

September 11, 2014

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

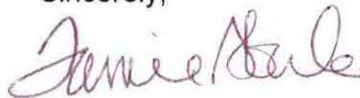
Re: Case No. 11,006 (Therm Billing)  
Monthly Report – July 2014

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 the above-referenced docket, dated October 20, 1987:

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 August 2014.
2. Attachment B consists of copies of the monthly Heating Value Test Reports received from our supplier for the month of July 2014. There is a report for each of the 18 thermal zones for the month.
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 July 2014.

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,



Tamie Aberle  
Director of Regulatory Affairs

**Montana-Dakota Utilities Co.**  
**Therm Billing Factors - North Dakota**  
**August 2014**

Town	Heat Zone	Therm Factor
MDU-303-ALEXANDER	025	1.1513
MDU-308-ARNEGARD	025	1.1580
MDU-314-APPLE VALLEY	271	1.1115
MDU-318-BEACH	032	1.0600
MDU-319-BELFIELD	032	1.0678
MDU-323-BERTHOLD	262	1.0900
MDU-327-BISMARCK	028	1.1106
MDU-330-BOWMAN	034	1.0366
MDU-337-BURLINGTON	262	1.1135
MDU-343-CARRINGTON	273	1.1106
MDU-344-CLEVELAND	272	1.1027
MDU-364-CAVALIER	273	1.1340
MDU-365-DAWSON	271	1.1037
MDU-368-DES LACS	262	1.0978
MDU-369-DICKINSON	031	1.1027
MDU-374-FT TOTTEN	273	1.1184
MDU-375-DEVILS LAKE	273	1.1184
MDU-379-BARLOW	273	1.1106
MDU-384-EPPING	264	1.1183
MDU-387-ELDRIDGE	272	1.1106
MDU-407-GLADSTONE	031	1.1027
MDU-411-GLEN ULLIN	311	1.0682
MDU-413-GOLVA	032	1.0444
MDU-416-GARRISON	262	1.0978
MDU-417-GRAFTON	273	1.1418
MDU-429-HEBRON	311	1.0682
MDU-432-HETTINGER	903	2.3875
MDU-449-JAMESTOWN	272	1.1184
MDU-459-KILLDEER	033	1.1173
MDU-463-LANGDON	273	1.1106
MDU-469-LEFOR	031	1.1027
MDU-474-LIGNITE	263	1.0445
MDU-475-LINTON	802	1.0131
MDU-478-LINCOLN	028	1.1106
MDU-494-MEDINA	271	1.1037
MDU-498-MANDAN	028	1.1106
MDU-500-MARMARTH	034	1.0443
MDU-505-MINOT	262	1.1135
MDU-510-MOTT	031	1.1027
MDU-512-MAX	262	1.1135
MDU-522-NEW ENGLAND	031	1.0948
MDU-524-NEW SALEM	028	1.0871
MDU-532-NEW ROCKFORD	273	1.1106
MDU-539-PARK RIVER	273	1.1340
MDU-540-PALERMO	262	1.0900
MDU-558-RAY	264	1.1183
MDU-561-REGENT	031	1.1027
MDU-563-RHAME	034	1.0289
MDU-564-RICHARDTON	311	1.0529

MDU-568-ROSS	261	1.0259
MDU-572-RUTHVILLE	262	1.1135
MDU-574-SANBORN	272	1.1184
MDU-583-SENTINEL BUTTE	032	1.0600
MDU-588-SOUTH HEART	031	1.0948
MDU-717-SPIRITWOOD	272	1.1184
MDU-590-SPRINGBROOK	264	1.1183
MDU-591-STANLEY	261	1.0333
MDU-593-STEELE	271	1.1037
MDU-598-SHEYENNE	273	1.1184
MDU-605-SURREY	262	1.1135
MDU-610-TAPPEN	271	1.1037
MDU-611-TAYLOR	031	1.0948
MDU-616-TIOGA	261	1.0259
MDU-619-TURTLE LAKE	262	1.0978
MDU-620-TRENTON	024	1.1263
MDU-624-UNDERWOOD	262	1.0978
MDU-625-VALLEY CITY	272	1.1262
MDU-629-WALHALLA	273	1.1340
MDU-632-WATFORD CITY	610	1.1372
MDU-636-WHEELOCK	264	1.1103
MDU-637-WHITE EARTH	261	1.0333
MDU-642-WILLISTON	024	1.1263
MDU-646-WASHBURN	262	1.1056
MDU-647-WILTON	262	1.0900
MDU-664-RIVERDALE	262	1.0978
MDU-691-FAIRVIEW	241	1.1492
MDU-712-MINOT AFB	262	1.1135
MDU-732-MSR SITE	273	1.1221



## GQ Source Daily Summary

July 2014

Number: 372

Pressure Base: 14.730

Contract Day: 1

Name: NESSON PLANT-CHARBONNEAU STATION

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry																	
				CO2	N2	C1	C2	C3	IC4	NC4	IC5	NCS	C6	C7	C8	C9	C10	Wobbe	CCT	
1	0.7005	1155.6	1176.1	0.840	2.758	72.843	21.538	1.805	0.064	0.135	0.008	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1405.22	
2	0.7065	1164.2	1184.8	0.847	2.789	72.223	21.658	2.159	0.087	0.201	0.016	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1409.57	
3	0.7075	1166.0	1186.6	0.829	2.793	72.257	21.433	2.328	0.096	0.223	0.018	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1410.79	
4	0.7055	1164.0	1184.6	0.865	2.678	72.419	21.547	2.210	0.080	0.174	0.013	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1410.32	
5	0.7059	1166.0	1186.7	0.861	2.600	72.462	21.547	2.187	0.093	0.212	0.017	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1412.36	
6	0.6995	1158.1	1178.6	0.869	2.469	72.943	21.849	1.669	0.060	0.125	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1409.26	
7	0.6960	1154.8	1175.3	0.876	2.333	73.428	21.738	1.424	0.061	0.125	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1408.75	
8	0.6969	1156.2	1176.7	0.889	2.313	73.384	21.665	1.550	0.061	0.123	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1409.50	
9	0.6992	1160.8	1181.4	0.881	2.263	72.724	22.560	1.383	0.058	0.117	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1412.80	
10	0.6989	1159.5	1180.1	0.890	2.295	72.817	22.400	1.414	0.056	0.114	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1411.58	
11	0.6983	1158.8	1179.3	0.885	2.291	73.019	22.116	1.504	0.056	0.114	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1411.30	
12	0.6978	1157.7	1178.2	0.893	2.304	73.184	21.868	1.566	0.056	0.114	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1410.38	
13	0.7010	1163.2	1183.8	0.881	2.287	72.270	23.063	1.320	0.055	0.111	0.006	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1413.88	
14	0.6983	1158.1	1178.6	0.892	2.322	73.063	21.997	1.543	0.056	0.114	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1410.47	
15	0.7010	1162.0	1182.6	0.883	2.358	72.364	22.789	1.431	0.054	0.109	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1412.43	
16	0.7059	1164.6	1185.3	0.855	2.691	72.233	21.791	2.158	0.078	0.169	0.012	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1410.74	
17	0.7065	1167.1	1187.7	0.862	2.590	71.872	22.487	1.939	0.072	0.154	0.011	0.012	0.000	0.000	0.000	0.000	0.000	0.000	1413.10	
18	0.7078	1165.2	1185.8	0.847	2.847	72.104	21.549	2.342	0.086	0.193	0.015	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1409.53	
19	0.7076	1161.2	1181.7	0.806	3.135	72.637	20.252	2.796	0.103	0.232	0.018	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1404.77	
20	0.7100	1168.3	1189.0	0.850	2.862	71.735	21.820	2.420	0.087	0.192	0.015	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1411.02	
21	0.7101	1169.3	1190.0	0.840	2.827	71.705	21.921	2.379	0.088	0.202	0.017	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1412.15	
22	0.7130	1172.5	1193.3	0.830	2.917	71.678	21.518	2.596	0.112	0.279	0.030	0.041	0.000	0.000	0.000	0.000	0.000	0.000	1413.11	
23	0.7119	1170.3	1191.1	0.839	2.929	71.507	21.886	2.487	0.093	0.217	0.019	0.023	0.000	0.000	0.000	0.000	0.000	0.000	1411.65	
24	0.7122	1170.7	1191.4	0.828	2.956	71.509	21.766	2.578	0.098	0.224	0.018	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1411.75	
25	0.7110	1170.0	1190.7	0.869	2.823	71.768	21.720	2.436	0.100	0.234	0.021	0.028	0.000	0.000	0.000	0.000	0.000	0.000	1412.07	
26	0.7074	1166.2	1186.9	0.843	2.757	72.267	21.475	2.292	0.097	0.225	0.019	0.024	0.000	0.000	0.000	0.000	0.000	0.000	1411.08	
27	0.7076	1166.6	1187.3	0.838	2.748	72.342	21.318	2.374	0.102	0.235	0.019	0.023	0.000	0.000	0.000	0.000	0.000	0.000	1411.49	
28	0.7089	1169.1	1189.8	0.849	2.708	72.187	21.431	2.420	0.108	0.249	0.021	0.025	0.000	0.000	0.000	0.000	0.000	0.000	1413.10	
29	0.7065	1164.3	1184.9	0.829	2.804	72.473	21.202	2.322	0.100	0.231	0.018	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1409.70	
30	0.7090	1165.2	1185.8	0.833	2.979	72.114	21.225	2.476	0.097	0.228	0.021	0.026	0.000	0.000	0.000	0.000	0.000	0.000	1408.31	
31	0.7068	1162.3	1182.8	0.825	2.962	72.333	21.176	2.397	0.085	0.189	0.015	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1406.98	
Avg	0.7050	1164.0	1184.4	0.856	2.658	72.383	21.752	2.062	0.081	0.180	0.014	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1410.62	

