

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

May 5, 2009

RECEIVED

MAY 06 2009

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 – March 2009

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

1. Attachment A is a schedule showing the thermal billing factors by community that reflect the BTU values shown on Attachment B and were used for billing purposes in April 2009.
2. Attachment B consists of copies of the monthly Heating Value Test Reports received from our supplier for the month of March 2009. 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 March.

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
 APR 2009

Div Nbr	Off Code	City Name	Heat Zone Nbr	Therm Billing Factor
12	314	APPLE VALLEY	271	1.0064
12	327	BISMARCK	28	.9784
12	343	CARRINGTON	273	1.0064
12	344	CLEVELAND	272	.9993
12	364	CAVALIER	273	1.0276
12	365	DAWSON	271	.9993
12	374	FT TOTTEN	273	1.0135
12	375	DEVILS LAKE	273	1.0135
12	379	BARLOW	273	1.0064
12	387	ELDRIDGE	272	1.0064
12	411	GLEN ULLIN	31	.9568
12	417	GRAFTON	273	1.0347
12	439	HANKINSON	600	1.0817
12	449	JAMESTOWN	272	1.0135
12	463	LANGDON	273	1.0064
12	475	LINTON	802	.9736
12	478	LINCOLN	28	.9784
12	494	MEDINA	271	.9993
12	498	MANDAN	28	.9784
12	524	NEW SALEM	28	.9577
12	532	NEW ROCKFORD	273	1.0064
12	539	PARK RIVER	273	1.0276
12	574	SANBORN	272	1.0135
12	593	STEELE	271	.9993
12	598	SHEYENNE	273	1.0135
12	610	TAPPEN	271	.9993
12	625	VALLEY CITY	272	1.0205
12	629	WALHALLA	273	1.0276
12	647	WILTON	262	1.0673
12	717	SPIRITWOOD	272	1.0135
12	718	FAIRMOUNT	600	1.0796
12	732	MSR SITE	273	1.0064
12	733	PAR SITE	273	1.0064
15	303	ALEXANDER	25	1.0654
15	308	ARNEGARD	25	1.0654

MONTANA-DAKOTA UTILITIES CO.
 Therm Billing Factor
 APR 2009

Div Nbr	Off Code	City Name	Heat Zone Nbr	Therm Billing Factor
15	318	BEACH	32	.9361
15	319	BELFIELD	32	.9430
15	323	BERTHOLD	262	1.0673
15	330	BOWMAN	34	1.0751
15	337	BURLINGTON	262	1.0903
15	368	DES LACS	262	1.0750
15	369	DICKINSON	31	.9499
15	384	EPPING	264	1.0446
15	407	GLADSTONE	31	.9499
15	413	GOLVA	32	.9224
15	416	GARRISON	262	1.0750
15	429	HEBRON	31	.9568
15	459	KILLDEER	33	1.0918
15	469	LEFOR	31	.9499
15	474	LIGNITE	263	1.0388
15	500	MARMARTH	34	1.0830
15	505	MINOT	262	1.0903
15	510	MOTT	31	.9499
15	512	MAX	262	1.0673
15	522	NEW ENGLAND	31	.9430
15	540	PALERMO	262	1.0673
15	558	RAY	264	1.0446
15	561	REGENT	31	.9499
15	563	RHAME	34	1.0672
15	564	RICHARDTON	31	.9430
15	568	ROSS	261	1.0408
15	572	RUTHVILLE	262	1.0903
15	583	SENTINEL BUTTE	32	.9361
15	588	SOUTH HEART	31	.9430
15	590	SPRINGBROOK	264	1.0446
15	591	STANLEY	261	1.0484
15	605	SURREY	262	1.0903
15	611	TAYLOR	31	.9430
15	616	TIOGA	261	1.0408
15	619	TURTLE LAKE	262	1.0750

MONTANA-DAKOTA UTILITIES CO.
Therm Billing Factor
APR 2009

Div Nbr	Off Code	City Name	Heat Zone Nbr	Therm Billing Factor
15	620	TRENTON	24	1.0521
15	624	UNDERWOOD	262	1.0750
15	632	WATFORD CITY	25	1.0654
15	636	WHEELLOCK	264	1.0371
15	637	WHITE EARTH	261	1.0484
15	642	WILLISTON	24	1.0521
15	646	WASHBURN	262	1.0827
15	664	RIVERDALE	262	1.0750
15	691	FAIRVIEW	24	1.0521
15	712	MINOT AFB	262	1.0903
15	743	BAKER FIELD	35	.8935

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

GQ Source Daily Summary

March 2009

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	Cri/therm
1	0.6164	1010.0	1027.9		0.100	4.844	87.271	7.259	0.513	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1309.18	
2	0.6069	991.7	1009.3		0.109	5.055	89.056	5.382	0.387	0.006	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1295.45	
3	0.6762	1125.4	1145.4		0.042	3.520	76.113	18.894	1.401	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1392.18	
4	0.7209	1175.0	1195.8		0.707	3.682	70.165	21.841	3.199	0.134	0.248	0.013	0.011	0.001	0.000	0.000	0.000	0.000	1408.64	
5	0.6951	1159.2	1179.7		0.127	3.111	72.917	21.944	1.809	0.036	0.051	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1415.10	
6	0.6917	1157.6	1178.1		0.025	3.049	73.130	22.220	1.542	0.018	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1416.50	
7	0.6915	1158.2	1178.7		0.023	2.997	73.224	22.134	1.588	0.018	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.44	
8	0.6931	1160.3	1180.8		0.023	3.019	72.944	22.348	1.631	0.018	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.34	
9	0.6536	1083.6	1102.8		0.063	3.915	80.310	14.646	1.042	0.013	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1362.83	
10	0.6048	988.6	1006.1		0.110	5.051	89.398	5.131	0.302	0.006	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1293.58	
11	0.6053	989.1	1006.6		0.109	5.065	89.312	5.183	0.322	0.006	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1293.75	
12	0.6140	1006.0	1023.8		0.099	4.861	87.647	6.982	0.400	0.006	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1306.57	
13	0.6397	1056.4	1075.1		0.076	4.242	82.863	12.016	0.784	0.010	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1343.85	
14	0.6733	1122.1	1141.9		0.044	3.456	76.452	18.882	1.141	0.013	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1391.17	
15	0.6484	1072.0	1091.0		0.069	4.123	81.174	13.739	0.877	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1354.66	
16	0.6376	1051.9	1070.5		0.078	4.321	83.197	11.672	0.718	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1340.30	
17	0.6216	1019.6	1037.7		0.100	4.748	86.254	8.340	0.543	0.008	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1316.09	
18	0.6140	1005.1	1022.9		0.106	4.907	87.714	6.798	0.462	0.007	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1305.35	
19	0.6104	997.8	1015.5		0.108	5.018	88.358	6.101	0.404	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1299.62	
20	0.6328	1040.8	1059.2		0.088	4.533	84.156	10.488	0.717	0.009	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1331.37	
21	0.6433	1061.5	1080.3		0.080	4.266	82.223	12.519	0.892	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1346.83	
22	0.6443	1063.7	1082.5		0.081	4.225	82.045	12.725	0.902	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1348.35	
23	0.6266	1028.7	1046.9		0.094	4.675	85.335	9.237	0.644	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1322.40	
24	0.6315	1037.0	1055.4		0.088	4.638	84.383	10.186	0.690	0.008	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1327.75	
25	0.6509	1076.3	1095.4		0.070	4.099	80.721	14.156	0.935	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1357.46	
26	0.6451	1064.7	1083.6		0.076	4.245	81.820	12.990	0.853	0.009	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1348.72	
27	0.6847	1112.2	1131.9		0.603	4.268	76.022	16.690	2.174	0.082	0.147	0.008	0.006	0.000	0.000	0.000	0.000	0.000	1367.55	
28	0.7314	1175.4	1196.2		1.065	4.096	68.838	21.926	3.612	0.154	0.282	0.014	0.012	0.001	0.000	0.000	0.000	0.000	1398.77	
29	0.7322	1177.0	1197.8		1.068	4.074	68.778	21.925	3.675	0.159	0.292	0.015	0.012	0.001	0.000	0.000	0.000	0.000	1399.81	
30	0.7302	1176.2	1197.0		1.000	4.034	69.021	21.895	3.576	0.155	0.288	0.016	0.014	0.001	0.000	0.000	0.000	0.000	1400.90	
31	0.6960	1160.6	1181.1		0.099	3.160	72.614	22.283	1.778	0.026	0.038	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1415.78	
Avg	0.6569	1081.0	1099.9		0.211	4.171	80.111	14.146	1.275	0.032	0.050	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1356.33	

