



UTILITIES CO.

A Division of MDU Resources Group, Inc.

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

August 23, 2018

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

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

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

1. Attachment A is a schedule showing the thermal billing factors by community that reflect the BTU values shown on Attachment B and were used for billing purposes in July 2018.
2. Attachment B consists of copies of the monthly Heating Value Test Reports received from our suppliers for the month of June 2018.
3. Attachment C is a listing which states the type of measuring device in place at each zone.
4. Attachment D is a monthly list of the heating value data, by zone, for the most recent 12-month period and an average thereof. It is being provided pursuant to a Staff request.
5. Attachment E provides a brief explanation of the thermal variances, where applicable, for the month of June 2018.

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

Sincerely,

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

Tamie Aberle  
Director of Regulatory Affairs

**Montana-Dakota Utilities Co.**  
**Therm Billing Factors - North Dakota**  
**Jun-18**

Town	Heat Zone	Therm Factor
MDU-303-ALEXANDER	025	1.1258
MDU-308-ARNEGARD	025	1.1258
MDU-314-APPLE VALLEY	271	1.1318
MDU-318-BEACH	032	1.0286
MDU-319-BELFIELD	032	1.0361
MDU-323-BERTHOLD	262	1.1145
MDU-324-BEULAH	032	1.0361
MDU-327-BISMARCK	028	1.1308
MDU-330-BOWMAN	034	0.9137
MDU-337-BURLINGTON	262	1.1385
MDU-343-CARRINGTON	273	1.1299
MDU-344-CLEVELAND	272	1.1229
MDU-364-CAVALIER	273	1.1537
MDU-365-DAWSON	271	1.1238
MDU-368-DES LACS	262	1.1225
MDU-369-DICKINSON	031	1.4544
MDU-374-FT TOTTEN	273	1.1378
MDU-375-DEVILS LAKE	273	1.1378
MDU-379-BARLOW	273	1.1299
MDU-384-EPPING	264	1.0663
MDU-387-ELDRIDGE	272	1.1308
MDU-407-GLADSTONE	031	1.0859
MDU-411-GLEN ULLIN	031	1.0937
MDU-413-GOLVA	032	1.0135
MDU-416-GARRISON	262	1.1225
MDU-417-GRAFTON	273	1.1617
MDU-429-HEBRON	031	1.0937
MDU-432-HETTINGER	903	2.3875
MDU-449-JAMESTOWN	272	1.1388
MDU-459-KILLDEER	033	1.1107
MDU-463-LANGDON	273	1.1299
MDU-469-LEFOR	031	1.0859
MDU-474-LIGNITE	263	1.0731
MDU-475-LINTON	802	1.0450
MDU-478-LINCOLN	028	1.1308
MDU-488-MCKENZIE	271	1.1318
MDU-494-MEDINA	271	1.1238
MDU-498-MANDAN	028	1.1308
MDU-500-MARMARTH	034	0.9204
MDU-505-MINOT	262	1.1385
MDU-510-MOTT	031	1.0859
MDU-512-MAX	262	1.1145
MDU-522-NEW ENGLAND	031	1.0780
MDU-524-NEW SALEM	028	1.1070
MDU-532-NEW ROCKFORD	273	1.1299
MDU-539-PARK RIVER	273	1.1537
MDU-540-PALERMO	262	1.1145
MDU-558-RAY	264	1.0663
MDU-561-REGENT	031	1.0859

MDU-563-RHAME	034	0.9069
MDU-564-RICHARDTON	031	1.0780
MDU-568-ROSS	261	1.0962
MDU-572-RUTHVILLE	262	1.1385
MDU-574-SANBORN	272	1.1388
MDU-583-SENTINEL BUTTE	032	1.0286
MDU-588-SOUTH HEART	031	1.0780
MDU-717-SPIRITWOOD	272	1.1388
MDU-590-SPRINGBROOK	264	1.0663
MDU-591-STANLEY	261	1.1121
MDU-593-STEELE	271	1.1238
MDU-594-STERLING	028	1.1308
MDU-598-SHEYENNE	273	1.1378
MDU-605-SURREY	262	1.1385
MDU-610-TAPPEN	271	1.1238
MDU-611-TAYLOR	031	1.0780
MDU-616-TIOGA	260	0.9408
MDU-619-TURTLE LAKE	262	1.1225
MDU-620-TRENTON	024	1.0797
MDU-624-UNDERWOOD	262	1.1225
MDU-625-VALLEY CITY	272	1.1467
MDU-629-WALHALLA	273	1.1537
MDU-632-WATFORD CITY	610	1.0994
MDU-636-WHEELOCK	264	1.0587
MDU-637-WHITE EARTH	261	1.1041
MDU-642-WILLISTON	024	1.0797
MDU-646-WASHBURN	262	1.1305
MDU-647-WILTON	262	1.1145
MDU-664-RIVERDALE	262	1.1225
MDU-691-FAIRVIEW	241	1.1111
MDU-712-MINOT AFB	262	1.1385
MDU-718-FAIRMOUNT	600	1.1287
MDU-732-NEKOMA	273	1.1299
MDU-732-MSR SITE	273	1.1299

# Source Daily Summary

June 2018

Number:	251	Pressure Base:	14.730	Contract Day:	1
Name:	SDNY BDR-MNDK JNCTN-SDNY PLT	Temperature Base:		Contract Hour:	9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7348	1179.7	1200.6	1195.9	1.271	3.846	68.884	21.550	3.918	0.165	0.321	0.023	0.021	0.000	0.000	0.000	0.000	0.000	1397.08	
2	0.7241	1165.1	1185.7	1181.2	1.240	3.782	70.039	21.312	3.240	0.127	0.235	0.013	0.011	0.000	0.000	0.000	0.000	0.000	1390.10	
3	0.7269	1171.3	1192.0	1187.3	1.207	3.720	69.810	21.305	3.538	0.136	0.255	0.015	0.013	0.000	0.000	0.000	0.000	0.000	1394.74	
4	0.7295	1176.9	1197.8	1192.8	1.191	3.642	69.384	21.747	3.593	0.144	0.269	0.016	0.014	0.000	0.000	0.000	0.000	0.000	1398.97	
5	0.7256	1171.7	1192.4	1187.7	1.191	3.599	69.921	21.503	3.357	0.138	0.260	0.016	0.014	0.000	0.000	0.000	0.000	0.000	1396.42	
6	0.7189	1168.1	1188.8	1183.4	1.109	3.311	70.914	21.193	3.116	0.113	0.218	0.013	0.012	0.000	0.000	0.000	0.000	0.000	1398.46	
7	0.7224	1167.4	1188.0	1182.4	1.179	3.574	70.468	21.119	3.263	0.128	0.240	0.014	0.012	0.000	0.000	0.000	0.000	0.000	1394.15	
8	0.7191	1168.9	1189.6	1184.5	1.115	3.273	70.705	21.554	3.002	0.110	0.214	0.014	0.013	0.000	0.000	0.000	0.000	0.000	1399.49	
9	0.7216	1167.8	1188.5	1183.5	1.155	3.511	70.424	21.374	3.143	0.125	0.240	0.015	0.013	0.000	0.000	0.000	0.000	0.000	1395.77	
10	0.7234	1168.6	1189.3	1184.6	1.189	3.583	70.110	21.540	3.184	0.127	0.241	0.014	0.013	0.000	0.000	0.000	0.000	0.000	1394.99	
11	0.7206	1164.7	1185.3	1180.9	1.178	3.576	70.498	21.314	3.071	0.116	0.221	0.013	0.012	0.000	0.000	0.000	0.000	0.000	1392.98	
12	0.6665	1078.1	1097.1	1093.0	0.787	4.362	79.706	12.931	1.980	0.077	0.141	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1339.28	
13	0.5799	944.0	960.7	957.0	0.143	5.376	94.193	0.264	0.019	0.004	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1258.64	
14	0.6105	989.7	1007.2	1003.2	0.381	5.107	89.092	4.606	0.718	0.034	0.057	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1285.00	
15	0.7268	1164.5	1185.1	1180.6	1.280	4.010	69.843	20.980	3.415	0.155	0.286	0.016	0.013	0.000	0.000	0.000	0.000	0.000	1386.77	
16	0.7296	1169.9	1190.7	1186.1	1.268	3.965	69.391	21.381	3.512	0.156	0.294	0.018	0.016	0.000	0.000	0.000	0.000	0.000	1390.49	
17	0.7266	1164.2	1184.8	1180.2	1.283	4.003	69.815	21.088	3.341	0.153	0.286	0.017	0.014	0.000	0.000	0.000	0.000	0.000	1386.65	
18	0.7278	1166.3	1187.0	1182.3	1.284	3.988	69.607	21.277	3.372	0.153	0.286	0.018	0.015	0.000	0.000	0.000	0.000	0.000	1387.97	
19	0.7275	1165.6	1186.2	1181.7	1.283	4.005	69.706	21.130	3.396	0.156	0.291	0.018	0.015	0.000	0.000	0.000	0.000	0.000	1387.40	
20	0.7287	1168.0	1188.7	1184.0	1.276	3.977	69.575	21.199	3.480	0.160	0.300	0.018	0.015	0.000	0.000	0.000	0.000	0.000	1389.20	
21	0.7248	1163.4	1184.0	1178.9	1.249	3.937	70.184	20.808	3.342	0.154	0.292	0.018	0.015	0.000	0.000	0.000	0.000	0.000	1387.34	
22	0.7280	1167.2	1187.8	1182.7	1.265	3.981	69.541	21.380	3.361	0.153	0.286	0.018	0.015	0.000	0.000	0.000	0.000	0.000	1388.83	
23	0.7279	1166.3	1186.9	1182.0	1.287	3.999	69.546	21.353	3.349	0.152	0.283	0.017	0.014	0.000	0.000	0.000	0.000	0.000	1387.79	
24	0.7239	1164.1	1184.8	1179.8	1.226	3.847	70.162	21.094	3.224	0.143	0.272	0.017	0.014	0.000	0.000	0.000	0.000	0.000	1389.08	
25	0.7221	1165.4	1186.1	1181.0	1.167	3.684	70.480	21.032	3.187	0.142	0.273	0.018	0.016	0.000	0.000	0.000	0.000	0.000	1392.65	
26	0.7235	1190.9	1212.0	1184.4	1.151	3.642	70.565	20.710	3.415	0.162	0.316	0.020	0.018	0.000	0.000	0.000	0.000	0.000	1398.25	
27	0.7224	1188.3	1209.3		1.179	3.574	70.468	21.119	3.263	0.013	0.240	0.014	0.012	0.000	0.000	0.000	0.000	0.000	1397.74	
28	0.7320	1176.1	1197.0	1193.1	1.249	3.831	69.415	21.147	3.774	0.179	0.356	0.025	0.024	0.000	0.000	0.000	0.000	0.000	1396.15	
29	0.7413	1190.5	1211.6	1207.3	1.293	3.774	67.282	23.423	3.756	0.152	0.286	0.018	0.016	0.000	0.000	0.000	0.000	0.000	1403.69	
30	0.7387	1186.1	1207.1	1203.0	1.300	3.780	67.478	23.566	3.399	0.153	0.290	0.018	0.015	0.000	0.000	0.000	0.000	0.000	1401.11	
Avg	0.7132	1150.0	1170.7	1164.7	1.130	3.893	72.004	19.508	3.061	0.129	0.245	0.015	0.013	0.000	0.000	0.000	0.000	0.000	1381.28	

