.74	
4	0.6573	1088.7	1108.0	1105.0	0.275	3.636	80.324	14.268	1.391	0.037	0.059	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1363.34	
5	0.6563	1086.6	1105.8	1102.9	0.286	3.647	80.518	14.087	1.356	0.038	0.059	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1361.81	
6	0.6545	1082.8	1102.0	1099.1	0.338	3.628	81.027	13.472	1.415	0.042	0.067	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1358.94	
7	0.6521	1081.1	1100.2	1097.2	0.418	3.384	81.604	13.112	1.357	0.044	0.067	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1359.22	
8	0.6483	1074.8	1093.8	1090.8	0.425	3.405	82.255	12.554	1.237	0.043	0.067	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1355.21	
9	0.6518	1081.1	1100.2	1097.1	0.425	3.350	81.638	13.145	1.316	0.044	0.068	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1359.45	
10	0.6578	1091.0	1110.4	1107.3	0.374	3.383	80.512	14.125	1.482	0.044	0.067	0.007	0.005	0.000	0.000	0.000	0.000	0.000	1365.75	
11	0.6531	1082.2	1101.4	1098.4	0.358	3.503	81.205	13.548	1.273	0.040	0.061	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1359.63	
12	0.6603	1096.2	1115.6	1112.6	0.270	3.472	79.573	15.334	1.263	0.032	0.048	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1369.54	
13	0.6604	1096.4	1115.9	1112.8	0.293	3.424	79.696	15.146	1.339	0.037	0.055	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1369.85	
14	0.6561	1088.3	1107.6	1104.6	0.247	3.589	80.396	14.407	1.268	0.033	0.050	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1364.11	
15	0.6558	1087.3	1106.6	1103.6	0.250	3.616	80.608	14.021	1.409	0.035	0.052	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1363.17	
16	0.6504	1077.5	1096.6	1093.6	0.266	3.686	81.543	13.173	1.238	0.034	0.051	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1356.42	
17	0.6610	1096.9	1116.3	1113.4	0.236	3.538	79.652	14.968	1.510	0.036	0.052	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1369.83	
18	0.6646	1103.5	1123.0	1120.0	0.205	3.527	78.956	15.623	1.597	0.036	0.051	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1374.27	
19	0.6666	1106.8	1126.4	1123.4	0.197	3.520	78.579	15.982	1.628	0.036	0.051	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1376.39	
20	0.6682	1109.2	1128.8	1125.8	0.209	3.503	78.303	16.236	1.653	0.036	0.052	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1377.74	
21	0.6725	1116.4	1136.1	1133.1	0.210	3.474	77.577	16.837	1.800	0.039	0.056	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1382.12	
22	0.6759	1119.3	1139.1	1136.0	0.343	3.416	77.293	16.828	1.969	0.054	0.085	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1382.20	
23	0.6678	1106.1	1125.7	1122.7	0.339	3.458	78.755	15.514	1.788	0.052	0.081	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1374.26	
24	0.6653	1101.9	1121.4	1118.4	0.307	3.527	79.162	15.128	1.741	0.049	0.074	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1371.60	
25	0.6678	1105.4	1125.0	1121.9	0.394	3.416	78.845	15.411	1.776	0.056	0.088	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1373.36	
26	0.6674	1104.6	1124.2	1121.1	0.427	3.381	78.915	15.393	1.715	0.059	0.094	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1372.73	
27	0.6604	1092.7	1112.1	1109.0	0.366	3.541	80.014	14.410	1.529	0.049	0.077	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1365.14	
28	0.6564	1088.4	1107.7	1104.6	0.374	3.415	80.707	13.985	1.393	0.045	0.068	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1363.88	
Avg	0.6610	1096.0	1115.0	1112.0	0.308	3.506	79.774	14.787	1.507	0.042	0.064	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1368.18	

Zone 28

Source Daily Summary

February 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	0.6743	1116.3	1136.0	1133.3	0.294	3.521	77.342	16.915	1.783	0.049	0.086	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1380.27
2	0.6644	1101.6	1121.1	1118.3	0.238	3.568	78.984	15.570	1.531	0.039	0.063	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1372.22
3	0.6571	1089.3	1108.6	1105.9	0.249	3.619	80.332	14.287	1.414	0.036	0.056	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1364.38
4	0.6564	1088.0	1107.3	1104.5	0.269	3.599	80.466	14.194	1.372	0.036	0.057	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1363.52
5	0.6555	1085.8	1105.0	1102.3	0.289	3.623	80.724	13.833	1.421	0.039	0.062	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1361.64
6	0.6516	1080.2	1099.3	1096.6	0.392	3.432	81.641	13.048	1.368	0.043	0.065	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1358.73
7	0.6506	1079.4	1098.5	1095.7	0.410	3.363	81.813	12.988	1.308	0.042	0.065	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1358.71
8	0.6476	1074.8	1093.8	1091.0	0.422	3.345	82.359	12.529	1.226	0.042	0.065	0.007	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1356.02
9	0.6568	1090.7	1110.0	1107.2	0.363	3.330	80.678	14.021	1.486	0.044	0.067	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1366.43
10	0.6534	1084.1	1103.3	1100.5	0.351	3.434	81.142	13.654	1.309	0.039	0.060	0.006	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1361.66
11	0.6596	1095.8	1115.2	1112.5	0.260	3.440	79.679	15.279	1.258	0.031	0.046	0.004	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1369.94
12	0.6602	1097.1	1116.5	1113.7	0.280	3.387	79.700	15.193	1.344	0.035	0.053	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1370.91
13	0.6564	1089.6	1108.9	1106.2	0.244	3.543	80.290	14.588	1.248	0.032	0.048	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1365.49
14	0.6550	1087.4	1106.6	1103.9	0.222	3.581	80.702	14.007	1.398	0.034	0.050	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1364.14
15	0.6499	1077.8	1096.9	1094.2	0.245	3.641	81.623	13.155	1.245	0.034	0.050	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1357.54
16	0.6595	1095.3	1114.7	1112.0	0.215	3.524	79.890	14.793	1.488	0.035	0.050	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1369.49
17	0.6635	1102.5	1122.0	1119.3	0.197	3.492	79.143	15.500	1.580	0.034	0.050	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1374.28
18	0.6661	1106.7	1126.3	1123.5	0.191	3.494	78.664	15.919	1.642	0.036	0.051	0.003	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1376.77
19	0.6674	1108.8	1128.4	1125.7	0.198	3.478	78.401	16.191	1.641	0.035	0.051	0.003	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1378.03
20	0.6712	1116.0	1135.8	1133.0	0.176	3.428	77.765	16.744	1.798	0.036	0.051	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1383.07
21	0.6749	1119.1	1139.0	1136.2	0.276	3.426	77.298	16.973	1.903	0.046	0.071	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1383.22
22	0.6709	1111.6	1131.2	1128.4	0.365	3.383	78.285	15.889	1.922	0.056	0.088	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1377.85
23	0.6624	1098.3	1117.7	1115.0	0.281	3.520	79.531	14.937	1.615	0.043	0.064	0.005	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1370.13
24	0.6675	1105.8	1125.4	1122.6	0.361	3.410	78.932	15.275	1.868	0.055	0.087	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1374.32
25	0.6671	1104.9	1124.5	1121.7	0.409	3.358	78.937	15.411	1.726	0.056	0.089	0.007	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1373.56
26	0.6630	1097.8	1117.3	1114.5	0.391	3.435	79.610	14.799	1.616	0.052	0.084	0.007	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1368.94
27	0.6567	1089.2	1108.5	1105.7	0.366	3.407	80.635	14.046	1.422	0.045	0.068	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1364.68
28	0.6635	1102.3	1121.8	1119.0	0.293	3.357	79.257	15.456	1.527	0.041	0.060	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1374.03
Avg	0.6608	1096.0	1115.7	1112.9	0.295	3.469	79.779	14.828	1.516	0.041	0.063	0.005	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1369.28

