



UTILITIES CO.

A Subsidiary of MDU Resources Group, Inc.

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

August 15, 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 – June 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 July 2019.
2. Attachment B consists of copies of the monthly Heating Value Test Reports received from our suppliers for the month of June 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 June 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 blue ink that reads 'Tamie Aberle'.

Tamie Aberle
Director of Regulatory Affairs

Montana-Dakota Utilities Co.
Therm Billing Factors - North Dakota
Jul-19

Town	Heat Zone	Therm Factor
MDU-303-ALEXANDER	025	1.1221
MDU-308-ARNEGARD	025	1.1221
MDU-314-APPLE VALLEY	271	1.1443
MDU-318-BEACH	032	1.0517
MDU-319-BELFIELD	032	1.0594
MDU-323-BERTHOLD	262	1.1192
MDU-324-BEULAH	032	1.0594
MDU-327-BISMARCK	028	1.1286
MDU-330-BOWMAN	034	0.8981
MDU-337-BURLINGTON	262	1.1434
MDU-343-CARRINGTON	273	1.1434
MDU-344-CLEVELAND	272	1.1353
MDU-364-CAVALIER	273	1.1375
MDU-365-DAWSON	271	1.1363
MDU-368-DES LACS	262	1.1273
MDU-369-DICKINSON	031	1.0924
MDU-374-FT TOTTEN	273	1.1514
MDU-375-DEVILS LAKE	273	1.1514
MDU-379-BARLOW	273	1.1434
MDU-384-EPPING	264	1.0796
MDU-387-ELDRIDGE	272	1.1434
MDU-407-GLADSTONE	031	1.0924
MDU-411-GLEN ULLIN	031	1.1003
MDU-413-GOLVA	032	1.0362
MDU-416-GARRISON	262	1.1273
MDU-417-GRAFTON	273	1.1755
MDU-429-HEBRON	031	1.1003
MDU-432-HETTINGER	903	2.3875
MDU-449-JAMESTOWN	272	1.1512
MDU-459-KILLDEER	033	1.1079
MDU-463-LANGDON	273	1.1434
MDU-469-LEFOR	031	1.0924
MDU-474-LIGNITE	263	1.0959
MDU-475-LINTON	802	1.0623
MDU-478-LINCOLN	028	1.1366
MDU-488-MCKENZIE	271	1.1443
MDU-494-MEDINA	271	1.1363
MDU-498-MANDAN	028	1.1366
MDU-500-MARMARTH	034	0.9047
MDU-505-MINOT	262	1.1434
MDU-510-MOTT	031	1.0924
MDU-512-MAX	262	1.1381
MDU-522-NEW ENGLAND	031	1.0845
MDU-524-NEW SALEM	028	1.1126
MDU-532-NEW ROCKFORD	273	1.1434
MDU-539-PARK RIVER	273	1.1675
MDU-540-PALERMO	262	1.1192
MDU-558-RAY	264	1.0796
MDU-561-REGENT	031	1.0924

MDU-563-RHAME	034	0.8914
MDU-564-RICHARDTON	031	1.0845
MDU-568-ROSS	261	1.0915
MDU-572-RUTHVILLE	262	1.1434
MDU-574-SANBORN	272	1.1514
MDU-583-SENTINEL BUTTE	032	1.0516
MDU-588-SOUTH HEART	031	1.0845
MDU-717-SPIRITWOOD	272	1.1514
MDU-590-SPRINGBROOK	264	1.0796
MDU-591-STANLEY	261	1.1073
MDU-593-STEELE	271	1.1363
MDU-594-STERLING	028	1.1366
MDU-598-SHEYENNE	273	1.1514
MDU-605-SURREY	262	1.1434
MDU-610-TAPPEN	271	1.1363
MDU-611-TAYLOR	031	1.0845
MDU-616-TIOGA	260	1.0484
MDU-619-TURTLE LAKE	262	1.1273
MDU-620-TRENTON	024	1.1016
MDU-624-UNDERWOOD	262	1.1273
MDU-625-VALLEY CITY	272	1.1595
MDU-629-WALHALLA	273	1.1675
MDU-632-WATFORD CITY	610	1.1107
MDU-636-WHEELOCK	264	1.0718
MDU-637-WHITE EARTH	261	1.0994
MDU-642-WILLISTON	024	1.1016
MDU-646-WASHBURN	262	1.1353
MDU-647-WILTON	262	1.1192
MDU-664-RIVERDALE	262	1.1463
MDU-691-FAIRVIEW	241	1.1435
MDU-712-MINOT AFB	262	1.1434
MDU-718-FAIRMOUNT	600	1.1494
MDU-732-NEKOMA	273	1.1434
MDU-732-MSR SITE	273	1.1434

Source Daily Summary

June 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	0.7093	1184.7	1205.7	1202.1	0.088	2.957	71.120	22.794	2.948	0.040	0.051	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1428.17	
2	0.7363	1187.0	1208.0	1204.1	1.245	3.588	67.890	23.387	3.463	0.141	0.258	0.015	0.012	0.000	0.000	0.000	0.000	0.000	1404.48	
3	0.7178	1181.2	1202.1	1198.3	0.568	3.241	70.053	23.005	2.919	0.075	0.127	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1415.64	
4	0.7085	1179.6	1200.5	1196.5	0.092	3.191	70.845	23.221	2.582	0.030	0.038	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1422.84	
5	0.7048	1175.8	1196.6	1192.9	0.100	3.059	71.509	22.797	2.470	0.028	0.035	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1422.02	
6	0.7095	1182.1	1203.0	1199.1	0.120	3.084	70.892	23.084	2.733	0.036	0.047	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1424.85	
7	0.7061	1178.1	1199.0	1195.4	0.105	3.029	71.293	23.012	2.491	0.029	0.039	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1423.56	
8	0.7317	1188.7	1209.7	1206.1	0.986	3.452	68.314	23.515	3.404	0.110	0.198	0.011	0.009	0.000	0.000	0.000	0.000	0.000	1411.04	
9	0.7421	1192.5	1213.6	1209.8	1.353	3.630	67.119	23.728	3.716	0.149	0.276	0.016	0.012	0.000	0.000	0.000	0.000	0.000	1405.42	
10	0.7440	1195.4	1216.6	1212.8	1.352	3.630	67.038	23.579	3.878	0.171	0.319	0.019	0.015	0.000	0.000	0.000	0.000	0.000	1407.08	
11	0.7436	1195.1	1216.2	1212.5	1.354	3.611	67.010	23.734	3.765	0.171	0.319	0.019	0.015	0.000	0.000	0.000	0.000	0.000	1407.03	
12	0.7403	1189.0	1210.0	1206.2	1.361	3.662	67.558	23.177	3.788	0.150	0.275	0.016	0.013	0.000	0.000	0.000	0.000	0.000	1403.01	
13	0.7421	1192.0	1213.1	1209.1	1.362	3.643	67.142	23.686	3.698	0.153	0.285	0.018	0.014	0.000	0.000	0.000	0.000	0.000	1404.91	
14	0.7381	1185.2	1206.2	1202.1	1.370	3.679	67.788	23.167	3.521	0.155	0.288	0.018	0.014	0.000	0.000	0.000	0.000	0.000	1400.53	
15	0.7379	1185.2	1206.2	1202.2	1.366	3.667	67.595	23.575	3.353	0.145	0.270	0.016	0.013	0.000	0.000	0.000	0.000	0.000	1400.74	
16	0.7357	1181.2	1202.2	1198.3	1.368	3.700	67.984	23.198	3.310	0.145	0.266	0.016	0.013	0.000	0.000	0.000	0.000	0.000	1398.12	
17	0.7370	1183.7	1204.6	1200.8	1.369	3.670	67.810	23.341	3.353	0.150	0.279	0.016	0.013	0.000	0.000	0.000	0.000	0.000	1399.80	
18	0.7377	1185.3	1206.3	1202.4	1.366	3.640	67.756	23.357	3.404	0.155	0.290	0.017	0.014	0.000	0.000	0.000	0.000	0.000	1401.07	
19	0.7382	1186.4	1207.4	1203.5	1.364	3.626	67.653	23.449	3.461	0.145	0.272	0.016	0.013	0.000	0.000	0.000	0.000	0.000	1401.84	
20	0.7423	1193.3	1214.4	1210.4	1.351	3.603	67.305	23.336	3.973	0.141	0.262	0.015	0.013	0.000	0.000	0.000	0.000	0.000	1406.09	
21	0.7357	1182.3	1203.2	1199.4	1.368	3.634	67.891	23.447	3.238	0.138	0.257	0.015	0.012	0.000	0.000	0.000	0.000	0.000	1399.43	
22	0.7368	1184.0	1205.0	1201.1	1.362	3.642	67.621	23.750	3.208	0.137	0.253	0.015	0.012	0.000	0.000	0.000	0.000	0.000	1400.41	
23	0.7388	1186.8	1207.8	1203.9	1.362	3.661	67.411	23.767	3.354	0.145	0.270	0.016	0.013	0.000	0.000	0.000	0.000	0.000	1401.76	
24	0.7411	1190.5	1211.6	1207.8	1.354	3.659	67.245	23.701	3.530	0.163	0.311	0.020	0.016	0.000	0.000	0.000	0.000	0.000	1404.02	
25	0.7393	1187.6	1208.6	1204.7	1.355	3.671	67.523	23.469	3.486	0.160	0.302	0.019	0.015	0.000	0.000	0.000	0.000	0.000	1402.24	
26	0.7426	1193.1	1214.2	1210.1	1.355	3.640	67.229	23.470	3.778	0.170	0.321	0.020	0.016	0.000	0.000	0.000	0.000	0.000	1405.59	
27	0.7395	1187.9	1208.9	1204.9	1.356	3.664	67.745	23.027	3.682	0.169	0.319	0.020	0.017	0.000	0.000	0.000	0.000	0.000	1402.44	
28	0.7393	1188.0	1209.0	1205.0	1.351	3.645	67.534	23.478	3.507	0.156	0.294	0.018	0.015	0.000	0.000	0.000	0.000	0.000	1402.81	
29	0.7409	1190.4	1211.5	1207.5	1.345	3.665	67.185	23.804	3.522	0.155	0.291	0.018	0.014	0.000	0.000	0.000	0.000	0.000	1404.06	
30	0.7394	1187.6	1208.6	1204.6	1.353	3.678	67.404	23.664	3.434	0.151	0.284	0.017	0.014	0.000	0.000	0.000	0.000	0.000	1402.21	
Avg	0.7332	1187.0	1207.7	1203.8	1.107	3.531	68.215	23.391	3.366	0.129	0.237	0.014	0.011	0.000	0.000	0.000	0.000	0.000	1407.11	

Zone 211

Source Daily Summary

June 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	0.6873	1133.0	1153.1	1149.6	0.740	3.039	75.910	17.833	2.219	0.074	0.158	0.012	0.014	0.000	0.000	0.000	0.000	0.000	1387.56	
2	0.6883	1135.0	1155.1	1151.6	0.757	2.983	75.880	17.779	2.319	0.081	0.171	0.013	0.016	0.000	0.000	0.000	0.000	0.000	1389.02	
3	0.6881	1133.5	1153.6	1150.1	0.749	3.065	75.978	17.529	2.394	0.083	0.174	0.013	0.015	0.000	0.000	0.000	0.000	0.000	1387.45	
4	0.6866	1131.4	1151.4	1148.0	0.754	3.045	76.228	17.359	2.331	0.082	0.173	0.013	0.015	0.000	0.000	0.000	0.000	0.000	1386.36	
5	0.6907	1134.7	1154.8	1151.3	0.757	3.226	75.544	17.684	2.496	0.084	0.180	0.013	0.015	0.000	0.000	0.000	0.000	0.000	1386.27	
6	0.6895	1136.8	1156.9	1153.3	0.779	2.953	75.779	17.789	2.403	0.086	0.182	0.014	0.017	0.000	0.000	0.000	0.000	0.000	1390.01	
7	0.6871	1135.4	1155.5	1152.0	0.768	2.829	76.144	17.674	2.301	0.082	0.173	0.013	0.015	0.000	0.000	0.000	0.000	0.000	1390.72	
8	0.6867	1135.1	1155.2	1151.7	0.775	2.807	76.159	17.745	2.235	0.080	0.170	0.013	0.016	0.000	0.000	0.000	0.000	0.000	1390.65	
9	0.6854	1132.7	1152.8	1149.4	0.764	2.839	76.357	17.566	2.204	0.077	0.164	0.013	0.015	0.000	0.000	0.000	0.000	0.000	1389.16	
10	0.6836	1129.3	1149.3	1146.0	0.776	2.856	76.494	17.577	2.080	0.066	0.132	0.009	0.011	0.000	0.000	0.000	0.000	0.000	1386.94	
11	0.6832	1130.0	1150.0	1146.7	0.759	2.810	76.654	17.383	2.167	0.070	0.137	0.009	0.010	0.000	0.000	0.000	0.000	0.000	1388.08	
12	0.6852	1131.7	1151.8	1148.4	0.757	2.888	76.383	17.465	2.261	0.075	0.150	0.010	0.012	0.000	0.000	0.000	0.000	0.000	1388.26	
13	0.6906	1136.1	1156.2	1152.7	0.775	3.109	75.656	17.595	2.568	0.089	0.183	0.012	0.013	0.000	0.000	0.000	0.000	0.000	1388.03	
14	0.6845	1130.1	1150.1	1146.7	0.750	2.936	76.473	17.357	2.243	0.073	0.146	0.010	0.011	0.000	0.000	0.000	0.000	0.000	1386.93	
15	0.6835	1128.2	1148.2	1144.9	0.747	2.965	76.502	17.429	2.140	0.067	0.132	0.008	0.009	0.000	0.000	0.000	0.000	0.000	1385.63	
16	0.6844	1129.8	1149.8	1146.5	0.755	2.940	76.346	17.598	2.141	0.068	0.134	0.009	0.010	0.000	0.000	0.000	0.000	0.000	1386.66	
17	0.6825	1128.1	1148.1	1144.7	0.755	2.867	76.676	17.407	2.076	0.066	0.132	0.009	0.010	0.000	0.000	0.000	0.000	0.000	1386.46	
18	0.6813	1127.4	1147.3	1143.9	0.759	2.794	76.920	17.252	2.050	0.068	0.136	0.009	0.011	0.000	0.000	0.000	0.000	0.000	1386.78	
19	0.6824	1127.1	1147.1	1143.7	0.774	2.882	76.822	17.155	2.123	0.072	0.148	0.011	0.012	0.000	0.000	0.000	0.000	0.000	1385.42	
20	0.6854	1132.0	1152.1	1148.7	0.794	2.840	76.264	17.707	2.146	0.074	0.152	0.011	0.012	0.000	0.000	0.000	0.000	0.000	1388.34	
21	0.6834	1129.1	1149.1	1145.8	0.784	2.844	76.578	17.482	2.070	0.072	0.146	0.011	0.012	0.000	0.000	0.000	0.000	0.000	1386.79	
22	0.6844	1129.7	1149.7	1146.2	0.788	2.899	76.423	17.540	2.108	0.070	0.146	0.011	0.014	0.000	0.000	0.000	0.000	0.000	1386.38	
23	0.6854	1131.0	1151.0	1147.4	0.789	2.911	76.213	17.746	2.100	0.069	0.145	0.012	0.015	0.000	0.000	0.000	0.000	0.000	1386.98	
24	0.6861	1131.3	1151.3	1147.8	0.794	2.947	76.085	17.808	2.132	0.068	0.142	0.011	0.013	0.000	0.000	0.000	0.000	0.000	1386.73	
25	0.6864	1132.9	1153.0	1149.3	0.800	2.868	76.060	17.912	2.111	0.070	0.150	0.012	0.015	0.000	0.000	0.000	0.000	0.000	1388.33	
26	0.6864	1133.8	1153.8	1150.2	0.797	2.823	76.066	17.938	2.130	0.070	0.148	0.012	0.015	0.000	0.000	0.000	0.000	0.000	1389.39	
27	0.6878	1135.8	1155.9	1152.3	0.829	2.781	75.805	18.209	2.140	0.069	0.143	0.011	0.014	0.000	0.000	0.000	0.000	0.000	1390.50	
28	0.6874	1133.1	1153.2	1149.6	0.884	2.822	75.900	18.048	2.107	0.068	0.145	0.011	0.014	0.000	0.000	0.000	0.000	0.000	1387.67	
29	0.6853	1130.9	1151.0	1147.4	0.834	2.837	76.232	17.788	2.076	0.066	0.141	0.011	0.014	0.000	0.000	0.000	0.000	0.000	1387.05	
30	0.6865	1133.3	1153.3	1149.8	0.814	2.840	75.996	18.007	2.111	0.067	0.142	0.011	0.013	0.000	0.000	0.000	0.000	0.000	1388.71	
Avg	0.6858	1132.0	1152.0	1148.5	0.778	2.908	76.218	17.645	2.199	0.074	0.153	0.011	0.013	0.000	0.000	0.000	0.000	0.000	1387.78	

