



UTILITIES CO.

A Subsidiary of MDU Resources Group, Inc.

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

December 16, 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 – October 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 November 2019.
2. Attachment B consists of copies of the monthly Heating Value Test Reports received from our suppliers for the month of October 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 October 2019.

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

Sincerely,

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

Tamie Aberle
Director of Regulatory Affairs

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

Town	Heat Zone	Therm Factor
MDU-303-ALEXANDER	025	1.1287
MDU-308-ARNEGARD	025	1.1287
MDU-314-APPLE VALLEY	271	1.1492
MDU-318-BEACH	032	1.0443
MDU-319-BELFIELD	032	1.0519
MDU-323-BERTHOLD	262	1.1268
MDU-324-BEULAH	032	1.0519
MDU-327-BISMARCK	028	1.1472
MDU-330-BOWMAN	034	0.9387
MDU-337-BURLINGTON	262	1.1511
MDU-343-CARRINGTON	273	1.1482
MDU-344-CLEVELAND	272	1.1411
MDU-364-CAVALIER	273	1.1724
MDU-365-DAWSON	271	1.1411
MDU-368-DES LACS	262	1.1349
MDU-369-DICKINSON	031	1.0906
MDU-374-FT TOTTEN	273	1.1563
MDU-375-DEVILS LAKE	273	1.1563
MDU-379-BARLOW	273	1.1482
MDU-384-EPPING	264	1.0843
MDU-387-ELDRIDGE	272	1.1492
MDU-407-GLADSTONE	031	1.0906
MDU-411-GLEN ULLIN	031	1.0985
MDU-413-GOLVA	032	1.0289
MDU-416-GARRISON	262	1.1349
MDU-417-GRAFTON	273	1.1805
MDU-403-GWINNER	601	1.1498
MDU-429-HEBRON	031	1.0985
MDU-432-HETTINGER	903	2.4049
MDU-449-JAMESTOWN	272	1.1572
MDU-459-KILLDEER	033	1.1088
MDU-463-LANGDON	273	1.1482
MDU-469-LEFOR	031	1.0906
MDU-474-LIGNITE	263	1.0902
MDU-475-LINTON	802	1.0556
MDU-478-LINCOLN	028	1.1472
MDU-488-MCKENZIE	271	1.1492
MDU-494-MEDINA	271	1.1411
MDU-498-MANDAN	028	1.1472
MDU-500-MARMARTH	034	0.9251
MDU-505-MINOT	262	1.1511
MDU-510-MOTT	031	1.0906
MDU-512-MAX	262	1.1268
MDU-513-MILNOR	601	1.1498
MDU-522-NEW ENGLAND	031	1.0821
MDU-524-NEW SALEM	028	1.1230
MDU-532-NEW ROCKFORD	273	1.1482
MDU-539-PARK RIVER	273	1.1724
MDU-540-PALERMO	262	1.1268

MDU-558-RAY	264	1.0843
MDU-561-REGENT	031	1.0906
MDU-563-RHAME	034	0.9115
MDU-564-RICHARDTON	031	1.0827
MDU-568-ROSS	261	1.1149
MDU-572-RUTHVILLE	262	1.1511
MDU-574-SANBORN	272	1.1572
MDU-583-SENTINEL BUTTE	032	1.0443
MDU-588-SOUTH HEART	031	1.0827
MDU-717-SPIRITWOOD	272	1.1572
MDU-590-SPRINGBROOK	264	1.0843
MDU-591-STANLEY	261	1.1311
MDU-593-STEELE	271	1.1411
MDU-594-STERLING	028	1.1472
MDU-598-SHEYENNE	273	1.1563
MDU-605-SURREY	262	1.1511
MDU-610-TAPPEN	271	1.1411
MDU-611-TAYLOR	031	1.0827
MDU-616-TIOGA	260	1.0807
MDU-619-TURTLE LAKE	262	1.1349
MDU-620-TRENTON	024	1.1073
MDU-624-UNDERWOOD	262	1.1349
MDU-625-VALLEY CITY	272	1.1653
MDU-629-WALHALLA	273	1.1724
MDU-632-WATFORD CITY	610	1.1126
MDU-636-WHEELOCK	264	1.0765
MDU-637-WHITE EARTH	261	1.1230
MDU-642-WILLISTON	024	1.1073
MDU-646-WASHBURN	262	1.1430
MDU-647-WILTON	262	1.1268
MDU-664-RIVERDALE	262	1.1349
MDU-691-FAIRVIEW	241	1.1511
MDU-712-MINOT AFB	262	1.1511
MDU-718-FAIRMOUNT	600	1.1474
MDU-732-NEKOMA	273	1.1482
MDU-732-MSR SITE	273	1.1482

Source Daily Summary

October 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	0.7457	1198.6	1219.9	1216.0	1.363	3.587	66.333	24.643	3.584	0.159	0.298	0.017	0.014	0.000	0.000	0.000	0.000	0.000	1409.16	
2	0.7460	1199.1	1220.4	1216.5	1.359	3.591	66.176	24.893	3.503	0.156	0.292	0.017	0.013	0.000	0.000	0.000	0.000	0.000	1409.44	
3	0.7339	1192.5	1213.7	1210.0	0.975	3.439	67.930	23.919	3.358	0.126	0.230	0.013	0.010	0.000	0.000	0.000	0.000	0.000	1413.42	
4	0.7441	1196.1	1217.3	1213.5	1.364	3.584	66.601	24.438	3.539	0.153	0.289	0.017	0.014	0.000	0.000	0.000	0.000	0.000	1407.75	
5	0.7438	1195.4	1216.5	1212.7	1.370	3.593	66.566	24.543	3.470	0.148	0.279	0.017	0.013	0.000	0.000	0.000	0.000	0.000	1407.14	
6	0.7441	1196.0	1217.2	1213.3	1.364	3.589	66.540	24.551	3.489	0.150	0.285	0.017	0.014	0.000	0.000	0.000	0.000	0.000	1407.63	
7	0.7434	1195.4	1216.5	1212.7	1.377	3.549	66.695	24.411	3.505	0.149	0.283	0.017	0.014	0.000	0.000	0.000	0.000	0.000	1407.48	
8	0.7412	1191.7	1212.8	1209.0	1.356	3.591	67.170	23.869	3.556	0.149	0.280	0.016	0.013	0.000	0.000	0.000	0.000	0.000	1405.30	
9	0.7400	1189.7	1210.8	1207.2	1.366	3.583	67.142	24.125	3.370	0.139	0.252	0.013	0.010	0.000	0.000	0.000	0.000	0.000	1404.18	
10	0.7405	1190.9	1212.0	1208.3	1.361	3.575	66.920	24.458	3.282	0.135	0.245	0.013	0.010	0.000	0.000	0.000	0.000	0.000	1404.95	
11	0.7413	1191.8	1212.9	1209.2	1.356	3.595	66.898	24.340	3.399	0.137	0.252	0.014	0.011	0.000	0.000	0.000	0.000	0.000	1405.36	
12	0.7410	1191.2	1212.3	1208.5	1.351	3.614	67.016	24.150	3.446	0.139	0.258	0.015	0.011	0.000	0.000	0.000	0.000	0.000	1404.86	
13	0.7410	1191.2	1212.3	1208.5	1.351	3.614	67.016	24.150	3.446	0.139	0.258	0.015	0.011	0.000	0.000	0.000	0.000	0.000	1404.86	
14	0.7432	1194.9	1216.0	1212.3	1.365	3.580	66.554	24.673	3.391	0.143	0.266	0.016	0.012	0.000	0.000	0.000	0.000	0.000	1407.09	
15	0.7424	1193.0	1214.2	1210.4	1.374	3.598	66.689	24.545	3.362	0.142	0.263	0.015	0.012	0.000	0.000	0.000	0.000	0.000	1405.74	
16	0.7433	1195.1	1216.3	1212.5	1.363	3.575	66.597	24.600	3.409	0.148	0.278	0.016	0.013	0.000	0.000	0.000	0.000	0.000	1407.29	
17	0.7003	1168.1	1188.8	1185.3	0.104	3.095	72.557	21.721	2.337	0.059	0.113	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1417.26	
18	0.7265	1180.7	1201.6	1198.0	0.968	3.480	68.868	23.442	2.916	0.107	0.198	0.011	0.009	0.000	0.000	0.000	0.000	0.000	1406.53	
19	0.7196	1177.6	1198.5	1195.0	0.705	3.413	69.696	23.192	2.760	0.079	0.141	0.008	0.006	0.000	0.000	0.000	0.000	0.000	1409.68	
20	0.7070	1177.1	1198.0	1194.6	0.113	3.159	71.556	22.256	2.753	0.058	0.098	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1421.45	
21	0.7119	1185.2	1206.2	1202.8	0.118	3.121	70.898	22.638	3.038	0.066	0.112	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1426.19	
22	0.7353	1189.6	1210.7	1207.1	1.118	3.528	67.686	24.028	3.259	0.126	0.232	0.013	0.010	0.000	0.000	0.000	0.000	0.000	1408.58	
23	0.7259	1185.0	1206.0	1202.4	0.816	3.385	68.848	23.664	3.023	0.090	0.158	0.008	0.006	0.000	0.000	0.000	0.000	0.000	1412.33	
24	0.7408	1193.4	1214.6	1210.9	1.288	3.553	66.861	24.573	3.305	0.138	0.256	0.014	0.011	0.000	0.000	0.000	0.000	0.000	1407.77	
25	0.7449	1197.7	1218.9	1215.1	1.359	3.575	66.305	24.858	3.453	0.147	0.275	0.016	0.013	0.000	0.000	0.000	0.000	0.000	1408.77	
26	0.7391	1190.8	1211.8	1208.2	1.260	3.602	67.160	24.225	3.359	0.131	0.239	0.013	0.010	0.000	0.000	0.000	0.000	0.000	1406.19	
27	0.7340	1188.8	1209.8	1206.3	1.085	3.510	67.784	24.036	3.272	0.107	0.190	0.009	0.007	0.000	0.000	0.000	0.000	0.000	1408.84	
28	0.7083	1174.6	1195.4	1192.1	0.261	3.208	71.147	22.674	2.620	0.035	0.051	0.002	0.001	0.000	0.000	0.000	0.000	0.000	1417.22	
29	0.7113	1183.4	1204.4	1201.0	0.118	3.178	70.667	23.000	2.983	0.025	0.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.66	
30	0.7098	1182.5	1203.4	1200.1	0.113	3.100	70.910	22.910	2.914	0.025	0.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.07	
31	0.7076	1177.8	1198.7	1195.3	0.111	3.182	71.083	22.923	2.650	0.023	0.027	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1421.64	
Avg	0.7322	1189.0	1209.9	1206.3	0.998	3.463	68.093	23.885	3.218	0.114	0.208	0.012	0.009	0.000	0.000	0.000	0.000	0.000	1410.77	

Zone 211

Source Daily Summary

October 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	0.6952	1143.8	1164.1	1160.6	0.860	2.932	74.900	18.438	2.542	0.089	0.205	0.015	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1392.92
2	0.6962	1145.1	1165.4	1161.9	0.906	2.882	74.704	18.692	2.485	0.092	0.197	0.018	0.023	0.000	0.000	0.000	0.000	0.000	0.000	1393.42
3	0.6954	1144.4	1164.6	1161.2	0.914	2.844	74.730	18.796	2.423	0.082	0.179	0.015	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1393.30
4	0.6913	1138.7	1158.8	1155.5	0.899	2.829	75.308	18.449	2.256	0.073	0.157	0.013	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1390.49
5	0.6927	1140.1	1160.3	1156.9	0.903	2.868	75.100	18.551	2.304	0.078	0.165	0.013	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1390.80
6	0.6941	1140.9	1161.1	1157.7	0.911	2.935	74.830	18.741	2.306	0.079	0.168	0.013	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1390.41
7	0.6954	1141.8	1162.1	1158.7	0.919	2.985	74.642	18.816	2.344	0.082	0.179	0.014	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1390.29
8	0.6945	1141.0	1161.2	1157.8	0.909	2.972	74.779	18.717	2.336	0.081	0.175	0.014	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1390.13
9	0.6959	1143.9	1164.1	1160.7	0.941	2.877	74.598	18.956	2.314	0.086	0.191	0.016	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1392.18
10	0.6948	1143.2	1163.5	1160.0	0.936	2.821	74.758	18.917	2.264	0.084	0.186	0.015	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1392.51
11	0.6929	1140.8	1161.0	1157.6	0.911	2.828	75.001	18.783	2.191	0.079	0.174	0.014	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1391.49
12	0.6938	1142.1	1162.4	1159.0	0.919	2.822	74.877	18.860	2.230	0.082	0.180	0.014	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1392.19
13	0.6941	1142.4	1162.6	1159.2	0.918	2.834	74.840	18.865	2.250	0.081	0.179	0.015	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1392.21
14	0.6901	1136.0	1156.2	1152.9	0.894	2.880	75.468	18.337	2.146	0.077	0.168	0.013	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1388.55
15	0.6890	1134.1	1154.2	1151.0	0.892	2.900	75.770	17.955	2.189	0.082	0.181	0.014	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1387.26
16	0.6895	1134.4	1154.5	1151.2	0.896	2.924	75.695	17.976	2.208	0.084	0.185	0.014	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1387.09
17	0.6891	1133.8	1153.9	1150.6	0.863	2.978	75.522	18.274	2.115	0.071	0.153	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1386.78
18	0.6879	1130.3	1150.4	1147.2	0.879	3.050	75.890	17.729	2.173	0.080	0.172	0.013	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1383.74
19	0.6872	1131.3	1151.3	1148.2	0.881	2.919	76.057	17.707	2.152	0.080	0.174	0.013	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1385.63
20	0.6898	1135.6	1155.7	1152.5	0.892	2.884	75.581	18.177	2.174	0.082	0.178	0.014	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1388.27
21	0.6892	1134.7	1154.8	1151.6	0.885	2.891	75.730	18.000	2.204	0.082	0.178	0.014	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1387.82
22	0.6921	1136.8	1156.9	1153.7	0.895	3.021	75.152	18.411	2.242	0.078	0.171	0.014	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1387.42
23	0.6942	1143.2	1163.4	1160.2	0.910	2.808	74.895	18.772	2.307	0.086	0.189	0.015	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1393.09
24	0.6936	1143.3	1163.5	1160.3	0.895	2.767	74.932	18.855	2.255	0.083	0.181	0.015	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1393.84
25	0.6929	1142.0	1162.2	1158.9	0.884	2.795	74.964	18.883	2.196	0.078	0.170	0.014	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1392.99
26	0.6935	1144.3	1164.6	1161.3	0.873	2.724	74.960	18.879	2.269	0.084	0.180	0.015	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1395.21
27	0.6956	1147.2	1167.5	1164.2	0.889	2.725	74.635	19.103	2.339	0.088	0.188	0.015	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1396.58
28	0.6939	1144.5	1164.7	1161.5	0.893	2.730	74.862	18.968	2.256	0.082	0.177	0.014	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1394.91
29	0.6931	1144.0	1164.2	1161.0	0.879	2.706	74.942	18.979	2.221	0.078	0.166	0.013	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1395.13
30	0.6913	1141.1	1161.3	1158.1	0.860	2.735	75.236	18.731	2.166	0.075	0.165	0.014	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1393.50
31	0.6912	1141.0	1161.2	1158.0	0.860	2.730	75.263	18.696	2.184	0.076	0.162	0.013	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1393.52
Avg	0.6926	1140.0	1160.4	1157.1	0.896	2.858	75.117	18.581	2.259	0.081	0.177	0.014	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1391.09