Zone 211

Williston Basin Interstate Pipeline Co. GQ Source Analysis

GQ Source Number:	0602330	Specific Gravity:	0.6693
GQ Source Name:	WILLISTON BORDER	BTU Base:	Dry
Effective Date:	3/10/2009 9:00:00 AM	Dry Heat Value:	1105.99
Effective End Date:	1/18/2038 9:14:07 PM	Wet Heat Value:	1086.74
Pressure Base:	14.730	As Deliv. Heat Value:	1105.99
Viscosity:			

		<u>Mol %</u>	<u>Imported GPM</u>	<u>Calculated GPM</u>
C1	Methane	78.753		
C2	Ethane	14.022		3.739
C3	Propane	1.992	0.547	0.547
IC4	Iso-Butane	0.078	0.025	0.025
NC4	N-Butane	0.138	0.043	0.043
IC5	Iso-Pentane	0.009	0.003	0.003
NC5	N-Pentane	0.007	0.003	0.003
C6+	Hexanes Plus	0.017	0.008	0.007
CO2	Carbon Dioxide	0.532		
N2	Nitrogen	4.447		
O2	Oxygen	0.000		
HE	Helium			
H2	Hydrogen			
H2S	Hydrogen Sulfide			
Totals		99.997	0.630	4.368

Sample Date: 2/28/2009 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

GQ Source Number:	0602230	Specific Gravity:	0.7302
GQ Source Name:	WATFORD CITY BORDER	BTU Base:	Dry
Effective Date:	3/10/2009 9:00:00 AM	Dry Heat Value:	1128.15
Effective End Date:	1/18/2038 9:14:07 PM	Wet Heat Value:	1108.51
Pressure Base:	14.730	As Deliv. Heat Value:	1128.15
Viscosity:			

		Mol %	Imported GPM	Calculated GPM
C1	Methane	68.164		
C2	Ethane	18.156		4.841
C3	Propane	3.774	1.037	1.037
IC4	Iso-Butane	0.194	0.063	0.063
NC4	N-Butane	0.354	0.111	0.111
IC5	Iso-Pentane	0.027	0.010	0.010
NC5	N-Pentane	0.026	0.009	0.009
C6+	Hexanes Plus	0.000	0.000	0.000
CO2	Carbon Dioxide	0.700		
N2	Nitrogen	8.603		
O2	Oxygen	0.000		
HE	Helium			
H2	Hydrogen			
H2S	Hydrogen Sulfide			
Totals		99.998	1.231	6.072

Sample Date: 2/28/2009 12:00:00 AM
 Sample Type: Composite
 Sample Tech: sampler

Sample Remarks: *Zone 25*

Analysis Remarks:

GQ Source Daily Summary

March 2009

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	Cr'ltherm
1	0.6603	1086.7	1105.9		0.340	3.937	79.606	14.770	1.209	0.047	0.080	0.004	0.003	0.005					1361.01	
2	0.6633	1086.9	1106.1		0.346	4.197	79.296	14.546	1.413	0.065	0.120	0.007	0.005	0.005					1358.15	
3	0.6463	1065.1	1084.0		0.138	4.248	81.337	13.732	0.493	0.014	0.027	0.001	0.001	0.009					1348.35	
4	0.6424	1060.7	1079.4		0.020	4.338	81.513	14.031	0.087	0.001	0.002	0.000	0.000	0.009					1346.76	
5	0.6422	1071.1	1090.1		0.023	3.673	81.674	14.526	0.092	0.000	0.000	0.000	0.000	0.012					1360.26	
6	0.6453	1077.9	1097.0		0.053	3.502	81.190	15.068	0.171	0.002	0.003	0.000	0.000	0.012					1365.63	
7	0.6952	1135.7	1155.8		0.592	3.844	74.035	18.965	2.357	0.069	0.118	0.000	0.006	0.010					1386.18	
8	0.6445	1067.0	1085.9		0.073	4.062	81.352	14.261	0.231	0.004	0.006	0.000	0.000	0.010					1352.63	
9	0.6651	1099.0	1118.5		0.308	3.690	78.479	16.280	1.140	0.036	0.057	0.002	0.001	0.007					1371.46	
10	0.6689	1096.8	1116.2		0.359	4.097	78.406	15.304	1.623	0.070	0.125	0.007	0.005	0.005					1364.82	
11	0.6611	1080.3	1099.4		0.387	4.328	80.051	13.364	1.636	0.077	0.140	0.008	0.006	0.004					1352.14	
12	0.6597	1079.7	1098.8		0.398	4.218	80.094	13.625	1.485	0.061	0.106	0.006	0.004	0.003					1352.82	
13	0.6654	1092.0	1111.3		0.418	3.972	78.966	14.985	1.498	0.055	0.094	0.005	0.003	0.004					1362.40	
14	0.6642	1096.1	1115.5		0.336	3.738	78.920	15.569	1.301	0.046	0.078	0.004	0.003	0.006					1368.72	
15	0.6798	1120.2	1140.0		0.398	3.636	76.265	17.854	1.673	0.059	0.101	0.005	0.004	0.006					1382.73	
16	0.6542	1091.6	1110.9		0.124	3.397	79.921	15.936	0.569	0.014	0.025	0.001	0.001	0.012					1373.52	
17	0.6484	1083.0	1102.2		0.101	3.413	80.915	15.094	0.439	0.010	0.017	0.000	0.000	0.012					1368.77	
18	0.6499	1086.3	1105.5		0.128	3.311	80.695	15.343	0.489	0.009	0.014	0.000	0.000	0.010					1371.32	
19	0.6468	1082.2	1101.3		0.093	3.327	81.091	15.155	0.309	0.005	0.008	0.000	0.000	0.012					1369.38	
20	0.6463	1082.3	1101.5		0.059	3.325	81.101	15.237	0.259	0.003	0.004	0.000	0.000	0.013					1370.09	
21	0.6952	1135.7	1155.8		0.592	3.844	74.035	18.965	2.357	0.069	0.118	0.000	0.006	0.010					1386.18	
22	0.6453	1080.9	1100.0		0.071	3.297	81.335	15.007	0.271	0.003	0.005	0.000	0.000	0.011					1369.36	
23	0.6465	1081.9	1101.0		0.092	3.313	81.203	15.018	0.348	0.006	0.009	0.000	0.000	0.010					1369.38	
24	0.6461	1082.5	1101.7		0.077	3.258	81.246	15.079	0.316	0.005	0.008	0.000	0.000	0.010					1370.63	
25	0.6471	1082.4	1101.6		0.107	3.314	81.168	14.964	0.420	0.007	0.010	0.000	0.000	0.010					1369.41	
26	0.6455	1080.9	1100.0		0.086	3.293	81.362	14.912	0.327	0.004	0.006	0.000	0.000	0.010					1369.13	
27	0.6668	1104.3	1123.9		0.325	3.495	78.319	16.508	1.235	0.040	0.066	0.003	0.002	0.008					1376.36	
28	0.6624	1098.0	1117.4		0.288	3.531	79.001	15.980	1.093	0.035	0.059	0.003	0.002	0.008					1372.93	
29	0.6762	1113.9	1133.6		0.431	3.639	76.908	17.281	1.569	0.057	0.099	0.005	0.004	0.007					1378.52	
30	0.6804	1121.0	1140.9		0.456	3.559	76.247	17.867	1.680	0.063	0.111	0.006	0.004	0.007					1383.10	
31	0.6552	1091.5	1110.8		0.171	3.427	79.944	15.670	0.715	0.022	0.038	0.001	0.001	0.011					1372.29	
Avg	0.6586	1091.0	1110.1		0.238	3.685	79.538	15.513	0.929	0.031	0.053	0.002	0.002	0.009					1367.89	

