



# MONTANA-DAKOTA

UTILITIES CO.

A Division of MDU Resources Group, Inc.

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

June 5, 2008

RECEIVED

JUN 06 2008

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 – April 2008

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 May 2008.
2. Attachment B consists of copies of the monthly Heating Value Test Reports received from our supplier for the month of April 2008. 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 April.

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

5 PU-08-2 Filed: 6/6/2008 Pages: 22  
April 2008 Therm Billing Report

MONTANA-DAKOTA UTILITIES CO.  
Therm Billing Factor  
MAY 2008

Div Nbr	Off Code	City Name	Heat Zone Nbr	Therm Billing Factor
12	314	APPLE VALLEY	271	1.0981
12	327	BISMARCK	28	.9987
12	343	CARRINGTON	273	1.0971
12	344	CLEVELAND	272	1.0894
12	364	CAVALIER	273	1.1202
12	365	DAWSON	271	1.0903
12	374	FT TOTTEN	273	1.1048
12	375	DEVILS LAKE	273	1.1048
12	379	BARLOW	273	1.0971
12	387	ELDRIDGE	272	1.0971
12	411	GLEN ULLIN	31	.9662
12	417	GRAFTON	273	1.1279
12	449	JAMESTOWN	272	1.1048
12	463	LANGDON	273	1.0971
12	475	LINTON	802	.9736
12	478	LINCOLN	28	.9987
12	494	MEDINA	271	1.0903
12	498	MANDAN	28	.9987
12	524	NEW SALEM	28	.9776
12	532	NEW ROCKFORD	273	1.0971
12	539	PARK RIVER	273	1.1202
12	574	SANBORN	272	1.1048
12	593	STEELE	271	1.0903
12	598	SHEYENNE	273	1.1048
12	610	TAPPEN	271	1.0903
12	625	VALLEY CITY	272	1.1124
12	629	WALHALLA	273	1.1202
12	647	WILTON	262	1.0918
12	717	SPIRITWOOD	272	1.1048
12	732	MSR SITE	273	1.0971
12	733	PAR SITE	273	1.0971
15	303	ALEXANDER	25	1.0578
15	308	ARNEGARD	25	1.0578
15	318	BEACH	32	.9417
15	319	BELFIELD	32	.9486

MONTANA-DAKOTA UTILITIES CO.  
Therm Billing Factor  
MAY 2008

Div Nbr	Off Code	City Name	Heat Zone Nbr	Therm Billing Factor
15	323	BERTHOLD	261	1.0909
15	330	BOWMAN	34	1.0622
15	337	BURLINGTON	262	1.1154
15	368	DES LACS	261	1.0988
15	369	DICKINSON	31	.9593
15	384	EPPING	261	1.0909
15	407	GLADSTONE	31	.9593
15	413	GOLVA	32	.9279
15	416	GARRISON	262	1.0997
15	429	HEBRON	31	.9662
15	459	KILLDEER	33	1.0635
15	469	LEFOR	31	.9593
15	474	LIGNITE	263	1.0721
15	500	MARMARTH	34	1.0701
15	505	MINOT	262	1.1154
15	510	MOTT	31	.9593
15	512	MAX	262	1.0918
15	522	NEW ENGLAND	31	.9523
15	540	PALERMO	261	1.0909
15	558	RAY	261	1.0909
15	561	REGENT	31	.9593
15	563	RHAME	34	1.0545
15	564	RICHARDTON	31	.9523
15	568	ROSS	261	1.0830
15	572	RUTHVILLE	262	1.1154
15	583	SENTINEL BUTTE	32	.9417
15	588	SOUTH HEART	31	.9523
15	590	SPRINGBROOK	261	1.0909
15	591	STANLEY	261	1.0909
15	605	SURREY	262	1.1154
15	611	TAYLOR	31	.9523
15	616	TIOGA	261	1.0830
15	619	TURTLE LAKE	262	1.0997
15	620	TRENTON	24	1.1102
15	624	UNDERWOOD	262	1.0997

MONTANA-DAKOTA UTILITIES CO.  
Therm Billing Factor  
MAY 2008

Div Nbr	Off Code	City Name	Heat Zone Nbr	Therm Billing Factor
15	632	WATFORD CITY	25	1.0578
15	636	WHEELOCK	261	1.0830
15	637	WHITE EARTH	261	1.0909
15	642	WILLISTON	24	1.1102
15	646	WASHBURN	262	1.1076
15	664	RIVERDALE	262	1.0997
15	691	FAIRVIEW	24	1.1102
15	712	MINOT AFB	262	1.1154
15	743	BAKER FIELD	35	.8953

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

**GQ Source Daily Summary**

April 2008

Number: 251

Name: SIDNEY BORDER

Pressure Base: 14.730

Temperature Base:

Contract Day: 1 Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	Crit'herm
1	0.6828	1141.1	1161.3		0.022	3.221	74.753	20.625	1.331	0.017	0.026	0.002	0.002	0.001	0.000				1405.38	
2	0.6838	1142.4	1162.6		0.026	3.229	74.567	20.772	1.369	0.015	0.020	0.001	0.001	0.001	0.000				1405.97	
3	0.6810	1138.9	1159.1		0.042	3.158	75.018	20.509	1.240	0.014	0.017	0.001	0.001	0.000	0.000				1404.51	
4	0.6802	1138.2	1158.4		0.028	3.140	75.238	20.272	1.282	0.017	0.022	0.001	0.001	0.000	0.000				1404.57	
5	0.6835	1143.3	1163.6		0.024	3.148	74.670	20.719	1.399	0.017	0.021	0.001	0.001	0.000	0.000				1407.41	
6	0.6834	1142.8	1163.0		0.026	3.167	74.652	20.756	1.361	0.015	0.020	0.001	0.001	0.000	0.000				1406.86	
7	0.6865	1147.7	1168.1		0.028	3.150	74.377	20.737	1.626	0.030	0.046	0.002	0.002	0.001	0.000				1409.78	
8	0.6980	1153.4	1173.8		0.319	3.448	72.772	21.283	2.050	0.045	0.075	0.004	0.003	0.000	0.000				1405.13	
9	0.7137	1163.6	1184.2		0.687	3.735	70.806	21.783	2.763	0.078	0.136	0.007	0.005	0.001	0.000				1401.95	
10	0.7292	1173.2	1194.0		1.065	4.029	68.872	22.246	3.454	0.115	0.201	0.010	0.008	0.000	0.000				1398.21	
11	0.7293	1173.1	1193.8		1.066	4.043	68.873	22.216	3.462	0.117	0.204	0.010	0.008	0.000	0.000				1397.97	
12	0.7295	1173.3	1194.1		1.071	4.042	68.862	22.200	3.484	0.117	0.205	0.010	0.008	0.000	0.000				1398.05	
13	0.7306	1175.3	1196.1		1.071	4.024	68.806	22.105	3.652	0.117	0.206	0.011	0.009	0.000	0.000				1399.36	
14	0.7324	1178.2	1199.0		1.064	4.029	68.666	21.998	3.911	0.113	0.202	0.010	0.008	0.000	0.000				1401.03	
15	0.7352	1182.7	1203.6		1.058	4.019	68.469	21.850	4.263	0.117	0.206	0.010	0.008	0.000	0.000				1403.77	
16	0.7332	1179.0	1199.9		1.057	4.055	68.764	21.660	4.094	0.128	0.221	0.011	0.009	0.000	0.000				1401.32	
17	0.7027	1158.8	1179.3		0.377	3.473	72.190	21.491	2.309	0.056	0.095	0.004	0.004	0.000	0.000				1406.97	
18	0.7146	1165.4	1186.0		0.689	3.709	70.773	21.724	2.844	0.090	0.155	0.008	0.007	0.001	0.000				1403.23	
19	0.7282	1171.5	1192.3		1.085	4.003	69.018	22.241	3.277	0.128	0.226	0.012	0.009	0.001	0.000				1397.23	
20	0.7291	1173.1	1193.9		1.081	4.002	68.840	22.389	3.325	0.125	0.219	0.010	0.008	0.000	0.000				1398.21	
21	0.6956	1156.1	1176.6		0.177	3.270	73.058	21.418	1.954	0.042	0.071	0.004	0.004	0.001	0.000				1410.80	
22	0.6917	1153.6	1174.1		0.025	3.288	73.622	21.067	1.871	0.043	0.072	0.005	0.005	0.002	0.000				1411.65	
23	0.6975	1162.3	1182.8		0.024	3.299	73.097	21.019	2.355	0.067	0.119	0.008	0.009	0.003	0.000				1416.33	
24	0.6921	1154.4	1174.8		0.023	3.278	73.444	21.310	1.866	0.029	0.043	0.002	0.003	0.001	0.000				1412.21	
25	0.6887	1148.8	1169.1		0.025	3.298	73.803	21.254	1.554	0.024	0.037	0.002	0.002	0.001	0.000				1408.82	
26	0.6906	1152.7	1173.1		0.026	3.246	73.500	21.514	1.645	0.026	0.038	0.002	0.002	0.001	0.000				1411.55	
27	0.6891	1150.5	1170.9		0.030	3.228	73.676	21.474	1.543	0.019	0.026	0.001	0.001	0.000	0.000				1410.50	
28	0.6898	1150.8	1171.2		0.026	3.279	73.629	21.380	1.629	0.021	0.030	0.002	0.002	0.001	0.000				1410.13	
29	0.7090	1161.6	1182.2		0.525	3.660	71.599	21.227	2.784	0.071	0.122	0.006	0.005	0.001	0.000				1404.19	
30	0.7308	1176.0	1196.8		1.070	4.005	68.889	21.946	3.716	0.126	0.226	0.011	0.009	0.001	0.000				1399.89	
Avg	0.7054	1159.0	1179.9		0.461	3.556	71.910	21.440	2.447	0.065	0.110	0.006	0.005	0.001	0.000				1405.10	

