

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

July 1, 2011

RECEIVED

JUL 05 2011

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

PUBLIC SERVICE COMMISSION

Re: Case No. 11,006 (Therm Billing)
Monthly Report – May 2011

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

1. Attachment A is a schedule showing the thermal billing factors by community that reflect the BTU values shown on Attachment B and were used for billing purposes in June 2011.
2. Attachment B consists of copies of the monthly Heating Value Test Reports received from our supplier for the month of May 2011. There is a report for each of the 16 thermal zones for the month.
3. Attachment C is a listing which states the type of measuring device in place at each zone.
4. Attachment D is a monthly list of the heating value data, by zone, for the most recent 12-month period and an average thereof. It is being provided pursuant to a Staff request.
5. Attachment E provides a brief explanation of the thermal variances, where applicable, for the month of May 2011.

Please acknowledge receipt by stamping or initialing the duplicate copy of this letter attached hereto and returning the same in the enclosed self-addressed, stamped envelope. Should the Commission or its Staff have any comments or questions with respect to these reports, please call me.

Sincerely,



Tamie Aberle
Regulatory Affairs Manager

MONTANA-DAKOTA UTILITIES CO.
Therm Billing Factor
JUNE 2011

Div Nbr	Off Code	City Name	Heat Zone Nbr	Therm Billing Factor
12	314	APPLE VALLEY	271	1.1116
12	327	BISMARCK	28	1.0990
12	343	CARRINGTON	273	1.1106
12	344	CLEVELAND	272	1.1028
12	364	CAVALIER	273	1.1340
12	365	DAWSON	271	1.1037
12	374	FT TOTTEN	273	1.1184
12	375	DEVILS LAKE	273	1.1184
12	379	BARLOW	273	1.1106
12	387	ELDRIDGE	272	1.1106
12	411	GLEN ULLIN	31	1.0475
12	417	GRAFTON	273	1.1418
12	439	HANKINSON	600	1.0729
12	449	JAMESTOWN	272	1.1184
12	463	LANGDON	273	1.1106
12	475	LINTON	802	.9803
12	478	LINCOLN	28	1.0990
12	494	MEDINA	271	1.1037
12	498	MANDAN	28	1.0990
12	524	NEW SALEM	28	1.0758
12	532	NEW ROCKFORD	273	1.1106
12	539	PARK RIVER	273	1.1340
12	574	SANBORN	272	1.1184
12	593	STEELE	271	1.1037
12	598	SHEYENNE	273	1.1184
12	610	TAPPEN	271	1.1037
12	625	VALLEY CITY	272	1.1261
12	629	WALHALLA	273	1.1340
12	647	WILTON	262	1.0966
12	717	SPIRITWOOD	272	1.1184
12	718	FAIRMOUNT	600	1.0707
12	732	MSR SITE	273	1.1106
12	733	PAR SITE	273	1.1106
15	303	ALEXANDER	25	1.0654
15	308	ARNEGARD	25	1.0654

MONTANA-DAKOTA UTILITIES CO.
Therm Billing Factor
JUNE 2011

Div Nbr	Off Code	City Name	Heat Zone Nbr	Therm Billing Factor
15	318	BEACH	32	.9980
15	319	BELFIELD	32	1.0054
15	323	BERTHOLD	262	1.0966
15	330	BOWMAN	34	1.0576
15	337	BURLINGTON	262	1.1202
15	368	DES LACS	262	1.1045
15	369	DICKINSON	31	1.0399
15	384	EPPING	264	1.1296
15	407	GLADSTONE	31	1.0399
15	413	GOLVA	32	.9834
15	416	GARRISON	262	1.1045
15	429	HEBRON	31	1.0475
15	459	KILLDEER	33	1.1145
15	469	LEFOR	31	1.0399
15	474	LIGNITE	263	1.0398
15	500	MARMARTH	34	1.0655
15	505	MINOT	262	1.1202
15	510	MOTT	31	1.0399
15	512	MAX	262	1.0966
15	522	NEW ENGLAND	31	1.0324
15	540	PALERMO	262	1.0966
15	558	RAY	264	1.1296
15	561	REGENT	31	1.0399
15	563	RHAME	34	1.0499
15	564	RICHARDTON	31	1.0324
15	568	ROSS	261	1.0868
15	572	RUTHVILLE	262	1.1202
15	583	SENTINEL BUTTE	32	.9980
15	588	SOUTH HEART	31	1.0324
15	590	SPRINGBROOK	264	1.1296
15	591	STANLEY	261	1.0947
15	605	SURREY	262	1.1202
15	611	TAYLOR	31	1.0324
15	616	TIOGA	261	1.0868
15	619	TURTLE LAKE	262	1.1045

MONTANA-DAKOTA UTILITIES CO.
Therm Billing Factor
JUNE 2011

Div Nbr	Off Code	City Name	Heat Zone Nbr	Therm Billing Factor
15	620	TRENTON	24	1.1378
15	624	UNDERWOOD	262	1.1045
15	632	WATFORD CITY	25	1.0654
15	636	WHEELOCK	264	1.1215
15	637	WHITE EARTH	261	1.0947
15	642	WILLISTON	24	1.1378
15	646	WASHBURN	262	1.1124
15	664	RIVERDALE	262	1.1045
15	691	FAIRVIEW	241	1.1349
15	712	MINOT AFB	262	1.1202
15	743	BAKER FIELD	35	.8980