Zone 211

# Source Daily Summary

June 2018

Number: 571		Pressure Base: 14.730											Contract Day: 1							
Name: WILLISTON BDR-CHARBN STN		Temperature Base:											Contract Hour: 9							
Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6787	1116.2	1135.9	1132.7	1.004	2.846	78.238	15.161	2.482	0.079	0.163	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1375.68
2	0.6765	1112.3	1132.0	1128.6	1.007	2.876	78.738	14.591	2.508	0.080	0.169	0.013	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1373.00
3	0.6802	1119.9	1139.7	1136.4	0.980	2.800	77.967	15.461	2.509	0.083	0.172	0.013	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1378.68
4	0.6790	1116.4	1136.1	1132.8	1.010	2.859	78.274	15.012	2.566	0.082	0.170	0.013	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1375.54
5	0.6773	1113.7	1133.4	1130.0	1.006	2.865	78.592	14.736	2.520	0.082	0.171	0.012	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1373.94
6	0.6791	1116.9	1136.7	1133.3	0.995	2.856	78.142	15.255	2.485	0.079	0.163	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1376.12
7	0.6792	1119.4	1139.3	1135.7	1.027	2.665	78.273	15.215	2.526	0.083	0.178	0.014	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1379.08
8	0.6806	1119.4	1139.2	1135.9	1.004	2.831	77.901	15.469	2.514	0.084	0.171	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1377.69
9	0.6793	1116.8	1136.5	1133.1	1.006	2.869	78.178	15.144	2.516	0.083	0.175	0.013	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1375.71
10	0.6808	1118.4	1138.2	1134.8	0.990	2.933	77.961	15.199	2.618	0.088	0.183	0.012	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1376.24
11	0.6785	1115.1	1134.8	1131.4	0.990	2.916	78.297	15.030	2.484	0.083	0.172	0.013	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1374.46
12	0.6784	1117.0	1136.8	1133.5	0.906	2.923	77.884	15.796	2.248	0.071	0.149	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1377.01
13	0.6797	1121.8	1141.7	1138.3	0.815	2.892	77.352	16.615	2.095	0.067	0.139	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1381.61
14	0.6805	1122.3	1142.2	1138.9	0.826	2.918	77.207	16.715	2.106	0.067	0.139	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1381.46
15	0.6788	1118.4	1138.2	1134.9	0.843	2.968	77.637	16.167	2.144	0.070	0.147	0.011	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1378.36
16	0.6765	1114.3	1134.0	1130.8	0.861	2.972	78.187	15.544	2.186	0.073	0.153	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1375.64
17	0.6751	1115.0	1134.7	1131.4	0.802	2.894	78.252	15.765	2.061	0.067	0.138	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1377.85
18	0.6793	1119.2	1139.0	1135.6	0.831	2.984	77.665	16.023	2.234	0.075	0.159	0.013	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1378.78
19	0.6819	1122.6	1142.5	1139.0	0.839	3.009	77.195	16.420	2.264	0.077	0.165	0.013	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1380.30
20	0.6807	1121.5	1141.4	1138.0	0.834	2.978	77.287	16.461	2.198	0.070	0.148	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1380.14
21	0.6789	1118.6	1138.4	1135.0	0.840	2.974	77.649	16.108	2.184	0.072	0.149	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1378.46
22	0.6800	1122.1	1141.9	1138.5	0.819	2.897	77.342	16.599	2.098	0.071	0.149	0.012	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1381.61
23	0.6813	1123.1	1142.9	1139.6	0.852	2.911	77.199	16.604	2.177	0.074	0.156	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1381.47
24	0.6805	1121.6	1141.4	1138.0	0.864	2.904	77.401	16.393	2.176	0.075	0.160	0.012	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1380.47
25	0.6796	1120.0	1139.8	1136.4	0.859	2.929	77.594	16.135	2.226	0.074	0.157	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1379.41
26	0.6878	1133.8	1153.9	1150.3	0.831	2.903	75.869	17.950	2.191	0.074	0.156	0.011	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1388.02
27	0.6895	1137.5	1157.7	1154.1	0.818	2.855	75.329	18.710	2.060	0.067	0.139	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1390.92
28	0.6898	1137.4	1157.6	1154.0	0.829	2.870	75.370	18.579	2.106	0.071	0.148	0.012	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1390.50
29	0.6888	1136.2	1156.3	1152.8	0.815	2.877	75.456	18.563	2.063	0.067	0.138	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1389.97
30	0.6906	1138.6	1158.8	1155.2	0.828	2.877	75.183	18.772	2.104	0.069	0.144	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1391.10
Avg	0.6809	1122.0	1141.4	1138.0	0.898	2.895	77.454	16.206	2.288	0.075	0.157	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1379.97

Zone 24



# Gas Composition and Properties

Effective June 1, 2018

Attachment B  
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Source #: 0602225  
Name: WATFORD CITY WEST BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	1.1419		2.3927
Nitrogen, N2	3.0605		4.0819
Methane, C1	70.4061		53.7763
Ethane, C2	21.0626	5.6376	30.1536
Propane, C3	3.6321	0.9977	7.6254
iso-Butane, iC4	0.1991	0.0650	0.5510
n-Butane, nC4	0.4192	0.1318	1.1600
iso-Pentane, iC5	0.0345	0.0126	0.1185
n-Pentane, nC5	0.0353	0.0128	0.1213
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0023	0.0011	0.0094
Water, H2O			
Hydrogen Sulfide, H2S			
Oxygen, O2	0.0065		0.0099
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		
Cricondentherm		
HV, Dry @ Base P, T	1201.90	
HV, Sat @ Base P, T	1180.98	
HV, Sat @ Sample P, T	1201.90	
Relative Density	0.7257	

C6+: 100

Totals 100.0001 6.8600 100.0000

## Sample

Date: 07/02/2018 Pressure: 450.0  
Type: Composite Temperature: 0.0  
Tech: ES H2O: lbs/mm  
H2S: ppm

Remarks:

## Analysis

Date: 07/03/2018 Instrument: WBI- 134  
Cylinder: 327

Tech: MB

Remarks:

Zone 25

# Source Daily Summary

June 2018

Number:	164	Pressure Base:	14.730	Contract Day:	1
Name:	N TIoga TRANSFER-NESSON PLT	Temperature Base:		Contract Hour:	9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.5853	975.3	992.6		0.025	4.096	93.432	2.285	0.137	0.006	0.015	0.001	0.001	0.000					1295.08	
2	0.5899	982.0	999.4		0.000	4.239	92.696	2.822	0.199	0.012	0.027	0.003	0.003	0.000					1296.44	
3	0.5944	988.6	1006.1		0.000	4.208	91.767	3.615	0.339	0.020	0.046	0.003	0.002	0.000					1302.27	
4	0.5989	995.3	1012.9		0.001	4.894	88.930	5.964	0.182	0.008	0.019	0.001	0.001	0.000					1299.00	
5	0.6035	1001.9	1019.6		0.001	4.034	90.105	5.483	0.322	0.017	0.037	0.001	0.002	0.000					1313.49	
6	0.6080	1008.5	1026.4		0.000	4.042	89.706	6.160	0.076	0.004	0.010	0.001	0.001	0.000					1313.72	
7	0.6125	1015.1	1033.1		0.000	3.960	88.795	7.157	0.073	0.003	0.008	0.002	0.002	0.000					1319.66	
8	0.6171	1021.8	1039.9		0.001	4.016	87.369	8.403	0.200	0.004	0.007	0.000	0.000	0.000					1325.35	
9	0.6216	1028.4	1046.6		0.000	3.977	86.879	8.951	0.184	0.004	0.006	0.000	0.000	0.000					1328.35	
10	0.6261	1035.1	1053.4		0.000	4.029	85.480	10.410	0.066	0.004	0.009	0.001	0.002	0.000					1333.04	
11	0.6307	1041.7	1060.1		0.002	3.618	85.556	10.742	0.068	0.004	0.009	0.001	0.001	0.000					1341.60	
12	0.6352	1048.3	1066.9		0.362	3.883	84.601	9.959	1.071	0.038	0.076	0.005	0.006	0.000					1335.51	
13	0.6647	1093.4	1112.7		0.577	3.577	79.597	14.373	1.681	0.058	0.117	0.008	0.010	0.002					1361.73	
14	0.6723	1105.5	1125.1		0.624	3.492	78.138	15.808	1.744	0.060	0.120	0.007	0.008	0.000					1368.92	
15	0.6765	1110.8	1130.5		0.680	3.474	77.526	16.234	1.861	0.066	0.136	0.010	0.012	0.002					1371.28	
16	0.6777	1112.1	1131.8		0.680	3.500	77.345	16.334	1.909	0.070	0.143	0.009	0.010	0.000					1371.75	
17	0.6608	1090.0	1109.3		0.461	3.594	80.063	14.184	1.528	0.055	0.102	0.006	0.007	0.000					1361.52	
18	0.6779	1112.6	1132.3		0.666	3.519	77.428	16.127	2.002	0.075	0.156	0.011	0.014	0.002					1372.02	
19	0.6797	1114.7	1134.5		0.682	3.535	77.154	16.313	2.043	0.077	0.163	0.013	0.016	0.005					1372.81	
20	0.6748	1107.2	1126.8		0.647	3.584	77.809	15.865	1.885	0.063	0.128	0.009	0.010	0.000					1368.53	
21	0.6755	1108.5	1128.2		0.646	3.567	77.687	16.003	1.883	0.064	0.130	0.009	0.010	0.001					1369.50	
22	0.6702	1102.0	1121.6		0.578	3.570	78.539	15.388	1.704	0.065	0.132	0.010	0.012	0.003					1366.83	
23	0.6774	1111.6	1131.2		0.677	3.518	77.443	16.181	1.936	0.072	0.151	0.010	0.012	0.000					1371.26	
24	0.6775	1111.4	1131.1		0.690	3.515	77.433	16.193	1.922	0.071	0.150	0.011	0.013	0.001					1370.99	
25	0.6791	1114.7	1134.5		0.677	3.480	77.151	16.460	1.996	0.070	0.145	0.009	0.011	0.000					1373.49	
26	0.6779	1112.8	1132.5		0.674	3.489	77.378	16.257	1.958	0.071	0.149	0.010	0.012	0.002					1372.33	
27	0.6710	1103.6	1123.1		0.619	3.488	78.392	15.588	1.715	0.061	0.122	0.008	0.009	0.000					1367.93	
28	0.6725	1105.8	1125.4		0.651	3.449	78.248	15.631	1.800	0.065	0.133	0.009	0.011	0.004					1369.14	
29	0.6783	1114.3	1134.0		0.684	3.421	77.204	16.567	1.904	0.067	0.135	0.008	0.009	0.000					1373.76	
30	0.6781	1113.3	1133.0		0.682	3.469	77.269	16.434	1.918	0.068	0.138	0.009	0.011	0.002					1372.71	
Avg	0.6488	1070.0	1088.5		0.400	3.741	82.237	12.263	1.210	0.044	0.091	0.006	0.007	0.001					1348.67	

Zone 260

# Source Daily Summary

June 2018

Number: 601

Pressure Base: 14.730

Contract Day: 1

Name: TIOGA STN-ROBINSON LAKE PLNT

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7072	1157.7	1178.2	1174.6	0.891	3.171	72.196	21.043	2.431	0.084	0.165	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1397.84
2	0.7090	1160.1	1180.6	1177.3	0.940	3.129	71.849	21.399	2.420	0.081	0.161	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1398.86
3	0.7086	1159.6	1180.2	1176.5	0.927	3.136	71.917	21.341	2.418	0.080	0.161	0.010	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1398.73
4	0.7088	1160.8	1181.3	1177.4	0.911	3.115	71.919	21.319	2.468	0.082	0.165	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1399.83
5	0.7084	1160.7	1181.2	1177.2	0.895	3.102	72.191	20.952	2.549	0.091	0.187	0.014	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1400.05
6	0.7078	1158.9	1179.4	1175.6	0.895	3.156	72.116	21.114	2.440	0.085	0.170	0.011	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1398.55
7	0.7018	1149.0	1169.3	1165.2	0.824	3.306	73.088	20.173	2.358	0.079	0.152	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1392.51
8	0.7038	1152.5	1172.9	1168.9	0.838	3.254	72.811	20.406	2.429	0.083	0.161	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1394.82
9	0.7071	1157.2	1177.7	1173.7	0.888	3.206	72.315	20.779	2.537	0.086	0.169	0.010	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1397.21
10	0.7083	1159.0	1179.5	1175.7	0.889	3.203	72.159	20.906	2.540	0.090	0.185	0.013	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1398.18
11	0.7080	1158.5	1179.1	1175.4	0.895	3.196	72.161	20.934	2.525	0.089	0.178	0.011	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1397.96
12	0.7058	1155.5	1176.0	1171.9	0.880	3.198	72.343	20.986	2.330	0.081	0.162	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1396.49
13	0.7051	1154.2	1174.6	1170.3	0.871	3.228	72.585	20.617	2.433	0.082	0.163	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1395.53
14	0.7069	1157.2	1177.7	1173.4	0.882	3.194	72.386	20.722	2.532	0.086	0.172	0.011	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1397.35
15	0.7068	1156.5	1177.0	1172.8	0.893	3.208	72.272	20.923	2.433	0.083	0.166	0.010	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1396.74
16	0.7077	1157.5	1178.0	1173.7	0.907	3.209	72.208	20.909	2.475	0.086	0.178	0.012	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1397.00
17	0.7080	1157.8	1178.3	1173.8	0.909	3.222	72.194	20.850	2.525	0.090	0.185	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1397.01
18	0.7016	1153.1	1173.5	1169.4	0.734	3.167	73.036	20.499	2.312	0.081	0.152	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1397.75
19	0.7080	1159.2	1179.7	1175.3	0.866	3.196	72.349	20.629	2.635	0.097	0.197	0.013	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1398.66
20	0.7102	1161.3	1181.9	1177.3	0.900	3.222	72.067	20.760	2.698	0.103	0.214	0.015	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1399.01
21	0.7058	1154.3	1174.8	1170.3	0.878	3.267	72.569	20.491	2.518	0.084	0.169	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1395.06
22	0.7068	1156.1	1176.6	1172.1	0.878	3.251	72.361	20.719	2.518	0.084	0.167	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1396.27
23	0.7056	1156.5	1177.0	1172.6	0.822	3.205	72.514	20.753	2.404	0.091	0.182	0.013	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1397.78
24	0.7091	1159.6	1180.2	1175.8	0.911	3.207	72.102	20.861	2.594	0.096	0.200	0.013	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1398.17
25	0.7086	1158.5	1179.1	1174.6	0.927	3.206	72.185	20.804	2.556	0.093	0.198	0.014	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1397.28
26	0.7090	1160.0	1180.6	1176.2	0.900	3.186	72.098	20.903	2.608	0.092	0.189	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1398.82
27	0.7098	1161.1	1181.7	1177.4	0.907	3.190	72.008	20.939	2.632	0.096	0.200	0.013	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1399.20
28	0.7055	1155.3	1175.7	1171.5	0.879	3.184	72.456	20.851	2.365	0.082	0.163	0.010	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1396.47
29	0.7082	1159.1	1179.6	1175.2	0.915	3.152	72.131	21.029	2.482	0.088	0.177	0.012	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1398.31
30	0.7069	1157.9	1178.4	1174.1	0.891	3.137	72.317	20.915	2.462	0.086	0.172	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1398.27
Avg	0.7071	1157.0	1178.0	1173.8	0.885	3.193	72.297	20.851	2.488	0.087	0.175	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1397.52