Zone 24

Gas Composition and Properties

Effective October 1, 2019

Source #: 0602160
Name: FAIRVIEW BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	1.3057		2.6988
Nitrogen, N2	3.5795		4.7095
Methane, C1	67.6571		50.9762
Ethane, C2	23.6104	6.3200	33.3430
Propane, C3	3.4142	0.9415	7.0708
iso-Butane, iC4	0.1377	0.0451	0.3759
n-Butane, nC4	0.2669	0.0842	0.7286
iso-Pentane, iC5	0.0151	0.0055	0.0512
n-Pentane, nC5	0.0124	0.0045	0.0420
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0010	0.0004	0.0040
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	-9.334	
Cricondentherm	5.934	
HV, Dry @ Base P, T	1208.39	
HV, Sat @ Base P, T	1187.36	
HV, Sat @ Sample P, T	1208.39	
Relative Density	0.7374	

C6+: 100

Totals 100.0000 7.4000 100.0000

Sample
Date: 10/01/2019 Pressure: 450.0
Type: Temperature:
Tech: Kevin Moos H2O: lbs/mm
H2S: ppm
Remarks:

Analysis
Date: 10/01/2019 Instrument:
Cylinder:
Tech: Kevin Moos
Remarks:

Zone 241

Gas Composition and Properties

Effective October 1, 2019

Source #: 0602225
Name: WATFORD CITY WEST BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	1.2138		2.5228
Nitrogen, N2	3.9028		5.1634
Methane, C1	69.9019		52.9609
Ethane, C2	20.0815	5.3750	28.5174
Propane, C3	4.0561	1.1184	8.4469
iso-Butane, iC4	0.2276	0.0745	0.6248
n-Butane, nC4	0.5159	0.1628	1.4161
iso-Pentane, iC5	0.0454	0.0166	0.1547
n-Pentane, nC5	0.0466	0.0169	0.1588
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0084	0.0035	0.0342
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	4.622	
Cricodentherm	13.231	
HV, Dry @ Base P, T	1198.59	
HV, Sat @ Base P, T	1177.73	
HV, Sat @ Sample P, T	1198.59	
Relative Density	0.7333	

C6+: 100

Totals	100.0000	6.7680	100.0000
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Sample
Date: 10/01/2019 Pressure: 498.0
Type: Temperature:
Tech: Kevin Moos H2O: lbs/mm
 H2S: ppm
Remarks:

Analysis
Date: 10/01/2019 Instrument:
 Cylinder: 395
Tech: Kevin Moos
Remarks:

Zone 25

Source Daily Summary

October 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	0.6756	1106.7	1126.3		0.672	3.652	77.700	15.841	1.935	0.059	0.120	0.009	0.010	0.002						1367.08
2	0.6776	1109.0	1128.6		0.688	3.672	77.266	16.274	1.907	0.058	0.119	0.008	0.009	0.000						1367.95
3	0.6703	1101.1	1120.6		0.628	3.559	78.569	15.272	1.804	0.049	0.101	0.008	0.009	0.002						1365.56
4	0.6740	1106.1	1125.7		0.667	3.547	77.977	15.699	1.939	0.052	0.104	0.007	0.008	0.000						1367.94
5	0.6758	1108.4	1128.1		0.654	3.590	77.711	15.844	2.008	0.057	0.114	0.009	0.010	0.002						1369.07
6	0.6787	1110.3	1130.0		0.710	3.820	76.922	16.265	2.068	0.064	0.132	0.009	0.009	0.000						1371.64
7	0.6816	1112.2	1131.9		0.710	3.818	76.676	16.505	2.067	0.065	0.135	0.010	0.012	0.003						1367.92
8	0.6802	1110.1	1129.8		0.710	3.820	76.922	16.265	2.068	0.064	0.132	0.008	0.009	0.000						1366.64
9	0.6759	1106.4	1126.0		0.730	3.611	77.444	16.328	1.696	0.053	0.117	0.009	0.010	0.001						1366.44
10	0.6731	1103.4	1123.0		0.699	3.575	77.880	16.049	1.627	0.049	0.105	0.007	0.008	0.000						1365.62
11	0.6740	1104.7	1124.3		0.703	3.581	77.733	16.157	1.644	0.051	0.110	0.009	0.010	0.001						1366.22
12	0.6736	1104.9	1124.5		0.691	3.549	77.763	16.196	1.633	0.049	0.103	0.007	0.008	0.000						1366.87
13	0.6764	1108.2	1127.9		0.703	3.588	77.361	16.436	1.711	0.056	0.114	0.015	0.011	0.003						1368.15
14	0.6758	1108.2	1127.9		0.704	3.533	77.396	16.510	1.683	0.051	0.107	0.007	0.009	0.000						1368.76
15	0.6772	1110.8	1130.4		0.718	3.489	77.213	16.659	1.730	0.054	0.116	0.009	0.010	0.001						1370.46
16	0.6779	1110.5	1130.1		0.743	3.532	77.061	16.769	1.711	0.053	0.115	0.008	0.009	0.000						1369.43
17	0.6826	1115.0	1134.8		0.721	3.728	76.398	16.951	1.981	0.062	0.135	0.010	0.012	0.002						1370.31
18	0.6761	1107.6	1127.2		0.685	3.627	77.374	16.388	1.747	0.053	0.110	0.007	0.008	0.000						1367.67
19	0.6786	1112.2	1131.9		0.724	3.520	76.879	17.006	1.687	0.052	0.112	0.009	0.010	0.001						1370.89
20	0.6792	1111.5	1131.2		0.738	3.604	76.837	16.885	1.735	0.056	0.123	0.010	0.011	0.002						1369.33
21	0.6754	1107.0	1126.6		0.703	3.562	77.474	16.413	1.675	0.050	0.106	0.007	0.008	0.000						1367.77
22	0.6785	1110.0	1129.6		0.732	3.642	77.063	16.507	1.860	0.058	0.120	0.008	0.009	0.000						1371.40
23	0.6656	1092.5	1111.8		0.644	3.624	79.135	14.992	1.452	0.044	0.094	0.007	0.007	0.000						1362.79
24	0.6720	1102.2	1121.7		0.670	3.595	78.060	15.899	1.593	0.051	0.111	0.009	0.011	0.002						1365.16
25	0.6716	1102.6	1122.1		0.663	3.545	78.072	15.986	1.576	0.047	0.097	0.007	0.008	0.000						1366.03
26	0.6727	1105.0	1124.6		0.649	3.510	78.031	15.936	1.684	0.054	0.114	0.009	0.011	0.001						1368.04
27	0.6744	1106.4	1126.0		0.660	3.573	77.806	15.973	1.788	0.058	0.122	0.009	0.010	0.001						1367.96
28	0.6716	1103.0	1122.6		0.663	3.545	78.072	15.986	1.576	0.047	0.097	0.007	0.008	0.000						1369.82
29	0.6699	1099.7	1119.2		0.653	3.575	78.365	15.709	1.544	0.046	0.095	0.007	0.007	0.000						1364.22
30	0.6719	1103.0	1122.6		0.661	3.540	78.220	15.718	1.648	0.056	0.127	0.012	0.014	0.003						1366.35
31	0.6706	1100.1	1119.6		0.669	3.591	78.355	15.589	1.623	0.050	0.107	0.008	0.008	0.000						1363.98
Avg	0.6751	1106.0	1126.0		0.689	3.604	77.604	16.162	1.755	0.054	0.113	0.008	0.009	0.001						1367.66

Zone 260

Source Daily Summary

October 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	0.7182	1153.7	1174.1	1171.0	0.916	4.411	71.104	19.640	3.558	0.114	0.229	0.013	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1382.46
2	0.7194	1153.0	1173.4	1170.3	0.913	4.568	70.853	19.712	3.594	0.111	0.222	0.013	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1380.48
3	0.7174	1153.6	1174.0	1170.8	0.928	4.323	70.918	20.261	3.238	0.100	0.204	0.013	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1382.99
4	0.7124	1153.0	1173.4	1170.2	0.902	3.931	71.651	20.210	3.021	0.088	0.173	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1387.15
5	0.7036	1149.4	1169.8	1166.4	0.911	3.311	72.982	20.013	2.570	0.065	0.127	0.009	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1391.23
6	0.7180	1154.5	1174.9	1171.7	0.902	4.369	70.888	20.118	3.402	0.101	0.198	0.011	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1383.43
7	0.7341	1162.7	1183.3	1180.0	0.919	5.349	68.716	20.160	4.416	0.136	0.273	0.014	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1377.91
8	0.7453	1171.7	1192.5	1189.2	0.922	5.840	67.331	20.192	5.160	0.172	0.344	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1378.09
9	0.7450	1170.8	1191.6	1188.4	0.921	5.867	67.355	20.174	5.133	0.172	0.341	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1377.33
10	0.7174	1154.3	1174.7	1171.6	0.977	4.214	70.805	20.598	3.067	0.100	0.207	0.014	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1383.75
11	0.7037	1147.9	1168.2	1165.2	0.972	3.328	72.600	20.704	2.170	0.066	0.138	0.010	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1389.35
12	0.7023	1146.0	1166.3	1163.2	0.962	3.324	72.843	20.511	2.142	0.065	0.134	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1388.48
13	0.7028	1146.9	1167.2	1164.1	0.959	3.319	72.744	20.614	2.146	0.065	0.135	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1389.09
14	0.7040	1149.4	1169.8	1166.6	0.958	3.287	72.537	20.825	2.164	0.066	0.139	0.010	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1390.85
15	0.7035	1148.3	1168.7	1165.5	0.955	3.304	72.646	20.691	2.178	0.067	0.138	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1390.10
16	0.7025	1146.7	1167.0	1163.7	0.965	3.292	72.871	20.486	2.158	0.066	0.137	0.010	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1389.06
17	0.7028	1146.6	1166.9	1163.7	0.964	3.338	72.755	20.562	2.159	0.066	0.137	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1388.63
18	0.7265	1161.9	1182.5	1179.3	0.954	4.634	69.581	20.758	3.682	0.118	0.243	0.014	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1384.19
19	0.7237	1162.1	1182.7	1179.5	0.947	4.375	69.988	20.789	3.525	0.114	0.233	0.014	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1387.12
20	0.7051	1150.6	1170.9	1167.8	0.969	3.299	72.390	20.891	2.221	0.068	0.141	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1391.21
21	0.7121	1154.1	1174.5	1171.4	0.961	3.748	71.441	20.895	2.671	0.085	0.175	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1388.75
22	0.7184	1158.4	1178.9	1175.6	0.940	4.106	70.771	20.639	3.183	0.108	0.225	0.014	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1387.79
23	0.7336	1168.8	1189.5	1186.3	0.929	4.909	68.859	20.567	4.238	0.150	0.311	0.018	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1385.74
24	0.7078	1149.3	1169.6	1166.5	0.968	3.632	72.121	20.531	2.478	0.080	0.168	0.011	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1387.07
25	0.7025	1145.4	1165.7	1162.5	0.964	3.373	72.801	20.517	2.116	0.066	0.139	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1387.58
26	0.7038	1148.5	1168.8	1165.8	0.946	3.341	72.479	20.904	2.117	0.063	0.129	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1389.97
27	0.7034	1149.1	1169.4	1166.3	0.913	3.310	72.693	20.635	2.217	0.068	0.140	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1391.11
28	0.7066	1153.4	1173.8	1170.7	0.936	3.320	72.286	20.800	2.395	0.077	0.160	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1393.07
29	0.7032	1147.3	1167.6	1164.5	0.956	3.339	72.722	20.577	2.177	0.067	0.139	0.010	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1389.11
30	0.7039	1148.7	1169.0	1166.0	0.946	3.336	72.481	20.878	2.147	0.064	0.129	0.008	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1390.14
31	0.7057	1150.9	1171.2	1168.0	0.991	3.304	72.339	20.926	2.174	0.075	0.164	0.012	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1390.87
Avg	0.7132	1153.0	1173.9	1170.7	0.944	3.916	71.437	20.509	2.891	0.091	0.186	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1386.91

