



# MONTANA-DAKOTA

UTILITIES CO.

A Division of MDU Resources Group, Inc.

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

August 24, 2012

**RECEIVED**

AUG 27 2012

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

**PUBLIC SERVICE COMMISSION**

Re: Case No. 11,006 (Therm Billing)  
Monthly Report – July 2012

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 2012.
2. Attachment B consists of copies of the monthly Heating Value Test Reports received from our supplier for the month of July 2012. 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.
5. Attachment E provides a brief explanation of the thermal variances, where applicable, for the month of July 2012.

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  
Regulatory Affairs Manager

MONTANA-DAKOTA UTILITIES CO.  
Therm Billing Factor  
AUG 2012

Div Nbr	Off Code	City Name	Heat Zone Nbr	Therm Billing Factor
12	314	APPLE VALLEY	271	1.1202
12	323	BERTHOLD	262	1.0985
12	327	BISMARCK	28	1.1193
12	337	BURLINGTON	262	1.1222
12	343	CARRINGTON	273	1.1212
12	344	CLEVELAND	272	1.1133
12	364	CAVALIER	273	1.1448
12	365	DAWSON	271	1.1124
12	368	DES LACS	262	1.1064
12	374	FT TOTTEN	273	1.1291
12	375	DEVILS LAKE	273	1.1291
12	379	BARLOW	273	1.1212
12	387	ELDRIDGE	272	1.1212
12	411	GLEN ULLIN	31	1.0862
12	416	GARRISON	262	1.1064
12	417	GRAFTON	273	1.1527
12	449	JAMESTOWN	272	1.1291
12	463	LANGDON	273	1.1212
12	475	LINTON	802	.9890
12	478	LINCOLN	28	1.1193
12	494	MEDINA	271	1.1124
12	498	MANDAN	28	1.1193
12	505	MINOT	262	1.1222
12	512	MAX	262	1.0985
12	524	NEW SALEM	28	1.0956
12	532	NEW ROCKFORD	273	1.1212
12	539	PARK RIVER	273	1.1448
12	572	RUTHVILLE	262	1.1222
12	574	SANBORN	272	1.1291
12	593	STEELE	271	1.1124
12	598	SHEYENNE	273	1.1291
12	605	SURREY	262	1.1222
12	610	TAPPEN	271	1.1124
12	619	TURTLE LAKE	262	1.1064
12	624	UNDERWOOD	262	1.1064

MONTANA-DAKOTA UTILITIES CO.  
Therm Billing Factor  
AUG 2012

Div Nbr	Off Code	City Name	Heat Zone Nbr	Therm Billing Factor
12	625	VALLEY CITY	272	1.1369
12	629	WALHALLA	273	1.1448
12	646	WASHBURN	262	1.1143
12	647	WILTON	262	1.0985
12	664	RIVERDALE	262	1.1064
12	712	MINOT AFB	262	1.1222
12	717	SPIRITWOOD	272	1.1291
12	732	MSR SITE	273	1.1212
12	733	PAR SITE	273	1.1212
15	303	ALEXANDER	25	1.1107
15	308	ARNEGARD	25	1.1107
15	318	BEACH	32	1.0757
15	319	BELFIELD	32	1.0836
15	330	BOWMAN	34	1.0329
15	369	DICKINSON	31	1.0784
15	384	EPPING	264	1.1362
15	407	GLADSTONE	31	1.0784
15	413	GOLVA	32	1.0599
15	429	HEBRON	31	1.0862
15	459	KILLDEER	33	1.1155
15	469	LEFOR	31	1.0784
15	474	LIGNITE	263	1.0769
15	500	MARMARTH	34	1.0405
15	510	MOTT	31	1.0784
15	522	NEW ENGLAND	31	1.0705
15	540	PALERMO	262	1.0985
15	558	RAY	264	1.1362
15	561	REGENT	31	1.0784
15	563	RHAME	34	1.0253
15	564	RICHARDTON	31	1.0705
15	568	ROSS	261	1.0887
15	583	SENTINEL BUTTE	32	1.0757
15	588	SOUTH HEART	31	1.0705
15	590	SPRINGBROOK	264	1.1362
15	591	STANLEY	261	1.0966

MONTANA-DAKOTA UTILITIES CO.  
Therm Billing Factor  
AUG 2012

Div Nbr	Off Code	City Name	Heat Zone Nbr	Therm Billing Factor
15	611	TAYLOR	31	1.0705
15	616	TIOGA	261	1.0887
15	620	TRENTON	24	1.1444
15	632	WATFORD CITY	25	1.1107
15	636	WHEELLOCK	264	1.1281
15	637	WHITE EARTH	261	1.0966
15	642	WILLISTON	24	1.1444
15	691	FAIRVIEW	241	1.1273
15	743	BAKER FIELD	35	.8980

\* \* \* E N D O F R E P O R T \* \* \*

# GQ Source Daily Summary

July 2012

**Number:** 251

**Pressure Base:** 14.730

**Contract Day:** 1

**Name:** SIDNEY 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	0.7304	1175.2	1196.0	1.131	3.927	68.839	22.215	3.514	0.121	0.223	0.014	0.013	0.002	0.000	0.000	0.000	0.000	1399.43	
2	0.7294	1173.0	1193.7	1.152	3.939	68.884	22.315	3.337	0.121	0.226	0.014	0.012	0.002	0.000	0.000	0.000	0.000	1397.71	
3	0.7316	1176.4	1197.2	1.150	3.934	68.664	22.323	3.554	0.121	0.227	0.014	0.012	0.002	0.000	0.000	0.000	0.000	1399.76	
4	0.7298	1173.7	1194.5	1.151	3.934	68.784	22.443	3.310	0.122	0.229	0.014	0.011	0.002	0.000	0.000	0.000	0.000	1398.23	
5	0.7295	1173.2	1194.0	1.147	3.936	68.850	22.389	3.290	0.124	0.234	0.015	0.012	0.002	0.000	0.000	0.000	0.000	1397.97	
6	0.7301	1174.1	1194.9	1.148	3.941	68.794	22.378	3.341	0.127	0.241	0.015	0.013	0.002	0.000	0.000	0.000	0.000	1398.41	
7	0.7299	1173.6	1194.4	1.150	3.954	68.855	22.279	3.366	0.127	0.240	0.015	0.012	0.002	0.000	0.000	0.000	0.000	1397.95	
8	0.7305	1174.4	1195.2	1.150	3.953	68.809	22.260	3.425	0.129	0.243	0.015	0.013	0.003	0.000	0.000	0.000	0.000	1398.44	
9	0.7309	1174.7	1195.5	1.157	3.961	68.758	22.277	3.448	0.127	0.242	0.015	0.013	0.003	0.000	0.000	0.000	0.000	1398.40	
10	0.7335	1178.9	1199.8	1.170	3.937	68.472	22.333	3.686	0.127	0.243	0.016	0.013	0.003	0.000	0.000	0.000	0.000	1400.80	
11	0.7298	1173.7	1194.5	1.128	3.970	68.920	22.154	3.428	0.128	0.240	0.015	0.013	0.003	0.000	0.000	0.000	0.000	1398.18	
12	0.7326	1177.7	1198.5	1.141	3.967	68.555	22.345	3.566	0.136	0.256	0.016	0.014	0.003	0.000	0.000	0.000	0.000	1400.26	
13	0.7302	1174.2	1195.0	1.119	3.986	68.916	22.072	3.509	0.127	0.239	0.015	0.013	0.004	0.000	0.000	0.000	0.000	1398.43	
14	0.7294	1173.1	1193.8	1.143	3.948	68.843	22.378	3.323	0.117	0.220	0.013	0.011	0.003	0.000	0.000	0.000	0.000	1397.83	
15	0.7297	1173.0	1193.8	1.151	3.965	68.900	22.200	3.408	0.120	0.227	0.014	0.012	0.003	0.000	0.000	0.000	0.000	1397.48	
16	0.7292	1172.3	1193.0	1.153	3.965	68.931	22.233	3.341	0.120	0.229	0.014	0.012	0.003	0.000	0.000	0.000	0.000	1397.03	
17	0.7294	1173.0	1193.8	1.153	3.934	68.824	22.442	3.279	0.117	0.222	0.014	0.012	0.003	0.000	0.000	0.000	0.000	1397.77	
18	0.7294	1173.6	1194.4	1.096	3.978	69.052	22.018	3.431	0.127	0.254	0.019	0.018	0.007	0.000	0.000	0.000	0.000	1398.56	
19	0.7287	1173.0	1193.8	1.074	3.983	69.170	21.909	3.444	0.126	0.252	0.018	0.017	0.007	0.000	0.000	0.000	0.000	1398.50	
20	0.7287	1173.0	1193.8	1.074	3.983	69.170	21.909	3.444	0.126	0.252	0.018	0.017	0.007	0.000	0.000	0.000	0.000	1398.50	
21	0.7287	1173.0	1193.8	1.074	3.983	69.170	21.909	3.444	0.126	0.252	0.018	0.017	0.007	0.000	0.000	0.000	0.000	1398.50	
22	0.7287	1173.0	1193.8	1.074	3.983	69.170	21.909	3.444	0.126	0.252	0.018	0.017	0.007	0.000	0.000	0.000	0.000	1398.50	
23	0.7292	1173.2	1194.0	1.132	3.935	68.934	22.297	3.304	0.125	0.240	0.016	0.014	0.004	0.000	0.000	0.000	0.000	1398.19	
24	0.7278	1170.9	1191.7	1.147	3.923	69.075	22.284	3.193	0.120	0.229	0.014	0.012	0.003	0.000	0.000	0.000	0.000	1396.81	
25	0.7301	1175.1	1195.9	1.144	3.888	68.847	22.382	3.304	0.132	0.263	0.019	0.017	0.004	0.000	0.000	0.000	0.000	1399.54	
26	0.7300	1175.1	1195.9	1.158	3.857	68.721	22.623	3.263	0.117	0.227	0.016	0.014	0.004	0.000	0.000	0.000	0.000	1399.68	
27	0.7308	1177.5	1198.3	1.104	3.866	68.820	22.326	3.454	0.131	0.258	0.019	0.017	0.006	0.000	0.000	0.000	0.000	1401.75	
28	0.7316	1177.3	1198.1	1.148	3.883	68.656	22.423	3.502	0.122	0.234	0.016	0.014	0.004	0.000	0.000	0.000	0.000	1400.80	
29	0.7639	1229.7	1251.4	1.080	3.798	66.651	21.444	5.450	0.379	0.898	0.117	0.127	0.057	0.000	0.000	0.000	0.000	1431.72	
30	0.7381	1187.5	1208.5	1.132	3.888	68.366	21.980	3.999	0.176	0.369	0.035	0.038	0.015	0.000	0.000	0.000	0.000	1406.64	
31	0.7298	1174.1	1194.9	1.153	3.900	68.922	22.212	3.444	0.118	0.222	0.014	0.012	0.003	0.000	0.000	0.000	0.000	1398.76	
Avg	0.7313	1176.0	1197.3	1.132	3.935	68.785	22.215	3.492	0.134	0.264	0.020	0.018	0.006	0.000	0.000	0.000	0.000	1400.02	