*Zone 211*

## Williston Basin Interstate Pipeline Co. GQ Source Analysis

<b>GQ Source Number:</b>	0602330	<b>Specific Gravity:</b>	0.7100
<b>GQ Source Name:</b>	WILLISTON BORDER	<b>BTU Base:</b>	Dry
<b>Effective Date:</b>	4/3/2008 9:00:00 AM	<b>Dry Heat Value:</b>	1166.79
<b>Effective End Date:</b>	1/18/2038 9:14:07 PM	<b>Wet Heat Value:</b>	1146.49
<b>Pressure Base:</b>	14.730	<b>As Deliv. Heat Value:</b>	1166.79
<b>Viscosity:</b>			

		<u>Mol %</u>	<u>Imported GPM</u>	<u>Calculated GPM</u>
C1	Methane	71.664		
C2	Ethane	19.906		5.308
C3	Propane	3.085	0.848	0.847
IC4	Iso-Butane	0.101	0.033	0.033
NC4	N-Butane	0.171	0.054	0.054
IC5	Iso-Pentane	0.009	0.003	0.003
NC5	N-Pentane	0.007	0.003	0.003
C6+	Hexanes Plus	0.000	0.000	0.000
CO2	Carbon Dioxide	0.811		
N2	Nitrogen	4.245		
O2	Oxygen	0.000		
HE	Helium			
H2	Hydrogen			
H2S	Hydrogen Sulfide			
<b>Totals</b>		99.999	0.941	6.248

**Sample Date:** 3/31/2008 12:00:00 AM  
**Sample Type:** Composite  
**Sample Tech:** sampler  
**Sample Remarks:** Zone 24 # 264

**Analysis Remarks:**

## Williston Basin Interstate Pipeline Co. GQ Source Analysis

<b>GQ Source Number:</b>	0602230	<b>Specific Gravity:</b>	0.7270
<b>GQ Source Name:</b>	WATFORD CITY BORDER	<b>BTU Base:</b>	Dry
<b>Effective Date:</b>	4/3/2008 9:00:00 AM	<b>Dry Heat Value:</b>	1119.74
<b>Effective End Date:</b>	1/18/2038 9:14:07 PM	<b>Wet Heat Value:</b>	1100.25
<b>Pressure Base:</b>	14.730	<b>As Deliv. Heat Value:</b>	1119.74
<b>Viscosity:</b>			

		<u>Mol %</u>	<u>Imported GPM</u>	<u>Calculated GPM</u>
C1	Methane	68.536		
C2	Ethane	17.872	0.000	4.765
C3	Propane	3.518	0.967	0.966
IC4	Iso-Butane	0.183	0.060	0.060
NC4	N-Butane	0.332	0.104	0.104
IC5	Iso-Pentane	0.028	0.010	0.010
NC5	N-Pentane	0.028	0.010	0.010
C6+	Hexanes Plus	0.008	0.004	0.003
CO2	Carbon Dioxide	0.735		
N2	Nitrogen	8.760		
O2	Oxygen	0.000		
HE	Helium			
H2	Hydrogen			
H2S	Hydrogen Sulfide			
<b>Totals</b>		100.000	1.155	5.920

**Sample Date:** 3/31/2008 12:00:00 AM  
**Sample Type:** Composite  
**Sample Tech:** sampler  
**Sample Remarks:** *Zone 25*

**Analysis Remarks:**

**GQ Source Daily Summary**

April 2008

Number: 163

Name: NORTH TIOGA MINOT

Pressure Base: 14.730

Temperature Base:

Contract Day: 1      Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	Crit'herm
1	0.6915	1132.7	1152.7		0.548	3.747	74.496	18.891	2.125	0.065	0.109	0.006	0.005	0.008					1386.26	
2	0.6932	1133.1	1153.1		0.568	3.858	74.250	18.894	2.235	0.065	0.111	0.006	0.004	0.008					1384.96	
3	0.6964	1135.1	1155.3		0.608	3.964	73.865	18.914	2.439	0.070	0.119	0.006	0.005	0.009					1384.38	
4	0.6968	1137.0	1157.2		0.594	3.908	73.832	18.959	2.501	0.069	0.118	0.006	0.005	0.007					1386.27	
5	0.6971	1138.0	1158.1		0.604	3.869	73.806	18.982	2.531	0.070	0.120	0.006	0.005	0.008					1387.09	
6	0.6923	1134.0	1154.1		0.526	3.774	74.267	19.136	2.119	0.060	0.102	0.005	0.004	0.008					1387.10	
7	0.6940	1134.6	1154.7		0.563	3.843	74.048	19.169	2.185	0.064	0.110	0.006	0.004	0.009					1386.07	
8	0.6882	1131.5	1151.6		0.505	3.577	75.282	18.219	2.189	0.077	0.124	0.009	0.008	0.010					1388.08	
9	0.6884	1128.7	1148.7		0.515	3.750	74.972	18.558	2.026	0.058	0.101	0.005	0.004	0.012					1384.49	
10	0.6850	1127.1	1147.0		0.503	3.550	75.831	17.812	2.078	0.077	0.123	0.009	0.008	0.011					1385.86	
11	0.6835	1126.2	1146.1		0.509	3.449	76.203	17.529	2.057	0.087	0.137		0.010	0.010					1386.30	
12	0.6808	1123.3	1143.2		0.482	3.410	76.625	17.283	1.953	0.085	0.133		0.010	0.010					1385.50	
13	0.6918	1131.4	1151.4		0.579	3.814	74.439	18.862	2.105	0.066	0.113		0.006	0.010					1384.35	
14	0.6952	1135.7	1155.8		0.592	3.844	74.035	18.965	2.357	0.069	0.118		0.006	0.010					1386.18	
15	0.6927	1134.4	1154.4		0.555	3.749	74.495	18.632	2.384	0.061	0.104	0.005	0.004	0.010					1387.06	
16	0.6964	1138.5	1158.6		0.578	3.811	73.999	18.817	2.587	0.068	0.118	0.006	0.005	0.011					1388.38	
17	0.6971	1138.8	1159.0		0.615	3.797	73.814	19.093	2.444	0.078	0.136	0.007	0.005	0.010					1388.14	
18	0.6940	1134.6	1154.7		0.587	3.810	74.102	19.116	2.163	0.072	0.126	0.007	0.005	0.011					1386.05	
19	0.6918	1132.2	1152.3		0.556	3.791	74.492	18.809	2.143	0.068	0.118	0.006	0.005	0.012					1385.40	
20	0.6911	1130.4	1150.4		0.564	3.832	74.544	18.784	2.068	0.068	0.119	0.006	0.005	0.010					1383.77	
21	0.6940	1132.9	1152.9		0.615	3.871	74.042	19.171	2.081	0.073	0.125	0.006	0.005	0.010					1383.97	
22	0.6953	1136.0	1156.1		0.601	3.821	73.872	19.318	2.154	0.077	0.135	0.007	0.006	0.009					1386.50	
23	0.6944	1136.5	1156.7		0.591	3.721	73.965	19.417	2.086	0.072	0.126	0.007	0.005	0.010					1388.04	
24	0.6954	1137.9	1158.0		0.597	3.726	73.874	19.393	2.178	0.076	0.134	0.007	0.006	0.008					1388.66	
25	0.6948	1136.0	1156.1		0.583	3.801	73.974	19.248	2.162	0.076	0.133	0.007	0.006	0.011					1387.01	
26	0.6954	1136.0	1156.1		0.589	3.849	73.800	19.409	2.124	0.075	0.131	0.007	0.006	0.010					1386.41	
27	0.6948	1136.2	1156.3		0.561	3.821	73.890	19.372	2.139	0.071	0.125	0.007	0.005	0.009					1387.29	
28	0.6990	1143.1	1163.3		0.579	3.767	73.412	19.557	2.452	0.076	0.130	0.007	0.006	0.013					1391.49	
29	0.6969	1142.0	1162.2		0.535	3.706	73.900	19.092	2.522	0.074	0.136	0.008	0.008	0.018					1392.21	
30	0.6994	1143.8	1164.1		0.549	3.802	73.684	18.943	2.752	0.081	0.152	0.010	0.010	0.017					1391.98	
Avg	0.6932	1135.0	1154.7		0.565	3.768	74.327	18.878	2.245	0.072	0.123	0.007	0.006	0.010					1386.84	

