

May 28, 2013

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

Re: Case No. 11,006 (Therm Billing)  
Monthly Report – March 2013

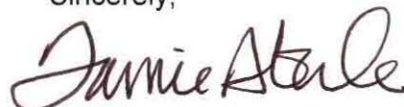
Montana-Dakota Utilities Co., a Division of MDU Resources Group, Inc., herewith submits the following information, pursuant to the Ordering paragraphs one and two of the Order issued in the above-referenced docket, dated October 20, 1987:

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 April 2013.
2. Attachment B consists of copies of the monthly Heating Value Test Reports received from our supplier for the month of March 2013. There is a report for each of the 17 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.

There were no thermal variances for the month of March 2013.

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  
April 2013

Town	Heat Zone	Therm Factor
MDU-303-ALEXANDER	025	1.129623
MDU-308-ARNEGARD	025	1.134346
MDU-314-APPLE VALLEY	271	1.104774
MDU-318-BEACH	032	1.006382
MDU-319-BELFIELD	032	1.013775
MDU-323-BERTHOLD	262	1.105066
MDU-327-BISMARCK	028	1.063285
MDU-330-BOWMAN	034	1.049444
MDU-337-BURLINGTON	262	1.128896
MDU-343-CARRINGTON	273	1.105739
MDU-364-CAVALIER	273	1.129078
MDU-365-DAWSON	271	1.097000
MDU-368-DES LACS	262	1.111107
MDU-369-DICKINSON	031	1.034296
MDU-374-FT TOTTEN	273	1.113518
MDU-375-DEVILS LAKE	273	1.113518
MDU-379-BARLOW	273	1.105739
MDU-384-EPPING	264	1.137179
MDU-407-GLADSTONE	031	1.034296
MDU-411-GLEN ULLIN	311	1.041785
MDU-413-GOLVA	032	0.988865
MDU-416-GARRISON	262	1.111107
MDU-417-GRAFTON	273	1.136858
MDU-429-HEBRON	311	1.041785
MDU-432-HETTINGER	903	2.387549
MDU-449-JAMESTOWN	272	1.114489
MDU-459-KILLDEER	033	1.111678
MDU-463-LANGDON	273	1.105739
MDU-469-LEFOR	031	1.034296
MDU-474-LIGNITE	263	1.061640
MDU-475-LINTON	802	0.990919
MDU-478-LINCOLN	028	1.063285
MDU-494-MEDINA	271	1.097000
MDU-498-MANDAN	028	1.063285
MDU-500-MARMARTH	034	1.057209
MDU-505-MINOT	262	1.128896
MDU-510-MOTT	031	1.034296
MDU-512-MAX	262	1.105066
MDU-522-NEW ENGLAND	031	1.022153
MDU-524-NEW SALEM	028	1.040840
MDU-532-NEW ROCKFORD	273	1.105739
MDU-539-PARK RIVER	273	1.129078
MDU-540-PALERMO	262	1.105066
MDU-558-RAY	264	1.137179
MDU-561-REGENT	031	1.034296
MDU-563-RHAME	034	1.041677
MDU-564-RICHARDTON	311	1.026808
MDU-568-ROSS	261	1.053051
MDU-572-RUTHVILLE	262	1.128896
MDU-574-SANBORN	272	1.114489
MDU-583-SENTINEL BUTTE	032	1.0036
MDU-588-SOUTH HEART	031	1.026808

Montana-Dakota Utilities Co.  
Therm Billing Factors- North Dakota  
April 2013

MDU-590-SPRINGBROOK	264	1.137179
MDU-591-STANLEY	261	1.060675
MDU-593-STEELE	271	1.097000
MDU-598-SHEYENNE	273	1.113518
MDU-605-SURREY	262	1.128896
MDU-610-TAPPEN	271	1.097000
MDU-611-TAYLOR	031	1.026808
MDU-616-TIOGA	261	1.053051
MDU-619-TURTLE LAKE	262	1.111107
MDU-620-TRENTON	024	1.145353
MDU-624-UNDERWOOD	262	1.113009
MDU-625-VALLEY CITY	272	1.122276
MDU-629-WALHALLA	273	1.129078
MDU-632-WATFORD CITY	025	1.134346
MDU-636-WHEELOCK	264	1.129005
MDU-637-WHITE EARTH	261	1.060675
MDU-642-WILLISTON	024	1.145353
MDU-646-WASHBURN	262	1.120952
MDU-647-WILTON	262	1.105066
MDU-664-RIVERDALE	262	1.113009
MDU-691-FAIRVIEW	241	1.136792
MDU-712-MINOT AFB	262	1.126966
MDU-732-MSR SITE	273	1.104774



# GQ Source Daily Summary

March 2013

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	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7273	1192.8	1213.9	0.763	3.114	70.478	20.943	3.998	0.177	0.421	0.038	0.047	0.022	0.000	0.000	0.000	0.000	1423.39	
2	0.7220	1183.6	1204.6	0.769	3.164	70.976	20.832	3.678	0.150	0.348	0.029	0.036	0.017	0.000	0.000	0.000	0.000	1417.67	
3	0.7133	1170.7	1191.4	0.776	3.132	71.450	21.347	3.003	0.090	0.178	0.009	0.010	0.006	0.000	0.000	0.000	0.000	1410.70	
4	0.7073	1163.1	1183.7	0.799	2.998	72.378	20.790	2.798	0.079	0.145	0.006	0.005	0.003	0.000	0.000	0.000	0.000	1407.49	
5	0.7116	1169.0	1189.7	0.786	3.055	72.239	20.321	3.199	0.115	0.245	0.016	0.017	0.006	0.000	0.000	0.000	0.000	1410.33	
6	0.7067	1172.1	1192.9	0.807	2.369	74.173	18.209	4.042	0.141	0.243	0.008	0.007	0.002	0.000	0.000	0.000	0.000	1418.98	
7	0.7209	1186.2	1207.2	0.797	2.862	71.381	20.501	3.927	0.153	0.323	0.021	0.024	0.009	0.000	0.000	0.000	0.000	1421.80	
8	0.7227	1187.0	1208.0	0.794	2.993	70.780	21.171	3.753	0.140	0.305	0.023	0.027	0.013	0.000	0.000	0.000	0.000	1420.95	
9	0.7291	1196.8	1218.0	0.784	2.997	70.284	21.097	4.150	0.177	0.408	0.035	0.044	0.023	0.000	0.000	0.000	0.000	1426.49	
10	0.7254	1190.3	1211.4	0.790	3.040	70.619	21.035	3.895	0.162	0.374	0.031	0.037	0.016	0.000	0.000	0.000	0.000	1422.34	
11	0.7194	1180.6	1201.5	0.793	3.065	71.455	20.504	3.612	0.149	0.342	0.029	0.035	0.015	0.000	0.000	0.000	0.000	1416.63	
12	0.7161	1175.0	1195.9	0.786	3.111	71.669	20.553	3.426	0.126	0.273	0.020	0.024	0.012	0.000	0.000	0.000	0.000	1413.16	
13	0.7201	1181.5	1202.4	0.778	3.101	71.267	20.602	3.743	0.143	0.310	0.021	0.024	0.011	0.000	0.000	0.000	0.000	1416.99	
14	0.7186	1180.6	1201.5	0.772	3.031	71.052	21.269	3.487	0.118	0.238	0.012	0.013	0.006	0.000	0.000	0.000	0.000	1417.34	
15	0.7188	1182.7	1203.7	0.789	2.892	71.102	21.269	3.574	0.119	0.229	0.011	0.011	0.005	0.000	0.000	0.000	0.000	1419.74	
16	0.7211	1185.5	1206.5	0.814	2.902	70.780	21.442	3.671	0.124	0.240	0.011	0.011	0.003	0.000	0.000	0.000	0.000	1420.76	
17	0.7201	1184.0	1204.9	0.794	2.934	71.021	21.125	3.730	0.127	0.244	0.011	0.011	0.003	0.000	0.000	0.000	0.000	1419.90	
18	0.7196	1185.3	1206.3	0.804	2.783	71.466	20.565	3.951	0.139	0.264	0.012	0.013	0.004	0.000	0.000	0.000	0.000	1422.06	
19	0.7141	1182.4	1203.4	0.774	2.479	72.936	19.156	4.173	0.160	0.293	0.013	0.012	0.003	0.000	0.000	0.000	0.000	1424.07	
20	0.7194	1183.7	1204.7	0.789	2.883	71.543	20.436	3.847	0.149	0.303	0.019	0.022	0.009	0.000	0.000	0.000	0.000	1420.33	
21	0.7220	1186.2	1207.2	0.796	2.969	71.235	20.501	3.923	0.159	0.347	0.026	0.031	0.013	0.000	0.000	0.000	0.000	1420.71	
22	0.7246	1189.7	1210.8	0.794	3.000	71.013	20.508	4.016	0.175	0.402	0.034	0.041	0.018	0.000	0.000	0.000	0.000	1422.35	
23	0.7301	1197.9	1219.1	0.788	3.014	70.852	20.008	4.425	0.223	0.541	0.052	0.066	0.030	0.000	0.000	0.000	0.000	1426.77	
24	0.7398	1214.6	1236.1	0.778	2.918	69.672	20.769	4.723	0.266	0.681	0.073	0.090	0.029	0.000	0.000	0.000	0.000	1437.17	
25	0.7189	1182.4	1203.3	0.778	2.934	71.450	20.694	3.673	0.132	0.260	0.018	0.027	0.034	0.000	0.000	0.000	0.000	1419.22	
26	0.7153	1177.7	1198.5	0.767	2.906	71.897	20.415	3.608	0.128	0.246	0.012	0.013	0.008	0.000	0.000	0.000	0.000	1417.08	
27	0.7178	1180.1	1201.0	0.772	2.985	71.414	20.780	3.642	0.125	0.249	0.013	0.014	0.007	0.000	0.000	0.000	0.000	1417.54	
28	0.7182	1181.2	1202.2	0.757	2.969	71.518	20.569	3.742	0.134	0.270	0.016	0.018	0.007	0.000	0.000	0.000	0.000	1418.58	
29	0.7185	1182.0	1202.9	0.738	2.987	71.268	20.915	3.693	0.123	0.242	0.013	0.013	0.007	0.000	0.000	0.000	0.000	1419.13	
30	0.7185	1181.6	1202.5	0.745	2.998	71.321	20.875	3.614	0.130	0.269	0.018	0.020	0.009	0.000	0.000	0.000	0.000	1418.65	
31	0.7142	1174.6	1195.4	0.745	3.021	71.652	20.938	3.303	0.106	0.208	0.010	0.011	0.006	0.000	0.000	0.000	0.000	1414.55	
Avg	0.7197	1183.0	1204.2	0.781	2.955	71.366	20.650	3.743	0.143	0.305	0.021	0.025	0.012	0.000	0.000	0.000	0.000	1419.45	