Zone 211

## GQ Source Daily Summary July 2012

**Number:** 372

**Pressure Base:** 14.730

**Contract Day:** 1

**Name:** NESSON PLANT-WILLISTON 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	0.7185	1192.7	1213.9	0.815	2.203	73.011	18.373	5.133	0.170	0.283	0.007	0.005	0.000	0.000	0.000	0.000	0.000	1431.92	
2	0.7130	1184.1	1205.1	0.819	2.200	73.818	17.861	4.869	0.158	0.263	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1427.18	
3	0.7300	1188.0	1209.0	1.003	3.297	69.712	21.343	4.222	0.145	0.263	0.011	0.008	0.001	0.000	0.000	0.000	0.000	1415.14	
4	0.7302	1179.9	1200.8	1.069	3.718	68.393	23.388	3.065	0.112	0.227	0.014	0.012	0.002	0.000	0.000	0.000	0.000	1405.25	
5	0.7160	1175.1	1195.9	0.983	2.822	69.392	25.093	1.557	0.045	0.094	0.007	0.006	0.001	0.000	0.000	0.000	0.000	1413.30	
6	0.7151	1171.7	1192.5	0.994	2.928	69.496	24.922	1.530	0.041	0.079	0.005	0.004	0.001	0.000	0.000	0.000	0.000	1410.10	
7	0.7186	1179.6	1200.5	0.964	2.810	70.630	22.231	3.081	0.100	0.173	0.006	0.005	0.001	0.000	0.000	0.000	0.000	1416.09	
8	0.7213	1173.0	1193.8	1.054	3.330	69.282	23.748	2.343	0.078	0.149	0.008	0.007	0.001	0.000	0.000	0.000	0.000	1405.62	
9	0.7104	1180.6	1201.5	0.825	2.163	73.971	18.146	4.449	0.161	0.274	0.007	0.005	0.000	0.000	0.000	0.000	0.000	1425.54	
10	0.7086	1177.6	1198.4	0.841	2.163	74.151	18.083	4.374	0.144	0.237	0.005	0.003	0.000	0.000	0.000	0.000	0.000	1423.61	
11	0.7066	1173.5	1194.2	0.838	2.223	74.351	18.022	4.189	0.138	0.229	0.005	0.003	0.000	0.000	0.000	0.000	0.000	1420.74	
12	0.7096	1179.2	1200.1	0.823	2.185	73.954	18.260	4.379	0.146	0.244	0.006	0.004	0.000	0.000	0.000	0.000	0.000	1424.58	
13	0.7043	1171.0	1191.7	0.825	2.178	74.690	17.837	4.121	0.130	0.212	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1420.08	
14	0.7017	1166.8	1187.4	0.844	2.172	74.936	17.836	3.895	0.119	0.191	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1417.47	
15	0.7023	1167.3	1188.0	0.826	2.214	74.957	17.657	4.008	0.126	0.205	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1417.63	
16	0.7007	1164.7	1185.3	0.835	2.212	75.145	17.589	3.898	0.120	0.195	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1416.05	
17	0.7091	1178.0	1198.8	0.832	2.198	73.933	18.367	4.294	0.140	0.228	0.005	0.003	0.000	0.000	0.000	0.000	0.000	1423.62	
18	0.7205	1196.6	1217.8	0.811	2.159	72.646	18.822	5.029	0.188	0.329	0.009	0.007	0.000	0.000	0.000	0.000	0.000	1434.69	
19	0.7110	1179.8	1200.7	0.827	2.272	73.875	18.061	4.537	0.154	0.263	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1423.87	
20	0.7190	1194.4	1215.6	0.815	2.141	72.772	18.869	4.908	0.176	0.305	0.008	0.006	0.000	0.000	0.000	0.000	0.000	1433.60	
21	0.7171	1191.2	1212.3	0.817	2.161	73.031	18.691	4.812	0.175	0.300	0.008	0.005	0.000	0.000	0.000	0.000	0.000	1431.60	
22	0.7230	1199.0	1220.3	0.828	2.221	72.252	19.025	5.143	0.187	0.328	0.009	0.006	0.000	0.000	0.000	0.000	0.000	1435.08	
23	0.7184	1192.8	1214.0	0.823	2.171	72.857	18.780	4.877	0.177	0.302	0.008	0.006	0.000	0.000	0.000	0.000	0.000	1432.28	
24	0.7139	1185.1	1206.1	0.824	2.223	73.455	18.392	4.658	0.162	0.275	0.007	0.005	0.000	0.000	0.000	0.000	0.000	1427.41	
25	0.7170	1191.0	1212.1	0.821	2.158	72.927	18.915	4.708	0.169	0.289	0.007	0.005	0.000	0.000	0.000	0.000	0.000	1431.45	
26	0.7059	1172.8	1193.6	0.827	2.222	74.346	18.145	4.103	0.132	0.238	0.005	0.003	0.000	0.000	0.000	0.000	0.000	1420.59	
27	0.7214	1197.4	1218.6	0.825	2.180	72.381	19.111	4.995	0.182	0.313	0.008	0.006	0.000	0.000	0.000	0.000	0.000	1434.68	
28	0.7198	1194.6	1215.7	0.815	2.211	72.662	18.839	4.973	0.178	0.307	0.008	0.006	0.000	0.000	0.000	0.000	0.000	1432.94	
29	0.7095	1177.8	1198.6	0.839	2.232	73.960	18.244	4.308	0.150	0.255	0.007	0.005	0.000	0.000	0.000	0.000	0.000	1423.03	
30	0.7197	1187.7	1208.7	0.890	2.518	71.871	20.097	4.126	0.164	0.308	0.014	0.012	0.001	0.000	0.000	0.000	0.000	1424.78	
31	0.7228	1174.5	1195.3	1.066	3.360	69.139	23.729	2.434	0.081	0.162	0.012	0.012	0.005	0.000	0.000	0.000	0.000	1405.97	
Avg	0.7147	1182.0	1202.8	0.871	2.427	72.645	19.564	4.097	0.140	0.242	0.007	0.006	0.001	0.000	0.000	0.000	0.000	1422.77	

*Zone 24, 264*

# GQ Source Analysis

WBI Energy Transmission, Inc.

<b>GQ Source Number:</b>	0602160	<b>Specific Gravity:</b>	0.7252
<b>GQ Source Name:</b>	FAIRVIEW BORDER	<b>Dry Heat Value:</b>	1185.49
<b>Effective Date:</b>	7/1/2012 9:00:00 AM	<b>Wet Heat Value:</b>	1164.86
<b>Effective End Date:</b>	1/18/2038 9:14:07 PM	<b>As Deliv. Heat Value:</b>	1185.49
<b>Pressure Base:</b>	14.730	<b>Sample Pressure:</b>	0.00
<b>Viscosity:</b>		<b>Sample Temperature:</b>	

	<u>Mol %</u>	<u>Liquid Content</u>		<u>Mol %</u>
C1 Methane	69.366		CO2 Carbon Dioxide	1.160
C2 Ethane	21.823	5.8191	N2 Nitrogen	3.990
C3 Propane	3.279	0.9008	O2 Oxygen	0.000
IC4 Isobutane	0.122	0.0397	He Helium	
NC4 n-Butane	0.233	0.0733	H2 Hydrogen	
IC5 Isopentane	0.014	0.0051	H2S Hydrogen Sulfide	
NC5 n-Pentane	0.012	0.0044	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%      6.843 GPM

**Sample Date:** 7/31/2012 12:00:00 AM  
**Sample Type:** Composite  
**Sample Tech:** sampler  
**H2S:** ppm

**Sample Remarks:**

**Analysis Tech:** 0

**Analysis Remarks:**

*Zone 241*

# GQ Source Analysis

WBI Energy Transmission, Inc.

<b>GQ Source Number:</b>	0602230	<b>Specific Gravity:</b>	0.7120
<b>GQ Source Name:</b>	WATFORD CITY BORDER	<b>Dry Heat Value:</b>	1175.71
<b>Effective Date:</b>	7/1/2012 9:00:00 AM	<b>Wet Heat Value:</b>	1155.25
<b>Effective End Date:</b>	1/18/2038 9:14:07 PM	<b>As Deliv. Heat Value:</b>	1175.71
<b>Pressure Base:</b>	14.730	<b>Sample Pressure:</b>	0.00
<b>Viscosity:</b>		<b>Sample Temperature:</b>	

	<u>Mol %</u>	<u>Liquid Content</u>		<u>Mol %</u>
C1 Methane	70.180		CO2 Carbon Dioxide	0.923
C2 Ethane	23.084	6.1554	N2 Nitrogen	3.706
C3 Propane	1.889	0.5190	O2 Oxygen	0.000
IC4 Isobutane	0.069	0.0224	He Helium	
NC4 n-Butane	0.130	0.0410	H2 Hydrogen	
IC5 Isopentane	0.009	0.0032	H2S Hydrogen Sulfide	
NC5 n-Pentane	0.009	0.0031	Ar Argon	
C6 Hexanes	0.001	0.0006	CO Carbon Monoxide	
C7 Heptanes			H2 Water	
C8 Octanes			Neo-C5 Neopentane	
C9 Nonanes				
C10 Decanes				

