



UTILITIES CO.

A Division of MDU Resources Group, Inc.

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

November 16, 2018

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

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

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

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

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

Sincerely,

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

Tamie Aberle
Director of Regulatory Affairs

Montana-Dakota Utilities Co.
Therm Billing Factors - North Dakota
Oct-18

Town	Heat Zone	Therm Factor
MDU-303-ALEXANDER	025	1.1306
MDU-308-ARNEGARD	025	1.1306
MDU-314-APPLE VALLEY	271	1.1212
MDU-318-BEACH	032	1.0470
MDU-319-BELFIELD	032	1.0547
MDU-323-BERTHOLD	262	1.0956
MDU-324-BEULAH	032	1.0547
MDU-327-BISMARCK	028	1.1212
MDU-330-BOWMAN	034	0.9180
MDU-337-BURLINGTON	262	1.1192
MDU-343-CARRINGTON	273	1.1202
MDU-344-CLEVELAND	272	1.1114
MDU-364-CAVALIER	273	1.1439
MDU-365-DAWSON	271	1.1133
MDU-368-DES LACS	262	1.1035
MDU-369-DICKINSON	031	1.0615
MDU-374-FT TOTTEN	273	1.1281
MDU-375-DEVILS LAKE	273	1.1281
MDU-379-BARLOW	273	1.1202
MDU-384-EPPING	264	1.0720
MDU-387-ELDRIDGE	272	1.1192
MDU-407-GLADSTONE	031	1.0615
MDU-411-GLEN ULLIN	031	1.0692
MDU-413-GOLVA	032	1.0317
MDU-416-GARRISON	262	1.1035
MDU-417-GRAFTON	273	1.1517
MDU-429-HEBRON	031	1.0692
MDU-432-HETTINGER	903	2.4049
MDU-449-JAMESTOWN	272	1.1271
MDU-459-KILLDEER	033	1.1107
MDU-463-LANGDON	273	1.1202
MDU-469-LEFOR	031	1.0615
MDU-474-LIGNITE	263	1.1054
MDU-475-LINTON	802	1.0536
MDU-478-LINCOLN	028	1.1212
MDU-488-MCKENZIE	271	1.1212
MDU-494-MEDINA	271	1.1133
MDU-498-MANDAN	028	1.1212
MDU-500-MARMARTH	034	0.9047
MDU-505-MINOT	262	1.1192
MDU-510-MOTT	031	1.0615
MDU-512-MAX	262	1.0956
MDU-522-NEW ENGLAND	031	1.0538
MDU-524-NEW SALEM	028	1.0975
MDU-532-NEW ROCKFORD	273	1.1202
MDU-539-PARK RIVER	273	1.1439
MDU-540-PALERMO	262	1.0956
MDU-558-RAY	264	1.0720
MDU-561-REGENT	031	1.0615

MDU-563-RHAME	034	0.8914 ✓
MDU-564-RICHARDTON	031	1.0538 ✓
MDU-568-ROSS	261	1.1018 ✓
MDU-572-RUTHVILLE	262	1.1366 ✓
MDU-574-SANBORN	272	1.1271 ✓
MDU-583-SENTINEL BUTTE	032	1.0470 ✓
MDU-588-SOUTH HEART	031	1.0538 ✓
MDU-717-SPIRITWOOD	272	1.1271 ✓
MDU-590-SPRINGBROOK	264	1.0720 ✓
MDU-591-STANLEY	261	1.1178 ✓
MDU-593-STEELE	271	1.1133 ✓
MDU-594-STERLING	028	1.1212 ✓
MDU-598-SHEYENNE	273	1.1281 ✓
MDU-605-SURREY	262	1.1192 ✓
MDU-610-TAPPEN	271	1.1133 ✓
MDU-611-TAYLOR	031	1.0538 ✓
MDU-616-TIOGA	260	1.0324 ✓
MDU-619-TURTLE LAKE	262	1.1035 ✓
MDU-620-TRENTON	024	1.0807 ✓
MDU-624-UNDERWOOD	262	1.1035 ✓
MDU-625-VALLEY CITY	272	1.1350 ✓
MDU-629-WALHALLA	273	1.1439 ✓
MDU-632-WATFORD CITY	610	1.1098 ✓
MDU-636-WHEELOCK	264	1.0643 ✓
MDU-637-WHITE EARTH	261	1.1098 ✓
MDU-642-WILLISTON	024	1.0807 ✓
MDU-646-WASHBURN	262	1.1114 ✓
MDU-647-WILTON	262	1.0956 ✓
MDU-664-RIVERDALE	262	1.1178 ✓
MDU-691-FAIRVIEW	241	1.1368 ✓
MDU-712-MINOT AFB	262	1.1192 ✓
MDU-718-FAIRMOUNT	600	1.1395 ✓
MDU-732-NEKOMA	273	1.1202 ✓
MDU-732-MSR SITE	273	1.1202 ✓

Source Daily Summary

September 2018

Number: 251

Pressure Base: 14.730

Contract Day: 1

Name: SDNY BDR-MNDK JNCTN-SDNY PLT

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7374	1184.8	1205.7	1201.8	1.310	3.734	67.779	23.242	3.481	0.145	0.276	0.018	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1400.66
2	0.7317	1173.9	1194.7	1190.8	1.300	3.865	68.933	21.980	3.450	0.150	0.286	0.018	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1393.31
3	0.7302	1171.0	1191.8	1187.6	1.292	3.916	69.167	21.749	3.413	0.148	0.281	0.019	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1391.26
4	0.7230	1155.4	1175.9	1172.0	1.282	4.201	70.812	19.624	3.582	0.161	0.302	0.019	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1379.55
5	0.7311	1173.3	1194.1	1190.3	1.286	3.868	69.054	21.855	3.448	0.157	0.297	0.019	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1393.23
6	0.7304	1171.7	1192.5	1188.5	1.294	3.889	69.114	21.835	3.392	0.151	0.288	0.019	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1391.97
7	0.7299	1170.9	1191.6	1187.5	1.294	3.888	69.216	21.749	3.388	0.148	0.282	0.018	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1391.44
8	0.7312	1173.0	1193.7	1189.7	1.296	3.883	69.089	21.763	3.485	0.154	0.294	0.019	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1392.65
9	0.7306	1172.0	1192.8	1188.8	1.299	3.882	69.170	21.711	3.458	0.153	0.291	0.019	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1392.07
10	0.7249	1160.8	1181.4	1177.1	1.280	4.053	70.831	19.442	3.849	0.174	0.329	0.022	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1383.96
11	0.7287	1169.4	1190.1	1186.1	1.292	3.872	69.506	21.425	3.446	0.149	0.278	0.018	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1390.77
12	0.7267	1165.3	1186.0	1182.1	1.309	3.906	69.840	21.119	3.370	0.147	0.276	0.018	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1387.86
13	0.7274	1166.6	1187.3	1183.4	1.307	3.904	69.569	21.499	3.274	0.143	0.271	0.018	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1388.64
14	0.7277	1167.1	1187.8	1183.9	1.304	3.902	69.446	21.680	3.233	0.140	0.264	0.017	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1389.02
15	0.7288	1169.1	1189.8	1185.9	1.298	3.892	69.207	21.950	3.220	0.139	0.263	0.017	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1390.33
16	0.7279	1167.6	1188.3	1184.4	1.301	3.894	69.383	21.768	3.228	0.137	0.259	0.016	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1389.45
17	0.7282	1168.1	1188.8	1184.9	1.303	3.892	69.311	21.846	3.229	0.135	0.254	0.016	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1389.69
18	0.7290	1168.3	1189.0	1185.1	1.311	3.940	69.406	21.464	3.435	0.144	0.269	0.017	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1389.16
19	0.7280	1167.5	1188.1	1184.4	1.312	3.903	69.452	21.588	3.313	0.139	0.263	0.016	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1389.09
20	0.7259	1164.0	1184.6	1180.9	1.310	3.917	69.834	21.230	3.282	0.139	0.260	0.016	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1387.00
21	0.7265	1164.6	1185.2	1181.5	1.310	3.931	69.724	21.337	3.263	0.140	0.266	0.017	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1387.22
22	0.7279	1166.9	1187.6	1183.7	1.309	3.928	69.585	21.339	3.391	0.144	0.271	0.017	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1388.52
23	0.7252	1163.1	1183.6	1179.9	1.310	3.908	69.925	21.193	3.249	0.135	0.252	0.015	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1386.55
24	0.7256	1163.2	1183.8	1180.0	1.314	3.925	69.869	21.225	3.248	0.136	0.254	0.015	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1386.37
25	0.7264	1164.7	1185.3	1181.6	1.308	3.923	69.781	21.251	3.297	0.142	0.267	0.017	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1387.36
26	0.7322	1175.1	1195.9	1192.0	1.318	3.811	68.807	22.181	3.424	0.147	0.279	0.017	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1394.24
27	0.7358	1181.8	1202.7	1198.9	1.333	3.724	68.203	22.746	3.533	0.149	0.280	0.017	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1398.70
28	0.7281	1187.4	1208.5	1204.8	0.828	3.423	69.232	22.549	3.558	0.136	0.247	0.014	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1413.00
29	0.7366	1183.2	1204.1	1200.4	1.325	3.727	68.067	22.879	3.519	0.156	0.294	0.018	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1399.56
30	0.7353	1182.6	1203.5	1199.9	1.281	3.712	68.185	22.874	3.500	0.147	0.272	0.016	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1400.12
Avg	0.7293	1170.0	1191.1	1187.3	1.287	3.874	69.316	21.670	3.399	0.146	0.276	0.017	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1391.42

Zone 211

Source Daily Summary

September 2018

Number:	571	Pressure Base:	14.730	Contract Day:	1
Name:	WILLISTON BDR-CHARBN STN	Temperature Base:		Contract Hour:	9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6821	1126.0	1145.9	1142.3	0.762	2.950	76.663	17.445	1.951	0.066	0.138	0.011	0.013	0.000	0.000	0.000	0.000	0.000	1384.17	
2	0.6818	1125.6	1145.5	1142.0	0.763	2.941	76.696	17.445	1.932	0.065	0.135	0.010	0.012	0.000	0.000	0.000	0.000	0.000	1384.08	
3	0.6808	1123.9	1143.8	1140.1	0.752	2.964	77.081	16.906	2.036	0.073	0.157	0.012	0.016	0.000	0.000	0.000	0.000	0.000	1382.96	
4	0.6793	1121.4	1141.2	1137.8	0.765	2.958	77.196	16.940	1.918	0.065	0.136	0.010	0.012	0.000	0.000	0.000	0.000	0.000	1381.45	
5	0.6787	1120.1	1140.0	1136.4	0.755	2.993	77.313	16.803	1.904	0.065	0.139	0.012	0.015	0.000	0.000	0.000	0.000	0.000	1380.47	
6	0.6863	1131.7	1151.7	1148.1	0.780	2.962	76.033	17.885	2.080	0.072	0.158	0.013	0.017	0.000	0.000	0.000	0.000	0.000	1386.99	
7	0.6829	1126.3	1146.3	1142.6	0.787	2.961	76.665	17.307	2.031	0.069	0.150	0.013	0.016	0.000	0.000	0.000	0.000	0.000	1383.82	
8	0.6850	1130.2	1150.2	1146.6	0.789	2.920	76.333	17.594	2.100	0.075	0.161	0.013	0.016	0.000	0.000	0.000	0.000	0.000	1386.46	
9	0.6876	1134.4	1154.5	1150.8	0.799	2.891	75.852	18.089	2.094	0.077	0.167	0.014	0.018	0.000	0.000	0.000	0.000	0.000	1388.96	
10	0.6855	1130.5	1150.5	1146.9	0.793	2.940	76.205	17.731	2.064	0.074	0.161	0.013	0.017	0.000	0.000	0.000	0.000	0.000	1386.35	
11	0.6861	1131.7	1151.7	1148.1	0.799	2.915	76.137	17.786	2.093	0.076	0.163	0.013	0.017	0.000	0.000	0.000	0.000	0.000	1387.20	
12	0.6850	1130.4	1150.4	1146.8	0.777	2.931	76.237	17.765	2.029	0.073	0.158	0.013	0.016	0.000	0.000	0.000	0.000	0.000	1386.63	
13	0.6876	1134.3	1154.3	1150.7	0.786	2.923	75.938	17.897	2.159	0.081	0.180	0.016	0.020	0.000	0.000	0.000	0.000	0.000	1388.72	
14	0.6879	1134.9	1155.0	1151.5	0.790	2.902	75.913	17.912	2.184	0.083	0.182	0.015	0.019	0.000	0.000	0.000	0.000	0.000	1389.30	
15	0.6870	1133.6	1153.7	1150.2	0.783	2.905	76.099	17.717	2.197	0.084	0.182	0.015	0.018	0.000	0.000	0.000	0.000	0.000	1388.67	
16	0.6856	1131.5	1151.5	1148.0	0.777	2.918	76.385	17.407	2.213	0.084	0.182	0.015	0.018	0.000	0.000	0.000	0.000	0.000	1387.39	
17	0.6864	1132.6	1152.7	1149.1	0.783	2.907	76.333	17.393	2.269	0.088	0.191	0.016	0.019	0.000	0.000	0.000	0.000	0.000	1388.03	
18	0.6882	1135.6	1155.7	1152.1	0.804	2.867	75.916	17.867	2.260	0.081	0.174	0.014	0.017	0.000	0.000	0.000	0.000	0.000	1389.83	
19	0.6874	1134.4	1154.5	1151.0	0.790	2.886	76.005	17.822	2.215	0.079	0.171	0.014	0.017	0.000	0.000	0.000	0.000	0.000	1389.18	
20	0.6886	1135.9	1156.0	1152.4	0.804	2.888	75.887	17.848	2.264	0.087	0.182	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1389.79	
21	0.6886	1136.3	1156.4	1152.7	0.785	2.896	75.838	17.927	2.253	0.084	0.182	0.015	0.019	0.000	0.000	0.000	0.000	0.000	1390.18	
22	0.6876	1134.5	1154.6	1151.1	0.793	2.897	75.893	17.967	2.184	0.077	0.162	0.012	0.015	0.000	0.000	0.000	0.000	0.000	1389.11	
23	0.6882	1134.5	1154.6	1151.1	0.796	2.952	75.798	17.980	2.199	0.079	0.168	0.013	0.016	0.000	0.000	0.000	0.000	0.000	1388.45	
24	0.6881	1130.9	1150.9	1147.4	0.787	3.171	75.696	17.957	2.126	0.075	0.160	0.013	0.016	0.000	0.000	0.000	0.000	0.000	1384.17	
25	0.6888	1134.8	1154.9	1151.3	0.784	3.009	75.710	17.992	2.217	0.080	0.175	0.015	0.018	0.000	0.000	0.000	0.000	0.000	1388.16	
26	0.6883	1134.3	1154.4	1150.7	0.775	3.003	75.859	17.824	2.237	0.082	0.182	0.016	0.020	0.000	0.000	0.000	0.000	0.000	1388.06	
27	0.6889	1134.8	1154.9	1151.3	0.781	3.013	75.719	17.957	2.244	0.080	0.174	0.014	0.017	0.000	0.000	0.000	0.000	0.000	1388.20	
28	0.6882	1133.9	1153.9	1150.3	0.774	3.016	75.927	17.721	2.252	0.084	0.188	0.017	0.021	0.000	0.000	0.000	0.000	0.000	1387.67	
29	0.6880	1134.1	1154.2	1150.6	0.775	2.981	75.973	17.700	2.263	0.084	0.187	0.016	0.020	0.000	0.000	0.000	0.000	0.000	1388.20	
30	0.6884	1135.0	1155.1	1151.5	0.780	2.956	75.877	17.841	2.239	0.084	0.187	0.016	0.020	0.000	0.000	0.000	0.000	0.000	1388.90	
Avg	0.6861	1132.0	1151.6	1148.1	0.782	2.947	76.173	17.681	2.140	0.077	0.168	0.014	0.017	0.000	0.000	0.000	0.000	0.000	1387.05	