Zone 24, 264

# GQ Source Analysis

<b>GQ Source Number:</b>	0602160	<b>Specific Gravity:</b>	0.7271
<b>GQ Source Name:</b>	FAIRVIEW BORDER	<b>Dry Heat Value:</b>	1195.08
<b>Effective Date:</b>	3/1/2013 9:00:00 AM	<b>Wet Heat Value:</b>	1174.28
<b>Effective End Date:</b>	1/18/2038 9:14:07 PM	<b>As Deliv. Heat Value:</b>	1195.08
<b>Pressure Base:</b>	14.730	<b>Sample Pressure:</b>	362.00
<b>Viscosity:</b>		<b>Sample Temperature:</b>	

		<u>Mol %</u>	<u>Liquid Content</u>			<u>Mol %</u>
C1	Methane	69.494		CO2	Carbon Dioxide	1.120
C2	Ethane	21.501	5.7331	N2	Nitrogen	3.652
C3	Propane	3.898	1.0708	O2	Oxygen	0.000
IC4	Isobutane	0.116	0.0379	He	Helium	
NC4	n-Butane	0.204	0.0640	H2	Hydrogen	
IC5	Isopentane	0.007	0.0027	H2S	Hydrogen Sulfide	
NC5	n-Pentane	0.008	0.0030	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%		6.911	GPM	

**Sample Date:** 3/31/2013 12:00:00 AM  
**Sample Type:** Composite  
**Sample Tech:** sampler  
**H2S:** ppm

**Sample Remarks:**

**Analysis Tech:** Lab

**Analysis Remarks:**

Zone 241

# GQ Source Analysis

<b>GQ Source Number:</b>	0602230	<b>Specific Gravity:</b>	0.7174
<b>GQ Source Name:</b>	WATFORD CITY BORDER	<b>Dry Heat Value:</b>	1200.78
<b>Effective Date:</b>	3/1/2013 9:00:00 AM	<b>Wet Heat Value:</b>	1179.88
<b>Effective End Date:</b>	1/18/2038 9:14:07 PM	<b>As Deliv. Heat Value:</b>	1200.78
<b>Pressure Base:</b>	14.730	<b>Sample Pressure:</b>	450.00
<b>Viscosity:</b>		<b>Sample Temperature:</b>	

	<u>Mol %</u>	<u>Liquid Content</u>		<u>Mol %</u>	
C1	Methane	71.646	CO2	Carbon Dioxide	0.797
C2	Ethane	20.300	N2	Nitrogen	2.885
C3	Propane	3.856	O2	Oxygen	0.000
IC4	Isobutane	0.149	He	Helium	
NC4	n-Butane	0.309	H2	Hydrogen	
IC5	Isopentane	0.027	H2S	Hydrogen Sulfide	
NC5	n-Pentane	0.027	Ar	Argon	
C6	Hexanes	0.002	CO	Carbon Monoxide	
C7	Heptanes		H2	Water	
C8	Octanes		Neo-C5	Neopentane	
C9	Nonanes				
C10	Decanes				