Zone 24, 264

# GQ Source Analysis

<b>GQ Source Number:</b>	0602160	<b>Specific Gravity:</b>	0.7358
<b>GQ Source Name:</b>	FAIRVIEW BORDER	<b>Dry Heat Value:</b>	1208.00
<b>Effective Date:</b>	7/1/2014 9:00:00 AM	<b>Wet Heat Value:</b>	1186.97
<b>Effective End Date:</b>	1/18/2038 9:14:07 PM	<b>As Deliv. Heat Value:</b>	1208.00
<b>Pressure Base:</b>	14.730	<b>Sample Pressure:</b>	1,001.00
<b>Viscosity:</b>		<b>Sample Temperature:</b>	

		<u>Mol %</u>	<u>Liquid Content</u>			<u>Mol %</u>
C1	Methane	68.555		CO2	Carbon Dioxide	1.189
C2	Ethane	21.806	5.8145	N2	Nitrogen	3.573
C3	Propane	4.411	1.2116	O2	Oxygen	0.011
IC4	Isobutane	0.123	0.0402	He	Hellum	
NC4	n-Butane	0.294	0.0924	H2	Hydrogen	
IC5	Isopentane	0.020	0.0074	H2S	Hydrogen Sulfide	
NC5	n-Pentane	0.018	0.0065	Ar	Argon	
C6	Hexanes	0.000	0.0000	CO	Carbon Monoxide	
C7	Heptanes			H2	Water	
C8	Octanes			Neo-C5	Neopentane	
C9	Nonanes					
C10	Decanes					

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**Totals**      100.000%      7.173 GPM

**Sample Date:** 8/1/2014 12:00:00 AM  
**Sample Type:** Composite  
**Sample Tech:** Rocky Robson  
**H2S:** ppm

**Sample Remarks:**

**Analysis Tech:** MB

**Analysis Remarks:**

Zone 241

# GQ Source Analysis

<b>GQ Source Number:</b>	0602230	<b>Specific Gravity:</b>	0.7293
<b>GQ Source Name:</b>	WATFORD CITY BORDER	<b>Dry Heat Value:</b>	1219.20
<b>Effective Date:</b>	7/1/2014 9:00:00 AM	<b>Wet Heat Value:</b>	1197.98
<b>Effective End Date:</b>	1/18/2038 9:14:07 PM	<b>As Deliv. Heat Value:</b>	1219.20
<b>Pressure Base:</b>	14.730	<b>Sample Pressure:</b>	385.00
<b>Viscosity:</b>		<b>Sample Temperature:</b>	

		<u>Mol %</u>	<u>Liquid Content</u>			<u>Mol %</u>
C1	Methane	68.586		CO2	Carbon Dioxide	1.015
C2	Ethane	24.363	6.4962	N2	Nitrogen	2.575
C3	Propane	2.924	0.8033	O2	Oxygen	0.000
IC4	Isobutane	0.146	0.0477	He	Helium	
NC4	n-Butane	0.317	0.0996	H2	Hydrogen	
IC5	Isopentane	0.033	0.0121	H2S	Hydrogen Sulfide	
NC5	n-Pentane	0.037	0.0132	Ar	Argon	
C6	Hexanes	0.004	0.0000	CO	Carbon Monoxide	
C7	Heptanes			H2	Water	
C8	Octanes			Neo-C5	Neopentane	
C9	Nonanes					
C10	Decanes					

**Totals**      100.000%      7.472 GPM

**Sample Date:** 8/1/2014 12:00:00 AM  
**Sample Type:** Composite  
**Sample Tech:** Eric Smeltzer  
**H2S:** ppm

**Sample Remarks:**

**Analysis Tech:** MB

**Analysis Remarks:**

Zone 25

## GQ Source Daily Summary

July 2014

Number: 163

Pressure Base: 14.730

Contract Day: 1

Name: NORTH TIOGA TRANSFER-PALERMO BORDER LI

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6518	1077.4	1096.5	0.349	3.695	81.333	13.297	1.214	0.033	0.069	0.005	0.006	0.000	0.000	0.000	0.000	0.000	1358.11	
2	0.6599	1090.1	1109.4	0.369	3.640	80.351	13.866	1.533	0.061	0.147	0.015	0.019	0.000	0.000	0.000	0.000	0.000	1365.72	
3	0.6660	1100.2	1119.7	0.350	3.636	79.091	15.088	1.611	0.060	0.137	0.012	0.015	0.000	0.000	0.000	0.000	0.000	1371.87	
4	0.6551	1082.3	1101.5	0.334	3.718	81.390	12.678	1.631	0.065	0.154	0.014	0.017	0.000	0.000	0.000	0.000	0.000	1360.92	
5	0.6551	1082.3	1101.5	0.334	3.718	81.390	12.678	1.631	0.065	0.154	0.014	0.017	0.000	0.000	0.000	0.000	0.000	1360.92	
6	0.6606	1090.7	1110.1	0.376	3.655	80.422	13.585	1.698	0.068	0.162	0.015	0.019	0.000	0.000	0.000	0.000	0.000	1365.77	
7	0.6787	1118.5	1138.3	0.590	3.349	76.990	17.021	1.818	0.064	0.142	0.012	0.014	0.000	0.000	0.000	0.000	0.000	1381.73	
8	0.6789	1118.8	1138.6	0.550	3.414	77.060	16.808	1.915	0.067	0.154	0.014	0.018	0.000	0.000	0.000	0.000	0.000	1381.81	
9	0.6887	1135.7	1155.8	0.602	3.218	75.340	18.501	2.061	0.076	0.170	0.014	0.017	0.000	0.000	0.000	0.000	0.000	1392.71	
10	0.6823	1125.6	1145.5	0.600	3.237	76.457	17.517	1.936	0.070	0.154	0.013	0.016	0.000	0.000	0.000	0.000	0.000	1386.84	
11	0.6826	1126.6	1146.6	0.601	3.205	76.515	17.405	1.994	0.075	0.170	0.015	0.018	0.000	0.000	0.000	0.000	0.000	1387.73	
12	0.6820	1124.7	1144.6	0.602	3.267	76.674	17.123	2.056	0.076	0.171	0.014	0.017	0.000	0.000	0.000	0.000	0.000	1385.90	
13	0.6751	1113.6	1133.3	0.594	3.302	78.011	15.871	1.925	0.077	0.181	0.017	0.022	0.000	0.000	0.000	0.000	0.000	1379.30	
14	0.6750	1112.9	1132.6	0.576	3.362	78.146	15.575	2.023	0.082	0.195	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1378.52	
15	0.6665	1098.2	1117.6	0.510	3.552	79.815	13.757	2.060	0.081	0.186	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1369.00	
16	0.6507	1073.5	1092.5	0.407	3.734	82.405	11.500	1.717	0.063	0.145	0.013	0.016	0.000	0.000	0.000	0.000	0.000	1354.32	
17	0.6655	1099.1	1118.5	0.399	3.581	79.268	14.895	1.641	0.058	0.133	0.011	0.014	0.000	0.000	0.000	0.000	0.000	1370.85	
18	0.6439	1064.9	1083.8	0.324	3.745	83.235	11.176	1.328	0.049	0.116	0.012	0.015	0.000	0.000	0.000	0.000	0.000	1350.45	
19	0.6182	1025.2	1043.3	0.197	3.939	87.731	7.137	0.869	0.033	0.077	0.007	0.009	0.000	0.000	0.000	0.000	0.000	1326.98	
20	0.6317	1044.5	1063.0	0.275	3.917	85.487	8.914	1.246	0.044	0.099	0.008	0.010	0.000	0.000	0.000	0.000	0.000	1337.40	
21	0.6373	1053.5	1072.2	0.298	3.853	84.608	9.686	1.347	0.052	0.127	0.012	0.016	0.000	0.000	0.000	0.000	0.000	1343.05	
22	0.6217	1029.7	1048.0	0.210	3.972	87.342	7.302	0.973	0.046	0.120	0.016	0.021	0.000	0.000	0.000	0.000	0.000	1329.06	
23	0.6122	1015.9	1033.9	0.172	3.984	88.800	6.168	0.761	0.030	0.070	0.007	0.009	0.000	0.000	0.000	0.000	0.000	1321.32	
24	0.6210	1029.3	1047.5	0.184	3.972	87.281	7.461	0.951	0.040	0.093	0.008	0.010	0.000	0.000	0.000	0.000	0.000	1329.21	
25	0.6423	1060.6	1079.4	0.338	3.830	83.874	10.164	1.564	0.060	0.141	0.013	0.016	0.000	0.000	0.000	0.000	0.000	1346.81	
26	0.6444	1063.5	1082.3	0.363	3.812	83.582	10.399	1.592	0.063	0.153	0.016	0.020	0.000	0.000	0.000	0.000	0.000	1348.32	
27	0.6434	1062.0	1080.8	0.346	3.839	83.804	10.106	1.646	0.067	0.158	0.015	0.019	0.000	0.000	0.000	0.000	0.000	1347.39	
28	0.6447	1064.1	1082.9	0.369	3.797	83.591	10.347	1.627	0.068	0.163	0.016	0.021	0.000	0.000	0.000	0.000	0.000	1348.70	
29	0.6305	1042.1	1060.5	0.281	3.941	85.814	8.553	1.210	0.050	0.122	0.013	0.017	0.000	0.000	0.000	0.000	0.000	1335.53	
30	0.6026	1000.7	1018.4	0.135	4.064	90.435	4.711	0.575	0.021	0.048	0.004	0.005	0.000	0.000	0.000	0.000	0.000	1311.88	
31	0.6054	1004.1	1021.9	0.154	4.087	89.946	5.106	0.624	0.022	0.050	0.005	0.006	0.000	0.000	0.000	0.000	0.000	1313.40	
Avg	0.6508	1075.0	1094.2	0.380	3.679	82.135	12.077	1.509	0.058	0.134	0.013	0.015	0.000	0.000	0.000	0.000	0.000	1356.18	