Zone 2b1

# Source Daily Summary

June 2018

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

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7350	1157.0	1177.5	1174.0	0.875	5.850	68.400	19.969	4.500	0.131	0.256	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1370.24	
2	0.7409	1169.6	1190.3	1186.8	0.878	5.631	67.634	20.683	4.652	0.161	0.332	0.015	0.014	0.000	0.000	0.000	0.000	0.000	1379.58	
3	0.7373	1157.7	1178.2	1174.6	0.877	6.024	67.849	20.435	4.375	0.141	0.280	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1368.91	
4	0.7379	1154.3	1174.8	1171.0	0.864	6.306	67.806	20.066	4.520	0.142	0.279	0.009	0.008	0.000	0.000	0.000	0.000	0.000	1364.36	
5	0.7342	1153.2	1173.6	1169.8	0.867	6.028	68.373	19.992	4.315	0.136	0.271	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1366.41	
6	0.7385	1155.3	1175.7	1172.0	0.871	6.287	67.776	20.032	4.596	0.142	0.280	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1364.99	
7	0.7370	1156.9	1177.4	1173.7	0.867	6.057	68.063	20.009	4.574	0.139	0.274	0.009	0.008	0.000	0.000	0.000	0.000	0.000	1368.28	
8	0.7395	1155.8	1176.3	1172.5	0.868	6.355	67.778	19.718	4.858	0.138	0.270	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1364.71	
9	0.7363	1150.6	1171.0	1167.1	0.865	6.382	68.119	19.625	4.609	0.132	0.256	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1361.47	
10	0.7364	1150.4	1170.8	1167.0	0.870	6.387	68.101	19.657	4.577	0.134	0.262	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1361.23	
11	0.7343	1151.7	1172.1	1168.4	0.867	6.121	68.427	19.745	4.433	0.132	0.260	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1364.62	
12	0.7355	1151.5	1171.9	1168.3	0.869	6.248	68.256	19.681	4.537	0.134	0.261	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1363.19	
13	0.7372	1151.9	1172.3	1168.7	0.859	6.396	68.039	19.599	4.691	0.140	0.264	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1362.17	
14	0.7378	1150.2	1170.6	1166.9	0.861	6.546	67.957	19.479	4.740	0.143	0.264	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1359.66	
15	0.7381	1154.9	1175.3	1171.8	0.847	6.317	67.960	19.694	4.729	0.152	0.289	0.007	0.005	0.000	0.000	0.000	0.000	0.000	1364.84	
16	0.7395	1171.7	1192.4	1189.0	0.858	5.407	68.042	20.396	4.764	0.171	0.339	0.012	0.011	0.000	0.000	0.000	0.000	0.000	1383.35	
17	0.7382	1171.4	1192.2	1188.6	0.856	5.300	68.208	20.463	4.647	0.165	0.332	0.015	0.014	0.000	0.000	0.000	0.000	0.000	1384.29	
18	0.7390	1165.7	1186.3	1182.6	0.868	5.705	67.961	20.270	4.724	0.153	0.295	0.011	0.012	0.000	0.000	0.000	0.000	0.000	1376.78	
19	0.7350	1156.6	1177.1	1173.4	0.867	5.882	68.395	19.964	4.469	0.138	0.265	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1369.84	
20	0.7331	1152.5	1172.9	1169.1	0.867	5.957	68.602	19.819	4.362	0.130	0.247	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1366.69	
21	0.7328	1150.2	1170.5	1166.8	0.868	6.075	68.628	19.674	4.364	0.131	0.245	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1364.15	
22	0.7327	1149.0	1169.3	1165.5	0.866	6.146	68.641	19.574	4.386	0.131	0.244	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1362.80	
23	0.7322	1150.1	1170.5	1166.9	0.854	6.035	68.779	19.557	4.377	0.135	0.252	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1364.76	
24	0.7335	1151.8	1172.2	1168.6	0.857	6.058	68.607	19.623	4.429	0.142	0.271	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1365.43	
25	0.7341	1151.7	1172.1	1168.5	0.864	6.104	68.544	19.583	4.479	0.142	0.270	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1364.84	
26	0.7331	1150.5	1170.8	1167.1	0.868	6.087	68.674	19.526	4.423	0.143	0.265	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1364.23	
27	0.7323	1150.3	1170.7	1167.0	0.864	6.023	68.777	19.549	4.387	0.136	0.252	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1364.84	
28	0.7325	1153.3	1173.7	1169.9	0.863	5.861	68.771	19.721	4.374	0.137	0.260	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1368.17	
29	0.7324	1151.4	1171.8	1168.2	0.868	5.958	68.763	19.644	4.354	0.141	0.259	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1366.06	
30	0.7333	1152.2	1172.6	1169.0	0.869	5.996	68.625	19.688	4.412	0.140	0.259	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1366.13	
Avg	0.7357	1155.0	1175.4	1171.8	0.865	6.051	68.285	19.848	4.522	0.141	0.272	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1367.23	

Zone 2b2

# Gas Composition and Properties

Effective June 1, 2018

Source #: 2501030  
Name: LIGNITE PLANT

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	0.0880		0.2040
Nitrogen, N2	3.3147		4.8918
Methane, C1	81.0558		68.5030
Ethane, C2	13.2753	3.5509	21.0290
Propane, C3	2.0997	0.5768	4.8776
iso-Butane, iC4	0.0722	0.0236	0.2211
n-Butane, nC4	0.0832	0.0262	0.2548
iso-Pentane, iC5	0.0000	0.0000	0.0000
n-Pentane, nC5	0.0000	0.0000	0.0000
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0000	0.0000	0.0000
Water, H2O			
Hydrogen Sulfide, H2S			
Oxygen, O2	0.0111		0.0187
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	-36.962	
Cricondentherm	-33.880	
HV, Dry @ Base P, T	1115.17	
HV, Sat @ Base P, T	1095.76	
HV, Sat @ Sample P, T	1115.17	
Relative Density	0.6560	

C6+: 100

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Totals      100.0000      4.1780      100.0000

### Sample

Date: 07/02/2018      Pressure: 601.0  
 Type: Composite      Temperature: 0.0  
 Tech: ES      H2O: lbs/mm  
                                  H2S: ppm

Remarks:

### Analysis

Date: 07/03/2018      Instrument: WBI- 135  
                                  Cylinder: 347

Tech: MB

Remarks:

Zone 2b3

# Gas Composition and Properties

Effective June 1, 2018

Source #: 3002013  
Name: EPPING BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	0.8215		1.8262
Nitrogen, N2	2.8528		4.0368
Methane, C1	76.0516		61.6278
Ethane, C2	18.0767	4.8364	27.4559
Propane, C3	1.9764	0.5429	4.4022
iso-Butane, iC4	0.0639	0.0209	0.1876
n-Butane, nC4	0.1300	0.0409	0.3817
iso-Pentane, iC5	0.0089	0.0032	0.0324
n-Pentane, nC5	0.0099	0.0036	0.0361
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0000	0.0000	0.0000
Water, H2O			
Hydrogen Sulfide, H2S			
Oxygen, O2	0.0082		0.0133
Carbon Monoxide, CO			
Hydrogen, H2			
Helium, He			
Argon, Ar			
<b>Totals</b>	<b>99.9999</b>	<b>5.4480</b>	<b>100.0000</b>

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure		
Cricondentherm		
HV, Dry @ Base P, T	1148.45	
HV, Sat @ Base P, T	1128.46	
HV, Sat @ Sample P, T	1148.45	
Relative Density	0.6841	

C6+: 100

Sample		
Date: 07/02/2018	Pressure:	510.0
Type: Composite	Temperature:	0.0
Tech: ES	H2O:	lbs/mm
	H2S:	ppm
Remarks:		

Analysis		
Date: 07/03/2018	Instrument:	WBI- 136
	Cylinder:	404
Tech: MB		
Remarks:		

Zone 264

# Source Daily Summary

June 2018

Number: 603

Pressure Base: 14.730

Contract Day: 1

Name: TIOGA STN-COUNTY LINE PLANT

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7071	1157.7	1178.2	1174.9	0.887	3.173	72.211	21.026	2.437	0.084	0.163	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1397.86
2	0.7065	1156.5	1177.0	1173.6	0.900	3.177	72.209	21.137	2.321	0.078	0.155	0.010	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1396.89
3	0.7020	1153.5	1174.0	1170.6	0.760	3.141	72.875	20.775	2.199	0.079	0.151	0.010	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1397.86
4	0.7096	1161.8	1182.4	1179.1	0.907	3.130	71.906	21.194	2.578	0.086	0.175	0.012	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1400.29
5	0.7063	1157.1	1177.6	1174.2	0.882	3.142	72.426	20.819	2.460	0.083	0.164	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1397.86
6	0.7065	1156.4	1176.9	1173.6	0.886	3.194	72.281	20.977	2.407	0.079	0.156	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1396.93
7	0.7013	1145.9	1166.2	1162.9	0.814	3.463	73.254	19.781	2.427	0.083	0.160	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1389.24
8	0.7104	1162.7	1183.3	1180.0	0.895	3.166	71.645	21.499	2.521	0.084	0.167	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1400.60
9	0.7072	1157.3	1177.8	1174.5	0.887	3.209	72.310	20.768	2.547	0.087	0.172	0.010	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1397.26
10	0.7083	1159.0	1179.5	1176.1	0.889	3.202	72.151	20.922	2.542	0.089	0.179	0.011	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1398.15
11	0.7074	1157.8	1178.3	1175.0	0.881	3.207	72.342	20.693	2.576	0.092	0.186	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1397.64
12	0.7054	1154.9	1175.4	1172.0	0.873	3.204	72.590	20.617	2.434	0.085	0.172	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1396.12
13	0.7051	1154.1	1174.6	1171.3	0.871	3.230	72.586	20.614	2.432	0.082	0.163	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1395.48
14	0.7072	1157.6	1178.1	1174.6	0.884	3.193	72.349	20.753	2.534	0.087	0.173	0.012	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1397.52
15	0.7067	1156.3	1176.8	1173.5	0.895	3.213	72.286	20.903	2.431	0.083	0.167	0.010	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1396.51
16	0.7077	1157.5	1178.0	1174.6	0.908	3.211	72.221	20.885	2.481	0.087	0.180	0.012	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1396.94
17	0.7077	1157.4	1177.9	1174.5	0.905	3.223	72.237	20.820	2.517	0.090	0.184	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1396.86
18	0.7010	1152.4	1172.8	1169.5	0.722	3.168	73.145	20.407	2.308	0.081	0.150	0.008	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1397.56
19	0.7085	1159.7	1180.2	1176.7	0.878	3.200	72.261	20.688	2.645	0.097	0.199	0.013	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1398.73
20	0.7101	1161.1	1181.7	1178.1	0.900	3.224	72.074	20.761	2.688	0.102	0.214	0.016	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1398.88
21	0.7056	1154.0	1174.5	1171.1	0.877	3.271	72.594	20.467	2.515	0.084	0.169	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1394.89
22	0.7070	1156.5	1177.0	1173.6	0.877	3.251	72.354	20.695	2.538	0.087	0.175	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1396.50
23	0.7058	1156.7	1177.1	1173.6	0.828	3.206	72.500	20.744	2.415	0.092	0.185	0.013	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1397.77
24	0.7091	1159.6	1180.1	1176.7	0.911	3.207	72.107	20.860	2.590	0.096	0.200	0.013	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1398.13
25	0.7088	1158.8	1179.3	1175.8	0.927	3.205	72.159	20.826	2.558	0.094	0.199	0.014	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1397.42
26	0.7089	1159.9	1180.5	1177.1	0.899	3.186	72.113	20.885	2.610	0.092	0.189	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1398.76
27	0.7098	1161.0	1181.6	1178.1	0.906	3.193	72.017	20.930	2.629	0.096	0.199	0.013	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1399.11
28	0.7059	1156.1	1176.6	1173.2	0.874	3.178	72.390	20.912	2.377	0.084	0.164	0.009	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1397.09
29	0.7088	1159.7	1180.2	1176.7	0.920	3.159	72.085	21.017	2.515	0.090	0.185	0.012	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1398.49
30	0.7067	1157.5	1178.0	1174.6	0.890	3.140	72.360	20.872	2.459	0.086	0.172	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1398.02
Avg	0.7069	1157.0	1177.7	1174.3	0.878	3.202	72.335	20.808	2.490	0.087	0.176	0.011	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1397.38