Zone 261

GQ Source Daily Summary

March 2009

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	0.6904	1110.7	1130.4		0.438	5.159	74.069	18.302	1.847	0.064	0.111	0.001	0.000	0.008	0.000				1360.41		
2	0.6870	1102.1	1121.6		0.435	5.361	74.763	17.412	1.834	0.068	0.118	0.001	0.000	0.008	0.000				1353.28		
3	0.6897	1101.1	1120.6		0.435	5.681	74.478	17.122	2.010	0.086	0.174	0.005	0.003	0.006	0.000				1349.33		
4	0.6963	1102.4	1121.9		0.361	6.339	72.682	18.519	1.911	0.066	0.110	0.000	0.000	0.010	0.000				1344.49		
5	0.7075	1113.5	1133.2		0.398	6.655	70.725	19.826	2.170	0.080	0.138	0.001	0.001	0.007	0.000				1347.30		
6	0.6850	1098.3	1117.7		0.249	5.695	74.227	18.413	1.314	0.036	0.055	0.000	0.000	0.010	0.000				1350.59		
7	0.6985	1110.9	1130.5		0.351	6.040	72.148	19.480	1.820	0.056	0.091	0.000	0.000	0.014	0.000				1352.75		
8	0.7003	1110.0	1129.6		0.360	6.255	71.823	19.505	1.884	0.061	0.101	0.000	0.000	0.010	0.000				1349.88		
9	0.6898	1104.0	1123.5		0.363	5.627	73.706	18.566	1.615	0.044	0.071	0.000	0.000	0.009	0.000				1352.76		
10	0.6977	1119.9	1139.7		0.454	5.255	72.885	19.102	2.100	0.072	0.123	0.003	0.000	0.007	0.000				1364.50		
11	0.6878	1097.8	1117.3		0.469	5.646	75.092	16.296	2.259	0.082	0.144	0.004	0.001	0.007	0.000				1347.18		
12	0.6878	1096.7	1116.1		0.482	5.692	75.282	15.910	2.356	0.094	0.167	0.006	0.004	0.007	0.000				1345.80		
13	0.6954	1110.8	1130.5		0.504	5.518	73.811	17.470	2.428	0.095	0.162	0.004	0.001	0.006	0.000				1355.62		
14	0.7014	1120.2	1140.0		0.419	4.944	74.240	17.987	2.184	0.103	0.172	0.004	0.001	0.007	0.000				1361.23		
15	0.6918	1116.7	1136.5		0.497	5.630	71.390	19.594	2.638	0.091	0.135	0.003	0.001	0.009	0.000				1366.47		
16	0.7080	1128.6	1148.6		0.468	6.320	70.057	20.472	2.436	0.088	0.148	0.002	0.000	0.009	0.000				1365.03		
17	0.7129	1125.5	1145.4		0.302	5.423	74.462	18.110	1.560	0.051	0.081	0.000	0.000	0.012	0.000				1356.79		
18	0.6859	1102.8	1122.4		0.332	5.512	73.735	18.556	1.703	0.056	0.094	0.001	0.001	0.011	0.000				1355.21		
19	0.6904	1107.6	1127.2		0.331	5.680	73.319	18.728	1.765	0.061	0.102	0.000	0.000	0.012	0.000				1356.61		
20	0.6928	1108.5	1128.1		0.305	5.484	73.693	18.755	1.609	0.052	0.087	0.000	0.000	0.013	0.000				1355.36		
21	0.6900	1108.0	1127.7		0.336	5.594	73.157	19.120	1.640	0.054	0.088	0.000	0.000	0.012	0.000				1357.56		
22	0.6928	1109.9	1129.5		0.339	5.671	73.011	19.177	1.650	0.054	0.087	0.000	0.000	0.010	0.000				1357.01		
23	0.6935	1109.6	1129.2		0.347	5.658	72.962	19.224	1.663	0.052	0.084	0.000	0.000	0.010	0.000				1355.98		
24	0.6938	1110.0	1129.7		0.307	5.454	74.078	18.544	1.493	0.045	0.069	0.000	0.000	0.011	0.000				1356.26		
25	0.6873	1104.3	1123.9		0.305	5.543	74.091	18.299	1.636	0.046	0.071	0.000	0.000	0.010	0.000				1355.69		
26	0.6878	1103.8	1123.3		0.369	5.078	73.891	18.749	1.760	0.054	0.087	0.001	0.000	0.011	0.000				1354.47		
27	0.6904	1113.7	1133.4		0.442	5.370	73.011	19.008	1.979	0.069	0.113	0.000	0.000	0.009	0.000				1364.13		
28	0.6962	1116.1	1135.8		0.452	5.175	73.682	18.513	1.990	0.068	0.112	0.000	0.000	0.009	0.000				1361.30		
29	0.6932	1114.3	1134.0		0.543	5.177	71.921	19.840	2.282	0.084	0.141	0.003	0.000	0.009	0.000				1362.12		
30	0.7041	1128.9	1148.9		0.520	5.328	71.675	19.966	2.280	0.081	0.138	0.002	0.000	0.010	0.000				1369.15		
31	0.7050	1128.4	1148.4		0.401	5.596	73.255	18.607	1.949	0.067	0.114	0.001	0.000	0.009	0.000				1367.68		
Avg	0.6945	1111.0	1130.5																	1356.52	

Zone 262

Williston Basin Interstate Pipeline Co. GQ Source Analysis

GQ Source Number:	2501030	Specific Gravity:	0.6402
GQ Source Name:	LIGNITE PLANT	BTU Base:	Dry
Effective Date:	3/10/2009 9:00:00 AM	Dry Heat Value:	1092.48
Effective End Date:	1/18/2038 9:14:07 PM	Wet Heat Value:	1073.47
Pressure Base:	14.730	As Deliv. Heat Value:	1092.48
Viscosity:			

		Mol %	Imported GPM	Calculated GPM
C1	Methane	82.436		
C2	Ethane	13.946		3.719
C3	Propane	0.258	0.071	0.071
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	0.046	0.021	0.019
CO2	Carbon Dioxide	0.082		
N2	Nitrogen	3.219		
O2	Oxygen	0.000		
HE	Helium			
H2	Hydrogen			
H2S	Hydrogen Sulfide			
Totals		99.988	0.092	3.808

Sample Date: 2/28/2009 12:00:00 AM
 Sample Type: Composite
 Sample Tech: sampler

Sample Remarks: Zone 263

Analysis Remarks:

GQ Source Daily Summary

March 2009

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	Webbe	Crit'herm
1	0.6315	1036.2	1054.5		0.826	3.559	86.032	8.362	1.019	0.072	0.088	0.016	0.010	0.016	0.000				1327.02	
2	0.6329	1038.9	1057.3		0.773	3.608	85.699	8.670	1.056	0.069	0.088	0.014	0.009	0.015	0.000				1328.98	
3	0.6182	1016.9	1034.9		0.829	3.477	88.467	6.264	0.803	0.059	0.068	0.012	0.008	0.013	0.000				1316.24	
4	0.6056	997.8	1015.5		0.834	3.448	90.754	4.259	0.576	0.050	0.051	0.011	0.007	0.010	0.000				1304.92	
5	0.6152	1009.9	1027.8		0.757	3.737	88.853	5.766	0.745	0.053	0.064	0.010	0.006	0.009	0.000				1310.33	
6	0.6020	997.8	1015.5		0.854	3.083	91.555	3.837	0.523	0.058	0.054	0.014	0.009	0.012	0.000				1308.74	
7	0.6024	997.6	1015.3		0.805	3.206	91.463	3.806	0.566	0.059	0.057	0.015	0.010	0.014	0.000				1308.09	
8	0.6106	1005.1	1022.9		0.765	3.575	89.818	5.000	0.690	0.057	0.062	0.013	0.008	0.013	0.000				1309.11	
9	0.6329	1033.7	1052.0		0.721	4.002	85.468	8.647	0.998	0.059	0.074	0.011	0.007	0.013	0.000				1322.34	
10	0.6305	1032.6	1050.9		0.747	3.800	85.949	8.409	0.935	0.057	0.069	0.012	0.008	0.014	0.000				1323.55	
11	0.6270	1030.6	1048.8		0.807	3.509	86.801	7.760	0.950	0.061	0.075	0.013	0.009	0.014	0.000				1324.53	
12	0.6284	1030.7	1049.0		0.753	3.711	86.610	7.646	1.085	0.069	0.089	0.014	0.010	0.013	0.000				1323.27	
13	0.6352	1039.7	1058.1		0.737	3.825	85.465	8.462	1.282	0.080	0.108	0.016	0.011	0.015	0.000				1327.63	
14	0.6357	1041.2	1059.6		0.715	3.816	85.275	8.727	1.254	0.076	0.099	0.014	0.009	0.014	0.000				1328.99	
15	0.6382	1043.9	1062.4		0.701	3.909	84.806	9.036	1.335	0.076	0.103	0.012	0.008	0.014	0.000				1329.84	
16	0.6022	997.3	1015.0		0.814	3.188	91.495	3.789	0.578	0.051	0.053	0.011	0.007	0.013	0.000				1307.93	
17	0.6369	1042.9	1061.4		0.719	3.816	84.931	9.140	1.210	0.066	0.089	0.010	0.007	0.013	0.000				1330.00	
18	0.6343	1037.0	1055.3		0.818	3.790	85.547	8.457	1.201	0.068	0.087	0.011	0.007	0.014	0.000				1325.02	
19	0.6231	1023.8	1042.0		0.865	3.463	87.554	7.093	0.867	0.058	0.068	0.010	0.007	0.014	0.000				1320.00	
20	0.6258	1026.8	1045.0		0.726	3.752	86.755	7.785	0.839	0.052	0.062	0.010	0.006	0.014	0.000				1320.92	
21	0.6213	1021.6	1039.7		0.776	3.562	87.654	7.121	0.756	0.049	0.055	0.009	0.005	0.013	0.000				1319.08	
22	0.6210	1020.3	1038.3		0.734	3.685	87.649	7.044	0.756	0.049	0.055	0.009	0.005	0.013	0.000				1317.59	
23	0.6183	1017.9	1036.0		0.801	3.470	88.226	6.682	0.697	0.048	0.051	0.009	0.005	0.012	0.000				1317.48	
24	0.6122	1011.3	1029.3		0.894	3.154	89.645	5.490	0.669	0.055	0.059	0.012	0.008	0.014	0.000				1315.46	
25	0.6170	1016.3	1034.3		0.761	3.504	88.612	6.210	0.738	0.062	0.070	0.015	0.010	0.018	0.000				1316.79	
26	0.6104	1009.9	1027.8		0.720	3.338	89.836	5.275	0.680	0.056	0.059	0.013	0.008	0.015	0.000				1315.47	
27	0.6179	1016.2	1034.2		0.757	3.605	88.308	6.466	0.724	0.050	0.058	0.011	0.007	0.014	0.000				1315.62	
28	0.6235	1023.1	1041.2		0.685	3.820	87.070	7.522	0.784	0.043	0.051	0.008	0.005	0.012	0.000				1318.65	
29	0.6447	1051.1	1069.8		0.737	4.029	83.233	10.643	1.199	0.057	0.078	0.008	0.005	0.011	0.000				1332.27	
30	0.6505	1059.1	1077.8		0.756	4.060	82.232	11.441	1.340	0.061	0.086	0.008	0.005	0.011	0.000				1336.34	
31	0.6401	1048.5	1067.1		0.809	3.642	84.322	9.874	1.182	0.062	0.083	0.009	0.006	0.011	0.000				1333.74	
Avg	0.6241	1025.0	1043.2		0.774	3.618	87.293	7.248	0.904	0.059	0.071	0.012	0.008	0.013	0.000				1320.51	

Zone 271

GQ Source Daily Summary

March 2009

Number: 063

Name: CLEVELAND PLANT MAPLETON

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	Crittherm
1	0.6310	1035.2	1053.5		0.793	3.622	86.052	8.313	1.020	0.072	0.088	0.016	0.011	0.014	0.000				1326.19	
2	0.6320	1037.0	1055.4		0.784	3.612	85.820	8.576	1.020	0.068	0.084	0.014	0.010	0.012	0.000				1327.60	
3	0.6242	1024.9	1043.1		0.819	3.561	87.302	7.245	0.905	0.062	0.075	0.012	0.008	0.011	0.000				1320.27	
4	0.6105	1004.0	1021.8		0.834	3.523	89.825	5.015	0.668	0.053	0.057	0.011	0.007	0.008	0.000				1307.77	
5	0.6114	1004.1	1021.9		0.781	3.688	89.546	5.175	0.680	0.051	0.057	0.009	0.006	0.007	0.000				1306.86	
6	0.6061	1001.8	1019.5		0.787	3.317	90.669	4.472	0.606	0.058	0.059	0.013	0.008	0.009	0.000				1309.59	
7	0.6029	998.4	1016.1		0.784	3.229	91.342	3.905	0.582	0.061	0.059	0.015	0.010	0.013	0.000				1308.57	
8	0.6060	999.5	1017.2		0.770	3.476	90.684	4.284	0.635	0.057	0.060	0.013	0.009	0.011	0.000				1306.66	
9	0.6254	1023.5	1041.7		0.733	3.897	86.859	7.460	0.897	0.057	0.069	0.011	0.007	0.009	0.000				1317.16	
10	0.6344	1036.1	1054.4		0.725	3.990	85.101	9.043	0.984	0.057	0.070	0.012	0.008	0.010	0.000				1323.84	
11	0.6250	1027.0	1045.2		0.790	3.553	87.080	7.526	0.891	0.058	0.068	0.013	0.009	0.012	0.000				1322.12	
12	0.6289	1031.4	1049.7		0.773	3.678	86.478	7.813	1.072	0.067	0.085	0.014	0.010	0.011	0.000				1323.65	
13	0.6339	1037.9	1056.3		0.726	3.827	85.595	8.408	1.226	0.078	0.103	0.015	0.011	0.012	0.000				1326.69	
14	0.6350	1039.7	1058.1		0.735	3.811	85.391	8.601	1.248	0.077	0.101	0.014	0.010	0.011	0.000				1327.75	
15	0.6383	1043.4	1061.9		0.684	3.964	84.728	9.083	1.326	0.077	0.104	0.013	0.009	0.010	0.000				1329.19	
16	0.6205	1019.4	1037.5		0.734	3.681	87.979	6.491	0.950	0.060	0.075	0.011	0.007	0.010	0.000				1317.03	
17	0.6228	1022.4	1040.5		0.779	3.646	87.605	6.811	0.994	0.062	0.077	0.011	0.007	0.009	0.000				1318.49	
18	0.6338	1039.5	1057.9		0.757	3.680	85.466	8.794	1.132	0.063	0.081	0.011	0.007	0.010	0.000				1328.77	
19	0.6262	1025.8	1043.9		0.859	3.636	86.991	7.361	0.982	0.064	0.077	0.012	0.008	0.011	0.000				1319.27	
20	0.6230	1023.3	1041.4		0.797	3.584	87.342	7.339	0.800	0.052	0.060	0.010	0.007	0.010	0.000				1319.45	
21	0.6247	1024.9	1043.1		0.760	3.708	86.956	7.611	0.827	0.051	0.061	0.010	0.006	0.010	0.000				1319.65	
22	0.6204	1020.3	1038.3		0.751	3.596	87.765	6.999	0.759	0.050	0.056	0.009	0.005	0.009	0.000				1318.26	
23	0.6180	1016.3	1034.3		0.740	3.623	88.157	6.669	0.694	0.046	0.050	0.008	0.005	0.008	0.000				1315.76	
24	0.6155	1014.6	1032.6		0.894	3.262	88.889	6.144	0.677	0.051	0.055	0.011	0.006	0.010	0.000				1316.15	
25	0.6159	1014.5	1032.4		0.808	3.433	88.816	6.067	0.719	0.058	0.064	0.014	0.009	0.013	0.000				1315.59	
26	0.6130	1012.9	1030.9		0.688	3.439	89.292	5.696	0.724	0.059	0.064	0.014	0.009	0.014	0.000				1316.66	
27	0.6138	1010.0	1027.9		0.782	3.548	89.112	5.739	0.683	0.050	0.056	0.011	0.007	0.011	0.000				1312.04	
28	0.6212	1019.5	1037.5		0.694	3.811	87.484	7.141	0.749	0.044	0.052	0.009	0.006	0.010	0.000				1316.31	
29	0.6396	1044.4	1062.9		0.711	3.987	84.107	9.952	1.098	0.053	0.071	0.008	0.005	0.008	0.000				1329.11	
30	0.6467	1053.5	1072.2		0.747	4.053	82.819	10.990	1.236	0.057	0.079	0.007	0.005	0.007	0.000				1333.24	
31	0.6456	1053.7	1072.4		0.794	3.860	83.187	10.734	1.258	0.062	0.084	0.008	0.005	0.008	0.000				1334.66	
Avg	0.6241	1024.0	1042.6		0.768	3.655	87.240	7.273	0.905	0.059	0.071	0.012	0.008	0.010	0.000				1319.82	