Zone 2b1

Source Daily Summary

October 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	0.7462	1170.3	1191.1	1188.0	0.920	6.016	67.125	20.192	5.205	0.168	0.340	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1375.59	12.70
2	0.7463	1170.7	1191.4	1188.3	0.919	6.011	67.107	20.215	5.197	0.173	0.343	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1375.84	12.84
3	0.7491	1175.9	1196.7	1193.6	0.920	5.951	66.820	20.351	5.359	0.188	0.373	0.019	0.019	0.000	0.000	0.000	0.000	0.000	1379.39	14.81
4	0.7527	1182.1	1203.1	1199.9	0.916	5.916	66.454	20.459	5.589	0.205	0.413	0.023	0.024	0.000	0.000	0.000	0.000	0.000	1383.27	17.20
5	0.7494	1176.8	1197.7	1194.5	0.918	5.928	66.814	20.332	5.401	0.191	0.378	0.020	0.020	0.000	0.000	0.000	0.000	0.000	1380.18	15.18
6	0.7476	1173.2	1194.0	1190.9	0.916	5.978	66.984	20.265	5.283	0.181	0.356	0.018	0.018	0.000	0.000	0.000	0.000	0.000	1377.67	13.79
7	0.7463	1171.1	1191.9	1188.8	0.919	5.977	67.122	20.242	5.187	0.177	0.342	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1376.43	12.81
8	0.7481	1174.5	1195.3	1192.1	0.915	5.949	66.843	20.470	5.261	0.177	0.349	0.018	0.018	0.000	0.000	0.000	0.000	0.000	1378.69	13.75
9	0.7472	1174.2	1195.0	1191.9	0.919	5.878	67.050	20.339	5.225	0.185	0.367	0.018	0.018	0.000	0.000	0.000	0.000	0.000	1379.19	13.81
10	0.7468	1172.7	1193.5	1190.4	0.916	5.931	67.160	20.159	5.236	0.189	0.373	0.018	0.018	0.000	0.000	0.000	0.000	0.000	1377.85	13.76
11	0.7487	1176.5	1197.3	1194.2	0.918	5.876	66.841	20.480	5.287	0.188	0.373	0.019	0.019	0.000	0.000	0.000	0.000	0.000	1380.52	14.54
12	0.7489	1176.8	1197.7	1194.6	0.915	5.879	66.790	20.531	5.294	0.183	0.369	0.019	0.019	0.000	0.000	0.000	0.000	0.000	1380.72	14.57
13	0.7487	1176.4	1197.2	1194.1	0.921	5.885	66.836	20.474	5.279	0.186	0.378	0.020	0.020	0.000	0.000	0.000	0.000	0.000	1380.30	14.65
14	0.7508	1180.4	1201.3	1198.1	0.917	5.840	66.596	20.625	5.389	0.190	0.397	0.022	0.022	0.000	0.000	0.000	0.000	0.000	1383.05	15.95
15	0.7474	1173.9	1194.7	1191.7	0.917	5.917	66.951	20.433	5.218	0.170	0.357	0.019	0.018	0.000	0.000	0.000	0.000	0.000	1378.68	13.55
16	0.7519	1182.0	1203.0	1199.8	0.917	5.837	66.588	20.486	5.482	0.208	0.432	0.025	0.024	0.000	0.000	0.000	0.000	0.000	1384.04	17.30
17	0.7489	1176.7	1197.5	1194.4	0.918	5.882	66.907	20.347	5.315	0.188	0.400	0.022	0.022	0.000	0.000	0.000	0.000	0.000	1380.54	15.19
18	0.7464	1172.2	1192.9	1189.8	0.917	5.931	67.164	20.220	5.178	0.177	0.373	0.020	0.019	0.000	0.000	0.000	0.000	0.000	1377.49	13.47
19	0.7476	1174.1	1194.9	1191.8	0.920	5.920	67.008	20.306	5.249	0.179	0.378	0.020	0.020	0.000	0.000	0.000	0.000	0.000	1378.70	14.14
20	0.7454	1170.4	1191.2	1188.1	0.917	5.942	67.293	20.141	5.127	0.175	0.367	0.019	0.018	0.000	0.000	0.000	0.000	0.000	1376.39	12.85
21	0.7449	1169.8	1190.5	1187.4	0.917	5.935	67.302	20.210	5.083	0.169	0.349	0.018	0.017	0.000	0.000	0.000	0.000	0.000	1376.10	12.24
22	0.7448	1169.3	1190.0	1186.9	0.919	5.951	67.275	20.257	5.055	0.167	0.342	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1375.65	11.96
23	0.7474	1174.8	1195.6	1192.5	0.920	5.861	67.000	20.422	5.208	0.177	0.372	0.020	0.020	0.000	0.000	0.000	0.000	0.000	1379.65	13.94
24	0.7470	1173.0	1193.8	1174.0	0.913	5.733	68.025	19.714	5.059	0.169	0.350	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1377.22	14.35
25	0.7453	1170.7	1191.4	1171.6	0.940	5.876	67.256	20.286	5.088	0.166	0.348	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1376.95	
26	0.7501	1174.2	1195.0	1182.5	0.921	6.140	66.477	20.586	5.305	0.167	0.362	0.021	0.022	0.000	0.000	0.000	0.000	0.000	1376.64	
27	0.7448	1169.7	1190.4	1180.9	0.934	5.898	67.308	20.242	5.083	0.160	0.338	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1376.24	
28	0.7432	1168.2	1188.9	1179.1	0.936	5.844	67.482	20.263	4.952	0.159	0.327	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1375.84	
29	0.7453	1170.5	1191.2	1182.1	0.938	5.894	67.205	20.351	5.079	0.159	0.337	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1376.67	
30	0.7460	1172.5	1193.3	1183.7	0.935	5.839	67.151	20.390	5.143	0.162	0.344	0.018	0.018	0.000	0.000	0.000	0.000	0.000	1378.37	
31	0.7454	1171.0	1191.7	1180.2	0.934	5.881	67.272	20.243	5.109	0.166	0.355	0.020	0.020	0.000	0.000	0.000	0.000	0.000	1377.08	
Avg	0.7474	1174.0	1194.5	1188.9	0.921	5.913	67.039	20.324	5.223	0.177	0.364	0.019	0.019	0.000	0.000	0.000	0.000	0.000	1378.42	14.14

Zone 262

Gas Composition and Properties

Effective October 1, 2019

Source #: 2501030
Name: LIGNITE PLANT

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	0.2023		0.4593
Nitrogen, N2	2.7499		3.9737
Methane, C1	78.1928		64.7066
Ethane, C2	16.6635	4.4579	25.8461
Propane, C3	2.1529	0.5933	4.8970
iso-Butane, iC4	0.0265	0.0087	0.0795
n-Butane, nC4	0.0100	0.0032	0.0300
iso-Pentane, iC5	0.0021	0.0008	0.0078
n-Pentane, nC5			
Neo-Pentane, NeoC5			
Hexanes Plus, C6+			
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	-37.927	
Cricondentherm	-27.997	
HV, Dry @ Base P, T	1146.07	
HV, Sat @ Base P, T	1126.12	
HV, Sat @ Sample P, T	1146.07	
Relative Density	0.6710	

C6+: 100

Totals	100.0000	5.0640	100.0000
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Sample
Date: 10/01/2019 Pressure: 500.0
Type: Temperature:
Tech: Kevin Moos H2O: lbs/mm
 H2S: ppm
Remarks:

Analysis
Date: 10/01/2019 Instrument:
 Cylinder: 2
Tech: Kevin Moos
Remarks:

Zone 263

Gas Composition and Properties

Effective October 1, 2019

Source #: 3002013
Name: EPPING BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	0.8131		1.8194
Nitrogen, N2	2.8512		4.0610
Methane, C1	77.0632		62.8581
Ethane, C2	16.9834	4.5437	25.9648
Propane, C3	2.0797	0.5732	4.6627
iso-Butane, iC4	0.0594	0.0194	0.1755
n-Butane, nC4	0.1302	0.0411	0.3848
iso-Pentane, iC5	0.0089	0.0033	0.0326
n-Pentane, nC5	0.0092	0.0033	0.0337
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0017	0.0007	0.0074
Water, H2O			
Hydrogen Sulfide, H2S			
Oxygen, O2			
Carbon Monoxide, CO			
Hydrogen, H2			
Helium, He			
Argon, Ar			

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure	-26.845	
Cricodentherm	-21.570	
HV, Dry @ Base P, T	1144.21	
HV, Sat @ Base P, T	1124.30	
HV, Sat @ Sample P, T	1144.21	
Relative Density	0.6808	

C6+: 100

Totals	100.0000	5.1840	100.0000
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Sample

Date: 10/01/2019 Pressure: 560.0
 Type: Temperature:
 Tech: Kevin Moos H2O: lbs/mm
 H2S: ppm

Remarks:

Analysis

Date: 10/01/2019 Instrument:
 Cylinder:

Tech: Kevin Moos

Remarks:

*** End of Report ***

Zone 264

Source Daily Summary

October 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	0.6989	1141.2	1161.4	1158.1	0.924	3.358	73.648	19.571	2.269	0.071	0.139	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1385.92
2	0.6983	1141.4	1161.6	1158.3	0.905	3.317	73.804	19.408	2.350	0.068	0.130	0.008	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1386.77
3	0.7031	1147.3	1167.7	1164.3	0.935	3.355	72.884	20.273	2.310	0.071	0.147	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1389.27
4	0.7022	1148.1	1168.5	1165.2	0.899	3.275	72.973	20.327	2.314	0.066	0.128	0.008	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1391.19
5	0.7021	1147.7	1168.1	1164.7	0.918	3.265	73.261	19.795	2.540	0.066	0.133	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1390.69
6	0.7028	1149.5	1169.9	1166.6	0.889	3.264	73.077	20.037	2.505	0.070	0.136	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1392.19
7	0.7025	1147.4	1167.7	1164.4	0.907	3.342	72.962	20.222	2.345	0.069	0.134	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1389.88
8	0.7050	1150.0	1170.4	1167.0	0.949	3.356	72.450	20.736	2.271	0.070	0.142	0.011	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1390.56
9	0.7024	1146.7	1167.1	1163.8	0.944	3.319	72.875	20.427	2.215	0.066	0.134	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1389.21
10	0.7044	1148.2	1168.5	1165.3	0.994	3.339	72.537	20.708	2.180	0.069	0.148	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1389.02
11	0.7037	1148.0	1168.3	1165.1	0.979	3.314	72.595	20.733	2.154	0.066	0.138	0.010	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1389.42
12	0.7025	1146.2	1166.5	1163.2	0.964	3.325	72.846	20.493	2.141	0.066	0.141	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1388.50
13	0.7025	1146.3	1166.6	1163.4	0.958	3.326	72.817	20.528	2.151	0.066	0.135	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1388.70
14	0.7044	1149.6	1169.9	1166.6	0.967	3.295	72.530	20.774	2.200	0.068	0.142	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1390.68
15	0.7041	1149.3	1169.7	1166.4	0.955	3.298	72.559	20.759	2.202	0.068	0.138	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1390.73
16	0.7040	1149.5	1169.9	1166.6	0.967	3.265	72.596	20.748	2.192	0.067	0.142	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1390.98
17	0.7050	1150.6	1171.0	1167.8	0.976	3.279	72.404	20.894	2.217	0.068	0.141	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1391.35
18	0.7078	1153.7	1174.1	1170.8	1.003	3.315	71.889	21.347	2.200	0.069	0.152	0.011	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1392.22
19	0.7059	1152.3	1172.7	1169.5	0.955	3.291	72.136	21.220	2.182	0.065	0.133	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1392.56
20	0.7045	1149.5	1169.9	1166.6	0.977	3.291	72.509	20.799	2.191	0.068	0.142	0.010	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1390.55
21	0.7040	1148.4	1168.7	1165.5	0.978	3.319	72.531	20.792	2.160	0.065	0.136	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1389.61
22	0.7063	1151.0	1171.4	1168.0	1.011	3.316	72.168	21.107	2.156	0.068	0.147	0.011	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1390.54
23	0.7032	1147.5	1167.8	1164.6	0.966	3.310	72.721	20.592	2.192	0.066	0.134	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1389.40
24	0.7029	1146.3	1166.6	1163.4	0.984	3.332	72.742	20.582	2.141	0.065	0.135	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1388.18
25	0.7025	1145.9	1166.2	1163.0	0.962	3.349	72.784	20.572	2.106	0.065	0.139	0.010	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1388.14
26	0.7036	1148.0	1168.3	1165.1	0.933	3.365	72.551	20.807	2.123	0.065	0.134	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1389.61
27	0.7031	1149.1	1169.4	1166.2	0.898	3.312	72.726	20.622	2.211	0.068	0.139	0.011	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1391.33
28	0.7063	1152.9	1173.3	1170.1	0.937	3.319	72.338	20.764	2.376	0.077	0.162	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1392.77
29	0.7039	1148.7	1169.0	1165.8	0.949	3.331	72.610	20.664	2.214	0.069	0.140	0.010	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1390.09
30	0.7038	1148.4	1168.7	1165.5	0.948	3.347	72.519	20.814	2.159	0.064	0.130	0.008	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1389.79
31	0.7058	1151.1	1171.5	1168.2	0.982	3.306	72.351	20.880	2.212	0.076	0.164	0.013	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1391.18
Avg	0.7036	1148.0	1168.7	1165.5	0.952	3.316	72.690	20.580	2.232	0.068	0.140	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1390.03