Zone 31

Source Daily Summary

February 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	0.6652	1098.1	1117.5	1114.1	0.343	3.702	79.352	14.571	1.870	0.055	0.096	0.007	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1366.93
2	0.6486	1073.0	1092.0	1088.7	0.284	3.752	82.164	12.244	1.445	0.039	0.063	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1352.78
3	0.6475	1071.5	1090.5	1087.3	0.307	3.705	82.381	12.092	1.401	0.040	0.065	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1352.03
4	0.6485	1073.0	1092.0	1088.7	0.289	3.743	82.183	12.226	1.448	0.040	0.063	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1352.79
5	0.6530	1081.0	1100.2	1096.9	0.446	3.435	81.680	12.711	1.577	0.052	0.085	0.007	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1358.19
6	0.6352	1058.7	1077.5	1073.8	0.882	2.453	85.673	9.596	1.212	0.063	0.096	0.014	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1348.49
7	0.6367	1058.9	1077.7	1074.1	0.743	2.797	85.128	9.955	1.210	0.057	0.088	0.012	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1347.15
8	0.6331	1056.4	1075.1	1071.3	0.950	2.295	86.213	9.164	1.184	0.066	0.100	0.016	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1347.60
9	0.6371	1061.6	1080.4	1076.7	0.848	2.511	85.300	9.895	1.262	0.063	0.095	0.014	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1350.04
10	0.6330	1056.0	1074.7	1070.9	0.938	2.319	86.218	9.158	1.173	0.066	0.099	0.016	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1347.35
11	0.6406	1067.0	1085.9	1082.2	0.764	2.631	84.505	10.618	1.311	0.059	0.089	0.013	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1353.36
12	0.6378	1061.0	1079.8	1076.1	0.746	2.766	84.963	10.103	1.251	0.059	0.089	0.013	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1348.68
13	0.6541	1083.6	1102.8	1099.8	0.274	3.638	81.172	13.231	1.581	0.039	0.058	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1360.41
14	0.6521	1080.0	1099.1	1096.0	0.280	3.666	81.511	12.925	1.512	0.039	0.058	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1357.84
15	0.6476	1072.0	1091.0	1087.8	0.291	3.713	82.327	12.163	1.400	0.039	0.058	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1352.44
16	0.6575	1090.4	1109.7	1106.4	0.258	3.574	80.615	13.717	1.729	0.040	0.059	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1365.28
17	0.6620	1097.4	1116.9	1113.5	0.241	3.595	79.777	14.445	1.831	0.042	0.061	0.005	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1369.40
18	0.6627	1098.8	1118.3	1114.9	0.238	3.578	79.598	14.682	1.795	0.041	0.060	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1370.45
19	0.6592	1092.1	1111.5	1108.1	0.292	3.572	80.324	13.970	1.727	0.042	0.063	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1365.74
20	0.6736	1115.5	1135.2	1131.8	0.290	3.511	77.911	15.927	2.220	0.052	0.080	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1379.88
21	0.6801	1124.2	1144.1	1140.6	0.588	3.130	77.224	16.538	2.281	0.081	0.138	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1384.03
22	0.6880	1135.7	1155.8	1152.2	0.839	2.789	76.274	17.323	2.441	0.109	0.193	0.016	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1390.12
23	0.6729	1112.2	1131.9	1128.4	0.568	3.214	78.519	15.327	2.136	0.080	0.135	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1376.49
24	0.6714	1110.0	1129.6	1126.2	0.543	3.247	78.682	15.254	2.055	0.074	0.125	0.011	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1375.32
25	0.6888	1136.9	1157.0	1153.5	0.862	2.761	76.167	17.405	2.462	0.112	0.199	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1390.71
26	0.6592	1091.8	1111.1	1107.8	0.401	3.423	80.568	13.706	1.749	0.054	0.085	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1365.28
27	0.6304	1053.4	1072.0	1068.2	0.973	2.186	86.809	8.675	1.147	0.072	0.105	0.019	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1346.73
28	0.6377	1063.7	1082.5	1078.6	0.836	2.451	85.313	9.871	1.328	0.069	0.101	0.018	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1352.05
Avg	0.6541	1085.0	1104.0	1100.5	0.547	3.148	81.734	12.768	1.633	0.059	0.093	0.010	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1361.70