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

GQ Source Daily Summary May 2011

Number: 251

Pressure Base: 14.730

Contract Day: 1

Name: SIDNEY AREA

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7082	1172.4	1193.2	0.213	3.405	72.002	20.870	3.293	0.093	0.116	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1417.75	
2	0.7031	1175.1	1195.9	0.032	3.048	72.009	22.198	2.605	0.054	0.053	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1426.15	
3	0.7017	1169.6	1190.3	0.143	3.080	72.355	21.829	2.417	0.075	0.095	0.003	0.003	0.001	0.000	0.000	0.000	0.000	1420.95	
4	0.7114	1188.7	1209.8	0.043	2.973	70.556	23.557	2.712	0.061	0.092	0.003	0.002	0.001	0.000	0.000	0.000	0.000	1434.33	
5	0.7152	1182.7	1203.6	0.346	3.237	70.602	22.534	2.986	0.092	0.178	0.011	0.011	0.003	0.000	0.000	0.000	0.000	1423.36	
6	0.7171	1170.5	1191.3	0.667	3.676	70.286	22.201	2.921	0.085	0.150	0.008	0.006	0.001	0.000	0.000	0.000	0.000	1406.94	
7	0.7104	1180.6	1201.5	0.217	3.110	70.778	23.114	2.664	0.044	0.067	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1425.63	
8	0.7095	1185.8	1206.8	0.051	2.960	70.772	23.445	2.700	0.032	0.040	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1432.76	
9	0.7075	1184.2	1205.1	0.049	2.878	71.109	23.278	2.602	0.034	0.046	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1432.75	
10	0.7067	1181.5	1202.5	0.051	2.964	71.052	23.426	2.447	0.028	0.031	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1430.37	
11	0.7086	1184.9	1205.9	0.052	2.939	70.857	23.473	2.600	0.037	0.039	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1432.45	
12	0.7101	1186.3	1207.3	0.051	2.997	70.706	23.403	2.762	0.040	0.040	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1432.60	
13	0.7103	1187.9	1208.9	0.046	2.921	70.644	23.573	2.739	0.037	0.038	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1434.41	
14	0.7119	1191.7	1212.8	0.043	2.846	70.527	23.568	2.932	0.041	0.041	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1437.32	
15	0.7075	1181.9	1202.8	0.047	3.023	70.970	23.360	2.529	0.035	0.033	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1429.99	
16	0.7132	1190.3	1211.4	0.043	3.051	70.177	23.776	2.868	0.042	0.040	0.001	0.001	0.001	0.000	0.000	0.000	0.000	1434.38	
17	0.7163	1194.3	1215.5	0.042	3.095	69.870	23.718	3.183	0.046	0.044	0.001	0.001	0.001	0.000	0.000	0.000	0.000	1436.12	
18	0.7101	1185.7	1206.7	0.045	3.034	70.679	23.411	2.759	0.036	0.034	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1432.03	
19	0.7075	1183.1	1204.0	0.043	2.952	71.037	23.337	2.547	0.040	0.040	0.001	0.001	0.001	0.000	0.000	0.000	0.000	1431.47	
20	0.7076	1183.3	1204.3	0.043	2.949	71.040	23.315	2.566	0.042	0.043	0.001	0.001	0.001	0.000	0.000	0.000	0.000	1431.62	
21	0.7084	1183.4	1204.4	0.045	3.016	70.898	23.341	2.630	0.031	0.037	0.001	0.001	0.001	0.000	0.000	0.000	0.000	1430.95	
22	0.7079	1182.1	1203.0	0.045	3.051	70.904	23.388	2.544	0.030	0.036	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1429.82	
23	0.7104	1185.4	1206.4	0.044	3.081	70.711	23.243	2.845	0.034	0.039	0.001	0.001	0.001	0.000	0.000	0.000	0.000	1431.32	
24	0.7113	1188.9	1210.0	0.042	2.956	70.640	23.362	2.905	0.040	0.053	0.001	0.001	0.001	0.000	0.000	0.000	0.000	1434.65	
25	0.7164	1196.7	1217.8	0.043	2.954	70.328	23.194	3.176	0.092	0.181	0.013	0.014	0.005	0.000	0.000	0.000	0.000	1438.86	
26	0.7126	1191.1	1212.2	0.041	2.948	70.536	23.304	3.082	0.042	0.045	0.001	0.001	0.001	0.000	0.000	0.000	0.000	1435.92	
27	0.7143	1194.1	1215.3	0.042	2.921	70.295	23.462	3.194	0.040	0.044	0.001	0.001	0.001	0.000	0.000	0.000	0.000	1437.88	
28	0.7104	1187.3	1208.4	0.044	2.967	70.782	23.226	2.902	0.040	0.037	0.001	0.001	0.001	0.000	0.000	0.000	0.000	1433.64	
29	0.7079	1184.2	1205.2	0.042	2.920	71.080	23.199	2.684	0.038	0.035	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1432.47	
30	0.7143	1191.9	1213.0	0.044	3.051	70.359	23.254	3.149	0.062	0.075	0.003	0.003	0.001	0.000	0.000	0.000	0.000	1435.21	
31	0.7125	1189.5	1210.5	0.041	3.034	70.512	23.289	3.028	0.047	0.047	0.001	0.001	0.001	0.000	0.000	0.000	0.000	1434.11	
Avg	0.7103	1185.0	1206.0	0.088	3.033	70.809	23.150	2.805	0.048	0.061	0.002	0.002	0.001	0.000	0.000	0.000	0.000	1430.91	