**Totals**      100.000%      6.638 GPM

**Sample Date:** 3/31/2013 12:00:00 AM  
**Sample Type:** Composite  
**Sample Tech:** sampler  
**H2S:** ppm

**Sample Remarks:**

**Analysis Tech:** Lab

**Analysis Remarks:**

Zone 25



# GQ Source Daily Summary

March 2013

Number: 091 Pressure Base: 14.730 Contract Day: 1  
 Name: MINOT BRDR-PALERMO BRDR-BISMARCK STATI 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	0.7145	1149.1	1169.4	0.475	5.027	70.431	20.942	2.819	0.087	0.196	0.009	0.010	0.002	0.000	0.000	0.000	0.000	1383.47	
2	0.7151	1150.2	1170.6	0.474	5.016	70.257	21.158	2.810	0.083	0.185	0.008	0.008	0.001	0.000	0.000	0.000	0.000	1384.26	
3	0.7137	1148.9	1169.3	0.465	4.977	70.450	21.089	2.746	0.080	0.177	0.007	0.007	0.001	0.000	0.000	0.000	0.000	1384.04	
4	0.7136	1148.5	1168.8	0.470	4.987	70.494	21.017	2.759	0.080	0.176	0.007	0.008	0.002	0.000	0.000	0.000	0.000	1383.61	
5	0.7132	1147.1	1167.4	0.470	5.033	70.617	20.817	2.776	0.083	0.184	0.009	0.009	0.002	0.000	0.000	0.000	0.000	1382.33	
6	0.6986	1137.9	1158.0	0.405	4.320	72.914	20.009	2.103	0.069	0.158	0.009	0.011	0.003	0.000	0.000	0.000	0.000	1385.58	
7	0.7115	1149.8	1170.2	0.495	4.669	70.873	21.037	2.666	0.078	0.170	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1387.29	
8	0.7152	1150.9	1171.3	0.508	4.931	70.348	21.075	2.837	0.087	0.194	0.009	0.010	0.001	0.000	0.000	0.000	0.000	1385.00	
9	0.7147	1148.5	1168.9	0.485	5.067	70.343	21.000	2.820	0.084	0.184	0.008	0.008	0.001	0.000	0.000	0.000	0.000	1382.60	
10	0.7143	1148.5	1168.8	0.484	5.028	70.423	20.973	2.808	0.084	0.183	0.007	0.007	0.001	0.000	0.000	0.000	0.000	1382.98	
11	0.7118	1143.9	1164.2	0.479	5.078	70.806	20.650	2.718	0.080	0.175	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1379.91	
12	0.7118	1144.2	1164.4	0.487	5.049	70.816	20.663	2.718	0.080	0.173	0.006	0.007	0.001	0.000	0.000	0.000	0.000	1380.22	
13	0.7158	1152.7	1173.1	0.493	4.902	70.181	21.288	2.857	0.084	0.182	0.006	0.007	0.000	0.000	0.000	0.000	0.000	1386.54	
14	0.7130	1148.3	1168.6	0.458	4.959	70.571	20.986	2.772	0.078	0.166	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1384.00	
15	0.7116	1147.3	1167.6	0.472	4.872	70.857	20.828	2.708	0.078	0.165	0.009	0.008	0.003	0.000	0.000	0.000	0.000	1384.09	
16	0.7165	1155.2	1175.6	0.510	4.787	70.083	21.487	2.852	0.083	0.181	0.007	0.007	0.002	0.000	0.000	0.000	0.000	1388.89	
17	0.7144	1152.1	1172.5	0.506	4.783	70.386	21.280	2.786	0.079	0.170	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1387.26	
18	0.7133	1150.9	1171.3	0.502	4.759	70.579	21.140	2.768	0.077	0.165	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1386.88	
19	0.7132	1150.2	1170.6	0.491	4.811	70.633	21.011	2.788	0.079	0.172	0.007	0.007	0.001	0.000	0.000	0.000	0.000	1386.11	
20	0.7138	1152.5	1172.9	0.507	4.700	70.611	21.089	2.813	0.083	0.181	0.008	0.008	0.001	0.000	0.000	0.000	0.000	1388.30	
21	0.7148	1153.0	1173.4	0.513	4.759	70.451	21.130	2.867	0.083	0.182	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1387.87	
22	0.7142	1149.7	1170.1	0.494	4.927	70.517	20.940	2.834	0.083	0.185	0.009	0.010	0.002	0.000	0.000	0.000	0.000	1384.56	
23	0.7163	1152.0	1172.4	0.501	4.980	70.252	21.014	2.927	0.092	0.208	0.011	0.013	0.003	0.000	0.000	0.000	0.000	1385.20	
24	0.7180	1154.6	1175.1	0.497	4.984	70.067	21.072	3.019	0.100	0.229	0.013	0.015	0.004	0.000	0.000	0.000	0.000	1386.72	
25	0.7152	1150.4	1170.8	0.484	4.993	70.311	21.086	2.833	0.085	0.189	0.009	0.010	0.003	0.000	0.000	0.000	0.000	1384.45	
26	0.7138	1148.9	1169.3	0.494	4.944	70.425	21.132	2.752	0.077	0.166	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1383.95	
27	0.7148	1149.1	1169.4	0.506	5.003	70.358	21.020	2.846	0.080	0.174	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1383.23	
28	0.7150	1149.4	1169.8	0.499	5.015	70.345	20.991	2.878	0.082	0.178	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1383.40	
29	0.7161	1150.9	1171.3	0.493	5.035	70.150	21.133	2.914	0.083	0.180	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1384.16	
30	0.7161	1150.3	1170.7	0.484	5.084	70.093	21.187	2.886	0.081	0.175	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1383.46	
31	0.7163	1150.6	1170.9	0.482	5.098	70.017	21.265	2.871	0.081	0.175	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1383.48	
Avg	0.7139	1150.0	1169.9	0.487	4.922	70.505	21.016	2.792	0.082	0.180	0.007	0.008	0.001	0.000	0.000	0.000	0.000	1384.64	

Zone 262

# GQ Source Analysis

:

<b>GQ Source Number:</b>	2501030	<b>Specific Gravity:</b>	0.6641
<b>GQ Source Name:</b>	LIGNITE PLANT	<b>Dry Heat Value:</b>	1116.41
<b>Effective Date:</b>	3/1/2013 9:00:00 AM	<b>Wet Heat Value:</b>	1096.98
<b>Effective End Date:</b>	1/18/2038 9:14:07 PM	<b>As Deliv. Heat Value:</b>	1116.41
<b>Pressure Base:</b>	14.730	<b>Sample Pressure:</b>	405.00
<b>Viscosity:</b>		<b>Sample Temperature:</b>	

		<u>Mol %</u>	<u>Liquid Content</u>			<u>Mol %</u>
C1	Methane	77.699		CO2	Carbon Dioxide	0.082
C2	Ethane	17.334	4.6221	N2	Nitrogen	4.039
C3	Propane	0.846	0.2324	O2	Oxygen	0.000
IC4	Isobutane	0.000	0.0000	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%	4.855 GPM		