**Totals** 100.000% 6.745 GPM

**Sample Date:** 7/31/2012 12:00:00 AM  
**Sample Type:** Composite  
**Sample Tech:** sampler  
**H2S:** ppm

**Sample Remarks:**

**Analysis Tech:** 0

**Analysis Remarks:**

*Zone 25*

# GQ Source Daily Summary

## July 2012

**Number:** 163

**Pressure Base:** 14.730

**Contract Day:** 1

**Name:** NORTH TIOGA-MINOT

**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	0.6902	1140.1	1160.3	0.412	3.379	75.010	18.685	2.229	0.076	0.162	0.015	0.019	0.013					1396.64	
2	0.6916	1143.5	1163.7	0.443	3.253	75.153	18.299	2.530	0.089	0.183	0.015	0.020	0.014					1399.40	
3	0.6924	1143.6	1163.9	0.447	3.321	75.051	18.238	2.627	0.091	0.182	0.014	0.017	0.013					1398.67	
4	0.6894	1136.9	1157.1	0.464	3.420	75.057	18.635	2.181	0.073	0.143	0.010	0.012	0.006					1393.57	
5	0.6874	1135.5	1155.6	0.461	3.327	75.088	19.000	1.947	0.057	0.105	0.006	0.006	0.001					1393.84	
6	0.6893	1136.9	1157.0	0.473	3.411	74.438	19.872	1.598	0.052	0.117	0.012	0.015	0.011					1393.54	
7	0.6910	1140.3	1160.5	0.453	3.384	74.657	19.193	2.048	0.070	0.150	0.014	0.018	0.013					1396.06	
8	0.6908	1141.5	1161.8	0.455	3.281	74.818	19.037	2.139	0.076	0.155	0.013	0.015	0.010					1397.83	
9	0.6871	1136.1	1156.2	0.433	3.307	75.378	18.574	2.080	0.065	0.130	0.010	0.012	0.010					1394.83	
10	0.6921	1144.2	1164.5	0.426	3.284	75.019	18.445	2.492	0.090	0.190	0.016	0.021	0.016					1399.75	
11	0.6911	1143.1	1163.3	0.438	3.246	75.183	18.310	2.505	0.094	0.190	0.012	0.011	0.010					1399.31	
12	0.6911	1143.7	1164.0	0.434	3.209	75.104	18.580	2.334	0.086	0.189	0.018	0.024	0.021					1400.16	
13	0.6888	1141.0	1161.2	0.427	3.169	75.298	18.661	2.155	0.074	0.160	0.016	0.022	0.019					1399.16	
14	0.6874	1136.9	1157.1	0.433	3.280	75.537	18.373	2.051	0.082	0.185	0.019	0.025	0.017					1395.56	
15	0.6866	1135.5	1155.6	0.434	3.288	75.675	18.214	2.092	0.077	0.169	0.016	0.021	0.014					1394.64	
16	0.6820	1127.7	1147.6	0.422	3.358	76.107	18.074	1.841	0.057	0.114	0.009	0.011	0.009					1389.66	
17	0.6902	1140.1	1160.3	0.451	3.321	75.557	17.866	2.352	0.109	0.258	0.028	0.037	0.021					1396.57	
18	0.6935	1146.3	1166.6	0.441	3.267	75.114	18.106	2.636	0.113	0.246	0.024	0.031	0.021					1400.83	
19	0.6901	1140.6	1160.8	0.417	3.335	75.281	18.213	2.468	0.079	0.161	0.014	0.018	0.016					1397.30	
20	0.6894	1140.7	1160.9	0.434	3.234	75.212	18.589	2.256	0.078	0.156	0.013	0.016	0.011					1398.21	
21	0.6883	1138.9	1159.1	0.416	3.267	75.382	18.423	2.247	0.076	0.151	0.012	0.015	0.011					1397.13	
22	0.6911	1142.7	1163.0	0.424	3.288	75.035	18.541	2.428	0.083	0.162	0.012	0.015	0.013					1398.91	
23	0.6912	1143.3	1163.5	0.464	3.199	74.952	18.687	2.483	0.073	0.130	0.006	0.006	0.000					1399.55	
24	0.6909	1142.7	1162.9	0.467	3.207	74.907	18.814	2.395	0.071	0.126	0.006	0.006	0.000					1399.06	
25	0.6897	1140.7	1160.9	0.454	3.241	75.086	18.693	2.298	0.071	0.131	0.008	0.010	0.007					1397.78	
26	0.6888	1139.2	1159.4	0.451	3.244	75.261	18.560	2.236	0.073	0.142	0.010	0.013	0.009					1396.98	
27	0.6883	1138.1	1158.3	0.339	3.438	75.347	18.356	2.217	0.075	0.170	0.017	0.023	0.018					1396.07	
28	0.6848	1134.0	1154.1	0.344	3.350	75.499	18.679	1.980	0.044	0.082	0.006	0.006	0.010					1394.66	
29	0.6843	1132.4	1152.5	0.368	3.369	75.650	18.437	2.028	0.046	0.084	0.005	0.005	0.007					1393.13	
30	0.7054	1163.7	1184.3	0.772	2.814	73.463	19.304	3.337	0.109	0.187	0.008	0.007	0.000					1410.17	
31	0.7112	1165.4	1186.1	0.838	3.157	71.954	20.779	2.943	0.100	0.193	0.015	0.016	0.004					1406.48	
Avg	0.6905	1141.0	1161.4	0.456	3.279	75.041	18.653	2.295	0.078	0.158	0.013	0.016	0.011					1397.59	

*Zone 261*

# GQ Source Daily Summary

## July 2012

**Number:** 091

**Pressure Base:** 14.730

**Contract Day:** 1

**Name:** MINOT 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	0.6926	1143.1	1163.3	0.490	3.309	74.605	19.020	2.306	0.081	0.166	0.010	0.013	0.000	0.000	0.000	0.000	0.000	1397.83	
2	0.6949	1145.5	1165.8	0.510	3.348	74.367	18.977	2.533	0.083	0.164	0.008	0.011	0.001	0.000	0.000	0.000	0.000	1398.41	
3	0.6880	1136.1	1156.2	0.406	3.427	75.126	18.778	2.013	0.069	0.155	0.011	0.014	0.000	0.000	0.000	0.000	0.000	1393.97	
4	0.6918	1142.4	1162.6	0.442	3.344	74.682	19.017	2.240	0.077	0.170	0.011	0.015	0.002	0.000	0.000	0.000	0.000	1397.85	
5	0.6976	1152.3	1172.7	0.502	3.191	74.296	18.853	2.807	0.102	0.214	0.014	0.019	0.003	0.000	0.000	0.000	0.000	1404.10	
6	0.6914	1142.9	1163.2	0.446	3.271	75.030	18.483	2.483	0.085	0.176	0.010	0.014	0.001	0.000	0.000	0.000	0.000	1398.84	
7	0.6945	1145.3	1165.5	0.484	3.364	74.429	18.924	2.518	0.086	0.174	0.008	0.011	0.000	0.000	0.000	0.000	0.000	1398.54	
8	0.6909	1139.8	1160.0	0.487	3.350	74.715	19.053	2.173	0.070	0.140	0.005	0.006	0.000	0.000	0.000	0.000	0.000	1395.57	
9	0.6898	1138.5	1158.7	0.491	3.325	74.566	19.537	1.911	0.057	0.111	0.001	0.002	0.000	0.000	0.000	0.000	0.000	1395.11	
10	0.6915	1140.0	1160.2	0.498	3.381	74.136	20.047	1.735	0.057	0.128	0.008	0.011	0.000	0.000	0.000	0.000	0.000	1395.23	
11	0.6930	1143.7	1164.0	0.474	3.328	74.308	19.509	2.126	0.073	0.159	0.010	0.013	0.000	0.000	0.000	0.000	0.000	1398.28	
12	0.6918	1142.9	1163.1	0.475	3.272	74.549	19.318	2.134	0.074	0.157	0.009	0.011	0.000	0.000	0.000	0.000	0.000	1398.36	
13	0.6890	1138.9	1159.0	0.448	3.292	75.009	18.925	2.098	0.069	0.143	0.007	0.009	0.000	0.000	0.000	0.000	0.000	1396.31	
14	0.6946	1147.9	1168.2	0.448	3.257	74.575	18.814	2.574	0.095	0.206	0.013	0.017	0.000	0.000	0.000	0.000	0.000	1401.78	
15	0.6938	1147.1	1167.4	0.459	3.223	74.715	18.710	2.568	0.099	0.205	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1401.49	
16	0.6919	1144.8	1165.1	0.453	3.194	74.796	18.952	2.308	0.083	0.184	0.013	0.017	0.001	0.000	0.000	0.000	0.000	1400.66	
17	0.6904	1142.8	1163.0	0.448	3.184	74.949	18.965	2.161	0.079	0.179	0.014	0.020	0.002	0.000	0.000	0.000	0.000	1399.70	
18	0.5891	1139.4	1159.6	0.455	3.254	75.222	18.626	2.130	0.084	0.193	0.015	0.021	0.000	0.000	0.000	0.000	0.000	1396.92	
19	0.6857	1133.4	1153.5	0.449	3.310	75.552	18.505	1.955	0.066	0.143	0.008	0.013	0.000	0.000	0.000	0.000	0.000	1393.00	
20	0.6867	1134.7	1154.8	0.461	3.309	75.575	18.327	2.036	0.079	0.180	0.013	0.017	0.002	0.000	0.000	0.000	0.000	1393.51	
21	0.6936	1145.3	1165.6	0.473	3.286	75.050	18.205	2.520	0.118	0.280	0.026	0.035	0.006	0.000	0.000	0.000	0.000	1399.56	
22	0.6944	1147.2	1167.5	0.461	3.264	74.796	18.478	2.613	0.106	0.235	0.019	0.025	0.004	0.000	0.000	0.000	0.000	1401.09	
23	0.6913	1142.6	1162.8	0.444	3.280	74.942	18.680	2.375	0.080	0.170	0.011	0.015	0.002	0.000	0.000	0.000	0.000	1398.60	
24	0.6912	1142.8	1163.0	0.456	3.244	74.849	18.912	2.277	0.078	0.157	0.011	0.014	0.002	0.000	0.000	0.000	0.000	1398.94	
25	0.6912	1143.1	1163.3	0.442	3.254	74.896	18.782	2.360	0.081	0.164	0.008	0.011	0.002	0.000	0.000	0.000	0.000	1399.18	
26	0.6927	1144.6	1164.9	0.469	3.250	74.630	18.986	2.431	0.077	0.147	0.003	0.005	0.002	0.000	0.000	0.000	0.000	1399.68	
27	0.6927	1145.7	1166.0	0.496	3.151	74.621	19.067	2.458	0.073	0.133	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1400.90	
28	0.6920	1144.2	1164.4	0.482	3.202	74.644	19.112	2.349	0.072	0.134	0.002	0.003	0.000	0.000	0.000	0.000	0.000	1399.74	
29	0.6920	1144.0	1164.3	0.476	3.210	74.740	18.985	2.332	0.079	0.159	0.007	0.010	0.001	0.000	0.000	0.000	0.000	1399.66	
30	0.6933	1145.7	1166.0	0.446	3.275	74.708	18.802	2.436	0.093	0.206	0.014	0.019	0.002	0.000	0.000	0.000	0.000	1400.38	
31	0.6890	1139.8	1160.0	0.348	3.389	75.045	18.779	2.179	0.070	0.161	0.011	0.015	0.001	0.000	0.000	0.000	0.000	1397.41	
Avg	0.6917	1143.0	1163.0	0.462	3.282	74.778	18.907	2.295	0.081	0.171	0.010	0.013	0.001	0.000	0.000	0.000	0.000	1398.41	

*Zone 262*

# GQ Source Analysis

WBI Energy Transmission, Inc.