Zone 261



# GQ Source Analysis

<b>GQ Source Number:</b>	2501030	<b>Specific Gravity:</b>	0.6537
<b>GQ Source Name:</b>	LIGNITE PLANT	<b>Dry Heat Value:</b>	1097.53
<b>Effective Date:</b>	7/1/2014 9:00:00 AM	<b>Wet Heat Value:</b>	1078.43
<b>Effective End Date:</b>	1/18/2038 9:14:07 PM	<b>As Deliv. Heat Value:</b>	1097.53
<b>Pressure Base:</b>	14.730	<b>Sample Pressure:</b>	1,004.00
<b>Viscosity:</b>		<b>Sample Temperature:</b>	

		<u>Mol %</u>	<u>Liquid Content</u>			<u>Mol %</u>
C1	Methane	80.128		C02	Carbon Dioxide	0.076
C2	Ethane	14.449	3.8528	N2	Nitrogen	4.191
C3	Propane	1.133	0.3114	O2	Oxygen	0.010
IC4	Isobutane	0.013	0.0041	He	Helium	
NC4	n-Butane	0.000	0.0000	H2	Hydrogen	
IC5	Isopentane	0.000	0.0000	H2S	Hydrogen Sulfide	
NC5	n-Pentane	0.000	0.0000	Ar	Argon	
C6	Hexanes	0.000	0.0000	CO	Carbon Monoxide	
C7	Heptanes			H2	Water	
C8	Octanes			Neo-C5	Neopentane	
C9	Nonanes					
C10	Decanes					
<b>Totals</b>			100.000%		4.168 GPM	

**Sample Date:** 8/1/2014 12:00:00 AM  
**Sample Type:** Composite  
**Sample Tech:** Eric Smeltzer  
**H2S:** ppm

**Sample Remarks:**

**Analysis Tech:** MB

**Analysis Remarks:**

Zone 263

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

## GQ Source Daily Summary

July 2014

Number: 043

Pressure Base: 14.730

Contract Day: 1

Name: BISMARCK STATION-CLEVELAND STATION

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value		CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
		Value Wet	Value Dry																
1	0.7068	1135.9	1156.0	0.576	4.944	72.714	18.124	3.303	0.095	0.216	0.013	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1375.03
2	0.7073	1137.2	1157.4	0.578	4.907	72.669	18.146	3.362	0.096	0.217	0.013	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1376.17
3	0.7134	1147.3	1167.6	0.585	4.853	71.762	18.890	3.496	0.112	0.262	0.018	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1382.37
4	0.7099	1141.3	1161.5	0.580	4.897	72.396	18.247	3.490	0.108	0.248	0.016	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1378.57
5	0.7081	1140.1	1160.3	0.586	4.789	72.791	17.982	3.444	0.110	0.259	0.018	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1378.89
6	0.7067	1138.2	1158.4	0.594	4.764	72.896	18.038	3.336	0.103	0.236	0.015	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1377.95
7	0.6810	1119.7	1139.6	0.553	3.548	76.781	16.819	2.036	0.070	0.163	0.013	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1380.85
8	0.6827	1121.6	1141.5	0.579	3.551	76.431	17.199	1.964	0.071	0.171	0.015	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1381.47
9	0.6801	1121.0	1140.8	0.562	3.372	76.926	16.934	1.942	0.069	0.162	0.014	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1383.32
10	0.6862	1132.3	1152.3	0.593	3.211	75.805	18.112	2.000	0.074	0.172	0.014	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1390.97
11	0.6814	1124.3	1144.2	0.598	3.230	76.655	17.341	1.931	0.068	0.152	0.011	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1386.21
12	0.6832	1127.6	1147.6	0.600	3.197	76.498	17.379	2.038	0.076	0.177	0.015	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1388.40
13	0.6791	1119.9	1139.7	0.598	3.282	77.305	16.499	2.027	0.078	0.179	0.014	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1383.03
14	0.6754	1114.1	1133.9	0.595	3.290	78.004	15.887	1.919	0.079	0.188	0.017	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1379.71
15	0.6791	1116.4	1136.2	0.589	3.503	77.648	15.654	2.257	0.090	0.215	0.019	0.024	0.000	0.000	0.000	0.000	0.000	0.000	1378.81
16	0.7045	1135.8	1155.9	0.611	4.680	73.526	17.369	3.400	0.114	0.263	0.018	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1377.17
17	0.7022	1130.8	1150.9	0.591	4.795	73.838	17.092	3.263	0.117	0.268	0.017	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1373.39
18	0.7150	1149.0	1169.4	0.596	4.884	71.319	19.433	3.322	0.124	0.285	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1382.89
19	0.7139	1141.9	1162.1	0.610	5.190	71.762	18.459	3.501	0.132	0.305	0.019	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1375.44
20	0.7048	1128.8	1148.7	0.562	5.209	73.357	17.076	3.339	0.127	0.293	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1368.35
21	0.7142	1141.4	1161.6	0.614	5.244	71.793	18.272	3.597	0.134	0.307	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1374.51
22	0.7114	1138.5	1158.7	0.600	5.183	72.209	18.081	3.446	0.131	0.307	0.020	0.023	0.000	0.000	0.000	0.000	0.000	0.000	1373.69
23	0.7100	1134.4	1154.5	0.586	5.321	72.536	17.570	3.500	0.132	0.311	0.021	0.024	0.000	0.000	0.000	0.000	0.000	0.000	1370.10
24	0.7079	1130.8	1150.9	0.579	5.349	72.833	17.327	3.450	0.128	0.297	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1367.86
25	0.7036	1126.6	1146.6	0.554	5.243	73.522	16.930	3.306	0.123	0.285	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1366.86
26	0.7027	1129.7	1149.7	0.568	4.945	73.796	16.936	3.298	0.125	0.291	0.019	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1371.53
27	0.7033	1130.1	1150.1	0.576	4.967	73.766	16.887	3.325	0.129	0.305	0.021	0.024	0.000	0.000	0.000	0.000	0.000	0.000	1371.37
28	0.7026	1129.2	1149.2	0.569	4.961	73.973	16.629	3.381	0.133	0.310	0.021	0.024	0.000	0.000	0.000	0.000	0.000	0.000	1371.07
29	0.7018	1128.0	1148.0	0.582	4.944	74.034	16.677	3.292	0.128	0.300	0.020	0.023	0.000	0.000	0.000	0.000	0.000	0.000	1370.33
30	0.7104	1134.7	1154.8	0.607	5.304	72.500	17.593	3.494	0.137	0.320	0.021	0.023	0.000	0.000	0.000	0.000	0.000	0.000	1370.12
31	0.7083	1129.9	1150.0	0.582	5.432	72.859	17.142	3.492	0.136	0.317	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1366.42
Avg	0.6999	1132.0	1151.5	0.586	4.548	74.029	17.443	2.998	0.108	0.251	0.017	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1376.54