**Sample Date:** 3/31/2013 12:00:00 AM  
**Sample Type:** Composite  
**Sample Tech:** sampler  
**H2S:** ppm

**Sample Remarks:**

**Analysis Tech:** Lab

**Analysis Remarks:**

Zone 263

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

# GQ Source Daily Summary

March 2013

Number: 043

Pressure Base: 14.730

Contract Day: 1

Name: BISMARCK STATION-CLEVELAND 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	0.6986	1133.6	1153.6	0.417	4.565	73.285	19.029	2.426	0.076	0.162	0.012	0.012	0.015	0.000	0.000	0.000	0.000	1380.24	
2	0.6966	1131.9	1151.9	0.387	4.527	73.495	19.014	2.331	0.069	0.144	0.010	0.010	0.013	0.000	0.000	0.000	0.000	1380.14	
3	0.6984	1134.3	1154.4	0.384	4.554	73.129	19.344	2.349	0.068	0.142	0.010	0.009	0.013	0.000	0.000	0.000	0.000	1381.32	
4	0.6937	1130.7	1150.7	0.365	4.357	73.874	19.013	2.178	0.061	0.123	0.009	0.008	0.012	0.000	0.000	0.000	0.000	1381.64	
5	0.6855	1118.8	1138.6	0.351	4.331	75.401	17.661	2.054	0.059	0.117	0.008	0.008	0.011	0.000	0.000	0.000	0.000	1375.27	
6	0.6816	1114.9	1134.6	0.335	4.225	76.151	17.097	1.982	0.060	0.119	0.010	0.010	0.012	0.000	0.000	0.000	0.000	1374.37	
7	0.6800	1116.5	1136.2	0.369	3.932	76.350	17.339	1.819	0.055	0.104	0.009	0.008	0.014	0.000	0.000	0.000	0.000	1377.90	
8	0.6903	1125.9	1145.8	0.405	4.275	74.662	18.258	2.161	0.067	0.136	0.011	0.011	0.014	0.000	0.000	0.000	0.000	1379.05	
9	0.6914	1123.8	1143.7	0.414	4.491	74.477	18.143	2.238	0.068	0.136	0.010	0.009	0.012	0.000	0.000	0.000	0.000	1375.40	
10	0.6891	1121.4	1141.2	0.387	4.463	74.800	17.988	2.133	0.065	0.131	0.010	0.009	0.012	0.000	0.000	0.000	0.000	1374.76	
11	0.6905	1122.6	1142.5	0.413	4.479	74.561	18.161	2.160	0.065	0.129	0.010	0.009	0.012	0.000	0.000	0.000	0.000	1374.89	
12	0.6911	1124.4	1144.3	0.399	4.449	74.430	18.332	2.167	0.065	0.128	0.010	0.009	0.012	0.000	0.000	0.000	0.000	1376.48	
13	0.6912	1124.8	1144.7	0.413	4.404	74.443	18.350	2.172	0.063	0.126	0.009	0.008	0.012	0.000	0.000	0.000	0.000	1376.95	
14	0.6967	1132.8	1152.8	0.417	4.435	73.531	19.011	2.374	0.067	0.137	0.009	0.008	0.010	0.000	0.000	0.000	0.000	1381.16	
15	0.6878	1123.4	1143.3	0.375	4.228	75.008	18.100	2.085	0.062	0.115	0.009	0.007	0.011	0.000	0.000	0.000	0.000	1378.62	
16	0.6841	1118.1	1137.9	0.396	4.173	75.797	17.352	2.069	0.063	0.120	0.010	0.008	0.012	0.000	0.000	0.000	0.000	1375.77	
17	0.6852	1120.1	1139.9	0.413	4.133	75.529	17.684	2.044	0.059	0.111	0.009	0.007	0.011	0.000	0.000	0.000	0.000	1377.09	
18	0.6841	1119.2	1139.0	0.383	4.131	75.717	17.529	2.045	0.059	0.110	0.008	0.007	0.011	0.000	0.000	0.000	0.000	1377.08	
19	0.6822	1115.3	1135.0	0.400	4.158	76.101	17.131	2.012	0.059	0.111	0.009	0.008	0.011	0.000	0.000	0.000	0.000	1374.25	
20	0.6803	1112.5	1132.2	0.380	4.181	76.442	16.820	1.971	0.060	0.117	0.009	0.009	0.011	0.000	0.000	0.000	0.000	1372.72	
21	0.6837	1117.4	1137.2	0.388	4.189	75.878	17.247	2.091	0.061	0.119	0.009	0.008	0.010	0.000	0.000	0.000	0.000	1375.35	
22	0.6832	1115.0	1134.8	0.422	4.240	76.053	16.948	2.111	0.065	0.129	0.010	0.010	0.012	0.000	0.000	0.000	0.000	1372.88	
23	0.6892	1121.1	1141.0	0.417	4.436	74.958	17.723	2.220	0.069	0.141	0.012	0.011	0.014	0.000	0.000	0.000	0.000	1374.40	
24	0.6968	1131.0	1151.0	0.428	4.538	73.708	18.595	2.440	0.080	0.170	0.014	0.014	0.015	0.000	0.000	0.000	0.000	1378.83	
25	0.6937	1127.6	1147.6	0.411	4.476	74.234	18.242	2.353	0.078	0.163	0.014	0.014	0.015	0.000	0.000	0.000	0.000	1377.82	
26	0.6911	1124.8	1144.7	0.395	4.429	74.466	18.276	2.217	0.063	0.125	0.009	0.008	0.012	0.000	0.000	0.000	0.000	1376.98	
27	0.6953	1128.9	1148.9	0.451	4.488	73.793	18.717	2.320	0.067	0.134	0.010	0.009	0.013	0.000	0.000	0.000	0.000	1377.83	
28	0.6992	1132.6	1152.6	0.462	4.612	73.176	19.034	2.469	0.071	0.145	0.010	0.009	0.013	0.000	0.000	0.000	0.000	1378.46	
29	0.7039	1138.1	1158.3	0.467	4.712	72.326	19.658	2.578	0.073	0.152	0.010	0.009	0.014	0.000	0.000	0.000	0.000	1380.52	
30	0.7087	1143.5	1163.8	0.464	4.836	71.508	20.186	2.737	0.077	0.162	0.009	0.009	0.013	0.000	0.000	0.000	0.000	1382.42	
31	0.7069	1142.4	1162.7	0.460	4.743	71.762	20.138	2.639	0.074	0.152	0.010	0.009	0.013	0.000	0.000	0.000	0.000	1382.81	
Avg	0.6913	1125.0	1145.3	0.405	4.393	74.485	18.262	2.224	0.066	0.133	0.010	0.009	0.012	0.000	0.000	0.000	0.000	1377.53	

Zone 271

## GQ Source Daily Summary

March 2013

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	0.7010	1135.8	1155.9	0.428	4.642	72.845	19.337	2.458	0.078	0.169	0.013	0.013	0.017	0.000	0.000	0.000	0.000	1380.52	
2	0.6976	1132.9	1153.0	0.396	4.538	73.350	19.117	2.341	0.071	0.149	0.011	0.011	0.015	0.000	0.000	0.000	0.000	1380.48	
3	0.6995	1135.9	1156.0	0.386	4.559	72.922	19.531	2.354	0.069	0.146	0.010	0.010	0.013	0.000	0.000	0.000	0.000	1382.15	
4	0.6961	1132.9	1153.0	0.371	4.440	73.466	19.260	2.238	0.064	0.130	0.009	0.009	0.013	0.000	0.000	0.000	0.000	1381.92	
5	0.6875	1121.9	1141.8	0.356	4.322	75.048	17.977	2.092	0.060	0.119	0.009	0.008	0.012	0.000	0.000	0.000	0.000	1377.08	
6	0.6837	1116.7	1136.5	0.341	4.306	75.746	17.369	2.034	0.059	0.117	0.009	0.009	0.012	0.000	0.000	0.000	0.000	1374.49	
7	0.6781	1114.0	1133.8	0.353	3.925	76.678	17.090	1.755	0.056	0.109	0.010	0.010	0.015	0.000	0.000	0.000	0.000	1376.82	
8	0.6899	1126.2	1146.1	0.401	4.225	74.708	18.290	2.147	0.066	0.131	0.010	0.009	0.013	0.000	0.000	0.000	0.000	1379.84	
9	0.6936	1127.0	1147.0	0.427	4.482	74.091	18.486	2.267	0.070	0.143	0.011	0.010	0.013	0.000	0.000	0.000	0.000	1377.16	
10	0.6893	1121.7	1141.6	0.391	4.454	74.752	18.057	2.118	0.065	0.131	0.010	0.009	0.013	0.000	0.000	0.000	0.000	1375.00	
11	0.6917	1124.5	1144.4	0.408	4.484	74.370	18.305	2.198	0.068	0.136	0.010	0.009	0.013	0.000	0.000	0.000	0.000	1376.02	
12	0.6917	1124.7	1144.7	0.407	4.470	74.336	18.385	2.173	0.065	0.131	0.010	0.009	0.013	0.000	0.000	0.000	0.000	1376.30	
13	0.6907	1123.6	1143.5	0.413	4.431	74.529	18.255	2.150	0.064	0.127	0.010	0.008	0.013	0.000	0.000	0.000	0.000	1375.98	
14	0.6973	1133.7	1153.8	0.424	4.420	73.443	19.093	2.381	0.069	0.141	0.009	0.009	0.011	0.000	0.000	0.000	0.000	1381.76	
15	0.6919	1127.9	1147.9	0.389	4.321	74.268	18.634	2.174	0.063	0.122	0.009	0.007	0.011	0.000	0.000	0.000	0.000	1380.01	
16	0.6844	1118.7	1138.5	0.386	4.183	75.711	17.446	2.062	0.063	0.119	0.010	0.008	0.012	0.000	0.000	0.000	0.000	1376.19	
17	0.6867	1121.7	1141.6	0.426	4.151	75.291	17.854	2.070	0.061	0.117	0.009	0.008	0.012	0.000	0.000	0.000	0.000	1377.62	
18	0.6848	1119.9	1139.8	0.388	4.148	75.566	17.667	2.034	0.059	0.111	0.009	0.007	0.012	0.000	0.000	0.000	0.000	1377.26	
19	0.6842	1118.7	1138.5	0.395	4.151	75.719	17.490	2.046	0.060	0.112	0.009	0.007	0.012	0.000	0.000	0.000	0.000	1376.39	
20	0.6812	1113.1	1132.9	0.397	4.199	76.278	16.944	1.978	0.060	0.116	0.009	0.008	0.011	0.000	0.000	0.000	0.000	1372.63	
21	0.6845	1119.2	1139.0	0.381	4.171	75.669	17.512	2.056	0.061	0.121	0.009	0.009	0.011	0.000	0.000	0.000	0.000	1376.71	
22	0.6839	1116.8	1136.5	0.417	4.202	75.926	17.120	2.109	0.066	0.129	0.010	0.009	0.012	0.000	0.000	0.000	0.000	1374.37	
23	0.6875	1119.2	1139.0	0.423	4.391	75.236	17.543	2.168	0.067	0.137	0.011	0.010	0.013	0.000	0.000	0.000	0.000	1373.64	
24	0.6959	1129.4	1149.4	0.429	4.544	73.830	18.526	2.387	0.078	0.165	0.013	0.014	0.014	0.000	0.000	0.000	0.000	1377.85	
25	0.6974	1132.5	1152.5	0.427	4.504	73.644	18.658	2.457	0.084	0.181	0.015	0.015	0.015	0.000	0.000	0.000	0.000	1380.06	
26	0.6914	1125.2	1145.2	0.394	4.430	74.434	18.300	2.211	0.066	0.131	0.010	0.010	0.014	0.000	0.000	0.000	0.000	1377.22	
27	0.6949	1129.0	1149.0	0.437	4.461	73.820	18.781	2.274	0.066	0.131	0.009	0.008	0.013	0.000	0.000	0.000	0.000	1378.38	
28	0.6994	1133.3	1153.4	0.465	4.578	73.117	19.154	2.438	0.071	0.144	0.010	0.009	0.014	0.000	0.000	0.000	0.000	1379.17	
29	0.7036	1137.9	1158.1	0.470	4.691	72.378	19.641	2.560	0.074	0.154	0.010	0.009	0.013	0.000	0.000	0.000	0.000	1380.60	
30	0.7095	1144.7	1165.0	0.473	4.824	71.358	20.344	2.725	0.078	0.166	0.010	0.010	0.013	0.000	0.000	0.000	0.000	1383.09	
31	0.7090	1144.5	1164.7	0.462	4.810	71.381	20.400	2.681	0.075	0.158	0.009	0.009	0.013	0.000	0.000	0.000	0.000	1383.26	
Avg	0.6922	1127.0	1146.5	0.408	4.402	74.320	18.405	2.230	0.067	0.135	0.010	0.009	0.013	0.000	0.000	0.000	0.000	1378.06	