Zone 24

Gas Composition and Properties

Effective September 1, 2018

Source #: 0602160
Name: FAIRVIEW BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	1.3055		2.7314
Nitrogen, N2	3.8863		5.1757
Methane, C1	69.4623		52.9772
Ethane, C2	21.5013	5.7547	30.7363
Propane, C3	3.3698	0.9257	7.0643
iso-Butane, iC4	0.1513	0.0494	0.4181
n-Butane, nC4	0.2770	0.0871	0.7654
iso-Pentane, iC5	0.0174	0.0064	0.0597
n-Pentane, nC5	0.0145	0.0052	0.0497
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0000	0.0000	0.0000
Water, H2O			
Hydrogen Sulfide, H2S			
Oxygen, O2	0.0146		0.0222
Carbon Monoxide, CO			
Hydrogen, H2			
Helium, He			
Argon, Ar			
Totals	100.0000	6.8280	100.0000

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure	-19.783	
Cricodentherm	2.530	
HV, Dry @ Base P, T	1185.66	
HV, Sat @ Base P, T	1165.02	
HV, Sat @ Sample P, T	1185.66	
Relative Density	0.7267	

C6+: 100

Sample		
Date: 10/01/2018	Pressure:	347.0
Type: Composite	Temperature:	0.0
Tech: ES	H2O:	lbs/mm
	H2S:	ppm
Remarks:		

Analysis		
Date: 10/02/2018	Instrument:	WBI- 221
	Cylinder:	327
Tech: MB		
Remarks:		

Zone 241

Gas Composition and Properties

Effective September 1, 2018

Source #: 0602225
Name: WATFORD CITY WEST BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	1.1485		2.4103
Nitrogen, N2	3.0832		4.1187
Methane, C1	70.4269		53.8772
Ethane, C2	21.1967	5.6734	30.3936
Propane, C3	3.4775	0.9553	7.3124
iso-Butane, iC4	0.1902	0.0621	0.5272
n-Butane, nC4	0.3989	0.1255	1.1056
iso-Pentane, iC5	0.0338	0.0123	0.1163
n-Pentane, nC5	0.0343	0.0124	0.1180
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0021	0.0010	0.0086
Water, H2O			
Hydrogen Sulfide, H2S			
Oxygen, O2	0.0079		0.0121
Carbon Monoxide, CO			
Hydrogen, H2			
Helium, He			
Argon, Ar			
Totals	100.0000	6.8400	100.0000

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure		
Cricondentherm		
HV, Dry @ Base P, T	1199.56	
HV, Sat @ Base P, T	1178.69	
HV, Sat @ Sample P, T	1199.56	
Relative Density	0.7245	

C6+: 100

Sample

Date: 10/01/2018 Pressure: 415.0
 Type: Composite Temperature: 0.0
 Tech: ES H2O: lbs/mm
 H2S: ppm
 Remarks:

Analysis

Date: 10/02/2018 Instrument: WBI- 219
 Cylinder: 387
 Tech: MB
 Remarks:

Zone 25

Source Daily Summary

September 2018

Number: 164

Pressure Base: 14.730

Contract Day: 1

Name: N TIOGA TRANSFER-NESSON PLT

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT		
1	0.6668	1096.5	1115.9		0.589	3.572	79.181	14.775	1.684	0.060	0.120	0.008	0.010	0.001						1363.39		
2	0.6669	1096.7	1116.1		0.590	3.569	79.088	14.920	1.644	0.057	0.114	0.008	0.009	0.000							1363.55	
3	0.6713	1102.9	1122.4		0.613	3.568	78.726	14.869	1.940	0.079	0.169	0.014	0.017	0.005							1366.71	
4	0.6681	1097.5	1116.9		0.623	3.587	79.016	14.835	1.719	0.063	0.134	0.010	0.012	0.001							1363.24	
5	0.6616	1086.5	1105.8		0.573	3.714	80.167	13.737	1.588	0.060	0.132	0.012	0.014	0.004							1356.32	
6	0.6718	1103.4	1122.9		0.616	3.579	78.380	15.411	1.764	0.069	0.152	0.013	0.015	0.003							1366.86	
7	0.6662	1093.8	1113.2		0.614	3.640	79.377	14.466	1.673	0.063	0.136	0.012	0.015	0.006							1360.72	
8	0.6694	1099.9	1119.4		0.616	3.567	78.957	14.754	1.854	0.072	0.153	0.011	0.014	0.002							1364.96	
9	0.6734	1106.2	1125.8		0.625	3.546	78.203	15.499	1.850	0.075	0.166	0.014	0.017	0.005							1368.71	
10	0.6700	1100.4	1119.9		0.620	3.587	78.766	14.985	1.795	0.069	0.149	0.012	0.014	0.003							1365.00	
11	0.6702	1100.7	1120.2		0.623	3.581	78.744	15.011	1.789	0.070	0.151	0.012	0.015	0.004							1365.18	
12	0.6672	1096.8	1116.2		0.571	3.614	79.209	14.651	1.710	0.068	0.148	0.012	0.014	0.003							1363.37	
13	0.6709	1102.0	1121.6		0.603	3.598	78.751	14.883	1.868	0.078	0.176	0.016	0.020	0.006							1366.10	
14	0.6720	1104.7	1124.2		0.603	3.543	78.595	15.035	1.921	0.081	0.182	0.016	0.020	0.005							1368.20	
15	0.6730	1106.0	1125.6		0.612	3.535	78.402	15.222	1.931	0.081	0.179	0.015	0.019	0.004							1372.12	
16	0.6729	1105.8	1125.4		0.612	3.545	78.413	15.199	1.934	0.080	0.178	0.015	0.018	0.005							1368.67	
17	0.6753	1109.7	1129.4		0.633	3.498	78.067	15.469	2.023	0.084	0.186	0.016	0.020	0.004							1371.11	
18	0.6677	1098.2	1117.6		0.611	3.524	79.092	14.843	1.709	0.063	0.133	0.011	0.013	0.002							1364.54	
19	0.6694	1100.9	1120.4		0.609	3.518	78.843	15.028	1.761	0.068	0.146	0.012	0.014	0.003							1366.23	
20	0.6708	1102.9	1122.4		0.611	3.524	78.711	15.028	1.860	0.074	0.160	0.013	0.016	0.003							1367.23	
21	0.6713	1104.0	1123.6		0.596	3.524	78.648	15.069	1.883	0.077	0.168	0.014	0.017	0.004							1368.15	
22	0.6690	1100.1	1119.6		0.606	3.529	78.827	15.097	1.729	0.063	0.129	0.009	0.010	0.001							1365.69	
23	0.6691	1100.3	1119.8		0.613	3.521	78.820	15.098	1.731	0.063	0.133	0.010	0.011	0.001							1365.77	
24	0.6657	1095.8	1115.2		0.587	3.512	79.281	14.866	1.567	0.054	0.111	0.009	0.011	0.002							1363.69	
25	0.6668	1097.2	1116.6		0.590	3.569	79.088	14.920	1.644	0.057	0.114	0.008	0.009	0.001							1367.41	
26	0.6678	1098.5	1118.0		0.570	3.581	79.230	14.467	1.858	0.078	0.177	0.016	0.019	0.004							1368.10	
27	0.6689	1099.8	1119.3		0.616	3.567	78.957	14.754	1.854	0.072	0.153	0.011	0.014	0.002							1368.57	
28	0.6699	1101.2	1120.7		0.582	3.583	79.049	14.553	1.904	0.084	0.195	0.019	0.024	0.007							1366.10	
29	0.6683	1099.1	1118.6		0.570	3.581	79.230	14.467	1.858	0.078	0.177	0.016	0.019	0.005							1365.12	
30	0.6694	1100.5	1119.9		0.584	3.580	79.014	14.690	1.831	0.079	0.181	0.016	0.020	0.005							1365.67	
Avg	0.6694	1100.0	1119.8		0.603	3.565	78.894	14.887	1.796	0.071	0.153	0.013	0.015	0.003							1365.88	