Zone 24

Gas Composition and Properties

Effective June 1, 2019

Source #: 0602160
Name: FAIRVIEW BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	1.3136		2.7280
Nitrogen, N2	3.7628		4.9740
Methane, C1	68.4694		51.8324
Ethane, C2	22.5105	6.0253	31.9402
Propane, C3	3.4928	0.9631	7.2678
iso-Butane, iC4	0.1437	0.0471	0.3941
n-Butane, nC4	0.2766	0.0873	0.7586
iso-Pentane, iC5	0.0166	0.0061	0.0565
n-Pentane, nC5	0.0130	0.0047	0.0443
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0010	0.0004	0.0041
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	-16.912	
Cricondentherm	4.927	
HV, Dry @ Base P, T	1199.58	
HV, Sat @ Base P, T	1178.70	
HV, Sat @ Sample P, T	1199.58	
Relative Density	0.7339	

C6+: 100

Totals 100.0000 7.1330 100.0000

Sample

Date: 06/01/2019 Pressure: 360.0
 Type: Temperature:
 Tech: Kevin Moos H2O: lbs/mm
 H2S: ppm

Remarks:

Analysis

Date: 06/01/2019 Instrument:
 Cylinder: 341
 Tech: Kevin Moos

Remarks:

Zone 241

Gas Composition and Properties

Effective June 1, 2019

Source #: 0602225
Name: WATFORD CITY WEST BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	1.2115		2.5230
Nitrogen, N2	3.7716		4.9996
Methane, C1	70.0998		53.2152
Ethane, C2	20.1091	5.3823	28.6127
Propane, C3	3.9885	1.0997	8.3225
iso-Butane, iC4	0.2217	0.0726	0.6098
n-Butane, nC4	0.4962	0.1566	1.3647
iso-Pentane, iC5	0.0454	0.0166	0.1550
n-Pentane, nC5	0.0478	0.0173	0.1632
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0084	0.0035	0.0343
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	-3.315	
Cricondentherm	12.521	
HV, Dry @ Base P, T	1198.58	
HV, Sat @ Base P, T	1177.72	
HV, Sat @ Sample P, T	1198.58	
Relative Density	0.7318	

C6+: 100

Totals	100.0000	6.7490	100.0000
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Sample

Date: 06/01/2019 Pressure: 380.0
 Type: Temperature:
 Tech: Kevin Moos H2O: lbs/mm
 H2S: ppm

Remarks:

Analysis

Date: 06/01/2019 Instrument:
 Cylinder: 356
 Tech: Kevin Moos

Remarks:

Zone 25

Source Daily Summary

June 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	0.6705	1100.4	1119.9		0.584	3.684	78.519	15.197	1.831	0.057	0.113	0.007	0.007	0.000					1364.54	
2	0.6688	1096.7	1116.2		0.569	3.771	78.927	14.645	1.889	0.059	0.119	0.009	0.010	0.001					1361.71	
3	0.6708	1098.6	1118.1		0.566	3.853	78.670	14.651	2.053	0.065	0.127	0.007	0.008	0.000					1361.96	
4	0.6651	1090.3	1109.6		0.552	3.850	79.653	13.856	1.879	0.062	0.127	0.009	0.010	0.001					1357.34	
5	0.6767	1105.7	1125.3		0.611	3.900	77.748	15.262	2.252	0.071	0.140	0.008	0.008	0.000					1364.84	
6	0.6710	1101.4	1120.9		0.591	3.663	78.660	14.870	1.997	0.066	0.132	0.009	0.010	0.001					1365.18	
7	0.6634	1091.7	1111.1		0.540	3.616	79.780	14.182	1.711	0.054	0.104	0.006	0.007	0.000					1360.96	
8	0.6611	1088.5	1107.8		0.552	3.581	80.001	14.231	1.486	0.045	0.089	0.006	0.007	0.001					1359.29	
9	0.6651	1094.9	1114.3		0.563	3.551	79.406	14.661	1.642	0.053	0.106	0.008	0.008	0.001					1363.14	
10	0.6710	1100.9	1120.4		0.630	3.640	78.402	15.368	1.777	0.056	0.112	0.008	0.009	0.001					1364.58	
11	0.6649	1093.2	1112.6		0.559	3.635	79.444	14.522	1.679	0.051	0.098	0.006	0.006	0.000					1361.33	
12	0.6726	1101.8	1121.3		0.600	3.776	78.345	15.043	2.015	0.067	0.134	0.009	0.010	0.001					1364.05	
13	0.6814	1109.9	1129.5		0.638	4.055	77.069	15.522	2.437	0.082	0.173	0.011	0.012	0.001					1365.13	
14	0.6717	1101.1	1120.6		0.578	3.764	78.527	14.880	2.032	0.068	0.133	0.008	0.009	0.001					1364.16	
15	0.6723	1101.3	1120.8		0.585	3.804	78.344	15.059	1.996	0.065	0.129	0.008	0.009	0.001					1363.72	
16	0.6722	1101.6	1121.1		0.584	3.780	78.335	15.110	1.989	0.064	0.124	0.007	0.008	0.000					1364.19	
17	0.6669	1095.3	1114.7		0.573	3.682	79.131	14.695	1.739	0.054	0.108	0.008	0.009	0.001					1361.77	
18	0.6608	1086.8	1106.1		0.529	3.691	80.079	14.008	1.541	0.049	0.092	0.006	0.006	0.000					1357.50	
19	0.6634	1089.9	1109.2		0.571	3.679	79.683	14.307	1.589	0.051	0.101	0.008	0.009	0.002					1358.74	
20	0.6705	1101.1	1120.6		0.607	3.609	78.408	15.485	1.722	0.053	0.101	0.007	0.008	0.000					1365.41	
21	0.6637	1090.7	1110.1		0.570	3.658	79.605	14.427	1.575	0.050	0.098	0.008	0.009	0.001					1359.46	
22	0.6638	1090.9	1110.2		0.578	3.652	79.545	14.506	1.564	0.048	0.094	0.006	0.007	0.000					1359.47	
23	0.6659	1093.7	1113.1		0.595	3.649	79.266	14.670	1.643	0.052	0.104	0.008	0.010	0.002					1360.85	
24	0.6666	1093.4	1112.8		0.601	3.727	79.145	14.661	1.695	0.052	0.104	0.007	0.007	0.000					1359.75	
25	0.6599	1084.6	1103.8		0.553	3.701	80.262	13.836	1.487	0.046	0.096	0.008	0.009	0.003					1355.71	
26	0.6585	1083.4	1102.6		0.540	3.660	80.456	13.759	1.443	0.043	0.086	0.006	0.007	0.000					1355.67	
27	0.6714	1104.0	1123.6		0.594	3.538	78.190	15.834	1.670	0.051	0.104	0.008	0.010	0.002					1368.06	
28	0.6566	1079.7	1098.8		0.554	3.685	80.820	13.411	1.377	0.044	0.094	0.007	0.008	0.000					1352.97	
29	0.6630	1091.1	1110.4		0.586	3.550	79.681	14.533	1.487	0.046	0.097	0.008	0.010	0.002					1360.58	
30	0.6656	1094.6	1114.0		0.610	3.542	79.211	14.945	1.536	0.046	0.096	0.007	0.007	0.000					1362.30	
Avg	0.6672	1095.0	1114.6		0.579	3.698	79.110	14.671	1.758	0.056	0.111	0.008	0.008	0.001					1361.48	

Zone 260

Source Daily Summary

June 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	0.7098	1156.9	1177.4	1174.2	0.868	3.506	71.807	20.873	2.680	0.082	0.163	0.010	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1394.31
2	0.7113	1157.0	1177.5	1174.1	0.872	3.635	71.714	20.641	2.845	0.089	0.177	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1392.89
3	0.7135	1158.7	1179.2	1175.7	0.854	3.762	71.464	20.548	3.067	0.097	0.187	0.010	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1392.83
4	0.7050	1146.4	1166.7	1163.3	0.832	3.752	72.911	19.408	2.790	0.092	0.187	0.013	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1386.15
5	0.7152	1159.1	1179.6	1176.1	0.876	3.864	71.261	20.501	3.180	0.100	0.196	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1391.64
6	0.7121	1160.2	1180.7	1177.1	0.880	3.501	71.701	20.682	2.922	0.097	0.190	0.013	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1395.96
7	0.7075	1155.9	1176.3	1172.9	0.854	3.379	72.228	20.628	2.651	0.083	0.157	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1395.26
8	0.7040	1150.6	1170.9	1167.9	0.876	3.343	72.565	20.684	2.307	0.070	0.135	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1392.27
9	0.7058	1153.8	1174.2	1171.0	0.861	3.335	72.419	20.659	2.467	0.079	0.156	0.011	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1394.37
10	0.7085	1154.0	1174.4	1171.1	0.917	3.495	71.966	20.825	2.537	0.080	0.158	0.011	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1391.95
11	0.7054	1151.1	1171.5	1168.3	0.855	3.471	72.472	20.444	2.521	0.076	0.144	0.008	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1391.57
12	0.7115	1156.2	1176.7	1173.4	0.877	3.690	71.757	20.474	2.891	0.095	0.190	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1391.81
13	0.7228	1166.2	1186.8	1183.3	0.935	4.062	70.217	20.887	3.503	0.117	0.247	0.015	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1392.69
14	0.7123	1158.5	1179.0	1175.6	0.853	3.664	71.638	20.574	2.957	0.098	0.191	0.012	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1393.75
15	0.7110	1156.2	1176.7	1173.5	0.853	3.685	71.775	20.516	2.872	0.093	0.182	0.012	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1392.25
16	0.7111	1156.6	1177.1	1173.9	0.852	3.670	71.731	20.592	2.867	0.091	0.177	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1392.64
17	0.7075	1154.4	1174.8	1171.5	0.867	3.444	72.191	20.654	2.583	0.080	0.157	0.011	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1393.50
18	0.7043	1152.2	1172.6	1169.3	0.842	3.318	72.579	20.628	2.405	0.074	0.137	0.008	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1394.01
19	0.7048	1151.9	1172.3	1169.0	0.878	3.334	72.547	20.596	2.398	0.075	0.147	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1393.03
20	0.7051	1152.9	1173.3	1170.1	0.860	3.325	72.432	20.750	2.405	0.072	0.137	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1394.05
21	0.7048	1152.1	1172.5	1169.3	0.879	3.321	72.507	20.678	2.379	0.074	0.141	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1393.30
22	0.7048	1151.5	1171.9	1168.7	0.886	3.342	72.453	20.745	2.350	0.071	0.135	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1392.66
23	0.7067	1153.9	1174.3	1170.9	0.901	3.351	72.248	20.808	2.443	0.075	0.149	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1393.60
24	0.7080	1153.7	1174.1	1170.9	0.911	3.474	72.015	20.830	2.523	0.076	0.150	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1392.13
25	0.7075	1153.8	1174.2	1170.8	0.919	3.408	72.050	20.967	2.407	0.074	0.150	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1392.68
26	0.7066	1152.9	1173.3	1169.9	0.903	3.397	72.115	20.998	2.362	0.069	0.137	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1392.62
27	0.7074	1153.7	1174.2	1170.6	0.931	3.385	72.049	21.013	2.374	0.072	0.149	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1392.69
28	0.6981	1138.2	1158.4	1155.0	0.903	3.497	73.665	19.520	2.180	0.069	0.144	0.011	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1383.12
29	0.7065	1152.8	1173.2	1169.8	0.934	3.345	72.186	20.973	2.319	0.071	0.147	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1392.56
30	0.7067	1153.9	1174.3	1171.0	0.928	3.314	72.058	21.176	2.297	0.068	0.140	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1393.68
Avg	0.7082	1154.0	1174.6	1171.3	0.882	3.502	72.091	20.642	2.616	0.082	0.162	0.011	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1392.53