Zone 211

GQ Source Analysis

Williston Basin Interstate Pipeline C

GQ Source Number:	0602330	Specific Gravity:	0.7220
GQ Source Name:	WILLISTON BORDER	BTU Base:	Dry
Effective Date:	5/1/2011 9:00:00 AM	Measured Heat Value:	1198.71
Effective End Date:	1/18/2038 9:14:07 PM	Dry Heat Value:	1195.56
Pressure Base:	14.730	Wet Heat Value:	1174.75
Viscosity:		As Deliv. Heat Value:	1195.56
		Sample Pressure:	290.00
		Sample Temperature:	

	<u>Mol %</u>	<u>GPM</u>		<u>Mol %</u>
C1 Methane	69.605		CO2 Carbon Dioxide	0.735
C2 Ethane	22.246	5.932	N2 Nitrogen	3.731
C3 Propane	3.359	0.923	O2 Oxygen	0.000
IC4 Iso-Butane	0.111	0.036	HE Helium	
NC4 N-Butane	0.192	0.061	H2 Hydrogen	
IC5 Iso-Pentane	0.012	0.004	H2S Hydrogen Sulfide	
NC5 N-Pentane	0.010	0.004	AR Argon	
C6 Hexane	0.000	0.000	CO Carbon Monoxide	
C7 Heptane			H2O Water	
C8 Octane			Neo-C5 Neo-Pentane	
C9 Nonane				
C10 Decane				
Totals		100.000%	6.959 GPM	

Sample Date: 5/31/2011 12:00:00 AM
Sample Type: Composite
Sample Tech: sampler
Sample Remarks:

Analysis Tech: Mary Berger
Analysis Remarks:

Zone 24, 264

GQ Source Analysis

Williston Basin Interstate Pipeline Co.

GQ Source Number:	0602230	Specific Gravity:	0.7317
GQ Source Name:	WATFORD CITY BORDER	BTU Base:	Dry
Effective Date:	5/1/2011 9:00:00 AM	Measured Heat Value:	1130.44
Effective End Date:	1/18/2038 9:14:07 PM	Dry Heat Value:	1127.80
Pressure Base:	14.730	Wet Heat Value:	1108.17
Viscosity:		As Deliv. Heat Value:	1127.80
		Sample Pressure:	445.00
		Sample Temperature:	

		<u>Mol %</u>	<u>GPM</u>			<u>Mol %</u>
C1	Methane	68.196		CO2	Carbon Dioxide	0.708
C2	Ethane	17.727	4.727	N2	Nitrogen	8.753
C3	Propane	3.932	1.080	O2	Oxygen	0.000
IC4	Iso-Butane	0.215	0.070	HE	Helium	
NC4	N-Butane	0.392	0.123	H2	Hydrogen	
IC5	Iso-Pentane	0.027	0.010	H2S	Hydrogen Sulfide	
NC5	N-Pentane	0.025	0.009	AR	Argon	
C6	Hexane	0.022	0.010	CO	Carbon Monoxide	
C7	Heptane			H2O	Water	
C8	Octane			Neo-C5	Neo-Pentane	
C9	Nonane					
C10	Decane					

Totals 99.997% 6.029 GPM

Sample Date: 5/31/2011 12:00:00 AM
Sample Type: Composite
Sample Tech: sampler
Sample Remarks:

Analysis Tech: Mary Berger

Analysis Remarks:

Zone 25

GQ Source Daily Summary May 2011

Number: 163

Pressure Base: 14.730

Contract Day: 1

Name: NORTH TIOGA-MINOT

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6899	1129.8	1149.8	0.498	3.856	74.677	18.716	2.051	0.066	0.120	0.005	0.005	0.004					1384.23	
2	0.6928	1132.0	1152.0	0.440	4.077	74.105	19.023	2.160	0.069	0.111	0.006	0.005	0.004					1384.09	
3	0.6898	1129.6	1149.6	0.406	3.995	74.523	18.893	1.981	0.068	0.118	0.006	0.005	0.006					1384.17	
4	0.6834	1126.8	1146.7	0.305	3.717	75.521	18.492	1.805	0.057	0.091	0.004	0.003	0.006					1387.18	
5	0.6926	1136.9	1157.1	0.469	3.713	74.193	19.313	2.111	0.068	0.116	0.006	0.005	0.007					1390.35	
6	0.6922	1131.7	1151.7	0.548	3.872	74.317	18.978	2.071	0.071	0.126	0.006	0.005	0.006					1384.37	
7	0.6960	1139.8	1160.0	0.543	3.743	74.089	18.861	2.490	0.089	0.164	0.007	0.006	0.007					1390.46	
8	0.6973	1143.9	1164.2	0.518	3.649	73.987	18.952	2.590	0.098	0.183	0.009	0.008	0.007					1394.16	
9	0.6935	1139.5	1159.7	0.495	3.603	74.376	18.919	2.370	0.079	0.141	0.006	0.005	0.005					1392.53	
10	0.6905	1134.9	1155.0	0.494	3.598	74.606	19.047	2.057	0.067	0.117	0.005	0.004	0.004					1389.99	
11	0.6898	1135.9	1156.1	0.453	3.535	74.565	19.319	1.952	0.060	0.103	0.004	0.003	0.005					1391.95	
12	0.6909	1137.5	1157.6	0.460	3.538	74.525	19.184	2.100	0.067	0.113	0.005	0.004	0.005					1392.66	
13	0.6904	1136.7	1156.8	0.443	3.559	74.532	19.243	2.041	0.063	0.106	0.005	0.003	0.005					1392.28	
14	0.6905	1136.6	1156.7	0.440	3.577	74.568	19.136	2.095	0.064	0.107	0.005	0.004	0.005					1392.08	
15	0.6906	1136.6	1156.7	0.439	3.591	74.638	18.959	2.181	0.065	0.111	0.005	0.004	0.006					1391.92	
16	0.6892	1134.0	1154.1	0.436	3.616	74.935	18.632	2.189	0.066	0.113	0.005	0.004	0.005					1390.25	
17	0.6924	1138.4	1158.5	0.470	3.605	74.451	18.966	2.290	0.074	0.127	0.006	0.005	0.005					1392.27	
18	0.6928	1136.9	1157.0	0.530	3.640	74.319	19.119	2.174	0.074	0.129	0.006	0.005	0.005					1390.09	
19	0.6959	1143.2	1163.4	0.521	3.556	73.939	19.428	2.269	0.088	0.172	0.010	0.010	0.006					1394.72	
20	0.6928	1140.0	1160.2	0.496	3.507	74.231	19.418	2.153	0.066	0.115	0.005	0.004	0.005					1393.85	
21	0.6955	1144.3	1164.5	0.516	3.468	73.843	19.710	2.253	0.071	0.125	0.006	0.005	0.005					1396.37	
22	0.6985	1148.9	1169.2	0.520	3.462	73.547	19.734	2.484	0.082	0.151	0.007	0.007	0.005					1398.95	
23	0.6956	1142.9	1163.1	0.536	3.527	73.882	19.573	2.250	0.076	0.140	0.007	0.006	0.004					1394.64	
24	0.6953	1141.9	1162.1	0.538	3.566	73.648	20.008	2.039	0.065	0.119	0.006	0.006	0.005					1393.63	
25	0.6953	1145.4	1165.7	0.488	3.425	73.751	19.973	2.161	0.065	0.118	0.006	0.005	0.008					1397.95	
26	0.6953	1145.4	1165.7	0.488	3.425	73.751	19.973	2.161	0.065	0.118	0.006	0.005	0.008					1397.95	
27	0.6953	1145.4	1165.7	0.488	3.425	73.751	19.973	2.161	0.065	0.118	0.006	0.005	0.008					1397.95	
28	0.6921	1142.1	1162.3	0.451	3.381	74.466	19.282	2.183	0.074	0.143	0.008	0.007	0.004					1397.11	
29	0.6918	1142.2	1162.4	0.454	3.338	74.473	19.360	2.159	0.070	0.130	0.006	0.005	0.004					1397.60	
30	0.6901	1139.6	1159.8	0.444	3.358	74.753	19.101	2.142	0.067	0.122	0.006	0.005	0.004					1396.05	
31	0.6902	1139.4	1159.6	0.444	3.374	74.758	19.063	2.159	0.067	0.121	0.006	0.005	0.004					1395.79	
Avg	0.6925	1139.0	1158.8	0.476	3.590	74.314	19.237	2.170	0.071	0.125	0.006	0.005	0.005					1392.50	