Zone 32

Source Daily Summary

February 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	0.6862	1151.8	1172.2	1167.2	0.000	2.939	73.286	23.125	0.636	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.74	-26.50
2	0.6868	1152.5	1172.9	1168.0	0.000	2.954	73.131	23.297	0.605	0.005	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.98	-26.34
3	0.6872	1152.2	1172.6	1167.6	0.000	3.005	73.025	23.369	0.587	0.005	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.27	-26.32
4	0.6886	1154.7	1175.2	1170.3	0.000	2.985	72.798	23.563	0.641	0.005	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.87	-25.39
5	0.6910	1155.7	1176.2	1171.1	0.000	3.151	72.408	23.670	0.751	0.008	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.60	-24.07
6	0.6926	1156.5	1177.0	1172.3	0.000	3.254	72.149	23.750	0.829	0.008	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1410.89	-23.25
7	0.6892	1153.9	1174.3	1169.4	0.000	3.087	72.790	23.366	0.734	0.008	0.013	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1411.27	-24.81
8	0.6869	1151.4	1171.7	1166.8	0.000	3.026	73.140	23.189	0.632	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1410.56	-26.37
9	0.6863	1150.7	1171.0	1166.1	0.000	3.013	73.227	23.146	0.600	0.005	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1410.31	-26.77
10	0.6863	1151.4	1171.7	1166.7	0.000	2.975	73.225	23.188	0.599	0.005	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.12	-26.67
11	0.6854	1150.5	1170.9	1165.7	0.000	2.937	73.405	23.058	0.587	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.07	-27.11
12	0.6860	1151.0	1171.4	1166.2	0.000	2.962	73.303	23.118	0.604	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.06	-26.81
13	0.6860	1151.7	1172.1	1167.0	0.000	2.920	73.283	23.208	0.575	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.90	-26.81
14	0.6873	1153.1	1173.5	1168.7	0.000	2.964	73.016	23.418	0.588	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.19	-26.16
15	0.6875	1152.6	1173.0	1168.3	0.000	3.015	72.966	23.410	0.596	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.38	-26.13
16	0.6879	1153.1	1173.6	1168.7	0.000	3.016	72.928	23.411	0.631	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.66	-25.82
17	0.6873	1152.6	1173.1	1168.2	0.000	2.984	73.063	23.309	0.629	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.73	-26.09
18	0.6881	1152.9	1173.3	1168.4	0.000	3.047	72.887	23.416	0.635	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.21	-25.77
19	0.6876	1152.2	1172.6	1167.6	0.000	3.043	72.992	23.315	0.636	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1410.85	-26.03
20	0.6871	1152.0	1172.4	1167.1	0.000	3.013	73.080	23.271	0.623	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.04	-26.26
21	0.6880	1152.8	1173.2	1168.1	0.000	3.042	72.908	23.409	0.627	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.18	-25.87
22	0.6885	1153.7	1174.2	1168.7	0.000	3.036	72.814	23.489	0.647	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.78	-25.50
23	0.6885	1153.0	1173.4	1168.8	0.000	3.081	72.768	23.532	0.606	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1410.89	-25.75
24	0.6882	1152.6	1173.0	1168.2	0.000	3.074	72.826	23.493	0.594	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1410.74	-25.96
25	0.6885	1153.5	1173.9	1168.9	0.000	3.052	72.793	23.516	0.625	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.45	-25.62
26	0.6886	1153.4	1173.8	1169.0	0.000	3.068	72.772	23.515	0.631	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.24	-25.57
27	0.6882	1152.4	1172.8	1167.9	0.000	3.088	72.853	23.414	0.631	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1410.47	-25.84
28	0.6877	1152.5	1173.0	1167.8	0.000	3.035	72.968	23.345	0.639	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.12	-25.94
Avg	0.6878	1153.0	1173.1	1168.2	0.000	3.027	72.957	23.368	0.633	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.31	-25.91

Zone 33

Source Daily Summary

February 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	0.6388	1046.6	1065.2	1062.2	0.326	4.377	83.990	9.916	1.252	0.047	0.079	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1329.54
2	0.6363	1044.0	1062.5	1059.6	0.324	4.308	84.416	9.638	1.184	0.045	0.071	0.007	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1328.73
3	0.6309	1034.6	1052.9	1050.1	0.306	4.399	85.376	8.718	1.079	0.043	0.065	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1322.43
4	0.6317	1036.0	1054.3	1051.5	0.310	4.382	85.247	8.841	1.098	0.043	0.066	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1323.36
5	0.6311	1035.1	1053.4	1050.5	0.312	4.381	85.357	8.738	1.089	0.043	0.066	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1322.79
6	0.6359	1043.7	1062.2	1059.3	0.331	4.277	84.504	9.586	1.177	0.044	0.069	0.007	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1328.79
7	0.6370	1045.6	1064.1	1061.3	0.339	4.248	84.324	9.763	1.196	0.045	0.070	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1328.09
8	0.6361	1044.2	1062.7	1059.8	0.338	4.257	84.477	9.618	1.182	0.045	0.070	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1329.19
9	0.6360	1043.8	1062.2	1059.4	0.337	4.270	84.508	9.572	1.183	0.045	0.070	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1328.80
10	0.6361	1043.9	1062.4	1059.6	0.338	4.270	84.492	9.580	1.189	0.045	0.071	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1328.89
11	0.6375	1046.7	1065.2	1062.3	0.346	4.219	84.268	9.816	1.217	0.046	0.073	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1330.93
12	0.6367	1045.5	1064.0	1061.1	0.343	4.225	84.401	9.697	1.202	0.045	0.072	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1330.21
13	0.6366	1044.8	1063.3	1060.4	0.335	4.266	84.418	9.640	1.207	0.046	0.073	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1329.51
14	0.6357	1043.3	1061.7	1058.9	0.334	4.279	84.570	9.503	1.184	0.045	0.071	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1328.44
15	0.6345	1041.1	1059.5	1056.7	0.337	4.294	84.776	9.311	1.154	0.044	0.069	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1326.95
16	0.6353	1042.3	1060.8	1057.9	0.336	4.297	84.634	9.425	1.176	0.045	0.071	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1327.65
17	0.6358	1043.3	1061.8	1058.9	0.335	4.284	84.550	9.514	1.184	0.045	0.071	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1328.39
18	0.6353	1041.4	1059.9	1057.0	0.334	4.354	84.648	9.345	1.183	0.046	0.074	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1326.53
19	0.6354	1041.6	1060.0	1057.1	0.334	4.351	84.640	9.354	1.185	0.046	0.074	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1326.62
20	0.6360	1043.9	1062.4	1059.5	0.342	4.258	84.521	9.562	1.185	0.045	0.071	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1328.90
21	0.6354	1043.5	1061.9	1059.1	0.342	4.228	84.625	9.507	1.168	0.045	0.070	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1328.99
22	0.6351	1042.0	1060.4	1057.5	0.340	4.293	84.691	9.371	1.173	0.045	0.072	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1327.41
23	0.6348	1041.4	1059.9	1057.0	0.340	4.301	84.742	9.310	1.172	0.046	0.073	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1327.00
24	0.6340	1041.0	1059.4	1056.6	0.342	4.244	84.896	9.240	1.148	0.045	0.070	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1327.34
25	0.6341	1041.0	1059.4	1056.5	0.342	4.255	84.883	9.234	1.154	0.045	0.070	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1327.19
26	0.6340	1040.6	1059.0	1056.2	0.343	4.265	84.901	9.208	1.152	0.045	0.070	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1326.88
27	0.6387	1048.7	1067.2	1064.3	0.364	4.185	84.111	9.932	1.265	0.048	0.077	0.009	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1332.18
28	0.6441	1059.8	1078.6	1075.6	0.394	3.968	83.232	10.838	1.416	0.052	0.082	0.009	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1340.66
Avg	0.6357	1043.0	1061.7	1058.8	0.337	4.276	84.578	9.492	1.184	0.045	0.071	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1328.37