Zone 272

GQ Source Daily Summary

March 2009

Number: 061

Name: CLEVELAND PLANT GRAFTON

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	0.6311	1035.3	1053.6		0.794	3.615	86.048	8.320	1.022	0.072	0.088	0.016	0.011	0.014	0.000				1326.34	
2	0.6321	1037.3	1055.6		0.781	3.610	85.803	8.594	1.023	0.068	0.084	0.015	0.010	0.012	0.000				1327.81	
3	0.6243	1025.2	1043.3		0.819	3.557	87.283	7.261	0.910	0.062	0.076	0.012	0.008	0.011	0.000				1320.45	
4	0.6106	1004.3	1022.0		0.835	3.519	89.791	5.047	0.672	0.053	0.057	0.011	0.007	0.009	0.000				1307.96	
5	0.6113	1004.0	1021.8		0.783	3.681	89.573	5.154	0.679	0.051	0.057	0.009	0.006	0.007	0.000				1306.85	
6	0.6061	1001.8	1019.6		0.788	3.318	90.662	4.475	0.609	0.058	0.059	0.013	0.009	0.009	0.000				1309.59	
7	0.6022	997.3	1015.0		0.755	3.267	91.488	3.731	0.593	0.063	0.062	0.016	0.011	0.014	0.000				1307.99	
8	0.6060	999.7	1017.4		0.759	3.483	90.681	4.282	0.640	0.059	0.061	0.014	0.009	0.011	0.000				1306.89	
9	0.6250	1022.9	1041.1		0.739	3.883	86.956	7.377	0.890	0.057	0.069	0.011	0.008	0.009	0.000				1316.82	
10	0.6347	1036.5	1054.8		0.724	3.999	84.986	9.095	0.991	0.057	0.071	0.012	0.008	0.009	0.000				1323.98	
11	0.6250	1027.1	1045.3		0.791	3.547	87.081	7.527	0.894	0.058	0.069	0.013	0.009	0.012	0.000				1322.24	
12	0.6290	1031.7	1049.9		0.773	3.676	86.451	7.838	1.076	0.067	0.085	0.014	0.010	0.012	0.000				1323.82	
13	0.6341	1038.2	1056.6		0.727	3.825	85.574	8.426	1.229	0.078	0.103	0.015	0.011	0.012	0.000				1326.83	
14	0.6351	1039.8	1058.2		0.739	3.806	85.392	8.598	1.251	0.077	0.101	0.014	0.010	0.012	0.000				1327.85	
15	0.6385	1043.8	1062.2		0.684	3.962	84.701	9.106	1.333	0.078	0.105	0.013	0.009	0.010	0.000				1329.40	
16	0.6250	1024.9	1043.1		0.726	3.780	87.146	7.130	1.045	0.063	0.081	0.011	0.007	0.010	0.000				1319.40	
17	0.6231	1022.9	1041.0		0.778	3.653	87.538	6.856	1.008	0.063	0.078	0.011	0.007	0.009	0.000				1318.70	
18	0.6342	1040.3	1058.7		0.754	3.673	85.383	8.882	1.136	0.063	0.081	0.011	0.007	0.010	0.000				1329.38	
19	0.6263	1025.9	1044.0		0.859	3.640	86.979	7.365	0.985	0.064	0.077	0.012	0.008	0.011	0.000				1319.28	
20	0.6233	1023.7	1041.8		0.796	3.599	87.292	7.382	0.802	0.052	0.060	0.010	0.007	0.010	0.000				1319.62	
21	0.6248	1025.0	1043.2		0.761	3.707	86.941	7.627	0.826	0.052	0.060	0.010	0.006	0.010	0.000				1319.69	
22	0.6205	1020.3	1038.4		0.752	3.594	87.761	7.001	0.762	0.050	0.056	0.009	0.005	0.010	0.000				1318.31	
23	0.6188	1017.3	1035.3		0.738	3.649	87.989	6.796	0.710	0.047	0.051	0.008	0.005	0.009	0.000				1316.14	
24	0.6156	1014.8	1032.8		0.885	3.271	88.868	6.162	0.682	0.051	0.055	0.011	0.006	0.010	0.000				1316.30	
25	0.6159	1014.6	1032.6		0.808	3.431	88.803	6.077	0.721	0.058	0.065	0.014	0.009	0.013	0.000				1315.69	
26	0.6131	1013.1	1031.0		0.689	3.436	89.279	5.709	0.725	0.060	0.065	0.014	0.009	0.014	0.000				1316.79	
27	0.6138	1010.2	1028.1		0.782	3.545	89.098	5.753	0.686	0.050	0.056	0.011	0.007	0.011	0.000				1312.16	
28	0.6216	1020.1	1038.2		0.691	3.808	87.421	7.200	0.758	0.044	0.052	0.009	0.006	0.011	0.000				1316.79	
29	0.6395	1044.3	1062.8		0.711	3.982	84.135	9.927	1.100	0.053	0.071	0.008	0.005	0.008	0.000				1329.09	
30	0.6469	1053.8	1072.4		0.748	4.051	82.809	10.997	1.240	0.057	0.079	0.007	0.005	0.008	0.000				1333.38	
31	0.6456	1053.9	1072.5		0.795	3.857	83.176	10.744	1.260	0.062	0.085	0.009	0.005	0.008	0.000				1334.79	
AVG	0.6243	1025.0	1043.0		0.767	3.659	87.196	7.304	0.912	0.060	0.072	0.012	0.008	0.012	0.000				1320.01	

