



# MONTANA-DAKOTA

UTILITIES CO.

A Division of MDU Resources Group, Inc.

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

July 6, 2010

RECEIVED

JUL 07 2010

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 – May 2010

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 June 2010.
2. Attachment B consists of copies of the monthly Heating Value Test Reports received from our supplier for the month of May 2010. There is a report for each of the 16 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 May.

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  
Pricing & Tariff Manager

MONTANA-DAKOTA UTILITIES CO.  
Therm Billing Factor  
JUNE 2010

Div Nbr	Off Code	City Name	Heat Zone Nbr	Therm Billing Factor
12	314	APPLE VALLEY	271	1.1434
12	327	BISMARCK	28	1.1328
12	343	CARRINGTON	273	1.1444
12	344	CLEVELAND	272	1.1363
12	364	CAVALIER	273	1.1684
12	365	DAWSON	271	1.1353
12	374	FT TOTTEN	273	1.1524
12	375	DEVILS LAKE	273	1.1524
12	379	BARLOW	273	1.1444
12	387	ELDRIDGE	272	1.1444
12	411	GLEN ULLIN	31	1.0068
12	417	GRAFTON	273	1.1765
12	439	HANKINSON	600	1.0660
12	449	JAMESTOWN	272	1.1524
12	463	LANGDON	273	1.1444
12	475	LINTON	802	.9881
12	478	LINCOLN	28	1.1328
12	494	MEDINA	271	1.1353
12	498	MANDAN	28	1.1328
12	524	NEW SALEM	28	1.1088
12	532	NEW ROCKFORD	273	1.1444
12	539	PARK RIVER	273	1.1684
12	574	SANBORN	272	1.1524
12	593	STEELE	271	1.1353
12	598	SHEYENNE	273	1.1524
12	610	TAPPEN	271	1.1353
12	625	VALLEY CITY	272	1.1604
12	629	WALHALLA	273	1.1684
12	647	WILTON	262	1.1211
12	717	SPIRITWOOD	272	1.1524
12	718	FAIRMOUNT	600	1.0638
12	732	MSR SITE	273	1.1444
12	733	PAR SITE	273	1.1444
15	303	ALEXANDER	25	1.0692
15	308	ARNEGARD	25	1.0692

# GQ Source Daily Summary

May 2010

Number: 251

Pressure Base: 14.730

Contract Day: 1

Name: SIDNEY AREA

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	0.7323	1173.4	1194.2	1.166	4.160	69.045	21.090	4.207	0.113	0.201	0.010	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1395.47
2	0.7339	1176.1	1196.9	1.164	4.148	68.857	21.165	4.333	0.114	0.203	0.010	0.008	0.001	0.000	0.000	0.000	0.000	0.000	1397.13
3	0.7349	1178.0	1198.9	1.163	4.126	68.744	21.213	4.410	0.115	0.209	0.011	0.008	0.001	0.000	0.000	0.000	0.000	0.000	1398.48
4	0.7100	1167.8	1188.4	0.439	3.517	71.137	22.044	2.707	0.057	0.090	0.004	0.003	0.001	0.000	0.000	0.000	0.000	0.000	1410.64
5	0.7310	1172.5	1193.2	1.177	4.083	68.788	21.886	3.799	0.092	0.162	0.007	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1395.57
6	0.7076	1169.1	1189.8	0.350	3.347	71.273	22.422	2.489	0.046	0.068	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1414.61
7	0.7221	1169.8	1190.5	0.888	3.846	69.732	22.038	3.296	0.070	0.120	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1401.16
8	0.7335	1176.4	1197.2	1.183	4.070	68.535	21.916	4.009	0.097	0.174	0.009	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1397.80
9	0.7308	1171.8	1192.5	1.187	4.094	68.806	21.905	3.716	0.099	0.177	0.009	0.007	0.001	0.000	0.000	0.000	0.000	0.000	1394.91
10	0.7370	1182.1	1203.0	1.179	4.052	68.207	21.893	4.377	0.099	0.177	0.009	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1401.30
11	0.7374	1182.8	1203.7	1.181	4.039	68.136	21.973	4.385	0.097	0.174	0.009	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1401.78
12	0.7357	1179.9	1200.8	1.164	4.085	68.454	21.660	4.319	0.108	0.194	0.009	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1399.94
13	0.7361	1179.6	1200.5	1.167	4.129	68.452	21.527	4.417	0.102	0.188	0.010	0.008	0.001	0.000	0.000	0.000	0.000	0.000	1399.27
14	0.7368	1181.3	1202.2	1.145	4.130	68.565	21.164	4.666	0.111	0.200	0.010	0.008	0.001	0.000	0.000	0.000	0.000	0.000	1400.56
15	0.7361	1179.4	1200.3	1.182	4.125	68.654	21.174	4.501	0.121	0.221	0.012	0.009	0.001	0.000	0.000	0.000	0.000	0.000	1398.94
16	0.7352	1177.8	1198.7	1.185	4.128	68.686	21.277	4.381	0.114	0.209	0.011	0.009	0.001	0.000	0.000	0.000	0.000	0.000	1397.99
17	0.7361	1179.5	1200.4	1.180	4.122	68.574	21.257	4.576	0.098	0.178	0.009	0.007	0.001	0.000	0.000	0.000	0.000	0.000	1399.10
18	0.7396	1185.5	1206.5	1.172	4.089	68.204	21.309	4.954	0.091	0.165	0.008	0.007	0.001	0.000	0.000	0.000	0.000	0.000	1402.94
19	0.7388	1184.3	1205.2	1.172	4.092	68.349	21.184	4.924	0.093	0.169	0.008	0.007	0.001	0.000	0.000	0.000	0.000	0.000	1402.18
20	0.7350	1178.2	1199.0	1.166	4.121	68.678	21.262	4.498	0.092	0.167	0.009	0.007	0.001	0.000	0.000	0.000	0.000	0.000	1398.53
21	0.7361	1180.2	1201.1	1.166	4.101	68.544	21.336	4.574	0.093	0.170	0.009	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1399.90
22	0.7337	1175.9	1196.7	1.175	4.127	68.833	21.220	4.359	0.096	0.174	0.009	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1397.08
23	0.7356	1178.9	1199.8	1.172	4.119	68.587	21.359	4.467	0.099	0.181	0.010	0.008	0.001	0.000	0.000	0.000	0.000	0.000	1398.92
24	0.7311	1171.3	1192.0	1.183	4.149	69.150	21.097	4.132	0.096	0.175	0.009	0.007	0.001	0.000	0.000	0.000	0.000	0.000	1394.09
25	0.7338	1175.9	1196.8	1.186	4.117	68.807	21.263	4.338	0.097	0.175	0.009	0.007	0.001	0.000	0.000	0.000	0.000	0.000	1397.03
26	0.7390	1184.8	1205.8	1.172	4.078	68.249	21.375	4.836	0.097	0.177	0.009	0.007	0.001	0.000	0.000	0.000	0.000	0.000	1402.66
27	0.7387	1183.7	1204.7	1.182	4.100	68.296	21.319	4.813	0.096	0.177	0.009	0.007	0.001	0.000	0.000	0.000	0.000	0.000	1401.67
28	0.7355	1178.7	1199.6	1.178	4.118	68.558	21.425	4.423	0.100	0.181	0.009	0.007	0.001	0.000	0.000	0.000	0.000	0.000	1398.74
29	0.7355	1178.7	1199.6	1.175	4.124	68.619	21.316	4.475	0.100	0.182	0.010	0.008	0.001	0.000	0.000	0.000	0.000	0.000	1398.69
30	0.7382	1183.3	1204.2	1.168	4.107	68.319	21.367	4.742	0.098	0.181	0.010	0.008	0.001	0.000	0.000	0.000	0.000	0.000	1401.54
31	0.7386	1184.1	1205.1	1.162	4.100	68.298	21.334	4.810	0.098	0.180	0.010	0.008	0.001	0.000	0.000	0.000	0.000	0.000	1402.22
Avg	0.7334	1178.0	1198.9	1.114	4.056	68.778	21.476	4.288	0.097	0.174	0.009	0.007	0.001	0.000	0.000	0.000	0.000	0.000	1400.03

Zone 211

## GQ Source Analysis

<b>GQ Source Number:</b>	0602330	<b>Specific Gravity:</b>	0.7124
<b>GQ Source Name:</b>	WILLISTON BORDER	<b>BTU Base:</b>	Dry
<b>Effective Date:</b>	5/1/2010 9:00:00 AM	<b>Measured Heat Value:</b>	1188.95
<b>Effective End Date:</b>	1/18/2038 9:14:07 PM	<b>Dry Heat Value:</b>	1186.08
<b>Pressure Base:</b>	14.730	<b>Wet Heat Value:</b>	1165.44
<b>Viscosity:</b>		<b>As Deliv. Heat Value:</b>	1186.08

		Mol %	GPM			Mol %
C1	Methane	72.249		CO2	Carbon Dioxide	0.827
C2	Ethane	19.674	5.246	N2	Nitrogen	3.247
C3	Propane	3.548	0.975	O2	Oxygen	0.000
IC4	Iso-Butane	0.134	0.044	HE	Helium	
NC4	N-Butane	0.267	0.084	H2	Hydrogen	
IC5	Iso-Pentane	0.020	0.007	H2S	Hydrogen Sulfide	
NC5	N-Pentane	0.022	0.008	AR	Argon	
C6	Hexane	0.009	0.004	CO	Carbon Monoxide	
C7	Heptane			H2O	Water	
C8	Octane					
C9	Nonane					
C10	Decane					