Zone 271

## GQ Source Daily Summary

July 2014

Number: 063

Pressure Base: 14,730

Contract Day: 1

Name: CLEVELAND STATION-MAPLETON

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7067	1135.3	1155.4	0.573	4.974	72.753	18.029	3.327	0.097	0.219	0.013	0.014	0.000	0.000	0.000	0.000	0.000	1374.44	
2	0.7071	1136.2	1156.3	0.583	4.948	72.691	18.089	3.347	0.096	0.217	0.014	0.014	0.000	0.000	0.000	0.000	0.000	1375.06	
3	0.7073	1137.5	1157.6	0.581	4.888	72.679	18.154	3.350	0.097	0.221	0.014	0.015	0.000	0.000	0.000	0.000	0.000	1376.45	
4	0.7165	1152.1	1172.5	0.582	4.853	71.165	19.448	3.530	0.114	0.267	0.019	0.021	0.000	0.000	0.000	0.000	0.000	1385.22	
5	0.7066	1136.7	1156.9	0.581	4.863	72.946	17.836	3.396	0.105	0.239	0.016	0.017	0.000	0.000	0.000	0.000	0.000	1376.27	
6	0.7081	1140.5	1160.7	0.586	4.767	72.815	17.971	3.440	0.113	0.265	0.020	0.022	0.000	0.000	0.000	0.000	0.000	1379.35	
7	0.6912	1123.2	1143.1	0.554	4.287	75.246	16.959	2.664	0.082	0.184	0.012	0.014	0.000	0.000	0.000	0.000	0.000	1375.01	
8	0.6818	1123.5	1143.4	0.585	3.338	76.611	17.268	1.918	0.072	0.171	0.016	0.020	0.000	0.000	0.000	0.000	0.000	1384.74	
9	0.6777	1116.8	1136.6	0.557	3.405	77.229	16.722	1.851	0.064	0.145	0.012	0.015	0.000	0.000	0.000	0.000	0.000	1380.69	
10	0.6884	1135.1	1155.2	0.606	3.220	75.471	18.328	2.084	0.078	0.179	0.015	0.018	0.000	0.000	0.000	0.000	0.000	1392.32	
11	0.6796	1121.7	1141.5	0.567	3.270	76.926	17.105	1.890	0.067	0.149	0.012	0.014	0.000	0.000	0.000	0.000	0.000	1384.74	
12	0.6812	1124.5	1144.4	0.593	3.211	76.735	17.247	1.955	0.071	0.161	0.013	0.015	0.000	0.000	0.000	0.000	0.000	1386.56	
13	0.6849	1129.7	1149.7	0.611	3.216	76.154	17.670	2.069	0.076	0.172	0.014	0.018	0.000	0.000	0.000	0.000	0.000	1389.19	
14	0.6751	1113.6	1133.3	0.593	3.300	78.098	15.738	1.964	0.079	0.189	0.017	0.022	0.000	0.000	0.000	0.000	0.000	1379.33	
15	0.6746	1112.4	1132.1	0.584	3.338	78.202	15.588	1.977	0.081	0.192	0.017	0.021	0.000	0.000	0.000	0.000	0.000	1378.37	
16	0.6951	1128.8	1148.7	0.613	4.223	75.053	16.740	2.990	0.102	0.237	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1377.90	
17	0.6961	1124.0	1143.9	0.567	4.674	74.873	16.385	3.101	0.110	0.252	0.018	0.020	0.000	0.000	0.000	0.000	0.000	1371.10	
18	0.7053	1134.5	1154.6	0.611	4.829	73.233	17.642	3.254	0.120	0.273	0.018	0.020	0.000	0.000	0.000	0.000	0.000	1374.90	
19	0.7184	1153.2	1173.6	0.607	4.939	70.621	20.062	3.324	0.123	0.283	0.019	0.021	0.000	0.000	0.000	0.000	0.000	1384.56	
20	0.7100	1135.5	1155.6	0.582	5.261	72.413	17.831	3.445	0.131	0.299	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1371.45	
21	0.7059	1130.9	1150.9	0.573	5.166	73.115	17.362	3.335	0.125	0.286	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1369.87	
22	0.7050	1130.1	1150.2	0.575	5.130	73.209	17.377	3.272	0.121	0.279	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1369.77	
23	0.7126	1138.5	1158.6	0.600	5.295	72.071	18.014	3.520	0.135	0.316	0.023	0.026	0.000	0.000	0.000	0.000	0.000	1372.52	
24	0.7085	1131.8	1151.8	0.583	5.340	72.715	17.452	3.450	0.128	0.293	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1368.42	
25	0.7093	1133.1	1153.1	0.577	5.354	72.484	17.699	3.436	0.126	0.287	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1369.13	
26	0.6977	1120.7	1140.6	0.547	5.051	74.605	16.183	3.186	0.118	0.272	0.018	0.020	0.000	0.000	0.000	0.000	0.000	1365.51	
27	0.7019	1128.2	1148.1	0.573	4.958	73.972	16.742	3.290	0.127	0.295	0.021	0.023	0.000	0.000	0.000	0.000	0.000	1370.42	
28	0.7022	1127.9	1147.9	0.572	5.000	73.948	16.691	3.320	0.128	0.298	0.020	0.023	0.000	0.000	0.000	0.000	0.000	1369.83	
29	0.7022	1128.7	1148.7	0.574	4.953	74.012	16.621	3.354	0.131	0.308	0.022	0.024	0.000	0.000	0.000	0.000	0.000	1370.78	
30	0.7064	1131.7	1151.8	0.598	5.125	73.126	17.321	3.358	0.129	0.300	0.020	0.022	0.000	0.000	0.000	0.000	0.000	1370.40	
31	0.7102	1132.9	1152.9	0.596	5.414	72.477	17.534	3.486	0.136	0.315	0.020	0.022	0.000	0.000	0.000	0.000	0.000	1368.10	
Avg	0.6991	1131.0	1150.6	0.583	4.535	74.118	17.413	2.964	0.106	0.244	0.017	0.019	0.000	0.000	0.000	0.000	0.000	1376.21	