Zone 261

Source Daily Summary

June 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	0.7432	1165.5	1186.2	1182.6	0.934	6.005	67.798	19.537	5.129	0.177	0.381	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1372.68
2	0.7414	1161.7	1182.3	1178.6	0.927	6.078	67.968	19.398	5.102	0.163	0.334	0.014	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1369.87
3	0.7438	1166.1	1186.7	1182.8	0.924	6.039	67.720	19.498	5.245	0.177	0.366	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1372.83
4	0.7441	1166.7	1187.4	1183.6	0.926	6.029	67.664	19.552	5.260	0.176	0.364	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1373.29
5	0.7439	1166.5	1187.2	1183.3	0.928	6.018	67.696	19.532	5.263	0.173	0.359	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1373.25
6	0.7509	1178.8	1199.7	1195.7	0.925	5.932	66.818	20.024	5.673	0.194	0.399	0.018	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1381.19
7	0.7519	1181.3	1202.2	1198.2	0.924	5.875	66.741	20.057	5.763	0.197	0.406	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1383.17
8	0.7575	1191.7	1212.8	1209.3	0.925	5.769	66.074	20.447	6.071	0.220	0.453	0.021	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1390.11
9	0.7625	1198.8	1220.0	1216.5	0.925	5.800	65.558	20.559	6.322	0.253	0.526	0.028	0.028	0.000	0.000	0.000	0.000	0.000	0.000	1393.80
10	0.7559	1186.6	1207.6	1203.9	0.927	5.917	66.320	20.160	5.941	0.221	0.464	0.024	0.026	0.000	0.000	0.000	0.000	0.000	0.000	1385.69
11	0.7528	1180.9	1201.8	1198.2	0.924	5.980	66.670	19.940	5.814	0.202	0.427	0.021	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1381.88
12	0.7543	1184.6	1205.6	1201.9	0.925	5.895	66.509	20.070	5.906	0.211	0.443	0.020	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1384.85
13	0.7533	1183.2	1204.1	1200.2	0.929	5.882	66.668	19.996	5.809	0.217	0.455	0.022	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1384.08
14	0.7525	1181.3	1202.2	1198.3	0.935	5.909	66.749	19.946	5.773	0.209	0.439	0.020	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1382.66
15	0.7567	1189.1	1210.1	1206.4	0.933	5.829	66.263	20.195	6.051	0.218	0.466	0.022	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1387.90
16	0.7543	1184.3	1205.2	1201.7	0.931	5.910	66.495	20.089	5.868	0.213	0.450	0.022	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1384.40
17	0.7566	1187.1	1208.2	1204.5	0.925	5.953	66.162	20.235	6.035	0.209	0.441	0.020	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1385.72
18	0.7585	1190.3	1211.3	1207.5	0.924	5.944	65.928	20.337	6.156	0.214	0.455	0.021	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1387.59
19	0.7616	1195.7	1216.9	1213.1	0.923	5.902	65.272	21.154	5.974	0.219	0.502	0.027	0.027	0.000	0.000	0.000	0.000	0.000	0.000	1391.15
20	0.7591	1192.0	1213.1	1209.4	0.932	5.888	65.478	21.302	5.592	0.219	0.521	0.032	0.034	0.000	0.000	0.000	0.000	0.000	0.000	1389.03
21	0.7607	1188.6	1209.6	1206.1	0.932	6.243	65.389	20.793	5.798	0.230	0.544	0.034	0.036	0.000	0.000	0.000	0.000	0.000	0.000	1383.58
22	0.7616	1187.2	1208.2	1204.5	0.930	6.414	65.306	20.597	5.903	0.230	0.546	0.035	0.038	0.000	0.000	0.000	0.000	0.000	0.000	1381.11
23	0.7624	1189.1	1210.2	1206.3	0.935	6.366	65.279	20.543	6.025	0.231	0.546	0.036	0.039	0.000	0.000	0.000	0.000	0.000	0.000	1382.61
24	0.7618	1190.0	1211.1	1207.2	0.933	6.256	65.418	20.494	6.060	0.232	0.537	0.034	0.036	0.000	0.000	0.000	0.000	0.000	0.000	1384.24
25	0.7646	1190.9	1212.0	1208.0	0.935	6.468	64.955	20.617	6.171	0.236	0.544	0.036	0.039	0.000	0.000	0.000	0.000	0.000	0.000	1382.62
26	0.7646	1194.8	1215.9	1211.8	0.936	6.225	65.035	20.733	6.224	0.238	0.538	0.035	0.038	0.000	0.000	0.000	0.000	0.000	0.000	1387.20
27	0.7585	1189.0	1210.0	1205.9	0.946	5.991	65.850	20.527	5.915	0.224	0.485	0.029	0.032	0.000	0.000	0.000	0.000	0.000	0.000	1386.03
28	0.7549	1183.8	1204.8	1200.7	0.935	5.984	66.279	20.359	5.722	0.215	0.453	0.025	0.028	0.000	0.000	0.000	0.000	0.000	0.000	1383.31
29	0.7555	1183.5	1204.4	1200.5	0.945	6.045	66.189	20.338	5.761	0.220	0.455	0.023	0.024	0.000	0.000	0.000	0.000	0.000	0.000	1382.39
30	0.7577	1186.6	1207.7	1203.7	0.947	6.053	65.925	20.443	5.880	0.229	0.475	0.023	0.024	0.000	0.000	0.000	0.000	0.000	0.000	1384.12
Avg	0.7552	1184.0	1204.8	1201.0	0.931	6.020	66.272	20.249	5.807	0.212	0.459	0.024	0.025	0.000	0.000	0.000	0.000	0.000	0.000	1383.08

Zone 2b2

Gas Composition and Properties

Effective June 1, 2019

Attachment B
Page 8 of 23

Source #: 2501030
Name: LIGNITE PLANT

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	0.1312		0.2938
Nitrogen, N2	2.9047		4.1410
Methane, C1	76.8134		62.7115
Ethane, C2	17.4476	4.6681	26.6989
Propane, C3	2.5898	0.7138	5.8117
iso-Butane, iC4	0.0566	0.0185	0.1674
n-Butane, nC4	0.0511	0.0161	0.1511
iso-Pentane, iC5			
n-Pentane, nC5			
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0056	0.0023	0.0246
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	-27.175	
Cricodentherm	-20.024	
HV, Dry @ Base P, T	1159.66	
HV, Sat @ Base P, T	1139.48	
HV, Sat @ Sample P, T	1159.66	
Relative Density	0.6802	

C6+: 100

Totals	100.0000	5.4190	100.0000
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Sample
Date: 06/01/2019
Type:
Tech: Kevin Moos
Remarks:

Pressure: 528.0
Temperature:
H2O: lbs/mm
H2S: ppm

Analysis
Date: 06/01/2019
Tech: Kevin Moos
Remarks:

Instrument:
Cylinder:

Zone 263

Gas Composition and Properties

Effective June 1, 2019

Source #: 3002013
Name: EPPING BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	0.7899		1.7568
Nitrogen, N2	2.9544		4.1824
Methane, C1	76.3242		61.8766
Ethane, C2	17.4876	4.6788	26.5731
Propane, C3	2.2305	0.6148	4.9704
iso-Butane, iC4	0.0621	0.0203	0.1824
n-Butane, nC4	0.1333	0.0420	0.3915
iso-Pentane, iC5	0.0079	0.0029	0.0288
n-Pentane, nC5	0.0085	0.0031	0.0310
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0016	0.0007	0.0070
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	-26.683	
Cricondentherm	-19.266	
HV, Dry @ Base P, T	1149.66	
HV, Sat @ Base P, T	1129.65	
HV, Sat @ Sample P, T	1149.66	
Relative Density	0.6850	

C6+: 100

Totals	100.0000	5.3630	100.0000
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Sample

Date: 06/01/2019 Pressure: 520.0
 Type: Temperature:
 Tech: H2O: lbs/mm
 H2S: ppm

Remarks:

Analysis

Date: 06/01/2019 Instrument:
 Cylinder: 371
 Tech: Kevin Moos

Remarks:

*** End of Report ***

Zone 264

Source Daily Summary

June 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	0.7067	1155.6	1176.0	1172.8	0.851	3.319	72.286	20.771	2.525	0.078	0.149	0.009	0.011	0.000	0.000	0.000	0.000	0.000	1395.68	
2	0.7077	1156.5	1177.0	1173.8	0.887	3.306	71.984	21.154	2.439	0.072	0.139	0.009	0.010	0.000	0.000	0.000	0.000	0.000	1395.81	
3	0.7072	1155.9	1176.3	1173.1	0.869	3.321	72.075	21.062	2.449	0.071	0.134	0.008	0.010	0.000	0.000	0.000	0.000	0.000	1395.57	
4	0.7087	1158.7	1179.2	1176.0	0.858	3.311	71.979	20.971	2.635	0.078	0.148	0.009	0.011	0.000	0.000	0.000	0.000	0.000	1397.44	
5	0.7086	1157.5	1178.0	1174.7	0.869	3.357	72.087	20.768	2.638	0.086	0.169	0.012	0.014	0.000	0.000	0.000	0.000	0.000	1396.06	
6	0.7051	1151.8	1172.2	1169.0	0.878	3.359	72.535	20.539	2.451	0.074	0.144	0.009	0.011	0.000	0.000	0.000	0.000	0.000	1392.70	
7	0.7087	1158.3	1178.8	1175.5	0.891	3.279	72.014	20.967	2.594	0.082	0.153	0.009	0.010	0.000	0.000	0.000	0.000	0.000	1396.99	
8	0.7083	1158.5	1179.0	1175.8	0.866	3.267	72.118	20.850	2.640	0.084	0.157	0.008	0.011	0.000	0.000	0.000	0.000	0.000	1397.64	
9	0.7069	1155.5	1176.0	1172.7	0.874	3.303	72.274	20.782	2.518	0.079	0.149	0.009	0.011	0.000	0.000	0.000	0.000	0.000	1395.46	
10	0.7055	1153.6	1174.0	1170.8	0.860	3.317	72.381	20.802	2.405	0.074	0.141	0.009	0.011	0.000	0.000	0.000	0.000	0.000	1394.48	
11	0.7068	1154.1	1174.5	1171.3	0.915	3.327	72.137	21.018	2.369	0.072	0.141	0.009	0.012	0.000	0.000	0.000	0.000	0.000	1393.76	
12	0.7055	1153.0	1173.4	1170.2	0.882	3.323	72.345	20.847	2.382	0.070	0.133	0.008	0.009	0.000	0.000	0.000	0.000	0.000	1393.73	
13	0.7050	1152.9	1173.3	1170.0	0.879	3.288	72.505	20.690	2.404	0.076	0.141	0.008	0.010	0.000	0.000	0.000	0.000	0.000	1394.05	
14	0.7063	1153.3	1173.7	1170.5	0.899	3.354	72.242	20.868	2.401	0.076	0.144	0.008	0.009	0.000	0.000	0.000	0.000	0.000	1393.33	
15	0.7109	1160.4	1181.0	1177.7	0.942	3.285	71.523	21.473	2.521	0.078	0.154	0.010	0.012	0.000	0.000	0.000	0.000	0.000	1397.37	
16	0.7052	1153.7	1174.1	1170.9	0.845	3.307	72.432	20.757	2.432	0.073	0.136	0.008	0.009	0.000	0.000	0.000	0.000	0.000	1394.87	
17	0.7060	1154.3	1174.7	1171.5	0.866	3.308	72.317	20.858	2.412	0.075	0.143	0.009	0.011	0.000	0.000	0.000	0.000	0.000	1394.85	
18	0.7052	1153.5	1173.9	1170.7	0.858	3.298	72.413	20.805	2.402	0.072	0.135	0.008	0.009	0.000	0.000	0.000	0.000	0.000	1394.68	
19	0.7062	1154.8	1175.3	1172.0	0.874	3.289	72.294	20.873	2.431	0.075	0.143	0.010	0.012	0.000	0.000	0.000	0.000	0.000	1395.22	
20	0.7056	1154.3	1174.7	1171.5	0.861	3.284	72.371	20.827	2.426	0.075	0.140	0.008	0.009	0.000	0.000	0.000	0.000	0.000	1395.23	
21	0.7061	1154.2	1174.6	1171.3	0.888	3.297	72.333	20.819	2.418	0.076	0.145	0.010	0.013	0.000	0.000	0.000	0.000	0.000	1394.51	
22	0.7060	1154.8	1175.2	1172.0	0.864	3.280	72.306	20.892	2.434	0.073	0.135	0.008	0.009	0.000	0.000	0.000	0.000	0.000	1395.50	
23	0.7059	1153.6	1174.0	1170.7	0.899	3.295	72.324	20.871	2.376	0.073	0.141	0.010	0.012	0.000	0.000	0.000	0.000	0.000	1394.07	
24	0.7065	1154.3	1174.8	1171.5	0.893	3.317	72.185	20.978	2.399	0.073	0.139	0.008	0.009	0.000	0.000	0.000	0.000	0.000	1394.40	
25	0.7081	1155.8	1176.3	1172.8	0.921	3.336	72.033	20.986	2.470	0.076	0.152	0.011	0.014	0.000	0.000	0.000	0.000	0.000	1394.48	
26	0.7070	1154.2	1174.6	1171.4	0.914	3.338	72.056	21.113	2.356	0.070	0.135	0.008	0.009	0.000	0.000	0.000	0.000	0.000	1393.75	
27	0.7090	1156.3	1176.8	1173.3	0.934	3.364	71.805	21.240	2.408	0.073	0.150	0.012	0.015	0.000	0.000	0.000	0.000	0.000	1394.26	
28	0.7078	1155.3	1175.8	1172.5	0.912	3.351	71.926	21.197	2.382	0.071	0.141	0.009	0.010	0.000	0.000	0.000	0.000	0.000	1394.28	
29	0.7072	1152.5	1172.9	1169.5	0.940	3.415	72.163	20.850	2.371	0.074	0.156	0.014	0.017	0.000	0.000	0.000	0.000	0.000	1391.45	
30	0.7063	1151.0	1171.3	1168.0	0.967	3.389	72.302	20.741	2.349	0.073	0.154	0.011	0.014	0.000	0.000	0.000	0.000	0.000	1390.52	
Avg	0.7069	1155.0	1175.4	1172.1	0.889	3.319	72.192	20.912	2.448	0.075	0.145	0.009	0.011	0.000	0.000	0.000	0.000	0.000	1394.74	