<b>GQ Source Number:</b>	2501030	<b>Specific Gravity:</b>	0.6716
<b>GQ Source Name:</b>	LIGNITE PLANT	<b>Dry Heat Value:</b>	1132.10
<b>Effective Date:</b>	7/1/2012 9:00:00 AM	<b>Wet Heat Value:</b>	1112.40
<b>Effective End Date:</b>	1/18/2038 9:14:07 PM	<b>As Deliv. Heat Value:</b>	1132.10
<b>Pressure Base:</b>	14.730	<b>Sample Pressure:</b>	0.00
<b>Viscosity:</b>		<b>Sample Temperature:</b>	

	<u>Mol %</u>	<u>Liquid Content</u>		<u>Mol %</u>	
C1	Methane	77.381	CO2	Carbon Dioxide	0.122
C2	Ethane	16.830	N2	Nitrogen	3.739
C3	Propane	1.868	O2	Oxygen	0.000
IC4	Isobutane	0.023	He	Helium	
NC4	n-Butane	0.026	H2	Hydrogen	
IC5	Isopentane	0.001	H2S	Hydrogen Sulfide	
NC5	n-Pentane	0.000	Ar	Argon	
C6	Hexanes	0.010	CO	Carbon Monoxide	
C7	Heptanes		H2	Water	
C8	Octanes		Neo-C5	Neopentane	
C9	Nonanes				
C10	Decanes				

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**Totals**      100.000%      0.534 GPM

**Sample Date:** 7/31/2012 12:00:00 AM  
**Sample Type:** Composite  
**Sample Tech:** sampler  
**H2S:** ppm

**Sample Remarks:**

**Analysis Tech:** 0

**Analysis Remarks:**

*Zone 263*

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

# GQ Source Daily Summary

July 2012

**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	0.6889	1138.9	1159.0	0.416	3.331	75.226	18.588	2.151	0.071	0.161	0.014	0.018	0.024	0.000	0.000	0.000	0.000	1396.40	
2	0.6933	1145.6	1165.9	0.477	3.291	74.874	18.576	2.498	0.089	0.193	0.016	0.021	0.025	0.000	0.000	0.000	0.000	1400.26	
3	0.6881	1138.3	1158.5	0.434	3.258	75.617	18.050	2.355	0.078	0.159	0.012	0.015	0.023	0.000	0.000	0.000	0.000	1396.55	
4	0.6930	1143.4	1163.7	0.480	3.337	74.848	18.534	2.478	0.087	0.182	0.014	0.017	0.023	0.000	0.000	0.000	0.000	1397.86	
5	0.6900	1139.2	1159.4	0.485	3.307	74.966	18.838	2.164	0.069	0.137	0.008	0.010	0.016	0.000	0.000	0.000	0.000	1395.73	
6	0.6884	1136.7	1156.9	0.493	3.297	74.778	19.481	1.776	0.052	0.099	0.005	0.006	0.013	0.000	0.000	0.000	0.000	1394.35	
7	0.6898	1137.8	1157.9	0.493	3.364	74.540	19.700	1.657	0.057	0.134	0.014	0.018	0.023	0.000	0.000	0.000	0.000	1394.22	
8	0.6915	1142.2	1162.4	0.469	3.287	74.786	18.987	2.183	0.075	0.162	0.013	0.017	0.021	0.000	0.000	0.000	0.000	1397.91	
9	0.6891	1139.0	1159.1	0.475	3.249	75.104	18.862	2.042	0.070	0.151	0.012	0.015	0.019	0.000	0.000	0.000	0.000	1396.38	
10	0.6865	1135.7	1155.8	0.443	3.262	75.581	18.372	2.105	0.065	0.132	0.009	0.011	0.019	0.000	0.000	0.000	0.000	1394.87	
11	0.6950	1149.4	1169.8	0.452	3.202	74.868	18.325	2.752	0.107	0.230	0.018	0.021	0.025	0.000	0.000	0.000	0.000	1403.11	
12	0.6892	1140.3	1160.5	0.459	3.202	75.416	18.309	2.313	0.081	0.172	0.013	0.014	0.024	0.000	0.000	0.000	0.000	1397.90	
13	0.6906	1143.6	1163.9	0.446	3.152	75.166	18.636	2.267	0.081	0.182	0.017	0.023	0.031	0.000	0.000	0.000	0.000	1400.53	
14	0.6889	1141.1	1161.4	0.447	3.140	75.369	18.581	2.143	0.077	0.173	0.017	0.022	0.030	0.000	0.000	0.000	0.000	1399.24	
15	0.6873	1136.9	1157.1	0.451	3.241	75.722	18.131	2.088	0.087	0.205	0.020	0.026	0.028	0.000	0.000	0.000	0.000	1395.67	
16	0.6856	1134.0	1154.1	0.453	3.256	75.787	18.219	2.007	0.070	0.155	0.013	0.017	0.022	0.000	0.000	0.000	0.000	1393.85	
17	0.6827	1129.0	1149.0	0.447	3.303	76.167	17.947	1.890	0.064	0.138	0.011	0.014	0.020	0.000	0.000	0.000	0.000	1390.60	
18	0.6927	1144.4	1164.6	0.470	3.261	75.393	17.840	2.528	0.119	0.287	0.030	0.040	0.033	0.000	0.000	0.000	0.000	1399.33	
19	0.6916	1143.4	1163.7	0.459	3.233	75.323	18.075	2.523	0.099	0.218	0.018	0.024	0.027	0.000	0.000	0.000	0.000	1399.29	
20	0.6902	1141.2	1161.5	0.435	3.276	75.300	18.265	2.418	0.078	0.168	0.014	0.019	0.027	0.000	0.000	0.000	0.000	1397.99	
21	0.6904	1142.8	1163.0	0.459	3.165	75.120	18.671	2.298	0.079	0.161	0.012	0.015	0.019	0.000	0.000	0.000	0.000	1399.69	
22	0.6886	1139.5	1159.7	0.436	3.226	75.431	18.347	2.279	0.078	0.157	0.011	0.014	0.020	0.000	0.000	0.000	0.000	1397.57	
23	0.6914	1143.3	1163.5	0.458	3.227	74.999	18.622	2.423	0.078	0.151	0.010	0.012	0.021	0.000	0.000	0.000	0.000	1399.32	
24	0.6913	1144.1	1164.4	0.494	3.115	74.998	18.697	2.467	0.073	0.132	0.005	0.005	0.013	0.000	0.000	0.000	0.000	1400.43	
25	0.6903	1142.1	1162.3	0.483	3.164	75.018	18.788	2.337	0.067	0.121	0.005	0.005	0.012	0.000	0.000	0.000	0.000	1398.95	
26	0.6892	1139.1	1159.3	0.509	3.200	75.357	18.389	2.278	0.076	0.146	0.012	0.014	0.020	0.000	0.000	0.000	0.000	1396.42	
27	0.6897	1139.6	1159.8	0.487	3.252	75.466	18.102	2.352	0.087	0.187	0.020	0.023	0.024	0.000	0.000	0.000	0.000	1396.47	
28	0.6840	1131.5	1151.6	0.375	3.378	75.974	17.992	2.049	0.058	0.121	0.014	0.016	0.024	0.000	0.000	0.000	0.000	1392.40	
29	0.6833	1130.8	1150.8	0.401	3.318	75.932	18.203	1.977	0.045	0.083	0.008	0.009	0.022	0.000	0.000	0.000	0.000	1392.20	
30	0.6871	1135.8	1155.9	0.534	3.162	75.701	18.094	2.307	0.062	0.108	0.007	0.008	0.017	0.000	0.000	0.000	0.000	1394.53	
31	0.7049	1159.5	1180.0	0.857	2.897	73.567	19.175	3.159	0.109	0.198	0.015	0.014	0.008	0.000	0.000	0.000	0.000	1405.50	
Avg	0.6898	1140.0	1160.5	0.473	3.235	75.238	18.497	2.267	0.077	0.161	0.013	0.016	0.022	0.000	0.000	0.000	0.000	1397.28	