Zone 272

## GQ Source Daily Summary

July 2014

Number: 061

Pressure Base: 14.730

Contract Day: 1

Name: CLEVELAND STATION-GRAFTON BORDER

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7067	1135.2	1155.3	0.573	4.979	72.763	18.012	3.328	0.097	0.219	0.014	0.014	0.000	0.000	0.000	0.000	0.000	1374.30	
2	0.7072	1136.2	1156.3	0.583	4.947	72.688	18.095	3.345	0.096	0.217	0.014	0.015	0.000	0.000	0.000	0.000	0.000	1375.08	
3	0.7072	1137.2	1157.3	0.581	4.893	72.711	18.113	3.354	0.097	0.221	0.014	0.015	0.000	0.000	0.000	0.000	0.000	1376.23	
4	0.7159	1151.2	1171.5	0.582	4.860	71.282	19.321	3.532	0.115	0.267	0.019	0.021	0.000	0.000	0.000	0.000	0.000	1384.59	
5	0.7066	1136.7	1156.8	0.582	4.864	72.942	17.841	3.397	0.104	0.237	0.016	0.017	0.000	0.000	0.000	0.000	0.000	1376.21	
6	0.7078	1140.0	1160.2	0.585	4.772	72.862	17.930	3.431	0.113	0.265	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1379.02	
7	0.6913	1123.2	1143.1	0.553	4.297	75.229	16.958	2.671	0.082	0.184	0.012	0.014	0.000	0.000	0.000	0.000	0.000	1374.92	
8	0.6815	1122.9	1142.8	0.585	3.346	76.679	17.187	1.921	0.073	0.173	0.016	0.019	0.000	0.000	0.000	0.000	0.000	1384.32	
9	0.6778	1117.0	1136.7	0.556	3.403	77.219	16.737	1.848	0.064	0.145	0.012	0.015	0.000	0.000	0.000	0.000	0.000	1380.79	
10	0.6884	1135.1	1155.2	0.608	3.217	75.472	18.333	2.081	0.077	0.178	0.015	0.018	0.000	0.000	0.000	0.000	0.000	1392.31	
11	0.6797	1121.9	1141.7	0.565	3.270	76.912	17.112	1.897	0.067	0.150	0.012	0.015	0.000	0.000	0.000	0.000	0.000	1384.88	
12	0.6813	1124.6	1144.5	0.594	3.212	76.716	17.259	1.959	0.071	0.160	0.013	0.015	0.000	0.000	0.000	0.000	0.000	1386.60	
13	0.6846	1129.2	1149.2	0.611	3.220	76.228	17.587	2.071	0.076	0.174	0.015	0.018	0.000	0.000	0.000	0.000	0.000	1388.84	
14	0.6751	1113.6	1133.3	0.594	3.301	78.096	15.736	1.964	0.079	0.189	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1379.30	
15	0.6746	1112.5	1132.2	0.584	3.337	78.192	15.600	1.976	0.081	0.192	0.017	0.021	0.000	0.000	0.000	0.000	0.000	1378.40	
16	0.6946	1128.5	1148.5	0.612	4.195	75.130	16.720	2.962	0.102	0.237	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1378.07	
17	0.6963	1124.2	1144.1	0.567	4.688	74.837	16.392	3.115	0.110	0.254	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1371.05	
18	0.7046	1133.7	1153.8	0.610	4.822	73.340	17.563	3.237	0.119	0.272	0.018	0.020	0.000	0.000	0.000	0.000	0.000	1374.53	
19	0.7182	1152.8	1173.2	0.607	4.938	70.667	20.023	3.320	0.123	0.282	0.019	0.021	0.000	0.000	0.000	0.000	0.000	1384.36	
20	0.7101	1135.5	1155.6	0.583	5.260	72.412	17.829	3.447	0.131	0.299	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1371.44	
21	0.7058	1130.7	1150.7	0.573	5.171	73.136	17.336	3.335	0.125	0.286	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1369.68	
22	0.7051	1130.2	1150.2	0.575	5.129	73.204	17.380	3.273	0.122	0.280	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1369.82	
23	0.7127	1138.7	1158.8	0.599	5.289	72.060	18.036	3.514	0.135	0.317	0.023	0.026	0.000	0.000	0.000	0.000	0.000	1372.70	
24	0.7086	1131.9	1151.9	0.585	5.339	72.696	17.471	3.450	0.128	0.293	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1368.48	
25	0.7093	1133.1	1153.1	0.576	5.352	72.493	17.693	3.436	0.126	0.288	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1369.17	
26	0.6975	1120.5	1140.3	0.547	5.058	74.627	16.153	3.186	0.118	0.272	0.018	0.020	0.000	0.000	0.000	0.000	0.000	1365.29	
27	0.7019	1128.1	1148.1	0.573	4.959	73.974	16.740	3.289	0.127	0.295	0.021	0.023	0.000	0.000	0.000	0.000	0.000	1370.40	
28	0.7022	1127.9	1147.8	0.572	5.001	73.950	16.687	3.321	0.128	0.298	0.020	0.022	0.000	0.000	0.000	0.000	0.000	1369.80	
29	0.7023	1128.7	1148.7	0.574	4.954	74.015	16.614	3.358	0.132	0.308	0.022	0.024	0.000	0.000	0.000	0.000	0.000	1370.78	
30	0.7064	1131.8	1151.8	0.598	5.121	73.131	17.319	3.359	0.129	0.300	0.020	0.022	0.000	0.000	0.000	0.000	0.000	1370.46	
31	0.7098	1132.3	1152.4	0.595	5.415	72.541	17.476	3.482	0.135	0.313	0.020	0.022	0.000	0.000	0.000	0.000	0.000	1367.77	
Avg	0.6991	1130.0	1150.5	0.583	4.536	74.136	17.395	2.963	0.106	0.244	0.017	0.019	0.000	0.000	0.000	0.000	0.000	1376.12	

Zone 273

## GQ Source Daily Summary

July 2014

Number: 041

Pressure Base: 14.730

Contract Day: 1

Name: BISMARCK STATION-GLEN ULLIN STATION

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7067	1135.7	1155.8	0.576	4.942	72.733	18.110	3.301	0.095	0.215	0.013	0.015	0.000	0.000	0.000	0.000	0.000	1374.97	
2	0.7074	1137.3	1157.4	0.578	4.909	72.656	18.154	3.363	0.096	0.217	0.013	0.014	0.000	0.000	0.000	0.000	0.000	1376.19	
3	0.7128	1146.4	1166.7	0.585	4.856	71.861	18.794	3.492	0.111	0.261	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1381.83	
4	0.7103	1141.9	1162.1	0.580	4.896	72.328	18.310	3.493	0.109	0.250	0.016	0.018	0.000	0.000	0.000	0.000	0.000	1378.92	
5	0.7078	1139.6	1159.8	0.586	4.795	72.824	17.955	3.436	0.110	0.255	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1378.57	
6	0.7066	1138.1	1158.3	0.594	4.764	72.907	18.030	3.333	0.103	0.235	0.015	0.018	0.000	0.000	0.000	0.000	0.000	1377.90	
7	0.6811	1119.3	1139.1	0.551	3.583	76.786	16.758	2.057	0.070	0.164	0.013	0.017	0.000	0.000	0.000	0.000	0.000	1380.24	
8	0.6816	1123.3	1143.2	0.583	3.335	76.667	17.196	1.946	0.071	0.168	0.014	0.018	0.000	0.000	0.000	0.000	0.000	1384.69	
9	0.6795	1120.0	1139.8	0.561	3.372	77.061	16.798	1.945	0.069	0.162	0.014	0.018	0.000	0.000	0.000	0.000	0.000	1382.76	
10	0.6868	1133.2	1153.3	0.593	3.208	75.697	18.216	2.006	0.075	0.173	0.014	0.018	0.000	0.000	0.000	0.000	0.000	1391.55	
11	0.6814	1124.3	1144.2	0.600	3.230	76.654	17.337	1.934	0.068	0.152	0.011	0.014	0.000	0.000	0.000	0.000	0.000	1386.18	
12	0.6834	1128.2	1148.1	0.600	3.187	76.446	17.449	2.030	0.076	0.178	0.015	0.019	0.000	0.000	0.000	0.000	0.000	1388.81	
13	0.6798	1121.0	1140.9	0.599	3.277	77.177	16.617	2.041	0.078	0.179	0.014	0.018	0.000	0.000	0.000	0.000	0.000	1383.71	
14	0.6755	1114.3	1134.0	0.595	3.288	77.987	15.904	1.923	0.078	0.186	0.017	0.021	0.000	0.000	0.000	0.000	0.000	1379.83	
15	0.6781	1115.3	1135.0	0.588	3.487	77.801	15.560	2.217	0.089	0.214	0.019	0.025	0.000	0.000	0.000	0.000	0.000	1378.36	
16	0.7044	1135.8	1155.9	0.609	4.678	73.533	17.377	3.390	0.113	0.262	0.018	0.020	0.000	0.000	0.000	0.000	0.000	1377.18	
17	0.6934	1121.3	1141.1	0.568	4.586	75.292	16.203	2.963	0.106	0.246	0.017	0.019	0.000	0.000	0.000	0.000	0.000	1370.44	
18	0.7159	1150.3	1170.7	0.597	4.884	71.156	19.584	3.331	0.124	0.286	0.018	0.020	0.000	0.000	0.000	0.000	0.000	1383.63	
19	0.7138	1142.0	1162.3	0.610	5.178	71.768	18.468	3.499	0.132	0.304	0.019	0.021	0.000	0.000	0.000	0.000	0.000	1375.64	
20	0.7052	1129.1	1149.1	0.564	5.219	73.290	17.117	3.351	0.127	0.294	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1368.44	
21	0.7131	1140.4	1160.6	0.610	5.209	71.989	18.135	3.576	0.134	0.307	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1374.35	
22	0.7115	1138.7	1158.8	0.599	5.176	72.190	18.113	3.443	0.131	0.305	0.020	0.022	0.000	0.000	0.000	0.000	0.000	1373.87	
23	0.7099	1134.1	1154.1	0.586	5.330	72.577	17.505	3.509	0.133	0.314	0.021	0.024	0.000	0.000	0.000	0.000	0.000	1369.80	
24	0.7082	1131.3	1151.3	0.581	5.345	72.781	17.379	3.454	0.127	0.296	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1368.13	
25	0.7039	1126.8	1146.8	0.554	5.254	73.467	16.972	3.307	0.123	0.286	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1366.88	
26	0.7024	1129.3	1149.3	0.568	4.948	73.845	16.886	3.297	0.125	0.291	0.019	0.021	0.000	0.000	0.000	0.000	0.000	1371.24	
27	0.7033	1130.1	1150.1	0.576	4.965	73.767	16.890	3.324	0.129	0.304	0.021	0.024	0.000	0.000	0.000	0.000	0.000	1371.41	
28	0.7024	1128.9	1148.9	0.568	4.966	73.997	16.607	3.374	0.132	0.310	0.021	0.024	0.000	0.000	0.000	0.000	0.000	1370.83	
29	0.7019	1128.2	1148.2	0.582	4.940	74.026	16.682	3.297	0.128	0.301	0.021	0.023	0.000	0.000	0.000	0.000	0.000	1370.46	
30	0.7101	1134.5	1154.6	0.606	5.293	72.541	17.572	3.488	0.136	0.319	0.021	0.024	0.000	0.000	0.000	0.000	0.000	1370.15	
31	0.7085	1130.3	1150.3	0.583	5.431	72.823	17.174	3.496	0.136	0.317	0.019	0.021	0.000	0.000	0.000	0.000	0.000	1366.59	
Avg	0.6996	1131.0	1151.3	0.585	4.533	74.085	17.415	2.988	0.108	0.250	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1376.57	