Zone 265

Source Daily Summary

June 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	0.7459	1171.5	1192.2	1188.1	0.909	5.937	67.535	19.604	5.394	0.187	0.395	0.019	0.019	0.000	0.000	0.000	0.000	0.000	1377.10	
2	0.7448	1169.9	1190.6	1186.5	0.910	5.928	67.653	19.573	5.347	0.180	0.373	0.018	0.018	0.000	0.000	0.000	0.000	0.000	1376.26	
3	0.7531	1184.9	1205.8	1201.6	0.909	5.794	66.729	20.011	5.857	0.210	0.442	0.024	0.024	0.000	0.000	0.000	0.000	0.000	1386.11	
4	0.7504	1179.1	1200.0	1195.9	0.908	5.888	66.999	19.844	5.730	0.193	0.399	0.020	0.020	0.000	0.000	0.000	0.000	0.000	1381.98	
5	0.7524	1185.3	1206.3	1202.1	0.908	5.699	66.820	20.058	5.840	0.203	0.427	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1387.36	
6	0.7522	1184.5	1205.5	1201.3	0.909	5.731	66.831	20.057	5.777	0.211	0.437	0.023	0.023	0.000	0.000	0.000	0.000	0.000	1386.51	
7	0.7587	1195.2	1216.3	1212.0	0.908	5.691	66.084	20.375	6.159	0.235	0.491	0.028	0.029	0.000	0.000	0.000	0.000	0.000	1392.99	
8	0.7544	1185.3	1206.3	1202.2	0.911	5.882	66.522	20.077	5.896	0.215	0.449	0.024	0.024	0.000	0.000	0.000	0.000	0.000	1385.51	
9	0.7512	1180.4	1201.3	1197.2	0.908	5.884	66.957	19.819	5.758	0.202	0.429	0.022	0.022	0.000	0.000	0.000	0.000	0.000	1382.74	
10	0.7510	1180.2	1201.1	1197.0	0.911	5.878	66.993	19.802	5.722	0.210	0.439	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1382.64	
11	0.7519	1182.0	1202.9	1198.8	0.919	5.840	66.913	19.848	5.772	0.213	0.449	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1383.90	
12	0.7548	1187.3	1208.3	1204.1	0.917	5.793	66.591	19.983	5.977	0.218	0.469	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1387.39	
13	0.7533	1184.6	1205.6	1201.3	0.917	5.816	66.769	19.876	5.909	0.212	0.453	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1385.64	
14	0.7527	1182.2	1203.2	1198.9	0.912	5.906	66.765	19.899	5.821	0.211	0.441	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1383.50	
15	0.7561	1188.2	1209.2	1205.1	0.908	5.873	66.292	20.176	6.049	0.211	0.446	0.023	0.023	0.000	0.000	0.000	0.000	0.000	1387.30	
16	0.7570	1189.4	1210.5	1206.3	0.910	5.880	66.149	20.283	6.067	0.214	0.452	0.023	0.023	0.000	0.000	0.000	0.000	0.000	1387.91	
17	0.7635	1199.4	1220.6	1216.5	0.906	5.886	65.339	20.637	6.471	0.222	0.484	0.027	0.028	0.000	0.000	0.000	0.000	0.000	1393.52	
18	0.7582	1191.5	1212.5	1208.4	0.916	5.861	65.639	21.248	5.514	0.218	0.528	0.036	0.039	0.000	0.000	0.000	0.000	0.000	1389.08	
19	0.7595	1189.7	1210.8	1206.6	0.918	6.086	65.618	20.814	5.702	0.231	0.553	0.038	0.041	0.000	0.000	0.000	0.000	0.000	1385.82	
20	0.7610	1187.6	1208.7	1204.5	0.915	6.352	65.499	20.454	5.910	0.233	0.557	0.038	0.042	0.000	0.000	0.000	0.000	0.000	1382.08	
21	0.7626	1191.1	1212.2	1208.0	0.921	6.280	65.349	20.521	6.054	0.236	0.556	0.039	0.043	0.000	0.000	0.000	0.000	0.000	1384.67	
22	0.7638	1190.2	1211.3	1207.0	0.919	6.450	65.099	20.556	6.118	0.237	0.543	0.038	0.041	0.000	0.000	0.000	0.000	0.000	1382.56	
23	0.7633	1193.2	1214.4	1210.1	0.918	6.222	65.262	20.594	6.144	0.238	0.545	0.037	0.040	0.000	0.000	0.000	0.000	0.000	1386.52	
24	0.7625	1191.0	1212.1	1207.8	0.909	6.302	65.242	20.664	6.058	0.225	0.525	0.036	0.039	0.000	0.000	0.000	0.000	0.000	1384.58	
25	0.7551	1186.8	1207.8	1203.6	0.904	5.866	66.270	20.478	5.764	0.215	0.454	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1386.60	
26	0.7566	1186.3	1207.3	1203.1	0.933	5.993	66.154	20.308	5.842	0.232	0.486	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1384.66	
27	0.7556	1186.3	1207.3	1203.3	0.913	5.936	66.271	20.306	5.822	0.227	0.475	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1385.50	
28	0.7514	1179.5	1200.4	1196.4	0.914	5.952	66.777	20.086	5.570	0.216	0.442	0.022	0.022	0.000	0.000	0.000	0.000	0.000	1381.47	
29	0.7500	1176.8	1197.7	1193.7	0.914	5.983	66.932	19.999	5.493	0.210	0.426	0.021	0.021	0.000	0.000	0.000	0.000	0.000	1379.64	
30	0.7487	1174.8	1195.6	1191.6	0.916	5.983	67.078	19.954	5.410	0.205	0.414	0.020	0.021	0.000	0.000	0.000	0.000	0.000	1378.43	
Avg	0.7551	1185.0	1206.1	1202.0	0.913	5.952	66.371	20.197	5.832	0.216	0.466	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1384.67	

Zone 271

Source Daily Summary

June 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	0.7423	1165.0	1185.6	1182.4	0.924	5.977	67.914	19.491	5.133	0.171	0.353	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1372.66
2	0.7453	1169.6	1190.3	1187.1	0.916	5.980	67.597	19.556	5.350	0.183	0.380	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1375.44
3	0.7441	1168.3	1189.0	1186.0	0.919	5.945	67.709	19.561	5.293	0.177	0.360	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1375.09
4	0.7533	1184.2	1205.2	1202.1	0.915	5.836	66.633	20.101	5.829	0.207	0.431	0.024	0.024	0.000	0.000	0.000	0.000	0.000	0.000	1385.32
5	0.7508	1179.1	1200.0	1196.9	0.915	5.918	66.886	19.938	5.715	0.192	0.393	0.021	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1381.59
6	0.7520	1183.8	1204.7	1201.6	0.915	5.743	66.821	20.066	5.800	0.199	0.413	0.022	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1385.98
7	0.7517	1182.8	1203.8	1200.7	0.919	5.764	66.832	20.094	5.721	0.205	0.419	0.022	0.023	0.000	0.000	0.000	0.000	0.000	0.000	1385.19
8	0.7597	1196.5	1217.7	1214.4	0.916	5.691	65.906	20.525	6.181	0.235	0.487	0.028	0.029	0.000	0.000	0.000	0.000	0.000	0.000	1393.63
9	0.7548	1185.6	1206.5	1203.3	0.919	5.895	66.463	20.102	5.908	0.216	0.446	0.025	0.025	0.000	0.000	0.000	0.000	0.000	0.000	1385.35
10	0.7507	1178.8	1199.7	1196.5	0.916	5.927	66.969	19.825	5.708	0.197	0.415	0.021	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1381.26
11	0.7516	1180.5	1201.4	1198.1	0.918	5.900	66.900	19.861	5.732	0.208	0.434	0.023	0.023	0.000	0.000	0.000	0.000	0.000	0.000	1382.42
12	0.7513	1180.1	1201.0	1197.8	0.927	5.883	66.938	19.861	5.703	0.209	0.433	0.023	0.023	0.000	0.000	0.000	0.000	0.000	0.000	1382.27
13	0.7540	1185.4	1206.4	1203.1	0.924	5.818	66.687	19.927	5.920	0.214	0.458	0.025	0.026	0.000	0.000	0.000	0.000	0.000	0.000	1385.98
14	0.7536	1184.1	1205.1	1201.9	0.926	5.859	66.649	19.984	5.889	0.207	0.439	0.023	0.024	0.000	0.000	0.000	0.000	0.000	0.000	1384.86
15	0.7533	1183.0	1204.0	1200.8	0.922	5.902	66.630	20.039	5.809	0.212	0.439	0.023	0.024	0.000	0.000	0.000	0.000	0.000	0.000	1383.90
16	0.7551	1185.6	1206.6	1203.4	0.917	5.918	66.376	20.142	5.972	0.204	0.426	0.022	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1385.26
17	0.7569	1188.6	1209.6	1206.4	0.918	5.913	66.152	20.252	6.062	0.212	0.445	0.023	0.023	0.000	0.000	0.000	0.000	0.000	0.000	1386.96
18	0.7620	1195.9	1217.1	1213.9	0.918	5.939	65.525	20.477	6.407	0.217	0.465	0.026	0.026	0.000	0.000	0.000	0.000	0.000	0.000	1390.91
19	0.7590	1192.5	1213.6	1209.4	0.922	5.860	65.562	21.240	5.605	0.218	0.518	0.036	0.039	0.000	0.000	0.000	0.000	0.000	0.000	1389.57
20	0.7601	1190.1	1211.2	1206.9	0.928	6.103	65.505	20.892	5.715	0.230	0.546	0.038	0.042	0.000	0.000	0.000	0.000	0.000	0.000	1385.74
21	0.7618	1188.5	1209.6	1205.4	0.924	6.360	65.352	20.570	5.930	0.233	0.550	0.039	0.042	0.000	0.000	0.000	0.000	0.000	0.000	1382.38
22	0.7630	1191.2	1212.3	1208.0	0.930	6.306	65.276	20.539	6.080	0.236	0.550	0.040	0.043	0.000	0.000	0.000	0.000	0.000	0.000	1384.33
23	0.7642	1190.4	1211.5	1207.2	0.927	6.464	65.036	20.581	6.141	0.236	0.537	0.038	0.041	0.000	0.000	0.000	0.000	0.000	0.000	1382.41
24	0.7638	1193.5	1214.6	1210.4	0.926	6.248	65.155	20.655	6.164	0.237	0.537	0.037	0.040	0.000	0.000	0.000	0.000	0.000	0.000	1386.29
25	0.7629	1191.3	1212.4	1208.1	0.916	6.312	65.153	20.737	6.064	0.224	0.519	0.036	0.040	0.000	0.000	0.000	0.000	0.000	0.000	1384.58
26	0.7547	1185.4	1206.4	1203.2	0.917	5.901	66.253	20.501	5.729	0.211	0.439	0.024	0.025	0.000	0.000	0.000	0.000	0.000	0.000	1385.35
27	0.7551	1183.3	1204.3	1200.6	0.940	6.027	66.253	20.304	5.748	0.222	0.457	0.024	0.025	0.000	0.000	0.000	0.000	0.000	0.000	1382.63
28	0.7562	1186.5	1207.5	1203.6	0.921	5.962	66.162	20.366	5.843	0.226	0.469	0.025	0.026	0.000	0.000	0.000	0.000	0.000	0.000	1385.30
29	0.7544	1184.4	1205.4	1201.5	0.919	5.928	66.447	20.112	5.927	0.202	0.421	0.022	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1384.47
30	0.7529	1182.2	1203.1	1199.1	0.921	5.919	66.640	20.049	5.810	0.205	0.415	0.021	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1383.21
Avg	0.7550	1185.0	1205.5	1202.0	0.921	5.973	66.346	20.212	5.830	0.212	0.453	0.026	0.027	0.000	0.000	0.000	0.000	0.000	0.000	1384.01