Zone 260

Source Daily Summary

September 2018

Number: 601

Pressure Base: 14.730

Contract Day: 1

Name: TIOGA STN-ROBINSON LAKE PLNT

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7139	1152.1	1172.5	1167.2	0.894	3.240	72.842	20.499	2.281	0.075	0.149	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1392.76
2	0.7143	1152.9	1173.3	1167.2	0.894	3.240	72.842	20.499	2.281	0.075	0.149	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1392.76
3	0.7165	1156.1	1176.6	1167.1	0.894	3.240	72.842	20.499	2.281	0.075	0.149	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1392.76
4	0.7155	1156.2	1176.7	1167.2	0.894	3.240	72.842	20.499	2.281	0.075	0.149	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1392.76
5	0.7141	1156.9	1177.4	1167.2	0.894	3.240	72.842	20.499	2.281	0.075	0.149	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1392.76
6	0.7156	1159.5	1180.0	1167.2	0.894	3.240	72.842	20.499	2.281	0.075	0.149	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1392.76
7	0.7156	1158.2	1178.7	1167.3	0.894	3.240	72.842	20.499	2.281	0.075	0.149	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1392.76
8	0.7149	1156.2	1176.7	1167.1	0.894	3.240	72.842	20.499	2.281	0.075	0.149	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1392.76
9	0.7150	1156.9	1177.4	1167.1	0.894	3.240	72.842	20.499	2.281	0.075	0.149	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1392.76
10	0.7165	1159.3	1179.9	1167.2	0.894	3.240	72.842	20.499	2.281	0.075	0.149	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1392.76
11	0.7175	1160.9	1181.5	1167.1	0.894	3.240	72.842	20.499	2.281	0.075	0.149	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1392.76
12	0.7178	1159.6	1180.1	1167.3	0.894	3.240	72.842	20.499	2.281	0.075	0.149	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1392.76
13	0.7195	1162.4	1183.0	1167.2	0.894	3.240	72.842	20.499	2.281	0.075	0.149	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1392.76
14	0.7179	1161.0	1181.6	1167.3	0.894	3.240	72.842	20.499	2.281	0.075	0.149	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1392.76
15	0.7183	1160.9	1181.5	1167.3	0.894	3.240	72.842	20.499	2.281	0.075	0.149	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1392.76
16	0.7181	1160.5	1181.0	1167.3	0.894	3.240	72.842	20.499	2.281	0.075	0.149	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1392.76
17	0.7183	1160.8	1181.3	1167.3	0.894	3.240	72.842	20.499	2.281	0.075	0.149	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1392.76
18	0.7169	1159.2	1179.7	1167.3	0.894	3.240	72.842	20.499	2.281	0.075	0.149	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1392.76
19	0.7185	1162.2	1182.8	1167.3	0.894	3.240	72.842	20.499	2.281	0.075	0.149	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1392.76
20	0.7199	1164.8	1185.4	1167.3	0.894	3.240	72.842	20.499	2.281	0.075	0.149	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1392.76
21	0.7207	1164.9	1185.5	1167.3	0.894	3.240	72.842	20.499	2.281	0.075	0.149	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1392.76
22	0.7177	1160.5	1181.0	1167.3	0.894	3.240	72.842	20.499	2.281	0.075	0.149	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1392.76
23	0.7182	1160.7	1181.3	1167.4	0.894	3.240	72.842	20.499	2.281	0.075	0.149	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1392.76
24	0.7173	1158.2	1178.7	1167.3	0.894	3.240	72.842	20.499	2.281	0.075	0.149	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1392.76
25	0.7104	1161.4	1181.9	1176.9	0.886	3.088	72.364	20.805	2.542	0.092	0.193	0.013	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1399.82
26	0.7114	1168.5	1189.2	1185.7	0.856	2.961	71.989	21.022	2.770	0.112	0.246	0.020	0.024	0.000	0.000	0.000	0.000	0.000	0.000	1406.52
27	0.7099	1164.9	1185.5	1182.2	0.884	3.004	72.104	20.980	2.659	0.105	0.228	0.016	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1403.66
28	0.7100	1164.9	1185.5	1182.2	0.890	3.002	72.052	21.064	2.632	0.103	0.220	0.016	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1403.59
29	0.7125	1167.5	1188.2	1184.8	0.901	3.062	71.727	21.172	2.747	0.110	0.241	0.018	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1404.25
30	0.7127	1166.8	1187.4	1183.2	0.885	3.141	71.876	20.840	2.819	0.118	0.267	0.023	0.030	0.000	0.000	0.000	0.000	0.000	0.000	1403.13
Avg	0.7158	1160.0	1181.0	1170.3	0.892	3.200	72.677	20.595	2.364	0.081	0.166	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1394.91

Zone 261

Source Daily Summary

September 2018

Number: 091

Pressure Base: 14.730

Contract Day: 1

Name: MNT BRD-PLRMO BRD-BIS STN

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7319	1148.8	1169.2	1165.6	0.880	6.050	68.927	19.262	4.518	0.125	0.228	0.006	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1363.44
2	0.7384	1159.3	1179.8	1176.3	0.876	6.026	68.116	19.667	4.878	0.148	0.275	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1369.79
3	0.7374	1159.8	1180.4	1176.7	0.873	5.905	68.323	19.606	4.845	0.148	0.284	0.009	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1371.36
4	0.7316	1152.5	1172.9	1169.4	0.876	5.806	69.092	19.311	4.517	0.133	0.251	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1368.05
5	0.7376	1161.5	1182.1	1178.6	0.875	5.816	68.331	19.638	4.902	0.147	0.274	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1373.18
6	0.7439	1171.0	1191.7	1188.2	0.874	5.831	67.540	19.965	5.307	0.157	0.305	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1378.49
7	0.7383	1159.0	1179.5	1175.9	0.877	6.032	68.258	19.355	5.083	0.128	0.253	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1369.53
8	0.7408	1167.5	1188.2	1184.5	0.882	5.746	67.874	19.990	5.055	0.140	0.292	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1377.22
9	0.7400	1166.9	1187.6	1184.0	0.880	5.708	67.860	20.262	4.809	0.143	0.313	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1377.31
10	0.7380	1163.2	1183.8	1180.0	0.882	5.742	68.143	20.080	4.671	0.143	0.314	0.013	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1374.76
11	0.7354	1158.2	1178.7	1175.1	0.885	5.806	68.403	19.959	4.505	0.132	0.288	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1371.20
12	0.7321	1151.8	1172.2	1168.8	0.892	5.868	68.740	19.845	4.265	0.119	0.254	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1366.84
13	0.7313	1152.5	1172.9	1169.5	0.895	5.748	68.806	19.994	4.186	0.115	0.241	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1368.38
14	0.7286	1146.0	1166.3	1163.0	0.894	5.895	69.184	19.595	4.075	0.112	0.231	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1363.15
15	0.7287	1145.8	1166.1	1162.7	0.893	5.916	69.176	19.574	4.085	0.110	0.232	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1362.86
16	0.7288	1148.3	1168.6	1165.3	0.887	5.784	69.222	19.622	4.115	0.114	0.240	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1365.71
17	0.7290	1147.9	1168.2	1164.9	0.885	5.825	69.202	19.573	4.153	0.113	0.233	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1365.09
18	0.7280	1144.5	1164.8	1161.5	0.886	5.941	69.289	19.445	4.094	0.107	0.223	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1361.96
19	0.7278	1147.1	1167.4	1164.1	0.888	5.764	69.354	19.570	4.072	0.108	0.228	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1365.17
20	0.7305	1152.6	1173.0	1169.9	0.889	5.679	68.988	19.856	4.219	0.114	0.237	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1369.21
21	0.7364	1162.5	1183.1	1179.8	0.887	5.633	68.177	20.364	4.539	0.121	0.260	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1375.40
22	0.7338	1157.0	1177.5	1174.3	0.889	5.716	68.526	20.094	4.395	0.117	0.246	0.009	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1371.38
23	0.7314	1152.1	1172.5	1169.4	0.887	5.798	68.814	19.878	4.264	0.112	0.232	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1367.78
24	0.7323	1154.3	1174.7	1171.4	0.888	5.744	68.753	19.909	4.328	0.117	0.245	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1369.53
25	0.7319	1151.6	1172.0	1168.7	0.891	5.865	68.771	19.810	4.290	0.115	0.243	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1366.73
26	0.7331	1152.3	1172.7	1169.4	0.894	5.930	68.589	19.867	4.337	0.117	0.249	0.009	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1366.45
27	0.7317	1151.9	1172.3	1169.0	0.892	5.833	68.770	19.870	4.266	0.115	0.239	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1367.21
28	0.7307	1149.6	1169.9	1166.7	0.893	5.877	68.943	19.676	4.245	0.118	0.235	0.007	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1365.44
29	0.7318	1150.6	1171.0	1167.7	0.894	5.913	68.798	19.714	4.309	0.118	0.240	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1365.65
30	0.7304	1152.4	1172.8	1169.6	0.887	5.681	69.054	19.768	4.229	0.121	0.244	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1369.10
Avg	0.7334	1155.0	1175.1	1171.7	0.886	5.829	68.667	19.771	4.452	0.124	0.254	0.009	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1368.91

Zone 2b2

Gas Composition and Properties

Effective September 1, 2018

Source #: 3002013
Name: EPPING BORDER

Component	Mole %	Liquid Content	Mass %
Carbon Dioxide, CO2	0.7571		1.6832
Nitrogen, N2	3.6179		5.1200
Methane, C1	76.1348		61.7022
Ethane, C2	16.9831	4.5436	25.7978
Propane, C3	2.0942	0.5753	4.6651
iso-Butane, iC4	0.0748	0.0244	0.2196
n-Butane, nC4	0.1601	0.0504	0.4701
iso-Pentane, iC5	0.0124	0.0045	0.0452
n-Pentane, nC5	0.0144	0.0052	0.0525
Neo-Pentane, NeoC5			
Hexanes Plus, C6+	0.0000	0.0000	0.0000
Water, H2O			
Hydrogen Sulfide, H2S			
Oxygen, O2	0.1511		0.2443
Carbon Monoxide, CO			
Hydrogen, H2			
Helium, He			
Argon, Ar			

Property	Total Sample	C6 Plus Fraction
Pressure Base	14.730	
Temperature Base	60.00	
HCDP @ Sample Pressure		
Cricondentherm		
HV, Dry @ Base P, T	1134.51	
HV, Sat @ Base P, T	1114.77	
HV, Sat @ Sample P, T	1134.51	
Relative Density	0.6840	

C6+: 100

Totals 99.9999 5.2030 100.0000

Sample

Date: 10/01/2018 Pressure: 510.0
Type: Composite Temperature: 0.0
Tech: ES H2O: lbs/mm
H2S: ppm
Remarks:

Analysis

Date: 10/02/2018 Instrument: WBI- 220
Cylinder: 392
Tech: MB
Remarks:

Zone 264

Source Daily Summary

September 2018

Number: 603

Pressure Base: 14.730

Contract Day: 1

Name: TIOGA STN-COUNTY LINE PLANT

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7128	1149.1	1169.5	1172.5	0.901	3.262	72.551	20.368	2.594	0.095	0.196	0.014	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1395.39
2	0.7126	1148.6	1168.9	1172.5	0.901	3.262	72.551	20.368	2.594	0.095	0.196	0.014	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1395.39
3	0.7162	1153.4	1173.9	1172.4	0.901	3.262	72.551	20.368	2.594	0.095	0.196	0.014	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1395.39
4	0.7131	1151.8	1172.2	1172.5	0.901	3.262	72.551	20.368	2.594	0.095	0.196	0.014	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1395.39
5	0.7097	1150.0	1170.4	1172.5	0.901	3.262	72.551	20.368	2.594	0.095	0.196	0.014	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1395.39
6	0.7123	1155.0	1175.4	1172.5	0.901	3.262	72.551	20.368	2.594	0.095	0.196	0.014	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1395.39
7	0.7141	1157.0	1177.5	1172.4	0.901	3.262	72.551	20.368	2.594	0.095	0.196	0.014	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1395.39
8	0.7143	1157.7	1178.2	1172.5	0.901	3.262	72.551	20.368	2.594	0.095	0.196	0.014	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1395.39
9	0.7155	1159.6	1180.1	1172.5	0.901	3.262	72.551	20.368	2.594	0.095	0.196	0.014	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1395.39
10	0.7183	1163.9	1184.5	1172.5	0.901	3.262	72.551	20.368	2.594	0.095	0.196	0.014	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1395.39
11	0.7183	1164.0	1184.7	1172.5	0.901	3.262	72.551	20.368	2.594	0.095	0.196	0.014	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1395.39
12	0.7216	1167.3	1188.0	1172.5	0.901	3.262	72.551	20.368	2.594	0.095	0.196	0.014	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1395.39
13	0.7235	1170.3	1191.1	1172.5	0.901	3.262	72.551	20.368	2.594	0.095	0.196	0.014	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1395.39
14	0.7210	1168.7	1189.4	1172.5	0.901	3.262	72.551	20.368	2.594	0.095	0.196	0.014	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1395.39
15	0.7201	1166.2	1186.8	1172.5	0.901	3.262	72.551	20.368	2.594	0.095	0.196	0.014	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1395.39
16	0.7206	1167.1	1187.8	1172.5	0.901	3.262	72.551	20.368	2.594	0.095	0.196	0.014	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1395.39
17	0.7208	1167.0	1187.7	1172.5	0.901	3.262	72.551	20.368	2.594	0.095	0.196	0.014	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1395.39
18	0.7162	1160.6	1181.1	1172.5	0.901	3.262	72.551	20.368	2.594	0.095	0.196	0.014	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1395.39
19	0.7186	1164.0	1184.6	1172.5	0.901	3.262	72.551	20.368	2.594	0.095	0.196	0.014	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1395.39
20	0.7191	1163.9	1184.5	1172.5	0.901	3.262	72.551	20.368	2.594	0.095	0.196	0.014	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1395.39
21	0.7227	1168.6	1189.3	1172.5	0.901	3.262	72.551	20.368	2.594	0.095	0.196	0.014	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1395.39
22	0.7174	1161.9	1182.4	1172.5	0.901	3.262	72.551	20.368	2.594	0.095	0.196	0.014	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1395.39
23	0.7179	1163.4	1184.0	1172.5	0.901	3.262	72.551	20.368	2.594	0.095	0.196	0.014	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1395.39
24	0.7157	1161.7	1182.3	1172.5	0.901	3.262	72.551	20.368	2.594	0.095	0.196	0.014	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1395.39
25	0.7093	1159.9	1180.4	1175.9	0.913	3.137	72.235	20.907	2.508	0.088	0.186	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1398.41
26	0.7078	1161.3	1181.8	1178.2	0.899	3.000	72.292	21.026	2.462	0.091	0.196	0.015	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1401.35
27	0.7114	1167.5	1188.1	1184.5	0.876	2.999	71.996	20.971	2.749	0.112	0.252	0.020	0.024	0.000	0.000	0.000	0.000	0.000	0.000	1405.20
28	0.7120	1167.1	1187.8	1184.1	0.897	3.039	71.864	21.086	2.710	0.110	0.245	0.021	0.028	0.000	0.000	0.000	0.000	0.000	0.000	1404.20
29	0.7118	1166.0	1186.7	1183.1	0.892	3.093	71.862	21.043	2.714	0.109	0.241	0.020	0.025	0.000	0.000	0.000	0.000	0.000	0.000	1403.17
30	0.7143	1169.2	1189.9	1186.1	0.881	3.148	71.779	20.781	2.923	0.128	0.296	0.028	0.037	0.000	0.000	0.000	0.000	0.000	0.000	1404.39
Avg	0.7160	1162.0	1182.3	1174.4	0.899	3.223	72.442	20.488	2.611	0.097	0.204	0.015	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1396.87