Zone 28



## GQ Source Analysis

<b>GQ Source Number:</b>	0202080	<b>Specific Gravity:</b>	0.6635
<b>GQ Source Name:</b>	RICHARDTON-GLEN ULLIN COMPRE	<b>Dry Heat Value:</b>	1131.40
<b>Effective Date:</b>	7/1/2014 9:00:00 AM	<b>Wet Heat Value:</b>	1111.71
<b>Effective End Date:</b>	1/18/2038 9:14:00 PM	<b>As Deliv. Heat Value:</b>	1131.40
<b>Pressure Base:</b>	14.730	<b>Sample Pressure:</b>	336.00
<b>Viscosity:</b>		<b>Sample Temperature:</b>	0.00

		<u>Mol %</u>	<u>Liquid Content</u>			<u>Mol %</u>
C1	Methane	79.326		CO2	Carbon Dioxide	0.668
C2	Ethane	16.823	4.4860	N2	Nitrogen	2.220
C3	Propane	0.762	0.2090	O2	Oxygen	
IC4	Isobutane	0.064	0.0210	He	Helium	
NC4	n-Butane	0.051	0.0160	H2	Hydrogen	
IC5	Isopentane	0.028	0.0100	H2S	Hydrogen Sulfide	
NC5	n-Pentane	0.013	0.0050	Ar	Argon	
C6	Hexanes	0.043	0.0180	CO	Carbon Monoxide	
C7	Heptanes			H2	Water	
C8	Octanes			Neo-C5	Neopentane	0.002
C9	Nonanes					
C10	Decanes					

**Totals**      100.000%      4.765 GPM

**Sample Date:** 5/1/2014 10:29:00 AM  
**Sample Type:** Composite  
**Sample Tech:** RR  
**H2S:** ppm

**Sample Remarks:**

**Analysis Tech:** MB

**Analysis Remarks:**

Zone 311



## GQ Source Daily Summary

July 2014

Number: 111	Pressure Base: 14.730	Contract Day: 1
Name: LITTLE KNIFE-BELFIELD TRANSFER	Temperature Base:	Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6900	1164.4	1185.0	0.000	2.526	72.620	24.164	0.675	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1426.59
2	0.6901	1164.6	1185.3	0.002	2.520	72.734	23.932	0.785	0.009	0.016	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1426.74
3	0.6886	1162.1	1182.7	0.002	2.536	72.969	23.735	0.743	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.14
4	0.6886	1162.1	1182.7	0.002	2.536	72.969	23.735	0.743	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.14
5	0.6886	1162.1	1182.7	0.002	2.536	72.969	23.735	0.743	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.14
6	0.6886	1162.1	1182.7	0.002	2.536	72.969	23.735	0.743	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.14
7	0.6886	1162.1	1182.7	0.002	2.536	72.969	23.735	0.743	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.14
8	0.6886	1162.1	1182.7	0.002	2.536	72.969	23.735	0.743	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.14
9	0.6884	1162.5	1183.1	0.000	2.493	72.992	23.783	0.717	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.86
10	0.6877	1161.7	1182.2	0.000	2.478	73.100	23.723	0.684	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.59
11	0.6875	1161.6	1182.1	0.001	2.465	73.140	23.699	0.680	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.66
12	0.6871	1160.7	1181.3	0.000	2.475	73.215	23.627	0.668	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.10
13	0.6872	1160.4	1180.9	0.000	2.510	73.147	23.697	0.631	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.52
14	0.6882	1160.7	1181.3	0.000	2.582	72.936	23.837	0.630	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.92
15	0.6877	1161.7	1182.3	0.000	2.473	73.059	23.821	0.633	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.65
16	0.6881	1161.6	1182.2	0.000	2.513	72.993	23.829	0.651	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.19
17	0.6909	1165.8	1186.4	0.001	2.518	72.740	23.768	0.950	0.009	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1427.38
18	0.6908	1165.8	1186.5	0.001	2.511	72.651	23.967	0.847	0.009	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1427.49
19	0.6885	1162.1	1182.7	0.001	2.519	72.936	23.853	0.677	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.39
20	0.6921	1167.7	1188.4	0.001	2.519	72.609	23.781	1.066	0.010	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1428.44
21	0.6878	1160.8	1181.4	0.000	2.539	73.061	23.712	0.672	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.44
22	0.6886	1162.1	1182.7	0.000	2.536	72.887	23.898	0.664	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.19
23	0.6889	1162.6	1183.2	0.001	2.532	72.851	23.919	0.682	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.48
24	0.6878	1161.0	1181.5	0.000	2.528	73.041	23.770	0.647	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.65
25	0.6893	1163.5	1184.1	0.000	2.508	72.916	23.749	0.808	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1426.26
26	0.6873	1160.2	1180.8	0.000	2.525	73.128	23.704	0.629	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.27
27	0.6873	1160.5	1181.1	0.000	2.509	73.131	23.707	0.639	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.62
28	0.6882	1161.4	1182.0	0.000	2.535	72.985	23.802	0.663	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.81
29	0.6880	1161.0	1181.5	0.000	2.547	73.020	23.748	0.671	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.44
30	0.6875	1160.6	1181.1	0.000	2.524	73.126	23.670	0.662	0.007	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.47
31	0.6878	1161.0	1181.5	0.000	2.529	73.048	23.746	0.663	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.65
Avg	0.6885	1162.0	1182.8	0.001	2.520	72.964	23.784	0.715	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.41

Zone 33

# GQ Source Analysis

<b>GQ Source Number:</b>	1202160	<b>Specific Gravity:</b>	0.7940
<b>GQ Source Name:</b>	BOWMAN BORDER	<b>Dry Heat Value:</b>	1130.09
<b>Effective Date:</b>	7/1/2014 9:00:00 AM	<b>Wet Heat Value:</b>	1110.42
<b>Effective End Date:</b>	1/18/2038 9:14:07 PM	<b>As Deliv. Heat Value:</b>	1130.09
<b>Pressure Base:</b>	14.730	<b>Sample Pressure:</b>	
<b>Viscosity:</b>		<b>Sample Temperature:</b>	

		<u>Mol %</u>	<u>Liquid Content</u>			<u>Mol %</u>
C1	Methane	54.828		CO2	Carbon Dioxide	1.941
C2	Ethane	27.223	7.2590	N2	Nitrogen	12.650
C3	Propane	2.931	0.8050	O2	Oxygen	
IC4	Isobutane	0.090	0.0290	He	Helium	
NC4	n-Butane	0.283	0.0890	H2	Hydrogen	
IC5	Isopentane	0.013	0.0050	H2S	Hydrogen Sulfide	
NC5	n-Pentane	0.035	0.0130	Ar	Argon	
C6	Hexanes	0.006	0.0020	CO	Carbon Monoxide	
C7	Heptanes			H2	Water	
C8	Octanes			Neo-C5	Neopentane	0.000
C9	Nonanes					
C10	Decanes					

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**Totals**      100.000%      8.202 GPM