Zone 272

Source Daily Summary

June 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	0.7412	1163.1	1183.7	1180.2	0.928	5.980	68.009	19.496	5.048	0.166	0.339	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1371.52	
2	0.7423	1164.4	1185.0	1181.9	0.919	6.021	67.918	19.415	5.174	0.172	0.350	0.017	0.016	0.000	0.000	0.000	0.000	0.000	1372.01	
3	0.7436	1167.4	1188.1	1184.9	0.920	5.951	67.773	19.529	5.264	0.175	0.355	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1374.48	
4	0.7524	1182.3	1203.3	1200.3	0.914	5.877	66.661	20.117	5.779	0.199	0.410	0.021	0.021	0.000	0.000	0.000	0.000	0.000	1383.88	
5	0.7505	1178.4	1199.3	1196.2	0.916	5.930	66.926	19.907	5.698	0.192	0.390	0.020	0.020	0.000	0.000	0.000	0.000	0.000	1381.05	
6	0.7513	1182.0	1202.9	1199.8	0.915	5.790	66.877	20.017	5.758	0.196	0.405	0.021	0.021	0.000	0.000	0.000	0.000	0.000	1384.51	
7	0.7485	1177.3	1198.1	1194.9	0.920	5.810	67.179	19.925	5.541	0.194	0.391	0.020	0.020	0.000	0.000	0.000	0.000	0.000	1381.59	
8	0.7563	1190.5	1211.6	1208.5	0.919	5.733	66.222	20.432	6.001	0.217	0.434	0.022	0.021	0.000	0.000	0.000	0.000	0.000	1389.85	
9	0.7529	1182.2	1203.1	1200.0	0.921	5.919	66.640	20.049	5.810	0.205	0.415	0.021	0.020	0.000	0.000	0.000	0.000	0.000	1383.20	
10	0.7505	1178.4	1199.3	1196.2	0.916	5.934	66.978	19.821	5.704	0.196	0.410	0.020	0.020	0.000	0.000	0.000	0.000	0.000	1380.99	
11	0.7504	1178.6	1199.5	1196.4	0.920	5.908	66.999	19.838	5.680	0.201	0.413	0.020	0.020	0.000	0.000	0.000	0.000	0.000	1381.28	
12	0.7512	1180.1	1201.0	1197.9	0.928	5.878	66.937	19.870	5.704	0.208	0.430	0.022	0.022	0.000	0.000	0.000	0.000	0.000	1382.29	
13	0.7543	1185.6	1206.6	1203.5	0.926	5.830	66.620	19.977	5.929	0.214	0.456	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1385.96	
14	0.7519	1181.1	1202.0	1198.7	0.927	5.882	66.851	19.879	5.785	0.202	0.427	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1382.87	
15	0.7526	1181.6	1202.6	1199.5	0.921	5.920	66.719	19.974	5.776	0.210	0.434	0.023	0.023	0.000	0.000	0.000	0.000	0.000	1382.95	
16	0.7544	1184.5	1205.4	1202.4	0.919	5.928	66.447	20.112	5.927	0.202	0.421	0.022	0.022	0.000	0.000	0.000	0.000	0.000	1384.49	
17	0.7581	1190.4	1211.5	1208.3	0.918	5.904	66.049	20.271	6.128	0.218	0.462	0.025	0.025	0.000	0.000	0.000	0.000	0.000	1388.11	
18	0.7578	1188.8	1209.9	1206.9	0.919	5.976	65.892	20.420	6.168	0.193	0.396	0.018	0.017	0.000	0.000	0.000	0.000	0.000	1386.56	
19	0.7543	1184.4	1205.3	1202.0	0.926	5.911	65.985	21.133	5.351	0.196	0.446	0.026	0.026	0.000	0.000	0.000	0.000	0.000	1384.49	
20	0.7596	1189.4	1210.4	1206.7	0.928	6.099	65.559	20.891	5.669	0.230	0.545	0.038	0.042	0.000	0.000	0.000	0.000	0.000	1385.36	
21	0.7618	1188.5	1209.6	1205.7	0.925	6.362	65.354	20.565	5.927	0.233	0.552	0.039	0.043	0.000	0.000	0.000	0.000	0.000	1382.33	
22	0.7631	1191.3	1212.4	1208.5	0.931	6.304	65.273	20.540	6.080	0.236	0.552	0.040	0.044	0.000	0.000	0.000	0.000	0.000	1384.38	
23	0.7642	1190.4	1211.5	1207.6	0.928	6.463	65.036	20.578	6.142	0.236	0.538	0.038	0.041	0.000	0.000	0.000	0.000	0.000	1382.43	
24	0.7639	1193.5	1214.6	1210.8	0.926	6.253	65.150	20.651	6.166	0.237	0.539	0.038	0.041	0.000	0.000	0.000	0.000	0.000	1386.24	
25	0.7623	1189.0	1210.1	1206.2	0.927	6.374	65.256	20.591	6.030	0.225	0.520	0.037	0.040	0.000	0.000	0.000	0.000	0.000	1382.51	
26	0.7567	1189.2	1210.3	1206.4	0.908	5.871	65.991	20.688	5.821	0.215	0.453	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1387.91	
27	0.7561	1186.2	1207.2	1203.7	0.936	5.950	66.109	20.488	5.788	0.221	0.457	0.025	0.025	0.000	0.000	0.000	0.000	0.000	1385.03	
28	0.7561	1186.3	1207.3	1203.7	0.922	5.970	66.167	20.354	5.844	0.225	0.468	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1385.09	
29	0.7544	1184.4	1205.4	1201.8	0.919	5.928	66.447	20.112	5.927	0.202	0.421	0.022	0.022	0.000	0.000	0.000	0.000	0.000	1384.47	
30	0.7529	1182.2	1203.1	1199.4	0.921	5.919	66.640	20.049	5.810	0.205	0.415	0.021	0.020	0.000	0.000	0.000	0.000	0.000	1383.21	
Avg	0.7542	1183.0	1204.0	1200.6	0.922	5.986	66.422	20.190	5.781	0.207	0.441	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1383.03	

Zone 213

Source Daily Summary

June 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	0.7457	1170.9	1191.6	1188.2	0.909	5.945	67.572	19.577	5.380	0.186	0.391	0.019	0.019	0.000	0.000	0.000	0.000	0.000	1376.69	
2	0.7443	1169.0	1189.7	1186.2	0.911	5.932	67.720	19.540	5.314	0.178	0.369	0.018	0.018	0.000	0.000	0.000	0.000	0.000	1375.69	
3	0.7526	1184.1	1205.1	1201.4	0.908	5.794	66.791	19.983	5.828	0.208	0.438	0.024	0.024	0.000	0.000	0.000	0.000	0.000	1385.68	
4	0.7502	1178.7	1199.5	1195.9	0.908	5.902	67.013	19.828	5.717	0.192	0.398	0.020	0.021	0.000	0.000	0.000	0.000	0.000	1381.57	
5	0.7521	1184.7	1205.6	1202.0	0.907	5.712	66.852	20.032	5.827	0.201	0.423	0.022	0.022	0.000	0.000	0.000	0.000	0.000	1386.86	
6	0.7515	1183.1	1204.0	1200.3	0.910	5.744	66.915	20.017	5.734	0.207	0.428	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1385.59	
7	0.7588	1195.3	1216.5	1212.6	0.908	5.684	66.086	20.377	6.161	0.235	0.491	0.028	0.029	0.000	0.000	0.000	0.000	0.000	1393.13	
8	0.7546	1185.8	1206.8	1203.3	0.911	5.873	66.503	20.087	5.906	0.217	0.453	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1385.88	
9	0.7508	1179.6	1200.5	1197.0	0.908	5.896	66.996	19.798	5.735	0.200	0.425	0.021	0.022	0.000	0.000	0.000	0.000	0.000	1382.19	
10	0.7509	1180.1	1201.0	1197.4	0.911	5.873	67.021	19.778	5.722	0.209	0.440	0.023	0.023	0.000	0.000	0.000	0.000	0.000	1382.62	
11	0.7516	1181.4	1202.3	1198.7	0.919	5.843	66.951	19.835	5.747	0.213	0.446	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1383.53	
12	0.7547	1187.0	1208.0	1204.4	0.917	5.793	66.616	19.967	5.969	0.218	0.469	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1387.24	
13	0.7532	1184.2	1205.2	1201.5	0.917	5.823	66.782	19.867	5.902	0.211	0.450	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1385.37	
14	0.7524	1182.0	1202.9	1199.2	0.913	5.898	66.808	19.872	5.808	0.212	0.443	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1383.43	
15	0.7556	1187.2	1208.2	1204.6	0.908	5.883	66.353	20.146	6.016	0.208	0.440	0.022	0.023	0.000	0.000	0.000	0.000	0.000	1386.62	
16	0.7570	1189.5	1210.5	1206.9	0.910	5.879	66.149	20.281	6.067	0.214	0.454	0.023	0.023	0.000	0.000	0.000	0.000	0.000	1387.95	
17	0.7571	1189.3	1210.4	1206.7	0.912	5.891	66.151	20.251	6.080	0.214	0.454	0.023	0.023	0.000	0.000	0.000	0.000	0.000	1387.72	
18	0.7550	1185.9	1206.9	1203.1	0.918	5.896	66.196	20.657	5.579	0.210	0.482	0.030	0.032	0.000	0.000	0.000	0.000	0.000	1385.56	
19	0.7587	1189.2	1210.2	1206.5	0.919	6.039	65.649	20.957	5.588	0.226	0.544	0.037	0.041	0.000	0.000	0.000	0.000	0.000	1385.98	
20	0.7608	1187.4	1208.4	1204.6	0.915	6.350	65.514	20.459	5.893	0.232	0.556	0.038	0.042	0.000	0.000	0.000	0.000	0.000	1381.98	
21	0.7625	1191.0	1212.1	1208.3	0.921	6.275	65.364	20.519	6.047	0.236	0.557	0.039	0.043	0.000	0.000	0.000	0.000	0.000	1384.69	
22	0.7637	1190.2	1211.3	1207.3	0.920	6.446	65.115	20.545	6.114	0.237	0.544	0.038	0.041	0.000	0.000	0.000	0.000	0.000	1382.57	
23	0.7634	1193.3	1214.4	1210.5	0.917	6.231	65.236	20.609	6.147	0.238	0.544	0.037	0.040	0.000	0.000	0.000	0.000	0.000	1386.48	
24	0.7592	1186.3	1207.3	1203.4	0.902	6.282	65.679	20.487	5.832	0.224	0.519	0.036	0.039	0.000	0.000	0.000	0.000	0.000	1382.27	
25	0.7213	1168.5	1189.2	1185.6	0.480	4.468	69.751	21.647	3.282	0.115	0.235	0.011	0.012	0.000	0.000	0.000	0.000	0.000	1397.60	
26	0.7563	1186.0	1207.0	1203.2	0.932	5.989	66.178	20.309	5.829	0.230	0.481	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1384.54	
27	0.7560	1186.7	1207.7	1203.9	0.914	5.942	66.229	20.317	5.839	0.229	0.480	0.025	0.026	0.000	0.000	0.000	0.000	0.000	1385.68	
28	0.7510	1178.9	1199.7	1195.9	0.914	5.953	66.825	20.062	5.549	0.214	0.438	0.022	0.022	0.000	0.000	0.000	0.000	0.000	1381.11	
29	0.7500	1176.8	1197.7	1193.8	0.915	5.982	66.935	19.998	5.489	0.211	0.427	0.021	0.022	0.000	0.000	0.000	0.000	0.000	1379.64	
30	0.7490	1175.2	1196.0	1192.3	0.915	5.987	67.042	19.959	5.431	0.206	0.417	0.021	0.021	0.000	0.000	0.000	0.000	0.000	1378.66	
Avg	0.7533	1184.0	1204.5	1200.8	0.899	5.907	66.566	20.192	5.718	0.211	0.454	0.026	0.027	0.000	0.000	0.000	0.000	0.000	1384.48	

Zone 28

Source Daily Summary

June 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	0.6857	1150.7	1171.1	1167.8	0.000	2.952	73.452	22.897	0.683	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1410.99
2	0.6853	1150.6	1171.0	1167.6	0.000	2.927	73.484	22.927	0.646	0.007	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.21
3	0.6853	1150.7	1171.0	1167.6	0.000	2.923	73.519	22.864	0.679	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.28
4	0.6856	1152.2	1172.6	1169.2	0.000	2.859	73.564	22.786	0.771	0.008	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.81
5	0.6851	1151.6	1172.0	1168.6	0.000	2.847	73.588	22.853	0.697	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.65
6	0.6839	1149.5	1169.9	1166.4	0.000	2.855	73.786	22.710	0.635	0.007	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.39
7	0.6849	1150.7	1171.1	1167.7	0.000	2.881	73.604	22.825	0.675	0.007	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.77
8	0.6889	1152.2	1172.6	1169.4	0.060	3.072	73.253	22.535	1.022	0.019	0.036	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1409.64
9	0.7165	1150.3	1170.7	1167.4	0.884	4.503	72.233	17.705	4.209	0.139	0.294	0.016	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1379.94
10	0.7004	1138.7	1158.9	1155.5	0.883	3.696	74.784	16.786	3.438	0.124	0.257	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1381.52
11	0.6846	1120.4	1140.3	1137.0	0.879	3.338	77.065	15.725	2.702	0.089	0.182	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1374.98
12	0.6796	1114.4	1134.2	1130.9	0.880	3.233	77.692	15.565	2.382	0.076	0.155	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1372.64
13	0.6996	1135.7	1155.8	1152.2	0.880	3.817	74.997	16.358	3.543	0.121	0.257	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1378.58
14	0.6979	1139.6	1159.8	1156.2	0.688	3.715	74.424	17.878	2.970	0.098	0.205	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1385.14
15	0.6841	1149.7	1170.1	1166.7	0.000	2.858	73.778	22.681	0.667	0.007	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.48
16	0.6839	1149.3	1169.6	1166.3	0.000	2.873	73.776	22.702	0.634	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.05
17	0.6854	1151.5	1171.8	1168.5	0.000	2.881	73.509	22.920	0.676	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.19
18	0.6847	1150.7	1171.1	1167.8	0.000	2.862	73.642	22.808	0.672	0.007	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.99
19	0.6848	1150.5	1170.8	1167.5	0.000	2.881	73.640	22.786	0.677	0.007	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.62
20	0.6851	1151.3	1171.7	1168.3	0.000	2.864	73.594	22.824	0.704	0.007	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.30
21	0.6855	1151.7	1172.1	1168.9	0.000	2.875	73.472	22.971	0.666	0.007	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.41
22	0.6855	1151.6	1172.0	1168.7	0.000	2.882	73.478	22.954	0.670	0.007	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.26
23	0.6852	1151.2	1171.6	1168.2	0.000	2.876	73.553	22.875	0.681	0.007	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.11
24	0.6858	1153.0	1173.4	1170.1	0.000	2.823	73.497	22.927	0.737	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.69
25	0.6854	1152.5	1172.9	1169.5	0.000	2.814	73.546	22.926	0.699	0.007	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.52
26	0.6857	1152.7	1173.1	1169.5	0.000	2.835	73.491	22.945	0.714	0.007	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.37
27	0.6863	1152.9	1173.3	1169.7	0.000	2.872	73.417	22.939	0.757	0.007	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.10
28	0.6880	1153.7	1174.2	1170.5	0.000	2.983	73.021	23.254	0.727	0.007	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.35
29	0.6867	1153.0	1173.4	1169.8	0.000	2.908	73.300	23.038	0.739	0.007	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.76
30	0.6859	1152.2	1172.6	1169.1	0.000	2.884	73.456	22.917	0.729	0.007	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.56
Avg	0.6877	1148.0	1168.2	1164.8	0.172	3.053	73.854	21.629	1.207	0.028	0.053	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1405.44