Zone 2b5

Source Daily Summary

September 2018

Number: 043

Pressure Base: 14.730

Contract Day: 1

Name: BISMARCK STN-CLEVELAND STN

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7304	1152.5	1172.9	1169.0	0.861	5.711	69.360	19.161	4.507	0.131	0.249	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1369.19
2	0.7323	1154.1	1174.5	1170.6	0.857	5.798	69.086	19.212	4.645	0.133	0.247	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1369.28
3	0.7353	1158.5	1179.0	1175.0	0.859	5.805	68.743	19.340	4.794	0.151	0.284	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1371.75
4	0.7347	1157.2	1177.7	1173.8	0.856	5.838	68.748	19.354	4.788	0.135	0.258	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1370.72
5	0.7366	1160.1	1180.7	1176.7	0.862	5.833	68.522	19.422	4.944	0.133	0.262	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1372.36
6	0.7392	1167.2	1187.9	1183.9	0.864	5.641	68.046	20.171	4.778	0.146	0.321	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1378.32
7	0.7350	1159.5	1180.1	1176.1	0.867	5.712	68.595	19.809	4.548	0.139	0.302	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1373.16
8	0.7325	1154.6	1175.1	1171.1	0.871	5.768	68.808	19.775	4.362	0.124	0.267	0.013	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1369.74
9	0.7312	1150.7	1171.1	1167.0	0.874	5.886	68.909	19.672	4.263	0.118	0.254	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1366.22
10	0.7302	1152.0	1172.4	1168.4	0.867	5.722	69.018	19.836	4.182	0.113	0.239	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1368.71
11	0.7305	1153.1	1173.6	1169.5	0.877	5.664	68.952	19.972	4.160	0.115	0.238	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1369.81
12	0.7279	1148.0	1168.3	1164.3	0.878	5.736	69.333	19.639	4.050	0.114	0.229	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1366.10
13	0.7278	1145.7	1166.0	1162.0	0.876	5.866	69.328	19.519	4.054	0.110	0.228	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1363.54
14	0.7273	1147.4	1167.8	1163.8	0.870	5.717	69.504	19.473	4.060	0.114	0.239	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1366.09
15	0.7273	1146.9	1167.2	1163.2	0.868	5.755	69.494	19.423	4.098	0.111	0.229	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1365.45
16	0.7282	1147.3	1167.6	1163.6	0.869	5.813	69.379	19.417	4.157	0.113	0.231	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1365.06
17	0.7267	1144.0	1164.2	1160.3	0.869	5.873	69.528	19.329	4.055	0.106	0.219	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1362.55
18	0.7269	1147.2	1167.5	1163.6	0.871	5.695	69.548	19.472	4.051	0.110	0.230	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1366.15
19	0.7284	1150.7	1171.1	1167.2	0.874	5.621	69.339	19.666	4.130	0.113	0.235	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1368.90
20	0.7334	1159.7	1180.2	1176.4	0.871	5.549	68.639	20.159	4.384	0.120	0.254	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1374.83
21	0.7337	1158.8	1179.4	1175.5	0.871	5.628	68.573	20.130	4.407	0.119	0.250	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1373.57
22	0.7313	1153.6	1174.0	1170.2	0.871	5.719	68.902	19.851	4.280	0.115	0.240	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1369.61
23	0.7298	1151.1	1171.5	1167.7	0.870	5.725	69.102	19.738	4.206	0.110	0.229	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1368.17
24	0.7308	1152.9	1173.3	1169.1	0.872	5.711	69.062	19.651	4.312	0.119	0.248	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1369.29
25	0.7303	1150.5	1170.9	1166.6	0.874	5.809	69.083	19.581	4.276	0.115	0.240	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1366.91
26	0.7316	1151.5	1171.9	1167.6	0.875	5.862	68.860	19.722	4.296	0.117	0.245	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1366.95
27	0.7311	1152.1	1172.5	1168.2	0.875	5.780	68.905	19.813	4.257	0.114	0.235	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1368.12
28	0.7297	1149.8	1170.2	1166.1	0.875	5.794	69.122	19.635	4.203	0.118	0.234	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1366.66
29	0.7308	1150.4	1170.7	1167.0	0.877	5.857	68.985	19.630	4.277	0.118	0.236	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1366.30
30	0.7299	1152.0	1172.4	1168.6	0.871	5.683	69.154	19.687	4.220	0.121	0.242	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1369.04
Avg	0.7310	1153.0	1173.1	1169.1	0.870	5.752	69.021	19.642	4.325	0.121	0.247	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1368.75

Zone 271

Source Daily Summary

September 2018

Number: 063

Pressure Base: 14.730

Contract Day: 1

Name: CLEVELAND STN-MAPLETON

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7308	1153.5	1173.9	1170.9	0.869	5.682	69.217	19.377	4.446	0.135	0.252	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1369.99
2	0.7321	1153.5	1173.9	1170.8	0.867	5.800	69.107	19.225	4.591	0.135	0.253	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1368.80
3	0.7334	1154.8	1175.3	1172.2	0.873	5.831	68.928	19.272	4.681	0.137	0.254	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1369.19
4	0.7352	1157.5	1178.0	1174.9	0.868	5.849	68.680	19.394	4.775	0.144	0.267	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1370.61
5	0.7351	1156.5	1176.9	1173.8	0.867	5.899	68.699	19.307	4.823	0.132	0.251	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1369.50
6	0.7394	1165.3	1185.9	1182.7	0.875	5.759	68.078	19.878	4.958	0.138	0.287	0.014	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1375.88
7	0.7383	1164.8	1185.4	1182.2	0.874	5.689	68.139	20.108	4.700	0.144	0.313	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1376.28
8	0.7355	1159.5	1180.0	1176.8	0.878	5.740	68.463	19.937	4.531	0.134	0.289	0.015	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1372.67
9	0.7328	1152.2	1172.6	1169.6	0.887	5.921	68.673	19.782	4.334	0.121	0.257	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1366.60
10	0.7298	1149.9	1170.3	1167.2	0.889	5.774	69.074	19.740	4.146	0.114	0.239	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1366.72
11	0.7314	1152.6	1173.0	1169.9	0.900	5.747	68.795	19.994	4.191	0.113	0.236	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1368.36
12	0.7307	1153.2	1173.7	1170.6	0.890	5.660	68.924	19.978	4.171	0.118	0.236	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1369.75
13	0.7276	1145.0	1165.3	1162.2	0.888	5.872	69.346	19.502	4.039	0.111	0.223	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1362.93
14	0.7284	1147.5	1167.8	1164.7	0.884	5.803	69.297	19.543	4.102	0.113	0.236	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1365.07
15	0.7277	1147.2	1167.5	1164.4	0.876	5.763	69.403	19.524	4.062	0.113	0.235	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1365.43
16	0.7286	1148.2	1168.6	1165.5	0.882	5.776	69.311	19.495	4.171	0.114	0.229	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1365.83
17	0.7280	1145.3	1165.6	1162.5	0.883	5.896	69.347	19.412	4.110	0.109	0.223	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1362.86
18	0.7271	1146.0	1166.3	1163.2	0.878	5.775	69.476	19.474	4.044	0.108	0.223	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1364.56
19	0.7275	1147.3	1167.6	1164.4	0.881	5.733	69.463	19.484	4.079	0.110	0.228	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1365.63
20	0.7300	1153.5	1173.9	1170.7	0.882	5.591	69.115	19.847	4.194	0.113	0.235	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1370.59
21	0.7347	1160.8	1181.3	1178.1	0.880	5.589	68.452	20.241	4.439	0.121	0.254	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1374.86
22	0.7331	1156.5	1177.0	1173.9	0.880	5.692	68.664	20.011	4.367	0.118	0.244	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1371.42
23	0.7312	1152.5	1172.9	1169.8	0.878	5.767	68.893	19.831	4.262	0.113	0.233	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1368.36
24	0.7303	1151.7	1172.1	1168.9	0.879	5.731	69.034	19.769	4.225	0.112	0.230	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1368.26
25	0.7321	1154.2	1174.6	1171.5	0.880	5.748	68.823	19.831	4.327	0.120	0.248	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1369.48
26	0.7315	1151.9	1172.3	1169.1	0.882	5.830	68.864	19.761	4.287	0.115	0.239	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1367.31
27	0.7325	1152.4	1172.8	1169.6	0.885	5.888	68.704	19.818	4.323	0.117	0.243	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1366.98
28	0.7312	1151.9	1172.3	1169.1	0.883	5.795	68.902	19.797	4.253	0.115	0.234	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1367.63
29	0.7304	1149.6	1170.0	1166.8	0.884	5.854	69.046	19.606	4.240	0.119	0.232	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1365.72
30	0.7314	1151.7	1172.1	1168.9	0.883	5.827	68.917	19.686	4.306	0.120	0.239	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1367.22
Avg	0.7316	1153.0	1173.3	1170.2	0.880	5.776	68.928	19.687	4.339	0.121	0.245	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1368.48

Zone 272

Source Daily Summary

September 2018

Number: 061

Pressure Base: 14.730

Contract Day: 1

Name: CLEVELAND STN-GRAFTON BDR

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7307	1153.2	1173.6	1170.7	0.872	5.685	69.239	19.353	4.443	0.135	0.251	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1369.75
2	0.7322	1153.6	1174.1	1171.1	0.871	5.800	69.086	19.231	4.598	0.136	0.255	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1368.81
3	0.7329	1154.5	1175.0	1171.9	0.873	5.811	68.973	19.290	4.642	0.137	0.253	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1369.23
4	0.7312	1150.2	1170.5	1167.2	0.867	5.921	69.210	19.042	4.557	0.135	0.248	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1365.70
5	0.7358	1157.4	1177.9	1174.9	0.866	5.908	68.604	19.348	4.865	0.134	0.253	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1369.97
6	0.7395	1165.4	1186.1	1183.0	0.879	5.750	68.072	19.889	4.954	0.139	0.289	0.014	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1375.99
7	0.7387	1165.2	1185.9	1182.8	0.878	5.686	68.093	20.136	4.713	0.145	0.315	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1376.52
8	0.7355	1159.4	1179.9	1176.8	0.881	5.742	68.468	19.928	4.530	0.134	0.289	0.015	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1372.54
9	0.7326	1151.9	1172.3	1169.4	0.884	5.928	68.699	19.757	4.329	0.121	0.258	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1366.41
10	0.7293	1148.3	1168.7	1165.4	0.896	5.811	69.157	19.636	4.127	0.113	0.236	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1365.31
11	0.7313	1152.6	1173.0	1170.1	0.889	5.751	68.811	19.984	4.192	0.113	0.237	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1368.52
12	0.7308	1153.3	1173.7	1170.8	0.889	5.663	68.922	19.971	4.177	0.118	0.237	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1369.76
13	0.7277	1144.8	1165.1	1162.1	0.896	5.878	69.339	19.491	4.040	0.112	0.223	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1362.62
14	0.7284	1147.4	1167.8	1164.8	0.881	5.808	69.298	19.540	4.101	0.113	0.236	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1365.02
15	0.7272	1145.6	1165.9	1162.8	0.882	5.801	69.477	19.430	4.041	0.112	0.234	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1364.07
16	0.7250	1146.2	1166.5	1163.1	0.890	5.553	69.798	19.483	3.941	0.105	0.210	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1366.75
17	0.7266	1146.9	1167.2	1163.8	0.882	5.668	69.579	19.494	4.030	0.108	0.218	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1366.07
18	0.7271	1146.0	1166.3	1163.3	0.879	5.779	69.480	19.454	4.057	0.108	0.223	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1364.49
19	0.7273	1146.7	1167.0	1164.0	0.887	5.736	69.501	19.449	4.066	0.110	0.227	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1365.19
20	0.7311	1154.4	1174.9	1171.8	0.882	5.629	68.971	19.886	4.257	0.115	0.238	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1370.76
21	0.7357	1162.1	1182.7	1179.7	0.879	5.602	68.323	20.282	4.506	0.123	0.259	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1375.53
22	0.7331	1156.6	1177.1	1174.1	0.883	5.690	68.660	20.012	4.369	0.118	0.245	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1371.42
23	0.7313	1152.5	1172.9	1169.9	0.878	5.769	68.891	19.830	4.263	0.113	0.234	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1368.33
24	0.7306	1151.7	1172.1	1169.0	0.879	5.755	68.990	19.773	4.240	0.112	0.230	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1368.02
25	0.7314	1152.7	1173.1	1170.0	0.880	5.766	68.919	19.765	4.286	0.118	0.243	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1368.48
26	0.7314	1151.6	1172.0	1168.8	0.882	5.834	68.885	19.745	4.279	0.115	0.239	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1367.10
27	0.7324	1152.1	1172.5	1169.3	0.885	5.890	68.727	19.801	4.315	0.117	0.242	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1366.80
28	0.7318	1152.7	1173.1	1169.9	0.881	5.812	68.796	19.855	4.284	0.115	0.235	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1367.93
29	0.7305	1149.9	1170.3	1167.2	0.884	5.846	69.022	19.636	4.241	0.118	0.233	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1365.99
30	0.7314	1151.5	1171.9	1168.8	0.883	5.834	68.923	19.678	4.302	0.120	0.239	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1367.03
Avg	0.7313	1153.0	1173.0	1169.9	0.881	5.770	68.964	19.672	4.325	0.120	0.244	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1368.34