*Zone 261*

**GQ Source Daily Summary**

April 2008

Number: 091

Name: MINOT

Pressure Base: 14.730

Temperature Base:

Contract Day: 1 Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CriTherm
1	0.6916	1132.7	1152.8		0.562	3.741	74.384	19.080	2.052	0.061	0.105	0.002	0.000	0.013	0.000				1386.12	
2	0.6912	1133.0	1153.1		0.557	3.685	74.567	18.884	2.110	0.066	0.112	0.003	0.001	0.013	0.000				1386.97	
3	0.6947	1134.6	1154.7		0.592	3.863	74.056	18.994	2.297	0.066	0.114	0.003	0.000	0.014	0.000				1385.39	
4	0.6973	1137.0	1157.1		0.629	3.912	73.751	19.011	2.486	0.071	0.123	0.004	0.001	0.013	0.000				1385.65	
5	0.6982	1139.4	1159.6		0.622	3.851	73.664	19.087	2.564	0.071	0.122	0.004	0.001	0.013	0.000				1387.80	
6	0.6953	1137.4	1157.6		0.581	3.765	73.973	19.148	2.335	0.067	0.115	0.003	0.001	0.013	0.000				1388.25	
7	0.6930	1134.8	1154.9		0.555	3.754	74.153	19.241	2.113	0.062	0.106	0.003	0.000	0.013	0.000				1387.31	
8	0.6940	1136.0	1156.1		0.570	3.754	74.127	19.114	2.231	0.068	0.116	0.004	0.001	0.014	0.000				1387.71	
9	0.6878	1130.9	1150.9		0.504	3.575	75.267	18.345	2.091	0.073	0.119	0.006	0.004	0.016	0.000				1387.81	
10	0.6894	1130.4	1150.5		0.538	3.707	74.844	18.658	2.071	0.059	0.103	0.002	0.000	0.018	0.000				1385.56	
11	0.6830	1126.4	1146.3		0.505	3.401	76.302	17.489	2.048	0.086	0.136	0.009	0.008	0.016	0.000				1387.02	
12	0.6833	1126.6	1146.5		0.515	3.399	76.262	17.518	2.046	0.088	0.139	0.009	0.008	0.015	0.000				1387.00	
13	0.6833	1125.4	1145.4		0.511	3.476	76.130	17.675	1.968	0.081	0.129	0.008	0.006	0.017	0.000				1385.60	
14	0.6927	1133.0	1153.1		0.596	3.766	74.325	18.987	2.125	0.067	0.115	0.004	0.000	0.016	0.000				1385.46	
15	0.6962	1137.2	1157.4		0.610	3.817	73.913	19.039	2.412	0.069	0.120	0.004	0.001	0.015	0.000				1387.11	
16	0.6939	1136.2	1156.3		0.575	3.718	74.328	18.771	2.421	0.062	0.106	0.002	0.000	0.017	0.000				1388.12	
17	0.6983	1140.9	1161.1		0.607	3.793	73.781	18.915	2.682	0.073	0.127	0.005	0.001	0.017	0.000				1389.51	
18	0.6975	1139.3	1159.5		0.635	3.756	73.556	19.546	2.272	0.077	0.136	0.005	0.002	0.016	0.000				1388.29	
19	0.6942	1134.7	1154.8		0.599	3.799	74.085	19.150	2.143	0.073	0.127	0.005	0.002	0.017	0.000				1386.01	
20	0.6923	1133.3	1153.3		0.570	3.758	74.415	18.897	2.149	0.069	0.120	0.005	0.001	0.017	0.000				1386.11	
21	0.6928	1132.2	1152.3		0.599	3.822	74.309	18.943	2.110	0.071	0.124	0.005	0.001	0.015	0.000				1384.37	
22	0.6953	1135.1	1155.2		0.634	3.831	73.817	19.409	2.085	0.074	0.130	0.005	0.001	0.015	0.000				1385.36	
23	0.6953	1137.0	1157.1		0.607	3.755	73.904	19.343	2.153	0.077	0.138	0.006	0.003	0.015	0.000				1387.68	
24	0.6955	1138.8	1158.9		0.602	3.669	73.807	19.584	2.113	0.073	0.130	0.005	0.002	0.015	0.000				1389.71	
25	0.6951	1137.7	1157.8		0.608	3.691	73.916	19.421	2.132	0.076	0.134	0.005	0.002	0.014	0.000				1388.74	
26	0.6984	1139.8	1160.0		0.624	3.848	73.505	19.430	2.327	0.086	0.151	0.006	0.004	0.018	0.000				1388.00	
27	0.6956	1137.1	1157.2		0.579	3.823	73.766	19.479	2.108	0.077	0.141	0.007	0.005	0.015	0.000				1387.46	
28	0.7000	1142.5	1162.7		0.589	3.882	73.200	19.660	2.425	0.081	0.137	0.006	0.004	0.016	0.000				1389.76	
29	0.6992	1142.3	1162.6		0.578	3.839	73.394	19.498	2.431	0.081	0.147	0.007	0.006	0.020	0.000				1390.31	
30	0.6995	1144.2	1164.4		0.531	3.822	73.582	19.134	2.641	0.087	0.162	0.009	0.007	0.026	0.000				1392.27	
Avg	0.6938	1136.0	1155.6		0.579	3.742	74.236	18.982	2.238	0.073	0.126	0.005	0.002	0.016	0.000				1387.42	

*Zone 262*

## Williston Basin Interstate Pipeline Co. GQ Source Analysis

<b>GQ Source Number:</b>	2501030	<b>Specific Gravity:</b>	0.6600
<b>GQ Source Name:</b>	LIGNITE PLANT	<b>BTU Base:</b>	Dry
<b>Effective Date:</b>	4/3/2008 9:00:00 AM	<b>Dry Heat Value:</b>	1127.02
<b>Effective End Date:</b>	1/18/2038 9:14:07 PM	<b>Wet Heat Value:</b>	1107.40
<b>Pressure Base:</b>	14.730	<b>As Deliv. Heat Value:</b>	1127.02
<b>Viscosity:</b>			

		<u>Mol %</u>	<u>Imported GPM</u>	<u>Calculated GPM</u>
C1	Methane	79.010		
C2	Ethane	17.083		4.555
C3	Propane	0.842	0.231	0.231
IC4	Iso-Butane	0.000	0.000	0.000
NC4	N-Butane	0.000	0.000	0.000
IC5	Iso-Pentane	0.000	0.000	0.000
NC5	N-Pentane	0.000	0.000	0.000
C6+	Hexanes Plus	0.039	0.018	0.016
CO2	Carbon Dioxide	0.123		
N2	Nitrogen	2.903		
O2	Oxygen	0.000		
HE	Helium			
H2	Hydrogen			
H2S	Hydrogen Sulfide			
<b>Totals</b>		100.000	0.249	4.802

**Sample Date:** 3/31/2008 12:00:00 AM  
**Sample Type:** Composite  
**Sample Tech:** sampler  
**Sample Remarks:** Zone 263  
**Analysis Remarks:**

**GQ Source Daily Summary**

April 2008

Number: 043

Name: BISMARCK PLANT CLEVELAND PLANT

Pressure Base: 14.730

Temperature Base:

Contract Day: 1 Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	Crit'therm
1	0.6458	1063.2	1082.1		0.641	3.535	83.274	11.040	1.278	0.073	0.101	0.018	0.013	0.028	0.000				1346.47	
2	0.6552	1077.6	1096.7		0.632	3.556	81.477	12.678	1.430	0.071	0.103	0.016	0.011	0.026	0.000				1354.86	
3	0.6668	1095.0	1114.4		0.539	3.727	79.189	14.640	1.704	0.064	0.100	0.009	0.007	0.020	0.000				1364.73	
4	0.6877	1124.4	1144.3		0.588	3.835	75.422	17.761	2.184	0.067	0.114	0.007	0.005	0.018	0.000				1379.82	
5	0.6789	1109.1	1128.8		0.599	3.915	77.150	16.011	2.119	0.066	0.110	0.007	0.006	0.017	0.000				1369.92	
6	0.6766	1107.8	1127.5		0.611	3.758	77.671	15.632	2.117	0.070	0.110	0.008	0.006	0.017	0.000				1370.68	
7	0.6753	1107.6	1127.2		0.574	3.705	77.700	15.886	1.940	0.064	0.103	0.007	0.006	0.015	0.000				1371.74	
8	0.6781	1112.4	1132.1		0.559	3.710	77.007	16.672	1.863	0.061	0.100	0.007	0.005	0.016	0.000				1374.72	
9	0.6549	1077.0	1096.1		0.521	3.734	81.298	12.810	1.459	0.061	0.086	0.009	0.006	0.016	0.000				1354.35	
10	0.6884	1130.7	1150.7		0.540	3.586	75.333	18.123	2.184	0.075	0.125	0.008	0.007	0.020	0.000				1386.92	
11	0.6817	1119.1	1139.0		0.526	3.682	76.324	17.356	1.921	0.058	0.101	0.006	0.005	0.022	0.000				1379.47	
12	0.6690	1103.9	1123.4		0.506	3.447	78.901	15.118	1.784	0.081	0.124	0.011	0.009	0.019	0.000				1373.44	
13	0.6791	1119.7	1139.5		0.520	3.407	77.094	16.744	1.974	0.086	0.136	0.010	0.009	0.019	0.000				1382.82	
14	0.6853	1126.3	1146.3		0.548	3.551	75.809	17.844	2.008	0.077	0.128	0.008	0.007	0.020	0.000				1384.65	
15	0.6923	1132.6	1152.7		0.603	3.740	74.523	18.740	2.182	0.065	0.116	0.006	0.005	0.021	0.000				1385.36	
16	0.6945	1135.4	1155.5		0.601	3.776	74.265	18.768	2.376	0.066	0.116	0.006	0.005	0.021	0.000				1386.60	
17	0.6944	1136.1	1156.2		0.594	3.734	74.367	18.631	2.469	0.062	0.110	0.006	0.004	0.022	0.000				1387.53	
18	0.6979	1139.7	1159.9		0.628	3.792	73.931	18.749	2.655	0.076	0.137	0.007	0.005	0.020	0.000				1388.45	
19	0.6964	1138.1	1158.3		0.636	3.738	73.822	19.337	2.226	0.074	0.134	0.007	0.005	0.020	0.000				1388.00	
20	0.6928	1132.7	1152.8		0.602	3.788	74.372	18.898	2.110	0.070	0.127	0.007	0.005	0.022	0.000				1384.91	
21	0.6850	1121.9	1141.7		0.573	3.754	75.799	17.676	1.979	0.067	0.117	0.007	0.005	0.022	0.000				1379.48	
22	0.6825	1117.0	1136.8		0.598	3.777	76.283	17.188	1.934	0.069	0.118	0.007	0.006	0.020	0.000				1375.99	
23	0.6904	1127.7	1147.7		0.634	3.813	74.803	18.504	2.013	0.073	0.128	0.007	0.005	0.019	0.000				1381.23	
24	0.6863	1124.0	1143.9		0.612	3.692	75.637	17.818	2.000	0.076	0.132	0.008	0.006	0.020	0.000				1380.69	
25	0.6855	1123.9	1143.9		0.616	3.613	75.768	17.800	1.969	0.074	0.126	0.008	0.006	0.019	0.000				1381.43	
26	0.6943	1136.0	1156.1		0.613	3.700	74.128	19.205	2.112	0.075	0.135	0.007	0.006	0.019	0.000				1387.57	
27	0.6891	1126.4	1146.3		0.626	3.780	75.286	17.894	2.145	0.085	0.146	0.009	0.007	0.023	0.000				1380.93	
28	0.6895	1127.8	1147.8		0.580	3.802	75.004	18.319	2.049	0.075	0.136	0.009	0.007	0.019	0.000				1382.29	
29	0.6872	1124.8	1144.8		0.605	3.725	75.743	17.422	2.254	0.081	0.132	0.009	0.007	0.023	0.000				1380.89	
30	0.6950	1135.8	1155.9		0.596	3.812	74.361	18.504	2.450	0.083	0.150	0.010	0.008	0.026	0.000				1386.50	
Avg	0.6825	1118.0	1138.3		0.587	3.706	76.391	17.059	2.030	0.072	0.120	0.008	0.007	0.020	0.000				1377.75	

*Zone 271*

**GQ Source Daily Summary**

April 2008

Number: 063

Pressure Base: 14.730

Name: CLEVELAND PLANT MAPLETON

Temperature Base:

Contract Day: 1 Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	Cri/therm
1	0.6513	1071.0	1089.9		0.628	3.596	82.143	12.049	1.368	0.070	0.099	0.015	0.011	0.021	0.000				1350.55	
2	0.6473	1064.7	1083.6		0.648	3.569	82.972	11.271	1.309	0.074	0.103	0.018	0.013	0.024	0.000				1346.83	
3	0.6636	1089.3	1108.6		0.596	3.683	79.781	14.134	1.597	0.067	0.102	0.012	0.009	0.019	0.000				1360.91	
4	0.6752	1107.7	1127.3		0.538	3.752	77.537	16.126	1.853	0.065	0.103	0.008	0.006	0.013	0.000				1371.80	
5	0.6874	1121.8	1141.7		0.599	3.938	75.452	17.602	2.202	0.068	0.114	0.007	0.005	0.012	0.000				1377.05	
6	0.6747	1103.4	1123.0		0.591	3.879	77.864	15.423	2.044	0.067	0.107	0.008	0.006	0.012	0.000				1367.14	
7	0.6783	1109.9	1129.6		0.610	3.786	77.320	15.920	2.157	0.070	0.112	0.007	0.006	0.012	0.000				1371.57	
8	0.6776	1111.5	1131.2		0.547	3.726	77.059	16.614	1.874	0.061	0.097	0.007	0.005	0.011	0.000				1374.17	
9	0.6650	1091.3	1110.7		0.555	3.757	79.458	14.367	1.680	0.063	0.095	0.008	0.006	0.013	0.000				1361.89	
10	0.6721	1103.0	1122.5		0.544	3.736	78.157	15.529	1.839	0.067	0.103	0.008	0.006	0.011	0.000				1369.10	
11	0.6861	1127.1	1147.1		0.515	3.628	75.509	18.102	2.039	0.067	0.112	0.007	0.006	0.014	0.000				1384.79	
12	0.6753	1110.2	1129.9		0.515	3.640	77.533	16.263	1.844	0.067	0.108	0.008	0.006	0.016	0.000				1374.87	
13	0.6763	1114.1	1133.8		0.524	3.482	77.524	16.307	1.914	0.084	0.132	0.010	0.009	0.014	0.000				1378.66	
14	0.6790	1120.1	1139.9		0.505	3.403	76.998	16.895	1.945	0.086	0.135	0.010	0.009	0.014	0.000				1383.28	
15	0.6906	1130.8	1150.8		0.589	3.716	74.738	18.639	2.096	0.072	0.123	0.007	0.006	0.014	0.000				1384.76	
16	0.6932	1133.5	1153.5		0.603	3.769	74.290	18.939	2.192	0.066	0.116	0.006	0.004	0.014	0.000				1385.50	
17	0.6945	1135.4	1155.5		0.595	3.783	74.190	18.860	2.368	0.064	0.113	0.006	0.004	0.016	0.000				1386.57	
18	0.6970	1139.0	1159.1		0.603	3.792	73.905	18.906	2.581	0.067	0.118	0.006	0.005	0.016	0.000				1388.39	
19	0.6983	1139.6	1159.8		0.640	3.816	73.715	19.016	2.568	0.079	0.139	0.007	0.005	0.015	0.000				1387.90	
20	0.6967	1138.0	1158.2		0.628	3.782	73.711	19.398	2.247	0.074	0.132	0.007	0.005	0.015	0.000				1387.58	
21	0.6905	1129.4	1149.4		0.585	3.798	74.730	18.583	2.086	0.069	0.121	0.006	0.005	0.016	0.000				1383.13	
22	0.6812	1115.7	1135.4		0.571	3.778	76.413	17.147	1.879	0.068	0.115	0.007	0.006	0.016	0.000				1375.60	
23	0.6892	1125.7	1145.7		0.622	3.841	74.966	18.329	2.022	0.071	0.123	0.007	0.005	0.015	0.000				1379.96	
24	0.6929	1131.3	1151.3		0.630	3.835	74.297	18.934	2.069	0.075	0.133	0.007	0.006	0.014	0.000				1383.11	
25	0.6804	1115.5	1135.3		0.619	3.638	76.673	16.965	1.879	0.075	0.123	0.009	0.007	0.014	0.000				1376.22	
26	0.6958	1138.2	1158.3		0.618	3.709	73.788	19.504	2.145	0.075	0.135	0.007	0.006	0.013	0.000				1388.64	
27	0.6916	1130.9	1151.0		0.607	3.770	74.633	18.613	2.133	0.079	0.136	0.008	0.006	0.016	0.000				1383.96	
28	0.6900	1128.1	1148.1		0.608	3.787	74.912	18.385	2.047	0.083	0.146	0.009	0.007	0.016	0.000				1382.15	
29	0.6815	1115.5	1135.3		0.582	3.795	76.458	16.904	1.977	0.078	0.127	0.010	0.008	0.073	0.000				1375.13	
30	0.6980	1137.4	1157.6		0.571	4.030	73.449	19.392	2.299	0.084	0.146	0.009	0.008	0.012	0.000				1385.53	
Avg	0.6824	1118.0	1137.4		0.586	3.740	76.339	17.104	2.008	0.072	0.119	0.008	0.007	0.017	0.000				1376.89	