Zone 31

Source Daily Summary

June 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	0.6722	1115.0	1134.8	1131.5	0.542	3.016	78.319	16.006	1.956	0.056	0.092	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1380.86	
2	0.6751	1119.4	1139.2	1135.9	0.570	2.982	77.952	16.196	2.121	0.062	0.104	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1383.28	
3	0.6716	1113.9	1133.6	1130.3	0.579	2.977	78.426	15.964	1.888	0.056	0.097	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1380.02	
4	0.6669	1107.0	1126.6	1123.4	0.283	3.404	78.692	15.820	1.707	0.035	0.054	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1376.41	
5	0.6708	1115.8	1135.6	1132.3	0.334	3.161	77.667	17.357	1.381	0.034	0.057	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1383.22	
6	0.6859	1136.4	1156.5	1153.1	0.635	2.865	75.769	18.541	1.972	0.072	0.127	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1393.14	
7	0.6842	1141.2	1161.4	1158.0	0.306	2.925	74.947	20.338	1.369	0.039	0.067	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1400.74	
8	0.6851	1147.6	1167.9	1164.5	0.126	2.897	74.040	21.936	0.946	0.019	0.032	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1407.69	
9	0.6835	1142.2	1162.5	1159.1	0.203	2.952	74.632	21.044	1.091	0.027	0.046	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1402.81	
10	0.6883	1139.7	1159.9	1156.5	0.440	3.186	74.850	19.467	1.881	0.056	0.108	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1394.83	
11	0.6847	1134.9	1155.0	1151.6	0.426	3.163	75.428	19.055	1.763	0.054	0.099	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1392.59	
12	0.6785	1121.7	1141.6	1138.2	0.543	3.203	76.912	17.310	1.870	0.054	0.095	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1382.68	
13	0.6790	1123.2	1143.1	1139.7	0.583	3.102	76.961	17.235	1.944	0.060	0.102	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1383.94	
14	0.6810	1125.7	1145.6	1142.3	0.598	3.117	76.628	17.480	1.990	0.063	0.110	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1384.97	
15	0.6787	1125.1	1145.0	1141.6	0.469	3.132	76.618	17.916	1.722	0.049	0.083	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1386.60	
16	0.6828	1129.5	1149.5	1146.1	0.494	3.213	75.983	18.268	1.876	0.056	0.096	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1387.83	
17	0.6861	1130.7	1150.7	1147.1	0.711	3.116	76.051	17.659	2.229	0.078	0.137	0.010	0.009	0.000	0.000	0.000	0.000	0.000	1385.93	
18	0.6902	1137.1	1157.3	1153.5	0.814	2.952	75.506	18.135	2.325	0.089	0.158	0.012	0.011	0.000	0.000	0.000	0.000	0.000	1389.70	
19	0.6871	1135.5	1155.6	1152.0	0.569	3.129	75.392	18.730	1.975	0.067	0.120	0.009	0.008	0.000	0.000	0.000	0.000	0.000	1390.91	
20	0.6810	1127.0	1146.9	1143.6	0.521	3.150	76.365	17.957	1.847	0.054	0.094	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1386.63	
21	0.6810	1133.7	1153.7	1150.4	0.309	3.070	75.537	19.634	1.355	0.033	0.056	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1394.87	
22	0.6786	1124.1	1144.0	1140.6	0.403	3.282	76.549	17.891	1.748	0.044	0.074	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1385.52	
23	0.6772	1120.9	1140.8	1137.4	0.536	3.137	77.046	17.379	1.745	0.053	0.091	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1383.08	
24	0.6799	1128.8	1148.8	1145.4	0.599	2.823	76.588	18.118	1.698	0.058	0.102	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1389.93	
25	0.6780	1122.0	1141.9	1138.8	0.755	2.813	77.501	16.743	1.978	0.070	0.123	0.009	0.008	0.000	0.000	0.000	0.000	0.000	1383.55	
26	0.6782	1123.0	1142.9	1139.5	0.634	2.958	77.116	17.269	1.840	0.061	0.107	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1384.56	
27	0.6789	1122.1	1142.0	1138.6	0.706	2.967	77.203	16.968	1.946	0.069	0.124	0.009	0.008	0.000	0.000	0.000	0.000	0.000	1382.77	
28	0.6784	1121.1	1141.0	1137.6	0.718	2.963	77.362	16.751	2.001	0.068	0.121	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1382.03	
29	0.6777	1122.7	1142.6	1139.2	0.608	2.972	77.189	17.186	1.876	0.057	0.099	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1384.68	
30	0.6752	1120.0	1139.8	1136.4	0.586	2.933	77.498	17.108	1.729	0.050	0.086	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1383.94	
Avg	0.6799	1127.0	1146.9	1143.5	0.520	3.052	76.558	17.915	1.792	0.055	0.095	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1387.66	

Zone 32

Source Daily Summary

June 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	0.6875	1154.2	1174.7	1170.3	0.000	2.908	73.067	23.344	0.667	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.45	-25.67
2	0.6873	1153.7	1174.1	1169.7	0.000	2.929	73.111	23.262	0.683	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.89	-25.73
3	0.6870	1153.9	1174.3	1169.9	0.000	2.883	73.198	23.211	0.693	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.53	-25.77
4	0.6872	1154.6	1175.0	1170.5	0.000	2.858	73.202	23.198	0.725	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.16	-25.49
5	0.6863	1153.3	1173.7	1169.2	0.000	2.853	73.335	23.117	0.682	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.52	-26.12
6	0.6864	1153.1	1173.6	1169.0	0.000	2.872	73.305	23.132	0.677	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.22	-26.12
7	0.6860	1152.1	1172.5	1168.2	0.000	2.895	73.346	23.109	0.636	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.41	-26.52
8	0.6863	1152.2	1172.6	1168.1	0.000	2.915	73.264	23.194	0.613	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.24	-26.52
9	0.6869	1153.5	1174.0	1169.5	0.000	2.900	73.171	23.256	0.659	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.14	-25.95
10	0.6860	1152.6	1173.0	1168.4	0.000	2.873	73.356	23.105	0.653	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.90	-26.38
11	0.6856	1151.5	1171.9	1167.3	0.000	2.899	73.420	23.030	0.637	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.02	-26.72
12	0.6861	1152.8	1173.2	1168.6	0.000	2.870	73.333	23.127	0.655	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.05	-26.31
13	0.6861	1152.8	1173.2	1169.0	0.000	2.868	73.353	23.094	0.671	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.09	-26.25
14	0.6860	1153.0	1173.4	1169.2	0.000	2.844	73.405	23.044	0.693	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.45	-26.20
15	0.6855	1151.7	1172.1	1167.7	0.000	2.877	73.436	23.040	0.633	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.38	-26.73
16	0.6866	1153.5	1173.9	1169.2	0.000	2.875	73.234	23.220	0.658	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.38	-26.07
17	0.6868	1153.7	1174.1	1169.3	0.000	2.877	73.211	23.228	0.671	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.49	-25.94
18	0.6869	1154.0	1174.4	1169.8	0.000	2.871	73.217	23.205	0.694	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.69	-25.79
19	0.6862	1152.9	1173.3	1168.7	0.000	2.870	73.325	23.131	0.660	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.11	-26.26
20	0.6873	1154.4	1174.9	1170.3	0.000	2.876	73.145	23.265	0.699	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.91	-25.60
21	0.6870	1154.0	1174.4	1169.8	0.000	2.881	73.153	23.301	0.652	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.59	-25.91
22	0.6873	1154.5	1174.9	1170.5	0.000	2.873	73.124	23.315	0.674	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.95	-25.69
23	0.6873	1154.6	1175.1	1170.6	0.000	2.863	73.150	23.273	0.700	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.15	-25.57
24	0.6873	1155.6	1176.1	1171.7	0.000	2.808	73.177	23.277	0.723	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1415.30	-25.33
25	0.6874	1155.3	1175.8	1171.3	0.000	2.834	73.117	23.348	0.688	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.86	-25.48
26	0.6873	1156.4	1176.9	1172.3	0.000	2.762	73.169	23.337	0.719	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1416.25	-25.24
27	0.6894	1156.7	1177.1	1172.7	0.000	2.938	72.780	23.498	0.770	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.46	-24.42
28	0.6891	1156.2	1176.7	1172.3	0.000	2.938	72.819	23.480	0.749	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.21	-24.64
29	0.6884	1156.0	1176.5	1172.2	0.000	2.885	72.951	23.413	0.737	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.69	-24.90
30	0.6874	1154.6	1175.1	1170.7	0.000	2.873	73.133	23.276	0.705	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.05	-25.52
Avg	0.6869	1154.0	1174.3	1169.9	0.000	2.876	73.200	23.228	0.682	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.62	-25.83

Zone 33

Source Daily Summary

June 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	0.5729	961.2	978.3	975.5	0.107	3.718	95.843	0.308	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1289.44	
2	0.5729	961.2	978.3	975.3	0.107	3.717	95.845	0.306	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1289.44	
3	0.5728	961.6	978.7	975.8	0.108	3.677	95.881	0.309	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.16	
4	0.5731	960.8	977.8	974.9	0.106	3.758	95.806	0.306	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1288.72	
5	0.5730	960.9	977.9	975.1	0.106	3.748	95.816	0.306	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1288.90	
6	0.5729	961.3	978.4	975.3	0.106	3.708	95.857	0.306	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1289.64	
7	0.5729	961.3	978.3	975.4	0.106	3.710	95.854	0.306	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1289.58	
8	0.5729	961.3	978.3	975.5	0.107	3.715	95.847	0.307	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1289.49	
9	0.5728	961.4	978.5	975.6	0.108	3.697	95.863	0.308	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1289.79	
10	0.5728	961.5	978.5	975.7	0.108	3.691	95.869	0.309	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1289.91	
11	0.5728	961.5	978.5	975.6	0.107	3.694	95.868	0.307	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1289.85	
12	0.5729	961.3	978.3	975.4	0.108	3.711	95.852	0.306	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1289.53	
13	0.5728	961.4	978.4	975.4	0.108	3.700	95.863	0.305	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1289.72	
14	0.5728	961.6	978.6	975.6	0.107	3.683	95.879	0.307	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.05	
15	0.5725	961.6	978.7	975.7	0.108	3.656	95.933	0.279	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.39	
16	0.5725	961.5	978.5	975.6	0.108	3.664	95.938	0.266	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.20	
17	0.5725	961.8	978.8	975.9	0.109	3.637	95.953	0.277	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.70	
18	0.5726	961.5	978.5	975.6	0.107	3.670	95.925	0.274	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.14	
19	0.5729	960.7	977.7	974.8	0.105	3.749	95.842	0.281	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1288.78	
20	0.5730	961.0	978.0	975.1	0.106	3.738	95.828	0.304	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1289.07	
21	0.5726	960.5	977.5	974.7	0.102	3.739	95.902	0.233	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1288.83	
22	0.5729	961.1	978.1	975.2	0.106	3.732	95.834	0.304	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1289.17	
23	0.5729	960.8	977.8	974.9	0.106	3.746	95.840	0.285	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1288.85	
24	0.5729	960.9	977.9	975.0	0.106	3.739	95.846	0.286	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1288.98	
25	0.5728	960.7	977.7	974.8	0.105	3.739	95.867	0.267	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1288.92	
26	0.5727	960.5	977.5	974.5	0.102	3.746	95.888	0.241	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1288.73	
27	0.5727	960.8	977.9	974.8	0.103	3.728	95.880	0.267	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1289.16	
28	0.5723	961.1	978.1	974.8	0.100	3.683	95.963	0.230	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1289.87	
29	0.5729	961.3	978.3	975.0	0.106	3.715	95.847	0.307	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1289.49	
30	0.5725	961.6	978.7	975.6	0.108	3.656	95.933	0.279	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.39	
Avg	0.5728	961.0	978.2	975.3	0.106	3.709	95.872	0.289	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1289.53	