Zone 265

Source Daily Summary

October 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	0.7298	1164.5	1185.1	1181.4	0.677	5.213	68.868	20.825	4.028	0.121	0.245	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1383.94
2	0.7294	1162.2	1182.8	1179.1	0.734	5.224	69.199	20.263	4.160	0.132	0.262	0.013	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1381.63
3	0.7316	1160.9	1181.5	1177.7	0.841	5.345	69.267	19.600	4.470	0.151	0.297	0.015	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1378.00
4	0.7525	1183.5	1204.5	1200.6	0.915	5.814	66.593	20.376	5.618	0.208	0.427	0.024	0.026	0.000	0.000	0.000	0.000	0.000	0.000	1385.05
5	0.7474	1173.9	1194.7	1190.9	0.914	5.918	67.136	20.104	5.340	0.184	0.366	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1378.61
6	0.7464	1172.9	1193.7	1189.8	0.914	5.889	67.265	20.073	5.273	0.184	0.365	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1378.34
7	0.7458	1171.4	1192.1	1188.3	0.915	5.923	67.318	20.035	5.239	0.180	0.355	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1377.14
8	0.7455	1171.2	1192.0	1188.1	0.915	5.907	67.267	20.180	5.184	0.174	0.339	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1377.21
9	0.7431	1169.2	1189.9	1186.2	0.891	5.836	67.546	20.191	5.001	0.169	0.332	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1377.13
10	0.7401	1167.5	1188.1	1184.4	0.881	5.676	68.136	19.831	4.923	0.174	0.345	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1377.85
11	0.7344	1161.8	1182.4	1178.7	0.849	5.535	68.998	19.419	4.661	0.169	0.337	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1376.50
12	0.7378	1166.7	1187.4	1183.7	0.855	5.543	68.422	19.867	4.780	0.167	0.332	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1379.13
13	0.7424	1171.2	1192.0	1188.2	0.877	5.670	67.776	20.102	5.012	0.174	0.352	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1380.12
14	0.7421	1170.1	1190.8	1187.0	0.884	5.703	67.751	20.161	4.953	0.169	0.343	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1379.02
15	0.7442	1174.0	1194.8	1191.0	0.872	5.682	67.479	20.325	5.067	0.172	0.360	0.021	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1381.63
16	0.7433	1171.5	1192.3	1188.5	0.886	5.723	67.633	20.136	5.063	0.172	0.349	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1379.60
17	0.7481	1178.0	1198.9	1195.0	0.902	5.749	67.199	20.136	5.345	0.201	0.418	0.024	0.026	0.000	0.000	0.000	0.000	0.000	0.000	1382.79
18	0.7439	1170.2	1190.9	1187.0	0.905	5.839	67.536	20.071	5.087	0.170	0.354	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1377.40
19	0.7452	1171.0	1191.8	1187.9	0.914	5.890	67.375	20.089	5.152	0.176	0.363	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1377.25
20	0.7456	1171.7	1192.4	1188.6	0.916	5.886	67.334	20.100	5.181	0.175	0.369	0.020	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1377.66
21	0.7382	1164.4	1185.1	1181.3	0.885	5.679	68.287	19.873	4.762	0.158	0.322	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1376.03
22	0.7303	1158.9	1179.5	1175.8	0.841	5.345	69.383	19.609	4.364	0.142	0.286	0.015	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1376.86
23	0.7404	1167.4	1188.1	1184.4	0.887	5.699	67.939	20.101	4.856	0.159	0.325	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1377.52
24	0.7445	1172.4	1193.2	1189.4	0.912	5.748	67.419	20.291	5.064	0.171	0.355	0.020	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1379.49
25	0.7449	1173.1	1193.9	1190.1	0.890	5.766	67.368	20.312	5.097	0.168	0.359	0.020	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1380.06
26	0.7449	1169.9	1190.6	1186.9	0.882	5.977	67.150	20.453	5.015	0.154	0.333	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1376.27
27	0.7399	1167.1	1187.8	1184.0	0.886	5.675	67.993	20.111	4.826	0.154	0.322	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1377.60
28	0.7408	1167.5	1188.2	1184.4	0.903	5.710	67.814	20.250	4.813	0.156	0.321	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1377.21
29	0.7219	1153.2	1173.7	1170.0	0.799	4.965	70.598	19.293	3.937	0.124	0.256	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1378.09
30	0.7246	1155.2	1175.7	1172.1	0.766	5.151	70.256	19.227	4.168	0.130	0.274	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1377.85
31	0.7293	1158.0	1178.6	1174.9	0.787	5.385	69.579	19.392	4.391	0.140	0.294	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1376.76
Avg	0.7399	1168.0	1188.8	1185.0	0.868	5.647	68.061	20.026	4.865	0.164	0.334	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1378.70

Zone 271

Source Daily Summary

October 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	0.7302	1160.9	1181.5	1177.6	0.801	5.270	69.311	19.865	4.318	0.134	0.272	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1379.33	
2	0.7303	1164.6	1185.2	1181.4	0.684	5.242	68.788	20.858	4.039	0.121	0.244	0.012	0.012	0.000	0.000	0.000	0.000	0.000	1383.59	
3	0.7296	1161.6	1182.1	1178.3	0.746	5.265	69.195	20.183	4.191	0.133	0.260	0.013	0.013	0.000	0.000	0.000	0.000	0.000	1380.65	
4	0.7330	1161.6	1182.2	1178.3	0.860	5.400	69.101	19.607	4.547	0.154	0.300	0.016	0.016	0.000	0.000	0.000	0.000	0.000	1377.52	
5	0.7524	1182.4	1203.3	1199.3	0.924	5.859	66.554	20.405	5.592	0.204	0.413	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1383.84	
6	0.7479	1174.1	1194.9	1191.0	0.923	5.940	67.038	20.170	5.344	0.184	0.362	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1378.41	
7	0.7470	1173.0	1193.8	1189.9	0.922	5.921	67.156	20.142	5.279	0.183	0.359	0.019	0.019	0.000	0.000	0.000	0.000	0.000	1377.97	
8	0.7462	1171.3	1192.1	1188.1	0.923	5.954	67.217	20.112	5.230	0.179	0.349	0.018	0.018	0.000	0.000	0.000	0.000	0.000	1376.66	
9	0.7456	1170.6	1191.3	1187.5	0.923	5.939	67.223	20.217	5.162	0.171	0.331	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1376.38	
10	0.7436	1170.3	1191.1	1187.1	0.896	5.807	67.465	20.310	4.984	0.169	0.332	0.018	0.018	0.000	0.000	0.000	0.000	0.000	1377.90	
11	0.7395	1166.5	1187.1	1183.6	0.887	5.676	68.206	19.803	4.882	0.172	0.337	0.018	0.018	0.000	0.000	0.000	0.000	0.000	1377.15	
12	0.7331	1159.8	1180.3	1176.5	0.846	5.545	69.173	19.306	4.606	0.166	0.325	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1375.24	
13	0.7381	1166.5	1187.1	1183.2	0.861	5.580	68.354	19.898	4.783	0.166	0.324	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1378.48	
14	0.7427	1171.3	1192.1	1188.1	0.882	5.689	67.725	20.117	5.027	0.174	0.347	0.019	0.019	0.000	0.000	0.000	0.000	0.000	1379.87	
15	0.7423	1169.7	1190.4	1186.5	0.891	5.733	67.708	20.172	4.955	0.167	0.337	0.018	0.018	0.000	0.000	0.000	0.000	0.000	1378.36	
16	0.7437	1172.6	1193.3	1189.3	0.879	5.712	67.547	20.254	5.046	0.169	0.351	0.020	0.021	0.000	0.000	0.000	0.000	0.000	1380.37	
17	0.7440	1171.8	1192.6	1188.6	0.894	5.757	67.544	20.145	5.100	0.173	0.349	0.019	0.019	0.000	0.000	0.000	0.000	0.000	1379.31	
18	0.7479	1177.0	1197.9	1193.8	0.909	5.787	67.174	20.156	5.320	0.197	0.407	0.024	0.025	0.000	0.000	0.000	0.000	0.000	1381.71	
19	0.7441	1169.7	1190.4	1186.4	0.914	5.874	67.491	20.081	5.084	0.168	0.349	0.019	0.019	0.000	0.000	0.000	0.000	0.000	1376.61	
20	0.7461	1171.8	1192.6	1188.6	0.923	5.911	67.236	20.168	5.185	0.175	0.361	0.020	0.020	0.000	0.000	0.000	0.000	0.000	1377.34	
21	0.7456	1171.0	1191.7	1187.7	0.925	5.914	67.323	20.095	5.168	0.174	0.360	0.020	0.020	0.000	0.000	0.000	0.000	0.000	1376.77	
22	0.7373	1163.4	1184.0	1180.1	0.887	5.654	68.424	19.817	4.715	0.156	0.314	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1375.58	
23	0.7305	1158.6	1179.1	1175.2	0.846	5.369	69.361	19.611	4.360	0.142	0.281	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1376.31	
24	0.7409	1167.4	1188.1	1184.1	0.896	5.737	67.874	20.088	4.887	0.159	0.323	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1376.94	
25	0.7442	1171.5	1192.3	1188.3	0.918	5.762	67.465	20.247	5.052	0.169	0.348	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1378.71	
26	0.7454	1172.8	1193.6	1189.6	0.899	5.823	67.269	20.336	5.114	0.167	0.353	0.020	0.020	0.000	0.000	0.000	0.000	0.000	1379.14	
27	0.7440	1169.3	1190.0	1186.6	0.890	5.925	67.320	20.356	4.994	0.153	0.327	0.018	0.018	0.000	0.000	0.000	0.000	0.000	1376.23	
28	0.7393	1165.7	1186.4	1183.2	0.889	5.699	68.105	19.995	4.810	0.153	0.316	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1376.43	
29	0.7404	1166.5	1187.1	1183.7	0.908	5.729	67.891	20.161	4.808	0.155	0.315	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1376.27	
30	0.7209	1151.9	1172.3	1168.5	0.797	4.949	70.754	19.220	3.881	0.121	0.249	0.014	0.014	0.000	0.000	0.000	0.000	0.000	1377.46	
31	0.7251	1155.2	1175.6	1171.9	0.769	5.194	70.193	19.226	4.188	0.130	0.271	0.015	0.014	0.000	0.000	0.000	0.000	0.000	1377.23	
Avg	0.7400	1168.0	1188.4	1184.6	0.875	5.665	68.038	20.036	4.860	0.163	0.328	0.018	0.018	0.000	0.000	0.000	0.000	0.000	1378.19	

Zone 272

Source Daily Summary

October 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	0.7311	1161.7	1182.3	1179.0	0.804	5.303	69.183	19.894	4.371	0.137	0.278	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1379.43
2	0.7302	1164.2	1184.8	1181.5	0.685	5.253	68.807	20.831	4.034	0.121	0.244	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1383.23
3	0.7296	1161.5	1182.0	1178.8	0.745	5.271	69.192	20.190	4.183	0.133	0.260	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1380.54
4	0.7323	1160.7	1181.2	1178.0	0.856	5.399	69.189	19.563	4.513	0.152	0.297	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1377.07
5	0.7524	1182.1	1203.0	1199.7	0.924	5.867	66.572	20.379	5.588	0.205	0.415	0.024	0.025	0.000	0.000	0.000	0.000	0.000	0.000	1383.59
6	0.7478	1173.8	1194.6	1191.2	0.923	5.952	67.054	20.145	5.340	0.184	0.362	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1378.06
7	0.7467	1172.5	1193.3	1190.0	0.922	5.930	67.188	20.111	5.269	0.183	0.359	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1377.60
8	0.7459	1170.7	1191.4	1188.2	0.923	5.966	67.258	20.072	5.217	0.179	0.348	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1376.18
9	0.7452	1169.8	1190.5	1187.2	0.924	5.953	67.273	20.175	5.143	0.170	0.329	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1375.77
10	0.7434	1169.8	1190.5	1187.1	0.897	5.822	67.494	20.273	4.978	0.169	0.332	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1377.42
11	0.7402	1167.0	1187.7	1184.4	0.891	5.694	68.112	19.847	4.907	0.173	0.340	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1377.23
12	0.7349	1161.7	1182.3	1178.8	0.856	5.578	68.917	19.433	4.681	0.169	0.330	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1375.83
13	0.7381	1166.4	1187.0	1183.7	0.862	5.585	68.358	19.887	4.784	0.166	0.324	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1378.39
14	0.7427	1171.1	1191.8	1188.5	0.883	5.700	67.735	20.096	5.027	0.174	0.347	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1379.59
15	0.7421	1169.2	1189.9	1186.7	0.892	5.745	67.731	20.143	4.948	0.167	0.337	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1377.96
16	0.7436	1172.1	1192.9	1189.5	0.879	5.725	67.570	20.225	5.040	0.169	0.351	0.020	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1379.97
17	0.7437	1171.3	1192.0	1188.8	0.894	5.766	67.581	20.111	5.089	0.173	0.348	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1378.91
18	0.7478	1176.7	1197.5	1194.2	0.910	5.795	67.196	20.127	5.316	0.198	0.409	0.024	0.026	0.000	0.000	0.000	0.000	0.000	0.000	1381.45
19	0.7438	1169.0	1189.7	1186.4	0.914	5.884	67.540	20.040	5.067	0.168	0.348	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1376.12
20	0.7456	1170.9	1191.6	1188.3	0.923	5.926	67.302	20.113	5.162	0.175	0.359	0.020	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1376.65
21	0.7451	1170.0	1190.7	1187.4	0.925	5.923	67.397	20.045	5.140	0.173	0.358	0.020	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1376.12
22	0.7371	1163.0	1183.6	1180.3	0.888	5.662	68.452	19.789	4.707	0.156	0.313	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1375.24
23	0.7303	1158.2	1178.7	1175.4	0.846	5.378	69.391	19.580	4.352	0.142	0.281	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1375.95
24	0.7408	1166.9	1187.6	1184.3	0.897	5.753	67.894	20.056	4.882	0.159	0.323	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1376.48
25	0.7439	1170.9	1191.6	1188.3	0.919	5.774	67.505	20.211	5.036	0.168	0.347	0.020	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1378.23
26	0.7455	1172.9	1193.7	1190.4	0.899	5.831	67.261	20.319	5.125	0.167	0.355	0.020	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1379.07
27	0.7448	1168.7	1189.4	1186.2	0.890	6.034	67.166	20.380	5.013	0.153	0.328	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1374.82
28	0.7402	1166.4	1187.1	1184.0	0.897	5.726	67.975	20.050	4.848	0.152	0.318	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1376.43
29	0.7406	1166.3	1186.9	1183.7	0.912	5.754	67.858	20.159	4.812	0.155	0.315	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1375.83
30	0.7224	1153.2	1173.6	1170.2	0.807	5.001	70.529	19.306	3.952	0.124	0.253	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1377.51
31	0.7250	1155.0	1175.5	1172.0	0.773	5.183	70.211	19.225	4.179	0.130	0.270	0.015	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1377.23
Avg	0.7401	1168.0	1188.2	1184.9	0.876	5.682	68.029	20.025	4.861	0.163	0.328	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1377.87