Zone 265

# Source Daily Summary

June 2018

Number: 043		Pressure Base: 14.730											Contract Day: 1							
Name: BISMARCK STN-CLEVELAND STN		Temperature Base:											Contract Hour: 9							
Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7354	1155.5	1176.0	1171.8	0.862	6.002	68.192	20.169	4.332	0.141	0.279	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1368.06
2	0.7378	1156.1	1176.5	1172.2	0.849	6.209	67.867	20.103	4.521	0.145	0.284	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1366.51
3	0.7371	1154.5	1174.9	1170.6	0.856	6.230	68.045	19.858	4.563	0.144	0.282	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1365.28
4	0.7355	1152.2	1172.6	1168.4	0.853	6.230	68.280	19.683	4.532	0.136	0.265	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1363.97
5	0.7361	1157.1	1177.6	1173.4	0.848	5.991	68.381	19.626	4.749	0.129	0.255	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1369.29
6	0.7350	1149.8	1170.2	1166.0	0.850	6.328	68.371	19.472	4.574	0.132	0.255	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1361.70
7	0.7323	1151.5	1171.9	1167.7	0.855	5.971	68.729	19.712	4.336	0.129	0.251	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1366.14
8	0.7337	1150.3	1170.7	1166.5	0.854	6.173	68.583	19.495	4.485	0.133	0.257	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1363.46
9	0.7326	1150.0	1170.4	1166.1	0.854	6.087	68.777	19.440	4.425	0.135	0.261	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1364.11
10	0.7349	1152.1	1172.5	1168.3	0.839	6.195	68.470	19.462	4.619	0.140	0.256	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1364.51
11	0.7366	1153.8	1174.2	1170.2	0.838	6.255	68.197	19.604	4.672	0.145	0.269	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1364.89
12	0.7388	1159.3	1179.8	1175.8	0.853	6.103	68.022	19.766	4.748	0.163	0.320	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1369.33
13	0.7376	1175.1	1195.9	1191.5	0.857	5.016	68.477	20.462	4.618	0.174	0.356	0.020	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1389.09
14	0.7291	1154.0	1174.4	1170.2	0.853	5.519	69.312	19.739	4.177	0.131	0.247	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1372.07
15	0.7366	1161.0	1181.6	1177.5	0.852	5.794	68.299	19.963	4.637	0.148	0.281	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1373.39
16	0.7313	1151.4	1171.8	1167.8	0.851	5.878	68.869	19.740	4.283	0.126	0.233	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1367.06
17	0.7313	1149.9	1170.3	1166.2	0.855	5.972	68.887	19.599	4.290	0.132	0.245	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1365.17
18	0.7318	1148.7	1169.0	1164.9	0.849	6.101	68.835	19.441	4.384	0.131	0.241	0.009	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1363.30
19	0.7314	1151.1	1171.4	1167.1	0.836	5.935	68.974	19.479	4.349	0.140	0.267	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1366.50
20	0.7324	1149.6	1170.0	1165.8	0.847	6.100	68.827	19.394	4.392	0.143	0.276	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1363.86
21	0.7321	1150.8	1171.1	1166.9	0.851	5.999	68.912	19.390	4.421	0.141	0.266	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1365.46
22	0.7315	1148.6	1168.9	1164.7	0.851	6.069	68.960	19.336	4.363	0.139	0.263	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1363.53
23	0.7306	1149.8	1170.1	1166.0	0.848	5.919	69.090	19.406	4.341	0.133	0.246	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1365.75
24	0.7317	1153.5	1174.0	1169.8	0.850	5.794	68.944	19.637	4.352	0.139	0.264	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1369.12
25	0.7305	1149.0	1169.3	1165.2	0.855	5.946	69.054	19.487	4.248	0.136	0.256	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1364.92
26	0.7326	1151.6	1172.0	1168.1	0.852	5.993	68.788	19.537	4.406	0.140	0.265	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1365.99
27	0.7304	1151.3	1171.6	1167.7	0.855	5.797	69.121	19.521	4.314	0.131	0.243	0.009	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1367.72
28	0.7298	1146.2	1166.5	1162.4	0.852	6.050	69.174	19.236	4.309	0.127	0.234	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1362.33
29	0.7272	1137.5	1157.7	1153.6	0.848	6.345	69.500	18.757	4.182	0.123	0.228	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1354.39
30	0.7299	1145.8	1166.1	1162.0	0.844	6.107	69.108	19.270	4.282	0.131	0.241	0.009	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1361.66
Avg	0.7331	1152.0	1172.6	1168.5	0.851	6.004	68.702	19.593	4.430	0.138	0.263	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1366.29

Zone 271

# Source Daily Summary

June 2018

Number: 063

Pressure Base: 14.730

Contract Day: 1

Name: CLEVELAND STN-MAPLETON

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7319	1155.9	1176.4	1173.4	0.867	5.645	68.578	20.470	4.035	0.130	0.252	0.011	0.010	0.000	0.000	0.000	0.000	0.000	1371.83	
2	0.7361	1154.2	1174.7	1171.6	0.865	6.143	68.108	20.034	4.402	0.143	0.281	0.012	0.012	0.000	0.000	0.000	0.000	0.000	1365.87	
3	0.7371	1153.9	1174.4	1171.3	0.858	6.263	67.960	19.974	4.507	0.142	0.275	0.011	0.010	0.000	0.000	0.000	0.000	0.000	1364.64	
4	0.7376	1154.7	1175.2	1172.2	0.866	6.251	67.939	19.920	4.580	0.142	0.278	0.012	0.011	0.000	0.000	0.000	0.000	0.000	1365.13	
5	0.7365	1153.5	1174.0	1171.0	0.856	6.231	68.132	19.747	4.635	0.128	0.251	0.011	0.010	0.000	0.000	0.000	0.000	0.000	1364.78	
6	0.7346	1154.3	1174.8	1171.7	0.859	6.005	68.481	19.689	4.573	0.127	0.245	0.011	0.010	0.000	0.000	0.000	0.000	0.000	1367.45	
7	0.7356	1150.3	1170.6	1167.6	0.861	6.342	68.256	19.564	4.566	0.134	0.258	0.010	0.009	0.000	0.000	0.000	0.000	0.000	1361.67	
8	0.7324	1151.8	1172.2	1169.2	0.862	5.950	68.695	19.756	4.347	0.127	0.242	0.010	0.009	0.000	0.000	0.000	0.000	0.000	1366.48	
9	0.7342	1150.3	1170.7	1167.7	0.863	6.204	68.473	19.573	4.477	0.134	0.257	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1363.08	
10	0.7338	1151.2	1171.6	1168.5	0.857	6.123	68.582	19.522	4.509	0.135	0.252	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1364.47	
11	0.7354	1152.1	1172.5	1169.4	0.848	6.232	68.352	19.551	4.597	0.142	0.259	0.010	0.009	0.000	0.000	0.000	0.000	0.000	1364.01	
12	0.7359	1151.6	1172.0	1169.0	0.853	6.301	68.252	19.576	4.588	0.142	0.267	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1362.99	
13	0.7351	1159.7	1180.2	1177.1	0.866	5.711	68.505	19.990	4.441	0.153	0.307	0.014	0.014	0.000	0.000	0.000	0.000	0.000	1373.34	
14	0.7356	1168.6	1189.3	1186.2	0.858	5.221	68.641	20.227	4.524	0.164	0.327	0.018	0.018	0.000	0.000	0.000	0.000	0.000	1383.45	
15	0.7338	1160.6	1181.1	1178.0	0.861	5.546	68.645	20.098	4.420	0.141	0.264	0.013	0.013	0.000	0.000	0.000	0.000	0.000	1375.54	
16	0.7317	1152.4	1172.9	1169.8	0.859	5.848	68.808	19.806	4.291	0.129	0.239	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1367.87	
17	0.7322	1151.7	1172.1	1169.0	0.860	5.934	68.734	19.756	4.331	0.127	0.236	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1366.57	
18	0.7317	1148.7	1169.1	1166.0	0.862	6.063	68.826	19.534	4.325	0.131	0.241	0.010	0.009	0.000	0.000	0.000	0.000	0.000	1363.55	
19	0.7314	1148.2	1168.5	1165.4	0.857	6.082	68.892	19.424	4.352	0.132	0.243	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1363.15	
20	0.7314	1150.0	1170.3	1167.3	0.844	5.986	68.946	19.467	4.337	0.139	0.262	0.010	0.009	0.000	0.000	0.000	0.000	0.000	1365.31	
21	0.7333	1150.8	1171.1	1168.1	0.855	6.100	68.683	19.485	4.446	0.142	0.270	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1364.49	
22	0.7319	1149.7	1170.0	1167.0	0.860	6.034	68.877	19.437	4.371	0.139	0.261	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1364.42	
23	0.7319	1148.5	1168.8	1165.8	0.866	6.094	68.855	19.404	4.370	0.137	0.255	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1363.06	
24	0.7302	1150.9	1171.3	1168.3	0.853	5.807	69.087	19.593	4.269	0.131	0.242	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1367.54	
25	0.7316	1151.4	1171.8	1168.8	0.865	5.886	68.914	19.593	4.323	0.138	0.260	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1366.86	
26	0.7314	1149.4	1169.7	1166.7	0.869	5.994	68.894	19.537	4.292	0.137	0.258	0.010	0.009	0.000	0.000	0.000	0.000	0.000	1364.52	
27	0.7333	1152.1	1172.5		0.860	6.008	68.631	19.685	4.399	0.137	0.260	0.011	0.010	0.000	0.000	0.000	0.000	0.000	1366.11	
28	0.7334	1152.3	1172.7	1169.9	0.864	6.326	67.960	19.930	4.476	0.143	0.278	0.012	0.011	0.000	0.000	0.000	0.000	0.000	1363.16	
29	0.7335	1152.6	1173.0	1169.8	0.863	6.275	68.072	19.886	4.445	0.146	0.289	0.012	0.011	0.000	0.000	0.000	0.000	0.000	1363.66	
30	0.7336	1152.8	1173.2	1170.0	0.860	6.000	68.585	19.718	4.418	0.137	0.261	0.011	0.010	0.000	0.000	0.000	0.000	0.000	1366.58	
Avg	0.7336	1153.0	1173.2	1170.2	0.860	6.020	68.545	19.732	4.422	0.138	0.262	0.011	0.010	0.000	0.000	0.000	0.000	0.000	1366.39	

Zone 272

# Source Daily Summary

June 2018

Number: 061		Pressure Base: 14.730										Contract Day: 1								
Name: CLEVELAND STN-GRAFTON BDR		Temperature Base:										Contract Hour: 9								
Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7309	1155.3	1175.8	1172.8	0.864	5.590	68.751	20.394	4.001	0.130	0.250	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1372.09
2	0.7358	1154.1	1174.6	1171.5	0.867	6.118	68.141	20.054	4.375	0.142	0.279	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1366.04
3	0.7372	1154.1	1174.5	1171.4	0.858	6.257	67.951	19.988	4.505	0.142	0.276	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1364.80
4	0.7372	1153.8	1174.3	1171.2	0.865	6.263	67.996	19.884	4.552	0.141	0.276	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1364.50
5	0.7363	1153.1	1173.5	1170.5	0.856	6.237	68.153	19.741	4.612	0.128	0.252	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1364.49
6	0.7340	1153.4	1173.9	1170.8	0.860	5.996	68.567	19.654	4.536	0.125	0.241	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1367.03
7	0.7356	1150.3	1170.7	1167.6	0.860	6.338	68.262	19.564	4.567	0.133	0.257	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1361.74
8	0.7326	1151.5	1171.8	1168.8	0.862	5.984	68.679	19.721	4.362	0.127	0.243	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1365.95
9	0.7341	1150.0	1170.4	1167.5	0.861	6.213	68.489	19.550	4.476	0.134	0.257	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1362.84
10	0.7337	1150.8	1171.2	1168.3	0.857	6.136	68.598	19.500	4.503	0.135	0.252	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1364.12
11	0.7355	1152.1	1172.5	1169.4	0.848	6.234	68.344	19.549	4.604	0.142	0.259	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1364.03
12	0.7366	1151.8	1172.2	1169.3	0.851	6.356	68.163	19.546	4.654	0.144	0.266	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1362.60
13	0.7375	1162.3	1182.8	1179.8	0.866	5.780	68.219	20.012	4.614	0.160	0.319	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1374.08
14	0.7366	1169.2	1189.9	1186.9	0.866	5.267	68.515	20.233	4.583	0.167	0.331	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1383.16
15	0.7353	1162.8	1183.4	1180.4	0.862	5.547	68.470	20.164	4.507	0.146	0.276	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1376.79
16	0.7321	1153.0	1173.5	1170.5	0.858	5.848	68.760	19.827	4.315	0.130	0.241	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1368.22
17	0.7322	1151.6	1172.0	1169.0	0.860	5.939	68.739	19.747	4.331	0.127	0.236	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1366.44
18	0.7316	1148.6	1168.9	1165.9	0.865	6.065	68.840	19.515	4.324	0.131	0.241	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1363.37
19	0.7315	1148.1	1168.4	1165.4	0.860	6.092	68.875	19.425	4.354	0.133	0.244	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1362.94
20	0.7312	1149.4	1169.8	1166.6	0.847	6.002	68.961	19.444	4.330	0.138	0.260	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1364.79
21	0.7332	1150.7	1171.0	1168.0	0.859	6.091	68.702	19.479	4.439	0.142	0.269	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1364.44
22	0.7320	1149.7	1170.1	1167.1	0.864	6.036	68.868	19.433	4.377	0.140	0.262	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1364.37
23	0.7316	1148.1	1168.4	1165.3	0.862	6.100	68.893	19.376	4.355	0.137	0.257	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1362.80
24	0.7300	1150.3	1170.7	1167.5	0.854	5.819	69.123	19.554	4.264	0.130	0.238	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1367.05
25	0.7314	1151.2	1171.6	1168.4	0.862	5.886	68.947	19.573	4.315	0.138	0.259	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1366.76
26	0.7315	1149.5	1169.8	1166.9	0.865	5.995	68.898	19.526	4.300	0.137	0.259	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1364.62
27	0.7321	1150.3	1170.7		0.865	6.295	68.219	19.793	4.409	0.135	0.262	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1362.04
28	0.7326	1151.2	1171.6		0.847	6.233	68.453	19.391	4.724	0.110	0.222	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1363.50
29	0.7322	1152.0	1172.4		0.852	6.333	68.193	19.511	4.732	0.125	0.236	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1362.81
30	0.7337	1152.9	1173.3		0.860	6.006	68.578	19.706	4.429	0.138	0.261	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1366.53
Avg	0.7336	1153.0	1173.1	1170.3	0.860	6.035	68.545	19.695	4.448	0.136	0.259	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1366.16