Zone 273

Source Daily Summary

September 2018

Number:	041	Pressure Base:	14.730	Contract Day:	1
Name:	BISMARCK STN-GLEN ULLIN STN	Temperature Base:		Contract Hour:	9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7297	1151.8	1172.2	1168.5	0.860	5.693	69.446	19.138	4.464	0.130	0.246	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1368.96
2	0.7319	1153.6	1174.0	1170.5	0.858	5.797	69.132	19.189	4.621	0.133	0.249	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1369.02
3	0.7349	1157.9	1178.4	1174.7	0.859	5.810	68.790	19.313	4.771	0.150	0.282	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1371.32
4	0.7339	1155.6	1176.1	1172.5	0.856	5.856	68.848	19.309	4.718	0.135	0.256	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1369.64
5	0.7363	1159.4	1180.0	1176.4	0.862	5.847	68.580	19.350	4.948	0.133	0.258	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1371.83
6	0.7390	1166.8	1187.5	1183.8	0.864	5.643	68.074	20.154	4.772	0.145	0.317	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1378.08
7	0.7356	1160.5	1181.1	1177.3	0.866	5.706	68.530	19.839	4.582	0.140	0.305	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1373.79
8	0.7326	1154.8	1175.3	1171.6	0.870	5.766	68.814	19.752	4.374	0.125	0.271	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1369.88
9	0.7314	1150.9	1171.3	1167.7	0.875	5.886	68.896	19.671	4.276	0.119	0.254	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1366.33
10	0.7300	1150.4	1170.8	1167.1	0.878	5.777	69.048	19.765	4.159	0.112	0.239	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1367.08
11	0.7310	1153.9	1174.3	1170.6	0.877	5.671	68.901	19.964	4.206	0.117	0.242	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1370.17
12	0.7280	1148.2	1168.6	1165.0	0.878	5.724	69.333	19.648	4.053	0.114	0.229	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1366.37
13	0.7276	1145.2	1165.5	1161.9	0.876	5.878	69.352	19.492	4.045	0.110	0.226	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1363.14
14	0.7275	1147.8	1168.2	1164.5	0.870	5.713	69.479	19.490	4.070	0.114	0.240	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1366.35
15	0.7271	1146.6	1166.9	1163.3	0.869	5.759	69.518	19.408	4.085	0.111	0.229	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1365.21
16	0.7282	1147.4	1167.7	1164.1	0.868	5.808	69.389	19.401	4.166	0.114	0.232	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1365.17
17	0.7268	1144.0	1164.3	1160.7	0.869	5.880	69.520	19.319	4.064	0.107	0.220	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1362.50
18	0.7265	1146.6	1166.9	1163.3	0.871	5.696	69.604	19.441	4.028	0.109	0.228	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1365.77
19	0.7279	1149.9	1170.2	1166.6	0.873	5.626	69.417	19.610	4.106	0.112	0.233	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1368.35
20	0.7333	1159.3	1179.8	1176.3	0.871	5.555	68.667	20.133	4.376	0.119	0.252	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1374.53
21	0.7333	1158.2	1178.7	1175.3	0.872	5.622	68.646	20.090	4.379	0.118	0.249	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1373.23
22	0.7314	1153.8	1174.3	1170.8	0.871	5.713	68.892	19.860	4.286	0.115	0.240	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1369.82
23	0.7300	1151.4	1171.8	1168.4	0.871	5.727	69.078	19.744	4.217	0.111	0.231	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1368.30
24	0.7306	1152.5	1172.9	1169.5	0.872	5.713	69.093	19.638	4.297	0.118	0.246	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1369.05
25	0.7304	1150.6	1170.9	1167.5	0.874	5.809	69.082	19.580	4.276	0.115	0.241	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1366.93
26	0.7316	1151.9	1172.3	1168.8	0.875	5.850	68.856	19.729	4.303	0.117	0.246	0.012	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1367.27
27	0.7312	1152.1	1172.5	1169.1	0.875	5.793	68.885	19.817	4.260	0.114	0.234	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1367.96
28	0.7298	1150.1	1170.5	1167.1	0.876	5.782	69.117	19.646	4.205	0.118	0.235	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1366.94
29	0.7312	1151.0	1171.4	1168.0	0.877	5.857	68.901	19.707	4.284	0.116	0.235	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1366.67
30	0.7235	1148.7	1169.1	1165.7	0.778	5.427	70.035	19.486	3.921	0.111	0.221	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1371.22
Avg	0.7307	1152.0	1172.8	1169.2	0.867	5.746	69.064	19.623	4.310	0.120	0.246	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1368.70

Zone 28

Source Daily Summary

September 2018

Number: 271

Pressure Base: 14.730

Contract Day: 1

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

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6952	1112.8	1132.5	1129.0	0.840	4.861	74.823	16.218	3.026	0.078	0.145	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1355.37
2	0.7344	1118.6	1138.4	1172.7	0.849	5.908	68.758	19.306	4.758	0.139	0.260	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1369.40
3	0.7351	1118.7	1138.5	1172.9	0.847	5.831	68.926	19.193	4.764	0.142	0.272	0.012	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1370.45
4	0.6958	1119.2	1139.0	1135.6	0.856	4.517	75.086	16.101	3.116	0.114	0.200	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1362.29
5	0.6779	1119.0	1138.8	1135.3	0.894	2.769	78.941	14.171	2.797	0.143	0.247	0.022	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1379.83
6	0.7176	1123.6	1143.5	1139.7	0.826	6.332	70.844	17.941	3.775	0.095	0.175	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1346.72
7	0.7291	1128.6	1148.6	1168.2	0.807	5.721	69.513	19.078	4.488	0.129	0.244	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1369.50
8	0.7336	1127.3	1147.3	1173.4	0.809	5.834	68.993	19.107	4.831	0.139	0.266	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1371.21
9	0.7372	1123.8	1143.7	1182.3	0.812	5.647	68.361	19.916	4.778	0.141	0.313	0.016	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1378.00
10	0.7311	1132.1	1152.1	1170.2	0.836	5.750	69.076	19.538	4.385	0.124	0.267	0.013	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1369.90
11	0.6909	1125.7	1145.6	1142.0	0.885	3.593	76.499	15.437	3.170	0.137	0.243	0.020	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1375.04
12	0.6998	1126.5	1146.4	1142.9	0.870	4.416	74.541	16.498	3.317	0.122	0.210	0.014	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1367.12
13	0.7251	1137.7	1157.8	1154.3	0.843	6.150	69.897	18.604	4.133	0.122	0.235	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1356.54
14	0.6909	1125.7	1145.6	1142.1	0.885	3.593	76.498	15.437	3.170	0.137	0.244	0.020	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1375.05
15	0.7212	1123.8	1143.7	1140.4	0.810	6.681	70.324	17.845	4.044	0.100	0.184	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1343.65
16	0.7219	1133.3	1153.4	1149.9	0.810	6.162	70.280	18.411	4.036	0.100	0.187	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1354.39
17	0.7253	1132.0	1152.0	1148.7	0.831	6.537	69.793	18.277	4.226	0.114	0.208	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1349.55
18	0.7222	1127.3	1147.3	1143.9	0.828	6.539	70.206	18.047	4.075	0.104	0.188	0.007	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1346.82
19	0.7231	1130.1	1150.1	1146.7	0.847	6.420	70.141	18.150	4.132	0.106	0.192	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1349.32
20	0.7177	1123.7	1143.6	1140.3	0.829	6.335	70.790	18.013	3.751	0.096	0.174	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1346.72
21	0.6782	1122.0	1141.8	1129.2	0.840	4.861	74.823	16.218	3.026	0.078	0.145	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1355.13
22	0.6763	1119.9	1139.7	1172.9	0.849	5.908	68.758	19.306	4.758	0.139	0.260	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1369.40
23	0.6753	1119.7	1139.5	1135.7	0.856	4.504	75.086	16.101	3.116	0.114	0.200	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1362.23
24	0.6746	1119.1	1138.9	1146.8	0.847	6.420	70.141	18.150	4.132	0.106	0.192	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1349.32
25	0.6760	1123.9	1143.8	1154.6	0.843	6.150	69.896	18.605	4.133	0.122	0.235	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1356.54
26	0.6755	1125.9	1145.8	1145.1	0.830	6.450	70.227	18.168	3.999	0.110	0.202	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1348.34
27	0.6771	1127.2	1147.1	1144.1	0.828	6.539	70.206	18.047	4.075	0.104	0.188	0.007	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1346.82
28	0.6729	1118.2	1138.0	1135.1	0.863	5.076	73.882	16.633	3.237	0.107	0.182	0.011	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1355.86
29	0.6692	1113.8	1133.5	1129.4	0.840	4.861	74.823	16.218	3.026	0.078	0.145	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1355.13
30	0.6714	1116.6	1136.4	1132.6	0.898	2.701	79.317	14.006	2.669	0.135	0.232	0.023	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1378.83
Avg	0.7024	1124.0	1143.8	1148.5	0.844	5.436	71.982	17.558	3.831	0.116	0.214	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1360.48

Zone 31

Source Daily Summary

September 2018

Number: 051

Pressure Base: 14.730

Contract Day: 1

Name: CABIN CRK STN-BELFIELD TRSFR

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6743	1116.9	1136.7	1133.1	0.355	3.389	77.415	16.957	1.707	0.058	0.106	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1380.98	
2	0.6724	1110.5	1130.2	1126.6	0.362	3.589	78.061	15.857	1.918	0.068	0.130	0.007	0.008	0.000	0.000	0.000	0.000	0.000	1375.03	
3	0.6715	1107.5	1127.1	1123.5	0.438	3.567	78.580	15.074	2.099	0.078	0.146	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1372.23	
4	0.6801	1123.0	1142.9	1139.3	0.342	3.582	76.289	17.808	1.799	0.058	0.109	0.006	0.007	0.000	0.000	0.000	0.000	0.000	1382.61	
5	0.6728	1112.5	1132.2	1128.7	0.383	3.470	77.997	16.035	1.914	0.066	0.121	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1377.13	
6	0.6732	1110.9	1130.6	1127.0	0.452	3.498	78.301	15.388	2.099	0.083	0.159	0.010	0.011	0.000	0.000	0.000	0.000	0.000	1374.72	
7	0.6670	1101.0	1120.5	1116.9	0.389	3.617	79.389	14.327	2.027	0.078	0.152	0.010	0.011	0.000	0.000	0.000	0.000	0.000	1368.72	
8	0.6717	1108.8	1128.5	1124.9	0.409	3.548	78.460	15.298	2.040	0.079	0.148	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1373.68	
9	0.6761	1114.8	1134.5	1130.9	0.400	3.614	77.529	16.161	2.073	0.072	0.135	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1376.54	
10	0.6743	1110.8	1130.5	1126.9	0.479	3.571	78.122	15.394	2.197	0.078	0.142	0.009	0.008	0.000	0.000	0.000	0.000	0.000	1373.42	
11	0.6751	1112.9	1132.6	1128.9	0.464	3.541	77.923	15.647	2.200	0.074	0.134	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1375.20	
12	0.6711	1109.0	1128.6	1125.0	0.435	3.450	78.490	15.420	2.001	0.067	0.122	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1374.42	
13	0.6736	1109.3	1129.0	1125.5	0.538	3.500	78.461	14.963	2.285	0.085	0.151	0.009	0.008	0.000	0.000	0.000	0.000	0.000	1372.34	
14	0.6709	1105.5	1125.1	1121.3	0.476	3.575	78.962	14.404	2.342	0.081	0.144	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1370.38	
15	0.6656	1098.3	1117.7	1113.9	0.380	3.668	79.815	13.646	2.274	0.074	0.130	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1366.77	
16	0.6648	1098.0	1117.5	1113.8	0.368	3.625	79.836	13.808	2.155	0.070	0.122	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1367.30	
17	0.6578	1086.0	1105.3	1101.6	0.237	3.893	80.952	12.669	2.076	0.060	0.103	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1359.57	
18	0.6580	1085.8	1105.1	1101.4	0.307	3.814	81.194	12.268	2.216	0.068	0.120	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1359.15	
19	0.6553	1080.3	1099.5	1095.9	0.333	3.861	81.847	11.473	2.264	0.073	0.134	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1354.99	
20	0.6585	1087.6	1106.9	1103.3	0.306	3.754	81.363	11.897	2.478	0.071	0.121	0.006	0.004	0.000	0.000	0.000	0.000	0.000	1360.85	
21	0.6491	1072.9	1091.9	1088.3	0.307	3.769	82.972	10.573	2.187	0.066	0.115	0.006	0.004	0.000	0.000	0.000	0.000	0.000	1352.06	
22	0.6413	1063.0	1081.9	1077.9	0.254	3.718	84.402	9.355	2.087	0.062	0.112	0.006	0.004	0.000	0.000	0.000	0.000	0.000	1347.76	
23	0.6390	1061.3	1080.1	1076.7	0.270	3.577	85.331	8.136	2.490	0.071	0.119	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1348.03	
24	0.6311	1051.4	1070.0	1066.5	0.244	3.481	86.535	7.432	2.136	0.062	0.105	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1343.75	
25	0.6312	1052.1	1070.8	1067.3	0.224	3.473	86.207	8.072	1.871	0.054	0.092	0.005	0.002	0.000	0.000	0.000	0.000	0.000	1344.62	
26	0.6348	1055.2	1073.9	1070.1	0.217	3.634	85.329	8.900	1.774	0.052	0.086	0.005	0.003	0.000	0.000	0.000	0.000	0.000	1344.75	
27	0.6312	1050.6	1069.2	1065.8	0.224	3.569	86.124	8.120	1.812	0.054	0.089	0.005	0.003	0.000	0.000	0.000	0.000	0.000	1342.67	
28	0.6214	1037.8	1056.2	1052.9	0.221	3.433	87.968	6.574	1.668	0.049	0.081	0.004	0.001	0.000	0.000	0.000	0.000	0.000	1336.71	
29	0.6172	1033.4	1051.7	1048.4	0.200	3.337	88.811	5.854	1.667	0.047	0.078	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1335.52	
30	0.6133	1028.7	1046.9	1043.8	0.225	3.219	89.663	5.090	1.671	0.048	0.080	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1333.66	
Avg	0.6565	1087.0	1105.8	1102.2	0.341	3.578	81.411	12.420	2.051	0.067	0.120	0.007	0.005	0.000	0.000	0.000	0.000	0.000	1361.52	