*Zone 272*

**GQ Source Daily Summary**

April 2008

Number: 061

Pressure Base: 14.730

Name: CLEVELAND PLANT GRAFTON

Temperature Base:

Contract Day: 1 Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	Crit'herm
1	0.6512	1070.9	1089.8		0.628	3.594	82.155	12.039	1.367	0.070	0.099	0.015	0.011	0.022	0.000				1350.49	
2	0.6472	1064.6	1083.5		0.648	3.568	82.978	11.266	1.308	0.074	0.103	0.018	0.013	0.024	0.000				1346.79	
3	0.6638	1089.6	1108.9		0.596	3.683	79.755	14.157	1.599	0.067	0.102	0.012	0.009	0.019	0.000				1361.05	
4	0.6750	1107.3	1126.9		0.537	3.754	77.580	16.085	1.849	0.065	0.103	0.008	0.006	0.013	0.000				1371.57	
5	0.6872	1121.7	1141.5		0.598	3.937	75.473	17.585	2.201	0.068	0.114	0.007	0.005	0.013	0.000				1376.97	
6	0.6747	1103.5	1123.0		0.591	3.878	77.873	15.413	2.046	0.067	0.107	0.008	0.006	0.012	0.000				1367.14	
7	0.6784	1110.2	1129.9		0.610	3.784	77.286	15.950	2.161	0.070	0.112	0.008	0.006	0.012	0.000				1371.75	
8	0.6775	1111.4	1131.1		0.547	3.726	77.069	16.601	1.876	0.061	0.097	0.007	0.005	0.011	0.000				1374.11	
9	0.6657	1092.4	1111.8		0.556	3.756	79.327	14.486	1.690	0.063	0.095	0.008	0.006	0.013	0.000				1362.51	
10	0.6719	1102.6	1122.2		0.544	3.736	78.201	15.490	1.833	0.067	0.103	0.008	0.006	0.011	0.000				1368.88	
11	0.6861	1127.0	1147.0		0.516	3.627	75.516	18.095	2.039	0.067	0.112	0.007	0.006	0.014	0.000				1384.73	
12	0.6755	1110.5	1130.2		0.515	3.636	77.505	16.293	1.846	0.067	0.108	0.008	0.006	0.016	0.000				1375.09	
13	0.6761	1113.8	1133.5		0.523	3.481	77.559	16.277	1.912	0.084	0.131	0.010	0.009	0.014	0.000				1378.51	
14	0.6788	1119.7	1139.5		0.506	3.404	77.050	16.843	1.941	0.086	0.135	0.010	0.009	0.014	0.000				1383.03	
15	0.6905	1130.7	1150.7		0.588	3.713	74.758	18.626	2.093	0.072	0.123	0.007	0.006	0.015	0.000				1384.75	
16	0.6906	1130.3	1150.4		0.587	3.739	74.768	18.598	2.105	0.065	0.112	0.006	0.005	0.015	0.000				1384.23	
17	0.6947	1135.9	1156.0		0.596	3.775	74.157	18.880	2.390	0.064	0.112	0.005	0.004	0.016	0.000				1386.92	
18	0.6970	1138.9	1159.1		0.604	3.794	73.908	18.898	2.584	0.067	0.118	0.006	0.005	0.017	0.000				1388.34	
19	0.6983	1139.6	1159.8		0.639	3.815	73.737	18.999	2.566	0.079	0.139	0.007	0.005	0.015	0.000				1387.92	
20	0.6967	1138.0	1158.1		0.628	3.783	73.710	19.397	2.249	0.074	0.132	0.007	0.005	0.015	0.000				1387.56	
21	0.6905	1129.4	1149.4		0.585	3.797	74.735	18.580	2.084	0.069	0.122	0.006	0.005	0.017	0.000				1383.14	
22	0.6800	1113.9	1133.7		0.570	3.773	76.612	16.971	1.862	0.068	0.115	0.007	0.006	0.017	0.000				1374.65	
23	0.6889	1125.3	1145.2		0.621	3.844	74.996	18.300	2.017	0.071	0.123	0.007	0.005	0.015	0.000				1379.69	
24	0.6929	1131.2	1151.3		0.632	3.833	74.260	18.966	2.073	0.075	0.133	0.007	0.005	0.014	0.000				1383.11	
25	0.6800	1114.9	1134.6		0.618	3.637	76.786	16.859	1.871	0.075	0.123	0.009	0.007	0.014	0.000				1375.86	
26	0.6958	1138.2	1158.4		0.608	3.764	74.617	18.629	2.138	0.079	0.136	0.007	0.006	0.013	0.000				1388.67	
27	0.6917	1131.1	1151.1		0.608	3.788	74.906	18.387	2.049	0.083	0.146	0.009	0.007	0.016	0.000				1384.10	
28	0.6900	1128.2	1148.2		0.608	3.793	76.436	16.968	1.984	0.078	0.127	0.010	0.008	0.014	0.000				1382.16	
29	0.6820	1116.2	1136.0		0.582	3.793	76.436	16.968	1.984	0.078	0.127	0.010	0.008	0.014	0.000				1375.55	
30	0.6974	1138.3	1158.5		0.574	3.915	73.575	19.382	2.296	0.083	0.145	0.009	0.008	0.012	0.000				1387.22	
Avg	0.6822	1118.0	1137.3		0.586	3.735	76.369	17.084	2.006	0.072	0.119	0.008	0.007	0.015	0.000				1376.88	

*Zone 273*

**GQ Source Daily Summary**

April 2008

Number: 041

Pressure Base: 14.730

Name: BISMARCK PLANT DICKINSON PLANT

Temperature Base:

Contract Day: 1      Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	Critherm	
1	0.6091	1007.7	1025.5		0.703	3.376	90.437	4.484	0.726	0.086	0.101	0.029	0.021	0.038	0.000					1313.98	
2	0.6089	1007.6	1025.4		0.718	3.337	90.528	4.407	0.726	0.088	0.104	0.030	0.021	0.040	0.000					1314.10	
3	0.6083	1005.7	1023.5		0.451	3.802	90.050	4.819	0.685	0.065	0.071	0.018	0.013	0.026	0.000					1312.30	
4	0.6069	1005.5	1023.3		0.428	3.721	90.325	4.640	0.688	0.075	0.073	0.018	0.012	0.019	0.000					1313.50	
5	0.6044	997.5	1015.1		0.449	3.940	90.603	4.273	0.590	0.053	0.056	0.012	0.009	0.014	0.000					1305.77	
6	0.6058	1004.4	1022.2		0.543	3.504	90.634	4.468	0.675	0.069	0.066	0.016	0.010	0.015	0.000					1313.35	
7	0.6062	1004.0	1021.8		0.551	3.552	90.504	4.572	0.659	0.063	0.061	0.014	0.009	0.015	0.000					1312.42	
8	0.6056	1003.9	1021.6		0.522	3.551	90.574	4.558	0.635	0.063	0.060	0.014	0.009	0.015	0.000					1312.84	
9	0.6083	1007.9	1025.7		0.460	3.653	89.952	5.125	0.656	0.060	0.058	0.014	0.009	0.014	0.000					1315.19	
10	0.6099	1012.4	1030.3		0.426	3.585	89.628	5.511	0.694	0.061	0.059	0.013	0.009	0.014	0.000					1319.30	
11	0.6105	1012.9	1030.8		0.387	3.674	89.408	5.703	0.686	0.055	0.055	0.012	0.008	0.012	0.000					1319.23	
12	0.6088	1007.5	1025.4		0.458	3.726	89.840	5.151	0.675	0.057	0.059	0.013	0.008	0.013	0.000					1314.16	
13	0.6077	1006.7	1024.5		0.423	3.732	89.997	5.038	0.665	0.056	0.057	0.012	0.008	0.012	0.000					1314.22	
14	0.6460	1068.6	1087.5		0.448	3.520	82.979	11.552	1.299	0.070	0.097	0.011	0.009	0.017	0.000					1352.77	
15	0.6870	1124.8	1144.7		0.597	3.731	75.504	17.866	2.093	0.065	0.113	0.006	0.005	0.020	0.000					1380.97	
16	0.6950	1135.7	1155.8		0.612	3.795	74.162	18.854	2.357	0.068	0.121	0.006	0.005	0.021	0.000					1386.36	
17	0.6154	1018.7	1036.7		0.521	3.576	88.735	6.166	0.856	0.056	0.059	0.010	0.007	0.013	0.000					1321.36	
18	0.6109	1011.4	1029.3		0.488	3.645	89.588	5.317	0.804	0.060	0.063	0.013	0.008	0.013	0.000					1316.88	
19	0.6113	1010.8	1028.7		0.485	3.720	89.415	5.494	0.740	0.055	0.059	0.011	0.007	0.014	0.000					1315.63	
20	0.6098	1009.9	1027.8		0.467	3.666	89.634	5.417	0.678	0.053	0.054	0.012	0.007	0.014	0.000					1316.10	
21	0.6087	1008.3	1026.1		0.469	3.659	89.900	5.128	0.691	0.059	0.059	0.013	0.009	0.014	0.000					1315.20	
22	0.6064	1004.7	1022.5		0.493	3.619	90.410	4.650	0.660	0.064	0.063	0.015	0.010	0.016	0.000					1313.08	
23	0.6051	1001.6	1019.3		0.495	3.689	90.636	4.377	0.638	0.063	0.062	0.015	0.010	0.016	0.000					1310.33	
24	0.6053	1007.9	1025.7		0.608	3.149	90.914	4.448	0.679	0.080	0.071	0.019	0.012	0.020	0.000					1318.37	
25	0.6052	1006.1	1024.0		0.628	3.217	90.900	4.400	0.667	0.072	0.068	0.017	0.011	0.020	0.000					1316.19	
26	0.6050	1005.4	1023.2		0.574	3.318	90.846	4.433	0.650	0.068	0.066	0.016	0.011	0.017	0.000					1315.55	
27	0.6043	1006.5	1024.3		0.601	3.147	91.085	4.319	0.649	0.076	0.072	0.019	0.012	0.020	0.000					1317.69	
28	0.6045	1005.8	1023.7		0.589	3.221	91.013	4.332	0.653	0.073	0.069	0.018	0.012	0.019	0.000					1316.65	
29	0.6034	1006.5	1024.3		0.597	3.067	91.329	4.129	0.664	0.084	0.074	0.020	0.012	0.022	0.000					1318.67	
30	0.6039	1006.5	1024.3		0.628	3.070	91.222	4.219	0.659	0.079	0.071	0.019	0.012	0.022	0.000					1318.11	
Avg	0.6143	1017.0	1035.4		0.527	3.532	89.025	5.928	0.807	0.067	0.071	0.015	0.010	0.018	0.000					1321.01	

*Zone 28*

**GQ Source Daily Summary**

April 2008

Number: 271

Pressure Base: 14.730

Name: DICKINSON BORDER

Temperature Base:

Contract Day: 1 Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	Cri'therm
1	0.6080	1006.7	1024.5		0.718	3.301	90.591	4.421	0.722	0.085	0.100	0.020	0.000	0.042	0.000				1313.91	
2	0.6074	1005.0	1022.8		0.574	3.561	90.390	4.584	0.693	0.071	0.082	0.009	0.000	0.036	0.000				1312.45	
3	0.6064	1005.6	1023.4		0.416	3.678	90.312	4.740	0.690	0.070	0.068	0.000	0.000	0.026	0.000				1314.23	
4	0.6035	997.3	1014.9		0.441	3.872	90.724	4.253	0.585	0.050	0.052	0.000	0.000	0.023	0.000				1306.52	
5	0.6046	1000.5	1018.2		0.525	3.650	90.688	4.363	0.636	0.057	0.057	0.000	0.000	0.023	0.000				1309.57	
6	0.6045	1003.6	1021.4		0.536	3.439	90.778	4.446	0.655	0.064	0.059	0.000	0.000	0.024	0.000				1313.68	
7	0.6046	1002.3	1020.1		0.553	3.491	90.773	4.428	0.621	0.058	0.054	0.000	0.000	0.023	0.000				1311.91	
8	0.6053	1004.0	1021.8		0.479	3.572	90.506	4.677	0.629	0.059	0.055	0.000	0.000	0.023	0.000				1313.39	
9	0.6097	1012.4	1030.4		0.436	3.538	89.628	5.569	0.694	0.057	0.054	0.000	0.000	0.024	0.000				1319.62	
10	0.6103	1014.2	1032.1		0.377	3.581	89.406	5.823	0.689	0.053	0.050	0.000	0.000	0.021	0.000				1321.21	
11	0.6080	1007.2	1025.0		0.453	3.679	89.911	5.164	0.667	0.053	0.053	0.000	0.000	0.022	0.000				1314.54	
12	0.6072	1006.7	1024.5		0.422	3.676	90.051	5.064	0.661	0.052	0.053	0.000	0.000	0.021	0.000				1314.81	
13	0.6076	1006.5	1024.3		0.493	3.620	90.041	5.055	0.664	0.053	0.053	0.000	0.000	0.020	0.000				1314.09	
14	0.6067	1005.5	1023.3		0.553	3.501	90.328	4.812	0.673	0.057	0.055	0.000	0.000	0.021	0.000				1313.82	
15	0.6034	1001.4	1019.1		0.551	3.449	90.912	4.360	0.609	0.053	0.046	0.000	0.000	0.021	0.000				1311.98	
16	0.6033	1001.7	1019.4		0.481	3.522	90.893	4.339	0.650	0.050	0.044	0.000	0.000	0.020	0.000				1312.50	
17	0.6045	1002.2	1019.9		0.486	3.600	90.694	4.415	0.676	0.055	0.053	0.000	0.000	0.022	0.000				1311.83	
18	0.6007	996.7	1014.4		0.450	3.635	91.267	3.987	0.547	0.049	0.044	0.000	0.000	0.021	0.000				1308.75	
19	0.6055	1003.9	1021.7		0.478	3.602	90.384	4.820	0.603	0.048	0.044	0.000	0.000	0.022	0.000				1312.99	
20	0.6078	1007.0	1024.8		0.483	3.623	90.037	5.034	0.689	0.056	0.054	0.000	0.000	0.023	0.000				1314.52	
21	0.6068	1006.6	1024.5		0.483	3.549	90.258	4.893	0.675	0.060	0.059	0.000	0.000	0.024	0.000				1315.16	
22	0.6038	1000.2	1018.0		0.494	3.644	90.818	4.277	0.626	0.059	0.057	0.000	0.000	0.026	0.000				1310.01	
23	0.6054	1007.5	1025.4		0.572	3.226	90.750	4.606	0.678	0.073	0.065	0.000	0.000	0.030	0.000				1317.84	
24	0.6045	1006.4	1024.2		0.636	3.114	91.027	4.367	0.684	0.074	0.066	0.000	0.000	0.031	0.000				1317.31	
25	0.6037	1003.7	1021.5		0.593	3.267	91.019	4.337	0.635	0.064	0.060	0.000	0.000	0.025	0.000				1314.73	
26	0.6037	1006.5	1024.3		0.590	3.103	91.097	4.391	0.652	0.073	0.067	0.000	0.000	0.027	0.000				1318.33	
27	0.6034	1004.8	1022.6		0.604	3.157	91.142	4.292	0.644	0.070	0.065	0.000	0.000	0.026	0.000				1316.44	
28	0.6032	1006.6	1024.4		0.601	3.034	91.257	4.269	0.663	0.079	0.068	0.000	0.000	0.030	0.000				1318.99	
29	0.6030	1005.5	1023.3		0.622	3.047	91.297	4.212	0.651	0.076	0.067	0.000	0.000	0.029	0.000				1317.82	
30	0.6084	1015.3	1033.3		0.586	3.011	90.234	5.275	0.725	0.075	0.066	0.000	0.000	0.028	0.000				1324.77	
Avg	0.6055	1005.0	1022.9		0.523	3.458	90.574	4.642	0.656	0.062	0.059	0.001	0.000	0.025	0.000				1314.59	