Zone 273

# Source Daily Summary

June 2018

Number: 041		Pressure Base: 14.730											Contract Day: 1							
Name: BISMARCK STN-GLEN ULLIN STN		Temperature Base:											Contract Hour: 9							
Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7354	1156.1	1176.5	1173.1	0.864	5.966	68.179	20.238	4.312	0.140	0.277	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1368.69
2	0.7368	1155.6	1176.0	1172.6	0.852	6.148	67.984	20.128	4.441	0.143	0.281	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1366.79
3	0.7367	1153.8	1174.2	1170.7	0.856	6.239	68.087	19.838	4.535	0.143	0.280	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1364.78
4	0.7356	1152.3	1172.7	1169.1	0.855	6.229	68.269	19.692	4.527	0.138	0.269	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1364.03
5	0.7343	1154.7	1175.2	1171.6	0.848	5.968	68.584	19.589	4.622	0.124	0.245	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1368.18
6	0.7355	1150.5	1170.8	1167.3	0.851	6.335	68.315	19.480	4.613	0.132	0.255	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1361.98
7	0.7326	1151.5	1171.8	1168.4	0.855	5.997	68.690	19.705	4.352	0.130	0.253	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1365.87
8	0.7335	1150.3	1170.6	1167.1	0.853	6.157	68.614	19.494	4.475	0.132	0.255	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1363.60
9	0.7331	1150.6	1171.0	1167.2	0.855	6.099	68.688	19.504	4.436	0.135	0.263	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1364.33
10	0.7348	1151.9	1172.3	1168.7	0.839	6.195	68.489	19.448	4.615	0.140	0.255	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1364.38
11	0.7358	1153.3	1173.7	1170.3	0.840	6.203	68.311	19.601	4.618	0.142	0.265	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1365.11
12	0.7390	1157.3	1177.8	1174.3	0.850	6.242	67.980	19.647	4.786	0.160	0.310	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1366.82
13	0.7375	1176.1	1196.9	1193.1	0.860	4.944	68.495	20.536	4.593	0.173	0.357	0.020	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1390.32
14	0.7284	1154.1	1174.5	1170.8	0.854	5.445	69.427	19.749	4.122	0.131	0.249	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1372.85
15	0.7362	1160.5	1181.1	1177.4	0.853	5.784	68.360	19.945	4.605	0.148	0.281	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1373.19
16	0.7313	1151.4	1171.8	1168.4	0.852	5.876	68.871	19.738	4.285	0.126	0.234	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1367.10
17	0.7313	1150.1	1170.5	1167.0	0.855	5.960	68.890	19.610	4.289	0.132	0.245	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1365.43
18	0.7320	1148.9	1169.2	1165.7	0.850	6.103	68.808	19.459	4.390	0.131	0.241	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1363.39
19	0.7310	1150.3	1170.7	1167.2	0.836	5.941	69.027	19.448	4.327	0.139	0.264	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1366.03
20	0.7320	1149.1	1169.4	1165.9	0.847	6.098	68.876	19.373	4.370	0.142	0.275	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1363.59
21	0.7323	1151.1	1171.5	1167.9	0.850	5.998	68.883	19.406	4.434	0.141	0.267	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1365.68
22	0.7313	1148.5	1168.8	1165.2	0.852	6.055	68.988	19.338	4.348	0.139	0.263	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1363.59
23	0.7313	1149.8	1170.2	1166.6	0.847	5.986	68.979	19.402	4.383	0.135	0.249	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1365.13
24	0.7314	1153.3	1173.7	1169.9	0.849	5.779	68.990	19.629	4.332	0.138	0.262	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1369.14
25	0.7304	1148.9	1169.2	1165.6	0.855	5.946	69.068	19.474	4.248	0.135	0.255	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1364.86
26	0.7319	1150.6	1171.0	1167.2	0.853	5.984	68.874	19.517	4.353	0.139	0.262	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1365.52
27	0.7310	1151.5	1171.9	1168.2	0.854	5.837	69.038	19.528	4.345	0.133	0.248	0.009	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1367.50
28	0.7296	1147.2	1167.5	1163.8	0.853	5.977	69.203	19.299	4.287	0.127	0.236	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1363.59
29	0.7269	1136.9	1157.0	1153.5	0.849	6.356	69.537	18.722	4.175	0.121	0.224	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1353.89
30	0.7300	1146.1	1166.4	1162.9	0.844	6.092	69.102	19.294	4.278	0.131	0.242	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1362.00
Avg	0.7330	1152.0	1172.5	1168.9	0.851	5.998	68.720	19.594	4.417	0.137	0.262	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1366.25

Zone 28

# Source Daily Summary

June 2018

Number: 271		Pressure Base: 14.730											Contract Day: 1							
Name: DCKSN BRD-BLFD TSF-G.U. STN		Temperature Base:											Contract Hour: 9							
Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6462	1079.9	1099.0	1095.7	0.902	2.171	83.363	12.160	1.259	0.043	0.091	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1363.99
2	0.6532	1084.4	1103.6	1100.3	0.915	2.526	82.164	12.751	1.484	0.052	0.096	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1362.40
3	0.6519	1082.2	1101.4	1098.0	0.875	2.595	82.625	12.068	1.637	0.067	0.116	0.009	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1361.00
4	0.6495	1078.9	1098.0	1094.7	0.881	2.569	82.935	11.911	1.545	0.053	0.097	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1359.28
5	0.6516	1081.7	1100.8	1097.4	0.884	2.591	82.651	12.062	1.620	0.064	0.112	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1360.58
6	0.6631	1091.0	1110.3	1106.9	0.884	3.113	80.614	13.191	1.984	0.070	0.131	0.007	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1360.57
7	0.7248	1143.8	1164.0	1160.5	0.827	5.772	70.102	18.729	4.167	0.127	0.257	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1364.22
8	0.7003	1123.2	1143.1	1139.7	0.846	4.698	74.166	16.727	3.269	0.093	0.187	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1363.20
9	0.6735	1102.6	1122.2	1118.5	0.880	3.381	78.534	14.890	2.126	0.060	0.120	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1364.24
10	0.6769	1104.1	1123.7	1120.2	0.904	3.577	78.082	14.897	2.321	0.069	0.140	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1362.60
11	0.6758	1103.2	1122.7	1119.3	0.906	3.524	78.289	14.769	2.298	0.067	0.136	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1362.58
12	0.6861	1111.7	1131.4	1127.0	0.891	4.001	76.531	15.639	2.694	0.078	0.154	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1362.94
13	0.6797	1106.3	1125.9	1122.2	0.889	3.726	77.569	15.178	2.431	0.069	0.130	0.004	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1362.50
14	0.6859	1114.9	1134.7	1130.8	0.882	3.795	76.649	15.726	2.677	0.085	0.172	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1366.89
15	0.6846	1122.5	1142.4	1138.7	0.857	3.250	77.191	15.606	2.765	0.099	0.209	0.011	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1377.42
16	0.7235	1161.3	1181.8	1178.4	0.840	4.558	71.070	18.635	4.350	0.162	0.344	0.019	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1386.24
17	0.7261	1153.0	1173.4	1170.0	0.827	5.327	69.852	19.497	4.088	0.128	0.256	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1373.91
18	0.7327	1155.9	1176.4	1172.9	0.833	5.762	68.941	19.486	4.548	0.139	0.269	0.011	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1371.13
19	0.7281	1146.3	1166.6	1163.2	0.830	5.922	69.456	19.150	4.266	0.123	0.236	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1364.06
20	0.7283	1143.9	1164.1	1159.6	0.831	6.030	69.726	18.730	4.299	0.125	0.238	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1360.86
21	0.7283	1146.9	1167.2	1163.7	0.813	5.932	69.515	19.008	4.318	0.134	0.262	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1364.52
22	0.7289	1144.7	1165.0	1161.6	0.825	6.099	69.426	18.889	4.339	0.136	0.269	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1361.45
23	0.7117	1133.7	1153.8	1150.3	0.845	5.122	72.411	17.529	3.712	0.125	0.234	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1364.67
24	0.6934	1121.4	1141.3	1137.6	0.887	4.091	75.644	15.970	3.064	0.118	0.199	0.015	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1367.34
25	0.6939	1123.7	1143.6	1139.9	0.885	4.005	75.562	16.140	3.050	0.122	0.208	0.016	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1369.60
26	0.6800	1113.5	1133.2	1129.2	0.894	3.307	78.053	14.799	2.603	0.119	0.192	0.018	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1371.20
27	0.6723	1122.9	1142.8	1138.7	0.465	2.672	77.638	17.760	1.293	0.063	0.090	0.011	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1390.40
28	0.6906	1125.4	1145.4	1141.2	0.714	3.847	75.468	17.119	2.565	0.098	0.165	0.013	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1375.25
29	0.6768	1124.2	1144.1	1140.6	0.182	3.442	76.296	18.549	1.430	0.037	0.060	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1387.56
30	0.6776	1124.2	1144.1	1140.5	0.150	3.572	76.206	18.407	1.561	0.037	0.065	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1386.67
Avg	0.6898	1119.0	1138.9	1135.2	0.802	4.033	75.891	16.199	2.792	0.092	0.174	0.009	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1368.31

Zone 31

# Source Daily Summary

June 2018

Number: 051		Pressure Base: 14.730										Contract Day: 1								
Name: CABIN CRK STN-BELFIELD TRSFR		Temperature Base:										Contract Hour: 9								
Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6578	1095.1	1114.5	1111.0	0.810	2.470	81.116	13.978	1.463	0.052	0.097	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1371.00
2	0.6578	1097.1	1116.5	1113.1	0.802	2.363	80.841	14.621	1.241	0.043	0.079	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1373.46
3	0.6554	1093.0	1112.4	1109.0	0.822	2.357	81.551	13.742	1.355	0.059	0.098	0.009	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1370.77
4	0.6660	1106.4	1126.0	1122.6	0.608	2.870	79.152	15.760	1.446	0.055	0.097	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1376.42
5	0.6745	1120.4	1140.2	1136.8	0.608	2.817	77.488	17.419	1.496	0.057	0.103	0.007	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1385.05
6	0.6761	1122.5	1142.4	1139.0	0.618	2.818	77.171	17.729	1.494	0.056	0.101	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1386.10
7	0.6725	1116.4	1136.2	1132.8	0.656	2.795	77.950	16.933	1.494	0.056	0.103	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1382.24
8	0.6789	1116.5	1136.3	1132.9	0.784	3.185	77.370	16.408	2.019	0.076	0.141	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1375.94
9	0.6654	1101.0	1120.5	1117.2	0.855	2.758	79.875	14.618	1.686	0.067	0.125	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1370.44
10	0.6648	1101.8	1121.3	1117.9	0.745	2.822	79.634	15.119	1.500	0.058	0.107	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1372.03
11	0.6661	1104.6	1124.2	1120.8	0.569	3.040	78.936	15.961	1.353	0.046	0.084	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1374.23
12	0.6709	1117.4	1137.2	1133.8	0.281	3.156	77.158	18.344	0.980	0.027	0.049	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1385.07
13	0.6642	1105.4	1125.0	1121.6	0.425	3.041	78.799	16.546	1.103	0.028	0.051	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1377.15
14	0.6578	1095.5	1114.9	1111.5	0.588	2.791	80.333	15.087	1.117	0.029	0.052	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1371.44
15	0.6699	1109.4	1129.0	1125.6	0.585	3.088	78.352	16.302	1.517	0.051	0.095	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1376.19
16	0.6676	1111.4	1131.0	1127.6	0.438	2.973	78.257	17.059	1.158	0.038	0.068	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1381.06
17	0.6720	1119.5	1139.3	1135.9	0.411	2.936	77.314	18.085	1.134	0.039	0.071	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1386.55
18	0.6674	1109.1	1128.8	1125.4	0.493	3.010	78.450	16.686	1.226	0.045	0.081	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1378.45
19	0.6618	1091.6	1110.9	1107.6	0.388	3.706	79.624	14.726	1.387	0.053	0.102	0.007	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1362.41
20	0.6646	1083.7	1102.9	1099.6	0.398	4.431	79.224	14.117	1.656	0.056	0.105	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1349.76
21	0.6772	1107.3	1126.9	1123.5	0.415	4.156	76.934	16.441	1.873	0.061	0.108	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1366.22
22	0.6632	1085.4	1104.6	1101.3	0.348	4.276	79.454	14.108	1.651	0.054	0.098	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1353.26
23	0.6856	1124.0	1143.9	1140.4	0.776	3.382	76.370	16.872	2.302	0.100	0.175	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1378.15
24	0.6769	1123.9	1143.8	1140.0	0.899	2.371	78.284	16.087	2.034	0.115	0.174	0.020	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1386.83
25	0.6714	1119.1	1139.0	1135.1	0.959	2.056	79.437	15.278	1.934	0.120	0.176	0.023	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1386.52
26	0.6710	1118.8	1138.6	1134.8	0.949	2.051	79.585	15.088	1.978	0.124	0.184	0.023	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1386.56
27	0.6626	1102.5	1122.0	1118.3	0.748	2.561	80.659	13.990	1.762	0.100	0.149	0.018	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1375.01
28	0.6519	1079.8	1099.0	1094.7	0.481	3.344	82.238	12.013	1.709	0.075	0.119	0.011	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1357.87
29	0.6826	1123.6	1143.5	1139.4	0.857	2.987	77.472	15.814	2.514	0.117	0.208	0.016	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1380.78
30	0.6724	1118.6	1138.5	1134.5	0.894	2.274	79.268	15.161	2.061	0.119	0.186	0.021	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1384.97
Avg	0.6682	1107.0	1127.0	1123.5	0.640	2.963	78.943	15.670	1.588	0.066	0.113	0.009	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1375.40