Zone 261

GQ Source Daily Summary

May 2011

Number: 091

Pressure Base: 14.730

Contract Day: 1

Name: MINOT

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7072	1151.5	1171.9	0.751	3.766	72.238	20.282	2.661	0.098	0.183	0.008	0.006	0.007	0.000	0.000	0.000	0.000	1393.56	
2	0.7152	1157.2	1177.7	0.803	4.090	71.085	20.618	3.053	0.119	0.208	0.011	0.009	0.004	0.000	0.000	0.000	0.000	1392.64	
3	0.6910	1129.9	1149.9	0.419	4.069	74.243	19.121	1.961	0.065	0.109	0.002	0.000	0.010	0.000	0.000	0.000	0.000	1383.29	
4	0.6878	1126.3	1146.2	0.432	3.970	74.936	18.502	1.962	0.068	0.117	0.002	0.001	0.010	0.000	0.000	0.000	0.000	1382.10	
5	0.6840	1135.4	1155.5	0.206	3.395	75.260	19.244	1.764	0.048	0.072	0.000	0.000	0.011	0.000	0.000	0.000	0.000	1397.23	
6	0.6935	1134.5	1154.6	0.580	3.777	74.083	19.278	2.075	0.069	0.123	0.003	0.002	0.010	0.000	0.000	0.000	0.000	1386.50	
7	0.6984	1141.0	1161.2	0.568	3.853	73.867	18.976	2.186	0.145	0.390	0.003	0.001	0.011	0.000	0.000	0.000	0.000	1389.46	
8	0.6974	1142.7	1162.9	0.554	3.682	74.020	18.825	2.610	0.099	0.186	0.007	0.005	0.011	0.000	0.000	0.000	0.000	1392.54	
9	0.6966	1143.8	1164.0	0.511	3.606	74.067	18.972	2.550	0.094	0.177	0.007	0.005	0.011	0.000	0.000	0.000	0.000	1394.65	
10	0.6922	1137.9	1158.0	0.512	3.553	74.465	19.039	2.223	0.071	0.125	0.002	0.000	0.010	0.000	0.000	0.000	0.000	1391.88	
11	0.6906	1136.4	1156.5	0.490	3.533	74.462	19.362	1.969	0.063	0.111	0.000	0.000	0.010	0.000	0.000	0.000	0.000	1391.62	
12	0.6906	1137.6	1157.7	0.459	3.503	74.522	19.282	2.048	0.064	0.110	0.001	0.000	0.010	0.000	0.000	0.000	0.000	1393.13	
13	0.6916	1138.9	1159.0	0.460	3.518	74.377	19.354	2.101	0.067	0.113	0.000	0.000	0.010	0.000	0.000	0.000	0.000	1393.68	
14	0.6909	1137.8	1157.9	0.450	3.530	74.451	19.340	2.047	0.063	0.108	0.000	0.000	0.010	0.000	0.000	0.000	0.000	1393.07	
15	0.6913	1138.2	1158.3	0.451	3.541	74.506	19.146	2.169	0.066	0.111	0.001	0.000	0.011	0.000	0.000	0.000	0.000	1393.17	
16	0.6903	1136.4	1156.5	0.438	3.583	74.713	18.871	2.203	0.066	0.114	0.001	0.000	0.010	0.000	0.000	0.000	0.000	1391.89	
17	0.6897	1134.8	1154.9	0.462	3.577	74.825	18.794	2.150	0.066	0.114	0.001	0.000	0.010	0.000	0.000	0.000	0.000	1390.69	
18	0.6937	1140.4	1160.6	0.492	3.568	74.233	19.204	2.282	0.076	0.132	0.003	0.000	0.010	0.000	0.000	0.000	0.000	1393.47	
19	0.6955	1141.8	1162.0	0.551	3.559	74.027	19.316	2.272	0.088	0.166	0.007	0.004	0.010	0.000	0.000	0.000	0.000	1393.40	
20	0.6938	1140.6	1160.8	0.521	3.526	74.130	19.434	2.154	0.076	0.141	0.005	0.003	0.009	0.000	0.000	0.000	0.000	1393.60	
21	0.6944	1142.9	1163.2	0.513	3.446	73.988	19.660	2.199	0.065	0.116	0.002	0.000	0.010	0.000	0.000	0.000	0.000	1395.90	
22	0.6966	1146.2	1166.5	0.530	3.430	73.750	19.740	2.326	0.074	0.135	0.004	0.002	0.010	0.000	0.000	0.000	0.000	1397.62	
23	0.6991	1149.8	1170.1	0.540	3.436	73.468	19.808	2.489	0.083	0.155	0.006	0.004	0.010	0.000	0.000	0.000	0.000	1399.43	
24	0.6951	1142.1	1162.3	0.547	3.517	73.794	19.836	2.091	0.070	0.129	0.005	0.002	0.009	0.000	0.000	0.000	0.000	1394.13	
25	0.6965	1145.9	1166.2	0.531	3.445	73.541	20.121	2.163	0.065	0.118	0.004	0.001	0.011	0.000	0.000	0.000	0.000	1397.31	
26	0.6938	1143.0	1163.2	0.491	3.430	73.955	19.867	2.053	0.066	0.122	0.003	0.001	0.011	0.000	0.000	0.000	0.000	1396.46	
27	0.6941	1143.5	1163.7	0.497	3.414	74.033	19.691	2.142	0.071	0.134	0.005	0.004	0.009	0.000	0.000	0.000	0.000	1396.79	
28	0.6945	1144.9	1165.1	0.470	3.408	74.071	19.574	2.226	0.079	0.153	0.007	0.005	0.008	0.000	0.000	0.000	0.000	1398.09	
29	0.6926	1143.9	1164.2	0.464	3.291	74.389	19.444	2.183	0.072	0.139	0.005	0.004	0.008	0.000	0.000	0.000	0.000	1398.90	
30	0.6915	1142.1	1162.4	0.456	3.311	74.532	19.332	2.160	0.068	0.126	0.004	0.002	0.009	0.000	0.000	0.000	0.000	1397.80	
31	0.6909	1141.0	1161.2	0.458	3.322	74.680	19.138	2.198	0.068	0.123	0.003	0.001	0.009	0.000	0.000	0.000	0.000	1397.01	
Avg	0.6942	1141.0	1161.1	0.503	3.569	74.088	19.393	2.215	0.076	0.141	0.004	0.002	0.010	0.000	0.000	0.000	0.000	1393.58	