Zone 34

Source Daily Summary

February 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	0.6334	1040.2	1058.6	1056.0	1.059	3.151	85.182	9.910	0.653	0.017	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1327.08	-61.84
2	0.6298	1034.2	1052.5	1049.9	1.065	3.171	85.835	9.306	0.584	0.014	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1323.17	-65.12
3	0.6430	1055.9	1074.6	1071.9	1.033	3.143	83.347	11.626	0.793	0.021	0.036	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1336.92	-53.87
4	0.6487	1065.0	1083.8	1081.1	1.025	3.134	82.475	12.238	1.056	0.026	0.044	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1342.32	-50.04
5	0.6703	1099.9	1119.3	1116.5	1.063	2.985	78.257	16.458	1.142	0.032	0.058	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1363.87	-35.11
6	0.6328	1036.0	1054.3	1051.7	1.172	3.180	85.262	9.826	0.527	0.012	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1322.30	-64.02
7	0.6332	1037.9	1056.3	1053.7	1.154	3.129	85.203	9.925	0.555	0.013	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1324.34	-63.22
8	0.6313	1034.1	1052.4	1049.8	1.147	3.190	85.571	9.513	0.545	0.013	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1321.49	-64.89
9	0.6306	1034.3	1052.6	1050.0	1.124	3.144	85.703	9.445	0.549	0.013	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1322.52	-65.10
10	0.6300	1033.1	1051.4	1048.8	1.118	3.169	85.816	9.316	0.546	0.013	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1321.63	-65.69
11	0.6279	1030.4	1048.6	1046.0	1.090	3.188	86.196	8.952	0.539	0.013	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1320.25	-67.15
12	0.6285	1031.0	1049.2	1046.6	1.093	3.200	85.990	9.232	0.459	0.010	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1320.33	-68.20
13	0.6265	1027.0	1045.2	1042.6	1.121	3.213	86.473	8.662	0.499	0.012	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1317.40	-68.96
14	0.6280	1030.5	1048.8	1046.2	1.107	3.158	86.148	9.065	0.493	0.011	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1320.39	-67.56
15	0.6269	1028.4	1046.6	1044.0	1.111	3.185	86.415	8.719	0.535	0.013	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1318.75	-67.85
16	0.6263	1027.0	1045.2	1042.6	1.103	3.219	86.500	8.644	0.504	0.012	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1317.67	-68.87
17	0.6258	1026.7	1044.9	1042.3	1.086	3.220	86.601	8.533	0.526	0.013	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1317.76	-68.82
18	0.6267	1025.8	1044.0	1041.4	1.160	3.245	86.451	8.623	0.491	0.011	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1315.69	-68.96
19	0.6237	1023.4	1041.5	1038.9	1.088	3.220	86.994	8.182	0.486	0.011	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1315.73	-70.88
20	0.6247	1024.5	1042.7	1040.0	1.103	3.224	86.788	8.378	0.477	0.011	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1316.11	-70.31
21	0.6248	1025.2	1043.4	1040.7	1.097	3.196	86.804	8.366	0.504	0.012	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1316.93	-69.82
22	0.6232	1022.8	1040.9	1038.3	1.064	3.245	87.063	8.112	0.485	0.012	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1315.53	-71.22
23	0.6265	1026.9	1045.1	1042.5	1.128	3.202	86.472	8.678	0.489	0.011	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1317.39	-68.86
24	0.6276	1029.3	1047.5	1044.9	1.121	3.174	86.276	8.878	0.518	0.012	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1319.23	-67.60
25	0.6264	1027.1	1045.3	1042.7	1.144	3.166	86.522	8.625	0.510	0.012	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1317.62	-68.58
26	0.6631	1089.6	1108.9	1106.1	1.087	2.897	78.824	16.818	0.362	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1358.45	-44.55
27	0.6720	1106.2	1125.7	1122.9	1.042	2.796	76.815	19.120	0.222	0.002	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1370.10	-38.95
28	0.6781	1116.0	1135.8	1132.9	1.031	2.780	76.252	19.042	0.869	0.011	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1376.07	-32.98
Avg	0.6353	1042.0	1060.9	1058.2	1.098	3.140	84.723	10.435	0.568	0.013	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1327.75	-62.11