**Totals**      99.997%      6.368 GPM

**Sample Date:** 5/31/2010 12:00:00 AM  
**Sample Type:** Composite  
**Sample Tech:** sampler  
**Sample Remarks:**

**Analysis Remarks:**

*Zone 24, 264*

## GQ Source Analysis

<b>GQ Source Number:</b>	0602230	<b>Specific Gravity:</b>	0.7280
<b>GQ Source Name:</b>	WATFORD CITY BORDER	<b>BTU Base:</b>	Dry
<b>Effective Date:</b>	5/1/2010 9:00:00 AM	<b>Measured Heat Value:</b>	1134.18
<b>Effective End Date:</b>	1/18/2038 9:14:07 PM	<b>Dry Heat Value:</b>	1131.51
<b>Pressure Base:</b>	14.730	<b>Wet Heat Value:</b>	1111.82
<b>Viscosity:</b>		<b>As Deliv. Heat Value:</b>	1131.51

		<u>Mol %</u>	<u>GPM</u>			<u>Mol %</u>
C1	Methane	68.769		CO2	Carbon Dioxide	0.721
C2	Ethane	17.927	4.780	N2	Nitrogen	8.161
C3	Propane	3.809	1.046	O2	Oxygen	0.000
IC4	Iso-Butane	0.195	0.064	HE	Helium	
NC4	N-Butane	0.356	0.112	H2	Hydrogen	
IC5	Iso-Pentane	0.027	0.010	H2S	Hydrogen Sulfide	
NC5	N-Pentane	0.027	0.010	AR	Argon	
C6	Hexane	0.006	0.003	CO	Carbon Monoxide	
C7	Heptane			H2O	Water	
C8	Octane					
C9	Nonane					
C10	Decane					

**Totals**      99.998%      6.025 GPM

**Sample Date:** 5/31/2010 12:00:00 AM  
**Sample Type:** Composite  
**Sample Tech:** sampler  
**Sample Remarks:**

**Analysis Remarks:**

*Zone 25*

# GQ Source Daily Summary

May 2010

**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	0.6761	1119.0	1138.8	0.384	3.389	76.590	18.195	1.310	0.040	0.077	0.004	0.004	0.008					1385.01	
2	0.6776	1121.5	1141.3	0.378	3.385	76.483	18.176	1.394	0.052	0.109	0.007	0.007	0.009					1386.53	
3	0.6792	1124.6	1144.5	0.380	3.344	76.279	18.328	1.467	0.054	0.116	0.008	0.010	0.013					1388.72	
4	0.6763	1119.3	1139.1	0.375	3.403	76.635	18.077	1.358	0.044	0.089	0.005	0.006	0.008					1385.16	
5	0.6752	1116.8	1136.6	0.390	3.427	76.755	18.016	1.271	0.041	0.082	0.005	0.005	0.008					1383.24	
6	0.6750	1116.4	1136.2	0.397	3.425	76.890	17.801	1.341	0.042	0.085	0.005	0.005	0.011					1382.91	
7	0.6760	1118.8	1138.7	0.407	3.352	76.667	18.122	1.315	0.040	0.077	0.004	0.004	0.011					1384.93	
8	0.6798	1121.3	1141.1	0.453	3.492	76.085	18.354	1.465	0.046	0.087	0.004	0.004	0.009					1384.01	
9	0.6789	1121.7	1141.5	0.444	3.401	76.147	18.497	1.373	0.043	0.081	0.004	0.004	0.008					1385.40	
10	0.6739	1116.2	1135.9	0.392	3.341	76.984	17.922	1.229	0.040	0.076	0.003	0.003	0.010					1383.74	
11	0.6764	1120.0	1139.9	0.406	3.324	76.617	18.173	1.330	0.045	0.088	0.004	0.004	0.009					1385.93	
12	0.6735	1114.2	1133.9	0.359	3.473	76.948	17.950	1.125	0.039	0.084	0.005	0.005	0.012					1381.73	
13	0.6681	1107.4	1127.0	0.261	3.532	77.715	17.445	0.909	0.034	0.077	0.005	0.006	0.015					1378.83	
14	0.6745	1117.0	1136.8	0.281	3.515	77.108	17.494	1.361	0.058	0.137	0.011	0.013	0.021					1384.14	
15	0.6732	1114.4	1134.1	0.320	3.496	77.117	17.683	1.210	0.042	0.095	0.007	0.008	0.021					1382.22	
16	0.6737	1114.1	1133.8	0.336	3.530	77.087	17.619	1.252	0.043	0.099	0.007	0.008	0.020					1381.42	
17	0.6758	1117.9	1137.7	0.346	3.486	76.923	17.610	1.411	0.054	0.126	0.010	0.012	0.023					1383.92	
18	0.6697	1109.4	1129.0	0.295	3.511	77.680	17.252	1.096	0.039	0.090	0.007	0.008	0.022					1379.59	
19	0.6685	1106.0	1125.6	0.287	3.612	77.910	16.939	1.080	0.040	0.092	0.008	0.009	0.023					1376.71	
20	0.6659	1099.6	1119.1	0.248	3.816	77.970	17.046	0.804	0.027	0.059	0.004	0.004	0.020					1371.44	
21	0.6735	1113.2	1132.9	0.344	3.560	76.821	18.113	1.021	0.034	0.075	0.005	0.005	0.020					1380.45	
22	0.6739	1115.2	1135.0	0.372	3.427	76.917	17.999	1.130	0.040	0.087	0.006	0.007	0.015					1382.62	
23	0.6685	1105.7	1125.3	0.328	3.575	77.576	17.547	0.867	0.028	0.061	0.004	0.004	0.011					1376.24	
24	0.6693	1106.6	1126.2	0.343	3.570	77.486	17.584	0.896	0.032	0.070	0.005	0.005	0.010					1378.02	
25	0.6705	1108.8	1128.4	0.329	3.511	77.534	17.342	1.091	0.041	0.089	0.006	0.007	0.010					1376.99	
26	0.6704	1107.8	1127.4	0.327	3.616	77.448	17.442	1.003	0.040	0.094	0.007	0.008	0.012					1379.83	
27	0.6709	1110.5	1130.2	0.327	3.502	77.429	17.511	1.063	0.042	0.096	0.008	0.009	0.013					1378.18	
28	0.6727	1110.7	1130.3	0.367	3.600	77.181	17.544	1.128	0.046	0.106	0.008	0.010	0.011					1378.31	
29	0.6722	1110.4	1130.1	0.350	3.600	77.239	17.500	1.141	0.044	0.101	0.007	0.008	0.010					1385.04	
30	0.6774	1120.1	1140.0	0.366	3.471	76.379	18.336	1.259	0.048	0.110	0.008	0.010	0.013					1384.27	
31	0.6752	1117.7	1137.5	0.334	3.464	76.658	18.229	1.130	0.046	0.107	0.008	0.010	0.014					1381.68	
Avg	0.6736	1114.0	1134.0	0.354	3.489	77.008	17.802	1.188	0.042	0.091	0.006	0.007	0.014						

Zone 261

# GQ Source Daily Summary

## May 2010

**Number:** 091      **Pressure Base:** 14.730      **Contract Day:** 1  
**Name:** MINOT      **Temperature Base:**      **Contract Hour:** 9