**Sample Date:** 4/1/2014 1:01:00 PM  
**Sample Type:** Composite  
**Sample Tech:** MIKE GENTILINI  
**H2S:** ppm

**Sample Remarks:**

**Analysis Tech:** MIKE GENTILINI

**Analysis Remarks:**

Zone 34

Jul-14

ZONE 610

		Watford City 01320 Watford City Border		BTU Zone 25		01312 Watford City East Border		BTU Zone 43		Weighted AVG BTU	
Begin Date	End Date	MCF	DK			MCF	DK				
7/1/2014	7/2/2014	130	158	1.219		208	250	1.203	1.209	7/1/2014	
7/2/2014	7/3/2014	107	130	1.219		327	391	1.198	1.203	7/2/2014	
7/3/2014	7/4/2014	93	114	1.219		361	430	1.193	1.198	7/3/2014	
7/4/2014	7/5/2014	71	87	1.219		321	380	1.181	1.188	7/4/2014	
7/5/2014	7/6/2014	83	101	1.219		59	69	1.177	1.202	7/5/2014	
7/6/2014	7/7/2014	90	110	1.219		136	159	1.173	1.191	7/6/2014	
7/7/2014	7/8/2014	109	133	1.219		371	437	1.177	1.187	7/7/2014	
7/8/2014	7/9/2014	100	122	1.219		343	405	1.179	1.188	7/8/2014	
7/9/2014	7/10/2014	102	124	1.219		284	333	1.177	1.188	7/9/2014	
7/10/2014	7/11/2014	95	116	1.219		237	278	1.172	1.185	7/10/2014	
7/11/2014	7/12/2014	94	115	1.219		209	250	1.196	1.203	7/11/2014	
7/12/2014	7/13/2014	94	115	1.219		318	382	1.198	1.203	7/12/2014	
7/13/2014	7/14/2014	115	140	1.219		61	72	1.195	1.211	7/13/2014	
7/14/2014	7/15/2014	116	141	1.219		105	125	1.194	1.207	7/14/2014	
7/15/2014	7/16/2014	117	142	1.219		74	89	1.198	1.211	7/15/2014	
7/16/2014	7/17/2014	102	125	1.219		113	136	1.196	1.207	7/16/2014	
7/17/2014	7/18/2014	99	120	1.219		24	28	1.191	1.214	7/17/2014	
7/18/2014	7/19/2014	103	126	1.219		141	168	1.196	1.206	7/18/2014	
7/19/2014	7/20/2014	99	121	1.219		138	165	1.192	1.203	7/19/2014	
7/20/2014	7/21/2014	100	122	1.219		94	111	1.184	1.202	7/20/2014	
7/21/2014	7/22/2014	101	123	1.219		26	31	1.196	1.214	7/21/2014	
7/22/2014	7/23/2014	101	124	1.219		135	162	1.199	1.208	7/22/2014	
7/23/2014	7/24/2014	99	121	1.219		171	205	1.193	1.203	7/23/2014	
7/24/2014	7/25/2014	101	123	1.219		112	134	1.197	1.207	7/24/2014	
7/25/2014	7/26/2014	96	117	1.219		204	243	1.190	1.199	7/25/2014	
7/26/2014	7/27/2014	103	126	1.219		12	15	1.201	1.217	7/26/2014	
7/27/2014	7/28/2014	106	130	1.219		6	7	1.198	1.218	7/27/2014	
7/28/2014	7/29/2014	97	118	1.219		16	19	1.199	1.216	7/28/2014	
7/29/2014	7/30/2014	97	118	1.219		3	4	1.200	1.218	7/29/2014	
7/30/2014	7/31/2014	100	122	1.219		3	4	1.203	1.219	7/30/2014	
7/31/2014	8/1/2014	92	112	1.219		4	5	1.198		7/31/2014	
		3,112	3,796			4,616	5,487	1.1917	1.2042		

Gas Quality

| Gas Quality Download - Chromatograph |

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	Changestamp	NOTES
11587	GLEN ULLIN	1046.2	0.6036	1346.6	-78.3	1.3871	0.863	90.7221	6.3704	0.4124	0.0222	0.0153	0.0017	0.0026	0	0.0003	0.1848	0.0221	6/30/2014	7/1/2014	7/1/2014 2:15:22 PM	
11587	GLEN ULLIN	1044.4	0.6018	1346.3	-80.9	1.3212	0.8688	91.0856	6.1199	0.3952	0.015	0.01	0.0004	0.0009	0	0	0.166	0.0221	7/1/2014	7/2/2014	7/2/2014 2:17:23 PM	
11587	GLEN ULLIN	1048.8	0.605	1348.4	-77.2	1.339	0.8814	90.4642	6.6353	0.4339	0.0217	0.0148	0.0017	0.0025	0	0	0.1882	0.0221	7/2/2014	7/3/2014	7/3/2014 2:16:55 PM	
11587	GLEN ULLIN	1050.2	0.6065	1348.6	-74.7	1.3902	0.8812	90.2116	6.811	0.4481	0.0281	0.0193	0.0027	0.0038	0	0.0005	0.1848	0.0221	7/3/2014	7/4/2014	7/4/2014 2:16:51 PM	
11587	GLEN ULLIN	1051.2	0.607	1349.2	-74.5	1.3739	0.8875	90.1261	6.9259	0.4422	0.0284	0.019	0.0025	0.0035	0	0.0006	0.1747	0.0221	7/4/2014	7/5/2014	7/5/2014 2:17:51 PM	
11587	GLEN ULLIN	1046.6	0.6034	1347.3	-79.9	1.3253	0.8778	90.7178	6.5268	0.3373	0.017	0.0109	0.0006	0.0011	0	0.0001	0.1691	0.0221	7/5/2014	7/6/2014	7/6/2014 2:18:33 PM	
11587	GLEN ULLIN	1045.7	0.6017	1348.1	-81.3	1.3248	0.8082	90.9221	6.395	0.3155	0.0153	0.0095	0.0003	0.0008	0	0	0.191	0.0221	7/6/2014	7/7/2014	7/7/2014 2:15:59 PM	
11587	GLEN ULLIN	1045.6	0.6022	1347.4	-81.3	1.286	0.8694	90.8758	6.4496	0.2997	0.0128	0.0083	0.0001	0.0003	0	0	0.1852	0.0221	7/7/2014	7/8/2014	7/8/2014 2:17:04 PM	
11587	GLEN ULLIN	1043	0.5999	1346.7	-83.1	1.2404	0.8543	91.3861	6.0193	0.2952	0.0142	0.0093	0.0004	0.0008	0	0	0.1636	0.0221	7/8/2014	7/9/2014	7/9/2014 2:15:50 PM	
11587	GLEN ULLIN	1045.2	0.6018	1347.3	-79.9	1.2899	0.858	91.0503	6.248	0.3316	0.0211	0.0146	0.0015	0.0023	0	0.0008	0.1652	0.0221	7/9/2014	7/10/2014	7/10/2014 2:17:49 PM	
11587	GLEN ULLIN	1041.9	0.6002	1344.8	-83	1.3554	0.8468	91.2472	6.0095	0.3099	0.0145	0.009	0.0001	0.0003	0	0	0.1895	0.0221	7/10/2014	7/11/2014	7/11/2014 2:17:58 PM	
11587	GLEN ULLIN	1049.2	0.6056	1348.3	-77.4	1.3364	0.898	90.4299	6.72	0.4127	0.0206	0.0139	0.0012	0.002	0	0	0.1476	0.0221	7/11/2014	7/12/2014	7/12/2014 2:16:25 PM	
11587	GLEN ULLIN	1047.5	0.6037	1348.1	-78.7	1.3156	0.8659	90.7278	6.4607	0.4037	0.0205	0.0136	0.0011	0.0021	0	0.0001	0.1728	0.0221	7/12/2014	7/13/2014	7/13/2014 2:18:20 PM	
11587	GLEN ULLIN	1043.7	0.6003	1347.1	-82.3	1.2694	0.8348	91.3376	5.9857	0.3672	0.014	0.009	0.0001	0.0003	0	0	0.1648	0.0221	7/13/2014	7/14/2014	7/14/2014 2:16:25 PM	
11587	GLEN ULLIN	1046.3	0.6023	1348.2	-80.3	1.3249	0.8193	90.9203	6.3357	0.3844	0.0157	0.0102	0.0004	0.0008	0	0	0.1733	0.0221	7/14/2014	7/15/2014	7/15/2014 2:17:49 PM	
11587	GLEN ULLIN	1050.2	0.6058	1349.4	-76.6	1.3243	0.881	90.3358	6.7694	0.4533	0.0205	0.0137	0.0012	0.0017	0	0	0.1847	0.0221	7/15/2014	7/16/2014	7/16/2014 2:17:05 PM	
11587	GLEN ULLIN	1047.7	0.6041	1348	-78.4	1.3139	0.8826	90.6475	6.4878	0.4306	0.0193	0.0123	0.0007	0.0013	0	0.0001	0.187	0.0221	7/16/2014	7/17/2014	7/17/2014 2:17:09 PM	
11587	GLEN ULLIN	1048.7	0.6054	1347.8	-77.8	1.3332	0.9133	90.4177	6.7343	0.3861	0.0216	0.0123	0.001	0.0014	0	0	0.165	0.0221	7/17/2014	7/18/2014	7/18/2014 2:16:16 PM	
11587	GLEN ULLIN	1047.8	0.6042	1348	-79.3	1.3129	0.8856	90.6086	6.6226	0.372	0.0148	0.0091	0	0.0001	0	0	0.1593	0.0221	7/18/2014	7/19/2014	7/19/2014 2:16:55 PM	
11587	GLEN ULLIN	1050.3	0.6057	1349.5	-77	1.3379	0.8644	90.3389	6.8206	0.4231	0.0206	0.0129	0.0007	0.0013	0	0.0002	0.1645	0.0221	7/19/2014	7/20/2014	7/20/2014 2:17:36 PM	
11587	GLEN ULLIN	1049.7	0.6041	1350.6	-78.1	1.3353	0.791	90.563	6.6815	0.4093	0.0208	0.0123	0.0007	0.0014	0	0	0.1678	0.0221	7/20/2014	7/21/2014	7/21/2014 2:16:16 PM	
11587	GLEN ULLIN	1047.1	0.6035	1347.9	-79.3	1.4168	0.803	90.6381	6.5119	0.4021	0.0177	0.0108	0.0003	0.0008	0	0	0.1792	0.0221	7/21/2014	7/22/2014	7/22/2014 2:16:24 PM	
11587	GLEN ULLIN	1044.5	0.6023	1345.9	-80.3	1.4146	0.8328	90.9697	6.1596	0.4107	0.0197	0.0115	0.0006	0.0012	0	0	0.1627	0.0221	7/22/2014	7/23/2014	7/23/2014 2:17:09 PM	
11587	GLEN ULLIN	1044.8	0.6019	1346.7	-80.7	1.3602	0.8265	91.0307	6.1767	0.39	0.0183	0.0106	0.0006	0.0009	0	0	0.1685	0.0221	7/23/2014	7/24/2014	7/24/2014 2:15:57 PM	
11587	GLEN ULLIN	1054.1	0.6082	1351.6	-75.3	1.3545	0.8554	89.8013	7.3592	0.4135	0.0191	0.0113	0.0007	0.0012	0	0	0.1652	0.0221	7/24/2014	7/25/2014	7/25/2014 2:17:08 PM	
11587	GLEN ULLIN	1057.3	0.6106	1353.1	-73.5	1.312	0.9104	89.3594	7.8173	0.3942	0.0192	0.0118	0.0006	0.0013	0	0	0.1564	0.0221	7/25/2014	7/26/2014	7/26/2014 2:16:28 PM	
11587	GLEN ULLIN	1057.7	0.6117	1352.4	-72.9	1.3728	0.9222	89.0997	7.9849	0.395	0.0189	0.0117	0.0006	0.0013	0	0	0.1763	0.0221	7/26/2014	7/27/2014	7/27/2014 2:16:34 PM	
11587	GLEN ULLIN	1059.5	0.6128	1353.5	-71.9	1.3763	0.9153	88.8921	8.183	0.4113	0.0199	0.0118	0.0003	0.001	0	0	0.1729	0.0221	7/27/2014	7/28/2014	7/28/2014 2:17:15 PM	
11587	GLEN ULLIN	1063.6	0.6144	1359.5	-69.6	1.2755	0.8409	88.5721	8.6549	0.4443	0.0211	0.0128	0.0009	0.0016	0	0	0.1596	0.0221	7/28/2014	7/29/2014	7/29/2014 2:16:00 PM	
11587	GLEN ULLIN	1064.5	0.6146	1357.9	-69.8	1.2881	0.8906	88.5723	8.6125	0.4297	0.0213	0.0129	0.0011	0.0016	0	0	0.1528	0.0221	7/29/2014	7/30/2014	7/30/2014 2:18:06 PM	
11587	GLEN ULLIN	1063.3	0.6144	1356.6	-69.9	1.289	0.9212	88.6053	8.5233	0.4283	0.0216	0.0135	0.0013	0.0018	0	0	0.1796	0.0221	7/30/2014	7/31/2014	7/31/2014 2:17:28 PM	