Zone 32

Source Daily Summary

September 2018

Number: 111

Pressure Base: 14.730

Contract Day: 1

Name: LITTLE KNIFE PLANT

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT	
1	0.6871	1152.8	1173.2	1168.8	0.000	2.957	73.228	23.051	0.749	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.09	-25.69
2	0.6865	1151.9	1172.3	1167.3	0.000	2.953	73.295	23.047	0.691	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.64	-26.22
3	0.6870	1152.6	1173.0	1168.3	0.000	2.958	73.248	23.033	0.745	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.96	-25.77
4	0.6860	1151.3	1171.7	1167.0	0.000	2.942	73.357	23.033	0.653	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.45	-26.57
5	0.6869	1152.1	1172.5	1168.1	0.000	2.979	73.197	23.125	0.684	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.49	-26.08
6	0.6865	1151.4	1171.8	1167.4	0.000	2.990	73.302	22.970	0.723	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1410.98	-26.13
7	0.6860	1151.0	1171.4	1166.9	0.000	2.961	73.399	22.928	0.698	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.07	-26.46
8	0.6863	1151.5	1171.9	1167.4	0.000	2.961	73.339	22.981	0.705	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.35	-26.26
9	0.6859	1151.0	1171.4	1166.9	0.000	2.951	73.389	22.983	0.664	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.19	-26.61
10	0.6862	1152.1	1172.5	1167.9	0.000	2.920	73.359	23.008	0.699	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.11	-26.23
11	0.6858	1151.1	1171.5	1166.8	0.000	2.933	73.399	23.003	0.651	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.45	-26.68
12	0.6863	1151.2	1171.6	1167.3	0.000	2.985	73.276	23.071	0.656	0.006	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1410.92	-26.48
13	0.6857	1150.6	1170.9	1166.3	0.000	2.963	73.440	22.902	0.682	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1410.79	-26.67
14	0.6853	1150.8	1171.2	1166.5	0.000	2.913	73.499	22.920	0.655	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.47	-26.85
15	0.6854	1150.6	1171.0	1166.5	0.000	2.932	73.477	22.923	0.654	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.16	-26.85
16	0.6854	1150.5	1170.9	1166.3	0.000	2.937	73.468	22.939	0.642	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.05	-26.91
17	0.6857	1151.0	1171.4	1166.6	0.000	2.934	73.413	22.994	0.646	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.36	-26.74
18	0.6863	1151.2	1171.6	1167.1	0.000	2.981	73.322	22.987	0.696	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1410.98	-26.33
19	0.6859	1150.5	1170.8	1165.9	0.000	2.985	73.373	22.971	0.657	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1410.50	-26.72
20	0.6864	1151.0	1171.3	1166.9	0.000	3.004	73.241	23.113	0.629	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1410.57	-26.60
21	0.6866	1151.2	1171.6	1166.8	0.000	3.007	73.226	23.092	0.661	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1410.68	-26.38
22	0.6864	1151.4	1171.8	1167.1	0.000	2.980	73.264	23.081	0.662	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.10	-26.39
23	0.6855	1150.6	1170.9	1166.6	0.000	2.941	73.419	23.015	0.612	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.04	-26.99
24	0.6857	1150.8	1171.2	1166.4	0.000	2.951	73.382	23.030	0.624	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.03	-26.85
25	0.6856	1150.6	1171.0	1166.4	0.000	2.948	73.408	23.006	0.625	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.01	-26.90
26	0.6862	1151.3	1171.7	1167.2	0.000	2.962	73.338	23.011	0.675	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.22	-26.44
27	0.6856	1151.0	1171.4	1166.9	0.000	2.927	73.409	23.019	0.631	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.45	-26.81
28	0.6849	1150.5	1170.9	1166.3	0.000	2.896	73.542	22.926	0.622	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.50	-27.12
29	0.6858	1151.8	1172.2	1167.5	0.000	2.902	73.375	23.070	0.640	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.15	-26.60
30	0.6856	1151.3	1171.7	1167.0	0.000	2.912	73.396	23.056	0.623	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.79	-26.79
Avg	0.6860	1151.0	1171.6	1167.0	0.000	2.952	73.359	23.010	0.665	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.29	-26.54

Zone 33

Source Daily Summary

September 2018

Number: 351

Pressure Base: 14.730

Contract Day: 1

Name: BADLANDS PLANT

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.5728	961.7	978.7	975.5	0.107	3.675	95.884	0.310	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.22
2	0.5727	961.8	978.8	975.6	0.107	3.667	95.891	0.310	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.37
3	0.5738	959.7	976.7	973.4	0.115	3.887	95.641	0.331	0.017	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1286.40
4	0.5726	962.1	979.2	976.1	0.109	3.630	95.923	0.313	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1291.00
5	0.5726	962.0	979.0	975.9	0.108	3.642	95.913	0.312	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.79
6	0.5726	962.1	979.1	975.9	0.108	3.634	95.922	0.311	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.94
7	0.5733	960.2	977.2	973.9	0.103	3.825	95.746	0.303	0.014	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1287.57
8	0.5728	961.5	978.6	975.3	0.106	3.689	95.871	0.310	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1289.98
9	0.5727	961.8	978.8	975.6	0.107	3.669	95.889	0.310	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.34
10	0.5741	959.1	976.1	972.8	0.113	3.945	95.585	0.331	0.017	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1285.42
11	0.5729	961.2	978.2	975.0	0.106	3.721	95.842	0.308	0.015	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1289.41
12	0.5732	960.4	977.4	974.2	0.103	3.803	95.767	0.304	0.014	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1287.96
13	0.5728	961.7	978.7	975.5	0.107	3.675	95.883	0.310	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.20
14	0.5726	962.1	979.1	976.0	0.111	3.635	95.917	0.313	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1290.86
15	0.5726	962.3	979.4	976.3	0.114	3.605	95.943	0.315	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1291.35
16	0.5725	962.4	979.4	976.3	0.113	3.602	95.945	0.315	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1291.40
17	0.5725	962.4	979.5	976.4	0.113	3.599	95.949	0.315	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1291.47
18	0.5726	962.3	979.3	976.2	0.112	3.615	95.936	0.313	0.016	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1291.20
19	0.6176	1015.2	1033.2	1029.9	0.164	4.544	87.619	6.748	0.834	0.033	0.052	0.003	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1311.59
20	0.6295	1032.7	1051.0	1047.8	0.198	4.545	85.498	8.570	1.079	0.041	0.061	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1321.44
21	0.6326	1036.2	1054.6	1051.3	0.218	4.588	85.099	8.708	1.259	0.048	0.072	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1322.84
22	0.6415	1052.1	1070.7	1067.3	0.222	4.459	83.516	10.202	1.458	0.052	0.081	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1333.64
23	0.6362	1042.4	1060.9	1057.7	0.216	4.553	84.493	9.231	1.369	0.050	0.078	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1326.95
24	0.6400	1049.5	1068.1	1064.7	0.214	4.481	83.805	9.920	1.433	0.052	0.083	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1331.99
25	0.6507	1069.5	1088.5	1085.1	0.210	4.273	81.783	12.021	1.557	0.053	0.090	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1346.17
26	0.6598	1086.2	1105.4	1102.0	0.215	4.104	80.118	13.687	1.718	0.055	0.092	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1357.75
27	0.6579	1082.6	1101.7	1098.5	0.225	4.138	80.534	13.195	1.744	0.057	0.095	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1355.10
28	0.6540	1075.1	1094.2	1090.8	0.226	4.220	81.259	12.462	1.669	0.057	0.096	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1349.81
29	0.6546	1075.9	1095.0	1091.6	0.230	4.224	81.165	12.521	1.692	0.058	0.098	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1350.16
30	0.6533	1073.3	1092.3	1089.0	0.235	4.257	81.393	12.289	1.661	0.057	0.096	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1348.16
Avg	0.6013	1000.0	1017.6	1014.4	0.151	3.963	90.724	4.506	0.592	0.026	0.033	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1309.08

*** End of Report ***

Zone 34

Source Daily Summary

September 2018

Number: 471

Pressure Base: 14.730

Contract Day:

Name: SPRING CREEK I - SAX VALVE I

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7001	1152.8	1173.2	1170.1	0.974	2.700	71.891	23.354	1.056	0.009	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1398.87	-20.29
2	0.7060	1162.4	1183.0	1179.9	0.967	2.676	71.249	23.467	1.606	0.014	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1404.68	-15.39
3	0.7041	1159.4	1179.9	1176.8	0.968	2.681	71.469	23.406	1.445	0.013	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1402.91	-16.87
4	0.7059	1162.3	1182.9	1179.8	0.968	2.669	71.282	23.424	1.631	0.011	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1404.67	-15.47
5	0.7083	1166.1	1186.7	1183.6	0.962	2.674	71.114	23.267	1.954	0.013	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1406.82	-13.28
6	0.6938	1143.1	1163.4	1160.3	0.978	2.686	73.059	22.322	0.939	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1393.51	-23.98
7	0.7121	1173.6	1194.4	1191.3	0.954	2.583	70.996	22.826	2.606	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.07	-9.53
8	0.6908	1139.0	1159.1	1156.1	0.986	2.653	73.717	21.634	0.998	0.006	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1391.34	-25.31
9	0.6976	1150.2	1170.5	1167.5	0.971	2.626	72.283	23.163	0.939	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1398.25	-21.84
10	0.7022	1156.1	1176.5	1173.4	0.970	2.707	71.745	23.193	1.367	0.009	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1400.72	-18.33
11	0.6883	1131.8	1151.9	1148.9	0.986	2.846	74.176	21.019	0.956	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1385.19	-27.03
12	0.6850	1127.9	1147.8	1144.8	0.996	2.767	74.302	21.525	0.406	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1383.68	-30.75
13	0.6823	1123.5	1143.4	1139.6	1.008	2.761	75.172	20.346	0.692	0.007	0.011	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1380.99	-30.85
14	0.6846	1125.3	1145.2	1142.2	1.014	2.859	74.504	21.094	0.522	0.003	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1380.89	-30.74
15	0.6842	1125.7	1145.7	1142.6	1.005	2.809	74.499	21.243	0.439	0.002	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1381.85	-31.12
16	0.6923	1139.6	1159.8	1156.8	0.990	2.749	73.244	22.160	0.849	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1390.66	-25.15
17	0.6936	1145.0	1165.3	1162.3	0.975	2.560	72.906	22.804	0.741	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1396.01	-24.37
18	0.6769	1113.9	1133.7	1130.7	1.032	2.798	76.020	19.702	0.443	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1374.73	-35.25
19	0.6832	1125.9	1145.8	1142.8	1.004	2.704	74.849	20.870	0.562	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1383.05	-30.89
20	0.6814	1122.7	1142.6	1139.6	1.014	2.717	75.046	20.822	0.391	0.003	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1380.94	-32.64
21	0.6877	1132.0	1152.1	1149.1	1.006	2.751	73.765	22.064	0.406	0.003	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1386.05	-29.29
22	0.6731	1107.1	1126.7	1123.7	1.038	2.851	76.643	19.168	0.295	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1370.11	-38.10
23	0.6877	1134.6	1154.7	1151.7	0.989	2.620	73.849	22.054	0.475	0.005	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1389.17	-28.66
24	0.6859	1131.9	1152.0	1149.0	0.994	2.609	74.201	21.722	0.463	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1387.71	-29.56
25	0.6858	1130.5	1150.5	1147.5	0.997	2.684	74.300	21.456	0.549	0.005	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1386.02	-29.41
26	0.6861	1131.1	1151.1	1148.1	0.999	2.672	74.146	21.716	0.457	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1386.50	-29.61
27	0.6936	1144.0	1164.2	1161.2	0.978	2.619	72.945	22.664	0.778	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1394.71	-24.41
28	0.6765	1114.3	1134.1	1131.1	1.013	2.765	76.068	19.728	0.419	0.003	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1375.62	-35.42
29	0.6736	1109.6	1129.2	1126.3	1.020	2.778	76.657	19.121	0.418	0.003	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1372.63	-37.00
30	0.6912	1139.4	1159.6	1156.5	0.988	2.661	73.243	22.504	0.589	0.006	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1391.50	-26.41
Avg	0.6905	1137.0	1157.5	1154.4	0.991	2.708	73.645	21.795	0.846	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1389.73	-26.23