*Zone 271*

# GQ Source Daily Summary

July 2012

**Number:** 063

**Pressure Base:** 14.730

**Contract Day:** 1

**Name:** CLEVELAND STATION-MAPLETON LINE

**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	0.6871	1134.7	1154.8	0.398	3.442	75.374	18.465	2.054	0.071	0.162	0.015	0.019	0.000	0.000	0.000	0.000	0.000	1393.13	
2	0.6891	1138.6	1158.8	0.428	3.349	75.002	18.898	2.065	0.070	0.157	0.014	0.018	0.000	0.000	0.000	0.000	0.000	1395.87	
3	0.6933	1145.9	1166.2	0.469	3.229	74.827	18.601	2.554	0.091	0.194	0.016	0.020	0.000	0.000	0.000	0.000	0.000	1400.59	
4	0.6913	1142.7	1163.0	0.464	3.243	75.169	18.286	2.532	0.088	0.184	0.014	0.018	0.001	0.000	0.000	0.000	0.000	1398.73	
5	0.6943	1144.5	1164.8	0.495	3.370	74.390	19.041	2.428	0.084	0.168	0.011	0.012	0.000	0.000	0.000	0.000	0.000	1397.90	
6	0.6880	1136.7	1156.8	0.486	3.278	75.019	19.074	1.958	0.059	0.113	0.006	0.007	0.000	0.000	0.000	0.000	0.000	1394.60	
7	0.6904	1138.7	1158.8	0.500	3.356	74.247	20.067	1.639	0.052	0.115	0.010	0.013	0.000	0.000	0.000	0.000	0.000	1394.72	
8	0.6924	1142.1	1162.4	0.487	3.356	74.313	19.588	2.000	0.068	0.155	0.014	0.018	0.000	0.000	0.000	0.000	0.000	1396.87	
9	0.6917	1143.0	1163.3	0.476	3.250	74.598	19.287	2.129	0.074	0.159	0.012	0.015	0.000	0.000	0.000	0.000	0.000	1398.67	
10	0.6897	1140.3	1160.4	0.462	3.246	74.967	18.952	2.132	0.070	0.146	0.011	0.014	0.000	0.000	0.000	0.000	0.000	1397.35	
11	0.6912	1142.8	1163.1	0.446	3.259	74.976	18.662	2.367	0.081	0.176	0.015	0.018	0.002	0.000	0.000	0.000	0.000	1398.91	
12	0.6932	1146.7	1167.0	0.454	3.198	74.841	18.613	2.567	0.098	0.205	0.012	0.012	0.000	0.000	0.000	0.000	0.000	1401.60	
13	0.6934	1147.4	1167.7	0.453	3.174	74.770	18.818	2.422	0.094	0.218	0.020	0.027	0.005	0.000	0.000	0.000	0.000	1402.30	
14	0.6897	1142.9	1163.1	0.437	3.131	75.014	19.003	2.152	0.072	0.158	0.014	0.019	0.000	0.000	0.000	0.000	0.000	1400.49	
15	0.6899	1143.2	1163.4	0.442	3.117	75.016	18.995	2.161	0.074	0.164	0.014	0.018	0.000	0.000	0.000	0.000	0.000	1400.76	
16	0.6884	1139.0	1159.2	0.452	3.222	75.371	18.498	2.148	0.082	0.187	0.017	0.022	0.000	0.000	0.000	0.000	0.000	1397.07	
17	0.6832	1130.0	1150.0	0.438	3.303	75.903	18.303	1.845	0.059	0.126	0.010	0.013	0.000	0.000	0.000	0.000	0.000	1391.30	
18	0.6886	1138.3	1158.5	0.459	3.266	75.567	18.122	2.202	0.096	0.231	0.022	0.029	0.005	0.000	0.000	0.000	0.000	1396.07	
19	0.6973	1148.2	1168.6	0.459	3.476	74.641	18.231	2.662	0.145	0.302	0.029	0.038	0.011	0.000	0.000	0.000	0.000	1399.42	
20	0.6926	1144.9	1165.2	0.443	3.265	74.956	18.447	2.571	0.087	0.187	0.015	0.020	0.009	0.000	0.000	0.000	0.000	1400.08	
21	0.6893	1140.7	1160.9	0.440	3.220	75.147	18.719	2.210	0.076	0.160	0.012	0.015	0.000	0.000	0.000	0.000	0.000	1398.22	
22	0.6897	1141.5	1161.7	0.440	3.201	75.107	18.739	2.255	0.076	0.156	0.011	0.014	0.000	0.000	0.000	0.000	0.000	1398.92	
23	0.6912	1143.5	1163.8	0.438	3.229	74.952	18.714	2.394	0.082	0.165	0.011	0.014	0.001	0.000	0.000	0.000	0.000	1399.78	
24	0.6961	1150.8	1171.2	0.474	3.185	74.312	19.076	2.664	0.092	0.174	0.007	0.007	0.008	0.000	0.000	0.000	0.000	1403.75	
25	0.6923	1145.1	1165.4	0.499	3.145	74.736	18.977	2.417	0.072	0.131	0.006	0.006	0.012	0.000	0.000	0.000	0.000	1400.60	
26	0.6919	1144.2	1164.5	0.483	3.184	74.741	19.030	2.324	0.071	0.134	0.008	0.009	0.016	0.000	0.000	0.000	0.000	1399.94	
27	0.6915	1143.7	1163.9	0.477	3.183	74.911	18.849	2.296	0.078	0.160	0.012	0.014	0.019	0.000	0.000	0.000	0.000	1399.72	
28	0.6904	1141.4	1161.6	0.389	3.354	75.099	18.547	2.293	0.080	0.177	0.017	0.021	0.022	0.000	0.000	0.000	0.000	1398.00	
29	0.6865	1137.0	1157.1	0.353	3.313	75.310	18.824	2.011	0.048	0.100	0.009	0.011	0.021	0.000	0.000	0.000	0.000	1396.57	
30	0.6855	1134.7	1154.8	0.380	3.321	75.443	18.690	2.011	0.045	0.084	0.005	0.005	0.017	0.000	0.000	0.000	0.000	1394.78	
31	0.6981	1153.3	1173.7	0.679	2.916	74.318	18.933	2.886	0.088	0.155	0.006	0.006	0.012	0.000	0.000	0.000	0.000	1404.66	
Avg	0.6909	1142.0	1162.4	0.458	3.251	74.937	18.808	2.269	0.078	0.165	0.013	0.016	0.005	0.000	0.000	0.000	0.000	1398.43	

Zone 272

# GQ Source Daily Summary

## July 2012

**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	0.6872	1134.9	1155.0	0.399	3.439	75.360	18.471	2.064	0.071	0.162	0.015	0.019	0.000	0.000	0.000	0.000	0.000	1393.27	
2	0.6892	1138.7	1158.9	0.428	3.347	74.994	18.906	2.067	0.070	0.157	0.014	0.018	0.000	0.000	0.000	0.000	0.000	1395.96	
3	0.6936	1146.4	1166.7	0.470	3.225	74.790	18.624	2.566	0.092	0.197	0.016	0.020	0.000	0.000	0.000	0.000	0.000	1400.86	
4	0.6912	1142.6	1162.8	0.464	3.246	75.191	18.255	2.537	0.089	0.185	0.014	0.018	0.001	0.000	0.000	0.000	0.000	1398.61	
5	0.6948	1145.5	1165.8	0.494	3.356	74.342	19.058	2.473	0.085	0.168	0.011	0.012	0.000	0.000	0.000	0.000	0.000	1398.62	
6	0.6882	1136.9	1157.0	0.487	3.277	75.006	19.072	1.972	0.059	0.113	0.006	0.007	0.000	0.000	0.000	0.000	0.000	1394.70	
7	0.6905	1138.9	1159.0	0.502	3.351	74.223	20.100	1.634	0.052	0.115	0.010	0.013	0.000	0.000	0.000	0.000	0.000	1394.85	
8	0.6927	1142.6	1162.9	0.491	3.348	74.275	19.611	2.018	0.069	0.156	0.014	0.018	0.000	0.000	0.000	0.000	0.000	1397.16	
9	0.6918	1143.2	1163.5	0.476	3.246	74.588	19.291	2.138	0.075	0.159	0.012	0.015	0.000	0.000	0.000	0.000	0.000	1398.84	
10	0.6897	1140.3	1160.5	0.462	3.243	74.973	18.941	2.138	0.070	0.147	0.011	0.014	0.000	0.000	0.000	0.000	0.000	1397.43	
11	0.6915	1143.2	1163.5	0.444	3.260	74.948	18.669	2.383	0.083	0.179	0.015	0.019	0.001	0.000	0.000	0.000	0.000	1399.16	
12	0.6930	1146.3	1166.6	0.453	3.201	74.882	18.579	2.557	0.097	0.205	0.012	0.012	0.000	0.000	0.000	0.000	0.000	1401.36	
13	0.6933	1147.3	1167.6	0.453	3.172	74.781	18.812	2.418	0.094	0.218	0.020	0.026	0.005	0.000	0.000	0.000	0.000	1402.27	
14	0.6897	1142.8	1163.1	0.436	3.132	75.021	18.997	2.150	0.072	0.159	0.014	0.018	0.000	0.000	0.000	0.000	0.000	1400.48	
15	0.6901	1143.4	1163.7	0.438	3.129	74.944	19.070	2.155	0.074	0.163	0.011	0.016	0.000	0.000	0.000	0.000	0.000	1400.81	
16	0.6893	1137.7	1157.8	0.572	3.201	75.303	18.477	2.143	0.081	0.186	0.016	0.021	0.000	0.000	0.000	0.000	0.000	1394.62	
17	0.6833	1130.2	1150.2	0.438	3.298	75.893	18.312	1.850	0.060	0.126	0.010	0.012	0.001	0.000	0.000	0.000	0.000	1391.48	
18	0.6886	1138.3	1158.5	0.459	3.268	75.570	18.113	2.207	0.096	0.232	0.022	0.030	0.004	0.000	0.000	0.000	0.000	1396.03	
19	0.6944	1147.9	1168.2	0.451	3.242	74.949	18.259	2.653	0.116	0.269	0.025	0.033	0.003	0.000	0.000	0.000	0.000	1401.83	
20	0.6933	1146.0	1166.3	0.444	3.260	74.895	18.453	2.614	0.091	0.198	0.016	0.021	0.009	0.000	0.000	0.000	0.000	1400.72	
21	0.6893	1140.7	1160.9	0.440	3.219	75.140	18.731	2.206	0.077	0.161	0.012	0.015	0.000	0.000	0.000	0.000	0.000	1398.27	
22	0.6898	1141.7	1161.9	0.441	3.200	75.083	18.762	2.256	0.076	0.157	0.011	0.014	0.000	0.000	0.000	0.000	0.000	1399.03	
23	0.6914	1143.7	1164.0	0.438	3.230	74.935	18.720	2.405	0.082	0.165	0.011	0.014	0.001	0.000	0.000	0.000	0.000	1399.86	
24	0.6953	1149.6	1170.0	0.475	3.182	74.394	19.055	2.622	0.088	0.163	0.007	0.006	0.008	0.000	0.000	0.000	0.000	1403.13	
25	0.6923	1145.1	1165.3	0.497	3.148	74.737	18.977	2.414	0.072	0.131	0.006	0.006	0.012	0.000	0.000	0.000	0.000	1400.56	
26	0.6918	1144.0	1164.3	0.481	3.185	74.777	18.994	2.323	0.072	0.135	0.008	0.009	0.016	0.000	0.000	0.000	0.000	1399.83	
27	0.6915	1143.7	1163.9	0.477	3.183	74.910	18.849	2.299	0.078	0.160	0.012	0.014	0.019	0.000	0.000	0.000	0.000	1399.74	
28	0.6908	1142.2	1162.4	0.386	3.350	75.059	18.557	2.321	0.080	0.188	0.016	0.022	0.022	0.000	0.000	0.000	0.000	1398.54	
29	0.6867	1137.3	1157.4	0.354	3.312	75.281	18.844	2.014	0.050	0.105	0.008	0.011	0.021	0.000	0.000	0.000	0.000	1396.75	
30	0.6855	1134.8	1154.9	0.380	3.320	75.443	18.690	2.011	0.045	0.084	0.005	0.005	0.017	0.000	0.000	0.000	0.000	1394.82	
31	0.6959	1149.8	1170.1	0.642	2.975	74.535	18.876	2.720	0.082	0.144	0.006	0.006	0.013	0.000	0.000	0.000	0.000	1402.66	
Avg	0.6908	1142.0	1162.3	0.460	3.243	74.943	18.811	2.269	0.077	0.164	0.012	0.016	0.005	0.000	0.000	0.000	0.000	1398.46	