Zone 272



# GQ Source Daily Summary

March 2013

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	0.6503	1082.9	1102.0	0.214	3.419	81.475	13.673	1.119	0.036	0.040	0.008	0.005	0.013	0.000	0.000	0.000	0.000	1366.64	
2	0.6552	1091.6	1110.9	0.169	3.421	80.445	14.697	1.174	0.033	0.042	0.006	0.004	0.008	0.000	0.000	0.000	0.000	1372.45	
3	0.6566	1093.9	1113.2	0.148	3.451	80.079	15.088	1.151	0.030	0.038	0.005	0.003	0.007	0.000	0.000	0.000	0.000	1373.81	
4	0.6607	1099.4	1118.8	0.186	3.437	79.401	15.640	1.248	0.032	0.040	0.005	0.003	0.007	0.000	0.000	0.000	0.000	1376.48	
5	0.6522	1083.5	1102.7	0.207	3.579	81.088	13.824	1.211	0.033	0.043	0.005	0.003	0.006	0.000	0.000	0.000	0.000	1365.33	
6	0.6527	1084.3	1103.5	0.219	3.554	81.101	13.753	1.274	0.036	0.046	0.006	0.004	0.007	0.000	0.000	0.000	0.000	1365.85	
7	0.6511	1081.6	1100.7	0.258	3.503	81.530	13.309	1.287	0.040	0.049	0.009	0.005	0.011	0.000	0.000	0.000	0.000	1364.19	
8	0.6505	1082.0	1101.2	0.237	3.459	81.458	13.607	1.133	0.038	0.043	0.009	0.005	0.011	0.000	0.000	0.000	0.000	1365.31	
9	0.6441	1071.6	1090.6	0.242	3.477	82.608	12.610	0.958	0.036	0.042	0.009	0.005	0.011	0.000	0.000	0.000	0.000	1358.96	
10	0.6447	1073.2	1092.2	0.218	3.482	82.386	12.890	0.933	0.032	0.036	0.008	0.004	0.010	0.000	0.000	0.000	0.000	1360.27	
11	0.6469	1076.5	1095.5	0.279	3.391	82.101	13.150	0.976	0.037	0.040	0.010	0.005	0.013	0.000	0.000	0.000	0.000	1362.13	
12	0.6526	1086.4	1105.6	0.228	3.405	80.998	14.159	1.111	0.035	0.039	0.008	0.004	0.012	0.000	0.000	0.000	0.000	1368.61	
13	0.6512	1082.8	1102.0	0.264	3.437	81.320	13.758	1.120	0.035	0.041	0.008	0.004	0.012	0.000	0.000	0.000	0.000	1365.56	
14	0.6565	1090.4	1109.7	0.247	3.494	80.353	14.546	1.258	0.035	0.051	0.006	0.004	0.007	0.000	0.000	0.000	0.000	1369.62	
15	0.6598	1096.7	1116.1	0.271	3.387	79.875	14.981	1.352	0.047	0.061	0.009	0.005	0.010	0.000	0.000	0.000	0.000	1374.04	
16	0.6509	1080.5	1099.6	0.280	3.519	81.603	13.199	1.269	0.045	0.060	0.009	0.005	0.010	0.000	0.000	0.000	0.000	1363.01	
17	0.6527	1083.2	1102.4	0.311	3.480	81.130	13.782	1.198	0.036	0.042	0.008	0.004	0.009	0.000	0.000	0.000	0.000	1364.51	
18	0.6524	1083.8	1103.0	0.255	3.506	81.180	13.713	1.237	0.039	0.048	0.008	0.005	0.009	0.000	0.000	0.000	0.000	1365.50	
19	0.6484	1076.5	1095.6	0.284	3.527	81.958	12.957	1.165	0.039	0.050	0.008	0.005	0.009	0.000	0.000	0.000	0.000	1360.54	
20	0.6435	1068.7	1087.6	0.266	3.570	82.785	12.245	1.034	0.036	0.046	0.007	0.004	0.007	0.000	0.000	0.000	0.000	1355.78	
21	0.6471	1075.0	1094.0	0.231	3.574	82.209	12.673	1.200	0.040	0.054	0.007	0.005	0.008	0.000	0.000	0.000	0.000	1360.03	
22	0.6417	1065.9	1084.8	0.311	3.505	83.278	11.723	1.061	0.042	0.055	0.009	0.005	0.010	0.000	0.000	0.000	0.000	1354.09	
23	0.6426	1067.3	1086.2	0.267	3.564	83.000	12.029	1.029	0.039	0.047	0.009	0.005	0.011	0.000	0.000	0.000	0.000	1355.04	
24	0.6461	1073.2	1092.2	0.258	3.544	82.423	12.512	1.138	0.044	0.056	0.009	0.005	0.011	0.000	0.000	0.000	0.000	1358.87	
25	0.6486	1077.8	1096.9	0.258	3.505	81.930	13.021	1.165	0.043	0.052	0.009	0.005	0.012	0.000	0.000	0.000	0.000	1361.96	
26	0.6519	1082.5	1101.7	0.225	3.578	81.235	13.631	1.220	0.039	0.052	0.007	0.004	0.008	0.000	0.000	0.000	0.000	1364.48	
27	0.6525	1082.6	1101.7	0.323	3.479	81.247	13.623	1.206	0.043	0.052	0.010	0.005	0.011	0.000	0.000	0.000	0.000	1363.94	
28	0.6523	1083.3	1102.5	0.323	3.421	81.246	13.723	1.168	0.042	0.049	0.010	0.005	0.012	0.000	0.000	0.000	0.000	1365.01	
29	0.6505	1081.2	1100.3	0.315	3.387	81.586	13.457	1.140	0.040	0.046	0.010	0.005	0.013	0.000	0.000	0.000	0.000	1364.30	
30	0.6611	1097.1	1116.5	0.278	3.472	79.673	15.000	1.462	0.040	0.053	0.008	0.005	0.009	0.000	0.000	0.000	0.000	1373.22	
31	0.6629	1100.7	1120.2	0.338	3.330	79.452	15.251	1.507	0.044	0.051	0.010	0.005	0.012	0.000	0.000	0.000	0.000	1375.86	
Avg	0.6513	1082.0	1101.6	0.255	3.479	81.360	13.620	1.178	0.038	0.047	0.008	0.005	0.010	0.000	0.000	0.000	0.000	1365.01	