Zone 273

Source Daily Summary

October 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	0.6856	1151.5	1171.9	1168.5	0.003	2.892	73.449	22.999	0.640	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.00	
2	0.6849	1141.3	1161.6	1158.1	0.199	3.143	74.460	20.882	1.245	0.026	0.042	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1400.24	
3	0.6719	1118.0	1137.8	1134.4	0.541	2.816	77.801	17.289	1.432	0.042	0.070	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1384.79	
4	0.6651	1108.4	1128.1	1124.8	0.589	2.683	79.122	16.200	1.288	0.040	0.068	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1379.96	
5	0.6709	1113.8	1133.6	1130.3	0.141	3.582	77.407	17.341	1.466	0.025	0.035	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1380.74	
6	0.6827	1130.9	1150.9	1147.5	0.164	3.619	75.215	19.307	1.598	0.035	0.058	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1389.82	
7	0.6860	1134.5	1154.6	1151.2	0.187	3.678	74.725	19.539	1.762	0.038	0.065	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1390.93	
8	0.7206	1164.0	1184.6	1181.0	0.523	4.618	69.852	21.366	3.309	0.107	0.206	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1392.73	
9	0.6840	1144.7	1165.0	1161.7	0.047	3.088	74.146	21.719	0.966	0.014	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1405.29	
10	0.6689	1109.4	1129.1	1125.9	0.337	3.371	77.817	17.205	1.174	0.033	0.056	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1376.98	
11	0.6620	1094.9	1114.3	1111.1	0.443	3.445	79.262	15.654	1.084	0.038	0.067	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1366.29	
12	0.6641	1099.1	1118.6	1115.4	0.404	3.445	78.869	16.006	1.167	0.037	0.064	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1369.36	
13	0.6628	1098.5	1117.9	1114.7	0.306	3.511	78.957	16.007	1.127	0.032	0.054	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1369.90	
14	0.6675	1108.6	1128.2	1125.0	0.266	3.404	77.907	17.250	1.091	0.029	0.048	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1377.57	
15	0.6677	1108.9	1128.5	1125.3	0.253	3.418	77.859	17.301	1.091	0.028	0.046	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1377.82	
16	0.6628	1099.7	1119.2	1116.0	0.324	3.411	79.005	16.018	1.150	0.032	0.053	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1371.41	
17	0.6620	1098.2	1117.6	1114.3	0.379	3.342	79.310	15.674	1.187	0.036	0.062	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1370.37	
18	0.6626	1096.9	1116.4	1113.1	0.349	3.517	79.120	15.733	1.176	0.036	0.061	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1368.22	
19	0.6719	1108.7	1128.3	1125.0	0.400	3.596	77.618	16.794	1.443	0.048	0.089	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1373.31	
20	0.6747	1122.0	1141.9	1138.5	0.381	3.080	76.970	18.078	1.371	0.040	0.070	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1386.86	
21	0.6725	1118.6	1138.4	1135.0	0.501	2.897	77.585	17.521	1.370	0.042	0.073	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1384.89	
22	0.6742	1121.7	1141.6	1138.3	0.532	2.821	77.389	17.657	1.464	0.046	0.080	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1387.01	
23	0.6751	1123.5	1143.4	1140.2	0.392	3.008	77.021	17.976	1.483	0.042	0.070	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1388.33	
24	0.6753	1121.4	1141.2	1138.0	0.340	3.242	76.898	17.885	1.530	0.037	0.061	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1385.40	
25	0.6717	1116.1	1135.9	1132.6	0.425	3.089	77.620	17.367	1.395	0.036	0.060	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1382.65	
26	0.6757	1122.7	1142.6	1139.4	0.393	3.111	76.905	17.949	1.539	0.037	0.059	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1386.73	
27	0.6722	1116.0	1135.8	1132.5	0.355	3.250	77.389	17.521	1.390	0.033	0.054	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1382.03	
28	0.6766	1121.9	1141.7	1138.4	0.434	3.188	76.886	17.746	1.612	0.046	0.077	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1384.69	
29	0.6716	1114.6	1134.3	1131.1	0.487	3.078	77.868	16.927	1.516	0.043	0.072	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1380.85	
30	0.6677	1105.8	1125.4	1122.3	0.358	3.442	78.465	16.084	1.544	0.038	0.062	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1374.01	
31	0.6670	1104.6	1124.1	1121.0	0.262	3.597	78.445	16.068	1.540	0.032	0.050	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1373.19	
Avg	0.6735	1117.0	1137.2	1133.9	0.346	3.303	77.140	17.712	1.392	0.037	0.063	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1382.40	

Zone 28

Source Daily Summary

October 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	0.6834	1138.2	1158.3	1155.1	0.221	3.162	74.880	20.310	1.353	0.028	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1397.91
2	0.6748	1122.0	1141.9	1138.7	0.442	2.993	77.151	17.769	1.535	0.040	0.066	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1386.90
3	0.6658	1109.9	1129.6	1126.5	0.438	2.892	78.761	16.486	1.329	0.034	0.055	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1381.14
4	0.6755	1126.7	1146.6	1143.5	0.078	3.338	76.126	19.203	1.212	0.018	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1391.85
5	0.6801	1137.4	1157.6	1154.4	0.043	3.169	74.970	20.759	1.026	0.014	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1400.38
6	0.6814	1141.5	1161.7	1158.5	0.027	3.067	74.572	21.405	0.903	0.011	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1404.09
7	0.6825	1144.6	1164.9	1161.6	0.020	2.993	74.354	21.700	0.908	0.011	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1406.75
8	0.6837	1147.3	1167.6	1164.3	0.030	2.924	74.053	22.147	0.821	0.010	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1408.88
9	0.6762	1123.4	1143.3	1140.2	0.328	3.221	76.460	18.579	1.316	0.034	0.059	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1387.08
10	0.6619	1095.9	1115.3	1112.3	0.436	3.381	79.270	15.727	1.080	0.037	0.065	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1367.72
11	0.6624	1096.8	1116.2	1113.2	0.413	3.415	79.180	15.743	1.145	0.036	0.063	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1368.27
12	0.6620	1098.5	1117.9	1114.9	0.289	3.465	79.064	15.978	1.118	0.031	0.052	0.001	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1370.76
13	0.6663	1107.5	1127.2	1124.1	0.248	3.378	78.104	17.112	1.083	0.028	0.046	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1377.64
14	0.6678	1111.2	1130.9	1127.8	0.220	3.337	77.754	17.559	1.062	0.026	0.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1380.63
15	0.6623	1100.0	1119.4	1116.5	0.305	3.378	79.070	16.004	1.156	0.031	0.052	0.001	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1372.30
16	0.6618	1099.1	1118.6	1115.6	0.341	3.325	79.275	15.774	1.185	0.035	0.060	0.002	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1371.80
17	0.6636	1098.8	1118.3	1115.3	0.360	3.477	78.962	15.878	1.213	0.038	0.067	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1369.63
18	0.6675	1108.6	1128.2	1125.1	0.290	3.357	78.073	16.997	1.179	0.035	0.062	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1377.73
19	0.6749	1124.1	1144.0	1140.7	0.395	2.959	76.953	18.197	1.384	0.039	0.067	0.003	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1389.10
20	0.6710	1117.0	1136.8	1133.7	0.460	2.917	77.774	17.391	1.346	0.039	0.067	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1384.55
21	0.6727	1120.9	1140.7	1137.6	0.559	2.691	77.700	17.474	1.439	0.046	0.081	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1387.58
22	0.6737	1122.3	1142.2	1139.1	0.363	2.991	77.244	17.817	1.473	0.039	0.067	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1388.38
23	0.6740	1120.4	1140.3	1137.3	0.334	3.178	77.137	17.735	1.517	0.036	0.059	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1385.75
24	0.6716	1117.0	1136.8	1133.8	0.415	3.044	77.618	17.410	1.414	0.036	0.059	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1383.93
25	0.6748	1121.8	1141.7	1138.6	0.392	3.079	77.101	17.764	1.563	0.037	0.059	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1386.65
26	0.6706	1114.4	1134.1	1131.1	0.328	3.242	77.624	17.361	1.362	0.031	0.049	0.001	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1381.69
27	0.6739	1119.3	1139.1	1136.1	0.436	3.089	77.342	17.458	1.556	0.042	0.070	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1384.38
28	0.6723	1116.0	1135.7	1132.7	0.379	3.226	77.569	17.172	1.543	0.040	0.065	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1381.92
29	0.6682	1108.3	1127.9	1125.0	0.444	3.204	78.483	16.210	1.542	0.041	0.068	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1376.68
30	0.6664	1104.9	1124.5	1121.6	0.259	3.521	78.542	16.070	1.523	0.032	0.050	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1374.33
31	0.6656	1103.7	1123.3	1120.4	0.242	3.551	78.664	15.938	1.528	0.030	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1373.61
Avg	0.6712	1117.0	1136.5	1133.4	0.308	3.192	77.414	17.714	1.284	0.032	0.053	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1383.87

Zone 31

Source Daily Summary

October 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	0.6538	1093.5	1112.9	1109.2	0.949	1.983	81.758	14.031	1.156	0.040	0.072	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1373.12
2	0.6606	1102.3	1121.8	1118.9	0.982	2.037	80.750	14.645	1.414	0.056	0.101	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1377.00
3	0.6554	1087.9	1107.1	1103.7	0.750	2.781	81.494	13.348	1.466	0.053	0.095	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1364.33
4	0.6760	1122.1	1142.0	1138.1	1.081	2.124	78.309	16.368	1.870	0.080	0.146	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1385.68
5	0.6715	1117.1	1136.9	1133.1	1.062	2.031	78.954	16.070	1.673	0.068	0.123	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1384.20
6	0.6618	1104.8	1124.4	1120.9	0.958	2.036	80.466	14.925	1.477	0.046	0.081	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1378.86
7	0.6580	1098.5	1117.9	1114.5	0.967	2.044	81.051	14.533	1.273	0.044	0.077	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1375.01
8	0.6586	1098.9	1118.4	1114.7	0.994	2.035	80.893	14.733	1.216	0.042	0.075	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1374.90
9	0.6597	1100.6	1120.1	1116.5	0.991	2.044	80.742	14.808	1.273	0.045	0.084	0.006	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1375.80
10	0.6611	1102.1	1121.6	1118.0	0.992	2.086	80.427	15.094	1.263	0.045	0.081	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1376.17
11	0.6672	1110.2	1129.8	1126.2	1.040	2.088	79.568	15.625	1.495	0.060	0.108	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1379.96
12	0.6731	1117.5	1137.3	1133.7	1.064	2.156	78.593	16.315	1.663	0.068	0.122	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1383.01
13	0.6739	1119.0	1138.8	1135.1	1.078	2.120	78.583	16.240	1.752	0.073	0.133	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1384.00
14	0.6726	1117.3	1137.1	1133.5	1.081	2.100	78.792	16.092	1.716	0.071	0.129	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1383.22
15	0.6695	1113.3	1133.0	1129.5	1.070	2.068	79.342	15.656	1.647	0.070	0.127	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1381.46
16	0.6663	1109.0	1128.6	1124.9	1.055	2.051	79.829	15.353	1.508	0.066	0.120	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1379.43
17	0.6783	1124.2	1144.1	1140.4	1.124	2.153	77.878	16.742	1.832	0.087	0.159	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1385.83
18	0.6735	1118.4	1138.2	1135.0	1.100	2.082	78.699	16.147	1.728	0.079	0.143	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1383.73
19	0.6734	1118.3	1138.1	1135.1	1.089	2.098	78.683	16.171	1.724	0.075	0.139	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1383.68
20	0.6724	1116.7	1136.5	1133.5	1.073	2.127	78.811	16.074	1.688	0.072	0.133	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1382.70
21	0.6723	1116.6	1136.4	1133.3	1.051	2.157	78.753	16.160	1.672	0.068	0.122	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1382.70
22	0.6753	1120.7	1140.5	1137.4	1.065	2.174	78.250	16.537	1.749	0.073	0.132	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1384.59
23	0.6748	1120.2	1140.1	1136.5	1.071	2.146	78.376	16.423	1.753	0.075	0.136	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1384.55
24	0.6754	1120.6	1140.5	1137.1	1.076	2.170	78.240	16.543	1.746	0.073	0.132	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1384.42
25	0.6762	1121.5	1141.4	1137.8	1.085	2.178	78.120	16.612	1.777	0.074	0.134	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1384.69
26	0.6768	1122.8	1142.7	1139.3	1.087	2.155	78.056	16.655	1.808	0.078	0.141	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1385.63
27	0.6980	1150.7	1171.1	1167.5	1.243	2.198	74.943	18.675	2.557	0.123	0.224	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1398.38
28	0.6808	1128.3	1148.3	1144.9	1.120	2.143	77.522	16.956	1.985	0.088	0.161	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1388.33
29	0.6764	1122.1	1142.0	1138.6	1.093	2.144	78.154	16.552	1.814	0.078	0.142	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1385.29
30	0.6723	1117.1	1136.8	1133.4	1.062	2.116	78.742	16.212	1.663	0.066	0.121	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1383.24
31	0.6751	1120.6	1140.5	1137.0	1.098	2.103	78.381	16.411	1.780	0.074	0.133	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1384.79
Avg	0.6706	1115.0	1134.4	1130.9	1.050	2.127	79.070	15.894	1.650	0.068	0.123	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1381.89