Zone 273

GQ Source Daily Summary

March 2009

Number: 041

Name: BISMARCK PLANT 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	Cr'l'therm
1	0.6080	1007.6	1025.4		0.978	2.854	90.841	4.403	0.711	0.077	0.081	0.021	0.014	0.020	0.000				1315.10	
2	0.6060	1005.1	1022.9		0.930	2.894	91.114	4.189	0.675	0.072	0.076	0.019	0.013	0.018	0.000				1314.00	
3	0.6015	996.2	1013.8		0.931	3.017	91.804	3.530	0.562	0.058	0.059	0.015	0.010	0.014	0.000				1307.14	
4	0.5969	986.5	1003.9		0.877	3.261	92.454	2.844	0.442	0.048	0.044	0.012	0.007	0.011	0.000				1299.37	
5	0.5915	979.6	996.9		0.861	3.197	93.431	2.053	0.349	0.045	0.037	0.010	0.006	0.010	0.000				1296.19	
6	0.6001	995.9	1013.5		0.816	3.077	91.916	3.529	0.508	0.060	0.055	0.015	0.010	0.013	0.000				1308.29	
7	0.6024	997.5	1015.2		0.788	3.236	91.472	3.771	0.575	0.060	0.058	0.015	0.010	0.015	0.000				1307.95	
8	0.6004	993.3	1010.9		0.804	3.277	91.812	3.438	0.525	0.054	0.053	0.014	0.009	0.013	0.000				1304.62	
9	0.6038	1001.1	1018.8		0.863	3.036	91.270	4.095	0.584	0.056	0.058	0.014	0.009	0.013	0.000				1311.11	
10	0.6063	1004.6	1022.4		0.899	2.995	90.914	4.381	0.647	0.060	0.064	0.016	0.011	0.014	0.000				1313.10	
11	0.6070	1004.6	1022.3		0.911	3.050	90.790	4.424	0.656	0.061	0.066	0.016	0.011	0.015	0.000				1312.22	
12	0.6073	1006.6	1024.4		0.847	3.055	90.693	4.556	0.672	0.064	0.069	0.017	0.012	0.015	0.000				1314.49	
13	0.6075	1009.5	1027.4		0.868	2.854	90.806	4.566	0.706	0.073	0.075	0.020	0.013	0.019	0.000				1318.23	
14	0.6034	1004.2	1022.0		0.835	2.853	91.498	3.986	0.642	0.068	0.068	0.018	0.012	0.018	0.000				1315.58	
15	0.5997	996.5	1014.2		0.804	3.042	92.044	3.444	0.536	0.059	0.057	0.016	0.010	0.016	0.000				1309.66	
16	0.5960	989.8	1007.3		0.830	3.042	92.646	2.914	0.443	0.047	0.045	0.012	0.008	0.013	0.000				1304.75	
17	0.5985	993.1	1010.7		0.912	2.947	92.314	3.194	0.492	0.053	0.051	0.013	0.008	0.013	0.000				1306.43	
18	0.6010	997.3	1015.0		0.930	2.896	91.903	3.579	0.544	0.057	0.055	0.014	0.009	0.014	0.000				1309.30	
19	0.6000	996.4	1014.0		0.987	2.778	92.138	3.428	0.526	0.054	0.052	0.013	0.009	0.013	0.000				1309.05	
20	0.6005	994.7	1012.3		0.900	3.055	91.911	3.467	0.529	0.052	0.052	0.013	0.009	0.013	0.000				1306.37	
21	0.5939	987.3	1004.8		0.950	2.815	93.166	2.551	0.398	0.047	0.042	0.012	0.007	0.012	0.000				1303.78	
22	0.5919	984.2	1001.6		0.898	2.897	93.456	2.274	0.364	0.045	0.037	0.011	0.006	0.011	0.000				1301.85	
23	0.5925	985.2	1002.6		0.959	2.795	93.418	2.352	0.366	0.045	0.037	0.011	0.006	0.010	0.000				1302.54	
24	0.6003	996.9	1014.5		0.973	2.795	92.070	3.489	0.527	0.055	0.054	0.014	0.009	0.013	0.000				1309.42	
25	0.6010	996.6	1014.3		0.848	3.065	91.864	3.502	0.544	0.063	0.065	0.018	0.012	0.018	0.000				1308.32	
26	0.6021	999.8	1017.6		0.752	3.123	91.509	3.874	0.589	0.056	0.057	0.014	0.010	0.015	0.000				1311.31	
27	0.6013	995.2	1012.8		0.852	3.172	91.687	3.621	0.529	0.050	0.053	0.013	0.009	0.014	0.000				1306.19	
28	0.5942	983.6	1001.0		0.837	3.243	92.917	2.487	0.404	0.042	0.041	0.011	0.007	0.011	0.000				1298.52	
29	0.6035	999.1	1016.8		0.962	2.976	91.346	4.038	0.555	0.048	0.047	0.011	0.006	0.010	0.000				1308.88	
30	0.6052	1000.6	1018.3		1.045	2.918	91.185	4.101	0.615	0.053	0.055	0.011	0.007	0.010	0.000				1308.99	
31	0.6041	1002.4	1020.1		0.981	2.830	91.286	4.223	0.572	0.050	0.049	0.011	0.007	0.011	0.000				1312.56	
Avg	0.6009	996.0	1014.1		0.891	3.001	91.861	3.558	0.542	0.056	0.055	0.014	0.009	0.014	0.000				1308.24	

Zone 28

GQ Source Daily Summary

March 2009

Number: 271

Name: DICKINSON 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	Critherm
1	0.6075	1006.8	1024.7		0.946	2.897	90.797	4.463	0.717	0.075	0.080	0.001	0.000	0.026	0.000				1314.66	
2	0.6020	1001.1	1018.8		0.919	2.777	91.720	3.827	0.609	0.061	0.063	0.000	0.000	0.023	0.000				1313.04	
3	0.5976	992.3	1009.9		0.866	2.976	92.363	3.181	0.499	0.049	0.048	0.000	0.000	0.018	0.000				1306.38	
4	0.5933	982.2	999.6		0.848	3.212	93.045	2.410	0.391	0.042	0.035	0.000	0.000	0.018	0.000				1297.85	
5	0.5926	984.2	1001.7		0.814	3.072	93.223	2.384	0.399	0.049	0.041	0.000	0.000	0.019	0.000				1301.26	
6	0.6010	998.0	1015.7		0.779	3.082	91.657	3.800	0.548	0.057	0.055	0.000	0.000	0.022	0.000				1310.12	
7	0.5992	994.4	1012.0		0.762	3.162	91.961	3.452	0.537	0.053	0.051	0.000	0.000	0.021	0.000				1307.29	
8	0.6002	996.0	1013.6		0.792	3.105	91.797	3.647	0.539	0.049	0.050	0.000	0.000	0.020	0.000				1308.42	
9	0.6031	1002.2	1019.9		0.868	2.889	91.391	4.123	0.596	0.055	0.057	0.000	0.000	0.021	0.000				1313.32	
10	0.6045	1003.9	1021.7		0.862	2.925	91.144	4.296	0.635	0.056	0.060	0.000	0.000	0.022	0.000				1314.06	
11	0.6054	1003.4	1021.2		0.894	2.992	90.997	4.331	0.646	0.058	0.063	0.000	0.000	0.022	0.000				1312.43	
12	0.6058	1007.2	1025.0		0.806	2.930	90.909	4.518	0.680	0.065	0.069	0.000	0.000	0.023	0.000				1316.97	
13	0.6047	1007.3	1025.1		0.861	2.738	91.236	4.321	0.681	0.068	0.070	0.000	0.000	0.025	0.000				1318.25	
14	0.5966	998.3	1015.9		0.706	2.756	92.524	3.354	0.530	0.055	0.054	0.000	0.000	0.021	0.000				1315.35	
15	0.5942	993.5	1011.1		0.727	2.793	92.910	3.000	0.460	0.045	0.045	0.000	0.000	0.020	0.000				1311.67	
16	0.5960	989.9	1007.4		0.894	2.934	92.681	2.917	0.461	0.048	0.045	0.000	0.000	0.020	0.000				1305.12	
17	0.5948	994.0	1011.7		0.820	2.671	92.910	3.023	0.466	0.047	0.045	0.000	0.000	0.019	0.000				1311.78	
18	0.5964	996.3	1013.9		0.867	2.614	92.692	3.203	0.506	0.050	0.048	0.000	0.000	0.020	0.000				1312.97	
19	0.5963	995.4	1013.0		0.894	2.619	92.697	3.193	0.487	0.046	0.045	0.000	0.000	0.019	0.000				1311.90	
20	0.5951	990.8	1008.3		0.864	2.832	92.856	2.878	0.460	0.046	0.045	0.000	0.000	0.019	0.000				1307.15	
21	0.5925	985.5	1002.9		0.945	2.791	93.362	2.430	0.373	0.044	0.035	0.000	0.000	0.019	0.000				1303.11	
22	0.5886	982.1	999.5		0.852	2.773	93.996	1.960	0.334	0.039	0.029	0.000	0.000	0.016	0.000				1302.77	
23	0.5927	990.1	1007.6		0.915	2.572	93.365	2.641	0.408	0.043	0.038	0.000	0.000	0.018	0.000				1308.85	
24	0.5976	996.2	1013.9		0.900	2.685	92.469	3.321	0.509	0.051	0.052	0.000	0.000	0.022	0.000				1311.50	
25	0.6004	1000.1	1017.8		0.730	2.974	91.804	3.765	0.586	0.058	0.060	0.000	0.000	0.025	0.000				1313.52	
26	0.5994	995.6	1013.2		0.779	3.075	91.958	3.527	0.537	0.051	0.052	0.000	0.000	0.021	0.000				1308.76	
27	0.5989	991.9	1009.4		0.850	3.152	92.062	3.318	0.505	0.045	0.047	0.000	0.000	0.021	0.000				1304.33	
28	0.5965	987.4	1004.9		0.846	3.202	92.440	2.980	0.436	0.039	0.038	0.000	0.000	0.019	0.000				1301.09	
29	0.6029	999.7	1017.4		1.004	2.809	91.502	4.011	0.565	0.045	0.045	0.000	0.000	0.019	0.000				1310.38	
30	0.6041	1001.2	1018.9		0.986	2.860	91.278	4.165	0.594	0.049	0.049	0.000	0.000	0.019	0.000				1311.00	
31	0.6027	1003.6	1021.4		0.893	2.726	91.465	4.222	0.576	0.050	0.048	0.000	0.000	0.020	0.000				1315.65	
Avg	0.5988	996.0	1013.5		0.854	2.890	92.168	3.441	0.525	0.051	0.050	0.000	0.000	0.021	0.000				1309.71	