Zone 43

September-18

ZONE 550

MANDAN BORDER

NBPL - St Anthony

Weighted

Begin Date	End Date	MCF	DK	BTU	MCF	DK	BTU Zone 28	AVG BTU	
9/1/2018	9/2/2018					732	858	1.1722	9/1/2018
9/2/2018	9/3/2018					731	859	1.1740	9/2/2018
9/3/2018	9/4/2018					777	917	1.1784	9/3/2018
9/4/2018	9/5/2018					871	1025	1.1761	9/4/2018
9/5/2018	9/6/2018					895	1056	1.1800	9/5/2018
9/6/2018	9/7/2018					811	963	1.1875	9/6/2018
9/7/2018	9/8/2018					713	842	1.1811	9/7/2018
9/8/2018	9/9/2018					660	776	1.1753	9/8/2018
9/9/2018	9/10/2018					765	896	1.1713	9/9/2018
9/10/2018	9/11/2018					833	975	1.1708	9/10/2018
9/11/2018	9/12/2018					848	996	1.1743	9/11/2018
9/12/2018	9/13/2018					878	1026	1.1686	9/12/2018
9/13/2018	9/14/2018					908	1058	1.1655	9/13/2018
9/14/2018	9/15/2018					824	962	1.1682	9/14/2018
9/15/2018	9/16/2018					802	935	1.1669	9/15/2018
9/16/2018	9/17/2018					892	1042	1.1677	9/16/2018
9/17/2018	9/18/2018					992	1155	1.1643	9/17/2018
9/18/2018	9/19/2018					1035	1207	1.1669	9/18/2018
9/19/2018	9/20/2018					1054	1233	1.1702	9/19/2018
9/20/2018	9/21/2018					1744	2058	1.1798	9/20/2018
9/21/2018	9/22/2018					1519	1790	1.1787	9/21/2018
9/22/2018	9/23/2018					1095	1286	1.1743	9/22/2018
9/23/2018	9/24/2018					1705	1998	1.1718	9/23/2018
9/24/2018	9/25/2018					1581	1854	1.1729	9/24/2018
9/25/2018	9/26/2018					2031	2379	1.1709	9/25/2018
9/26/2018	9/27/2018					1367	1602	1.1723	9/26/2018
9/27/2018	9/28/2018					2072	2429	1.1725	9/27/2018
9/28/2018	9/29/2018					2101	2460	1.1705	9/28/2018
9/29/2018	9/30/2018					2251	2637	1.1714	9/29/2018
9/30/2018	10/1/2018					2719	3178	1.1691	9/30/2018
		0	0	#DIV/0!		36,206	42,452	1.1728	
								1.1728	



Alliance Pipeline

DAILY ANALYSIS — USA
 ND07MD1 — Hankinson Sales
 September 2018

DAY	Heating Value (BTU/ft3)	Relative Density	C1 Mol%	C2 Mol%	C3 Mol%	IC4 Mol%	NC4 Mol%	IC5 Mol%	NC5 Mol%	C6+ Mol%	N2 Mol%	CO2 Mol%	Hel Mol%
1	1,155.552	0.6636	83.9966	9.6993	3.6767	0.3501	0.6152	0.0558	0.0468	0.0290	1.0656	0.4546	0.0101
2	1,160.609	0.6669	83.6875	9.6498	4.0179	0.3560	0.6179	0.0567	0.0482	0.0298	1.0731	0.4529	0.0101
3	1,160.972	0.6678	83.5808	9.6663	4.0442	0.3580	0.6369	0.0548	0.0464	0.0285	1.0913	0.4824	0.0103
4	1,162.652	0.6679	83.5490	9.7444	4.0393	0.3713	0.6458	0.0552	0.0459	0.0288	1.0786	0.4317	0.0101
5	1,160.418	0.6664	83.6871	9.6947	4.0075	0.3542	0.6091	0.0535	0.0443	0.0280	1.0944	0.4166	0.0106
6	1,160.869	0.6667	83.6436	9.7423	3.9894	0.3583	0.6222	0.0536	0.0442	0.0267	1.0789	0.4300	0.0108
7	1,163.127	0.6675	83.6145	9.7853	3.9583	0.3753	0.6635	0.0596	0.0498	0.0305	1.0314	0.4208	0.0110
8	1,162.312	0.6666	83.7844	9.6839	3.9142	0.3762	0.6544	0.0655	0.0557	0.0343	1.0161	0.4045	0.0108
9	1,159.862	0.6650	83.9607	9.6260	3.8228	0.3664	0.6428	0.0639	0.0543	0.0331	1.0087	0.4102	0.0111
10	1,157.936	0.6640	84.1255	9.4643	3.8002	0.3633	0.6437	0.0633	0.0539	0.0326	1.0305	0.4121	0.0106
11	1,157.806	0.6641	84.0793	9.5150	3.8002	0.3631	0.6350	0.0603	0.0505	0.0323	1.0376	0.4154	0.0113
12	1,157.932	0.6639	84.1249	9.4778	3.8102	0.3643	0.6286	0.0628	0.0524	0.0337	1.0286	0.4057	0.0111
13	1,158.697	0.6647	84.0272	9.5360	3.8320	0.3648	0.6336	0.0623	0.0525	0.0336	1.0127	0.4338	0.0115
14	1,158.409	0.6651	84.0040	9.4910	3.8511	0.3677	0.6398	0.0619	0.0524	0.0334	1.0226	0.4644	0.0118
15	1,163.938	0.6684	83.5018	9.8153	4.0157	0.3763	0.6497	0.0616	0.0514	0.0354	1.0447	0.4369	0.0112
16	1,156.055	0.6640	83.9386	9.6620	3.7984	0.3471	0.5861	0.0536	0.0437	0.0278	1.0718	0.4600	0.0109
17	1,156.283	0.6639	83.9709	9.6212	3.8358	0.3440	0.5898	0.0496	0.0406	0.0266	1.0694	0.4410	0.0110
18	1,157.924	0.6646	83.8156	9.7775	3.8474	0.3473	0.5949	0.0483	0.0396	0.0257	1.0647	0.4278	0.0112
19	1,159.132	0.6662	83.5720	9.8413	3.9630	0.3431	0.5868	0.0481	0.0397	0.0260	1.1358	0.4331	0.0111
20	1,157.828	0.6646	83.8217	9.7652	3.8797	0.3400	0.5775	0.0483	0.0398	0.0266	1.0613	0.4288	0.0111
21	1,158.892	0.6654	83.7232	9.7681	3.9203	0.3482	0.5956	0.0496	0.0410	0.0269	1.0997	0.4166	0.0108
22	1,161.293	0.6672	83.4799	9.9215	3.9524	0.3620	0.6106	0.0538	0.0445	0.0282	1.1106	0.4253	0.0113
23	1,160.887	0.6671	83.5131	9.9070	3.9361	0.3612	0.6109	0.0540	0.0446	0.0268	1.0947	0.4405	0.0111
24	1,163.358	0.6679	83.4115	10.0022	3.9748	0.3670	0.6295	0.0545	0.0451	0.0262	1.0696	0.4085	0.0111
25	1,159.831	0.6660	83.6782	9.8038	3.9042	0.3585	0.6198	0.0520	0.0428	0.0241	1.0825	0.4232	0.0110
26	1,159.213	0.6655	83.7939	9.6582	3.9396	0.3578	0.6165	0.0517	0.0425	0.0254	1.0953	0.4083	0.0109
27	1,159.957	0.6665	83.5863	9.8287	3.9097	0.3611	0.6276	0.0524	0.0433	0.0261	1.1454	0.4089	0.0106
28	1,158.520	0.6647	83.7954	9.8641	3.7591	0.3604	0.6103	0.0550	0.0453	0.0269	1.0566	0.4158	0.0112
29	1,158.566	0.6644	83.8603	9.8348	3.7567	0.3593	0.6072	0.0558	0.0459	0.0280	1.0321	0.4091	0.0108
30	1,158.312	0.6644	83.8483	9.8394	3.7603	0.3576	0.6040	0.0553	0.0450	0.0261	1.0422	0.4109	0.0108
Volume	1,159.681	0.6658	83.7457	9.7439	3.8960	0.3589	0.6187	0.0552	0.0459	0.0285	1.0682	0.4283	0.0109
Weight Avg Energy	1,159.685	0.6658	83.7454	9.7440	3.8961	0.3589	0.6187	0.0552	0.0459	0.0285	1.0682	0.4283	0.0109

10/10/18

September-18

ZONE 610

Watford City

Watford City West Border

Weighted

Begin Date	End Date	MCF	DK	BTU Zone 25	MCF	DK	BTU Zone 43	AVG BTU		
9/1/2018	9/2/2018		1	2	1.1996	112	132	1.1732	1.173	9/1/2018
9/2/2018	9/3/2018		3	3	1.1996	110	130	1.1830	1.183	9/2/2018
9/3/2018	9/4/2018		5	6	1.1996	122	143	1.1799	1.181	9/3/2018
9/4/2018	9/5/2018		28	34	1.1996	141	167	1.1829	1.186	9/4/2018
9/5/2018	9/6/2018		17	21	1.1996	116	137	1.1867	1.188	9/5/2018
9/6/2018	9/7/2018		11	13	1.1996	129	150	1.1634	1.166	9/6/2018
9/7/2018	9/8/2018		6	7	1.1996	115	137	1.1944	1.195	9/7/2018
9/8/2018	9/9/2018		3	4	1.1996	117	136	1.1591	1.160	9/8/2018
9/9/2018	9/10/2018		11	13	1.1996	124	145	1.1705	1.173	9/9/2018
9/10/2018	9/11/2018		9	10	1.1996	115	136	1.1765	1.178	9/10/2018
9/11/2018	9/12/2018		10	12	1.1996	152	175	1.1519	1.155	9/11/2018
9/12/2018	9/13/2018		26	31	1.1996	146	167	1.1478	1.156	9/12/2018
9/13/2018	9/14/2018		130	155	1.1996	44	50	1.1434	1.185	9/13/2018
9/14/2018	9/15/2018		134	161	1.1996	46	53	1.1452	1.186	9/14/2018
9/15/2018	9/16/2018		109	131	1.1996	51	58	1.1457	1.182	9/15/2018
9/16/2018	9/17/2018		185	222	1.1996	55	63	1.1598	1.190	9/16/2018
9/17/2018	9/18/2018		192	230	1.1996	79	92	1.1653	1.190	9/17/2018
9/18/2018	9/19/2018		188	226	1.1996	56	63	1.1337	1.184	9/18/2018
9/19/2018	9/20/2018		217	260	1.1996	64	73	1.1458	1.187	9/19/2018
9/20/2018	9/21/2018		333	400	1.1996	169	193	1.1426	1.180	9/20/2018
9/21/2018	9/22/2018		273	328	1.1996	86	99	1.1521	1.188	9/21/2018
9/22/2018	9/23/2018		241	289	1.1996	88	99	1.1267	1.180	9/22/2018
9/23/2018	9/24/2018		321	385	1.1996	120	138	1.1547	1.187	9/23/2018
9/24/2018	9/25/2018		308	369	1.1996	125	144	1.1520	1.186	9/24/2018
9/25/2018	9/26/2018		337	404	1.1996	157	180	1.1505	1.184	9/25/2018
9/26/2018	9/27/2018		276	331	1.1996	89	103	1.1511	1.188	9/26/2018
9/27/2018	9/28/2018		380	456	1.1996	225	262	1.1642	1.186	9/27/2018
9/28/2018	9/29/2018		371	446	1.1996	150	170	1.1341	1.181	9/28/2018
9/29/2018	9/30/2018		348	418	1.1996	121	137	1.1292	1.181	9/29/2018
9/30/2018	10/1/2018		415	498	1.1996	223	258	1.1596	1.186	9/30/2018
		4,888	5,865			3,447	3,990	1.1575	1.1809	