Zone 262

GQ Source Analysis

GQ Source Number:	2501030	Specific Gravity:	0.6459
GQ Source Name:	LIGNITE PLANT	BTU Base:	Dry
Effective Date:	5/1/2011 9:00:00 AM	Measured Heat Value:	1094.77
Effective End Date:	1/18/2038 9:14:07 PM	Dry Heat Value:	1093.30
Pressure Base:	14.730	Wet Heat Value:	1074.27
Viscosity:		As Deliv. Heat Value:	1093.30
		Sample Pressure:	290.00
		Sample Temperature:	

		<u>Mol %</u>	<u>GPM</u>			<u>Mol %</u>
C1	Methane	81.318		CO2	Carbon Dioxide	0.126
C2	Ethane	14.445	3.852	N2	Nitrogen	3.640
C3	Propane	0.434	0.119	O2	Oxygen	0.000
IC4	Iso-Butane	0.001	0.000	HE	Helium	
NC4	N-Butane	0.001	0.000	H2	Hydrogen	
IC5	Iso-Pentane	0.000	0.000	H2S	Hydrogen Sulfide	
NC5	N-Pentane	0.000	0.000	AR	Argon	
C6	Hexane	0.031	0.014	CO	Carbon Monoxide	
C7	Heptane			H2O	Water	
C8	Octane			Neo-C5	Neo-Pentane	
C9	Nonane					
C10	Decane					

Totals 99.996% 3.986 GPM

Sample Date: 5/31/2011 12:00:00 AM
Sample Type: Composite
Sample Tech: sampler
Sample Remarks:

Analysis Tech: Mary Berger
Analysis Remarks:

*** End of Report ***

Zone 263

GQ Source Daily Summary

May 2011

Number: 043

Pressure Base: 14.730

Contract Day: 1

Name: BISMARCK-CLEVELAND

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.5964	982.8	1000.2	0.674	3.754	92.036	3.104	0.389	0.017	0.019	0.003	0.002	0.003	0.000	0.000	0.000	0.000	0.000	1294.98
2	0.6561	1071.8	1090.7	0.744	3.840	81.445	12.113	1.670	0.062	0.105	0.006	0.005	0.009	0.000	0.000	0.000	0.000	0.000	1346.20
3	0.6849	1120.2	1140.0	0.437	4.064	75.479	17.897	1.941	0.062	0.100	0.005	0.004	0.009	0.000	0.000	0.000	0.000	0.000	1377.49
4	0.6816	1118.9	1138.7	0.406	3.879	76.043	17.662	1.829	0.060	0.101	0.005	0.004	0.011	0.000	0.000	0.000	0.000	0.000	1379.25
5	0.6825	1129.5	1149.5	0.268	3.529	75.693	18.562	1.794	0.052	0.083	0.003	0.003	0.013	0.000	0.000	0.000	0.000	0.000	1391.37
6	0.6930	1134.5	1154.6	0.571	3.746	74.287	19.043	2.129	0.070	0.125	0.006	0.006	0.015	0.000	0.000	0.000	0.000	0.000	1386.99
7	0.6927	1132.7	1152.8	0.580	3.812	74.375	18.871	2.130	0.073	0.132	0.006	0.005	0.016	0.000	0.000	0.000	0.000	0.000	1385.08
8	0.6967	1141.7	1161.9	0.567	3.662	74.113	18.810	2.547	0.093	0.175	0.008	0.007	0.017	0.000	0.000	0.000	0.000	0.000	1392.01
9	0.6972	1144.8	1165.1	0.524	3.581	74.077	18.901	2.601	0.097	0.185	0.009	0.008	0.018	0.000	0.000	0.000	0.000	0.000	1395.34
10	0.6929	1139.0	1159.2	0.522	3.536	74.464	18.956	2.294	0.072	0.129	0.006	0.005	0.016	0.000	0.000	0.000	0.000	0.000	1392.58
11	0.6907	1136.1	1156.2	0.504	3.540	74.527	19.241	1.989	0.064	0.113	0.005	0.004	0.014	0.000	0.000	0.000	0.000	0.000	1391.17
12	0.6902	1137.3	1157.5	0.469	3.466	74.599	19.281	1.998	0.061	0.105	0.004	0.003	0.014	0.000	0.000	0.000	0.000	0.000	1393.25
13	0.6920	1139.6	1159.8	0.475	3.487	74.370	19.361	2.102	0.067	0.116	0.005	0.004	0.014	0.000	0.000	0.000	0.000	0.000	1394.24
14	0.6905	1137.1	1157.3	0.463	3.519	74.545	19.262	2.024	0.062	0.106	0.005	0.004	0.013	0.000	0.000	0.000	0.000	0.000	1392.68
15	0.6904	1137.0	1157.1	0.458	3.525	74.690	18.995	2.138	0.064	0.109	0.005	0.004	0.014	0.000	0.000	0.000	0.000	0.000	1392.58
16	0.6904	1136.5	1156.7	0.454	3.558	74.773	18.789	2.223	0.065	0.113	0.005	0.004	0.014	0.000	0.000	0.000	0.000	0.000	1392.02
17	0.6893	1134.3	1154.4	0.467	3.563	74.973	18.626	2.169	0.066	0.114	0.005	0.004	0.013	0.000	0.000	0.000	0.000	0.000	1390.52
18	0.6930	1139.2	1159.4	0.502	3.568	74.404	19.014	2.285	0.074	0.128	0.006	0.005	0.013	0.000	0.000	0.000	0.000	0.000	1392.64
19	0.6950	1141.0	1161.2	0.562	3.552	74.159	19.172	2.272	0.087	0.165	0.009	0.008	0.014	0.000	0.000	0.000	0.000	0.000	1392.88
20	0.6935	1140.1	1160.3	0.531	3.516	74.239	19.331	2.142	0.074	0.139	0.008	0.007	0.015	0.000	0.000	0.000	0.000	0.000	1393.26
21	0.6936	1141.8	1162.1	0.520	3.430	74.171	19.504	2.172	0.064	0.114	0.005	0.004	0.014	0.000	0.000	0.000	0.000	0.000	1395.36
22	0.6961	1145.5	1165.8	0.539	3.413	73.887	19.616	2.314	0.073	0.134	0.006	0.006	0.014	0.000	0.000	0.000	0.000	0.000	1397.31
23	0.6992	1150.2	1170.5	0.549	3.409	73.502	19.778	2.494	0.083	0.155	0.008	0.007	0.014	0.000	0.000	0.000	0.000	0.000	1399.81
24	0.6950	1142.3	1162.5	0.554	3.487	73.896	19.722	2.115	0.071	0.131	0.006	0.005	0.013	0.000	0.000	0.000	0.000	0.000	1394.47
25	0.6972	1146.5	1166.8	0.547	3.447	73.429	20.233	2.136	0.064	0.119	0.007	0.006	0.014	0.000	0.000	0.000	0.000	0.000	1397.43
26	0.6938	1143.2	1163.4	0.499	3.400	74.014	19.823	2.057	0.064	0.117	0.006	0.005	0.016	0.000	0.000	0.000	0.000	0.000	1396.80
27	0.6935	1142.3	1162.5	0.509	3.411	74.200	19.517	2.133	0.070	0.133	0.007	0.006	0.014	0.000	0.000	0.000	0.000	0.000	1396.02
28	0.6929	1142.3	1162.5	0.479	3.407	74.284	19.463	2.134	0.071	0.134	0.007	0.007	0.013	0.000	0.000	0.000	0.000	0.000	1396.50
29	0.6930	1144.6	1164.9	0.474	3.278	74.436	19.323	2.233	0.077	0.150	0.008	0.008	0.013	0.000	0.000	0.000	0.000	0.000	1399.28
30	0.6913	1142.0	1162.2	0.470	3.288	74.611	19.264	2.148	0.068	0.127	0.006	0.006	0.013	0.000	0.000	0.000	0.000	0.000	1397.76
31	0.6906	1140.7	1160.9	0.467	3.301	74.741	19.122	2.161	0.065	0.121	0.006	0.005	0.012	0.000	0.000	0.000	0.000	0.000	1396.97
Avg	0.6879	1131.0	1151.5	0.509	3.547	75.241	18.399	2.089	0.068	0.122	0.006	0.005	0.013	0.000	0.000	0.000	0.000	0.000	1388.20