Zone 28

# GQ Source Daily Summary

March 2013

Number: 271

Pressure Base: 14.730

Contract Day: 1

Name: DICKINSON STN-BELFIELD TSF-GLENULLIN STN

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	0.6564	1091.6	1111.0	0.157	3.543	80.097	14.928	1.216	0.023	0.037	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1371.21
2	0.6569	1092.8	1112.1	0.140	3.542	79.938	15.146	1.181	0.021	0.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1372.17
3	0.6595	1096.5	1115.9	0.151	3.546	79.445	15.588	1.220	0.020	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1374.08
4	0.6572	1090.7	1110.0	0.203	3.599	80.094	14.715	1.326	0.025	0.039	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1369.28
5	0.6499	1078.6	1097.7	0.188	3.670	81.448	13.420	1.210	0.025	0.039	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1361.71
6	0.6536	1084.5	1103.7	0.194	3.654	80.851	13.879	1.352	0.028	0.043	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1365.18
7	0.6519	1082.3	1101.5	0.174	3.658	81.051	13.807	1.252	0.023	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1364.24
8	0.6429	1071.0	1089.9	0.185	3.488	82.636	12.670	0.967	0.020	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1359.31
9	0.6416	1069.4	1088.3	0.169	3.481	82.836	12.552	0.917	0.018	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1358.73
10	0.6426	1071.2	1090.2	0.169	3.466	82.652	12.722	0.945	0.018	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1359.98
11	0.6519	1083.7	1102.9	0.163	3.596	80.867	14.231	1.095	0.019	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1365.90
12	0.6538	1085.9	1105.1	0.186	3.600	80.616	14.361	1.181	0.022	0.034	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1366.74
13	0.6549	1088.2	1107.5	0.197	3.550	80.526	14.379	1.277	0.027	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1368.45
14	0.6607	1098.0	1117.4	0.186	3.518	79.423	15.444	1.348	0.030	0.051	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1374.65
15	0.6566	1089.7	1109.0	0.192	3.620	80.340	14.358	1.396	0.036	0.059	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1368.60
16	0.6505	1080.1	1099.3	0.187	3.638	81.333	13.567	1.210	0.025	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1362.95
17	0.6566	1087.5	1106.7	0.186	3.768	80.127	14.572	1.286	0.024	0.037	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1365.87
18	0.6533	1084.1	1103.3	0.198	3.642	80.875	13.910	1.298	0.029	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1365.04
19	0.6441	1068.8	1087.8	0.198	3.708	82.490	12.478	1.063	0.025	0.039	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1355.38
20	0.6464	1072.9	1091.9	0.190	3.692	82.086	12.834	1.130	0.026	0.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1358.05
21	0.6443	1069.5	1088.4	0.198	3.690	82.590	12.268	1.171	0.031	0.052	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1355.95
22	0.6423	1066.1	1085.0	0.190	3.712	82.863	12.108	1.059	0.026	0.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1353.88
23	0.6465	1072.6	1091.6	0.174	3.745	82.075	12.783	1.148	0.029	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1357.55
24	0.6492	1077.6	1096.7	0.179	3.685	81.583	13.283	1.195	0.029	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1361.10
25	0.6496	1078.4	1097.5	0.173	3.684	81.500	13.365	1.201	0.029	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1361.63
26	0.6551	1085.2	1104.4	0.226	3.701	80.518	14.192	1.288	0.029	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1364.54
27	0.6547	1085.2	1104.5	0.246	3.635	80.564	14.242	1.244	0.027	0.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1364.96
28	0.6519	1081.8	1101.0	0.225	3.610	81.038	13.893	1.176	0.023	0.036	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1363.62
29	0.6620	1097.5	1116.9	0.227	3.601	79.318	15.293	1.488	0.028	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1372.76
30	0.6638	1099.7	1119.2	0.241	3.618	79.027	15.471	1.575	0.026	0.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1373.61
31	0.6659	1103.2	1122.7	0.238	3.605	78.661	15.804	1.617	0.029	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1375.82
Avg	0.6525	1083.0	1102.5	0.191	3.621	80.951	13.944	1.227	0.025	0.041	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1364.93

Zone 31, 311

# GQ Source Daily Summary

March 2013

Number: 051 Pressure Base: 14,730 Contract Day: 1  
 Name: CABIN CREEK STATION-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	0.6524	1078.6	1097.7	0.215	3.879	81.296	13.025	1.491	0.034	0.051	0.003	0.003	0.002	0.000	0.000	0.000	0.000	1358.98	
2	0.6543	1081.9	1101.0	0.199	3.883	80.861	13.490	1.485	0.031	0.044	0.003	0.002	0.002	0.000	0.000	0.000	0.000	1361.14	
3	0.6575	1085.1	1104.3	0.275	3.872	80.427	13.716	1.617	0.035	0.052	0.003	0.003	0.001	0.000	0.000	0.000	0.000	1361.89	
4	0.6477	1070.3	1089.3	0.254	3.885	82.197	12.165	1.407	0.034	0.050	0.003	0.003	0.002	0.000	0.000	0.000	0.000	1353.42	
5	0.6479	1070.9	1089.9	0.240	3.888	82.223	12.079	1.473	0.035	0.053	0.004	0.003	0.003	0.000	0.000	0.000	0.000	1353.95	
6	0.6508	1075.2	1094.3	0.250	3.881	81.713	12.519	1.537	0.036	0.054	0.004	0.004	0.003	0.000	0.000	0.000	0.000	1356.40	
7	0.6444	1064.0	1082.8	0.256	3.951	82.805	11.570	1.324	0.033	0.050	0.004	0.004	0.003	0.000	0.000	0.000	0.000	1348.89	
8	0.6371	1051.9	1070.5	0.260	4.000	84.122	10.355	1.176	0.031	0.046	0.004	0.004	0.003	0.000	0.000	0.000	0.000	1341.18	
9	0.6386	1055.2	1073.9	0.241	3.966	83.765	10.801	1.150	0.028	0.040	0.004	0.003	0.003	0.000	0.000	0.000	0.000	1343.83	
10	0.6425	1061.2	1080.0	0.253	3.942	83.144	11.287	1.288	0.031	0.045	0.004	0.003	0.003	0.000	0.000	0.000	0.000	1347.47	
11	0.6498	1074.0	1093.0	0.227	3.897	81.722	12.672	1.399	0.030	0.044	0.003	0.003	0.002	0.000	0.000	0.000	0.000	1355.87	
12	0.6484	1071.1	1090.0	0.273	3.875	82.150	12.135	1.470	0.034	0.052	0.004	0.004	0.003	0.000	0.000	0.000	0.000	1353.64	
13	0.6532	1077.8	1096.9	0.281	3.902	81.337	12.773	1.592	0.041	0.064	0.005	0.004	0.002	0.000	0.000	0.000	0.000	1357.12	
14	0.6563	1082.7	1101.9	0.269	3.906	80.836	13.157	1.701	0.046	0.074	0.005	0.004	0.002	0.000	0.000	0.000	0.000	1360.19	
15	0.6500	1073.8	1092.8	0.248	3.896	81.935	12.252	1.541	0.045	0.072	0.005	0.004	0.003	0.000	0.000	0.000	0.000	1355.39	
16	0.6488	1072.8	1091.8	0.234	3.865	81.933	12.491	1.392	0.031	0.046	0.003	0.003	0.002	0.000	0.000	0.000	0.000	1355.43	
17	0.6513	1076.4	1095.4	0.246	3.863	81.528	12.811	1.455	0.035	0.053	0.004	0.003	0.002	0.000	0.000	0.000	0.000	1357.35	
18	0.6463	1068.0	1086.9	0.256	3.884	82.517	11.846	1.392	0.037	0.057	0.004	0.004	0.003	0.000	0.000	0.000	0.000	1352.00	
19	0.6388	1055.4	1074.1	0.254	3.947	83.839	10.658	1.204	0.034	0.052	0.004	0.004	0.003	0.000	0.000	0.000	0.000	1343.94	
20	0.6443	1064.9	1083.8	0.243	3.901	82.893	11.488	1.365	0.038	0.060	0.005	0.004	0.003	0.000	0.000	0.000	0.000	1350.25	
21	0.6375	1054.0	1072.7	0.252	3.916	84.195	10.255	1.266	0.040	0.063	0.005	0.004	0.003	0.000	0.000	0.000	0.000	1343.49	
22	0.6399	1056.2	1074.9	0.233	4.040	83.648	10.697	1.281	0.036	0.055	0.004	0.004	0.002	0.000	0.000	0.000	0.000	1343.73	
23	0.6430	1061.6	1080.4	0.243	3.989	83.176	11.084	1.390	0.041	0.064	0.005	0.004	0.003	0.000	0.000	0.000	0.000	1347.27	
24	0.6447	1064.2	1083.1	0.238	3.995	82.848	11.381	1.426	0.039	0.061	0.005	0.004	0.003	0.000	0.000	0.000	0.000	1348.86	
25	0.6498	1072.3	1091.2	0.243	3.977	81.870	12.315	1.485	0.039	0.061	0.004	0.004	0.002	0.000	0.000	0.000	0.000	1353.72	
26	0.6503	1070.7	1089.7	0.343	3.971	81.871	12.204	1.502	0.040	0.059	0.004	0.004	0.002	0.000	0.000	0.000	0.000	1351.20	
27	0.6453	1063.4	1082.2	0.317	3.976	82.804	11.363	1.442	0.035	0.053	0.004	0.003	0.002	0.000	0.000	0.000	0.000	1347.26	
28	0.6572	1080.5	1099.7	0.345	4.014	80.839	12.819	1.864	0.042	0.067	0.005	0.004	0.002	0.000	0.000	0.000	0.000	1356.46	
29	0.6622	1088.0	1107.3	0.358	4.004	80.036	13.410	2.079	0.041	0.063	0.004	0.003	0.001	0.000	0.000	0.000	0.000	1360.69	
30	0.6637	1090.1	1109.4	0.359	4.019	79.805	13.558	2.136	0.045	0.069	0.004	0.003	0.001	0.000	0.000	0.000	0.000	1361.73	
31	0.6514	1072.9	1091.9	0.305	3.990	81.725	12.243	1.643	0.035	0.050	0.004	0.003	0.002	0.000	0.000	0.000	0.000	1352.91	
Avg	0.6486	1070.0	1089.4	0.265	3.935	82.131	12.084	1.483	0.036	0.056	0.004	0.003	0.002	0.000	0.000	0.000	0.000	1352.76	