Zone 32

Source Daily Summary

October 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	0.6868	1153.3	1173.7	1169.0	0.000	2.901	73.184	23.256	0.645	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.01	-26.08
2	0.6868	1152.7	1173.1	1168.3	0.000	2.935	73.188	23.221	0.642	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.29	-26.19
3	0.6869	1152.6	1173.0	1168.4	0.000	2.952	73.152	23.241	0.641	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.07	-26.15
4	0.6868	1152.8	1173.2	1168.3	0.000	2.928	73.211	23.179	0.667	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.43	-26.07
5	0.6864	1152.3	1172.7	1168.1	0.000	2.928	73.284	23.100	0.674	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.15	-26.22
6	0.6857	1151.4	1171.8	1167.3	0.000	2.908	73.436	22.982	0.659	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.85	-26.64
7	0.6863	1152.9	1173.4	1168.8	0.000	2.873	73.340	23.084	0.689	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.11	-26.12
8	0.6868	1152.8	1173.2	1169.8	0.000	2.857	73.249	23.187	0.693	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.84	-25.85
9	0.6852	1152.5	1172.9	1168.1	0.000	2.798	73.525	23.026	0.637	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.68	-26.71
10	0.6845	1151.2	1171.6	1166.8	0.000	2.807	73.632	22.945	0.601	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.88	-27.23
11	0.6848	1151.8	1172.2	1167.5	0.000	2.805	73.571	22.997	0.613	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.24	-26.99
12	0.6848	1151.7	1172.0	1167.2	0.000	2.814	73.585	22.964	0.623	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.03	-26.99
13	0.6848	1151.6	1172.0	1167.0	0.000	2.814	73.604	22.936	0.632	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.99	-26.98
14	0.6852	1152.6	1173.0	1168.2	0.000	2.789	73.538	23.009	0.649	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.84	-26.65
15	0.6851	1152.6	1173.0	1168.2	0.000	2.782	73.550	23.016	0.639	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.90	-26.72
16	0.6853	1153.0	1173.4	1168.7	0.000	2.774	73.544	23.002	0.665	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.20	-26.52
17	0.6852	1152.8	1173.2	1168.9	0.000	2.782	73.533	23.014	0.657	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.05	-26.57
18	0.6849	1152.6	1173.0	1168.4	0.000	2.769	73.586	22.988	0.642	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.03	-26.76
19	0.6850	1151.8	1172.2	1167.2	0.000	2.821	73.566	22.956	0.642	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.03	-26.84
20	0.6847	1151.6	1172.0	1167.1	0.000	2.812	73.607	22.938	0.629	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.00	-27.00
21	0.6852	1152.3	1172.7	1168.2	0.000	2.815	73.513	23.015	0.642	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.38	-26.70
22	0.6856	1152.2	1172.6	1167.7	0.000	2.854	73.433	23.060	0.639	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.90	-26.62
23	0.6856	1151.8	1172.2	1167.3	0.000	2.882	73.431	23.025	0.648	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.38	-26.62
24	0.6855	1151.6	1171.9	1167.5	0.000	2.884	73.472	22.970	0.659	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.21	-26.66
25	0.6866	1154.1	1174.5	1169.9	0.000	2.837	73.367	23.002	0.776	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.12	-25.55
26	0.6850	1151.3	1171.6	1167.0	0.000	2.855	73.524	23.000	0.607	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.37	-27.05
27	0.6854	1151.5	1171.9	1166.8	0.000	2.880	73.462	23.015	0.628	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.21	-26.82
28	0.6849	1150.8	1171.2	1166.4	0.000	2.877	73.527	22.982	0.600	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.86	-27.16
29	0.6856	1152.1	1172.5	1167.8	0.000	2.862	73.456	23.004	0.662	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.74	-26.53
30	0.6854	1151.4	1171.8	1166.9	0.000	2.881	73.469	23.007	0.629	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.15	-26.83
31	0.6855	1151.5	1171.9	1166.8	0.000	2.887	73.466	22.972	0.660	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.17	-26.64
Avg	0.6856	1152.0	1172.6	1167.9	0.000	2.850	73.452	23.035	0.648	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.94	-26.59

Zone 33

Source Daily Summary

October 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	0.5887	987.2	1004.7	1001.8	0.271	3.363	93.121	2.964	0.250	0.015	0.015	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1306.45
2	0.5720	963.5	980.6	977.8	0.109	3.488	96.068	0.309	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1293.54
3	0.5726	962.0	979.1	976.2	0.106	3.637	95.927	0.306	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.90
4	0.5729	961.4	978.4	975.6	0.108	3.701	95.858	0.308	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1289.72
5	0.5722	963.1	980.1	977.3	0.107	3.534	96.027	0.307	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1292.75
6	0.5859	983.7	1001.1	998.2	0.240	3.365	93.602	2.559	0.206	0.014	0.012	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1304.79
7	0.5868	985.1	1002.5	999.5	0.251	3.347	93.456	2.698	0.218	0.014	0.013	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1305.67
8	0.5744	966.0	983.1	980.2	0.127	3.537	95.626	0.653	0.045	0.009	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.11
9	0.5724	962.6	979.7	977.0	0.107	3.581	95.974	0.313	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1291.92
10	0.6180	1022.7	1040.9	1038.0	0.376	3.802	87.867	7.019	0.838	0.034	0.056	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1320.84
11	0.6546	1077.3	1096.4	1093.4	0.436	3.829	81.215	12.840	1.536	0.048	0.085	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1351.92
12	0.6614	1090.2	1109.5	1106.4	0.401	3.732	79.917	14.164	1.649	0.047	0.080	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1361.09
13	0.6625	1093.2	1112.5	1109.3	0.392	3.667	79.689	14.465	1.656	0.046	0.077	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1363.69
14	0.6626	1094.2	1113.6	1110.4	0.392	3.618	79.626	14.610	1.625	0.045	0.074	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1364.82
15	0.6401	1062.3	1081.2	1078.1	0.324	3.549	83.680	11.155	1.196	0.035	0.055	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1347.88
16	0.5727	964.7	981.7	979.0	0.113	3.478	95.948	0.423	0.029	0.009	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.29
17	0.5759	969.2	986.3	983.5	0.122	3.495	95.350	0.935	0.084	0.010	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1296.66
18	0.5726	961.7	978.8	976.0	0.104	3.665	95.904	0.303	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.43
19	0.5723	962.8	979.9	977.1	0.108	3.556	96.005	0.307	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1292.34
20	0.6264	1033.4	1051.7	1048.8	0.268	4.105	86.238	8.242	1.027	0.037	0.073	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1325.44
21	0.6636	1090.2	1109.5	1106.4	0.383	3.968	79.467	14.365	1.656	0.050	0.097	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1358.80
22	0.6642	1091.2	1110.5	1107.4	0.385	3.959	79.369	14.457	1.668	0.051	0.098	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1359.46
23	0.6641	1091.7	1111.0	1107.9	0.382	3.925	79.367	14.504	1.665	0.050	0.094	0.006	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1360.18
24	0.6646	1091.2	1110.5	1107.4	0.377	4.011	79.270	14.497	1.689	0.050	0.094	0.006	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1359.04
25	0.6658	1092.2	1111.5	1108.3	0.383	4.055	79.074	14.600	1.723	0.052	0.099	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1359.03
26	0.6670	1094.7	1114.1	1110.9	0.387	4.010	78.974	14.649	1.783	0.057	0.120	0.008	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1360.86
27	0.6725	1103.0	1122.6	1118.8	0.388	4.006	78.567	14.691	1.957	0.081	0.230	0.021	0.057	0.000	0.000	0.000	0.000	0.000	0.000	1365.30
28	0.6645	1094.7	1114.1	1110.9	0.384	3.774	79.322	14.713	1.655	0.048	0.088	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1363.42
29	0.6650	1093.7	1113.0	1110.0	0.387	3.880	79.204	14.701	1.678	0.049	0.089	0.006	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1361.72
30	0.6658	1093.7	1113.1	1110.0	0.388	3.954	79.074	14.717	1.708	0.051	0.096	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1360.92
31	0.6634	1093.6	1113.0	1109.9	0.387	3.733	79.473	14.643	1.626	0.046	0.081	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1363.31
Avg	0.6238	1035.0	1053.7	1050.7	0.280	3.720	86.718	8.239	0.944	0.032	0.056	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1330.69

Zone 34

Source Daily Summary

October 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	GCT
1	0.6818	1121.5	1141.3	1138.4	1.040	2.782	75.689	19.390	1.088	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1379.07	-29.92
2	0.6805	1118.6	1138.4	1135.4	1.061	2.809	75.674	19.645	0.802	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1376.79	-31.86
3	0.6787	1117.0	1136.8	1133.9	1.073	2.719	75.940	19.579	0.683	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1376.68	-33.15
4	0.6977	1149.7	1170.1	1167.1	1.039	2.555	73.044	21.719	1.608	0.015	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1397.52	-19.96
5	0.7055	1162.0	1182.6	1179.5	1.029	2.549	72.688	20.869	2.800	0.031	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1404.56	-12.05
6	0.6791	1118.3	1138.1	1135.2	1.082	2.660	75.699	20.056	0.498	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1377.93	-33.60
7	0.6814	1122.0	1141.9	1138.9	1.075	2.666	75.279	20.419	0.554	0.003	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1380.09	-32.06
8	0.6810	1121.7	1141.6	1138.6	1.070	2.650	75.416	20.248	0.607	0.004	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1380.17	-32.02
9	0.6802	1120.3	1140.1	1137.2	1.072	2.662	75.553	20.127	0.576	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1379.18	-32.61
10	0.6770	1114.9	1134.6	1131.7	1.078	2.682	76.086	19.679	0.470	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1375.78	-34.88
11	0.6792	1118.7	1138.5	1135.5	1.073	2.665	75.774	19.879	0.603	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1378.21	-33.07
12	0.6785	1117.7	1137.5	1134.6	1.072	2.658	75.868	19.842	0.554	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1377.74	-33.63
13	0.6764	1113.9	1133.7	1130.7	1.082	2.676	76.330	19.324	0.582	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1375.22	-34.76
14	0.6756	1111.9	1131.5	1128.6	1.081	2.730	76.395	19.293	0.496	0.002	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1373.47	-35.69
15	0.6771	1115.3	1135.0	1132.1	1.077	2.668	76.203	19.442	0.605	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1376.16	-34.24
16	0.6771	1114.7	1134.5	1131.5	1.078	2.699	76.168	19.479	0.570	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1375.49	-34.46
17	0.6766	1113.7	1133.4	1130.5	1.070	2.725	76.199	19.497	0.504	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1374.75	-35.07
18	0.6781	1116.5	1136.3	1133.4	1.063	2.707	76.020	19.562	0.641	0.003	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1376.67	-33.59
19	0.6826	1124.2	1144.2	1141.2	1.059	2.661	75.280	20.190	0.796	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1381.67	-30.34
20	0.6821	1123.9	1143.8	1140.9	1.063	2.633	75.162	20.552	0.577	0.005	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1381.75	-31.39
21	0.6823	1122.0	1141.9	1139.0	1.064	2.769	74.770	21.123	0.271	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1379.20	-32.89
22	0.6801	1117.4	1137.2	1134.3	1.064	2.841	75.233	20.576	0.283	0.002	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1375.77	-34.24
23	0.6804	1117.9	1137.6	1134.7	1.067	2.841	75.203	20.565	0.319	0.002	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1375.98	-33.91
24	0.6786	1114.1	1133.8	1130.9	1.076	2.882	75.522	20.258	0.260	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1373.21	-35.35
25	0.6783	1113.8	1133.5	1130.6	1.069	2.885	75.619	20.116	0.307	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1373.14	-35.27
26	0.6780	1113.4	1133.1	1130.2	1.067	2.881	75.702	20.023	0.320	0.002	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1372.95	-35.37
27	0.6781	1113.6	1133.3	1130.4	1.070	2.879	75.648	20.097	0.304	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1373.08	-35.40
28	0.6851	1125.6	1145.5	1142.6	1.052	2.837	74.251	21.510	0.345	0.002	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1380.71	-31.18
29	0.6931	1138.4	1158.6	1155.6	1.037	2.823	73.268	21.888	0.955	0.011	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1388.39	-24.43
30	0.6947	1140.7	1160.9	1157.9	1.046	2.811	73.409	21.307	1.392	0.014	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1389.65	-22.14
31	0.7075	1161.9	1182.4	1179.4	1.020	2.763	71.803	21.962	2.410	0.019	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1402.52	-12.33
Avg	0.6827	1123.0	1143.0	1140.0	1.063	2.734	75.190	20.265	0.735	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1380.11	-30.99

Zone 43

October-19

ZONE 550

MANDAN BORDER

Start Date	End Date	Mandan Border			Weighted				
		MCF	DK	BTU	MCF	DK	BTU Zone 28	AVG BTU	
10/1/2019	10/2/2019				2502	2933	1.1719	1.172	10/1/2019
10/2/2019	10/3/2019				2986	3468	1.1616	1.162	10/2/2019
10/3/2019	10/4/2019				2803	3190	1.1378	1.138	10/3/2019
10/4/2019	10/5/2019				2221	2506	1.1281	1.128	10/4/2019
10/5/2019	10/6/2019				2021	2291	1.1336	1.134	10/5/2019
10/6/2019	10/7/2019				1869	2149	1.1509	1.151	10/6/2019
10/7/2019	10/8/2019				1666	1924	1.1546	1.155	10/7/2019
10/8/2019	10/9/2019				1328	1575	1.1846	1.185	10/8/2019
10/9/2019	10/10/2019				3361	3916	1.1650	1.165	10/9/2019
10/10/2019	10/11/2019				4532	5116	1.1291	1.129	10/10/2019
10/11/2019	10/12/2019				4470	4982	1.1143	1.114	10/11/2019
10/12/2019	10/13/2019				4159	4651	1.1186	1.119	10/12/2019
10/13/2019	10/14/2019				3573	3993	1.1179	1.118	10/13/2019
10/14/2019	10/15/2019				2939	3316	1.1282	1.128	10/14/2019
10/15/2019	10/16/2019				3528	3983	1.1285	1.129	10/15/2019
10/16/2019	10/17/2019				2907	3255	1.1192	1.119	10/16/2019
10/17/2019	10/18/2019				1418	1588	1.1176	1.118	10/17/2019
10/18/2019	10/19/2019				2273	2539	1.1164	1.116	10/18/2019
10/19/2019	10/20/2019				2403	2709	1.1283	1.128	10/19/2019
10/20/2019	10/21/2019				3012	3439	1.1419	1.142	10/20/2019
10/21/2019	10/22/2019				3279	3733	1.1384	1.138	10/21/2019
10/22/2019	10/23/2019				3077	3512	1.1416	1.142	10/22/2019
10/23/2019	10/24/2019				3665	4191	1.1434	1.143	10/23/2019
10/24/2019	10/25/2019				3621	4131	1.1412	1.141	10/24/2019
10/25/2019	10/26/2019				2147	2440	1.1359	1.136	10/25/2019
10/26/2019	10/27/2019				3582	4093	1.1426	1.143	10/26/2019
10/27/2019	10/28/2019				4888	5553	1.1358	1.136	10/27/2019
10/28/2019	10/29/2019				4916	5613	1.1417	1.142	10/28/2019
10/29/2019	10/30/2019				5699	6464	1.1343	1.134	10/29/2019
10/30/2019	10/31/2019				5221	5876	1.1254	1.125	10/30/2019
10/31/2019	11/1/2019				4086	4594	1.1241	1.124	10/31/2019
		0	0	#DIV/0!	100,152	113,723	1.1372	1.1372	