Zone 32

# Source Daily Summary

June 2018

Number: 111		Pressure Base: 14.730											Contract Day: 1								
Name: LITTLE KNIFE PLANT		Temperature Base:											Contract Hour: 9								
Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT	
1	0.6881	1153.2	1173.6	1169.5	0.000	3.034	72.926	23.349	0.675	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.49	-25.57
2	0.6893	1154.6	1175.1	1170.7	0.000	3.052	72.719	23.516	0.697	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.08	-24.97
3	0.6890	1154.7	1175.1	1170.6	0.000	3.027	72.794	23.439	0.723	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.38	-24.92
4	0.6892	1155.5	1176.0	1171.3	0.000	2.988	72.781	23.483	0.732	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.29	-24.74
5	0.6899	1156.0	1176.5	1172.2	0.000	3.021	72.645	23.574	0.745	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.24	-24.41
6	0.6895	1155.3	1175.8	1171.4	0.000	3.036	72.680	23.553	0.716	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.67	-24.71
7	0.6875	1153.2	1173.6	1169.0	0.000	2.972	73.173	23.060	0.778	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.13	-25.41
8	0.6874	1153.6	1174.1	1169.2	0.000	2.939	73.202	23.046	0.797	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.76	-25.29
9	0.6883	1155.0	1175.5	1170.3	0.000	2.933	73.093	23.103	0.855	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.60	-24.64
10	0.6874	1153.6	1174.1	1169.3	0.000	2.933	73.210	23.056	0.787	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.83	-25.35
11	0.6880	1153.6	1174.1	1169.5	0.000	2.997	73.008	23.247	0.733	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.13	-25.35
12	0.6869	1152.4	1172.8	1168.2	0.000	2.963	73.228	23.076	0.718	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.84	-25.90
13	0.6879	1153.9	1174.4	1169.2	0.000	2.964	73.112	23.106	0.802	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.66	-25.09
14	0.6874	1155.2	1175.6	1170.6	0.000	2.841	73.280	23.016	0.846	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.67	-24.91
15	0.6861	1152.4	1172.8	1168.3	0.000	2.885	73.410	22.976	0.715	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.68	-26.17
16	0.6844	1150.6	1171.0	1166.3	0.000	2.842	73.700	22.781	0.662	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.13	-27.10
17	0.6855	1152.2	1172.6	1168.1	0.000	2.843	73.539	22.889	0.713	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.00	-26.38
18	0.6862	1153.5	1173.9	1169.4	0.000	2.829	73.462	22.910	0.784	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.89	-25.73
19	0.6876	1153.5	1173.9	1169.4	0.000	2.967	73.083	23.216	0.718	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.38	-25.53
20	0.6894	1154.0	1174.5	1170.0	0.000	3.098	72.728	23.415	0.742	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.26	-24.84
21	0.6903	1153.9	1174.4	1170.0	0.000	3.196	72.527	23.508	0.753	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1410.14	-24.55
22	0.6902	1153.9	1174.3	1169.6	0.000	3.184	72.539	23.530	0.731	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1410.26	-24.66
23	0.6903	1153.2	1173.6	1169.2	0.000	3.240	72.494	23.526	0.725	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1409.25	-24.75
24	0.6902	1153.5	1173.9	1169.3	0.000	3.215	72.521	23.519	0.728	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1409.66	-24.72
25	0.6892	1153.0	1173.4	1169.1	0.000	3.150	72.722	23.395	0.718	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1410.13	-25.11
26	0.6906	1155.6	1176.0	1171.5	0.000	3.121	72.518	23.564	0.781	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.86	-24.14
27	0.6906	1153.5	1174.0	1169.6	0.000	3.240	72.475	23.517	0.752	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1409.45	-24.53
28	0.6918	1155.0	1175.5	1171.3	0.000	3.265	72.247	23.695	0.777	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1410.01	-23.88
29	0.6914	1155.3	1175.7	1171.2	0.000	3.212	72.290	23.751	0.730	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1410.72	-24.13
30	0.6912	1154.3	1174.8	1170.5	0.000	3.248	72.348	23.642	0.746	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1409.79	-24.27
Avg	0.6887	1154.0	1174.3	1169.8	0.000	3.041	72.882	23.315	0.746	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.81	-25.06

Zone 33

# Source Daily Summary

June 2018

Number: 351		Pressure Base: 14.730										Contract Day: 1								
Name: BADLANDS PLANT		Temperature Base:										Contract Hour: 9								
Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.5905	980.4	997.7	994.7	0.131	4.171	92.574	2.739	0.353	0.015	0.015	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1295.33
2	0.5784	963.2	980.3	977.3	0.121	4.090	94.796	0.861	0.116	0.010	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1286.02
3	0.5868	970.9	988.0	985.1	0.125	4.414	93.291	1.800	0.319	0.019	0.028	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1286.92
4	0.5726	962.1	979.1	976.1	0.107	3.637	95.921	0.310	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.91
5	0.5727	962.0	979.0	976.1	0.106	3.648	95.907	0.313	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.75
6	0.5727	961.8	978.8	975.9	0.106	3.664	95.894	0.310	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.44
7	0.5726	962.0	979.0	976.1	0.106	3.645	95.914	0.310	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.78
8	0.5726	962.0	979.0	976.0	0.106	3.645	95.914	0.310	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.79
9	0.5726	962.1	979.1	976.1	0.106	3.638	95.921	0.310	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.92
10	0.5726	962.1	979.1	976.1	0.106	3.638	95.920	0.310	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.91
11	0.5727	961.8	978.8	975.9	0.106	3.664	95.896	0.310	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.44
12	0.5735	959.5	976.5	973.5	0.100	3.891	95.687	0.300	0.014	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1286.43
13	0.5728	961.8	978.9	975.8	0.106	3.669	95.880	0.319	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.42
14	0.5738	963.1	980.1	977.0	0.107	3.690	95.693	0.461	0.038	0.009	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.88
15	0.5735	961.4	978.4	975.4	0.104	3.766	95.725	0.371	0.024	0.009	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1289.01
16	0.5731	960.9	977.9	974.9	0.104	3.758	95.802	0.311	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1288.80
17	0.5726	962.1	979.2	976.2	0.107	3.630	95.927	0.311	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1291.04
18	0.5728	961.7	978.7	975.7	0.106	3.676	95.884	0.310	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.22
19	0.5729	961.2	978.2	975.2	0.104	3.723	95.843	0.307	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1289.41
20	0.5727	961.9	979.0	975.9	0.107	3.650	95.909	0.310	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.68
21	0.5729	961.3	978.3	975.2	0.105	3.716	95.847	0.308	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1289.52
22	0.5730	961.0	978.0	974.9	0.105	3.747	95.818	0.307	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1288.97
23	0.5727	961.8	978.8	975.8	0.106	3.664	95.894	0.311	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.44
24	0.5825	966.3	983.4	980.4	0.186	4.193	94.013	1.461	0.127	0.010	0.009	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1285.47
25	0.5950	987.1	1004.6	1001.4	0.319	3.902	91.900	3.490	0.342	0.019	0.025	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1299.09
26	0.5945	988.2	1005.7	1002.4	0.158	4.028	91.783	3.685	0.305	0.017	0.022	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1301.33
27	0.5768	965.6	982.7	979.5	0.113	3.804	95.103	0.904	0.062	0.010	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.98
28	0.5904	982.1	999.5	996.2	0.149	4.029	92.531	3.013	0.245	0.015	0.017	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1297.77
29	0.6027	997.7	1015.3	1012.2	0.190	4.176	90.394	4.639	0.526	0.025	0.043	0.002	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1304.92
30	0.5925	984.0	1001.4	998.3	0.184	4.056	92.277	3.071	0.364	0.020	0.024	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1298.00
Avg	0.5783	967.0	984.4	981.4	0.126	3.821	94.862	1.069	0.104	0.011	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1291.59

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

Zone 34

# Source Daily Summary

June 2018

Number: 471

Pressure Base: 14.730

Contract Day:

Name: SPRING CREEK I - SAX VALVE I

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6942	1142.4	1162.6	1159.6	0.978	2.775	72.624	22.998	0.608	0.006	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1392.17	-24.96
2	0.6797	1118.0	1137.8	1134.8	1.025	2.829	75.448	20.256	0.418	0.007	0.014	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1376.81	-33.50
3	0.6777	1114.0	1133.7	1130.8	1.027	2.876	75.959	19.592	0.521	0.008	0.015	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1374.01	-34.27
4	0.6800	1117.3	1137.1	1134.1	1.016	2.906	75.447	20.100	0.525	0.003	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1375.79	-33.36
5	0.6882	1131.8	1151.8	1148.8	0.991	2.842	73.628	22.123	0.408	0.003	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1385.18	-29.10
6	0.6936	1141.1	1161.3	1158.3	0.977	2.801	72.563	23.203	0.446	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1391.20	-25.95
7	0.6922	1139.1	1159.3	1156.3	0.984	2.777	72.795	23.057	0.379	0.003	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1390.21	-26.92
8	0.6899	1135.1	1155.2	1152.2	0.988	2.799	73.406	22.283	0.508	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1387.59	-27.67
9	0.6954	1144.7	1165.0	1161.9	0.977	2.750	72.477	23.078	0.698	0.007	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1393.74	-23.93
10	0.6998	1152.0	1172.5	1169.4	0.972	2.723	71.931	23.306	1.042	0.010	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1398.28	-20.45
11	0.7062	1161.9	1182.4	1179.4	0.964	2.734	71.430	22.983	1.861	0.012	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1403.78	-14.71
12	0.6907	1136.2	1156.3	1153.3	0.988	2.811	73.343	22.220	0.626	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1388.08	-26.88
13	0.6960	1145.5	1165.8	1162.7	0.975	2.761	72.307	23.279	0.658	0.007	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1394.12	-23.79
14	0.6923	1139.2	1159.4	1156.4	0.982	2.782	72.915	22.794	0.515	0.005	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1390.24	-26.34
15	0.6941	1142.3	1162.6	1159.5	0.981	2.767	72.680	22.915	0.637	0.007	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1392.17	-24.84
16	0.6931	1140.1	1160.3	1157.3	0.983	2.802	72.890	22.665	0.646	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1390.47	-25.52
17	0.6835	1122.8	1142.6	1139.7	1.017	2.908	74.519	21.230	0.321	0.002	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1378.90	-32.25
18	0.6742	1107.6	1127.2	1124.3	1.038	2.921	76.353	19.446	0.238	0.001	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1369.68	-37.89
19	0.6792	1117.2	1137.0	1134.0	1.021	2.837	75.494	20.232	0.411	0.002	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1376.41	-34.06
20	0.6938	1142.5	1162.7	1159.6	0.983	2.724	73.034	22.392	0.788	0.024	0.049	0.003	0.004	0.000	0.000	0.000	0.000	0.000	1392.61	-23.42
21	0.6920	1139.1	1159.3	1156.2	0.985	2.762	73.087	22.530	0.615	0.007	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1390.29	-25.99
22	0.6957	1144.9	1165.1	1162.1	0.981	2.762	72.582	22.795	0.855	0.010	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1393.65	-23.21
23	0.6840	1124.7	1144.6	1141.6	1.006	2.850	74.562	21.118	0.456	0.003	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1380.77	-31.30
24	0.6860	1126.9	1146.9	1143.9	0.995	2.920	74.009	21.743	0.321	0.004	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1381.50	-30.73
25	0.6897	1133.7	1153.8	1150.8	0.994	2.856	73.598	21.877	0.655	0.006	0.012	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1386.03	-27.39
26	0.6831	1123.0	1142.9	1139.9	1.008	2.867	74.744	20.907	0.464	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1379.63	-31.73
27	0.6880	1131.6	1151.7	1148.7	0.994	2.824	73.771	21.912	0.491	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1385.25	-28.85
28	0.6923	1139.3	1159.4	1156.4	0.981	2.786	72.893	22.827	0.501	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1390.24	-26.38
29	0.6936	1141.1	1161.3	1158.3	0.977	2.805	72.519	23.280	0.408	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1391.14	-26.07
30	0.6943	1142.3	1162.5	1159.5	0.976	2.796	72.479	23.248	0.486	0.006	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1391.93	-25.38
Avg	0.6898	1135.0	1154.7	1151.7	0.992	2.812	73.516	22.080	0.583	0.006	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1387.06	-27.56