Zone 32

# GQ Source Daily Summary

March 2013

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	NCS	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6836	1154.3	1174.8	0.000	2.541	73.636	23.417	0.395	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.82	
2	0.6834	1153.9	1174.4	0.000	2.542	73.681	23.375	0.391	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.60	
3	0.6835	1154.1	1174.5	0.000	2.543	73.650	23.409	0.387	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.68	
4	0.6839	1154.9	1175.3	0.000	2.536	73.559	23.516	0.378	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.18	
5	0.6847	1155.9	1176.4	0.000	2.541	73.402	23.671	0.375	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.73	
6	0.6844	1155.1	1175.6	0.000	2.568	73.443	23.609	0.368	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.97	
7	0.6844	1155.2	1175.6	0.000	2.559	73.468	23.576	0.386	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.11	
8	0.6849	1155.8	1176.2	0.000	2.568	73.383	23.641	0.397	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.34	
9	0.6849	1156.0	1176.4	0.000	2.557	73.378	23.665	0.389	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.57	
10	0.6857	1157.3	1177.8	0.000	2.554	73.221	23.807	0.407	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1422.35	
11	0.6852	1156.6	1177.0	0.000	2.549	73.321	23.725	0.393	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.98	
12	0.6870	1159.4	1180.0	0.000	2.547	73.142	23.739	0.532	0.012	0.024	0.002	0.002	0.001	0.000	0.000	0.000	0.000	1423.59	
13	0.6854	1156.6	1177.1	0.000	2.570	73.278	23.733	0.407	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.78	
14	0.6856	1157.0	1177.5	0.000	2.558	73.252	23.767	0.411	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1422.15	
15	0.6854	1156.6	1177.1	0.000	2.566	73.279	23.742	0.402	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.84	
16	0.6845	1155.2	1175.6	0.000	2.575	73.442	23.582	0.390	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.92	
17	0.6847	1155.5	1176.0	0.000	2.568	73.398	23.641	0.381	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.21	
18	0.6850	1155.9	1176.4	0.000	2.576	73.342	23.675	0.396	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.34	
19	0.6852	1156.4	1176.9	0.000	2.558	73.325	23.704	0.401	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.79	
20	0.6839	1154.9	1175.4	0.000	2.534	73.571	23.492	0.391	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.23	
21	0.6848	1156.0	1176.4	0.000	2.550	73.383	23.675	0.380	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.64	
22	0.6841	1155.1	1175.6	0.000	2.540	73.518	23.553	0.377	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.28	
23	0.6841	1154.9	1175.4	0.000	2.550	73.525	23.528	0.385	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.07	
24	0.6847	1155.9	1176.3	0.000	2.548	73.414	23.632	0.394	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.60	
25	0.6843	1155.1	1175.5	0.000	2.561	73.490	23.546	0.392	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.01	
26	0.6844	1155.4	1175.9	0.000	2.544	73.486	23.563	0.396	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.41	
27	0.6841	1154.6	1175.1	0.000	2.564	73.546	23.485	0.394	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.73	
28	0.6848	1155.6	1176.1	0.000	2.570	73.470	23.481	0.465	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.22	
29	0.6845	1155.1	1175.6	0.000	2.578	73.451	23.561	0.399	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.86	
30	0.6845	1155.3	1175.7	0.000	2.561	73.464	23.568	0.395	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.14	
31	0.6866	1158.8	1179.3	0.000	2.548	73.095	23.882	0.463	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.25	
Avg	0.6847	1156.0	1176.2	0.000	2.556	73.420	23.612	0.401	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.46	