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

Zone 273

# GQ Source Daily Summary

## July 2012

**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	0.6890	1139.0	1159.2	0.416	3.327	75.221	18.592	2.153	0.072	0.162	0.014	0.019	0.024	0.000	0.000	0.000	0.000	1396.54	
2	0.6932	1145.5	1165.8	0.481	3.227	74.890	18.561	2.496	0.089	0.193	0.016	0.021	0.025	0.000	0.000	0.000	0.000	1400.18	
3	0.6879	1138.0	1158.1	0.429	3.266	75.636	18.048	2.333	0.077	0.160	0.013	0.016	0.023	0.000	0.000	0.000	0.000	1396.37	
4	0.6927	1143.0	1163.3	0.479	3.337	74.896	18.488	2.479	0.087	0.181	0.013	0.017	0.023	0.000	0.000	0.000	0.000	1397.63	
5	0.6899	1138.9	1159.1	0.484	3.313	74.989	18.811	2.163	0.069	0.137	0.008	0.010	0.016	0.000	0.000	0.000	0.000	1395.54	
6	0.6883	1136.8	1156.9	0.490	3.289	74.803	19.460	1.785	0.051	0.098	0.005	0.006	0.013	0.000	0.000	0.000	0.000	1394.49	
7	0.6896	1137.5	1157.6	0.493	3.366	74.553	19.708	1.637	0.056	0.132	0.014	0.018	0.023	0.000	0.000	0.000	0.000	1394.01	
8	0.6911	1141.6	1161.8	0.465	3.300	74.812	18.985	2.151	0.074	0.161	0.013	0.017	0.021	0.000	0.000	0.000	0.000	1397.47	
9	0.6891	1138.9	1159.1	0.478	3.252	75.092	18.877	2.034	0.070	0.150	0.012	0.015	0.019	0.000	0.000	0.000	0.000	1396.28	
10	0.6864	1135.6	1155.7	0.442	3.258	75.589	18.386	2.089	0.064	0.131	0.009	0.012	0.020	0.000	0.000	0.000	0.000	1394.88	
11	0.6946	1148.6	1168.9	0.452	3.208	74.899	18.336	2.716	0.103	0.222	0.017	0.021	0.025	0.000	0.000	0.000	0.000	1402.60	
12	0.6891	1140.1	1160.3	0.459	3.201	75.441	18.279	2.321	0.081	0.171	0.012	0.013	0.023	0.000	0.000	0.000	0.000	1397.80	
13	0.6907	1143.7	1163.9	0.445	3.154	75.166	18.625	2.274	0.081	0.183	0.017	0.023	0.031	0.000	0.000	0.000	0.000	1400.54	
14	0.6889	1141.2	1161.4	0.447	3.138	75.366	18.589	2.142	0.076	0.171	0.017	0.023	0.031	0.000	0.000	0.000	0.000	1399.28	
15	0.6875	1137.3	1157.4	0.451	3.235	75.698	18.155	2.093	0.088	0.206	0.020	0.026	0.028	0.000	0.000	0.000	0.000	1395.94	
16	0.6856	1134.1	1154.2	0.453	3.257	75.792	18.203	2.014	0.071	0.157	0.014	0.018	0.022	0.000	0.000	0.000	0.000	1393.88	
17	0.6824	1128.6	1148.6	0.446	3.301	76.187	17.958	1.873	0.062	0.131	0.010	0.013	0.019	0.000	0.000	0.000	0.000	1390.40	
18	0.6926	1144.2	1164.5	0.470	3.264	75.407	17.832	2.514	0.119	0.289	0.030	0.041	0.034	0.000	0.000	0.000	0.000	1399.21	
19	0.6919	1144.0	1164.2	0.460	3.230	75.295	18.081	2.539	0.101	0.222	0.019	0.025	0.028	0.000	0.000	0.000	0.000	1399.61	
20	0.6901	1141.0	1161.2	0.436	3.282	75.307	18.262	2.411	0.077	0.165	0.014	0.019	0.027	0.000	0.000	0.000	0.000	1397.76	
21	0.6905	1143.0	1163.3	0.458	3.162	75.111	18.673	2.308	0.079	0.162	0.012	0.015	0.020	0.000	0.000	0.000	0.000	1399.89	
22	0.6883	1139.1	1159.3	0.437	3.226	75.462	18.335	2.261	0.077	0.156	0.011	0.014	0.020	0.000	0.000	0.000	0.000	1397.34	
23	0.6913	1143.1	1163.3	0.456	3.230	75.014	18.616	2.409	0.078	0.153	0.010	0.012	0.021	0.000	0.000	0.000	0.000	1399.22	
24	0.6914	1144.2	1164.5	0.493	3.117	74.995	18.693	2.473	0.073	0.131	0.006	0.006	0.013	0.000	0.000	0.000	0.000	1400.47	
25	0.6904	1142.4	1162.6	0.486	3.154	75.012	18.789	2.347	0.067	0.121	0.005	0.006	0.013	0.000	0.000	0.000	0.000	1399.14	
26	0.6889	1138.4	1158.6	0.517	3.201	75.421	18.325	2.268	0.076	0.145	0.013	0.015	0.020	0.000	0.000	0.000	0.000	1395.90	
27	0.6889	1137.9	1158.1	0.505	3.251	75.647	17.922	2.326	0.089	0.189	0.022	0.025	0.024	0.000	0.000	0.000	0.000	1395.21	
28	0.6837	1130.5	1150.5	0.395	3.377	76.110	17.809	2.066	0.061	0.124	0.015	0.018	0.024	0.000	0.000	0.000	0.000	1391.48	
29	0.6830	1130.1	1150.1	0.414	3.317	76.025	18.090	1.982	0.046	0.084	0.009	0.010	0.022	0.000	0.000	0.000	0.000	1391.57	
30	0.6862	1134.1	1154.2	0.537	3.179	75.858	17.946	2.277	0.061	0.107	0.008	0.009	0.018	0.000	0.000	0.000	0.000	1393.34	
31	0.7062	1162.2	1182.8	0.843	2.875	73.319	19.413	3.205	0.110	0.200	0.013	0.013	0.008	0.000	0.000	0.000	0.000	1407.54	
Avg	0.6897	1140.0	1160.3	0.475	3.235	75.258	18.479	2.263	0.077	0.161	0.013	0.017	0.022	0.000	0.000	0.000	0.000	1397.15	

*Zone 28*

## GQ Source Daily Summary

### July 2012

**Number:** 271

**Pressure Base:** 14.730

**Contract Day:** 1

**Name:** DICKINSON STATION-GLEN ULLIN

**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	0.6156	1047.5	1066.1	0.563	1.763	88.812	7.974	0.772	0.034	0.079	0.000	0.000	0.003	0.000	0.000	0.000	0.000	1358.76	
2	0.6178	1047.5	1066.1	0.561	1.973	88.307	8.259	0.810	0.026	0.062	0.000	0.000	0.001	0.000	0.000	0.000	0.000	1356.33	
3	0.6458	1082.6	1101.8	0.487	2.582	83.044	12.417	1.322	0.045	0.100	0.000	0.000	0.004	0.000	0.000	0.000	0.000	1371.08	
4	0.6883	1137.6	1157.8	0.451	3.284	75.487	18.173	2.321	0.082	0.186	0.001	0.002	0.014	0.000	0.000	0.000	0.000	1395.51	
5	0.6834	1131.6	1151.7	0.437	3.209	76.485	17.251	2.353	0.079	0.169	0.000	0.000	0.016	0.000	0.000	0.000	0.000	1393.11	
6	0.6373	1074.0	1093.1	0.554	2.201	85.047	10.616	1.418	0.052	0.105	0.000	0.000	0.009	0.000	0.000	0.000	0.000	1369.23	
7	0.6660	1107.7	1127.3	0.509	2.928	79.425	15.156	1.793	0.059	0.122	0.000	0.000	0.008	0.000	0.000	0.000	0.000	1381.30	
8	0.6835	1130.1	1150.1	0.473	3.258	75.858	18.327	1.912	0.054	0.107	0.000	0.000	0.009	0.000	0.000	0.000	0.000	1391.15	
9	0.6852	1131.0	1151.0	0.486	3.353	75.164	19.258	1.561	0.048	0.118	0.000	0.001	0.010	0.000	0.000	0.000	0.000	1390.48	
10	0.6883	1136.0	1156.2	0.481	3.341	75.136	18.747	2.055	0.069	0.161	0.000	0.001	0.009	0.000	0.000	0.000	0.000	1393.53	
11	0.6874	1136.8	1157.0	0.461	3.235	75.405	18.530	2.129	0.072	0.158	0.000	0.000	0.012	0.000	0.000	0.000	0.000	1395.45	
12	0.6855	1152.0	1172.4	0.118	2.668	74.061	22.069	1.019	0.018	0.041	0.000	0.000	0.005	0.000	0.000	0.000	0.000	1415.98	
13	0.6826	1154.0	1174.4	0.000	2.457	74.000	22.956	0.587	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.44	
14	0.6846	1155.9	1176.3	0.000	2.523	73.678	23.134	0.664	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.75	
15	0.6865	1140.6	1160.8	0.361	3.072	75.385	18.925	2.036	0.069	0.146	0.000	0.000	0.007	0.000	0.000	0.000	0.000	1401.00	
16	0.6897	1141.6	1161.9	0.445	3.181	75.487	18.104	2.422	0.095	0.228	0.008	0.015	0.016	0.000	0.000	0.000	0.000	1398.98	
17	0.6854	1135.7	1155.8	0.433	3.153	75.773	18.317	2.088	0.065	0.146	0.002	0.004	0.018	0.000	0.000	0.000	0.000	1396.14	
18	0.6852	1134.2	1154.2	0.442	3.217	75.900	18.082	2.066	0.079	0.189	0.004	0.008	0.014	0.000	0.000	0.000	0.000	1394.42	
19	0.6843	1132.1	1152.2	0.450	3.248	76.090	17.822	2.106	0.080	0.189	0.000	0.004	0.012	0.000	0.000	0.000	0.000	1392.80	
20	0.6801	1124.8	1144.7	0.444	3.309	76.513	17.675	1.854	0.060	0.132	0.001	0.002	0.009	0.000	0.000	0.000	0.000	1388.07	
21	0.6899	1139.7	1159.9	0.466	3.277	75.852	17.398	2.507	0.121	0.303	0.022	0.033	0.018	0.000	0.000	0.000	0.000	1396.47	
22	0.6902	1141.2	1161.5	0.453	3.239	75.627	17.698	2.581	0.109	0.251	0.009	0.017	0.017	0.000	0.000	0.000	0.000	1397.98	
23	0.6831	1146.5	1166.8	0.138	2.740	74.702	21.249	1.064	0.030	0.068	0.001	0.002	0.006	0.000	0.000	0.000	0.000	1411.80	
24	0.6817	1150.4	1170.7	0.019	2.557	74.199	22.654	0.553	0.005	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.99	
25	0.6819	1151.6	1172.0	0.000	2.535	73.993	23.031	0.441	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.25	
26	0.6823	1152.0	1172.4	0.000	2.546	73.937	23.062	0.455	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.34	
27	0.6814	1150.3	1170.6	0.000	2.569	74.079	22.921	0.431	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.14	
28	0.6833	1146.5	1166.8	0.144	2.752	74.486	21.566	0.995	0.019	0.037	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1411.54	
29	0.6875	1137.3	1157.5	0.468	3.199	75.579	18.208	2.303	0.076	0.157	0.001	0.001	0.009	0.000	0.000	0.000	0.000	1395.98	
30	0.6858	1134.5	1154.6	0.349	3.396	75.829	17.893	2.244	0.075	0.180	0.007	0.013	0.013	0.000	0.000	0.000	0.000	1394.18	
31	0.6811	1142.1	1162.3	0.109	2.864	74.926	21.062	0.953	0.021	0.051	0.002	0.003	0.008	0.000	0.000	0.000	0.000	1408.41	
Avg	0.6771	1130.0	1149.9	0.332	2.891	76.718	18.340	1.542	0.050	0.113	0.002	0.003	0.008	0.000	0.000	0.000	0.000	1397.34	