Day	Heating Value		CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
	Relative Density	Wet																
1	0.7238	1165.8	1186.5	0.552	4.760	69.328	21.567	3.468	0.102	0.203	0.009	0.009	0.002	0.000	0.000	0.000	0.000	1394.54
2	0.7216	1162.4	1183.0	0.547	4.772	69.568	21.499	3.323	0.087	0.181	0.008	0.008	0.008	0.000	0.000	0.000	0.000	1392.55
3	0.7213	1162.3	1182.9	0.544	4.749	69.588	21.561	3.247	0.092	0.196	0.010	0.009	0.004	0.000	0.000	0.000	0.000	1392.80
4	0.7194	1159.7	1180.2	0.542	4.729	69.801	21.562	3.062	0.088	0.191	0.010	0.010	0.005	0.000	0.000	0.000	0.000	1391.53
5	0.7223	1162.3	1182.9	0.547	4.834	69.516	21.426	3.365	0.095	0.195	0.009	0.009	0.006	0.000	0.000	0.000	0.000	1391.85
6	0.7181	1157.2	1177.7	0.550	4.757	69.979	21.409	3.012	0.086	0.182	0.009	0.009	0.007	0.000	0.000	0.000	0.000	1389.70
7	0.7224	1163.1	1183.7	0.559	4.780	69.554	21.384	3.408	0.095	0.194	0.009	0.008	0.010	0.000	0.000	0.000	0.000	1392.69
8	0.7225	1164.5	1185.1	0.555	4.706	69.645	21.286	3.483	0.100	0.199	0.009	0.008	0.010	0.000	0.000	0.000	0.000	1394.30
9	0.7223	1162.8	1183.4	0.584	4.750	69.571	21.406	3.378	0.097	0.191	0.008	0.008	0.007	0.000	0.000	0.000	0.000	1392.40
10	0.7211	1160.8	1181.3	0.583	4.764	69.611	21.531	3.216	0.090	0.181	0.008	0.007	0.008	0.000	0.000	0.000	0.000	1391.14
11	0.7215	1162.3	1182.8	0.560	4.749	69.640	21.417	3.329	0.093	0.189	0.008	0.008	0.007	0.000	0.000	0.000	0.000	1392.51
12	0.7218	1163.0	1183.6	0.558	4.735	69.628	21.409	3.353	0.097	0.197	0.009	0.008	0.007	0.000	0.000	0.000	0.000	1393.09
13	0.7296	1173.6	1194.4	0.561	4.803	68.827	21.448	3.944	0.130	0.260	0.011	0.011	0.004	0.000	0.000	0.000	0.000	1398.37
14	0.7279	1169.4	1190.1	0.538	4.936	69.092	21.162	3.815	0.135	0.286	0.014	0.014	0.008	0.000	0.000	0.000	0.000	1394.97
15	0.7342	1175.4	1196.2	0.542	5.157	68.366	21.129	4.279	0.158	0.332	0.016	0.017	0.004	0.000	0.000	0.000	0.000	1396.06
16	0.7315	1172.1	1192.9	0.523	5.125	68.920	20.667	4.203	0.163	0.354	0.020	0.020	0.005	0.000	0.000	0.000	0.000	1394.79
17	0.7264	1165.6	1186.2	0.530	5.046	69.405	20.738	3.793	0.140	0.308	0.017	0.018	0.005	0.000	0.000	0.000	0.000	1391.76
18	0.7263	1165.7	1186.3	0.535	5.024	69.350	20.839	3.809	0.132	0.279	0.014	0.015	0.004	0.000	0.000	0.000	0.000	1391.98
19	0.7224	1160.2	1180.7	0.534	4.996	69.674	20.973	3.429	0.115	0.249	0.013	0.014	0.004	0.000	0.000	0.000	0.000	1389.15
20	0.7248	1161.1	1181.6	0.531	5.169	69.521	20.659	3.660	0.134	0.289	0.016	0.016	0.005	0.000	0.000	0.000	0.000	1387.93
21	0.7268	1164.4	1185.0	0.532	5.156	69.057	21.162	3.661	0.127	0.269	0.014	0.015	0.006	0.000	0.000	0.000	0.000	1389.97
22	0.7279	1164.7	1185.3	0.518	5.260	69.004	20.942	3.822	0.135	0.284	0.014	0.014	0.005	0.000	0.000	0.000	0.000	1389.26
23	0.7261	1164.5	1185.1	0.534	5.072	69.500	20.599	3.800	0.144	0.310	0.017	0.018	0.006	0.000	0.000	0.000	0.000	1390.83
24	0.7276	1167.5	1188.2	0.548	5.016	69.229	20.846	3.897	0.140	0.291	0.014	0.014	0.005	0.000	0.000	0.000	0.000	1392.88
25	0.7244	1162.6	1183.2	0.534	5.033	69.291	21.245	3.548	0.106	0.217	0.011	0.010	0.005	0.000	0.000	0.000	0.000	1390.19
26	0.7210	1159.2	1179.7	0.563	4.884	69.704	21.253	3.273	0.096	0.199	0.010	0.010	0.008	0.000	0.000	0.000	0.000	1389.32
27	0.7260	1165.0	1185.6	0.552	5.013	69.228	21.110	3.701	0.120	0.248	0.012	0.013	0.003	0.000	0.000	0.000	0.000	1391.44
28	0.7296	1168.6	1189.3	0.535	5.151	69.165	20.520	4.069	0.162	0.353	0.019	0.021	0.006	0.000	0.000	0.000	0.000	1392.36
29	0.7284	1167.9	1188.6	0.526	5.089	69.499	20.216	4.077	0.170	0.373	0.021	0.023	0.006	0.000	0.000	0.000	0.000	1392.69
30	0.7394	1188.4	1209.5	0.546	4.834	68.772	20.396	4.350	0.250	0.666	0.068	0.083	0.035	0.000	0.000	0.000	0.000	1406.52
31	0.7490	1201.2	1222.5	0.536	4.964	67.861	20.669	4.500	0.298	0.845	0.103	0.135	0.090	0.000	0.000	0.000	0.000	1412.59
Avg	0.7261	1167.0	1187.2	0.545	4.929	69.319	21.098	3.654	0.128	0.281	0.017	0.019	0.009	0.000	0.000	0.000	0.000	1393.30

Zone 262

## GQ Source Analysis

<b>GQ Source Number:</b>	2501030	<b>Specific Gravity:</b>	0.6467
<b>GQ Source Name:</b>	LIGNITE PLANT	<b>BTU Base:</b>	Dry
<b>Effective Date:</b>	5/1/2010 9:00:00 AM	<b>Measured Heat Value:</b>	1103.25
<b>Effective End Date:</b>	1/18/2038 9:14:07 PM	<b>Dry Heat Value:</b>	1102.23
<b>Pressure Base:</b>	14.730	<b>Wet Heat Value:</b>	1083.05
<b>Viscosity:</b>		<b>As Deliv. Heat Value:</b>	1102.23

		<u>Mol %</u>	<u>GPM</u>			<u>Mol %</u>
C1	Methane	81.298		CO2	Carbon Dioxide	0.141
C2	Ethane	14.984	0.000	N2	Nitrogen	3.162
C3	Propane	0.337	0.092	O2	Oxygen	0.000
IC4	Iso-Butane	0.001	0.000	HE	Helium	
NC4	N-Butane	0.001	0.000	H2	Hydrogen	
IC5	Iso-Pentane	0.001	0.000	H2S	Hydrogen Sulfide	
NC5	N-Pentane	0.001	0.001	AR	Argon	
C6	Hexane	0.060	0.028	CO	Carbon Monoxide	
C7	Heptane			H2O	Water	
C8	Octane					
C9	Nonane					
C10	Decane					
<b>Totals</b>			99.987 %	0.122 GPM		

**Sample Date:** 5/31/2010 12:00:00 AM  
**Sample Type:** Composite  
**Sample Tech:** sampler  
**Sample Remarks:**

**Analysis Remarks:**

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

Zone 263

# GQ Source Daily Summary

May 2010

Number: 043      Pressure Base: 14.730      Contract Day: 1

Name: BISMARCK-CLEVELAND      Temperature Base:      Contract Hour: 9

Day	Heating Value		CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
	Relative Density	Wet																
1	0.7229	1164.1	1184.7	0.561	4.758	69.499	21.461	3.400	0.095	0.195	0.010	0.010	0.011	0.000	0.000	0.000	0.000	1393.36
2	0.7223	1163.6	1184.2	0.557	4.732	69.543	21.517	3.343	0.089	0.188	0.010	0.009	0.011	0.000	0.000	0.000	0.000	1393.44
3	0.7200	1161.0	1181.6	0.551	4.696	69.789	21.524	3.122	0.088	0.196	0.011	0.011	0.011	0.000	0.000	0.000	0.000	1392.49
4	0.7192	1159.3	1179.8	0.553	4.722	69.861	21.517	3.036	0.085	0.190	0.011	0.011	0.013	0.000	0.000	0.000	0.000	1391.25
5	0.7212	1161.3	1181.9	0.557	4.779	69.714	21.337	3.295	0.092	0.193	0.010	0.010	0.012	0.000	0.000	0.000	0.000	1391.74
6	0.7181	1157.3	1177.8	0.560	4.731	70.056	21.321	3.029	0.085	0.186	0.010	0.010	0.011	0.000	0.000	0.000	0.000	1389.90
7	0.7222	1163.1	1183.7	0.570	4.744	69.606	21.395	3.362	0.095	0.196	0.010	0.010	0.012	0.000	0.000	0.000	0.000	1392.88
8	0.7199	1160.6	1181.1	0.576	4.672	70.045	21.067	3.321	0.095	0.193	0.010	0.010	0.012	0.000	0.000	0.000	0.000	1392.12
9	0.7205	1159.9	1180.4	0.599	4.744	69.881	21.173	3.284	0.097	0.194	0.010	0.009	0.011	0.000	0.000	0.000	0.000	1390.62
10	0.7195	1158.5	1179.0	0.588	4.743	70.022	21.098	3.238	0.093	0.188	0.009	0.009	0.011	0.000	0.000	0.000	0.000	1390.02
11	0.7205	1160.5	1181.0	0.566	4.749	69.904	21.128	3.336	0.094	0.193	0.009	0.009	0.011	0.000	0.000	0.000	0.000	1391.42
12	0.7225	1164.2	1184.9	0.574	4.698	69.734	21.169	3.461	0.111	0.221	0.011	0.011	0.011	0.000	0.000	0.000	0.000	1393.95
13	0.7286	1171.3	1192.0	0.557	4.862	68.999	21.300	3.830	0.134	0.278	0.014	0.014	0.012	0.000	0.000	0.000	0.000	1396.54
14	0.7293	1168.3	1188.9	0.540	5.140	69.276	20.396	4.089	0.159	0.346	0.019	0.020	0.015	0.000	0.000	0.000	0.000	1392.18
15	0.7291	1168.7	1189.4	0.536	5.098	69.335	20.379	4.091	0.157	0.348	0.020	0.021	0.017	0.000	0.000	0.000	0.000	1392.95
16	0.7251	1163.8	1184.4	0.543	5.013	69.688	20.503	3.766	0.136	0.298	0.017	0.018	0.018	0.000	0.000	0.000	0.000	1390.92
17	0.7243	1162.8	1183.4	0.545	4.999	69.620	20.768	3.630	0.125	0.266	0.015	0.015	0.017	0.000	0.000	0.000	0.000	1390.48
18	0.7211	1157.3	1177.8	0.548	5.028	70.113	20.419	3.443	0.125	0.272	0.016	0.017	0.019	0.000	0.000	0.000	0.000	1387.01
19	0.7223	1157.4	1177.9	0.535	5.155	69.862	20.534	3.462	0.124	0.276	0.016	0.017	0.018	0.000	0.000	0.000	0.000	1385.93
20	0.7265	1162.8	1183.4	0.547	5.194	69.250	20.860	3.699	0.126	0.273	0.016	0.017	0.018	0.000	0.000	0.000	0.000	1388.46
21	0.7264	1162.4	1183.0	0.532	5.237	69.240	20.863	3.657	0.132	0.289	0.016	0.017	0.016	0.000	0.000	0.000	0.000	1388.01
22	0.7238	1161.4	1182.0	0.552	5.021	69.869	20.397	3.683	0.140	0.286	0.016	0.017	0.020	0.000	0.000	0.000	0.000	1389.35
23	0.7271	1167.3	1187.9	0.561	4.964	69.362	20.785	3.852	0.140	0.289	0.015	0.015	0.016	0.000	0.000	0.000	0.000	1393.12
24	0.7248	1161.9	1182.5	0.549	5.086	69.614	20.579	3.735	0.132	0.265	0.014	0.014	0.013	0.000	0.000	0.000	0.000	1389.01
25	0.7199	1156.3	1176.8	0.556	4.961	69.915	21.012	3.222	0.098	0.203	0.011	0.011	0.011	0.000	0.000	0.000	0.000	1387.00
26	0.7215	1157.9	1178.4	0.569	5.001	70.003	20.507	3.528	0.117	0.236	0.013	0.014	0.012	0.000	0.000	0.000	0.000	1387.28
27	0.7264	1163.2	1183.8	0.560	5.142	69.794	19.966	3.966	0.173	0.341	0.020	0.021	0.015	0.000	0.000	0.000	0.000	1388.97
28	0.7236	1160.8	1181.4	0.547	5.043	70.427	19.427	3.952	0.182	0.358	0.022	0.024	0.018	0.000	0.000	0.000	0.000	1388.80
29	0.7272	1169.4	1190.1	0.548	4.853	70.016	19.933	3.902	0.188	0.452	0.038	0.044	0.024	0.000	0.000	0.000	0.000	1395.63
30	0.7482	1200.6	1221.9	0.549	4.912	67.989	20.647	4.428	0.292	0.849	0.104	0.133	0.097	0.000	0.000	0.000	0.000	1412.59
31	0.7475	1199.1	1220.3	0.556	4.925	67.928	20.837	4.357	0.276	0.795	0.096	0.124	0.107	0.000	0.000	0.000	0.000	1411.47
AVG	0.7249	1165.0	1185.3	0.556	4.916	69.611	20.833	3.597	0.132	0.292	0.020	0.022	0.020	0.000	0.000	0.000	0.000	1392.22