*Zone 31*

**GQ Source Daily Summary**

April 2008

Number: 051

Name: CABIN CREEK DICKINSON PLANT

Pressure Base: 14.730

Temperature Base:

Contract Day: 1      Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	Crit'herm
1	0.6080	1005.4	1023.2		0.726	3.375	90.713	4.172	0.734	0.089	0.104	0.030	0.021	0.036	0.000				1312.18	
2	0.6028	995.6	1013.2		0.479	3.856	91.204	3.575	0.691	0.069	0.075	0.019	0.013	0.020	0.000				1305.03	
3	0.6019	995.6	1013.2		0.455	3.814	91.311	3.559	0.672	0.072	0.072	0.018	0.012	0.015	0.000				1305.94	
4	0.5994	986.9	1004.4		0.446	4.117	91.568	3.150	0.580	0.052	0.056	0.012	0.008	0.010	0.000				1297.33	
5	0.6047	1001.3	1019.0		0.549	3.581	90.833	4.195	0.672	0.067	0.065	0.015	0.010	0.012	0.000				1310.47	
6	0.6037	999.5	1017.2		0.562	3.573	91.011	4.045	0.647	0.065	0.061	0.014	0.009	0.012	0.000				1309.26	
7	0.6030	999.0	1016.7		0.527	3.596	91.103	3.970	0.644	0.064	0.061	0.014	0.009	0.012	0.000				1309.28	
8	0.6068	1004.6	1022.4		0.470	3.700	90.246	4.781	0.650	0.061	0.058	0.014	0.009	0.011	0.000				1312.46	
9	0.6092	1011.0	1028.9		0.418	3.612	89.746	5.383	0.689	0.060	0.058	0.013	0.009	0.011	0.000				1318.30	
10	0.6093	1009.2	1027.1		0.399	3.762	89.649	5.365	0.686	0.055	0.055	0.012	0.008	0.009	0.000				1315.83	
11	0.6067	1003.1	1020.9		0.463	3.793	90.254	4.658	0.682	0.058	0.060	0.013	0.008	0.011	0.000				1310.65	
12	0.6042	1000.3	1018.0		0.411	3.808	90.697	4.270	0.670	0.057	0.058	0.012	0.007	0.009	0.000				1309.64	
13	0.6047	999.7	1017.4		0.504	3.751	90.706	4.205	0.687	0.058	0.059	0.012	0.007	0.010	0.000				1308.35	
14	0.6046	1001.6	1019.3		0.575	3.518	90.793	4.325	0.643	0.054	0.047	0.011	0.006	0.008	0.000				1310.92	
15	0.6011	996.8	1014.5		0.526	3.550	91.378	3.820	0.601	0.054	0.047	0.011	0.006	0.008	0.000				1308.53	
16	0.6038	1000.1	1017.8		0.480	3.678	90.888	4.102	0.711	0.057	0.055	0.012	0.007	0.009	0.000				1309.84	
17	0.6007	994.7	1012.3		0.467	3.735	91.433	3.597	0.626	0.057	0.055	0.012	0.007	0.011	0.000				1306.12	
18	0.6012	996.0	1013.6		0.464	3.706	91.250	3.885	0.561	0.054	0.049	0.012	0.007	0.010	0.000				1307.32	
19	0.6051	1000.5	1018.2		0.503	3.739	90.584	4.382	0.653	0.055	0.053	0.012	0.007	0.011	0.000				1308.99	
20	0.6068	1004.2	1022.0		0.475	3.716	90.302	4.654	0.697	0.062	0.061	0.013	0.009	0.012	0.000				1311.97	
21	0.5980	990.8	1008.4		0.437	3.760	92.054	2.913	0.672	0.066	0.064	0.014	0.007	0.013	0.000				1303.97	
22	0.6014	995.8	1013.4		0.472	3.724	91.370	3.625	0.648	0.064	0.062	0.014	0.008	0.013	0.000				1306.83	
23	0.6030	1003.5	1021.3		0.608	3.191	91.401	3.905	0.695	0.081	0.072	0.019	0.011	0.017	0.000				1315.25	
24	0.6019	1000.7	1018.4		0.616	3.253	91.548	3.736	0.665	0.073	0.067	0.017	0.010	0.016	0.000				1312.68	
25	0.6037	1003.1	1020.8		0.582	3.330	91.107	4.148	0.653	0.070	0.068	0.016	0.010	0.014	0.000				1313.84	
26	0.6024	1002.5	1020.2		0.621	3.181	91.479	3.878	0.646	0.077	0.073	0.019	0.012	0.016	0.000				1314.52	
27	0.6034	1003.5	1021.3		0.593	3.256	91.239	4.055	0.663	0.076	0.071	0.018	0.011	0.016	0.000				1314.78	
28	0.6019	1003.4	1021.2		0.620	3.082	91.630	3.788	0.675	0.083	0.074	0.019	0.012	0.017	0.000				1316.26	
29	0.6040	1006.9	1024.7		0.592	3.108	91.184	4.232	0.685	0.080	0.071	0.019	0.012	0.018	0.000				1318.50	
30	0.6080	1011.9	1029.8		0.503	3.171	90.432	4.829	0.762	0.079	0.074	0.019	0.012	0.019	0.000				1320.61	
Avg	0.6038	1001.0	1018.6		0.521	3.568	90.970	4.107	0.665	0.066	0.064	0.015	0.010	0.014	0.000				1310.85	

*Zone 32*

**GQ Source Daily Summary**

April 2008

Number: 111

Pressure Base: 14.730

Name: LITTLE KNIFE PLANT

Temperature Base:

Contract Day: 1 Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value As Del	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	Cri'therm
1	0.6410	1103.5	1123.1		0.000	1.607	82.684	15.138	0.547	0.011	0.012	0.000	0.000	0.000	0.000				1402.82	
2	0.6399	1102.1	1121.6		0.000	1.598	82.897	14.935	0.547	0.011	0.013	0.000	0.000	0.000	0.000				1402.12	
3	0.6438	1106.7	1126.3		0.000	1.682	82.108	15.620	0.566	0.011	0.013	0.000	0.000	0.000	0.000				1403.74	
4	0.6411	1103.1	1122.6		0.000	1.654	82.640	15.135	0.548	0.011	0.012	0.000	0.000	0.000	0.000				1402.01	
5	0.6444	1107.7	1127.4		0.000	1.681	81.957	15.790	0.548	0.011	0.013	0.000	0.000	0.000	0.000				1404.33	
6	0.6419	1104.9	1124.5		0.000	1.615	82.482	15.336	0.544	0.011	0.013	0.000	0.000	0.000	0.000				1403.50	
7	0.6389	1101.3	1120.8		0.000	1.550	83.123	14.753	0.551	0.011	0.013	0.000	0.000	0.000	0.000				1402.19	
8	0.6366	1098.5	1117.9		0.000	1.504	83.577	14.367	0.529	0.011	0.012	0.000	0.000	0.000	0.000				1401.15	
9	0.6362	1098.5	1117.9		0.000	1.463	83.672	14.307	0.535	0.011	0.012	0.000	0.000	0.000	0.000				1401.65	
10	0.6359	1098.3	1117.7		0.000	1.451	83.739	14.243	0.544	0.011	0.012	0.000	0.000	0.000	0.000				1401.67	
11	0.6384	1101.0	1120.5		0.000	1.523	83.213	14.693	0.547	0.011	0.012	0.000	0.000	0.000	0.000				1402.37	
12	0.6395	1102.1	1121.7		0.000	1.552	83.008	14.861	0.556	0.011	0.013	0.000	0.000	0.000	0.000				1402.68	
13	0.6393	1102.1	1121.6		0.000	1.546	83.048	14.812	0.570	0.011	0.013	0.000	0.000	0.000	0.000				1402.69	
14	0.6386	1101.4	1120.9		0.000	1.522	83.213	14.655	0.586	0.011	0.013	0.000	0.000	0.000	0.000				1402.57	
15	0.6454	1109.4	1129.0		0.000	1.671	81.817	15.888	0.598	0.012	0.014	0.000	0.000	0.000	0.000				1405.35	
16	0.6519	1117.8	1137.6		0.000	1.774	80.481	17.106	0.612	0.012	0.014	0.000	0.000	0.000	0.000				1408.90	
17	0.6585	1125.8	1145.7		0.000	1.904	79.161	18.253	0.655	0.012	0.015	0.000	0.000	0.000	0.000				1411.90	
18	0.6453	1109.3	1128.9		0.000	1.663	81.847	15.869	0.597	0.011	0.014	0.000	0.000	0.000	0.000				1405.42	
19	0.6389	1101.4	1120.9		0.000	1.539	83.159	14.692	0.584	0.012	0.013	0.000	0.000	0.000	0.000				1402.42	
20	0.6382	1100.7	1120.2		0.000	1.521	83.262	14.645	0.547	0.011	0.013	0.000	0.000	0.000	0.000				1402.22	
21	0.6357	1097.7	1117.1		0.000	1.470	83.778	14.184	0.545	0.011	0.012	0.000	0.000	0.000	0.000				1401.11	
22	0.6407	1103.6	1123.1		0.000	1.578	82.785	15.029	0.583	0.012	0.013	0.000	0.000	0.000	0.000				1403.18	
23	0.6515	1117.2	1137.0		0.000	1.767	80.564	17.046	0.597	0.012	0.014	0.000	0.000	0.000	0.000				1408.64	
24	0.6577	1124.8	1144.7		0.000	1.892	79.282	18.190	0.609	0.012	0.015	0.000	0.000	0.000	0.000				1411.48	
25	0.6462	1110.3	1130.0		0.000	1.690	81.621	16.102	0.564	0.011	0.013	0.000	0.000	0.000	0.000				1405.67	
26	0.6371	1099.4	1118.9		0.000	1.491	83.511	14.416	0.558	0.011	0.013	0.000	0.000	0.000	0.000				1401.85	
27	0.6371	1099.4	1118.9		0.000	1.491	83.511	14.416	0.558	0.011	0.013	0.000	0.000	0.000	0.000				1401.84	
28	0.6490	1114.2	1133.9		0.000	1.719	81.098	16.530	0.626	0.012	0.014	0.000	0.000	0.000	0.000				1407.50	
29	0.6589	1125.9	1145.8		0.000	1.934	79.084	18.294	0.660	0.012	0.016	0.000	0.000	0.000	0.000				1411.63	
30	0.6467	1111.0	1130.7		0.000	1.698	81.539	16.141	0.597	0.012	0.014	0.000	0.000	0.000	0.000				1405.96	
Avg	0.6431	1107.0	1126.2		0.000	1.625	82.261	15.516	0.573	0.011	0.013	0.000	0.000	0.000	0.000				1404.35	

*Zone 33*

## Williston Basin Interstate Pipeline Co. GQ Source Analysis

<b>GQ Source Number:</b>	1202160	<b>Specific Gravity:</b>	0.7920
<b>GQ Source Name:</b>	BOWMAN BORDER	<b>BTU Base:</b>	Dry
<b>Effective Date:</b>	4/1/2008 9:00:00 AM	<b>Dry Heat Value:</b>	1158.44
<b>Effective End Date:</b>	5/1/2008 9:00:00 AM	<b>Wet Heat Value:</b>	1138.28
<b>Pressure Base:</b>	14.730	<b>As Deliv. Heat Value:</b>	1158.44
<b>Viscosity:</b>			

		<u>Mol %</u>	<u>Imported GPM</u>	<u>Calculated GPM</u>
C1	Methane	55.918		
C2	Ethane	27.607		7.361
C3	Propane	3.697	1.016	1.016
IC4	Iso-Butane	0.064	0.021	0.021
NC4	N-Butane	0.173	0.054	0.054
IC5	Iso-Pentane	0.007	0.003	0.003
NC5	N-Pentane	0.018	0.007	0.007
C6+	Hexanes Plus	0.000	0.000	0.000
CO2	Carbon Dioxide	2.208		
N2	Nitrogen	10.308		
O2	Oxygen	0.000		
HE	Helium			
H2	Hydrogen			
H2S	Hydrogen Sulfide			
<b>Totals</b>		100.000	1.101	8.462

**Sample Date:** 3/31/2008 12:00:00 AM  
**Sample Type:** Composite  
**Sample Tech:** sampler  
**Sample Remarks:** *Zone 34*  
**Analysis Remarks:** \_\_\_\_\_

## Williston Basin Interstate Pipeline Co. 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>	7/17/2007 9:00:00 AM	<b>Dry Heat Value:</b>	976.12
<b>Effective End Date:</b>	1/18/2038 9:14:07 PM	<b>Wet Heat Value:</b>	959.13
<b>Pressure Base:</b>	14.730	<b>As Deliv. Heat Value:</b>	976.12
<b>Viscosity:</b>			

		<u>Mol %</u>	<u>Imported GPM</u>	<u>Calculated GPM</u>
C1	Methane	95.696		
C2	Ethane	0.290	0.000	0.078
C3	Propane	0.009	0.003	0.002
IC4	Iso-Butane	0.007	0.003	0.002
NC4	N-Butane	0.000	0.000	
IC5	Iso-Pentane	0.000	0.000	
NC5	N-Pentane	0.000	0.000	
C6+	Hexanes Plus	0.000	0.000	0.000
CO2	Carbon Dioxide	0.083		
N2	Nitrogen	3.915		
O2	Oxygen	0.000		
HE	Helium	0.000		
H2	Hydrogen	0.000		
H2S	Hydrogen Sulfide	0.000		
<b>Totals</b>		100.000	0.006	0.082

**Sample Date:** 6/11/2007 9:00:00 AM  
**Sample Type:** Spot  
**Sample Tech:** MG  
**Sample Remarks:** Zone 35

**Analysis Remarks:**

<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	Monthly Sampler	Bowman Area
35	Monthly 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	APR 08	MAR 08	FEB 08	JAN 08	DEC 07	NOV 07	OCT 07	SEPT 07	AUG 07	JULY 07	JUNE 07	MAY 07	ZONE
MT/ND	211	Sidney Area	1146	1180	1095	1028	1075	1124	1160	1170	1183	1189	1188	1185	1175	21
ND	24	Williston Area	1183	1167	1160	1173	1181	1192	1195	1194	1190	1193	1186	1186	1179	24
ND	25	Watford City Area	1120	1120	1119	1125	1126	1118	1118	1119	1119	1120	1118	1118	1125	25
ND	261	Williston - Troga - Minot Line	1152	1155	1140	1126	1136	1142	1147	1158	1152	1164	1168	1173	1159	261
ND	262	Minot Area	1153	1156	1141	1127	1136	1143	1149	1159	1153	1167	1170	1175	1160	262
ND	263	Troga - Portal	1126	1127	1125	1130	1129	1132	1128	1129	1131	1130	1117	1117	1122	263
ND	264	Williston - Ray	1167	1167	0	0	0	0	0	0	0	0	0	0	0	264
ND	271	Bismarck - Cleveland	1124	1138	1086	1053	1059	1063	1105	1158	1153	1166	1169	1174	1159	271
ND	272	Cleveland - Mapleton	1124	1137	1086	1052	1059	1062	1107	1158	1152	1167	1169	1175	1159	272
ND	273	Cleveland - Grafton	1124	1137	1086	1052	1059	1062	1107	1158	1152	1167	1170	1175	1159	273
ND	28	Bismarck	1089	1035	1023	1022	1017	1015	1030	1124	1151	1167	1169	1171	1143	28
ND	31	Dickinson	1022	1023	1022	1021	1016	1014	1023	1023	1017	1006	1033	1033	1038	31
ND/MT	32	Cabin Creek - Dickinson	1018	1019	1020	1019	1014	1012	1021	1020	1013	991	1023	1028	1033	32
ND	33	Killdeer	1112	1126	1122	1118	1114	1111	1111	1113	1109	1106	1104	1101	1103	33
ND	34	Bowman Area	1174	1158	1161	1165	1174	1182	1189	1175	1175	1172	1190	1172	1180	34
ND	35	Baker Field - North Dakota	976	976	976	976	976	976	976	976	976	976	974	974	974	35

<b>THERMAL ZONE VARIANCE DOCUMENTATION</b>		
<b>April 2008</b>		
<b><i>ZONE</i></b>	<b><i>BTU VARIANCE</i></b>	<b><i>REASON</i></b>
211	85	Receipt from Sidney Area
271	52	Receipt from Cabin Creek Area
272	51	Receipt from Cabin Creek Area
273	51	Receipt from Cabin Creek Area