31 record(s) retrieved

Zone 802

NORTH DAKOTA HEATING VALUE ZONES		
<b>ZONES</b>	<b>MEASURING DEVICE</b>	<b>LOCATION</b>
211	Chromatograph	Sidney Area
24	Chromatograph	Williston Area
241	Monthly Sampler	Fairview Area
25	Monthly Sampler	Watford City Area
261	Chromatograph	Williston – Tioga – Minot Line
262	Chromatograph	Minot Area
263	Monthly Sampler	Tioga – Portal
264	Chromatograph	Williston – Ray
271	Chromatograph	Bismarck – Cleveland
272	Chromatograph	Cleveland – Mapleton
273	Chromatograph	Cleveland – Grafton
28	Chromatograph	Bismarck
31	Chromatograph	Dickinson
311	Monthly Sampler	Taylor Take-Off – Glen Ullin Comp
32	Chromatograph	Cabin Creek – Dickinson
33	Chromatograph	Killdeer
34	Monthly Sampler	Bowman Area
610	Monthly Sampler & Chromatograph	Watford City
802	Chromatograph	Linton

MONTANA DAKOTA UTILITIES CO  
 NORTH DAKOTA  
 HEATING VALUE DATA  
 12 MONTH ACCUMULATIVE AT 14.73 psia, 60 f. DRY

STATE	ZONE	ZONE BOUNDARY	12 MONTH AVERAGE	JULY 14	JUNE 14	MAY 14	APR 14	MAR 14	FEB 14	JAN 14	DEC 13	NOV 13	OCT 13	SEPT 13	AUG 13	ZONE
MT/ND	211	Sidney Area	1207	1212	1207	1212	1198	1204	1205	1208	1204	1209	1211	1206	1208	211
ND	24	Williston Area	1191	1184	1183	1180	1177	1181	1177	1201	1201	1207	1204	1199	1196	24
ND	25	Watford City Border	1209	1219	1226	1241	1221	1220	1205	1218	1191	1197	1183	1198	1193	25
ND/MT	241	Fairview Area	1200	1208	1202	1204	1194	1197	1197	1203	1197	1189	1198	1202	1203	241
ND	261	Williston - Tioga - Minot Line	1162	1094	1115	1118	1181	1187	1185	1189	1193	1166	1175	1180	1165	261
ND	262	Minot Area	1188	1154	1166	1161	1196	1201	1200	1201	1201	1192	1197	1196	1185	262
ND	263	Tioga - Portal	1086	1098	1078	1062	1074	1058	1051	1063	1061	1096	1125	1130	1130	263
ND	264	Williston - Ray	1191	1184	1183	1180	1177	1181	1177	1201	1201	1207	1204	1199	1196	264
ND	271	Bismarck - Cleveland	1165	1152	1164	1162	1192	1159	1127	1144	1145	1164	1184	1199	1187	271
ND	272	Cleveland - Mapleton	1165	1151	1163	1162	1192	1158	1127	1144	1145	1164	1184	1199	1187	272
ND	273	Cleveland - Grafton	1165	1151	1163	1162	1190	1158	1127	1144	1145	1164	1184	1199	1188	273
ND	28	Bismarck - Cabin Creek	1130	1151	1163	1155	1135	1077	1072	1081	1092	1105	1147	1199	1187	28
ND	31	Dickinson Area	1110	1176	1171	1140	1102	1079	1073	1082	1092	1107	1126	1079	1098	31
ND	311	Taylor Take-Off - Glen Ullin Comp	1113	1131	1138	1105	1091	1072	1197	1092	1092	1104	1108	1094	1135	311
ND/MT	32	Cabin Creek - Dickinson	1098	1147	1134	1100	1077	1061	1058	1070	1082	1096	1095	1115	1135	32
ND	33	Killdeer	1182	1183	1183	1183	1183	1180	1181	1182	1180	1180	1182	1183	1182	33
ND	34	Bowman Area	1098	1130	1119	1123	1030	1059	1047	1073	1082	1118	1118	1145	1127	34
ND	610	MDU-Watford City Area		1204												
ND	802	Linton	1040	1050	1047	1047	1044	1045	1039	1042	1033	1037	1037	1032	1032	802

**THERMAL ZONE VARIANCE  
DOCUMENTATION**

**July 2014**

<b><i>ZONE</i></b>	<b><i>BTU VARIANCE</i></b>	<b><i>REASON</i></b>
261	-21	Mix of gas in the area
263	20	Mix of gas in the area