Zone 33

## GQ Source Daily Summary

March 2013

**Number:** 331

**Pressure Base:** 14.730

**Contract Day:** 1

**Name:** MARMARTH PLANT-BOWMAN BORDER

**Temperature Base:**

**Contract Hour:** 9

Day	Relative Density	Heating Value		Heating Value																Wobbe	CCT
		Wet	Dry	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10				
1	0.8026	1136.9	1157.0	2.125	11.559	53.618	29.135	3.149	0.089	0.276	0.012	0.032	0.005	0.000	0.000	0.000	0.000	1291.52			
2	0.7842	1124.6	1144.5	2.117	10.587	57.353	26.530	3.016	0.087	0.263	0.012	0.031	0.005	0.000	0.000	0.000	0.000	1292.85			
3	0.7144	1090.5	1109.8	1.136	7.591	69.858	19.107	2.056	0.060	0.160	0.009	0.019	0.005	0.000	0.000	0.000	0.000	1313.66			
4	0.7039	1112.2	1131.9	0.851	5.703	72.924	17.562	2.504	0.090	0.284	0.020	0.049	0.014	0.000	0.000	0.000	0.000	1349.13			
5	0.6802	1042.2	1060.6	1.058	7.419	78.179	10.022	2.792	0.099	0.333	0.018	0.057	0.022	0.000	0.000	0.000	0.000	1284.76			
6	0.7841	1110.9	1130.6	2.826	10.342	57.770	26.025	2.617	0.084	0.269	0.015	0.042	0.010	0.000	0.000	0.000	0.000	1277.60			
7	0.8041	1124.1	1144.0	3.003	11.155	53.355	29.700	2.465	0.070	0.216	0.009	0.023	0.003	0.000	0.000	0.000	0.000	1275.76			
8	0.8046	1130.9	1151.0	2.802	11.089	53.559	29.317	2.868	0.079	0.244	0.011	0.029	0.004	0.000	0.000	0.000	0.000	1283.09			
9	0.8052	1132.0	1152.1	2.736	11.174	53.508	29.229	2.966	0.084	0.258	0.011	0.030	0.004	0.000	0.000	0.000	0.000	1283.89			
10	0.8054	1135.6	1155.7	2.627	11.139	53.252	29.715	2.910	0.080	0.240	0.010	0.025	0.004	0.000	0.000	0.000	0.000	1287.82			
11	0.8000	1123.2	1143.1	2.483	11.605	54.206	28.417	2.890	0.084	0.266	0.012	0.032	0.004	0.000	0.000	0.000	0.000	1277.98			
12	0.7997	1126.7	1146.7	2.467	11.394	53.782	29.499	2.519	0.074	0.226	0.010	0.026	0.004	0.000	0.000	0.000	0.000	1282.27			
13	0.8041	1135.4	1155.5	2.456	11.290	53.386	29.584	2.886	0.086	0.265	0.011	0.030	0.004	0.000	0.000	0.000	0.000	1288.58			
14	0.7951	1129.5	1149.5	2.124	11.308	54.825	28.535	2.800	0.088	0.272	0.012	0.030	0.005	0.000	0.000	0.000	0.000	1289.19			
15	0.7989	1131.7	1151.8	2.128	11.522	54.147	28.877	2.917	0.087	0.272	0.012	0.033	0.005	0.000	0.000	0.000	0.000	1288.58			
16	0.7974	1127.8	1147.8	2.185	11.542	54.199	28.976	2.742	0.078	0.237	0.010	0.026	0.004	0.000	0.000	0.000	0.000	1285.31			
17	0.7973	1130.1	1150.1	2.185	11.390	54.218	29.141	2.710	0.077	0.236	0.011	0.028	0.004	0.000	0.000	0.000	0.000	1288.05			
18	0.8004	1131.8	1151.8	2.352	11.327	53.847	29.324	2.787	0.079	0.242	0.010	0.027	0.004	0.000	0.000	0.000	0.000	1287.42			
19	0.7996	1127.7	1147.6	2.371	11.471	54.062	28.898	2.830	0.080	0.245	0.011	0.028	0.004	0.000	0.000	0.000	0.000	1283.41			
20	0.8016	1131.4	1151.4	2.402	11.386	53.785	29.155	2.899	0.081	0.248	0.011	0.029	0.004	0.000	0.000	0.000	0.000	1286.00			
21	0.7961	1132.4	1152.5	1.933	11.523	54.103	29.449	2.652	0.074	0.226	0.010	0.026	0.004	0.000	0.000	0.000	0.000	1291.60			
22	0.7999	1133.3	1153.4	2.216	11.387	53.854	29.352	2.833	0.079	0.240	0.010	0.026	0.004	0.000	0.000	0.000	0.000	1289.65			
23	0.8007	1127.2	1147.1	2.387	11.582	53.950	28.778	2.921	0.083	0.254	0.011	0.029	0.004	0.000	0.000	0.000	0.000	1281.94			
24	0.8006	1125.7	1145.6	2.421	11.604	53.997	28.685	2.919	0.081	0.249	0.011	0.028	0.004	0.000	0.000	0.000	0.000	1280.41			
25	0.8032	1130.7	1150.7	2.447	11.511	53.698	28.867	3.083	0.086	0.263	0.011	0.029	0.004	0.000	0.000	0.000	0.000	1283.94			
26	0.8011	1129.9	1149.9	2.396	11.442	53.845	29.044	2.914	0.079	0.239	0.010	0.027	0.004	0.000	0.000	0.000	0.000	1284.68			
27	0.8029	1126.2	1146.2	2.550	11.596	53.750	28.732	2.978	0.086	0.263	0.011	0.030	0.005	0.000	0.000	0.000	0.000	1279.14			
28	0.8001	1126.8	1146.7	2.359	11.592	54.108	28.583	2.975	0.084	0.256	0.011	0.028	0.005	0.000	0.000	0.000	0.000	1281.95			
29	0.8011	1128.4	1148.4	2.398	11.523	54.096	28.514	3.063	0.088	0.271	0.011	0.031	0.005	0.000	0.000	0.000	0.000	1283.04			
30	0.8011	1128.9	1148.9	2.348	11.570	54.018	28.603	3.065	0.086	0.264	0.011	0.030	0.004	0.000	0.000	0.000	0.000	1283.58			
31	0.8005	1127.9	1147.9	2.338	11.591	54.006	28.706	2.978	0.083	0.254	0.011	0.029	0.005	0.000	0.000	0.000	0.000	1282.94			
Avg	0.7900	1124.0	1144.2	2.265	10.933	56.041	27.550	2.829	0.082	0.253	0.011	0.030	0.005	0.000	0.000	0.000	0.000	1287.73			

Zone 34

NORTH DAKOTA HEATING VALUE ZONES		
<i>ZONES</i>	<i>MEASURING DEVICE</i>	<i>LOCATION</i>
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	Chromatograph	Taylor Take-Off – Glen Ullin Comp
32	Chromatograph	Cabin Creek – Dickinson
33	Chromatograph	Killdeer
34	Chromatograph	Bowman Area

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

STATE	ZONE	ZONE BOUNDARY	12 MONTH AVERAGE	MAR 13	FEB 13	JAN 13	DEC 12	NOV 12	OCT 12	SEPT 12	AUG 12	JULY 12	JUNE 12	MAY 12	APR 12	ZONE
MT/ND	211	Sidney Area	1200	1206	1202	1203	1200	1201	1200	1202	1197	1197	1200	1194	1196	211
ND	24	Williston Area	1200	1204	1204	1204	1203	1199	1195	1197	1198	1203	1197	1196	1194	24
ND	25	Watford City Area	1178	1201	1196	1192	1192	1188	1176	1183	1184	1176	1151	1159	1139	25
ND/MT	241	Fairview Area	1190	1195	1196	1191	1191	1192	1189	1191	1187	1185	1191	1184	1185	241
ND	261	Williston - Tioga - Minot Line	1155	1123	1139	1160	1162	1162	1164	1170	1151	1161	1157	1157	1155	261
ND	262	Minot Area	1166	1170	1168	1163	1165	1165	1171	1175	1179	1163	1160	1159	1157	262
ND	263	Tioga - Portal	1119	1116	1116	1069	1069	1135	1140	1142	1143	1132	1136	1126	1099	263
ND	264	Williston - Ray	1200	1204	1204	1204	1203	1199	1195	1197	1198	1203	1197	1196	1194	264
ND	271	Bismarck - Cleveland	1157	1145	1144	1137	1147	1154	1170	1173	1178	1161	1157	1157	1157	271
ND	272	Cleveland - Mapleton	1158	1147	1145	1138	1148	1155	1171	1175	1180	1162	1159	1158	1156	272
ND	273	Cleveland - Grafton	1158	1146	1145	1138	1149	1155	1171	1175	1180	1162	1159	1158	1157	273
ND	28	Bismarck - Cabin Creek	1137	1102	1100	1108	1114	1104	1149	1173	1178	1160	1157	1157	1143	28
ND	31	Dickinson Area	1107	1103	1098	1105	1110	1111	1152	1074	1102	1150	1092	1070	1111	31
ND/MT	311	Taylor Take-Off - Glen Ullin Comp		1103	1098	1105	1110	1111	1152	1074	1102	1150	1092	1070	1111	31
ND/MT	32	Cabin Creek - Dickinson	1113	1089	1086	1094	1099	1056	1121	1131	1135	1164	1152	1142	1092	32
ND	33	Killdeer	1179	1176	1177	1177	1176	1177	1177	1180	1179	1181	1184	1181	1181	33
ND	34	Bowman Area	1134	1144	1147	1143	1142	1142	1140	1136	1130	1126	1098	1134	1130	34