Zone 31

# GQ Source Daily Summary

## July 2012

**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	0.6669	1130.6	1150.6	0.132	2.215	77.425	19.641	0.563	0.009	0.013	0.001	0.001	0.001	0.000	0.000	0.000	0.000	1408.81	
2	0.6649	1124.5	1144.4	0.200	2.285	78.171	18.544	0.729	0.018	0.040	0.004	0.005	0.003	0.000	0.000	0.000	0.000	1403.46	
3	0.6687	1129.3	1149.3	0.162	2.408	77.277	19.375	0.733	0.013	0.025	0.002	0.002	0.002	0.000	0.000	0.000	0.000	1405.49	
4	0.6790	1139.7	1159.9	0.193	2.698	75.630	20.296	1.082	0.028	0.059	0.004	0.005	0.004	0.000	0.000	0.000	0.000	1407.55	
5	0.6892	1153.2	1173.6	0.191	2.831	73.927	21.525	1.382	0.039	0.083	0.006	0.008	0.007	0.000	0.000	0.000	0.000	1413.70	
6	0.6830	1144.7	1165.0	0.207	2.738	75.137	20.472	1.309	0.038	0.078	0.006	0.007	0.008	0.000	0.000	0.000	0.000	1409.71	
7	0.6705	1131.2	1151.2	0.199	2.402	77.213	19.185	0.926	0.022	0.040	0.003	0.003	0.006	0.000	0.000	0.000	0.000	1405.95	
8	0.6815	1144.3	1164.6	0.183	2.666	75.085	20.892	1.087	0.026	0.050	0.003	0.003	0.004	0.000	0.000	0.000	0.000	1410.69	
9	0.6873	1151.5	1171.9	0.176	2.788	73.915	21.896	1.145	0.025	0.046	0.002	0.002	0.004	0.000	0.000	0.000	0.000	1413.51	
10	0.6881	1153.2	1173.7	0.161	2.779	73.546	22.490	0.944	0.021	0.046	0.004	0.005	0.005	0.000	0.000	0.000	0.000	1414.86	
11	0.6890	1153.3	1173.7	0.164	2.851	73.668	22.007	1.209	0.028	0.058	0.004	0.005	0.005	0.000	0.000	0.000	0.000	1414.03	
12	0.6874	1139.9	1160.1	0.202	3.449	74.671	19.670	1.872	0.043	0.077	0.005	0.005	0.004	0.000	0.000	0.000	0.000	1399.25	
13	0.6883	1152.8	1173.2	0.139	2.853	73.803	21.877	1.227	0.029	0.059	0.004	0.005	0.006	0.000	0.000	0.000	0.000	1414.17	
14	0.6862	1159.3	1179.8	0.002	2.481	73.352	23.526	0.622	0.006	0.010	0.000	0.000	0.001	0.000	0.000	0.000	0.000	1424.19	
15	0.6864	1159.0	1179.5	0.005	2.506	73.332	23.502	0.638	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.72	
16	0.6879	1157.6	1178.1	0.075	2.621	73.469	22.836	0.940	0.019	0.036	0.002	0.001	0.001	0.000	0.000	0.000	0.000	1420.49	
17	0.6874	1156.0	1176.4	0.098	2.644	73.661	22.546	0.976	0.021	0.044	0.003	0.003	0.003	0.000	0.000	0.000	0.000	1418.90	
18	0.6853	1143.5	1163.8	0.175	3.081	74.667	20.530	1.414	0.037	0.076	0.006	0.008	0.005	0.000	0.000	0.000	0.000	1405.73	
19	0.6873	1150.7	1171.1	0.181	2.824	74.127	21.512	1.215	0.035	0.079	0.007	0.009	0.010	0.000	0.000	0.000	0.000	1412.60	
20	0.6866	1152.5	1172.9	0.118	2.748	73.914	22.127	0.993	0.026	0.056	0.005	0.007	0.008	0.000	0.000	0.000	0.000	1415.49	
21	0.6856	1150.3	1170.7	0.131	2.766	74.021	22.075	0.924	0.022	0.046	0.003	0.005	0.007	0.000	0.000	0.000	0.000	1413.87	
22	0.6872	1153.0	1173.4	0.137	2.742	73.893	22.091	1.006	0.033	0.076	0.007	0.009	0.007	0.000	0.000	0.000	0.000	1415.51	
23	0.6864	1129.6	1149.6	0.303	3.829	75.305	18.200	2.192	0.056	0.101	0.006	0.006	0.003	0.000	0.000	0.000	0.000	1387.62	
24	0.6856	1124.5	1144.4	0.336	4.015	75.797	17.199	2.438	0.070	0.128	0.007	0.007	0.002	0.000	0.000	0.000	0.000	1382.11	
25	0.6818	1119.5	1139.3	0.302	4.018	76.404	16.731	2.351	0.065	0.115	0.006	0.006	0.002	0.000	0.000	0.000	0.000	1379.74	
26	0.6803	1119.9	1139.7	0.252	3.928	76.760	16.472	2.365	0.072	0.132	0.009	0.008	0.003	0.000	0.000	0.000	0.000	1381.74	
27	0.6839	1132.1	1152.2	0.218	3.568	75.612	18.438	1.967	0.059	0.116	0.008	0.009	0.005	0.000	0.000	0.000	0.000	1393.25	
28	0.6854	1156.6	1177.0	0.009	2.560	73.412	23.486	0.512	0.007	0.012	0.000	0.000	0.002	0.000	0.000	0.000	0.000	1421.70	
29	0.6861	1154.5	1175.0	0.077	2.645	73.618	22.856	0.759	0.015	0.027	0.001	0.001	0.001	0.000	0.000	0.000	0.000	1418.49	
30	0.6867	1150.8	1171.1	0.176	2.774	74.100	21.699	1.143	0.032	0.064	0.004	0.005	0.004	0.000	0.000	0.000	0.000	1413.25	
31	0.6806	1135.7	1155.8	0.147	3.155	75.728	19.339	1.455	0.049	0.104	0.008	0.009	0.005	0.000	0.000	0.000	0.000	1400.89	
Avg	0.6832	1144.0	1163.9	0.163	2.899	74.859	20.743	1.230	0.031	0.061	0.004	0.005	0.004	0.000	0.000	0.000	0.000	1408.08	

Zone 32

# GQ Source Daily Summary

July 2012

**Number:** 111

**Pressure Base:** 14.730

**Contract Day:** 1

**Name:** LITTLE KNIFE PLANT

**Temperature Base:**

**Contract Hour:** 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6879	1161.9	1182.5	0.000	2.477	73.031	23.831	0.648	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.74	
2	0.6883	1162.1	1182.7	0.000	2.501	72.958	23.875	0.653	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.59	
3	0.6886	1162.7	1183.3	0.000	2.496	72.876	23.967	0.647	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.99	
4	0.6876	1161.4	1182.0	0.000	2.486	73.064	23.808	0.629	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.37	
5	0.6866	1159.6	1180.1	0.000	2.493	73.235	23.677	0.582	0.005	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.28	
6	0.6881	1162.1	1182.7	0.000	2.487	73.032	23.782	0.682	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.72	
7	0.6881	1162.1	1182.7	0.000	2.484	73.021	23.810	0.671	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.76	
8	0.6883	1162.4	1183.0	0.000	2.483	72.993	23.823	0.686	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.95	
9	0.6881	1161.9	1182.4	0.000	2.495	73.025	23.790	0.676	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.52	
10	0.6882	1162.2	1182.8	0.000	2.484	72.991	23.845	0.666	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.84	
11	0.6888	1163.0	1183.6	0.000	2.494	72.859	23.975	0.658	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1426.18	
12	0.6881	1162.2	1182.7	0.000	2.484	72.955	23.925	0.623	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.80	
13	0.6876	1161.6	1182.2	0.000	2.474	73.077	23.794	0.640	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.59	
14	0.6875	1161.3	1181.9	0.000	2.477	73.080	23.816	0.614	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.40	
15	0.6881	1162.1	1182.7	0.000	2.487	72.983	23.868	0.649	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.76	
16	0.6881	1162.0	1182.6	0.000	2.495	72.983	23.861	0.647	0.005	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.57	
17	0.6883	1162.3	1182.9	0.000	2.491	73.040	23.730	0.711	0.010	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.77	
18	0.6914	1166.7	1187.4	0.000	2.511	72.934	23.394	1.039	0.035	0.072	0.006	0.006	0.002	0.000	0.000	0.000	0.000	1427.94	
19	0.6870	1159.7	1180.3	0.000	2.526	73.121	23.776	0.565	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.99	
20	0.6878	1161.3	1181.8	0.000	2.510	73.038	23.825	0.589	0.011	0.023	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1425.01	
21	0.6866	1159.7	1180.3	0.000	2.495	73.123	23.883	0.488	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.33	
22	0.6866	1159.9	1180.5	0.000	2.476	73.166	23.930	0.517	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.67	
23	0.6851	1157.5	1178.0	0.000	2.482	73.400	23.664	0.443	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.23	
24	0.6852	1157.2	1177.7	0.000	2.511	73.353	23.700	0.425	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1422.76	
25	0.6863	1158.5	1179.0	0.000	2.540	73.152	23.832	0.464	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.18	
26	0.6861	1158.0	1178.5	0.000	2.547	73.189	23.807	0.447	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1422.80	
27	0.6862	1158.3	1178.8	0.000	2.542	73.198	23.766	0.482	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.01	
28	0.6861	1158.2	1178.8	0.000	2.537	73.218	23.748	0.486	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.06	
29	0.6855	1157.4	1177.9	0.000	2.527	73.343	23.635	0.483	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1422.71	
30	0.6857	1158.0	1178.5	0.000	2.512	73.295	23.714	0.468	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.17	
31	0.6860	1158.2	1178.7	0.000	2.525	73.234	23.763	0.467	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.15	
Avg	0.6873	1161.0	1181.3	0.000	2.501	73.096	23.791	0.595	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.80	