Zone 271

# GQ Source Daily Summary

May 2010

**Number:** 063      **Pressure Base:** 14.730      **Contract Day:** 1  
**Name:** CLEVELAND-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	0.7234	1165.8	1186.4	0.556	4.711	69.492	21.431	3.473	0.103	0.207	0.011	0.011	0.006	0.000	0.000	0.000	0.000	0.000	1394.91
2	0.7210	1161.2	1181.8	0.554	4.767	69.730	21.338	3.314	0.088	0.184	0.010	0.010	0.006	0.000	0.000	0.000	0.000	0.000	1391.76
3	0.7212	1162.2	1182.8	0.553	4.730	69.727	21.358	3.320	0.093	0.192	0.010	0.010	0.007	0.000	0.000	0.000	0.000	0.000	1392.73
4	0.7194	1159.9	1180.5	0.550	4.712	69.898	21.403	3.116	0.089	0.199	0.012	0.013	0.007	0.000	0.000	0.000	0.000	0.000	1391.73
5	0.7199	1159.7	1180.2	0.550	4.770	69.812	21.403	3.159	0.088	0.189	0.011	0.011	0.008	0.000	0.000	0.000	0.000	0.000	1391.00
6	0.7190	1158.8	1179.3	0.549	4.746	69.940	21.335	3.126	0.089	0.187	0.011	0.011	0.007	0.000	0.000	0.000	0.000	0.000	1390.77
7	0.7198	1159.7	1180.2	0.561	4.750	69.867	21.310	3.211	0.089	0.186	0.010	0.010	0.007	0.000	0.000	0.000	0.000	0.000	1391.03
8	0.7222	1163.4	1184.0	0.564	4.736	69.705	21.200	3.468	0.099	0.201	0.010	0.010	0.009	0.000	0.000	0.000	0.000	0.000	1393.27
9	0.7214	1162.4	1183.0	0.585	4.695	69.751	21.296	3.358	0.096	0.193	0.010	0.009	0.007	0.000	0.000	0.000	0.000	0.000	1392.76
10	0.7202	1160.0	1180.5	0.590	4.721	69.839	21.324	3.223	0.091	0.186	0.010	0.010	0.006	0.000	0.000	0.000	0.000	0.000	1391.05
11	0.7207	1161.6	1182.1	0.555	4.727	69.828	21.240	3.341	0.093	0.190	0.010	0.010	0.006	0.000	0.000	0.000	0.000	0.000	1392.44
12	0.7205	1161.2	1181.7	0.555	4.728	69.866	21.217	3.321	0.094	0.190	0.010	0.010	0.007	0.000	0.000	0.000	0.000	0.000	1392.20
13	0.7273	1171.1	1191.8	0.565	4.738	69.171	21.306	3.814	0.122	0.250	0.013	0.012	0.007	0.000	0.000	0.000	0.000	0.000	1397.58
14	0.7284	1169.6	1190.3	0.544	4.963	69.228	20.830	3.928	0.146	0.316	0.018	0.018	0.010	0.000	0.000	0.000	0.000	0.000	1394.70
15	0.7298	1169.4	1190.1	0.530	5.130	69.131	20.571	4.104	0.153	0.332	0.019	0.020	0.010	0.000	0.000	0.000	0.000	0.000	1393.08
16	0.7280	1167.9	1188.6	0.531	5.050	69.328	20.531	3.939	0.147	0.322	0.019	0.020	0.012	0.000	0.000	0.000	0.000	0.000	1393.04
17	0.7263	1165.6	1186.2	0.541	5.021	69.522	20.572	3.860	0.138	0.298	0.017	0.018	0.013	0.000	0.000	0.000	0.000	0.000	1391.89
18	0.7238	1162.5	1183.1	0.537	4.979	69.640	20.853	3.559	0.123	0.266	0.016	0.016	0.012	0.000	0.000	0.000	0.000	0.000	1390.64
19	0.7222	1158.6	1179.2	0.544	5.052	69.967	20.467	3.519	0.125	0.278	0.017	0.017	0.015	0.000	0.000	0.000	0.000	0.000	1387.57
20	0.7234	1159.1	1179.6	0.534	5.156	69.685	20.661	3.510	0.126	0.280	0.016	0.017	0.014	0.000	0.000	0.000	0.000	0.000	1386.91
21	0.7292	1166.6	1187.3	0.539	5.229	68.971	20.837	3.953	0.136	0.287	0.016	0.017	0.014	0.000	0.000	0.000	0.000	0.000	1390.38
22	0.7273	1165.0	1185.6	0.526	5.169	69.317	20.661	3.805	0.146	0.323	0.020	0.021	0.013	0.000	0.000	0.000	0.000	0.000	1390.29
23	0.7265	1166.5	1187.1	0.558	4.957	69.381	20.857	3.801	0.132	0.273	0.014	0.014	0.014	0.000	0.000	0.000	0.000	0.000	1392.79
24	0.7261	1165.0	1185.6	0.546	5.036	69.523	20.573	3.847	0.139	0.294	0.015	0.016	0.011	0.000	0.000	0.000	0.000	0.000	1391.29
25	0.7254	1163.7	1184.3	0.546	5.046	69.253	21.133	3.649	0.112	0.229	0.012	0.012	0.008	0.000	0.000	0.000	0.000	0.000	1390.50
26	0.7210	1159.1	1179.6	0.569	4.885	69.796	21.091	3.324	0.098	0.206	0.011	0.012	0.008	0.000	0.000	0.000	0.000	0.000	1389.16
27	0.7283	1167.9	1188.6	0.557	5.046	69.191	20.788	3.932	0.143	0.300	0.017	0.018	0.009	0.000	0.000	0.000	0.000	0.000	1392.71
28	0.7252	1162.2	1182.7	0.530	5.141	69.924	19.952	3.880	0.161	0.353	0.023	0.024	0.012	0.000	0.000	0.000	0.000	0.000	1388.84
29	0.7295	1170.8	1191.6	0.554	4.974	69.353	20.419	4.127	0.165	0.355	0.021	0.022	0.012	0.000	0.000	0.000	0.000	0.000	1395.13
30	0.7364	1185.2	1206.2	0.532	4.770	69.282	20.144	4.130	0.248	0.678	0.076	0.095	0.045	0.000	0.000	0.000	0.000	0.000	1405.62
31	0.7472	1199.0	1220.2	0.552	4.909	68.103	20.506	4.379	0.291	0.828	0.103	0.133	0.095	0.000	0.000	0.000	0.000	0.000	1411.65
AVG	0.7252	1165.0	1186.1	0.550	4.905	69.523	20.929	3.629	0.128	0.283	0.019	0.021	0.013	0.000	0.000	0.000	0.000	0.000	1392.88

Zone 272

# GQ Source Daily Summary

May 2010

Number: 061

Pressure Base: 14.730

Contract Day: 1

Name: CLEVELAND-GRAFTON

Temperature Base:

Contract Hour: 9

Day	Relative Density		Heating Value		CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
	Wet	Dry	Wet	Dry																
1	0.7240	1166.7	1187.3	0.556	4.712	69.391	21.511	3.488	0.104	0.209	0.011	0.011	0.011	0.006	0.000	0.000	0.000	0.000	0.000	1395.40
2	0.7212	1161.7	1182.3	0.554	4.760	69.679	21.400	3.310	0.088	0.184	0.010	0.010	0.010	0.006	0.000	0.000	0.000	0.000	0.000	1392.11
3	0.7214	1162.5	1183.1	0.553	4.728	69.684	21.408	3.315	0.092	0.192	0.010	0.010	0.010	0.007	0.000	0.000	0.000	0.000	0.000	1392.92
4	0.7196	1160.1	1180.7	0.549	4.718	69.860	21.439	3.113	0.089	0.199	0.013	0.013	0.013	0.008	0.000	0.000	0.000	0.000	0.000	1391.80
5	0.7202	1160.1	1180.6	0.550	4.773	69.757	21.446	3.166	0.089	0.190	0.011	0.011	0.011	0.008	0.000	0.000	0.000	0.000	0.000	1391.22
6	0.7191	1159.0	1179.6	0.546	4.744	69.923	21.354	3.128	0.089	0.188	0.011	0.011	0.011	0.007	0.000	0.000	0.000	0.000	0.000	1390.97
7	0.7199	1159.7	1180.3	0.561	4.749	69.859	21.318	3.211	0.089	0.186	0.010	0.010	0.010	0.007	0.000	0.000	0.000	0.000	0.000	1391.08
8	0.7223	1163.8	1184.5	0.558	4.732	69.680	21.224	3.477	0.099	0.201	0.010	0.010	0.010	0.009	0.000	0.000	0.000	0.000	0.000	1393.63
9	0.7216	1162.7	1183.3	0.587	4.691	69.705	21.348	3.352	0.096	0.194	0.010	0.010	0.010	0.007	0.000	0.000	0.000	0.000	0.000	1392.97
10	0.7206	1160.7	1181.2	0.590	4.715	69.771	21.386	3.235	0.091	0.186	0.010	0.010	0.010	0.006	0.000	0.000	0.000	0.000	0.000	1391.50
11	0.7211	1162.2	1182.8	0.559	4.720	69.786	21.302	3.328	0.094	0.192	0.010	0.010	0.010	0.007	0.000	0.000	0.000	0.000	0.000	1392.85
12	0.7209	1162.0	1182.6	0.552	4.741	69.127	21.344	3.823	0.123	0.251	0.013	0.013	0.013	0.007	0.000	0.000	0.000	0.000	0.000	1392.81
13	0.7275	1171.6	1192.4	0.558	4.956	69.177	20.883	3.928	0.146	0.316	0.018	0.018	0.018	0.010	0.000	0.000	0.000	0.000	0.000	1397.94
14	0.7286	1170.0	1190.8	0.548	5.134	69.124	20.587	4.093	0.153	0.333	0.019	0.019	0.019	0.010	0.000	0.000	0.000	0.000	0.000	1394.99
15	0.7297	1169.3	1190.0	0.552	5.053	69.324	20.632	3.937	0.148	0.323	0.019	0.020	0.020	0.012	0.000	0.000	0.000	0.000	0.000	1393.04
16	0.7280	1167.8	1188.5	0.532	5.024	69.557	20.555	3.837	0.137	0.299	0.018	0.018	0.018	0.013	0.000	0.000	0.000	0.000	0.000	1392.95
17	0.7261	1165.1	1185.7	0.541	4.979	69.634	20.860	3.554	0.123	0.268	0.015	0.015	0.015	0.013	0.000	0.000	0.000	0.000	0.000	1391.58
18	0.7238	1162.5	1183.1	0.538	5.051	69.940	20.475	3.520	0.129	0.299	0.016	0.016	0.016	0.014	0.000	0.000	0.000	0.000	0.000	1390.63
19	0.7225	1159.3	1179.8	0.539	5.209	69.436	20.599	3.836	0.112	0.231	0.013	0.013	0.013	0.013	0.000	0.000	0.000	0.000	0.000	1388.02
20	0.7254	1161.3	1181.8	0.539	5.235	69.160	20.804	3.840	0.123	0.257	0.014	0.014	0.014	0.013	0.000	0.000	0.000	0.000	0.000	1387.55
21	0.7272	1163.6	1184.2	0.537	5.167	69.320	20.661	3.802	0.123	0.257	0.014	0.014	0.014	0.014	0.000	0.000	0.000	0.000	0.000	1388.63
22	0.7273	1165.0	1185.6	0.526	4.960	69.413	20.833	3.787	0.133	0.274	0.014	0.014	0.014	0.013	0.000	0.000	0.000	0.000	0.000	1390.29
23	0.7263	1166.1	1186.8	0.558	5.039	69.510	20.584	3.845	0.140	0.294	0.015	0.015	0.015	0.014	0.000	0.000	0.000	0.000	0.000	1392.55
24	0.7262	1165.0	1185.6	0.546	5.049	69.196	21.164	3.672	0.113	0.229	0.012	0.012	0.012	0.011	0.000	0.000	0.000	0.000	0.000	1391.29
25	0.7258	1164.3	1184.9	0.546	4.884	69.735	21.140	3.341	0.098	0.204	0.012	0.012	0.012	0.008	0.000	0.000	0.000	0.000	0.000	1390.82
26	0.7214	1159.7	1180.2	0.568	5.047	69.156	20.815	3.935	0.145	0.304	0.017	0.017	0.017	0.008	0.000	0.000	0.000	0.000	0.000	1389.54
27	0.7286	1168.3	1189.0	0.555	5.143	69.895	19.944	3.911	0.161	0.356	0.022	0.024	0.024	0.009	0.000	0.000	0.000	0.000	0.000	1392.94
28	0.7255	1162.6	1183.1	0.533	4.983	69.375	20.325	4.192	0.162	0.353	0.020	0.021	0.021	0.012	0.000	0.000	0.000	0.000	0.000	1389.01
29	0.7296	1170.8	1191.6	0.557	4.767	69.247	20.182	4.132	0.248	0.677	0.076	0.094	0.094	0.044	0.000	0.000	0.000	0.000	0.000	1394.99
30	0.7365	1185.5	1206.5	0.533	4.916	68.170	20.547	4.385	0.290	0.825	0.102	0.131	0.131	0.090	0.000	0.000	0.000	0.000	0.000	1405.81
31	0.7467	1198.3	1219.5	0.545	4.906	69.495	20.948	3.640	0.127	0.282	0.019	0.020	0.020	0.013	0.000	0.000	0.000	0.000	0.000	1411.28
Avg	0.7253	1166.0	1186.4	0.550	4.906	69.495	20.948	3.640	0.127	0.282	0.019	0.020	0.020	0.013	0.000	0.000	0.000	0.000	0.000	1393.00

Zone 213

# GQ Source Daily Summary

May 2010

Number: 041

Pressure Base: 14.730

Contract Day: 1

Name: BISMARCK-DICKINSON

Temperature Base:

Contract Hour: 9

Day	Relative Density		Heating Value		CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT	
	Wet	Dry	Wet	Dry																	
1	0.7236	1164.9	1185.6	1185.6	0.564	4.765	69.432	21.461	3.444	0.099	0.203	0.010	0.010	0.011	0.000	0.000	0.000	0.000	0.000	1393.76	
2	0.7208	1161.4	1181.9	1181.9	0.564	4.720	69.924	21.084	3.388	0.094	0.195	0.010	0.010	0.011	0.000	0.000	0.000	0.000	0.000	1392.16	
3	0.7095	1146.5	1166.8	1166.8	0.566	4.572	71.702	19.959	2.906	0.082	0.180	0.010	0.010	0.011	0.000	0.000	0.000	0.000	0.000	1385.13	
4	0.7189	1158.9	1179.5	1179.5	0.552	4.724	69.916	21.452	3.043	0.086	0.191	0.011	0.012	0.013	0.000	0.000	0.000	0.000	0.000	1391.02	
5	0.6330	1048.2	1066.8	1066.8	0.662	3.216	85.651	9.099	1.245	0.036	0.073	0.005	0.004	0.007	0.000	0.000	0.000	0.000	0.000	1340.87	
6	0.6366	1056.2	1074.9	1074.9	0.667	3.068	84.613	10.571	0.985	0.027	0.057	0.004	0.003	0.005	0.000	0.000	0.000	0.000	0.000	1347.17	
7	0.6283	1039.1	1057.5	1057.5	0.785	3.150	86.385	8.620	0.966	0.027	0.055	0.003	0.003	0.011	0.000	0.000	0.000	0.000	0.000	1334.10	
8	0.7026	1138.3	1158.5	1158.5	0.619	4.345	73.134	18.741	2.885	0.082	0.167	0.009	0.008	0.011	0.000	0.000	0.000	0.000	0.000	1381.93	
9	0.7205	1159.7	1180.2	1180.2	0.598	4.754	69.896	21.136	3.297	0.096	0.193	0.010	0.010	0.011	0.000	0.000	0.000	0.000	0.000	1390.41	
10	0.7200	1159.2	1179.8	1179.8	0.588	4.747	69.972	21.091	3.293	0.093	0.187	0.009	0.009	0.011	0.000	0.000	0.000	0.000	0.000	1390.39	
11	0.7209	1161.1	1181.7	1181.7	0.565	4.750	69.821	21.214	3.333	0.094	0.193	0.010	0.009	0.011	0.000	0.000	0.000	0.000	0.000	1391.78	
12	0.7226	1164.3	1185.0	1185.0	0.573	4.704	69.760	21.083	3.518	0.109	0.220	0.011	0.011	0.011	0.000	0.000	0.000	0.000	0.000	1393.96	
13	0.7282	1170.8	1191.5	1191.5	0.558	4.857	69.065	21.247	3.828	0.133	0.272	0.014	0.014	0.012	0.000	0.000	0.000	0.000	0.000	1396.26	
14	0.7291	1167.9	1188.5	1188.5	0.540	5.140	69.312	20.381	4.066	0.159	0.347	0.019	0.020	0.015	0.000	0.000	0.000	0.000	0.000	1391.97	
15	0.7293	1169.0	1189.7	1189.7	0.536	5.096	69.332	20.362	4.102	0.159	0.354	0.020	0.021	0.017	0.000	0.000	0.000	0.000	0.000	1393.10	
16	0.7253	1164.0	1184.6	1184.6	0.544	5.014	69.655	20.546	3.754	0.137	0.299	0.017	0.018	0.018	0.000	0.000	0.000	0.000	0.000	1391.02	
17	0.7243	1162.7	1183.3	1183.3	0.545	5.005	69.627	20.753	3.628	0.126	0.269	0.015	0.015	0.017	0.000	0.000	0.000	0.000	0.000	1390.32	
18	0.7210	1157.1	1177.5	1177.5	0.547	5.031	70.147	20.378	3.450	0.124	0.271	0.016	0.016	0.019	0.000	0.000	0.000	0.000	0.000	1386.82	
19	0.7222	1157.3	1177.8	1177.8	0.535	5.157	69.865	20.537	3.454	0.124	0.275	0.016	0.017	0.019	0.000	0.000	0.000	0.000	0.000	1389.09	
20	0.7269	1163.7	1184.3	1184.3	0.547	5.180	69.178	20.938	3.708	0.125	0.274	0.016	0.017	0.018	0.000	0.000	0.000	0.000	0.000	1389.09	
21	0.7265	1162.6	1183.1	1183.1	0.532	5.238	69.208	20.901	3.655	0.130	0.288	0.016	0.016	0.016	0.000	0.000	0.000	0.000	0.000	1388.09	
22	0.7244	1162.4	1182.9	1182.9	0.550	5.027	69.803	20.401	3.735	0.139	0.291	0.016	0.015	0.020	0.000	0.000	0.000	0.000	0.000	1389.84	
23	0.7279	1168.5	1189.2	1189.2	0.561	4.958	69.232	20.904	3.867	0.140	0.292	0.015	0.015	0.016	0.000	0.000	0.000	0.000	0.000	1393.88	
24	0.7256	1163.5	1184.1	1184.1	0.548	5.072	69.472	20.714	3.752	0.130	0.271	0.014	0.014	0.013	0.000	0.000	0.000	0.000	0.000	1390.07	
25	0.7207	1157.9	1178.5	1178.5	0.555	4.948	69.743	21.192	3.225	0.098	0.206	0.011	0.011	0.011	0.000	0.000	0.000	0.000	0.000	1388.11	
26	0.7233	1161.2	1181.7	1181.7	0.565	4.969	69.675	20.847	3.555	0.112	0.237	0.013	0.013	0.012	0.000	0.000	0.000	0.000	0.000	1389.53	
27	0.7285	1166.8	1187.5	1187.5	0.554	5.129	69.433	20.270	4.045	0.163	0.349	0.020	0.021	0.015	0.000	0.000	0.000	0.000	0.000	1391.27	
28	0.7260	1164.9	1185.6	1185.6	0.542	5.026	70.018	19.784	4.025	0.174	0.368	0.022	0.024	0.018	0.000	0.000	0.000	0.000	0.000	1391.41	
29	0.7278	1170.7	1191.4	1191.4	0.547	4.834	69.845	20.148	3.896	0.184	0.445	0.037	0.042	0.022	0.000	0.000	0.000	0.000	0.000	1396.58	
30	0.7485	1200.9	1222.1	1222.1	0.549	4.924	67.932	20.687	4.436	0.292	0.849	0.104	0.133	0.095	0.000	0.000	0.000	0.000	0.000	1412.60	
31	0.7476	1199.3	1220.6	1220.6	0.556	4.922	67.941	20.803	4.367	0.279	0.801	0.097	0.126	0.106	0.000	0.000	0.000	0.000	0.000	1411.63	
AVG	0.7158	1153.0	1173.6	1173.6	0.571	4.743	71.248	19.591	3.382	0.124	0.280	0.019	0.022	0.019	0.000	0.000	0.000	0.000	0.000	1387.10	

Zone 28

# GQ Source Daily Summary

## May 2010

**Number:** 271      **Pressure Base:** 14.730      **Contract Day:** 1  
**Name:** DICKINSON AREA      **Temperature Base:**      **Contract Hour:** 9

Day	Relative Density	Heating Value		CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
		Wet	Dry																
1	0.5890	994.8	1012.4	0.726	2.227	93.460	3.475	0.112	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1319.14
2	0.5973	1008.1	1026.0	0.700	2.239	91.787	5.101	0.169	0.001	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1327.50
3	0.5982	1001.5	1019.3	0.832	2.528	91.650	4.849	0.141	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1317.80
4	0.6225	1046.7	1065.2	0.560	2.480	86.520	10.189	0.252	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1349.59
5	0.5935	992.7	1010.3	0.863	2.572	92.602	3.867	0.096	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1311.40
6	0.5922	993.8	1011.4	0.874	2.371	92.904	3.755	0.097	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1314.23
7	0.5903	978.5	995.8	1.044	2.862	93.363	2.667	0.064	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1296.12
8	0.5904	976.1	993.4	1.083	2.965	93.334	2.568	0.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1292.78
9	0.6103	1016.8	1034.8	0.804	2.779	89.110	7.168	0.139	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1324.27
10	0.6326	1061.2	1080.0	0.499	2.640	84.357	12.260	0.244	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1357.68
11	0.6490	1093.7	1113.0	0.292	2.524	80.874	16.004	0.306	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1380.88
12	0.6263	1048.1	1066.6	0.596	2.698	85.724	10.758	0.225	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1347.17
13	0.6034	1011.8	1029.8	0.766	2.488	90.532	6.069	0.144	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1325.67
14	0.6120	1027.2	1045.4	0.679	2.493	88.719	7.926	0.183	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1336.33
15	0.6380	1079.5	1098.6	0.381	2.207	83.417	13.576	0.393	0.010	0.014	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1375.16
16	0.6134	1037.3	1055.7	0.659	2.033	88.706	8.245	0.322	0.015	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1347.95
17	0.6153	1042.3	1060.7	0.591	2.022	88.197	8.856	0.318	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1352.21
18	0.6337	1062.6	1081.4	0.588	2.517	85.102	10.782	0.917	0.032	0.061	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1358.62
19	0.7186	1154.2	1174.6	0.539	4.995	70.221	20.570	3.322	0.108	0.239	0.000	0.000	0.005	0.000	0.000	0.000	0.000	0.000	1385.59
20	0.7083	1149.9	1170.2	0.422	4.463	71.657	20.385	2.776	0.090	0.202	0.000	0.000	0.006	0.000	0.000	0.000	0.000	0.000	1390.61
21	0.6748	1111.9	1131.6	0.477	3.548	77.517	16.438	1.841	0.056	0.122	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1377.22
22	0.5914	997.4	1015.1	0.872	2.077	93.115	3.828	0.108	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1319.94
23	0.6987	1136.9	1157.1	0.460	4.295	73.567	18.688	2.703	0.090	0.196	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1384.44
24	0.7232	1159.2	1179.8	0.534	5.120	69.997	20.078	3.789	0.146	0.323	0.004	0.000	0.009	0.000	0.000	0.000	0.000	0.000	1387.26
25	0.7217	1158.2	1178.7	0.553	5.008	70.050	20.329	3.665	0.125	0.263	0.000	0.000	0.007	0.000	0.000	0.000	0.000	0.000	1387.55
26	0.7038	1153.3	1173.7	0.317	4.000	72.198	20.717	2.490	0.086	0.188	0.000	0.000	0.004	0.000	0.000	0.000	0.000	0.000	1399.15
27	0.6433	1069.3	1088.3	0.659	2.898	83.554	11.523	1.234	0.045	0.087	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1356.66
28	0.5978	998.5	1016.2	0.951	2.492	91.891	4.497	0.160	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1314.29
29	0.5897	976.6	993.9	1.021	2.965	93.430	2.522	0.063	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1294.17
30	0.5923	978.5	995.8	1.126	2.930	93.009	2.867	0.067	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1293.92
31	0.5922	977.8	995.2	1.096	3.008	92.985	2.847	0.064	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1293.15
AVG	0.6311	1048.0	1066.8	0.696	2.982	85.598	9.787	0.853	0.026	0.056	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1342.53

Zone 31

# GQ Source Daily Summary

May 2010

Number: 051

Pressure Base: 14,730

Contract Day: 1

Name: CABIN CR-DICKINSON

Temperature Base:

Contract Hour: 9

Day	Relative Density		Heating Value		CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
	Wet	Dry	Wet	Dry																
1	0.5888	986.4	1003.9		1.320	1.827	94.586	1.852	0.318	0.045	0.032	0.009	0.004	0.007	0.000	0.000	0.000	0.000	1308.17	
2	0.5850	977.1	994.4		1.205	2.204	95.030	1.288	0.208	0.029	0.022	0.006	0.003	0.005	0.000	0.000	0.000	0.000	1300.15	
3	0.5824	972.9	990.1		1.114	2.356	95.339	0.998	0.146	0.021	0.015	0.004	0.002	0.004	0.000	0.000	0.000	0.000	1297.41	
4	0.5965	1005.6	1023.4		1.393	1.258	93.630	2.962	0.572	0.090	0.061	0.016	0.008	0.011	0.000	0.000	0.000	0.000	1325.13	
5	0.5973	1006.7	1024.5		1.427	1.218	93.539	3.032	0.591	0.093	0.064	0.017	0.008	0.012	0.000	0.000	0.000	0.000	1325.65	
6	0.5817	960.2	977.2		1.213	2.921	95.367	0.398	0.073	0.012	0.009	0.003	0.001	0.003	0.000	0.000	0.000	0.000	1281.21	
7	0.5800	955.1	972.0		1.207	3.079	95.595	0.096	0.013	0.003	0.037	0.010	0.000	0.003	0.000	0.000	0.000	0.000	1276.35	
8	0.5882	990.2	1007.7		1.171	1.765	94.598	2.038	0.322	0.045	0.037	0.010	0.005	0.008	0.000	0.000	0.000	0.000	1313.83	
9	0.5890	994.2	1011.8		1.103	1.697	94.474	2.232	0.368	0.052	0.046	0.012	0.007	0.010	0.000	0.000	0.000	0.000	1318.36	
10	0.5862	991.5	1009.1		1.041	1.690	94.849	2.035	0.289	0.036	0.037	0.009	0.006	0.008	0.000	0.000	0.000	0.000	1317.93	
11	0.5879	993.8	1011.4		1.070	1.669	94.613	2.197	0.339	0.043	0.044	0.011	0.007	0.009	0.000	0.000	0.000	0.000	1319.04	
12	0.5902	996.1	1013.7		1.144	1.636	94.294	2.409	0.391	0.050	0.048	0.012	0.007	0.009	0.000	0.000	0.000	0.000	1319.50	
13	0.5862	992.9	1010.4		1.034	1.628	94.773	2.222	0.257	0.032	0.033	0.008	0.005	0.007	0.000	0.000	0.000	0.000	1319.70	
14	0.5850	991.4	1009.0		0.950	1.723	94.936	2.054	0.249	0.029	0.037	0.009	0.006	0.008	0.000	0.000	0.000	0.000	1319.25	
15	0.5816	986.1	1003.6		0.911	1.791	95.431	1.641	0.168	0.019	0.024	0.006	0.004	0.006	0.000	0.000	0.000	0.000	1315.95	
16	0.5806	985.7	1003.1		0.895	1.747	95.536	1.658	0.125	0.012	0.016	0.004	0.003	0.004	0.000	0.000	0.000	0.000	1316.51	
17	0.5784	982.6	1000.2		0.869	1.766	95.834	1.455	0.067	0.003	0.004	0.001	0.000	0.001	0.000	0.000	0.000	0.000	1314.92	
18	0.5800	984.8	1000.0		0.891	1.757	95.624	1.577	0.117	0.011	0.014	0.003	0.002	0.004	0.000	0.000	0.000	0.000	1315.94	
19	0.6197	1048.9	1067.5		0.572	2.069	87.360	9.630	0.325	0.014	0.019	0.004	0.003	0.004	0.000	0.000	0.000	0.000	1355.94	
20	0.5936	1001.4	1019.1		0.868	2.057	92.781	4.125	0.147	0.007	0.010	0.002	0.001	0.002	0.000	0.000	0.000	0.000	1322.53	
21	0.5792	977.8	995.1		0.951	2.011	95.735	1.214	0.070	0.006	0.007	0.002	0.001	0.002	0.000	0.000	0.000	0.000	1307.56	
22	0.5846	985.7	1003.2		1.002	1.957	95.033	1.661	0.259	0.030	0.037	0.008	0.006	0.007	0.000	0.000	0.000	0.000	1312.07	
23	0.5855	988.4	1005.9		0.923	1.999	94.644	2.181	0.192	0.020	0.026	0.006	0.004	0.006	0.000	0.000	0.000	0.000	1314.57	
24	0.5939	1004.2	1021.9		0.886	1.881	93.680	2.729	0.603	0.073	0.093	0.021	0.016	0.018	0.000	0.000	0.000	0.000	1326.06	
25	0.6346	1059.7	1078.4		0.688	2.630	85.572	9.700	1.208	0.062	0.108	0.012	0.009	0.009	0.000	0.000	0.000	0.000	1353.43	
26	0.6096	1021.3	1039.4		0.894	2.301	90.247	5.756	0.683	0.037	0.061	0.008	0.006	0.007	0.000	0.000	0.000	0.000	1330.98	
27	0.5799	958.5	975.5		1.180	2.913	95.617	0.250	0.027	0.004	0.005	0.002	0.000	0.003	0.000	0.000	0.000	0.000	1280.95	
28	0.5789	955.8	972.7		1.144	3.038	95.736	0.067	0.008	0.002	0.003	0.001	0.000	0.002	0.000	0.000	0.000	0.000	1278.43	
29	0.5803	954.4	971.3		1.276	3.056	95.577	0.072	0.010	0.002	0.002	0.001	0.000	0.003	0.000	0.000	0.000	0.000	1275.03	
30	0.5797	955.0	971.9		1.217	3.043	95.656	0.068	0.008	0.002	0.002	0.001	0.000	0.002	0.000	0.000	0.000	0.000	1276.60	
31	0.5800	958.6	975.6		1.183	2.904	95.610	0.261	0.029	0.004	0.005	0.001	0.001	0.002	0.000	0.000	0.000	0.000	1281.07	
AVG	0.5885	988.0	1005.3		1.056	2.116	94.235	2.253	0.264	0.029	0.030	0.007	0.004	0.006	0.000	0.000	0.000	0.000	1310.33	

Zone 32

# GQ Source Daily Summary

May 2010

Number: 111      Pressure Base: 14.730      Contract Day: 1

Name: LITTLE KNIFE PLANT      Temperature Base:      Contract Hour: 9

Day	Relative Density	Heating Value		CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
		Wet	Dry																
1	0.6801	1151.4	1171.8	0.000	2.384	74.549	22.487	0.564	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.87
2	0.6791	1150.1	1170.5	0.000	2.368	74.682	22.445	0.492	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.32
3	0.6773	1147.9	1168.2	0.000	2.335	75.024	22.161	0.465	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.46
4	0.6773	1147.8	1168.1	0.000	2.335	75.024	22.180	0.446	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.41
5	0.6764	1146.2	1166.5	0.000	2.354	75.204	21.971	0.457	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.28
6	0.6757	1145.3	1165.6	0.000	2.343	75.299	21.933	0.410	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.90
7	0.6761	1145.8	1166.0	0.000	2.348	75.224	22.006	0.408	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.12
8	0.6753	1144.4	1164.7	0.000	2.358	75.374	21.846	0.408	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.28
9	0.6768	1146.8	1167.1	0.000	2.351	75.094	22.119	0.422	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.67
10	0.6757	1145.4	1165.7	0.000	2.336	75.341	21.855	0.453	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.07
11	0.6758	1145.2	1165.4	0.000	2.355	75.338	21.834	0.458	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.70
12	0.6777	1148.4	1168.7	0.000	2.344	74.958	22.208	0.475	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.61
13	0.6791	1150.2	1170.6	0.000	2.361	74.690	22.443	0.492	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.46
14	0.6799	1150.5	1170.8	0.000	2.421	74.530	22.528	0.507	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.94
15	0.6797	1150.3	1170.7	0.000	2.412	74.587	22.464	0.522	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.95
16	0.6817	1152.8	1173.2	0.000	2.444	74.261	22.683	0.598	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.96
17	0.6805	1152.2	1172.6	0.000	2.373	74.475	22.569	0.566	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.43
18	0.6786	1149.5	1169.9	0.000	2.358	74.815	22.291	0.519	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.10
19	0.6788	1149.3	1169.7	0.000	2.384	74.790	22.278	0.532	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.71
20	0.6787	1149.0	1169.3	0.000	2.398	74.806	22.252	0.529	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.35
21	0.6792	1150.4	1170.8	0.000	2.354	74.687	22.443	0.502	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.67
22	0.6795	1151.0	1171.3	0.000	2.354	74.622	22.504	0.506	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.95
23	0.6800	1151.1	1171.5	0.000	2.390	74.512	22.578	0.506	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.65
24	0.6780	1148.9	1169.3	0.000	2.334	74.914	22.253	0.483	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.04
25	0.6783	1149.5	1169.9	0.000	2.329	74.854	22.311	0.491	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.44
26	0.6797	1150.9	1171.3	0.000	2.371	74.615	22.469	0.530	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.73
27	0.6785	1149.5	1169.8	0.000	2.346	74.871	22.225	0.542	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.22
28	0.6777	1148.5	1168.8	0.000	2.335	75.000	22.135	0.514	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.80
29	0.6791	1149.9	1170.3	0.000	2.379	74.684	22.431	0.492	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.12
30	0.6793	1150.1	1170.4	0.000	2.388	74.656	22.439	0.503	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.08
31	0.6795	1150.2	1170.5	0.000	2.399	74.639	22.425	0.521	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.01
Avg	0.6784	1149.0	1169.3	0.000	2.366	74.842	22.283	0.494	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.72