Zone 43

February-19

ZONE 550

MANDAN BORDER

NBPL - St Anthony

Weighted

Start Date	End Date	MCF	DK	BTU	MCF	DK	BTU Zone 28	AVG BTU	
2/1/2019	2/2/2019	1901	2053	1.0800	3235	3629	1.1201	1.105	2/1/2019
2/2/2019	2/3/2019	1804	1954	1.0831	4640	5259	1.1345	1.120	2/2/2019
2/3/2019	2/4/2019	1942	2107	1.0850	7236	8074	1.1162	1.110	2/3/2019
2/4/2019	2/5/2019	1828	1984	1.0854	7224	8003	1.1080	1.103	2/4/2019
2/5/2019	2/6/2019	1993	2163	1.0854	6971	7708	1.1058	1.101	2/5/2019
2/6/2019	2/7/2019	1806	1961	1.0854	7591	8363	1.1020	1.099	2/6/2019
2/7/2019	2/8/2019	1865	2014	1.0799	8696	9566	1.1002	1.097	2/7/2019
2/8/2019	2/9/2019	1927	2073	1.0760	7609	8322	1.0938	1.090	2/8/2019
2/9/2019	2/10/2019	1727	1867	1.0809	7067	7775	1.1002	1.096	2/9/2019
2/10/2019	2/11/2019	1993	2164	1.0857	6564	7286	1.1104	1.105	2/10/2019
2/11/2019	2/12/2019	3283	3559	1.0849	6449	7103	1.1014	1.096	2/11/2019
2/12/2019	2/13/2019	1798	1937	1.0775	6615	7385	1.1156	1.107	2/12/2019
2/13/2019	2/14/2019	1880	2029	1.0793	6213	6929	1.1159	1.107	2/13/2019
2/14/2019	2/15/2019	1772	1919	1.0831	7326	8113	1.1076	1.103	2/14/2019
2/15/2019	2/16/2019	1963	2121	1.0809	6579	7281	1.1066	1.101	2/15/2019
2/16/2019	2/17/2019	1768	1907	1.0783	5534	6069	1.0966	1.092	2/16/2019
2/17/2019	2/18/2019	1862	2010	1.0793	5742	6411	1.1163	1.107	2/17/2019
2/18/2019	2/19/2019	1924	2077	1.0797	6260	7034	1.1230	1.113	2/18/2019
2/19/2019	2/20/2019	1762	1901	1.0787	5678	6396	1.1264	1.115	2/19/2019
2/20/2019	2/21/2019	1880	2029	1.0792	4933	5569	1.1288	1.115	2/20/2019
2/21/2019	2/22/2019	1948	2115	1.0853	5138	5848	1.1361	1.122	2/21/2019
2/22/2019	2/23/2019	1835	1998	1.0884	5134	5850	1.1391	1.126	2/22/2019
2/23/2019	2/24/2019	2034	2211	1.0872	5426	6099	1.1257	1.115	2/23/2019
2/24/2019	2/25/2019	3355	3646	1.0870	7133	8003	1.1214	1.110	2/24/2019
2/25/2019	2/26/2019	2542	2762	1.0861	6472	7281	1.1250	1.114	2/25/2019
2/26/2019	2/27/2019	2006	2160	1.0765	6420	7216	1.1242	1.113	2/26/2019
2/27/2019	2/28/2019	1678	1806	1.0759	5712	6353	1.1121	1.104	2/27/2019
2/28/2019	3/1/2019	1892	2035	1.0754	4392	4867	1.1077	1.098	2/28/2019
		55,968	60,562	1.0818	173,989	193,792	1.1150	1.1066	



Alliance Pipeline
 DAILY ANALYSIS — USA
 ND07MD1 — Hankinson Sales
 February 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	1,153.876	0.6604	84.5215	9.4656	3.4851	0.3898	0.6452	0.0599	0.0445	0.0222	0.9637	0.3908	0.0117
2	1,150.533	0.6586	84.6709	9.4310	3.3989	0.3690	0.6177	0.0542	0.0402	0.0210	0.9826	0.4028	0.0118
3	1,149.976	0.6579	84.7423	9.4570	3.3304	0.3691	0.6220	0.0538	0.0391	0.0191	0.9697	0.3856	0.0119
4	1,148.068	0.6564	84.8817	9.4891	3.1900	0.3678	0.6109	0.0538	0.0404	0.0196	0.9458	0.3891	0.0118
5	1,144.791	0.6543	85.0922	9.4203	3.1401	0.3351	0.5589	0.0520	0.0389	0.0197	0.9398	0.3916	0.0114
6	1,145.400	0.6547	85.0543	9.4282	3.1441	0.3391	0.5724	0.0544	0.0402	0.0203	0.9563	0.3791	0.0117
7	1,143.970	0.6535	85.1328	9.4558	3.1143	0.3214	0.5422	0.0507	0.0371	0.0178	0.9399	0.3760	0.0118
8	1,147.887	0.6562	84.8594	9.4352	3.4030	0.3243	0.5366	0.0483	0.0359	0.0171	0.9394	0.3882	0.0125
9	1,149.903	0.6572	84.8533	9.4284	3.3312	0.3725	0.6000	0.0524	0.0384	0.0188	0.9060	0.3869	0.0121
10	1,155.792	0.6612	84.4506	9.5099	3.5258	0.4112	0.6578	0.0554	0.0419	0.0217	0.9243	0.3895	0.0119
11	1,157.164	0.6620	84.4085	9.5189	3.4922	0.4412	0.7058	0.0546	0.0419	0.0208	0.9166	0.3878	0.0117
12	1,156.058	0.6618	84.4531	9.4373	3.4539	0.4475	0.7225	0.0565	0.0425	0.0211	0.9580	0.3958	0.0118
13	1,157.705	0.6631	84.3319	9.4108	3.5472	0.4603	0.7360	0.0576	0.0430	0.0221	0.9887	0.3910	0.0113
14	1,158.953	0.6634	84.3133	9.5113	3.4333	0.4945	0.7807	0.0558	0.0420	0.0233	0.9522	0.3820	0.0117
15	1,160.947	0.6652	84.1883	9.4261	3.5373	0.5064	0.8313	0.0576	0.0426	0.0229	0.9779	0.3980	0.0116
16	1,157.489	0.6631	84.2515	9.5312	3.5421	0.4309	0.7358	0.0527	0.0387	0.0205	0.9858	0.3994	0.0112
17	1,155.618	0.6621	84.3136	9.5239	3.5224	0.4149	0.6897	0.0543	0.0403	0.0216	1.0046	0.4035	0.0113
18	1,153.341	0.6605	84.4843	9.5929	3.2431	0.4400	0.7207	0.0544	0.0398	0.0220	0.9909	0.4009	0.0111
19	1,150.446	0.6586	84.7013	9.5016	3.1588	0.4264	0.6881	0.0538	0.0416	0.0250	0.9993	0.3928	0.0112
20	1,150.891	0.6596	84.4927	9.5841	3.2669	0.4004	0.6634	0.0569	0.0406	0.0236	1.0628	0.3973	0.0113
21	1,150.323	0.6585	84.6802	9.5093	3.2506	0.4023	0.6468	0.0543	0.0390	0.0221	0.9787	0.4050	0.0117
22	1,152.534	0.6597	84.5676	9.4560	3.4574	0.3961	0.6339	0.0497	0.0370	0.0211	0.9710	0.3986	0.0116
23	1,152.921	0.6599	84.5352	9.4782	3.4984	0.3788	0.6210	0.0535	0.0392	0.0216	0.9731	0.3897	0.0112
24	1,148.049	0.6567	84.8794	9.3446	3.3903	0.3372	0.5606	0.0543	0.0400	0.0229	0.9719	0.3875	0.0114
25	1,143.641	0.6540	85.1091	9.3879	3.1393	0.3267	0.5455	0.0515	0.0375	0.0212	0.9783	0.3913	0.0118
26	1,143.306	0.6540	85.0923	9.4143	3.1318	0.3220	0.5385	0.0519	0.0373	0.0198	0.9757	0.4048	0.0118
27	1,144.361	0.6547	85.0153	9.4299	3.1775	0.3265	0.5426	0.0531	0.0383	0.0203	0.9826	0.4021	0.0117
28	1,144.820	0.6551	84.9824	9.4330	3.1760	0.3313	0.5566	0.0544	0.0399	0.0211	0.9899	0.4039	0.0115
Volume	1,151.030	0.6587	84.6806	9.4647	3.3388	0.3887	0.6387	0.0540	0.0399	0.0211	0.9687	0.3933	0.0116
Weight Avg Energy	1,151.051	0.6587	84.6794	9.4648	3.3393	0.3889	0.6390	0.0540	0.0399	0.0211	0.9687	0.3933	0.0116