ROW ID	LOCATION DESCRIPTION	GROSS HEATING VALUE (BTU/CF)	SPECIFIC GRAVITY	WOBBE (cal)	CRICONDENTHERM (deg F)	NITROGEN (mole percent)	CARBON DIOXIDE (mole percent)	METHANE (mole percent)	ETHANE (mole percent)	PROPANE (mole percent)	NORMAL BUTANE (mole percent)	ISO BUTANE (mole percent)	PENTANE (mole percent)	ISO PENTANE (mole percent)	NEO PENTANE (mole percent)	HEXANES PLUS (mole percent)	HYDROGEN (mole percent)	HELIUM (mole percent)	PRODUCTION DATE	POSTING DATE	Changetimestamp	NOTES
11587	GLEN ULLIN	1094.9	0.6372	1371.6	-49.8	1.6672	0.8397	84.8184	11.616	0.9791	0.0464	0.0244	0.0037	0.0034	0	0.0015	0	0.0133	8/31/2018	9/1/2018	9/1/2018 3:38:46 PM	
11587	GLEN ULLIN	1095.1	0.6375	1371.6	-50.7	1.6787	0.838	84.6944	11.7682	0.9555	0.0372	0.0207	0.0023	0.0021	0	0.001	0.0082	0.0234	9/1/2018	9/2/2018	9/2/2018 3:33:26 PM	
11587	GLEN ULLIN	1099	0.6406	1373.1	-49.1	1.7267	0.8491	84.0785	12.303	0.9782	0.0373	0.0207	0.0023	0.0022	0	0.0007	0.0038	0.0181	9/2/2018	9/3/2018	9/3/2018 3:33:29 PM	
11587	GLEN ULLIN	1101.4	0.6423	1374.2	-47.6	1.722	0.8622	83.8036	12.5055	1.032	0.0393	0.0232	0.0022	0.0024	0	0.0009	0.0093	0	9/3/2018	9/4/2018	9/4/2018 3:38:18 PM	
11587	GLEN ULLIN	1101.4	0.6421	1374.5	-48.1	1.702	0.8627	83.8183	12.5082	1.0463	0.0316	0.019	0.0011	0.0012	0	0.0005	0.0102	0.0067	9/4/2018	9/5/2018	9/5/2018 3:35:41 PM	
11587	GLEN ULLIN	1100.9	0.6417	1374.3	-48.3	1.6994	0.8597	83.9763	12.3017	1.1073	0.0314	0.0193	0.0011	0.0013	0	0	0.0078	0.0028	9/5/2018	9/6/2018	9/6/2018 3:39:31 PM	
11587	GLEN ULLIN	1100.3	0.6416	1373.7	-48.6	1.7168	0.8654	83.892	12.4847	0.9779	0.0372	0.0208	0.0021	0.002	0	0.0004	0.0038	0.0159	9/6/2018	9/7/2018	9/7/2018 3:36:36 PM	
11587	GLEN ULLIN	1099.4	0.6405	1373.7	-49.6	1.6715	0.8645	84.1289	12.274	1.0097	0.0301	0.0183	0.0011	0.0011	0	0	0	0.023	9/7/2018	9/8/2018	9/8/2018 3:35:26 PM	
11587	GLEN ULLIN	1100.7	0.6418	1374	-48.7	1.6942	0.8778	83.8849	12.4718	1.0148	0.0328	0.0192	0.0016	0.0016	0	0	0.0038	0.0205	9/8/2018	9/9/2018	9/9/2018 3:34:54 PM	
11587	GLEN ULLIN	1104.4	0.644	1376.2	-47.1	1.6796	0.8757	83.465	12.9005	1.016	0.0376	0.0212	0.0021	0.002	0	0	0.0071	0	9/9/2018	9/10/2018	9/10/2018 3:36:08 PM	
11587	GLEN ULLIN	1107.6	0.6463	1377.8	-44.6	1.702	0.8748	83.2013	12.9344	1.2224	0.0385	0.0229	0.0019	0.0018	0	0	0.001	0	9/10/2018	9/11/2018	9/11/2018 3:36:54 PM	
11587	GLEN ULLIN	1092.7	0.6363	1369.9	-52.9	1.6521	0.8776	84.842	11.7463	0.8233	0.0348	0.0195	0.0019	0.0018	0	0.0002	0.0086	0	9/11/2018	9/12/2018	9/12/2018 3:35:29 PM	
11587	GLEN ULLIN	1098.1	0.6404	1372.2	-51	1.751	0.8536	83.909	12.6617	0.7674	0.0332	0.0188	0.0018	0.0018	0	0	0.0113	0	9/12/2018	9/13/2018	9/13/2018 3:35:59 PM	
11587	GLEN ULLIN	1095.5	0.6387	1370.8	-51.5	1.7675	0.8442	84.2565	12.2858	0.7893	0.034	0.0186	0.002	0.0019	0	0.0009	0.0026	0	9/13/2018	9/14/2018	9/14/2018 3:36:43 PM	
11587	GLEN ULLIN	1105.4	0.6461	1375.3	-44.8	1.8443	0.8578	83.0181	13.2046	0.985	0.05	0.0305	0.0038	0.0044	0	0.0015	0.0046	0	9/14/2018	9/15/2018	9/15/2018 3:34:46 PM	
11587	GLEN ULLIN	1097.4	0.6402	1371.5	-50.7	1.8216	0.8231	83.9766	12.4922	0.8275	0.0352	0.0189	0.0021	0.002	0	0.0002	0.0041	0	9/15/2018	9/16/2018	9/16/2018 3:33:17 PM	
11587	GLEN ULLIN	1096.7	0.6395	1371.4	-51.3	1.8392	0.7986	84.089	12.3686	0.8528	0.0302	0.0168	0.0015	0.0015	0	0	0.0065	0	9/16/2018	9/17/2018	9/17/2018 3:34:29 PM	
11587	GLEN ULLIN	1100.5	0.6416	1373.9	-48.5	1.7955	0.8043	83.8486	12.4833	1.0061	0.0361	0.0203	0.0019	0.0019	0	0.0003	0.0126	0	9/17/2018	9/18/2018	9/18/2018 3:33:35 PM	
11587	GLEN ULLIN	1093.9	0.6375	1370.1	-50.6	1.8027	0.8071	84.6876	11.6509	0.9734	0.0462	0.0251	0.0028	0.0027	0	0.0005	0.0137	0	9/18/2018	9/19/2018	9/19/2018 3:35:06 PM	
11587	GLEN ULLIN	1095.9	0.6393	1370.7	-50.2	1.7931	0.8438	84.3052	12.0542	0.9341	0.0409	0.0233	0.002	0.0021	0	0.0005	0.0088	0	9/19/2018	9/20/2018	9/20/2018 3:33:18 PM	
11587	GLEN ULLIN	1087.3	0.6326	1367.1	-55.8	1.6907	0.8357	85.4278	11.2844	0.7054	0.0329	0.0178	0.0021	0.002	0	0.0005	0.0092	0	9/20/2018	9/21/2018	9/21/2018 3:39:28 PM	
11587	GLEN ULLIN	1090.8	0.6353	1368.5	-53.6	1.7065	0.857	84.9738	11.6218	0.7795	0.0357	0.0193	0.0024	0.0023	0	0.0005	0.0087	0	9/21/2018	9/22/2018	9/22/2018 3:33:06 PM	
11587	GLEN ULLIN	1087.6	0.634	1365.9	-54.9	1.75	0.8714	85.2322	11.3267	0.7594	0.035	0.0203	0.0018	0.002	0	0.0004	0.0108	0	9/22/2018	9/23/2018	9/23/2018 3:33:00 PM	
11587	GLEN ULLIN	1094.2	0.638	1369.8	-52.6	1.7397	0.87	84.3968	12.1765	0.7608	0.0323	0.0183	0.0015	0.0017	0	0	0.0148	0	9/23/2018	9/24/2018	9/24/2018 3:36:53 PM	
11587	GLEN ULLIN	1096.6	0.6393	1371.5	-51.4	1.7385	0.8583	84.1322	12.4286	0.7863	0.0319	0.018	0.0016	0.0016	0	0.0004	0.0115	0	9/24/2018	9/25/2018	9/25/2018 3:35:49 PM	
11587	GLEN ULLIN	1095.4	0.6388	1370.5	-51.8	1.7415	0.8696	84.2529	12.2923	0.7867	0.0312	0.0178	0.0017	0.0017	0	0.0003	0.0127	0	9/25/2018	9/26/2018	9/26/2018 3:33:56 PM	
11587	GLEN ULLIN	1095.1	0.6386	1370.3	-51.6	1.7528	0.8601	84.3138	12.2145	0.7972	0.034	0.0194	0.0021	0.0021	0	0.0007	0.0132	0.0064	9/26/2018	9/27/2018	9/27/2018 3:35:27 PM	
11587	GLEN ULLIN	1097	0.6398	1371.5	-50.1	1.7836	0.839	84.1091	12.3466	0.8491	0.0405	0.0213	0.003	0.0028	0	0.0009	0.0172	0	9/27/2018	9/28/2018	9/28/2018 3:35:16 PM	
11587	GLEN ULLIN	1095.2	0.6385	1370.6	-51.3	1.7556	0.8517	84.3373	12.1794	0.8059	0.0402	0.0215	0.0026	0.0025	0	0.0006	0.0179	0.0005	9/28/2018	9/29/2018	9/29/2018 3:32:12 PM	
11587	GLEN ULLIN	1091.5	0.6357	1369	-53.3	1.725	0.8433	84.8467	11.7757	0.7474	0.0356	0.019	0.0028	0.0025	0	0.001	0.0186	0	9/29/2018	9/30/2018	9/30/2018 3:34:02 PM	
11587	GLEN ULLIN	1095	0.6379	1371	-52	1.7157	0.8482	84.393	12.2292	0.7509	0.0345	0.0186	0.0025	0.0023	0	0.0009	0.0161	0	9/30/2018	10/1/2018	10/1/2018 3:32:11 PM	

31 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
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	SEPT 18	AUG 18	JULY 18	JUNE 18	MAY 18	APRIL 18	MARCH 18	FEB 18	JAN 18	DEC 17	NOV 17	OCT 17	ZONE
MT/ND	211	Sidney Border - MonDak Tfr - Sidney Plt	1196	1191	1203	1202	1171	1193	1191	1211	1195	1185	1193	1210	1201	211
ND	24	Williston Border - Charbonneau Station	1142	1152	1136	1158	1141	1135	1136	1140	1140	1138	1143	1144	1144	24
ND	25	Watford City West Border	1188	1200	1197	1204	1202	1192	1185	1179	1184	1174	1165	1169	1204	25
ND	28	Bismarck Station - Glen Ullin Station	1142	1173	1162	1153	1173	1172	1163	1121	1098	1096	1114	1111	1173	28
ND	31	Dickinson Brd - Belfield Trf - G Ullin Stn	1127	1144	1132	1147	1139	1158	1134	1122	1102	1095	1111	1110	1132	31
ND/MT	32	Cabin Creek Station - Belfied Transfer	1107	1106	1133	1136	1127	1113	1116	1104	1080	1072	1096	1090	1113	32
ND	33	Little Knife Plant	1175	1172	1176	1175	1174	1176	1175	1175	1176	1175	1174	1174	1174	33
ND	34	Badlands Plant/Bowman Border	994	1018	979	983	984	996	996	996	996	996	996	996	996	34
ND	43	Spring Creek I - Sax Valve I	1157	1158	1172	1152	1155	1160	1164	1158	1148	1153	1165	1158	1143	43
ND/MT	241	Fairview Border	1190	1186	1195	1196	1180	1168	1151	1205	1206	1203	1190	1204	1196	241
ND	260	North Tioga Transfer - Nesson Plant	1033	1120	1101	1127	1089	989	989	987	986	1021	998	992	996	260
ND	261	Tioga Comp Station - Robinson Lake Plan	1174	1181	1175	1177	1178	1169	1176	1173	1171	1173	1167	1170	1176	261
ND	262	Minot Bdr - Palermo Bdr - Bismarck Stn	1184	1175	1160	1156	1175	1180	1198	1199	1191	1193	1196	1190	1194	262
ND	263	Lignite Plant	1132	1146	1162	1135	1115	1128	1135	1115	1135	1114	1120	1143	1141	263
ND	264	Epping Border	1138	1135	1135	1148	1148	1129	1128	1118	1144	1161	1142	1133	1134	264
ND	265	Tioga Comp Station - County Line Plant	1175	1182	1178	1176	1178	1175	1176	1173	1171	1174	1167	1170	1176	265
ND	266	County Line Plant	1182	1180	1178	1181	1181	1180	1181	1182	1185	1183	1181	1184	1185	266
ND	271	Bismarck Station - Cleveland Station	1174	1173	1162	1153	1173	1173	1194	1187	1159	1161	1176	1179	1192	271
ND	272	Cleveland Station - Mapleton	1173	1173	1160	1154	1173	1172	1194	1187	1158	1160	1177	1179	1192	272
ND	273	Cleveland Station - Grafton Border	1173	1173	1161	1153	1173	1171	1192	1187	1158	1160	1177	1179	1192	273
ND	550	Mandan Border / NBPL-St Anthony		1173	1162	1150	1173	1172	1163	1100	1090	1088	1099	1093		550
ND	610	MDU-Watford City BTU	1169	1181	1175	1152	1156	1164	1174	1170	1168	1164	1165	1165	1189	610
ND	802	Linton	1080	1097	1092	1101	1097	1083	1074	1069	1068	1069	1073	1075	1064	802
ND	903	Hettinger Propane	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	2549	903

**THERMAL ZONE VARIANCE
DOCUMENTATION**

September 2018

<i>ZONE</i>	<i>BTU VARIANCE</i>	<i>REASON</i>
32	-27	Source of Gas
34	39	Source of Gas