Zone 34

Source Daily Summary

June 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	0.6846	1123.8	1143.7	1140.7	1.041	2.908	75.175	19.690	1.172	0.006	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1379.01	-28.41
2	0.6907	1134.4	1154.5	1151.5	1.037	2.838	73.819	21.263	1.018	0.010	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1385.92	-25.55
3	0.6913	1136.1	1156.2	1153.2	1.033	2.797	73.747	21.322	1.079	0.009	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1387.42	-24.88
4	0.6868	1129.3	1149.2	1146.3	1.039	2.790	74.272	21.187	0.696	0.006	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1383.49	-28.76
5	0.6948	1143.7	1163.9	1160.9	1.016	2.687	73.197	21.852	1.217	0.012	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1393.18	-22.28
6	0.6924	1139.4	1159.6	1156.5	1.014	2.734	73.678	21.306	1.239	0.012	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1390.25	-23.48
7	0.6948	1140.0	1160.2	1157.2	1.023	2.903	73.243	21.507	1.293	0.012	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1388.65	-22.47
8	0.6972	1144.8	1165.1	1162.1	1.023	2.836	73.034	21.516	1.552	0.015	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1392.08	-20.12
9	0.6962	1144.7	1165.0	1162.0	1.015	2.759	73.247	21.383	1.558	0.015	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1392.97	-20.39
10	0.6916	1136.6	1156.7	1153.7	1.030	2.794	74.369	20.025	1.759	0.011	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1387.71	-22.24
11	0.6869	1127.6	1147.6	1144.6	1.043	2.879	74.856	19.911	1.297	0.007	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1381.51	-26.65
12	0.6798	1115.9	1135.7	1132.7	1.031	2.944	75.870	19.253	0.893	0.004	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1374.27	-32.28
13	0.6824	1120.9	1140.7	1137.7	1.061	2.852	75.243	20.065	0.771	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1377.64	-31.06
14	0.6799	1117.9	1137.7	1134.8	1.041	2.824	75.733	19.630	0.764	0.004	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1376.58	-32.33
15	0.6886	1132.2	1152.3	1149.3	1.031	2.780	74.681	20.026	1.463	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1385.34	-24.94
16	0.6798	1117.0	1136.8	1133.8	1.053	2.855	75.769	19.543	0.773	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1375.52	-32.45
17	0.6833	1122.9	1142.8	1139.8	1.048	2.829	75.431	19.534	1.147	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1379.26	-29.00
18	0.6794	1115.7	1135.5	1132.6	1.055	2.889	75.800	19.523	0.726	0.003	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1374.40	-32.94
19	0.6821	1121.8	1141.7	1138.7	1.041	2.791	75.576	19.534	1.046	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1379.15	-29.93
20	0.6817	1120.7	1140.5	1137.6	1.042	2.821	75.576	19.582	0.969	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1378.17	-30.51
21	0.6814	1120.9	1140.7	1137.8	1.034	2.793	75.604	19.620	0.939	0.004	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1378.72	-30.69
22	0.6833	1123.9	1143.8	1140.9	1.032	2.787	75.446	19.564	1.160	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1380.56	-28.80
23	0.6796	1117.9	1137.7	1134.8	1.057	2.768	75.796	19.639	0.734	0.003	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1376.94	-32.55
24	0.6848	1124.0	1143.9	1140.9	1.050	2.898	75.064	19.888	1.088	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1379.09	-28.62
25	0.6817	1118.5	1138.3	1135.3	1.041	2.960	75.544	19.482	0.963	0.004	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1375.43	-30.86
26	0.6807	1118.2	1138.0	1135.1	1.056	2.858	75.672	19.548	0.857	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1376.14	-31.67
27	0.6890	1132.4	1152.4	1149.4	1.040	2.803	73.948	21.376	0.813	0.008	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1385.09	-27.18
28	0.6942	1140.5	1160.6	1157.6	1.031	2.809	73.188	21.843	1.101	0.011	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1389.81	-23.29
29	0.6978	1147.2	1167.5	1164.5	1.019	2.753	72.752	22.049	1.392	0.014	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1394.41	-20.27
30	0.6982	1147.9	1168.2	1165.2	1.017	2.752	72.654	22.165	1.377	0.014	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1394.85	-20.13
Avg	0.6872	1129.0	1149.2	1146.2	1.037	2.823	74.599	20.428	1.095	0.008	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1383.12	-27.16

Zone 43

June-19

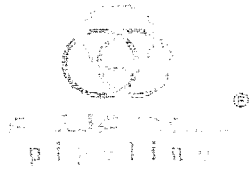
ZONE 550

MANDAN BORDER

NBPL - St Anthony

Weighted

Start Date	End Date	MCF	DK	BTU	MCF	DK	BTU Zone 28	AVG BTU	
6/1/2019	6/2/2019				867	1034	1.1916	1.192	6/1/2019
6/2/2019	6/3/2019				879	1047	1.1897	1.190	6/2/2019
6/3/2019	6/4/2019				914	1102	1.2051	1.205	6/3/2019
6/4/2019	6/5/2019				923	1107	1.1995	1.200	6/4/2019
6/5/2019	6/6/2019				878	1058	1.2056	1.206	6/5/2019
6/6/2019	6/7/2019				812	979	1.2040	1.204	6/6/2019
6/7/2019	6/8/2019				803	977	1.2165	1.217	6/7/2019
6/8/2019	6/9/2019				1019	1231	1.2068	1.207	6/8/2019
6/9/2019	6/10/2019				957	1150	1.2005	1.201	6/9/2019
6/10/2019	6/11/2019				906	1089	1.2010	1.201	6/10/2019
6/11/2019	6/12/2019				927	1114	1.2023	1.202	6/11/2019
6/12/2019	6/13/2019	2770	3034	1.0951	880	1063	1.2080	1.122	6/12/2019
6/13/2019	6/14/2019				835	1006	1.2052	1.205	6/13/2019
6/14/2019	6/15/2019				779	937	1.2029	1.203	6/14/2019
6/15/2019	6/16/2019				795	961	1.2082	1.208	6/15/2019
6/16/2019	6/17/2019				890	1078	1.2105	1.211	6/16/2019
6/17/2019	6/18/2019				955	1155	1.2104	1.210	6/17/2019
6/18/2019	6/19/2019				943	1138	1.2069	1.207	6/18/2019
6/19/2019	6/20/2019				1139	1379	1.2102	1.210	6/19/2019
6/20/2019	6/21/2019				955	1154	1.2084	1.208	6/20/2019
6/21/2019	6/22/2019				1095	1327	1.2121	1.212	6/21/2019
6/22/2019	6/23/2019				901	1091	1.2113	1.211	6/22/2019
6/23/2019	6/24/2019				839	1019	1.2144	1.214	6/23/2019
6/24/2019	6/25/2019				901	1088	1.2073	1.207	6/24/2019
6/25/2019	6/26/2019				887	1054	1.1892	1.189	6/25/2019
6/26/2019	6/27/2019				786	949	1.2070	1.207	6/26/2019
6/27/2019	6/28/2019				788	952	1.2077	1.208	6/27/2019
6/28/2019	6/29/2019				775	930	1.1997	1.200	6/28/2019
6/29/2019	6/30/2019				725	869	1.1977	1.198	6/29/2019
6/30/2019	7/1/2019				795	950	1.1960	1.196	6/30/2019
		2,770	3,034	1.0951	26,548	31,988	1.2045	1.2017	



Alliance Pipeline

DAILY ANALYSIS — USA
 ND07MD1 — Hankinson Sales
 June 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	1,167.762	0.6703	83.5122	9.6805	3.9521	0.4485	0.8250	0.0663	0.0509	0.0234	0.9978	0.4323	0.0110
2	1,165.669	0.6691	83.6347	9.6335	3.9085	0.4376	0.7986	0.0647	0.0486	0.0233	1.0131	0.4268	0.0106
3	1,163.706	0.6676	83.8559	9.4600	3.9087	0.4265	0.7742	0.0650	0.0487	0.0241	1.0111	0.4150	0.0109
4	1,163.197	0.6679	83.7962	9.4822	3.9015	0.4284	0.7675	0.0645	0.0492	0.0250	1.0335	0.4412	0.0109
5	1,164.783	0.6683	83.8080	9.4807	3.9452	0.4328	0.7744	0.0640	0.0494	0.0253	0.9560	0.4532	0.0109
6	1,165.571	0.6693	83.6921	9.4786	4.0112	0.4336	0.7846	0.0643	0.0498	0.0240	0.9948	0.4561	0.0110
7	1,164.502	0.6676	83.8747	9.4614	3.9356	0.4288	0.7680	0.0642	0.0502	0.0239	0.9696	0.4120	0.0115
8	1,164.056	0.6682	83.7407	9.5372	3.9462	0.4202	0.7590	0.0621	0.0493	0.0239	1.0145	0.4354	0.0116
9	1,165.011	0.6690	83.5774	9.6097	4.0752	0.4069	0.7148	0.0621	0.0484	0.0234	1.0401	0.4318	0.0104
10	1,164.748	0.6684	83.6772	9.5644	4.0563	0.4082	0.7150	0.0616	0.0482	0.0231	1.0125	0.4226	0.0109
11	1,169.943	0.6717	83.3551	9.6587	4.1762	0.4375	0.7740	0.0713	0.0551	0.0263	1.0184	0.4163	0.0111
12	1,167.143	0.6700	83.5498	9.5495	4.1334	0.4232	0.7501	0.0661	0.0513	0.0240	1.0261	0.4157	0.0110
13	1,162.452	0.6671	83.8959	9.3927	3.9728	0.4111	0.7220	0.0645	0.0512	0.0253	1.0274	0.4258	0.0112
14	1,163.497	0.6678	83.8119	9.4513	3.9800	0.4159	0.7324	0.0668	0.0528	0.0256	1.0298	0.4224	0.0113
15	1,162.310	0.6657	83.9528	9.5781	3.8901	0.3923	0.6872	0.0630	0.0511	0.0233	0.9663	0.3851	0.0109
16	1,157.255	0.6627	84.3416	9.4025	3.7430	0.3736	0.6359	0.0631	0.0516	0.0263	0.9276	0.4236	0.0112
17	1,152.193	0.6579	84.9927	9.0807	3.6723	0.3477	0.5477	0.0591	0.0486	0.0244	0.8207	0.3947	0.0115
18	1,142.851	0.6483	86.4566	8.3366	3.3726	0.3250	0.4837	0.0537	0.0448	0.0224	0.5250	0.3671	0.0125
19	1,142.851	0.6483	86.4566	8.3366	3.3726	0.3250	0.4837	0.0537	0.0448	0.0224	0.5250	0.3671	0.0125
20	1,142.851	0.6483	86.4566	8.3366	3.3726	0.3250	0.4837	0.0537	0.0448	0.0224	0.5250	0.3671	0.0125
21	1,142.829	0.6482	86.4681	8.3310	3.3733	0.3244	0.4822	0.0538	0.0448	0.0225	0.5222	0.3652	0.0125
22	1,143.970	0.6489	86.3742	8.3756	3.4175	0.3274	0.4855	0.0539	0.0447	0.0220	0.5240	0.3628	0.0125
23	1,143.712	0.6488	86.3848	8.3690	3.4110	0.3266	0.4843	0.0537	0.0446	0.0218	0.5259	0.3658	0.0125
24	1,144.366	0.6495	86.3016	8.3762	3.4689	0.3251	0.4802	0.0545	0.0450	0.0225	0.5480	0.3655	0.0125
25	1,141.772	0.6528	85.5373	8.8217	3.2623	0.3280	0.5516	0.0578	0.0447	0.0206	0.9716	0.3927	0.0118
26	1,151.269	0.6581	84.8859	9.1498	3.6182	0.3448	0.5736	0.0538	0.0451	0.0223	0.8978	0.3968	0.0119
27	1,152.714	0.6603	84.5973	9.1769	3.7894	0.3382	0.5602	0.0550	0.0468	0.0240	0.9724	0.4281	0.0116
28	1,165.501	0.6684	83.6255	9.7084	4.0632	0.3847	0.6566	0.0714	0.0594	0.0309	0.9645	0.4236	0.0118
29	1,167.210	0.6690	83.5643	9.7782	4.0466	0.4028	0.6910	0.0710	0.0566	0.0290	0.9329	0.4166	0.0110
30	1,165.689	0.6681	83.6391	9.7525	4.0068	0.3995	0.6765	0.0666	0.0558	0.0287	0.9610	0.4032	0.0102
Volume	1,157.594	0.6621	84.5427	9.2051	3.7892	0.3845	0.6527	0.0614	0.0492	0.0242	0.8722	0.4074	0.0115
Weight Avg Energy	1,157.677	0.6621	84.5331	9.2094	3.7915	0.3848	0.6537	0.0615	0.0492	0.0242	0.8737	0.4075	0.0115

Zone 050

June-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		
6/1/2019	6/2/2019	172	206	1.1986	60	69	1.1437	1.184	6/1/2019
6/2/2019	6/3/2019	166	199	1.1986	31	36	1.1545	1.192	6/2/2019
6/3/2019	6/4/2019	159	191	1.1986	38	44	1.1562	1.190	6/3/2019
6/4/2019	6/5/2019	177	213	1.1986	57	65	1.1492	1.187	6/4/2019
6/5/2019	6/6/2019	172	206	1.1986	52	61	1.1639	1.191	6/5/2019
6/6/2019	6/7/2019	157	189	1.1986	36	42	1.1596	1.191	6/6/2019
6/7/2019	6/8/2019	169	203	1.1986	56	64	1.1602	1.189	6/7/2019
6/8/2019	6/9/2019	216	258	1.1986	68	79	1.1651	1.191	6/8/2019
6/9/2019	6/10/2019	202	242	1.1986	50	59	1.1650	1.192	6/9/2019
6/10/2019	6/11/2019	196	235	1.1986	46	53	1.1567	1.191	6/10/2019
6/11/2019	6/12/2019	179	215	1.1986	47	54	1.1476	1.188	6/11/2019
6/12/2019	6/13/2019	177	212	1.1986	42	48	1.1357	1.187	6/12/2019
6/13/2019	6/14/2019	146	175	1.1986	47	54	1.1407	1.185	6/13/2019
6/14/2019	6/15/2019	158	190	1.1986	38	44	1.1377	1.187	6/14/2019
6/15/2019	6/16/2019	173	207	1.1986	50	57	1.1523	1.188	6/15/2019
6/16/2019	6/17/2019	184	221	1.1986	48	55	1.1368	1.186	6/16/2019
6/17/2019	6/18/2019	205	245	1.1986	63	72	1.1428	1.185	6/17/2019
6/18/2019	6/19/2019	173	208	1.1986	59	67	1.1355	1.183	6/18/2019
6/19/2019	6/20/2019	173	208	1.1986	62	70	1.1417	1.184	6/19/2019
6/20/2019	6/21/2019	166	200	1.1986	71	81	1.1405	1.181	6/20/2019
6/21/2019	6/22/2019	197	237	1.1986	74	84	1.1407	1.183	6/21/2019
6/22/2019	6/23/2019	189	227	1.1986	64	73	1.1438	1.185	6/22/2019
6/23/2019	6/24/2019	172	206	1.1986	40	46	1.1377	1.187	6/23/2019
6/24/2019	6/25/2019	176	211	1.1986	64	73	1.1439	1.184	6/24/2019
6/25/2019	6/26/2019	169	202	1.1986	55	63	1.1383	1.184	6/25/2019
6/26/2019	6/27/2019	155	186	1.1986	83	94	1.1380	1.177	6/26/2019
6/27/2019	6/28/2019	150	180	1.1986	80	92	1.1524	1.183	6/27/2019
6/28/2019	6/29/2019	102	123	1.1986	65	75	1.1606	1.184	6/28/2019
6/29/2019	6/30/2019	105	126	1.1986	55	64	1.1675	1.188	6/29/2019
6/30/2019	7/1/2019	116	139	1.1986	44	51	1.1682	1.190	6/30/2019
		5,051	6,060		1,645	1,889	1.1492	1.1865	