Zone 43

June-18

ZONE 550

MANDAN BORDER

01970  
WBI - Mandan Border  
WBI Meter #0202220

NBPL - St Anthony

Weighted

Begin Date	End Date	MCF	DK	BTU	MCF	DK	BTU	AVG BTU	
6/1/2018	6/2/2018				939	1105	1.1765	1.177	6/1/2018
6/2/2018	6/3/2018				977	1149	1.1760	1.176	6/2/2018
6/3/2018	6/4/2018				856	1005	1.1742	1.174	6/3/2018
6/4/2018	6/5/2018				828	972	1.1727	1.173	6/4/2018
6/5/2018	6/6/2018				868	1019	1.1752	1.175	6/5/2018
6/6/2018	6/7/2018				944	1105	1.1708	1.171	6/6/2018
6/7/2018	6/8/2018				904	1059	1.1718	1.172	6/7/2018
6/8/2018	6/9/2018				770	901	1.1706	1.171	6/8/2018
6/9/2018	6/10/2018				682	798	1.1710	1.171	6/9/2018
6/10/2018	6/11/2018				804	943	1.1723	1.172	6/10/2018
6/11/2018	6/12/2018				981	1150	1.1737	1.174	6/11/2018
6/12/2018	6/13/2018				936	1102	1.1778	1.178	6/12/2018
6/13/2018	6/14/2018				936	1120	1.1969	1.197	6/13/2018
6/14/2018	6/15/2018				839	986	1.1745	1.175	6/14/2018
6/15/2018	6/16/2018				795	939	1.1811	1.181	6/15/2018
6/16/2018	6/17/2018				827	969	1.1718	1.172	6/16/2018
6/17/2018	6/18/2018				852	997	1.1705	1.171	6/17/2018
6/18/2018	6/19/2018				777	909	1.1692	1.169	6/18/2018
6/19/2018	6/20/2018				742	868	1.1707	1.171	6/19/2018
6/20/2018	6/21/2018				715	836	1.1694	1.169	6/20/2018
6/21/2018	6/22/2018				760	890	1.1715	1.172	6/21/2018
6/22/2018	6/23/2018				636	743	1.1688	1.169	6/22/2018
6/23/2018	6/24/2018				594	695	1.1702	1.170	6/23/2018
6/24/2018	6/25/2018				673	790	1.1737	1.174	6/24/2018
6/25/2018	6/26/2018				717	838	1.1692	1.169	6/25/2018
6/26/2018	6/27/2018				657	770	1.1710	1.171	6/26/2018
6/27/2018	6/28/2018				827	969	1.1719	1.172	6/27/2018
6/28/2018	6/29/2018				886	1035	1.1675	1.168	6/28/2018
6/29/2018	6/30/2018				845	979	1.1570	1.157	6/29/2018
6/30/2018	7/1/2018				726	847	1.1664	1.166	6/30/2018
		0	0	#DIV/0!	24,293	28,488	1.1725	1.1725	



# Alliance Pipeline

DAILY ANALYSIS — USA  
 ND07MD1 — Hankinson Sales  
 June 2018

DAY	Heating Value (BTU/ft3)	Relative Density	C1 Mol%	C2 Mol%	C3 Mol%	IC4 Mol%	NC4 Mol%	IC5 Mol%	NC5 Mol%	C6+ Mol%	N2 Mol%	CO2 Mol%	HeI Mol%
1	1,150.813	0.6612	84.4027	9.2873	3.6111	0.3521	0.6085	0.0621	0.0484	0.0289	1.1507	0.4379	0.0101
2	1,150.960	0.6610	84.4197	9.2970	3.6140	0.3496	0.6057	0.0609	0.0477	0.0285	1.1298	0.4369	0.0101
3	1,149.012	0.6597	84.5198	9.3088	3.5657	0.3369	0.5670	0.0580	0.0453	0.0277	1.1239	0.4369	0.0100
4	1,148.405	0.6599	84.4451	9.3467	3.5782	0.3290	0.5509	0.0556	0.0449	0.0290	1.1591	0.4510	0.0105
5	1,151.152	0.6610	84.4451	9.2757	3.6444	0.3457	0.5964	0.0568	0.0467	0.0323	1.1060	0.4405	0.0104
6	1,158.557	0.6665	83.8157	9.4034	3.9477	0.3748	0.6829	0.0584	0.0475	0.0305	1.1978	0.4314	0.0100
7	1,158.405	0.6661	83.8048	9.5038	3.9256	0.3674	0.6589	0.0568	0.0465	0.0276	1.1662	0.4319	0.0104
8	1,154.173	0.6638	84.0613	9.4173	3.7937	0.3539	0.6143	0.0563	0.0456	0.0282	1.1592	0.4593	0.0108
9	1,156.322	0.6654	83.8779	9.4562	3.8812	0.3626	0.6317	0.0584	0.0475	0.0298	1.1829	0.4613	0.0104
10	1,157.678	0.6662	83.7918	9.4940	3.9211	0.3669	0.6455	0.0584	0.0472	0.0289	1.1754	0.4604	0.0104
11	1,156.589	0.6652	83.9308	9.4361	3.8673	0.3659	0.6438	0.0585	0.0466	0.0292	1.1622	0.4498	0.0100
12	1,151.189	0.6617	84.4102	9.2058	3.6962	0.3489	0.6018	0.0586	0.0474	0.0310	1.1092	0.4809	0.0101
13	1,152.725	0.6629	84.3102	9.1852	3.7471	0.3607	0.6460	0.0565	0.0450	0.0303	1.1274	0.4818	0.0098
14	1,149.414	0.6605	84.4554	9.2840	3.6010	0.3400	0.5838	0.0558	0.0449	0.0287	1.1264	0.4700	0.0099
15	1,152.844	0.6630	84.2577	9.3191	3.6558	0.3662	0.6490	0.0604	0.0478	0.0309	1.1013	0.5014	0.0104
16	1,148.735	0.6610	84.4243	9.2444	3.6060	0.3373	0.5914	0.0561	0.0450	0.0295	1.1312	0.5238	0.0109
17	1,149.346	0.6612	84.4554	9.1482	3.6641	0.3416	0.6072	0.0536	0.0442	0.0297	1.1493	0.4960	0.0106
18	1,149.603	0.6613	84.3586	9.2866	3.6230	0.3419	0.5990	0.0553	0.0449	0.0292	1.1636	0.4879	0.0100
19	1,149.268	0.6608	84.4218	9.2848	3.6263	0.3364	0.5747	0.0546	0.0443	0.0293	1.1303	0.4868	0.0107
20	1,153.416	0.6633	84.2082	9.2979	3.7524	0.3562	0.6352	0.0569	0.0468	0.0302	1.1182	0.4874	0.0106
21	1,152.523	0.6630	84.3149	9.1819	3.7299	0.3617	0.6469	0.0577	0.0473	0.0311	1.1141	0.5048	0.0097
22	1,151.878	0.6624	84.3575	9.1762	3.7464	0.3509	0.6162	0.0571	0.0461	0.0321	1.1027	0.5056	0.0093
23	1,151.574	0.6629	84.3357	9.1244	3.7727	0.3531	0.6213	0.0575	0.0472	0.0294	1.1136	0.5353	0.0098
24	1,151.772	0.6626	84.4434	9.0104	3.7762	0.3641	0.6357	0.0602	0.0496	0.0296	1.0959	0.5246	0.0103
25	1,152.134	0.6622	84.3845	9.1714	3.7846	0.3490	0.5880	0.0579	0.0485	0.0312	1.0809	0.4933	0.0107
26	1,156.735	0.6653	83.9291	9.4468	3.9172	0.3563	0.6115	0.0574	0.0478	0.0307	1.1048	0.4875	0.0109
27	1,158.050	0.6659	83.8642	9.4786	3.9406	0.3599	0.6254	0.0594	0.0497	0.0324	1.1064	0.4734	0.0102
28	1,159.913	0.6669	83.7485	9.5369	3.9957	0.3652	0.6381	0.0593	0.0498	0.0324	1.0967	0.4673	0.0101
29	1,159.527	0.6664	83.8363	9.5012	3.9643	0.3676	0.6292	0.0640	0.0529	0.0335	1.0817	0.4594	0.0098
30	1,161.372	0.6673	83.7131	9.5659	4.0180	0.3714	0.6445	0.0631	0.0531	0.0331	1.0827	0.4449	0.0102
Volume	1,153.456	0.6632	84.1924	9.3223	3.7650	0.3544	0.6182	0.0581	0.0472	0.0302	1.1283	0.4736	0.0102
Weight Avg Energy	1,153.467	0.6632	84.1916	9.3227	3.7654	0.3544	0.6183	0.0581	0.0472	0.0302	1.1283	0.4736	0.0102

*Done*

June-18

ZONE 610

Watford City

01325  
Watford City West Border  
WBI Meter #0602225

01312  
Watford City East Border  
WBI Meter #2702230

Weighted

Begin Date	End Date	BTU			MCF	DK	BTU	MCF	DK	BTU	AVG	
		Zone 25	Zone 43	Zone 43								
6/1/2018	6/2/2018	9	11	1.202	145	169	1.163	1.165	6/1/2018			
6/2/2018	6/3/2018	21	25	1.202	145	164	1.138	1.146	6/2/2018			
6/3/2018	6/4/2018	6	8	1.202	128	145	1.134	1.137	6/3/2018			
6/4/2018	6/5/2018	2	2	1.202	136	155	1.137	1.138	6/4/2018			
6/5/2018	6/6/2018	1	1	1.202	158	182	1.152	1.152	6/5/2018			
6/6/2018	6/7/2018	14	16	1.202	142	165	1.161	1.165	6/6/2018			
6/7/2018	6/8/2018	6	7	1.202	149	172	1.159	1.161	6/7/2018			
6/8/2018	6/9/2018	0	0	1.202	124	143	1.155	1.155	6/8/2018			
6/9/2018	6/10/2018	0	0	1.202	109	127	1.165	1.165	6/9/2018			
6/10/2018	6/11/2018	3	4	1.202	123	145	1.173	1.174	6/10/2018			
6/11/2018	6/12/2018	8	10	1.202	139	164	1.182	1.183	6/11/2018			
6/12/2018	6/13/2018	11	13	1.202	135	157	1.156	1.159	6/12/2018			
6/13/2018	6/14/2018	2	3	1.202	122	142	1.166	1.167	6/13/2018			
6/14/2018	6/15/2018	3	4	1.202	126	146	1.159	1.160	6/14/2018			
6/15/2018	6/16/2018	5	7	1.202	134	156	1.163	1.164	6/15/2018			
6/16/2018	6/17/2018	2	3	1.202	117	136	1.160	1.161	6/16/2018			
6/17/2018	6/18/2018	2	3	1.202	143	163	1.143	1.144	6/17/2018			
6/18/2018	6/19/2018	2	3	1.202	137	154	1.127	1.128	6/18/2018			
6/19/2018	6/20/2018	2	2	1.202	143	163	1.137	1.138	6/19/2018			
6/20/2018	6/21/2018	4	4	1.202	137	159	1.163	1.164	6/20/2018			
6/21/2018	6/22/2018	0	0	1.202	120	139	1.159	1.159	6/21/2018			
6/22/2018	6/23/2018	1	1	1.202	134	157	1.165	1.165	6/22/2018			
6/23/2018	6/24/2018	1	2	1.202	129	147	1.145	1.145	6/23/2018			
6/24/2018	6/25/2018	1	1	1.202	127	146	1.147	1.147	6/24/2018			
6/25/2018	6/26/2018	3	4	1.202	148	170	1.154	1.155	6/25/2018			
6/26/2018	6/27/2018	1	1	1.202	131	150	1.143	1.143	6/26/2018			
6/27/2018	6/28/2018	1	1	1.202	130	150	1.152	1.152	6/27/2018			
6/28/2018	6/29/2018	1	1	1.202	136	158	1.159	1.159	6/28/2018			
6/29/2018	6/30/2018	0	0	1.202	125	145	1.161	1.161	6/29/2018			
6/30/2018	7/1/2018	1	1	1.202	116	135	1.163	1.163	6/30/2018			
		113	138		3,988	4,604	1.1547	1.1559				