Zone 33

# GQ Source Daily Summary

May 2010

**Number:** 331

**Pressure Base:** 14.730

**Contract Day:** 1

**Name:** MARMARTH 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	0.8056	1154.0	1174.4	1.983	11.009	53.403	29.588	3.608	0.089	0.275	0.012	0.030	0.003	0.000	0.000	0.000	0.000	0.000	1308.46
2	0.8005	1140.0	1160.2	2.015	11.342	54.175	28.706	3.340	0.090	0.283	0.012	0.033	0.004	0.000	0.000	0.000	0.000	0.000	1296.66
3	0.8021	1142.6	1162.9	2.077	11.235	53.786	29.249	3.260	0.085	0.264	0.011	0.029	0.004	0.000	0.000	0.000	0.000	0.000	1298.40
4	0.8053	1146.5	1166.8	2.183	11.135	53.331	29.621	3.334	0.086	0.266	0.011	0.029	0.003	0.000	0.000	0.000	0.000	0.000	1300.26
5	0.8049	1147.0	1167.3	2.139	11.141	53.373	29.627	3.312	0.088	0.275	0.012	0.030	0.004	0.000	0.000	0.000	0.000	0.000	1301.07
6	0.8020	1146.1	1166.4	1.991	11.149	53.738	29.479	3.265	0.084	0.261	0.011	0.029	0.003	0.000	0.000	0.000	0.000	0.000	1302.38
7	0.8012	1141.2	1161.4	2.033	11.300	53.906	29.124	3.252	0.083	0.258	0.011	0.029	0.003	0.000	0.000	0.000	0.000	0.000	1297.53
8	0.8025	1142.8	1163.0	2.058	11.292	53.629	29.409	3.233	0.082	0.256	0.011	0.028	0.004	0.000	0.000	0.000	0.000	0.000	1298.26
9	0.8010	1141.0	1161.2	1.991	11.355	53.865	29.179	3.228	0.082	0.256	0.011	0.029	0.004	0.000	0.000	0.000	0.000	0.000	1297.51
10	0.7996	1138.1	1158.3	1.964	11.447	54.003	29.048	3.173	0.079	0.244	0.010	0.027	0.004	0.000	0.000	0.000	0.000	0.000	1295.30
11	0.8012	1141.3	1161.5	2.020	11.319	53.788	29.302	3.202	0.080	0.248	0.010	0.027	0.004	0.000	0.000	0.000	0.000	0.000	1297.61
12	0.7993	1136.5	1156.6	2.028	11.426	54.072	28.976	3.149	0.076	0.234	0.010	0.026	0.003	0.000	0.000	0.000	0.000	0.000	1293.63
13	0.7986	1137.9	1158.1	1.976	11.345	54.167	29.077	3.052	0.082	0.257	0.011	0.029	0.004	0.000	0.000	0.000	0.000	0.000	1295.91
14	0.7961	1133.1	1153.1	1.955	11.438	54.470	28.864	2.898	0.080	0.251	0.011	0.029	0.004	0.000	0.000	0.000	0.000	0.000	1292.41
15	0.7951	1131.1	1151.2	1.946	11.477	54.639	28.679	2.886	0.080	0.249	0.010	0.028	0.005	0.000	0.000	0.000	0.000	0.000	1291.00
16	0.7953	1131.0	1151.0	1.980	11.454	54.597	28.744	2.856	0.079	0.247	0.010	0.028	0.004	0.000	0.000	0.000	0.000	0.000	1290.66
17	0.7964	1134.9	1155.0	1.986	11.313	54.422	29.027	2.881	0.080	0.248	0.010	0.028	0.004	0.000	0.000	0.000	0.000	0.000	1294.20
18	0.7956	1132.0	1152.0	1.980	11.424	54.590	28.686	2.990	0.072	0.220	0.009	0.025	0.004	0.000	0.000	0.000	0.000	0.000	1291.53
19	0.7948	1135.4	1155.6	1.908	11.241	54.684	28.887	2.952	0.072	0.218	0.009	0.025	0.004	0.000	0.000	0.000	0.000	0.000	1296.21
20	0.8028	1146.8	1167.1	2.129	10.965	53.577	29.798	3.179	0.078	0.237	0.010	0.025	0.003	0.000	0.000	0.000	0.000	0.000	1302.66
21	0.8015	1145.1	1165.4	2.120	10.962	53.835	29.547	3.184	0.077	0.236	0.010	0.026	0.003	0.000	0.000	0.000	0.000	0.000	1301.75
22	0.8041	1149.7	1170.0	2.139	10.901	53.460	29.861	3.266	0.082	0.251	0.011	0.027	0.003	0.000	0.000	0.000	0.000	0.000	1304.79
23	0.8037	1149.0	1169.3	2.128	10.919	53.470	29.892	3.228	0.079	0.244	0.010	0.027	0.003	0.000	0.000	0.000	0.000	0.000	1304.37
24	0.7954	1137.0	1157.1	1.887	11.237	54.449	29.273	2.791	0.077	0.242	0.011	0.029	0.004	0.000	0.000	0.000	0.000	0.000	1297.47
25	0.8005	1156.9	1177.4	1.789	10.658	53.480	30.850	2.843	0.082	0.254	0.011	0.029	0.005	0.000	0.000	0.000	0.000	0.000	1315.92
26	0.8024	1151.2	1171.6	2.013	10.832	53.710	29.870	3.144	0.091	0.288	0.013	0.034	0.005	0.000	0.000	0.000	0.000	0.000	1308.01
27	0.8002	1140.3	1160.5	2.217	10.985	54.058	29.361	3.012	0.079	0.247	0.011	0.028	0.004	0.000	0.000	0.000	0.000	0.000	1297.36
28	0.7974	1141.0	1161.2	2.015	10.987	54.149	29.721	2.796	0.072	0.223	0.010	0.026	0.003	0.000	0.000	0.000	0.000	0.000	1300.43
29	0.7969	1140.3	1160.5	1.957	11.073	54.231	29.576	2.807	0.077	0.238	0.010	0.028	0.004	0.000	0.000	0.000	0.000	0.000	1300.06
30	0.7987	1142.2	1162.4	1.986	11.080	54.200	29.301	3.045	0.083	0.260	0.011	0.030	0.004	0.000	0.000	0.000	0.000	0.000	1300.72
31	0.7974	1139.1	1159.3	2.001	11.129	54.263	29.355	2.881	0.079	0.248	0.011	0.029	0.004	0.000	0.000	0.000	0.000	0.000	1298.20
Avg	0.7999	1142.0	1161.9	2.019	11.180	53.984	29.344	3.098	0.081	0.251	0.011	0.028	0.004	0.000	0.000	0.000	0.000	0.000	1299.06

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

Zone 34

## GQ Source Analysis

<b>GQ Source Number:</b>	1201140	<b>Specific Gravity:</b>	0.5730
<b>GQ Source Name:</b>	EAGLE 8B ND	<b>BTU Base:</b>	Dry
<b>Effective Date:</b>	6/19/2009 9:00:00 AM	<b>Measured Heat Value:</b>	977.81
<b>Effective End Date:</b>	1/18/2038 9:14:07 PM	<b>Dry Heat Value:</b>	977.72
<b>Pressure Base:</b>	14.730	<b>Wet Heat Value:</b>	960.70
<b>Viscosity:</b>		<b>As Deliv. Heat Value:</b>	977.72

		<u>Mol %</u>	<u>GPM</u>			<u>Mol %</u>
C1	Methane	95.826		CO2	Carbon Dioxide	0.096
C2	Ethane	0.305		N2	Nitrogen	3.757
C3	Propane	0.009	0.002	O2	Oxygen	0.000
IC4	Iso-Butane	0.007	0.002	HE	Helium	
NC4	N-Butane	0.000	0.000	H2	Hydrogen	
IC5	Iso-Pentane	0.000	0.000	H2S	Hydrogen Sulfide	
NC5	N-Pentane	0.000	0.000	AR	Argon	
C6	Hexane	0.000	0.000	CO	Carbon Monoxide	
C7	Heptane			H2O	Water	
C8	Octane					
C9	Nonane					
C10	Decane					

**Totals**      100.000%      0.005 GPM

**Sample Date:** 6/12/2009 12:00:00 AM  
**Sample Type:** Spot  
**Sample Tech:** MG  
**Sample Remarks:**

**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	Monthly Sampler	Williston Area
25	Monthly Sampler	Watford City Area
261	Chromatograph	Williston – Tioga – Minot Line
262	Chromatograph	Minot Area
263	Monthly Sampler	Tioga – Portal
264	Monthly Sampler	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	MAY 10	APR 10	MAR 10	FEB 10	JAN 10	DEC 09	NOV 09	OCT 09	SEPT 09	AUG 09	JULY 09	JUNE 09	ZONE
MT/ND	211	Sidney Area	1183	1199	1197	1193	1132	1155	1152	1191	1187	1192	1195	1202	1203	21
ND	24	Williston Area	1180	1186	1192	1200	1161	1176	1173	1193	1182	1181	1175	1143	1196	24
ND	25	Watford City Area	1129	1132	1128	1132	1125	1132	1131	1129	1121	1123	1130	1125	1134	25
ND	261	Williston - Tioga - Minot Line	1141	1134	1150	1156	1144	1141	1142	1140	1160	1138	1129	1126	1131	261
ND	262	Minot Area	1169	1187	1184	1175	1164	1163	1163	1165	1174	1168	1165	1165	1157	262
ND	263	Tioga - Portal	1111	1102	1110	1090	1078	1073	1090	1113	1126	1138	1141	1141	1127	263
ND	264	Williston - Ray	1180	1186	1192	1200	1161	1176	1173	1193	1182	1181	1175	1143	1196	264
ND	271	Bismarck - Cleveland	1158	1185	1183	1164	1117	1135	1128	1163	1174	1166	1162	1160	1155	271
ND	272	Cleveland - Mapleton	1158	1186	1182	1163	1115	1134	1128	1163	1174	1167	1163	1162	1156	272
ND	273	Cleveland - Grafton	1158	1186	1182	1163	1116	1135	1128	1164	1173	1167	1163	1162	1156	273
ND	28	Bismarck - Cabin Creek	1113	1174	1178	1055	1023	1025	1018	1094	1141	1166	1163	1162	1155	28
ND	31	Dickinson Area	1036	1066	1033	1029	1021	1017	1019	994	1024	1140	1052	998	1044	31
ND/MT	32	Cabin Creek - Dickinson	1020	1005	996	1022	1019	1015	1017	989	994	1140	1040	980	1018	32
ND	33	Killdeer	1162	1169	1168	1169	1163	1160	1158	1158	1159	1158	1160	1164	1161	33
ND	34	Bowman Area	1166	1162	1170	1169	1172	1161	1150	1169	1174	1174	1172	1170	1148	34
ND	35	Baker Field - North Dakota	978	978	978	978	978	978	978	978	978	978	978	978	978	35

<b>THERMAL ZONE VARIANCE DOCUMENTATION</b>		
<b>May 2010</b>		
<b><i>ZONE</i></b>	<b><i>BTU VARIANCE</i></b>	<b><i>REASON</i></b>
31	33	Higher BTU gas coming from the East via the North receipt points