ROW ID	LOCATION DESCRIPTION	GROSS HEATING VALUE (BTU/C F)	SPECIFIC GRAVITY	WOBBE (cal)	CRUCONDENTHERM (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	Changeimestamp	NOTES
11587	GLEN ULLIN	1097.6	0.6402	1371.7	-49.2	1.6689	0.9174	83.9323	12.3882	0.8746	0.0524	0.0262	0.0038	0.0034	0	0	0.1137	0.0191	5/31/2019	6/1/2019	6/1/2019 3:34:22 PM	
11587	GLEN ULLIN	1097.6	0.6402	1371.7	-49.2	1.6689	0.9174	83.9323	12.3882	0.8746	0.0524	0.0262	0.0038	0.0034	0	0	0.1137	0.0191	6/1/2019	6/2/2019	6/2/2019 3:34:20 PM	
11587	GLEN ULLIN	1097.6	0.6402	1371.7	-49.2	1.6689	0.9174	83.9323	12.3882	0.8746	0.0524	0.0262	0.0038	0.0034	0	0	0.1137	0.0191	6/2/2019	6/3/2019	6/3/2019 3:36:31 PM	
11587	GLEN ULLIN	1099.3	0.641	1373	-45.6	1.7033	0.8747	83.862	12.5766	0.8178	0.058	0.0289	0.0076	0.0066	0	0.004	0.0418	0.0189	6/3/2019	6/4/2019	6/4/2019 3:40:56 PM	
11587	GLEN ULLIN	1100.8	0.6418	1374.1	-45.6	1.7014	0.8657	83.6553	12.8736	0.7623	0.0546	0.0259	0.0081	0.0066	0	0.0041	0.0237	0.0188	6/4/2019	6/5/2019	6/5/2019 3:36:39 PM	
11587	GLEN ULLIN	1105.6	0.6453	1376.4	-44.5	1.7409	0.8655	83.1073	13.2208	0.9325	0.0537	0.0293	0.0058	0.0057	0	0.0025	0.017	0.0192	6/5/2019	6/6/2019	6/6/2019 3:37:01 PM	
11587	GLEN ULLIN	1104.1	0.6444	1375.4	-45.8	1.7441	0.8676	83.2814	13.0255	0.9512	0.0503	0.028	0.0043	0.0045	0	0.0013	0.0228	0.0192	6/6/2019	6/7/2019	6/7/2019 3:37:47 PM	
11587	GLEN ULLIN	1102.7	0.6439	1374.1	-47	1.773	0.8743	83.1985	13.129	0.8612	0.0457	0.0258	0.0036	0.004	0	0.0011	0.0646	0.0193	6/7/2019	6/8/2019	6/8/2019 3:35:32 PM	
11587	GLEN ULLIN	1105	0.6454	1375.4	-45.6	1.7742	0.8768	83.0056	13.2585	0.9317	0.0487	0.0288	0.0038	0.0044	0	0.0011	0.0477	0.0188	6/8/2019	6/9/2019	6/9/2019 3:34:14 PM	
11587	GLEN ULLIN	1107.4	0.648	1375.7	-43.7	1.849	0.8901	82.5804	13.5438	0.9866	0.0537	0.0312	0.0045	0.005	0	0.0014	0.0353	0.0193	6/9/2019	6/10/2019	6/10/2019 3:35:32 PM	
11587	GLEN ULLIN	1103	0.645	1373.4	-46.8	1.8398	0.887	83.0227	13.2234	0.8867	0.0449	0.0243	0.0034	0.0035	0	0.0005	0.0444	0.0195	6/10/2019	6/11/2019	6/11/2019 3:34:36 PM	
11587	GLEN ULLIN	1102.9	0.6449	1373.4	-46.9	1.8304	0.8908	83.0404	13.2236	0.8751	0.0451	0.024	0.0036	0.0036	0	0.0007	0.0435	0.0194	6/11/2019	6/12/2019	6/12/2019 3:34:12 PM	
11587	GLEN ULLIN	1099.4	0.642	1372.1	-48.9	1.7696	0.8885	83.5522	12.8747	0.7805	0.0443	0.0227	0.0039	0.0037	0	0.0009	0.0405	0.0188	6/12/2019	6/13/2019	6/13/2019 3:36:47 PM	
11587	GLEN ULLIN	1099.9	0.6425	1372.1	-48.7	1.788	0.89	83.4581	12.9607	0.7721	0.0464	0.0233	0.0039	0.0037	0	0.0009	0.0337	0.0194	6/13/2019	6/14/2019	6/14/2019 3:39:10 PM	
11587	GLEN ULLIN	1101.7	0.644	1372.9	-48	1.8076	0.8971	83.091	13.3117	0.7457	0.0455	0.023	0.0037	0.0036	0	0.0008	0.0513	0.0191	6/14/2019	6/15/2019	6/15/2019 3:34:20 PM	
11587	GLEN ULLIN	1100.2	0.6426	1372.4	-49.2	1.7936	0.8806	83.4341	12.9972	0.788	0.0392	0.0206	0.0028	0.0027	0	0.0002	0.0216	0.0196	6/15/2019	6/16/2019	6/16/2019 3:34:25 PM	
11587	GLEN ULLIN	1099.7	0.6425	1371.9	-48.7	1.8199	0.8733	83.4717	12.9521	0.7641	0.0465	0.0254	0.0039	0.0041	0	0.0009	0.0183	0.0199	6/16/2019	6/17/2019	6/17/2019 3:37:33 PM	
11587	GLEN ULLIN	1098.1	0.6407	1371.9	-49.7	1.7539	0.8712	83.7943	12.6314	0.8075	0.0425	0.0228	0.0032	0.0032	0	0.0004	0.0505	0.0194	6/17/2019	6/18/2019	6/18/2019 3:43:24 PM	
11587	GLEN ULLIN	1094.4	0.6383	1369.9	-52	1.7574	0.8644	84.1812	12.3493	0.7143	0.0391	0.02	0.0031	0.0028	0	0.0002	0.0491	0.0193	6/18/2019	6/19/2019	6/19/2019 3:38:52 PM	
11587	GLEN ULLIN	1094.7	0.6384	1370	-51.8	1.7468	0.8652	84.2381	12.3135	0.7268	0.0396	0.0211	0.003	0.003	0	0.0004	0.0231	0.0195	6/19/2019	6/20/2019	6/20/2019 3:33:23 PM	
11587	GLEN ULLIN	1094.7	0.6381	1370.4	-51.5	1.7485	0.8475	84.2757	12.2397	0.7565	0.0407	0.0228	0.0031	0.0033	0	0.0005	0.0424	0.0195	6/20/2019	6/21/2019	6/21/2019 3:38:15 PM	
11587	GLEN ULLIN	1096.7	0.6398	1371.1	-50.2	1.7625	0.8634	83.9399	12.5126	0.7746	0.0409	0.0249	0.0032	0.0037	0	0.0009	0.0545	0.0193	6/21/2019	6/22/2019	6/22/2019 3:33:29 PM	
11587	GLEN ULLIN	1095.7	0.6389	1370.8	-51.1	1.737	0.8635	84.0887	12.4269	0.7397	0.0401	0.0231	0.0032	0.0035	0	0.0007	0.0549	0.0189	6/22/2019	6/23/2019	6/23/2019 3:32:55 PM	
11587	GLEN ULLIN	1093.3	0.6371	1369.7	-52.3	1.7384	0.8505	84.3896	12.1587	0.7148	0.0388	0.0218	0.003	0.0032	0	0.0008	0.0627	0.0186	6/23/2019	6/24/2019	6/24/2019 3:35:35 PM	
11587	GLEN ULLIN	1091.8	0.6362	1368.8	-53.1	1.7121	0.8673	84.617	11.9089	0.7511	0.035	0.02	0.0025	0.0027	0	0.0004	0.0645	0.0187	6/24/2019	6/25/2019	6/25/2019 3:37:14 PM	
11587	GLEN ULLIN	1089.3	0.635	1367	-54.5	1.7588	0.861	84.6902	11.8139	0.6896	0.0328	0.0192	0.0022	0.0024	0	0.0001	0.1113	0.0188	6/25/2019	6/26/2019	6/26/2019 3:36:56 PM	
11587	GLEN ULLIN	1088.2	0.634	1366.7	-54.9	1.7285	0.8646	84.8139	11.6793	0.6901	0.0322	0.0177	0.0022	0.0023	0	0.0002	0.1503	0.0188	6/26/2019	6/27/2019	6/27/2019 3:38:05 PM	
11587	GLEN ULLIN	1089.7	0.6344	1368.2	-53.9	1.6813	0.8649	84.7269	11.7543	0.7193	0.0344	0.0204	0.0027	0.0029	0	0.0003	0.1745	0.0184	6/27/2019	6/28/2019	6/28/2019 3:36:53 PM	
11587	GLEN ULLIN	1093.1	0.6368	1369.8	-52.4	1.6794	0.8797	84.2862	12.1254	0.7738	0.0325	0.0189	0.002	0.0022	0	0.0002	0.1818	0.018	6/28/2019	6/29/2019	6/29/2019 3:34:02 PM	
11587	GLEN ULLIN	1092	0.636	1369.3	-52.9	1.6619	0.884	84.4813	11.9362	0.789	0.0316	0.0189	0.0017	0.0021	0	0	0.1756	0.0179	6/29/2019	6/30/2019	6/30/2019 3:42:30 PM	
11587	GLEN ULLIN	1092.1	0.6364	1369	-52.7	1.6817	0.8884	84.4643	11.9055	0.8234	0.0313	0.0177	0.0018	0.0018	0	0	0.1658	0.0185	6/30/2019	7/1/2019	7/1/2019 3:34:37 PM	

31 record(s) retrieved

FOR 2020

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	JUNE 19	MAY 19	APR 19	MAR 19	FEB 19	JAN 19	DEC 18	NOV 18	OCT 18	SEPT 18	AUG 18	JULY 18	ZONE
MT/ND	211	Sidney Border - MonDak Trf - Sidney Plt	1203	1208	1207	1202	1205	1207	1202	1200	1207	1202	1191	1203	1202	211
ND	24	Williston Border - Charbonneau Station	1157	1152	1158	1164	1166	1162	1163	1164	1163	1140	1152	1136	1158	24
ND	25	Watford City West Border	1198	1199	1188	1202	1198	1204	1191	1196	1199	1199	1200	1197	1204	25
ND	28	Bismarck Station - Glen Ullin Station	1150	1205	1178	1147	1144	1115	1141	1120	1112	1153	1173	1162	1153	28
ND	31	Dickinson Brd - Belfield Trf - G Ullin Stn	1140	1168	1165	1152	1143	1116	1139	1132	1110	1134	1144	1132	1147	31
ND/MT	32	Cabin Creek Station - Belfied Transfer	1119	1147	1138	1131	1139	1104	1128	1093	1068	1110	1106	1133	1136	32
ND	33	Little Knife Plant	1173	1174	1173	1173	1173	1173	1172	1173	1174	1172	1172	1176	1175	33
ND	34	Badlands PlanU/Bowman Border	1018	978	979	979	1013	1062	1048	1042	1073	1063	1018	979	983	34
ND	43	Spring Creek I - Sax Valve I	1117	1149	1148	1136	1127	1061	1044	1051	1062	1144	1158	1172	1152	43
ND/MT	241	Fairview Border	1191	1200	1202	1196	1188	1204	1173	1181	1193	1175	1186	1195	1196	241
ND	260	North Tioga Transfer - Nesson Plant	1113	1115	1118	1121	1127	1109	1113	1104	1095	1102	1120	1101	1127	260
ND	261	Tioga Comp Station - Robinson Lake Plan	1177	1175	1164	1170	1179	1184	1180	1173	1177	1183	1181	1175	1177	261
ND	262	Minot Bdr - Palermo Bdr - Bismarck Stn	1180	1205	1185	1183	1182	1182	1183	1182	1182	1179	1175	1160	1156	262
ND	263	Lignite Plant	1147	1160	1152	1148	1149	1146	1149	1146	1127	1140	1146	1162	1135	263
ND	264	Epping Border	1146	1150	1143	1151	1153	1148	1149	1147	1153	1139	1135	1135	1148	264
ND	265	Tioga Comp Station - County Line Plant	1178	1175	1177	1171	1181	1184	1179	1173	1177	1183	1182	1178	1176	265
ND	266	County Line Plant	1176	1170	1171	1174	1176	1170	1177	1179	1180	1181	1180	1178	1181	266
ND	271	Bismarck Station - Cleveland Station	1177	1206	1186	1183	1181	1168	1176	1180	1180	1178	1173	1162	1153	271
ND	272	Cleveland Station - Mapleton	1177	1206	1185	1183	1180	1167	1176	1180	1179	1177	1173	1160	1154	272
ND	273	Cleveland Station - Grafton Border	1176	1204	1185	1180	1181	1167	1176	1180	1179	1177	1173	1161	1153	273
ND	550	Mandan Border / NBPL-St Anthony	1143	1202	1176	1147	1119	1107	1121	1106	1102	1145	1173	1162	1150	550
ND	610	MDU-Watford City BTU	1153	1187	1176	1175	1158	1113	1101	1109	1131	1180	1181	1175	1152	610
ND	802	NBPL - Linton	1092	1098	1101	1101	1083	1083	1083	1084	1086	1092	1097	1092	1101	802
ND	903	Hettlinger Propane	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	903
ND	600	Alliance Pipeline - Hankinson	1158	1158	1169	1163	1157	1151	1155	1153	1155	1155	1160	1159	1159	600

**THERMAL ZONE VARIANCE
DOCUMENTATION**

June 2019

<i>ZONE</i>	<i>BTU VARIANCE</i>	<i>REASON</i>
28	27	Operational
262	20	Operational
271	20	Operational
272	21	Operational
273	19	Operational