ROW ID	LOCATION DESCRIPTION	GROSS HEATING VALUE (BTU/CF)	SPECIFIC GRAVITY	WOBBE (calc)	CRICONDENTHERM (deg F)	NITROGEN (mole percent)	CARBON DIOXIDE (mole percent)	METHANE (mole percent)	ETHANE (mole percent)	PROPANE (mole percent)	NORMAL BUTANE (mole percent)	ISO BUTANE (mole percent)	PENTANE (mole percent)	ISO PENTANE (mole percent)	NEO PENTANE (mole percent)	HEXANES PLUS (mole percent)	HYDROGEN (mole percent)	HELIUM (mole percent)	PRODUCTION DATE	POSTING DATE	ChangeTimestamp	NOTES
11587	GLEN ULLIN	1079.5	0.6275	1362.7	-59.7	1.5798	0.906	86.0824	10.5986	0.5995	0.0303	0.0165	0.002	0.002	0	0	0.1661	0.0169	5/31/2018	6/1/2018	6/1/2018 3:31:31 PM	
11587	GLEN ULLIN	1081.6	0.6288	1364	-58.8	1.5782	0.9061	85.7774	10.8849	0.6025	0.0296	0.0168	0.0018	0.0019	0	0.0001	0.1834	0.0173	6/1/2018	6/2/2018	6/2/2018 3:32:07 PM	
11587	GLEN ULLIN	1079.6	0.6273	1363.1	-55.9	1.4957	0.9407	86.3555	10.2306	0.6995	0.0467	0.032	0.0045	0.0056	0	0.002	0.1716	0.0161	6/2/2018	6/3/2018	6/3/2018 3:28:58 PM	
11587	GLEN ULLIN	1076.1	0.6253	1360.8	-61.7	1.5215	0.9424	86.5929	10.1827	0.5645	0.0279	0.0152	0.0016	0.0015	0	0	0.1333	0.0166	6/3/2018	6/4/2018	6/4/2018 3:30:10 PM	
11587	GLEN ULLIN	1080.2	0.629	1362	-59.6	1.6031	0.9553	85.8336	10.85	0.5701	0.0252	0.0139	0.001	0.0009	0	0	0.1276	0.0183	6/4/2018	6/5/2018	6/5/2018 3:33:55 PM	
11587	GLEN ULLIN	1083.4	0.6309	1364	-58.1	1.6122	0.9398	85.4643	11.2055	0.5873	0.027	0.0147	0.0011	0.0011	0	0	0.1279	0.0191	6/5/2018	6/6/2018	6/6/2018 3:32:41 PM	
11587	GLEN ULLIN	1086.4	0.6325	1366.1	-56.8	1.6295	0.9104	85.1366	11.55	0.5979	0.0282	0.0154	0.0011	0.0011	0	0	0.1121	0.0189	6/6/2018	6/7/2018	6/7/2018 3:31:07 PM	
11587	GLEN ULLIN	1090.7	0.635	1368.7	-55.1	1.6093	0.908	84.6687	12.0409	0.6086	0.0277	0.0151	0.0011	0.0012	0	0	0.1013	0.0189	6/7/2018	6/8/2018	6/8/2018 3:33:27 PM	
11587	GLEN ULLIN	1090.5	0.6346	1368.9	-54.8	1.5895	0.9043	84.7706	11.9197	0.6327	0.0329	0.0174	0.0019	0.0019	0	0.0001	0.1136	0.0189	6/8/2018	6/9/2018	6/9/2018 3:29:07 PM	
11587	GLEN ULLIN	1090.7	0.6348	1369	-54.9	1.5481	0.9333	84.7099	12.0024	0.6108	0.0305	0.0165	0.0015	0.0014	0	0.0002	0.1293	0.0178	6/9/2018	6/10/2018	6/10/2018 3:29:21 PM	
11587	GLEN ULLIN	1089.4	0.6337	1368.5	-56.1	1.5013	0.9475	84.9624	11.836	0.5926	0.0242	0.0138	0.0006	0.0006	0	0	0.1053	0.0166	6/10/2018	6/11/2018	6/11/2018 3:31:51 PM	
11587	GLEN ULLIN	1092.5	0.6357	1370.3	-53.4	1.5244	0.9305	84.7271	11.9067	0.7632	0.0234	0.0138	0.001	0.0009	0	0.001	0.0954	0.0145	6/11/2018	6/12/2018	6/12/2018 3:31:33 PM	
11587	GLEN ULLIN	1088.9	0.6336	1367.9	-56.4	1.5399	0.9404	84.9866	11.8555	0.5591	0.0211	0.0121	0.0016	0.0013	0	0.0004	0.0723	0.0128	6/12/2018	6/13/2018	6/13/2018 3:32:24 PM	
11587	GLEN ULLIN	1088.6	0.6338	1367.4	-56	1.585	0.9277	85.0084	11.731	0.6212	0.0252	0.0143	0.0014	0.0012	0	0	0.0724	0.0139	6/13/2018	6/14/2018	6/14/2018 3:33:26 PM	
11587	GLEN ULLIN	1085.5	0.6309	1366.7	-57.9	1.5186	0.9149	85.6055	11.2571	0.5901	0.0266	0.0147	0.0015	0.0015	0	0	0.0583	0.0128	6/14/2018	6/15/2018	6/15/2018 3:29:26 PM	
11587	GLEN ULLIN	1088.3	0.6329	1368	-55.2	1.5405	0.9142	85.1702	11.6233	0.6054	0.0298	0.0158	0.002	0.0018	0	0.002	0.0812	0.0159	6/15/2018	6/16/2018	6/16/2018 3:28:50 PM	
11587	GLEN ULLIN	1091.8	0.6356	1369.5	-52.7	1.5496	0.9408	84.6747	12.0233	0.6575	0.0292	0.0188	0.0016	0.0017	0	0.0027	0.0865	0.0164	6/16/2018	6/17/2018	6/17/2018 3:31:05 PM	
11587	GLEN ULLIN	1114.3	0.6504	1381.7	-23.1	1.5596	0.9558	82.8054	13.0073	1.2772	0.1271	0.1016	0.0161	0.0226	0	0.0156	0.0957	0.0161	6/17/2018	6/18/2018	6/18/2018 3:34:00 PM	
11587	GLEN ULLIN	1106.6	0.6449	1378	-24	1.5098	0.9588	83.6706	12.1928	1.1907	0.1245	0.1	0.0165	0.0229	0	0.016	0.1818	0.0154	6/18/2018	6/19/2018	6/19/2018 3:32:20 PM	
11587	GLEN ULLIN	1108.8	0.6472	1378.3	-25.1	1.5913	0.9543	83.2891	12.3946	1.3143	0.1161	0.0955	0.0147	0.0211	0	0.0145	0.1765	0.0157	6/19/2018	6/20/2018	6/20/2018 3:34:08 PM	
11587	GLEN ULLIN	1117.4	0.6526	1383.2	-21.5	1.5997	0.9478	82.3574	13.2247	1.4013	0.1347	0.1037	0.0166	0.0228	0	0.0159	0.1596	0.0159	6/20/2018	6/21/2018	6/21/2018 3:34:23 PM	
11587	GLEN ULLIN	1114.9	0.6512	1381.6	-21.6	1.6267	0.9392	82.6548	12.8711	1.4225	0.1386	0.1055	0.0169	0.0232	0	0.0159	0.1698	0.0159	6/21/2018	6/22/2018	6/22/2018 3:26:43 PM	
11587	GLEN ULLIN	1113.8	0.6498	1381.7	-18.7	1.5426	0.9514	83.1693	12.2934	1.5378	0.152	0.116	0.0187	0.0256	0	0.0186	0.1579	0.0166	6/22/2018	6/23/2018	6/23/2018 3:27:39 PM	
11587	GLEN ULLIN	1110.3	0.6471	1380.3	-20.6	1.5034	0.9477	83.5083	12.1581	1.3903	0.1375	0.1095	0.0178	0.025	0	0.018	0.1682	0.0162	6/23/2018	6/24/2018	6/24/2018 3:26:12 PM	
11587	GLEN ULLIN	1109	0.6464	1379.4	-20.2	1.5067	0.9524	83.6666	11.99	1.387	0.1386	0.1106	0.0183	0.0255	0	0.0186	0.1688	0.0169	6/24/2018	6/25/2018	6/25/2018 3:28:19 PM	
11587	GLEN ULLIN	1106.8	0.6444	1378.8	-20.2	1.4661	0.9425	84.1529	11.5156	1.4262	0.1459	0.1154	0.0188	0.0259	0	0.0184	0.1554	0.0167	6/25/2018	6/26/2018	6/26/2018 3:27:00 PM	
11587	GLEN ULLIN	1109.4	0.6458	1380.5	-19.5	1.4538	0.9337	83.9223	11.7048	1.4751	0.1505	0.1175	0.0192	0.0263	0	0.0187	0.1615	0.0167	6/26/2018	6/27/2018	6/27/2018 3:31:45 PM	
11587	GLEN ULLIN	1112.7	0.6495	1380.6	-21.6	1.6206	0.9277	83.0467	12.5445	1.4125	0.1372	0.1057	0.0172	0.0232	0	0.0164	0.1307	0.0175	6/27/2018	6/28/2018	6/28/2018 3:31:41 PM	
11587	GLEN ULLIN	1111.7	0.6481	1380.9	-20.4	1.5799	0.9065	83.3711	12.1692	1.4868	0.1411	0.1113	0.0177	0.0242	0	0.0175	0.1574	0.0172	6/28/2018	6/29/2018	6/29/2018 3:32:37 PM	
11587	GLEN ULLIN	1111.9	0.6474	1381.9	-20.4	1.4869	0.9132	83.6477	11.9857	1.5114	0.1435	0.1142	0.0181	0.0249	0	0.0174	0.1197	0.0172	6/29/2018	6/30/2018	6/30/2018 3:28:52 PM	
11587	GLEN ULLIN	1113.4	0.6485	1382.6	-20.7	1.5059	0.9074	83.4233	12.214	1.5102	0.1418	0.1119	0.0175	0.024	0	0.017	0.1097	0.0173	6/30/2018	7/1/2018	7/1/2018 3:31:18 PM	

31 record(s) retrieved

None

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

MONTANA DAKOTA UTILITIES CO  
NORTH DAKOTA  
HEATING VALUE DATA

STATE	ZONE	ZONE BOUNDARY	12 MONTH AVERAGE	JUNE 18	MAY 18	APRIL 18	MARCH 18	FEB 18	JAN 18	DEC 17	NOV 17	OCT 17	SEPT 17	AUG 17	JULY 17	ZONE
MT/ND	211	Sidney Border - MonDak Tfr - Sidney Plt	1196	1171	1193	1191	1211	1195	1185	1193	1210	1201	1200	1204	1201	211
ND	24	Williston Border - Charbonneau Station	1141	1141	1135	1136	1140	1140	1138	1143	1144	1144	1142	1142	1141	24
ND	25	Watford City West Border	1189	1202	1192	1185	1179	1184	1174	1165	1169	1204	1205	1202	1206	25
ND	28	Bismarck Station - Glen Ullin Station	1151	1173	1172	1163	1121	1098	1096	1114	1111	1173	1196	1195	1194	28
ND	31	Dickinson Brd - Belfield Trf - G Ullin Stn	1129	1139	1158	1134	1122	1102	1095	1111	1110	1132	1100	1169	1179	31
ND/MT	32	Cabin Creek Station - Belfied Transfer	1109	1127	1113	1116	1104	1080	1072	1096	1090	1113	1103	1136	1157	32
ND	33	Little Knife Plant	1176	1174	1176	1175	1175	1176	1175	1174	1174	1174	1177	1181	1180	33
ND	34	Badlands Plant/Bowman Border	995	984	996	996	996	996	996	996	996	996	996	996	996	34
ND	43	Spring Creek I - Sax Valve I	1154	1155	1160	1164	1158	1148	1153	1165	1158	1143	1147	1151	1141	43
ND/MT	241	Fairview Border	1184	1180	1168	1151	1205	1206	1203	1190	1204	1196	1175	1169	1165	241
ND	260	North Tioga Transfer - Nesson Plant	1002	1089	989	989	987	986	1021	998	992	996	987	993	1002	260
ND	261	Tioga Comp Station - Robinson Lake Plan	1174	1178	1169	1176	1173	1171	1173	1167	1170	1176	1175	1177	1183	261
ND	262	Minot Bdr - Palermo Bdr - Bismarck Stn	1192	1175	1180	1198	1199	1191	1193	1196	1190	1194	1196	1195	1193	262
ND	263	Lignite Plant	1130	1115	1128	1135	1115	1135	1114	1120	1143	1141	1123	1143	1146	263
ND	264	Epping Border	1137	1148	1129	1128	1118	1144	1161	1142	1133	1134	1136	1133	1138	264
ND	265	Tioga Comp Station - County Line Plant	1175	1178	1175	1176	1173	1171	1174	1167	1170	1176	1176	1177	1184	265
ND	266	County Line Plant	1184	1181	1180	1181	1182	1185	1183	1181	1184	1185	1189	1184	1191	266
ND	271	Bismarck Station - Cleveland Station	1182	1173	1173	1194	1187	1159	1161	1176	1179	1192	1196	1195	1194	271
ND	272	Cleveland Station - Mapleton	1181	1173	1172	1194	1187	1158	1160	1177	1179	1192	1196	1195	1193	272
ND	273	Cleveland Station - Grafton Border	1181	1173	1171	1192	1187	1158	1160	1177	1179	1192	1196	1195	1194	273
ND	550	Mandan Border / NBPL-St Anthony		1173	1172	1163	1100	1090	1088	1099	1093					550
ND	610	MDU-Watford City BTU	1173	1156	1164	1174	1170	1168	1164	1165	1165	1189	1190	1183	1185	610
ND	802	Linton	1071	1097	1083	1074	1069	1068	1069	1073	1075	1064	1065	1062	1057	802
ND	903	Hettinger Propane	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	903

**THERMAL ZONE VARIANCE  
DOCUMENTATION**

**June 2018**

<b><i>ZONE</i></b>	<b><i>BTU VARIANCE</i></b>	<b><i>REASON</i></b>
211	-22	Operational Change
260	100	Operational Change