2019

February-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		
2/1/2019	2/2/2019	436	525	1.2043	718	760	1.0586	1.114	2/1/2019
2/2/2019	2/3/2019	522	629	1.2043	889	936	1.0525	1.109	2/2/2019
2/3/2019	2/4/2019	674	811	1.2043	1111	1194	1.0746	1.124	2/3/2019
2/4/2019	2/5/2019	648	781	1.2043	1084	1172	1.0838	1.129	2/4/2019
2/5/2019	2/6/2019	649	782	1.2043	1041	1164	1.1193	1.152	2/5/2019
2/6/2019	2/7/2019	690	831	1.2043	1156	1218	1.0543	1.110	2/6/2019
2/7/2019	2/8/2019	775	934	1.2043	1289	1361	1.0563	1.112	2/7/2019
2/8/2019	2/9/2019	726	874	1.2043	1177	1239	1.0524	1.110	2/8/2019
2/9/2019	2/10/2019	684	824	1.2043	1110	1168	1.0526	1.110	2/9/2019
2/10/2019	2/11/2019	662	797	1.2043	1065	1120	1.0514	1.110	2/10/2019
2/11/2019	2/12/2019	675	812	1.2043	1179	1237	1.0486	1.105	2/11/2019
2/12/2019	2/13/2019	659	794	1.2043	1117	1172	1.0492	1.107	2/12/2019
2/13/2019	2/14/2019	650	783	1.2043	1161	1213	1.0452	1.102	2/13/2019
2/14/2019	2/15/2019	706	850	1.2043	1276	1338	1.0488	1.104	2/14/2019
2/15/2019	2/16/2019	666	802	1.2043	1075	1125	1.0466	1.107	2/15/2019
2/16/2019	2/17/2019	575	692	1.2043	927	969	1.0452	1.106	2/16/2019
2/17/2019	2/18/2019	576	693	1.2043	1079	1127	1.0449	1.100	2/17/2019
2/18/2019	2/19/2019	629	757	1.2043	1185	1237	1.0440	1.100	2/18/2019
2/19/2019	2/20/2019	585	705	1.2043	1101	1147	1.0415	1.098	2/19/2019
2/20/2019	2/21/2019	564	679	1.2043	923	962	1.0427	1.104	2/20/2019
2/21/2019	2/22/2019	611	736	1.2043	1175	1226	1.0434	1.098	2/21/2019
2/22/2019	2/23/2019	586	706	1.2043	1126	1172	1.0409	1.097	2/22/2019
2/23/2019	2/24/2019	625	753	1.2043	1146	1198	1.0451	1.101	2/23/2019
2/24/2019	2/25/2019	690	831	1.2043	1357	1422	1.0475	1.100	2/24/2019
2/25/2019	2/26/2019	665	800	1.2043	1219	1274	1.0453	1.101	2/25/2019
2/26/2019	2/27/2019	666	802	1.2043	1195	1324	1.1089	1.143	2/26/2019
2/27/2019	2/28/2019	628	757	1.2043	1027	1156	1.1257	1.156	2/27/2019
2/28/2019	3/1/2019	526	633	1.2043	841	954	1.1358	1.162	2/28/2019
		17,748	21,373		30,749	32,585	1.0609	1.1133	