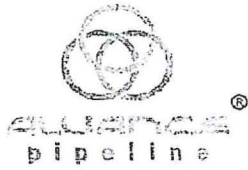


Alliance Pipeline

DAILY ANALYSIS — USA
 ND07MD1 — Hankinson Sales
 October 2019

DAY	Heating Value (BTU/ft ³)	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	1,169.830	0.6716	83.0577	10.2052	3.9645	0.4112	0.7489	0.0729	0.0572	0.0279	1.0374	0.4052	0.0119
2	1,171.167	0.6729	82.9800	10.1086	4.0611	0.4216	0.7784	0.0736	0.0578	0.0285	1.0678	0.4107	0.0119
3	1,169.131	0.6710	83.1827	10.1184	3.9327	0.4141	0.7531	0.0745	0.0586	0.0286	1.0156	0.4099	0.0119
4	1,170.946	0.6729	82.9776	10.1073	4.0492	0.4210	0.7790	0.0747	0.0592	0.0291	1.0837	0.4075	0.0118
5	1,168.826	0.6715	83.0769	10.1308	3.9994	0.4068	0.7523	0.0677	0.0511	0.0223	1.0555	0.4248	0.0124
6	1,167.600	0.6704	83.1451	10.1919	3.9340	0.3967	0.7290	0.0645	0.0495	0.0212	1.0427	0.4132	0.0122
7	1,168.671	0.6714	83.0455	10.1716	3.9985	0.4043	0.7469	0.0657	0.0486	0.0203	1.0689	0.4178	0.0121
8	1,169.616	0.6722	82.9649	10.1693	4.0461	0.4087	0.7630	0.0655	0.0476	0.0197	1.0870	0.4162	0.0121
9	1,164.809	0.6691	83.2823	10.1001	3.8426	0.3991	0.7285	0.0626	0.0464	0.0195	1.1006	0.4063	0.0121
10	1,160.095	0.6656	83.6318	10.1518	3.5321	0.3868	0.6844	0.0676	0.0515	0.0226	1.0486	0.4103	0.0124
11	1,162.159	0.6668	83.5247	10.1551	3.5958	0.3976	0.7028	0.0721	0.0552	0.0264	1.0624	0.3964	0.0116
12	1,167.994	0.6704	83.2022	10.0702	4.0014	0.4074	0.7161	0.0671	0.0514	0.0247	1.0519	0.3963	0.0114
13	1,167.581	0.6703	83.2348	10.0589	3.9318	0.4163	0.7502	0.0664	0.0491	0.0233	1.0568	0.4012	0.0113
14	1,169.184	0.6714	83.1293	10.0458	4.0195	0.4238	0.7718	0.0645	0.0473	0.0206	1.0656	0.4007	0.0112
15	1,168.317	0.6706	83.1878	10.1179	3.9460	0.4143	0.7516	0.0646	0.0484	0.0215	1.0309	0.4049	0.0121
16	1,169.021	0.6716	83.0736	10.0752	4.0286	0.4196	0.7649	0.0609	0.0478	0.0234	1.1056	0.3895	0.0109
17	1,166.749	0.6688	83.4844	9.9268	3.9038	0.4164	0.7426	0.0636	0.0483	0.0252	0.9947	0.3838	0.0104
18	1,169.403	0.6712	83.1372	10.1058	3.9941	0.4199	0.7626	0.0649	0.0474	0.0230	1.0385	0.3956	0.0109
19	1,169.843	0.6716	83.0759	10.1435	4.0097	0.4178	0.7688	0.0625	0.0465	0.0229	1.0440	0.3972	0.0112
20	1,170.859	0.6725	83.0107	10.1119	4.0508	0.4258	0.7820	0.0686	0.0513	0.0241	1.0534	0.4103	0.0111
21	1,172.449	0.6738	82.7947	10.2798	4.0462	0.4325	0.7871	0.0743	0.0565	0.0257	1.0814	0.4109	0.0109
22	1,170.881	0.6723	83.0810	10.0520	4.0387	0.4324	0.7853	0.0709	0.0553	0.0263	1.0423	0.4048	0.0111
23	1,172.886	0.6739	82.8828	10.1026	4.1179	0.4376	0.8143	0.0722	0.0547	0.0252	1.0881	0.3936	0.0110
24	1,173.247	0.6739	82.8739	10.1524	4.1197	0.4345	0.8043	0.0724	0.0540	0.0246	1.0567	0.3966	0.0110
25	1,173.109	0.6738	82.9152	10.0622	4.1755	0.4318	0.7967	0.0716	0.0540	0.0247	1.0600	0.3969	0.0114
26	1,173.871	0.6743	82.8754	10.0737	4.1649	0.4550	0.8145	0.0700	0.0534	0.0241	1.0682	0.3896	0.0113
27	1,170.278	0.6714	83.1765	10.0717	3.9744	0.4253	0.7790	0.0743	0.0563	0.0258	1.0126	0.3928	0.0114
28	1,171.827	0.6723	83.1192	10.0394	4.0693	0.4272	0.7813	0.0764	0.0573	0.0264	0.9975	0.3950	0.0111
29	1,171.895	0.6722	83.1301	10.0253	4.0900	0.4267	0.7769	0.0745	0.0563	0.0255	0.9933	0.3903	0.0110
30	1,172.301	0.6729	83.0288	10.0491	4.1096	0.4302	0.7921	0.0730	0.0554	0.0254	1.0330	0.3921	0.0113
31	1,174.152	0.6744	82.8827	10.0628	4.1806	0.4391	0.8143	0.0768	0.0574	0.0260	1.0547	0.3942	0.0113
Volume	1,169.748	0.6717	83.0974	10.1034	4.0018	0.4200	0.7664	0.0696	0.0527	0.0244	1.0515	0.4014	0.0115
Weight Avg Energy	1,169.756	0.6717	83.0969	10.1033	4.0022	0.4200	0.7665	0.0696	0.0528	0.0244	1.0515	0.4014	0.0115

Done 10/30



Alliance Pipeline

DAILY ANALYSIS — USA
 ND14MD1 — Milnor Sales
 October 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	1,170.287	0.6721	83.0086	10.2109	3.9863	0.4133	0.7550	0.0736	0.0574	0.0278	1.0496	0.4057	0.0118
2	1,170.559	0.6724	83.0188	10.1438	4.0148	0.4186	0.7690	0.0729	0.0577	0.0281	1.0532	0.4108	0.0121
3	1,169.420	0.6713	83.1920	10.0643	3.9654	0.4166	0.7600	0.0746	0.0587	0.0288	1.0187	0.4091	0.0118
4	1,171.121	0.6730	82.9703	10.1113	4.0558	0.4212	0.7786	0.0753	0.0595	0.0287	1.0790	0.4085	0.0118
5	1,168.259	0.6711	83.1159	10.1312	3.9820	0.4033	0.7441	0.0666	0.0500	0.0213	1.0472	0.4261	0.0124
6	1,168.093	0.6709	83.0767	10.2210	3.9487	0.3988	0.7342	0.0651	0.0496	0.0217	1.0592	0.4125	0.0124
7	1,168.800	0.6715	83.0395	10.1713	4.0032	0.4050	0.7487	0.0658	0.0485	0.0202	1.0686	0.4171	0.0121
8	1,169.874	0.6726	82.9229	10.1747	4.0624	0.4103	0.7676	0.0652	0.0473	0.0195	1.1035	0.4145	0.0121
9	1,162.800	0.6676	83.4467	10.0933	3.7392	0.3923	0.7073	0.0623	0.0464	0.0196	1.0727	0.4080	0.0122
10	1,160.388	0.6659	83.6075	10.1611	3.5349	0.3892	0.6895	0.0681	0.0520	0.0230	1.0525	0.4098	0.0124
11	1,162.211	0.6669	83.5347	10.1396	3.6068	0.3963	0.7015	0.0720	0.0554	0.0270	1.0581	0.3970	0.0116
12	1,168.488	0.6708	83.1813	10.0637	4.0258	0.4098	0.7224	0.0664	0.0506	0.0243	1.0499	0.3946	0.0113
13	1,167.828	0.6706	83.1962	10.0807	3.9387	0.4181	0.7514	0.0664	0.0490	0.0229	1.0612	0.4043	0.0113
14	1,168.966	0.6714	83.1442	10.0382	4.0152	0.4220	0.7694	0.0645	0.0475	0.0208	1.0648	0.4024	0.0112
15	1,168.487	0.6708	83.1493	10.1421	3.9516	0.4140	0.7526	0.0643	0.0481	0.0214	1.0415	0.4034	0.0119
16	1,168.766	0.6713	83.1221	10.0508	4.0210	0.4191	0.7619	0.0607	0.0475	0.0238	1.0944	0.3878	0.0109
17	1,166.545	0.6688	83.4832	9.9371	3.8941	0.4142	0.7421	0.0634	0.0481	0.0247	0.9971	0.3856	0.0104
18	1,170.216	0.6719	83.0418	10.1707	4.0166	0.4213	0.7627	0.0648	0.0474	0.0232	1.0396	0.4008	0.0110
19	1,169.913	0.6716	83.0756	10.1427	4.0108	0.4184	0.7700	0.0624	0.0465	0.0231	1.0446	0.3948	0.0112
20	1,170.994	0.6727	83.0105	10.0926	4.0482	0.4287	0.7903	0.0706	0.0530	0.0249	1.0603	0.4101	0.0110
21	1,172.307	0.6738	82.8300	10.2493	4.0481	0.4326	0.7887	0.0734	0.0561	0.0256	1.0725	0.4129	0.0109
22	1,170.242	0.6721	83.1320	10.0108	4.0308	0.4299	0.7806	0.0712	0.0554	0.0262	1.0446	0.4075	0.0109
23	1,172.510	0.6737	82.9089	10.0987	4.1045	0.4357	0.8098	0.0719	0.0547	0.0251	1.0828	0.3970	0.0110
24	1,173.211	0.6739	82.8882	10.1377	4.1255	0.4338	0.8032	0.0722	0.0539	0.0247	1.0538	0.3960	0.0110
25	1,172.669	0.6736	82.9433	10.0471	4.1684	0.4296	0.7908	0.0714	0.0540	0.0248	1.0606	0.3986	0.0115
26	1,173.758	0.6742	82.8944	10.0685	4.1498	0.4570	0.8163	0.0705	0.0538	0.0242	1.0650	0.3892	0.0113
27	1,170.073	0.6713	83.2039	10.0611	3.9694	0.4243	0.7756	0.0740	0.0562	0.0256	1.0038	0.3946	0.0114
28	1,171.722	0.6722	83.1493	10.0237	4.0694	0.4261	0.7785	0.0765	0.0572	0.0263	0.9889	0.3930	0.0111
29	1,171.364	0.6719	83.1850	9.9895	4.0738	0.4255	0.7764	0.0744	0.0567	0.0258	0.9922	0.3897	0.0110
30	1,172.890	0.6735	82.9722	10.0723	4.1285	0.4325	0.7971	0.0735	0.0557	0.0255	1.0377	0.3938	0.0113
31	1,173.613	0.6741	82.9244	10.0380	4.1683	0.4367	0.8112	0.0765	0.0573	0.0258	1.0565	0.3939	0.0114
Volume	1,170.452	0.6721	83.0838	10.0835	4.0277	0.4241	0.7752	0.0710	0.0538	0.0248	1.0454	0.3994	0.0114
Weight Avg Energy	1,170.454	0.6721	83.0838	10.0836	4.0277	0.4241	0.7752	0.0710	0.0538	0.0248	1.0453	0.3994	0.0114

10/31/19

All Information is Confidential

If you have questions regarding this report, please email Measurement.Group@alliancepipeline.com or call (403) 817-5420

October-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		
10/1/2001	10/2/2019	361	433	1.1986	277	316	1.1413	1.174	10/1/2001
10/2/2001	10/3/2019	389	466	1.1986	320	364	1.1384	1.171	10/2/2001
10/3/2001	10/4/2019	383	460	1.1986	275	313	1.1368	1.173	10/3/2001
10/4/2001	10/5/2019	325	390	1.1986	183	212	1.1701	1.188	10/4/2001
10/5/2001	10/6/2019	288	345	1.1986	127	151	1.1826	1.194	10/5/2001
10/6/2001	10/7/2019	307	368	1.1986	166	188	1.1381	1.177	10/6/2001
10/7/2001	10/8/2019	261	312	1.1986	153	174	1.1419	1.178	10/7/2001
10/8/2001	10/9/2019	264	317	1.1986	145	166	1.1416	1.178	10/8/2001
10/9/2001	10/10/2019	425	510	1.1986	437	499	1.1401	1.169	10/9/2001
10/10/2001	10/11/2019	452	542	1.1986	502	570	1.1346	1.165	10/10/2001
10/11/2001	10/12/2019	445	533	1.1986	424	483	1.1385	1.169	10/11/2001
10/12/2001	10/13/2019	425	510	1.1986	364	414	1.1375	1.170	10/12/2001
10/13/2001	10/14/2019	383	459	1.1986	292	331	1.1337	1.171	10/13/2001
10/14/2001	10/15/2019	381	457	1.1986	261	295	1.1315	1.171	10/14/2001
10/15/2001	10/16/2019	409	490	1.1986	342	388	1.1350	1.170	10/15/2001
10/16/2001	10/17/2019	315	378	1.1986	178	202	1.1345	1.175	10/16/2001
10/17/2001	10/18/2019	282	339	1.1986	130	148	1.1334	1.178	10/17/2001
10/18/2001	10/19/2019	312	374	1.1986	174	198	1.1363	1.176	10/18/2001
10/19/2001	10/20/2019	331	397	1.1986	214	245	1.1442	1.177	10/19/2001
10/20/2001	10/21/2019	380	456	1.1986	310	355	1.1438	1.174	10/20/2001
10/21/2001	10/22/2019	391	469	1.1986	298	341	1.1419	1.174	10/21/2001
10/22/2001	10/23/2019	371	445	1.1986	255	290	1.1372	1.174	10/22/2001
10/23/2001	10/24/2019	396	475	1.1986	294	334	1.1376	1.173	10/23/2001
10/24/2001	10/25/2019	398	477	1.1986	346	392	1.1338	1.168	10/24/2001
10/25/2001	10/26/2019	292	350	1.1986	160	182	1.1335	1.176	10/25/2001
10/26/2001	10/27/2019	423	507	1.1986	443	501	1.1331	1.165	10/26/2001
10/27/2001	10/28/2019	493	591	1.1986	620	703	1.1333	1.162	10/27/2001
10/28/2001	10/29/2019	514	616	1.1986	686	786	1.1455	1.168	10/28/2001
10/29/2001	10/30/2019	538	645	1.1986	700	810	1.1586	1.176	10/29/2001
10/30/2001	10/31/2019	485	581	1.1986	615	713	1.1609	1.178	10/30/2001
10/31/2001	11/1/2019	430	516	1.1986	435	514	1.1824	1.190	10/31/2001
		11,849	14,208		10,126	11,578	1.1430	1.1743	