Zone 31

GQ Source Daily Summary

March 2009

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	Critherm
1	0.6063	1005.4	1023.2		0.942	2.888	91.087	4.191	0.690	0.073	0.077	0.020	0.013	0.017	0.000					1314.01
2	0.6032	999.2	1016.9		0.941	2.971	91.541	3.781	0.603	0.062	0.063	0.015	0.010	0.014	0.000					1309.38
3	0.5976	987.9	1005.4		0.892	3.211	92.385	2.915	0.469	0.051	0.048	0.012	0.008	0.010	0.000					1300.56
4	0.5918	980.1	997.5		0.853	3.200	93.376	2.108	0.354	0.044	0.038	0.010	0.006	0.009	0.000					1296.60
5	0.5962	989.5	1007.0		0.842	3.063	92.690	2.783	0.473	0.060	0.053	0.015	0.009	0.013	0.000					1304.11
6	0.6015	996.3	1013.9		0.793	3.214	91.685	3.563	0.580	0.062	0.061	0.016	0.011	0.015	0.000					1307.37
7	0.5997	992.9	1010.5		0.788	3.266	91.936	3.338	0.526	0.056	0.054	0.014	0.009	0.013	0.000					1304.80
8	0.6025	997.9	1015.6		0.851	3.122	91.494	3.817	0.571	0.054	0.056	0.013	0.009	0.012	0.000					1308.40
9	0.6044	1002.3	1020.1		0.901	2.958	91.272	4.079	0.627	0.060	0.063	0.015	0.010	0.014	0.000					1312.08
10	0.6061	1003.7	1021.5		0.891	3.048	90.935	4.308	0.653	0.060	0.065	0.015	0.011	0.015	0.000					1312.10
11	0.6065	1003.8	1021.6		0.893	3.071	90.880	4.327	0.658	0.062	0.067	0.016	0.011	0.015	0.000					1311.84
12	0.6068	1008.3	1026.2		0.838	2.915	90.875	4.477	0.699	0.071	0.074	0.019	0.013	0.019	0.000					1317.31
13	0.6048	1006.1	1023.9		0.857	2.827	91.286	4.170	0.670	0.070	0.071	0.019	0.012	0.018	0.000					1316.67
14	0.5987	995.4	1013.0		0.797	3.005	92.262	3.222	0.549	0.062	0.060	0.016	0.010	0.017	0.000					1309.14
15	0.5964	990.1	1007.6		0.814	3.078	92.589	2.923	0.466	0.048	0.048	0.012	0.008	0.014	0.000					1304.82
16	0.5970	990.9	1008.5		0.918	2.930	92.620	2.909	0.484	0.054	0.051	0.013	0.008	0.013	0.000					1305.21
17	0.5993	994.8	1012.4		0.920	2.905	92.219	3.280	0.529	0.056	0.054	0.014	0.009	0.014	0.000					1307.83
18	0.5998	995.9	1013.6		0.972	2.802	92.189	3.359	0.533	0.055	0.053	0.014	0.009	0.014	0.000					1308.78
19	0.6002	994.6	1012.3		0.930	2.988	92.015	3.393	0.534	0.053	0.053	0.013	0.009	0.013	0.000					1306.59
20	0.5932	986.2	1003.6		0.949	2.815	93.321	2.395	0.398	0.048	0.043	0.012	0.007	0.012	0.000					1303.08
21	0.5907	982.2	999.6		0.906	2.892	93.720	2.004	0.365	0.046	0.038	0.011	0.006	0.012	0.000					1300.54
22	0.5901	980.9	998.3		0.956	2.837	93.869	1.883	0.347	0.045	0.036	0.011	0.006	0.010	0.000					1299.49
23	0.5974	992.5	1010.1		0.998	2.747	92.671	2.941	0.501	0.054	0.052	0.014	0.009	0.013	0.000					1306.88
24	0.5996	994.2	1011.8		0.903	2.993	92.172	3.240	0.528	0.060	0.060	0.016	0.011	0.017	0.000					1311.60
25	0.6017	999.7	1017.4		0.733	3.118	91.633	3.742	0.604	0.061	0.063	0.016	0.011	0.017	0.000					1305.07
26	0.6003	993.5	1011.1		0.850	3.193	91.886	3.413	0.528	0.051	0.053	0.013	0.009	0.013	0.000					1301.63
27	0.5964	987.7	1005.2		0.839	3.189	92.571	2.818	0.458	0.045	0.047	0.012	0.008	0.013	0.000					1307.26
28	0.6020	996.7	1014.3		0.939	3.023	91.596	3.786	0.535	0.047	0.047	0.011	0.006	0.010	0.000					1307.61
29	0.6038	998.4	1016.1		1.051	2.912	91.465	3.832	0.606	0.052	0.054	0.011	0.007	0.010	0.000					1311.39
30	0.6034	1001.0	1018.7		0.970	2.842	91.425	4.066	0.569	0.050	0.049	0.011	0.007	0.011	0.000					1309.71
31	0.5986	995.7	1013.3		0.930	2.771	92.342	3.318	0.502	0.053	0.050	0.013	0.008	0.013	0.000					1307.37
Avg	0.5999	995.0	1012.6		0.892	2.993	92.065	3.367	0.536	0.056	0.055	0.014	0.009	0.014	0.000					1307.37