Zone 33

## GQ Source Daily Summary July 2012

**Number:** 331

**Pressure Base:** 14.730

**Contract Day:** 1

**Name:** MARMARTH PLANT

**Temperature Base:**

**Contract Hour:** 9

Day	Relative Density	Heating Value	Heating Value	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
		Wet	Dry																
1	0.7873	1112.6	1132.3	2.088	11.659	55.654	27.945	2.360	0.064	0.193	0.009	0.022	0.005	0.000	0.000	0.000	0.000	1276.20	
2	0.7836	1115.3	1135.0	2.069	11.185	56.197	28.139	2.136	0.061	0.181	0.008	0.021	0.004	0.000	0.000	0.000	0.000	1282.24	
3	0.7857	1106.5	1126.1	2.211	11.698	56.066	27.395	2.338	0.065	0.192	0.009	0.022	0.005	0.000	0.000	0.000	0.000	1270.44	
4	0.7855	1107.6	1127.2	2.108	11.773	55.979	27.508	2.353	0.062	0.184	0.008	0.021	0.004	0.000	0.000	0.000	0.000	1271.82	
5	0.7834	1111.1	1130.8	1.821	11.796	56.089	27.718	2.279	0.065	0.195	0.009	0.022	0.005	0.000	0.000	0.000	0.000	1277.57	
6	0.7834	1113.0	1132.7	1.745	11.797	56.079	27.748	2.320	0.068	0.205	0.009	0.023	0.005	0.000	0.000	0.000	0.000	1279.76	
7	0.7876	1111.0	1130.7	2.088	11.791	55.828	27.430	2.517	0.075	0.229	0.010	0.027	0.005	0.000	0.000	0.000	0.000	1274.05	
8	0.7888	1109.1	1128.7	2.218	11.825	55.824	27.163	2.611	0.078	0.237	0.011	0.028	0.006	0.000	0.000	0.000	0.000	1270.82	
9	0.7891	1105.7	1125.3	2.282	11.959	55.788	26.994	2.643	0.073	0.218	0.010	0.027	0.005	0.000	0.000	0.000	0.000	1266.79	
10	0.7954	1108.7	1128.4	2.465	12.083	54.910	27.342	2.849	0.078	0.234	0.009	0.024	0.005	0.000	0.000	0.000	0.000	1265.22	
11	0.7960	1107.3	1126.9	2.472	12.218	54.861	27.161	2.927	0.080	0.239	0.010	0.027	0.005	0.000	0.000	0.000	0.000	1263.11	
12	0.7900	1102.4	1122.0	2.429	12.022	55.634	26.994	2.622	0.067	0.197	0.008	0.022	0.004	0.000	0.000	0.000	0.000	1262.30	
13	0.7866	1103.1	1122.6	2.217	11.981	55.961	27.100	2.444	0.066	0.196	0.009	0.023	0.005	0.000	0.000	0.000	0.000	1265.81	
14	0.7870	1103.8	1123.4	2.231	11.950	55.952	27.092	2.461	0.069	0.207	0.009	0.024	0.005	0.000	0.000	0.000	0.000	1266.33	
15	0.7972	1095.8	1115.2	3.168	11.981	54.919	27.022	2.584	0.072	0.216	0.009	0.024	0.005	0.000	0.000	0.000	0.000	1249.10	
16	0.7846	1105.6	1125.1	2.027	11.930	56.293	26.961	2.448	0.073	0.224	0.010	0.028	0.006	0.000	0.000	0.000	0.000	1270.22	
17	0.7826	1100.1	1119.6	2.032	12.073	56.806	26.186	2.539	0.077	0.239	0.011	0.031	0.006	0.000	0.000	0.000	0.000	1265.48	
18	0.7720	1079.0	1098.1	2.060	12.309	58.887	23.903	2.503	0.073	0.219	0.010	0.028	0.007	0.000	0.000	0.000	0.000	1249.78	
19	0.7736	1102.5	1122.0	1.519	11.860	57.500	26.781	2.082	0.058	0.169	0.007	0.019	0.004	0.000	0.000	0.000	0.000	1275.69	
20	0.7624	1111.4	1131.1	0.793	11.369	58.652	27.304	1.667	0.048	0.140	0.006	0.017	0.004	0.000	0.000	0.000	0.000	1295.38	
21	0.7802	1111.7	1131.4	1.788	11.509	56.149	28.505	1.825	0.050	0.145	0.007	0.018	0.004	0.000	0.000	0.000	0.000	1280.97	
22	0.7877	1111.3	1131.0	2.247	11.537	55.609	28.071	2.258	0.063	0.181	0.008	0.021	0.005	0.000	0.000	0.000	0.000	1274.37	
23	0.7893	1106.1	1125.7	2.503	11.615	55.593	27.674	2.343	0.061	0.181	0.008	0.019	0.004	0.000	0.000	0.000	0.000	1267.11	
24	0.7915	1100.8	1120.2	2.609	11.991	55.261	27.434	2.446	0.058	0.171	0.007	0.019	0.004	0.000	0.000	0.000	0.000	1259.18	
25	0.7868	1099.0	1118.5	2.228	12.232	55.678	27.292	2.310	0.058	0.171	0.007	0.019	0.004	0.000	0.000	0.000	0.000	1260.97	
26	0.7908	1112.6	1132.3	2.117	11.955	54.713	28.718	2.237	0.057	0.172	0.007	0.020	0.004	0.000	0.000	0.000	0.000	1273.26	
27	0.7930	1108.2	1127.8	2.412	11.981	54.788	28.114	2.418	0.063	0.189	0.008	0.022	0.004	0.000	0.000	0.000	0.000	1266.43	
28	0.7957	1111.3	1130.9	2.439	11.999	54.444	28.269	2.540	0.067	0.205	0.009	0.024	0.005	0.000	0.000	0.000	0.000	1267.87	
29	0.8003	1111.4	1131.1	2.886	11.749	54.345	27.858	2.798	0.078	0.239	0.011	0.030	0.006	0.000	0.000	0.000	0.000	1264.31	
30	0.7932	1110.0	1129.7	2.416	11.885	54.856	28.069	2.467	0.067	0.203	0.009	0.024	0.005	0.000	0.000	0.000	0.000	1268.36	
31	0.7970	1115.8	1135.6	2.508	11.740	54.435	28.353	2.624	0.073	0.225	0.010	0.027	0.006	0.000	0.000	0.000	0.000	1272.00	
Avg	0.7873	1107.0	1126.4	2.200	11.853	55.798	27.427	2.418	0.067	0.200	0.009	0.023	0.005	0.000	0.000	0.000	0.000	1269.45	

Zone 34

# GQ Source Analysis

WBI Energy Transmission, Inc.

<b>GQ Source Number:</b>	1201140	<b>Specific Gravity:</b>	0.5728
<b>GQ Source Name:</b>	EAGLE 8B ND LMD	<b>Dry Heat Value:</b>	979.13
<b>Effective Date:</b>	6/8/2012 9:00:00 AM	<b>Wet Heat Value:</b>	962.09
<b>Effective End Date:</b>	1/18/2038 9:14:07 PM	<b>As Deliv. Heat Value:</b>	979.13
<b>Pressure Base:</b>	14.730	<b>Sample Pressure:</b>	28.00
<b>Viscosity:</b>		<b>Sample Temperature:</b>	

	<u>Mol %</u>	<u>Liquid Content</u>			<u>Mol %</u>	
C1	Methane	95.902		CO2	Carbon Dioxide	0.106
C2	Ethane	0.323	0.0860	N2	Nitrogen	3.640
C3	Propane	0.020	0.0054	O2	Oxygen	0.000
IC4	Isobutane	0.008	0.0026	He	Helium	
NC4	n-Butane	0.001	0.0002	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					

**Totals**      100.000%      0.094 GPM

**Sample Date:** 6/8/2012 12:00:00 AM  
**Sample Type:** Spot  
**Sample Tech:** MG  
**H2S:** ppm

**Sample Remarks:**

**Analysis Tech:** M. Barney

**Analysis Remarks:**

*Zone 35*

<b>NORTH DAKOTA HEATING VALUE ZONES</b>		
<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
32	Chromatograph	Cabin Creek – Dickinson
33	Chromatograph	Killdeer
34	Chromatograph	Bowman Area
35	Yearly Sampler	Baker Field – North Dakota

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 12	JUNE 12	MAY 12	APR 12	MAR 12	FEB 12	JAN 12	DEC 11	NOV 11	OCT 11	SEPT 11	AUG 11	ZONE
MT/ND	211	Sidney Area	1204	1197	1200	1194	1196	1199	1206	1210	1212	1215	1212	1199	1204	211
ND	24	Williston Area	1197	1203	1197	1196	1194	1199	1195	1184	1199	1203	1197	1200	1200	24
ND	25	Watford City Area	1142	1176	1151	1159	1139	1138	1132	1140	1140	1131	1129	1136	1136	25
ND/MT	241	Fairview Area	1193	1185	1191	1184	1185	1189	1193	1194	1194	1201	1198	1200	1200	241
ND	261	Williston - Tioga - Minot Line	1158	1161	1157	1157	1155	1162	1156	1160	1163	1166	1158	1144	1159	261
ND	262	Minot Area	1161	1163	1160	1159	1157	1162	1158	1161	1165	1168	1163	1160	1161	262
ND	263	Tioga - Portal	1111	1132	1136	1126	1099	1135	1081	1075	1074	1092	1126	1128	1128	263
ND	264	Williston - Ray	1197	1203	1197	1196	1194	1199	1195	1184	1199	1203	1197	1200	1200	264
ND	271	Bismarck - Cleveland	1149	1161	1157	1157	1157	1154	1123	1124	1130	1148	1161	1159	1160	271
ND	272	Cleveland - Mapleton	1149	1162	1159	1158	1156	1153	1121	1122	1129	1148	1161	1159	1160	272
ND	273	Cleveland - Grafton	1149	1162	1159	1158	1157	1153	1121	1123	1129	1148	1162	1159	1160	273
ND	28	Bismarck - Cabin Creek	1125	1160	1157	1157	1143	1117	1065	1073	1078	1084	1148	1160	1160	28
ND	31	Dickinson Area	1107	1150	1092	1070	1111	1114	1064	1072	1077	1081	1138	1162	1152	31
ND/MT	32	Cabin Creek - Dickinson	1100	1164	1152	1142	1092	1047	1044	1057	1063	1061	1100	1156	1126	32
ND	33	Killdeer	1182	1181	1184	1181	1181	1183	1182	1179	1183	1181	1181	1181	1181	33
ND	34	Bowman Area	1129	1126	1098	1134	1130	1126	1126	1147	1129	1117	1139	1132	1138	34
ND	35	Baker Field - North Dakota	979	979	979	979	979	979	979	979	979	979	979	979	979	35

**THERMAL ZONE VARIANCE  
DOCUMENTATION**

**July 2012**

<b>ZONE</b>	<b>BTU VARIANCE</b>	<b>REASON</b>
25	25	Receipt from mainline, due to plant being down
31	58	Mix of Gas in the area
34	28	Maramarth Plant back on, more normal BTU