ROW ID	LOCATION DESCRIPTION	GROSS HEATING VALUE (BTU/C/F)	SPECIFIC GRAVITY	WOBBE (cal/c)	CRICONDENTHERM (deg F)	NITROGEN (mole percent)	CARBON DIOXIDE (mole percent)	METHANE (mole percent)	ETHANE (mole percent)	PROPANE (mole percent)	NORMAL BUTANE (mole percent)	ISO BUTANE (mole percent)	PENTANE (mole percent)	ISO PENTANE (mole percent)	NEO PENTANE (mole percent)	HEXANES PLUS (mole percent)	HYDROGEN (mole percent)	HELIUM (mole percent)	PRODUCTION DATE	POSTING DATE	Changetimestamp	NOTES
11587	GLEN ULLIN	1081.6	0.6281	1364.7	-60	1.612	0.8354	85.9841	10.837	0.5872	0.0206	0.0121	0.001	0.0008	0	0	0.0931	0.0182	1/31/2019	2/1/2019	2/1/2019 3:57:17 PM	
11587	GLEN ULLIN	1080.9	0.6278	1364.2	-58.9	1.6107	0.843	86.1547	10.5898	0.6363	0.0341	0.0183	0.0021	0.0021	0	0.0005	0.091	0.0183	2/1/2019	2/2/2019	2/2/2019 3:58:47 PM	
11587	GLEN ULLIN	1083.8	0.6306	1364.8	-57.4	1.7016	0.8436	85.5825	11.0335	0.6689	0.0327	0.0181	0.0019	0.0019	0	0	0.097	0.019	2/2/2019	2/3/2019	2/3/2019 3:56:18 PM	
11587	GLEN ULLIN	1083.8	0.6306	1364.8	-57.4	1.7016	0.8436	85.5825	11.0335	0.6689	0.0327	0.0181	0.0019	0.0019	0	0	0.097	0.019	2/2/2019	2/4/2019	2/4/2019 4:12:23 PM	
11587	GLEN ULLIN	1083.8	0.6306	1364.8	-57.4	1.7016	0.8436	85.5825	11.0335	0.6689	0.0327	0.0181	0.0019	0.0019	0	0	0.097	0.019	2/2/2019	2/5/2019	2/5/2019 3:59:33 PM	
11587	GLEN ULLIN	1083.8	0.6306	1364.8	-57.4	1.7016	0.8436	85.5825	11.0335	0.6689	0.0327	0.0181	0.0019	0.0019	0	0	0.097	0.019	2/2/2019	2/6/2019	2/6/2019 4:07:46 PM	
11587	GLEN ULLIN	1084.9	0.6324	1364.2	-57.3	1.7831	0.8618	84.8973	11.6346	0.5782	0.0218	0.0127	0.0009	0.0009	0	0	0.1906	0.0197	2/6/2019	2/7/2019	2/7/2019 4:04:06 PM	
11587	GLEN ULLIN	1077.3	0.6258	1361.8	-62.3	1.615	0.8601	86.4478	10.4378	0.523	0.0184	0.0108	0.0007	0.0007	0	0	0.0676	0.0194	2/7/2019	2/8/2019	2/8/2019 3:57:00 PM	
11587	GLEN ULLIN	1075.8	0.6239	1362	-62	1.5049	0.8752	86.8562	10.0342	0.551	0.0286	0.0179	0.0017	0.0022	0	0.0007	0.11	0.0183	2/8/2019	2/9/2019	2/9/2019 3:53:48 PM	
11587	GLEN ULLIN	1083.1	0.6311	1363.4	-56.5	1.7227	0.8933	85.3199	11.1581	0.6401	0.0353	0.0205	0.002	0.0024	0	0.0011	0.1859	0.0193	2/9/2019	2/10/2019	2/10/2019 3:57:03 PM	
11587	GLEN ULLIN	1085.2	0.6327	1364.3	-56.5	1.7382	0.8999	84.9657	11.5664	0.5921	0.0288	0.0171	0.0017	0.002	0	0.0003	0.1688	0.0195	2/10/2019	2/11/2019	2/11/2019 4:02:26 PM	
11587	GLEN ULLIN	1083.2	0.6311	1363.5	-57.2	1.7012	0.9004	85.3626	11.226	0.5947	0.0297	0.0171	0.0018	0.0021	0	0.001	0.1452	0.0192	2/11/2019	2/12/2019	2/12/2019 4:07:52 PM	
11587	GLEN ULLIN	1076.6	0.6252	1361.6	-61.6	1.5925	0.8651	86.6088	10.2446	0.5461	0.0263	0.0152	0.0016	0.0016	0	0.0008	0.0803	0.0189	2/12/2019	2/13/2019	2/13/2019 4:28:09 PM	
11587	GLEN ULLIN	1081.9	0.6293	1363.8	-58.5	1.6631	0.8638	85.8236	10.9584	0.5612	0.0282	0.0175	0.0019	0.0022	0	0.0012	0.0612	0.0192	2/13/2019	2/14/2019	2/14/2019 4:11:56 PM	
11587	GLEN ULLIN	1083.4	0.6302	1364.8	-57.3	1.6488	0.8703	85.5528	11.1113	0.6031	0.0318	0.0193	0.0021	0.0025	0	0.001	0.1392	0.0186	2/14/2019	2/15/2019	2/15/2019 4:02:40 PM	
11587	GLEN ULLIN	1079.6	0.6276	1362.8	-60.7	1.6457	0.8641	85.9343	10.839	0.519	0.022	0.013	0.0008	0.0013	0	0	0.1436	0.0185	2/15/2019	2/16/2019	2/16/2019 3:59:53 PM	
11587	GLEN ULLIN	1079	0.6267	1363	-60.4	1.596	0.8642	86.1677	10.6143	0.5423	0.0265	0.0167	0.0017	0.0021	0	0.0007	0.1503	0.0181	2/16/2019	2/17/2019	2/17/2019 3:59:47 PM	
11587	GLEN ULLIN	1079.4	0.6271	1363	-59.8	1.6011	0.8722	86.1119	10.6231	0.5694	0.0269	0.0178	0.0018	0.0024	0	0.0008	0.1549	0.0179	2/17/2019	2/18/2019	2/18/2019 3:58:02 PM	
11587	GLEN ULLIN	1079.8	0.6277	1362.9	-59.6	1.6309	0.8698	85.9216	10.7456	0.578	0.0259	0.0161	0.0016	0.002	0	0.0004	0.1905	0.018	2/18/2019	2/19/2019	2/19/2019 4:05:44 PM	
11587	GLEN ULLIN	1078.7	0.6261	1363.2	-60.2	1.5606	0.8677	86.2719	10.4469	0.6021	0.0264	0.0162	0.0015	0.0019	0	0.0005	0.1874	0.0176	2/19/2019	2/20/2019	2/20/2019 4:21:12 PM	
11587	GLEN ULLIN	1084.1	0.6302	1365.6	-57.1	1.6073	0.8682	85.6907	11.0416	0.6249	0.0316	0.021	0.0023	0.0031	0	0.001	0.09	0.0183	2/20/2019	2/21/2019	2/21/2019 4:08:41 PM	
11587	GLEN ULLIN	1088.8	0.6338	1367.7	-54	1.6711	0.8602	85.1933	11.4817	0.694	0.0376	0.0258	0.0028	0.004	0	0.0015	0.0087	0.0193	2/21/2019	2/22/2019	2/22/2019 4:08:24 PM	
11587	GLEN ULLIN	1090.8	0.637	1366.8	-54	1.8378	0.8704	84.3783	12.2104	0.6248	0.0267	0.016	0.0016	0.0015	0	0.0011	0.0134	0.0205	2/22/2019	2/23/2019	2/23/2019 4:01:49 PM	
11587	GLEN ULLIN	1086.5	0.6344	1364.1	-56.3	1.902	0.8463	84.5246	11.9276	0.5878	0.0221	0.0127	0.001	0.001	0	0	0.156	0.0203	2/23/2019	2/24/2019	2/24/2019 4:04:38 PM	
11587	GLEN ULLIN	1088.5	0.6356	1365.3	-54.7	1.8899	0.8521	84.3689	12.0772	0.62	0.0237	0.0142	0.0018	0.0017	0	0.0011	0.1322	0.0204	2/24/2019	2/25/2019	2/25/2019 3:42:27 PM	
11587	GLEN ULLIN	1082.8	0.631	1363.1	-57.5	1.7774	0.862	85.3024	11.1921	0.6299	0.0292	0.0164	0.0015	0.0016	0	0.0002	0.1691	0.0194	2/25/2019	2/26/2019	2/26/2019 4:06:48 PM	
11587	GLEN ULLIN	1077.2	0.6266	1360.8	-60.9	1.7124	0.8563	86.111	10.5501	0.5458	0.0247	0.0139	0.0014	0.0014	0	0.0005	0.1647	0.0193	2/26/2019	2/27/2019	2/27/2019 4:12:09 PM	
11587	GLEN ULLIN	1076.1	0.6264	1359.7	-61.5	1.7328	0.8706	86.1193	10.5567	0.511	0.0182	0.011	0.0014	0.0015	0	0.0009	0.1604	0.0192	2/27/2019	2/28/2019	2/28/2019 4:09:07 PM	
11587	GLEN ULLIN	1076.4	0.6263	1360.2	-61.2	1.6956	0.8752	86.1915	10.5057	0.5261	0.0201	0.0122	0.0018	0.002	0	0.0009	0.1529	0.0194	2/28/2019	3/1/2019	3/1/2019 4:06:08 PM	