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	Changestimestamp	NOTES
11587	GLEN ULLIN	1091.9	0.6386	1366.4	-52.7	1.9395	0.8651	83.9365	12.3006	0.772	0.0246	0.0139	0.0009	0.0011	0	0	0.1256	0.0205	9/30/2019	10/1/2019	10/1/2019 3:30:00 PM	
11587	GLEN ULLIN	1102.3	0.6469	1370.5	-47.4	2.0125	0.915	82.5748	13.5516	0.8434	0.0303	0.0171	0.002	0.0021	0	0.0002	0.03	0.0212	10/9/2019	10/10/2019	10/10/2019 4:06:35 PM	
11587	GLEN ULLIN	1098.1	0.6438	1368.5	-49.4	2.0043	0.9037	82.9189	13.196	0.7865	0.0267	0.0148	0.0015	0.0013	0	0.0002	0.1256	0.0207	10/10/2019	10/11/2019	10/11/2019 4:21:15 PM	
11587	GLEN ULLIN	1099.8	0.6453	1369.1	-47.9	2.0379	0.9028	82.7058	13.3004	0.8605	0.0293	0.0169	0.0017	0.0017	0	0.0003	0.122	0.0208	10/11/2019	10/12/2019	10/12/2019 4:04:58 PM	
11587	GLEN ULLIN	1095.1	0.6415	1367.3	-51.2	1.9683	0.8987	83.4007	12.7831	0.7803	0.0219	0.0126	0.0007	0.0006	0	0	0.1126	0.0205	10/12/2019	10/13/2019	10/13/2019 4:02:39 PM	
11587	GLEN ULLIN	1094.9	0.6411	1367.5	-50.6	1.9388	0.9035	83.5795	12.5872	0.8184	0.031	0.0172	0.002	0.0018	0	0.0002	0.1005	0.0203	10/13/2019	10/14/2019	10/14/2019 4:06:06 PM	
11587	GLEN ULLIN	1091.8	0.6386	1366.3	-52.5	1.8875	0.9048	83.952	12.31	0.742	0.0294	0.0164	0.0015	0.0015	0	0	0.1352	0.02	10/14/2019	10/15/2019	10/15/2019 4:06:48 PM	
11587	GLEN ULLIN	1095.6	0.6423	1367.1	-50.6	1.9871	0.915	83.2614	12.8697	0.7897	0.0243	0.0141	0.0007	0.0007	0	0	0.1165	0.0208	10/15/2019	10/16/2019	10/16/2019 3:58:30 PM	
11587	GLEN ULLIN	1094.3	0.6406	1367.3	-51.3	1.9274	0.905	83.5213	12.6843	0.7505	0.0292	0.0157	0.0016	0.0015	0	0	0.1433	0.0205	10/16/2019	10/17/2019	10/17/2019 4:01:35 PM	
11587	GLEN ULLIN	1096	0.642	1367.8	-50.2	1.9577	0.9044	83.3462	12.8253	0.7764	0.0359	0.0186	0.0017	0.0019	0	0	0.1112	0.0206	10/17/2019	10/18/2019	10/18/2019 4:05:08 PM	
11587	GLEN ULLIN	1093.6	0.6406	1366.4	-50.9	1.989	0.892	83.4898	12.5828	0.7908	0.035	0.018	0.0017	0.0018	0	0	0.1784	0.0208	10/18/2019	10/19/2019	10/19/2019 3:59:36 PM	
11587	GLEN ULLIN	1092.4	0.6376	1368	-53	1.7802	0.8881	84.2437	12.1541	0.7677	0.0258	0.0148	0.0011	0.0014	0	0	0.1038	0.0193	10/17/2019	10/2/2019	10/2/2019 4:23:46 PM	
11587	GLEN ULLIN	1097	0.6431	1368	-49.4	2.0287	0.8829	83.0221	12.9811	0.8435	0.0294	0.0163	0.0013	0.0012	0	0	0.1727	0.0209	10/19/2019	10/20/2019	10/20/2019 4:02:38 PM	
11587	GLEN ULLIN	1102.5	0.6469	1370.8	-46.5	2.054	0.8868	82.3598	13.53	0.93	0.035	0.0199	0.001	0.0012	0	0	0.1612	0.0211	10/20/2019	10/21/2019	10/21/2019 4:07:35 PM	
11587	GLEN ULLIN	1099.4	0.6446	1369.4	-48.1	2.0244	0.8854	82.7725	13.1974	0.8753	0.035	0.0199	0.0011	0.0013	0	0	0.167	0.021	10/21/2019	10/22/2019	10/22/2019 4:10:00 PM	
11587	GLEN ULLIN	1101.7	0.6466	1370	-47	2.0411	0.9114	82.3991	13.5045	0.9001	0.0332	0.0194	0.0008	0.0011	0	0	0.1682	0.021	10/22/2019	10/23/2019	10/23/2019 4:11:36 PM	
11587	GLEN ULLIN	1101.7	0.6467	1370	-46.7	2.0551	0.9075	82.3752	13.4917	0.9149	0.0357	0.0204	0.0008	0.0012	0	0	0.1766	0.021	10/23/2019	10/24/2019	10/24/2019 4:12:50 PM	
11587	GLEN ULLIN	1099.2	0.6443	1369.5	-48.1	1.9928	0.897	82.8833	13.095	0.895	0.0354	0.0203	0.0014	0.0015	0	0	0.1579	0.0206	10/24/2019	10/25/2019	10/25/2019 4:12:40 PM	
11587	GLEN ULLIN	1101.1	0.6458	1370.2	-47	2.0158	0.8958	82.6466	13.2684	0.9401	0.036	0.0211	0.0015	0.0017	0	0	0.1523	0.0208	10/25/2019	10/26/2019	10/26/2019 4:10:58 PM	
11587	GLEN ULLIN	1100.2	0.6452	1369.6	-48	2.0064	0.9068	82.7013	13.3105	0.8657	0.0299	0.0178	0.0011	0.0013	0	0	0.1384	0.0209	10/26/2019	10/27/2019	10/27/2019 4:14:43 PM	
11587	GLEN ULLIN	1100.1	0.6456	1369.1	-47.5	2.0392	0.9117	82.66	13.273	0.8935	0.0367	0.0197	0.0012	0.0015	0	0.0001	0.1425	0.021	10/27/2019	10/28/2019	10/28/2019 4:18:27 PM	
11587	GLEN ULLIN	1101.6	0.6462	1370.4	-47.3	1.9981	0.916	82.5323	13.4614	0.878	0.0335	0.0185	0.001	0.0012	0	0.0001	0.1393	0.0208	10/28/2019	10/29/2019	10/29/2019 4:23:36 PM	
11587	GLEN ULLIN	1097.3	0.6418	1369.7	-50.2	1.8663	0.8981	83.4893	12.7743	0.8303	0.0273	0.015	0.0014	0.0015	0	0	0.0767	0.0198	10/2/2019	10/3/2019	10/3/2019 3:24:10 PM	
11587	GLEN ULLIN	1102.5	0.6467	1371	-47	1.9738	0.9259	82.5401	13.4566	0.9265	0.0298	0.0173	0.0004	0.0007	0	0	0.1082	0.0206	10/29/2019	10/30/2019	10/30/2019 4:23:10 PM	
11587	GLEN ULLIN	1103.2	0.6469	1371.6	-46.6	1.9831	0.9048	82.5064	13.4617	0.9628	0.0298	0.0176	0.0007	0.0011	0	0	0.1117	0.0204	10/30/2019	10/31/2019	10/31/2019 4:17:46 PM	
11587	GLEN ULLIN	1099.4	0.6428	1371.3	-49.4	1.8298	0.899	83.3174	12.9646	0.8468	0.0269	0.0162	0.0013	0.0015	0	0	0.0769	0.0196	10/3/2019	10/4/2019	10/4/2019 3:23:29 PM	
11587	GLEN ULLIN	1102.3	0.6448	1372.8	-48.3	1.8759	0.8798	82.8331	13.3794	0.8699	0.0232	0.0142	0.0004	0.0006	0	0	0.1038	0.0199	10/4/2019	10/5/2019	10/5/2019 3:22:53 PM	
11587	GLEN ULLIN	1104.4	0.6463	1373.7	-45.8	1.9222	0.8569	82.7493	13.1484	1.1332	0.0278	0.0179	0.0003	0.0005	0	0	0.1236	0.0201	10/5/2019	10/6/2019	10/6/2019 3:21:23 PM	
11587	GLEN ULLIN	1095.9	0.6412	1368.6	-50.3	1.9539	0.8626	83.4233	12.654	0.8732	0.0266	0.0168	0.0004	0.0008	0	0.0001	0.1679	0.0205	10/6/2019	10/7/2019	10/7/2019 3:25:37 PM	
11587	GLEN ULLIN	1098	0.6431	1369.2	-49.2	1.9318	0.9065	83.1452	12.9712	0.8443	0.0288	0.0176	0.0017	0.0018	0	0.0002	0.131	0.0201	10/7/2019	10/8/2019	10/8/2019 3:25:43 PM	
11587	GLEN ULLIN	1098.4	0.6435	1369.3	-48.6	1.9566	0.905	83.0651	12.999	0.8613	0.0337	0.0181	0.0022	0.0021	0	0.0003	0.1364	0.0203	10/8/2019	10/9/2019	10/9/2019 4:08:17 PM	
11587	GLEN ULLIN	1105.6	0.6478	1373.7	-45.1	1.9484	0.8905	82.415	13.459	1.0895	0.0315	0.0186	0.001	0.0013	0	0	0.1251	0.0202	10/31/2019	11/1/2019	11/1/2019 4:16:22 PM	

32 record(s) retrieved

Zone 802

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
601	Chromatograph	Milnor 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	OCT 19	SEPT 19	AUG 19	JULY 19	JUNE 19	MAY 19	APR 19	MAR 19	FEB 19	JAN 19	DEC 18	NOV 18	ZONE
MT/ND	211	Sidney Border - MonDak Tfr - Sidney Plt	1205	1210	1218	1200	1199	1208	1207	1202	1205	1207	1202	1200	1207	211
ND	24	Williston Border - Charbonneau Station	1162	1160	1164	1165	1165	1152	1158	1164	1166	1162	1163	1164	1163	24
ND	25	Watford City West Border	1197	1199	1195	1197	1195	1199	1188	1202	1198	1204	1191	1196	1199	25
ND	28	Bismarck Station - Glen Ullin Station	1156	1137	1189	1196	1186	1205	1178	1147	1144	1115	1141	1120	1112	28
ND	31	Dickinson Brd - Belfield Trf - G Ullin Stn	1139	1137	1163	1114	1128	1168	1165	1152	1143	1116	1139	1132	1110	31
ND/MT	32	Cabin Creek Station - Belfield Transfer	1124	1134	1130	1137	1133	1147	1138	1131	1139	1116	1139	1132	1110	31
ND	33	Little Knife Plant	1174	1173	1174	1175	1175	1174	1173	1173	1173	1104	1128	1093	1068	32
ND	34	Badlands Plant/Bowman Border	1019	1054	1001	1013	989	978	979	979	1013	1062	1048	1042	1073	34
ND	43	Spring Creek I - Sax Valve I	1113	1143	1144	1150	1140	1149	1148	1136	1127	1061	1044	1051	1062	43
ND/MT	241	Fairview Border	1195	1208	1210	1194	1191	1200	1202	1196	1188	1204	1173	1181	1193	241
ND	260	North Tioga Transfer - Nesson Plant	1119	1126	1136	1135	1132	1115	1118	1121	1127	1109	1113	1104	1095	260
ND	261	Tioga Comp Station - Robinson Lake Plan	1178	1174	1189	1189	1179	1175	1164	1170	1179	1184	1180	1173	1177	261
ND	262	Minot Bdr - Palermo Bdr - Bismarck Stn	1189	1195	1193	1197	1198	1205	1185	1183	1182	1182	1183	1182	1182	262
ND	263	Lignite Plant	1150	1146	1146	1163	1164	1160	1152	1148	1149	1146	1149	1146	1127	263
ND	264	Epping Border	1150	1144	1148	1155	1154	1150	1143	1151	1153	1148	1149	1147	1153	264
ND	265	Tioga Comp Station - County Line Plant	1176	1169	1176	1177	1175	1175	1177	1171	1181	1184	1179	1173	1177	265
ND	266	County Line Plant	1173	1170	1172	1170	1166	1170	1171	1174	1176	1170	1177	1179	1180	266
ND	271	Bismarck Station - Cleveland Station	1186	1189	1191	1197	1196	1206	1186	1183	1181	1168	1176	1180	1180	271
ND	272	Cleveland Station - Mapleton	1186	1188	1191	1196	1195	1206	1185	1183	1180	1167	1176	1180	1179	272
ND	273	Cleveland Station - Grafton Border	1185	1188	1190	1195	1194	1204	1185	1180	1181	1167	1176	1180	1179	273
ND	550	Mandan Border / NBPL-St Anthony	1149	1137	1189	1196	1186	1202	1176	1147	1119	1107	1121	1106	1102	550
ND	610	MDU-Watford City BTU	1155	1174	1178	1181	1180	1187	1176	1175	1158	1113	1101	1109	1131	610
ND	802	NBPL - Linton	1091	1098	1094	1094	1091	1098	1101	1101	1083	1083	1083	1084	1086	802
ND	903	Hettinger Propane	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	903
ND	600	Alliance Pipeline - Hankinson	1160	1170	1167	1162	1161	1158	1169	1163	1157	1151	1155	1153	1155	600
ND	601	Alliance Pipeline - Milnor	1160	1170	1167	1162	1160	1156	1169	1162	1156	1151	1155	1153	1154	602

THERMAL ZONE VARIANCE DOCUMENTATION		
October 2019		
<i>ZONE</i>	<i>BTU VARIANCE</i>	<i>REASON</i>
28	-52	Direction of Flow
31	-26	Direction of Flow
34	53	Source of Gas – Baker Storage