Zone 32

GQ Source Daily Summary

March 2009

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	Critherm
1	0.6667	1133.5	1153.6		0.000	2.212	77.191	20.145	0.434	0.008	0.010	0.000	0.000	0.000	0.000				1412.79	
2	0.6660	1132.9	1153.0		0.000	2.184	77.357	19.985	0.457	0.008	0.010	0.000	0.000	0.000	0.000				1412.77	
3	0.6676	1134.6	1154.7		0.000	2.225	77.071	20.196	0.491	0.008	0.010	0.000	0.000	0.000	0.000				1413.25	
4	0.6680	1135.3	1155.4		0.000	2.223	77.001	20.258	0.500	0.008	0.010	0.000	0.000	0.000	0.000				1413.63	
5	0.6669	1133.4	1153.4		0.000	2.240	77.177	20.104	0.461	0.008	0.010	0.000	0.000	0.000	0.000				1412.38	
6	0.6678	1135.0	1155.1		0.000	2.218	77.005	20.302	0.457	0.008	0.010	0.000	0.000	0.000	0.000				1413.56	
7	0.6684	1136.2	1156.3		0.000	2.208	76.880	20.426	0.467	0.008	0.010	0.000	0.000	0.000	0.000				1414.31	
8	0.6676	1135.0	1155.1		0.000	2.206	77.010	20.330	0.435	0.008	0.011	0.000	0.000	0.000	0.000				1413.70	
9	0.6665	1133.8	1153.9		0.000	2.172	77.209	20.209	0.394	0.008	0.010	0.000	0.000	0.000	0.000				1413.39	
10	0.6673	1134.2	1154.3		0.000	2.222	77.035	20.327	0.398	0.007	0.010	0.000	0.000	0.000	0.000				1413.06	
11	0.6675	1134.8	1154.9		0.000	2.205	77.020	20.337	0.422	0.007	0.009	0.000	0.000	0.000	0.000				1413.59	
12	0.6696	1137.7	1157.9		0.000	2.225	76.626	20.677	0.455	0.008	0.010	0.000	0.000	0.000	0.000				1414.99	
13	0.6708	1139.6	1159.7		0.000	2.223	76.419	20.855	0.485	0.008	0.010	0.000	0.000	0.000	0.000				1416.05	
14	0.6701	1139.0	1159.2		0.000	2.191	76.567	20.736	0.488	0.008	0.010	0.000	0.000	0.000	0.000				1416.11	
15	0.6701	1139.3	1159.5		0.000	2.173	76.573	20.741	0.496	0.008	0.010	0.000	0.000	0.000	0.000				1416.48	
16	0.6663	1133.7	1153.8		0.000	2.160	77.352	19.973	0.496	0.008	0.010	0.000	0.000	0.000	0.000				1413.45	
17	0.6693	1137.0	1157.2		0.000	2.243	76.725	20.504	0.509	0.008	0.010	0.000	0.000	0.000	0.000				1414.40	
18	0.6691	1136.4	1156.5		0.000	2.256	76.754	20.487	0.485	0.008	0.010	0.000	0.000	0.000	0.000				1413.91	
19	0.6677	1134.9	1155.0		0.000	2.215	77.053	20.223	0.490	0.008	0.010	0.000	0.000	0.000	0.000				1413.53	
20	0.6682	1135.9	1156.1		0.000	2.205	76.953	20.327	0.497	0.008	0.010	0.000	0.000	0.000	0.000				1414.23	
21	0.6693	1137.3	1157.4		0.000	2.221	76.724	20.543	0.493	0.008	0.010	0.000	0.000	0.000	0.000				1414.79	
22	0.6690	1136.8	1157.0		0.000	2.221	76.797	20.474	0.492	0.008	0.010	0.000	0.000	0.000	0.000				1414.55	
23	0.6659	1132.7	1152.8		0.000	2.178	77.374	19.999	0.431	0.008	0.010	0.000	0.000	0.000	0.000				1412.74	
24	0.6681	1135.9	1156.0		0.000	2.192	76.923	20.431	0.435	0.008	0.011	0.000	0.000	0.000	0.000				1414.35	
25	0.6669	1134.3	1154.4		0.000	2.179	77.167	20.205	0.431	0.008	0.011	0.000	0.000	0.000	0.000				1413.58	
26	0.6682	1136.0	1156.1		0.000	2.199	76.908	20.429	0.446	0.008	0.010	0.000	0.000	0.000	0.000				1414.33	
27	0.6691	1137.7	1157.9		0.000	2.177	76.764	20.559	0.483	0.008	0.010	0.000	0.000	0.000	0.000				1415.55	
28	0.6685	1136.4	1156.5		0.000	2.206	76.876	20.416	0.484	0.008	0.010	0.000	0.000	0.000	0.000				1414.46	
29	0.6677	1135.3	1155.5		0.000	2.194	77.004	20.337	0.446	0.008	0.010	0.000	0.000	0.000	0.000				1414.01	
30	0.6666	1133.7	1153.8		0.000	2.187	77.230	20.125	0.441	0.008	0.010	0.000	0.000	0.000	0.000				1413.17	
31	0.6676	1135.0	1155.1		0.000	2.208	77.021	20.302	0.451	0.008	0.010	0.000	0.000	0.000	0.000				1413.65	
Av9	0.6680	1136.0	1155.7		0.000	2.205	76.960	20.353	0.463	0.008	0.010	0.000	0.000	0.000	0.000				1414.02	

Zone 33

Williston Basin Interstate Pipeline Co. GQ Source Analysis

GQ Source Number:	1202160	Specific Gravity:	0.8047
GQ Source Name:	BOWMAN BORDER	BTU Base:	Dry
Effective Date:	3/10/2009 9:00:00 AM	Dry Heat Value:	1171.85
Effective End Date:	4/1/2009 9:00:00 AM	Wet Heat Value:	1151.46
Pressure Base:	14.730	As Deliv. Heat Value:	1171.85
Viscosity:			

		<u>Mol %</u>	<u>Imported GPM</u>	<u>Calculated GPM</u>
C1	Methane	54.828		
C2	Ethane	27.072	0.000	7.219
C3	Propane	4.764	1.309	1.309
IC4	Iso-Butane	0.107	0.035	0.035
NC4	N-Butane	0.317	0.100	0.100
IC5	Iso-Pentane	0.013	0.005	0.005
NC5	N-Pentane	0.034	0.012	0.012
C6+	Hexanes Plus	0.000	0.000	0.000
CO2	Carbon Dioxide	2.316		
N2	Nitrogen	10.547		
O2	Oxygen	0.000		
HE	Helium			
H2	Hydrogen			
H2S	Hydrogen Sulfide			
Totals		99.998	1.460	8.679

Sample Date: 2/13/2009 12:00:00 AM
Sample Type: Composite
Sample Tech: sampler
Sample Remarks: Zone 34
Analysis Remarks:

Williston Basin Interstate Pipeline Co. GQ Source Analysis

GQ Source Number:	1201140	Specific Gravity:	0.5740
GQ Source Name:	EAGLE 8B ND	BTU Base:	Dry
Effective Date:	7/1/2008 9:00:00 AM	Dry Heat Value:	974.02
Effective End Date:	1/18/2038 9:14:07 PM	Wet Heat Value:	957.16
Pressure Base:	14.730	As Deliv. Heat Value:	974.02
Viscosity:			

		<u>Mol %</u>	<u>Imported GPM</u>	<u>Calculated GPM</u>
C1	Methane	95.505		
C2	Ethane	0.281	0.076	0.075
C3	Propane	0.009	0.002	0.002
IC4	Iso-Butane	0.007	0.002	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	0.072		
N2	Nitrogen	4.126		
O2	Oxygen	0.000		
HE	Helium	0.000		
H2	Hydrogen	0.000		
H2S	Hydrogen Sulfide	0.000		
Totals		100.000	0.080	0.080

Sample Date: 6/13/2006 9:00:00 AM
 Sample Type: Spot
 Sample Tech: MG

Sample Remarks: Zone 35

Analysis Remarks:

NORTH DAKOTA HEATING VALUE ZONES		
ZONES	MEASURING DEVICE	LOCATION
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

STATE	ZONE	ZONE BOUNDARY	12 MONTH AVERAGE	MAR 09	FEB 09	JAN 09	DEC 08	NOV 08	OCT 08	SEPT 08	AUG 08	JULY 08	JUNE 08	MAY 08	APR 08	ZONE
MT/ND	211	Sidney Area	1144	1100	1019	1021	1065	1184	1195	1198	1194	1192	1195	1190	1180	21
ND	24	Williston Area	1167	1106	1101	1158	1195	1171	1173	1175	1189	1189	1189	1193	1167	24
ND	25	Watford City Area	1128	1128	1128	1130	1127	1126	1130	1129	1131	1132	1130	1130	1120	25
ND	261	Williston - Toga - Minot Line	1129	1110	1101	1102	1123	1148	1112	1130	1135	1148	1141	1147	1155	261
ND	262	Minot Area	1135	1130	1114	1105	1129	1147	1116	1133	1141	1147	1144	1152	1156	262
ND	263	Toga - Portal	1126	1092	1099	1103	1139	1125	1129	1142	1145	1141	1132	1136	1127	263
ND	264	Williston - Ray	1167	1106	1101	1158	1195	1171	1173	1175	1189	1189	1189	1193	1167	264
ND	271	Bismarck - Cleveland	1107	1043	1058	1056	1081	1081	1068	1127	1140	1146	1142	1151	1138	271
ND	272	Cleveland - Mapleton	1106	1043	1057	1056	1080	1129	1068	1126	1140	1146	1142	1151	1137	272
ND	273	Cleveland - Grafton	1106	1043	1057	1056	1080	1129	1068	1127	1140	1146	1142	1151	1137	273
ND	28	Bismarck - Cabin Creek	1067	1014	1021	1028	1020	1013	1038	1088	1116	1147	1143	1135	1035	28
ND	31	Dickinson Area	1028	1013	1019	1028	1018	1008	1037	1038	1044	1040	1032	1037	1023	31
ND/MT	32	Cabin Creek - Dickinson	1025	1013	1019	1027	1018	1007	1037	1032	1036	1036	1027	1031	1019	32
ND	33	Killdeer	1153	1156	1157	1156	1154	1160	1158	1158	1161	1158	1149	1146	1126	33
ND	34	Bowman Area	1169	1172	1164	1168	1168	1160	1176	1176	1179	1170	1165	1167	1158	34
ND	35	Baker Field - North Dakota	975	974	974	974	974	974	974	974	974	974	976	976	976	35

THERMAL ZONE VARIANCE DOCUMENTATION		
March 2009		
ZONE	BTU VARIANCE	REASON
211	81	Receipt from Saco Area and Sidney Plant