29 record(s) retrieved

Zone 402

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

MONTANA DAKOTA UTILITIES CO
NORTH DAKOTA
HEATING VALUE DATA

STATE	ZONE	ZONE BOUNDARY	12 MONTH AVERAGE	FEB 19	JAN 19	DEC 18	NOV 18	OCT 18	SEPT 18	AUG 18	JULY 18	JUNE 18	MAY 18	APRIL 18	MARCH 18	ZONE
MT/ND	211	Sidney Border - MonDak Tfr - Sidney Plt	1198	1207	1202	1200	1207	1202	1191	1203	1202	1171	1193	1191	1211	211
ND	24	Williston Border - Charbonneau Station	1149	1162	1163	1164	1163	1140	1152	1136	1158	1141	1135	1136	1140	24
ND	25	Watford City West Border	1196	1204	1191	1196	1199	1199	1200	1197	1204	1202	1192	1185	1179	25
ND	28	Bismarck Station - Glen Ullin Station	1147	1115	1141	1120	1112	1153	1173	1162	1153	1173	1172	1163	1121	28
ND	31	Dickinson Brd - Belfield Trf - G Ullin Stn	1134	1116	1139	1132	1110	1134	1144	1132	1147	1139	1158	1134	1122	31
ND/MT	32	Cabin Creek Station - Belfied Transfer	1112	1104	1128	1093	1068	1110	1106	1133	1136	1127	1113	1116	1104	32
ND	33	Little Knife Plant	1174	1173	1172	1173	1174	1172	1172	1176	1175	1174	1176	1175	1175	33
ND	34	Badlands Plant/Bowman Border	1020	1062	1048	1042	1073	1063	1018	979	983	984	996	996	996	34
ND	43	Spring Creek I - Sax Valve I	1123	1061	1044	1051	1062	1144	1158	1172	1152	1155	1160	1164	1158	43
ND/MT	241	Fairview Border	1184	1204	1173	1181	1193	1175	1186	1195	1196	1180	1168	1151	1205	241
ND	260	North Tioga Transfer - Nesson Plant	1077	1109	1113	1104	1095	1102	1120	1101	1127	1089	989	989	987	260
ND	261	Tioga Comp Station - Robinson Lake Plant	1177	1184	1180	1173	1177	1183	1181	1175	1177	1178	1169	1176	1173	261
ND	262	Minot Bdr - Palermo Bdr - Bismarck Stn	1179	1182	1183	1182	1182	1179	1175	1160	1156	1175	1180	1198	1199	262
ND	263	Lignite Plant	1137	1146	1149	1146	1127	1140	1146	1162	1135	1115	1128	1135	1115	263
ND	264	Epping Border	1140	1148	1149	1147	1153	1139	1135	1135	1148	1148	1129	1128	1118	264
ND	265	Tioga Comp Station - County Line Plant	1178	1184	1179	1173	1177	1183	1182	1178	1176	1178	1175	1176	1173	265
ND	266	County Line Plant	1179	1170	1177	1179	1180	1181	1180	1178	1181	1181	1180	1181	1182	266
ND	271	Bismarck Station - Cleveland Station	1175	1168	1176	1180	1180	1178	1173	1162	1153	1173	1173	1194	1187	271
ND	272	Cleveland Station - Mapleton	1174	1167	1176	1180	1179	1177	1173	1160	1154	1173	1172	1194	1187	272
ND	273	Cleveland Station - Grafton Border	1174	1167	1176	1180	1179	1177	1173	1161	1153	1173	1171	1192	1187	273
ND	550	Mandan Border / NBPL-St Anthony	1140	1107	1121	1106	1102	1145	1173	1162	1150	1173	1172	1163	1100	550
ND	610	MDU-Watford City BTU	1151	1113	1101	1109	1131	1180	1181	1175	1152	1156	1164	1174	1170	610
ND	802	NBPL - Linton	1087	1083	1083	1084	1086	1092	1097	1092	1101	1097	1083	1074	1069	802
ND	903	Hettinger Propane	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	903
ND	600	Alliance Pipeline - Hankinson	1154	1151	1155	1153	1155	1155	1160	1159	1159	1153	1148	1152	1153	600

**THERMAL ZONE VARIANCE
DOCUMENTATION**

February 2019

<i>ZONE</i>	<i>BTU VARIANCE</i>	<i>REASON</i>
28	-26	Source of Gas
31	-23	Source of Gas
32	-24	Source of Gas
241	31	Source of Gas