Zone 271

GQ Source Daily Summary

May 2011

Number: 063

Pressure Base: 14.730

Contract Day: 1

Name: CLEVELAND-MAPLETON

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6273	1036.6	1055.0	0.459	3.700	86.245	8.454	1.070	0.028	0.037	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1331.58
2	0.6119	1007.9	1025.7	0.669	3.689	89.156	5.782	0.639	0.023	0.034	0.003	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1310.92
3	0.6895	1123.1	1143.0	0.630	4.019	75.158	17.699	2.257	0.081	0.138	0.008	0.007	0.002	0.000	0.000	0.000	0.000	0.000	1376.50
4	0.6823	1118.8	1138.7	0.420	3.922	75.984	17.601	1.880	0.064	0.110	0.006	0.005	0.007	0.000	0.000	0.000	0.000	0.000	1378.53
5	0.6813	1121.9	1141.8	0.362	3.735	76.035	17.887	1.814	0.056	0.091	0.004	0.004	0.012	0.000	0.000	0.000	0.000	0.000	1383.30
6	0.6897	1137.0	1157.2	0.390	3.557	74.618	19.227	2.020	0.063	0.107	0.005	0.005	0.006	0.000	0.000	0.000	0.000	0.000	1393.41
7	0.6918	1132.5	1152.6	0.566	3.766	74.339	19.129	1.999	0.065	0.117	0.006	0.005	0.010	0.000	0.000	0.000	0.000	0.000	1385.73
8	0.6957	1138.6	1158.7	0.571	3.750	74.162	18.794	2.442	0.089	0.165	0.008	0.007	0.011	0.000	0.000	0.000	0.000	0.000	1389.23
9	0.6969	1143.0	1163.2	0.551	3.621	74.079	18.872	2.581	0.096	0.182	0.009	0.008	0.003	0.000	0.000	0.000	0.000	0.000	1393.44
10	0.6949	1142.0	1162.3	0.508	3.560	74.307	18.862	2.492	0.088	0.165	0.008	0.007	0.004	0.000	0.000	0.000	0.000	0.000	1394.25
11	0.6910	1136.4	1156.5	0.514	3.535	74.660	18.912	2.172	0.069	0.123	0.006	0.005	0.006	0.000	0.000	0.000	0.000	0.000	1391.22
12	0.6900	1135.9	1156.0	0.493	3.506	74.608	19.239	1.964	0.063	0.111	0.005	0.004	0.007	0.000	0.000	0.000	0.000	0.000	1391.59
13	0.6905	1137.6	1157.7	0.468	3.479	74.617	19.174	2.063	0.066	0.114	0.005	0.004	0.010	0.000	0.000	0.000	0.000	0.000	1393.26
14	0.6907	1137.5	1157.7	0.463	3.506	74.569	19.196	2.071	0.065	0.111	0.005	0.004	0.009	0.000	0.000	0.000	0.000	0.000	1393.03
15	0.6900	1136.6	1156.7	0.457	3.516	74.661	19.117	2.060	0.063	0.109	0.005	0.004	0.007	0.000	0.000	0.000	0.000	0.000	1392.47
16	0.6908	1137.6	1157.7	0.458	3.526	74.640	18.976	2.210	0.066	0.115	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1392.93
17	0.6894	1134.9	1155.0	0.453	3.568	74.947	18.605	2.234	0.067	0.117	0.006	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1391.00
18	0.6905	1136.2	1156.4	0.466	3.565	74.768	18.757	2.239	0.071	0.124	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1391.59
19	0.6933	1138.5	1158.6	0.540	3.583	74.299	19.115	2.242	0.076	0.134	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1391.49
20	0.6952	1142.4	1162.7	0.542	3.515	74.067	19.338	2.256	0.088	0.174	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1394.41
21	0.6919	1138.8	1159.0	0.514	3.464	74.400	19.324	2.099	0.067	0.121	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1393.39
22	0.6953	1144.6	1164.9	0.532	3.407	73.916	19.679	2.256	0.069	0.124	0.006	0.005	0.006	0.000	0.000	0.000	0.000	0.000	1396.96
23	0.6977	1148.3	1168.6	0.533	3.409	73.699	19.667	2.442	0.079	0.148	0.007	0.007	0.009	0.000	0.000	0.000	0.000	0.000	1399.01
24	0.6972	1146.3	1166.6	0.550	3.456	73.759	19.597	2.382	0.081	0.152	0.008	0.007	0.009	0.000	0.000	0.000	0.000	0.000	1397.12
25	0.6946	1140.9	1161.1	0.558	3.533	73.838	19.822	2.041	0.067	0.125	0.007	0.006	0.003	0.000	0.000	0.000	0.000	0.000	1393.11
26	0.6957	1146.4	1166.7	0.511	3.364	73.758	19.966	2.196	0.066	0.122	0.006	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1398.83
27	0.6931	1141.4	1161.6	0.504	3.437	74.160	19.606	2.079	0.070	0.131	0.007	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1395.30
28	0.6928	1142.0	1162.2	0.492	3.396	74.214	19.587	2.107	0.066	0.125	0.007	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1396.27
29	0.6932	1143.8	1164.0	0.470	3.350	74.351	19.350	2.227	0.079	0.155	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	1398.12
30	0.6918	1142.8	1163.0	0.473	3.276	74.522	19.336	2.172	0.071	0.135	0.007	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1398.31
31	0.6903	1140.5	1160.7	0.462	3.295	74.761	19.120	2.156	0.068	0.125	0.007	0.006	0.001	0.000	0.000	0.000	0.000	0.000	1397.00
Avg	0.6873	1131.0	1150.7	0.503	3.548	75.332	18.316	2.092	0.069	0.124	0.006	0.006	0.004	0.000	0.000	0.000	0.000	0.000	1387.85

Zone 272

GQ Source Daily Summary

May 2011

Number: 061

Pressure Base: 14.730

Contract Day: 1

Name: CLEVELAND-GRAFTON

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6323	1044.3	1062.8	0.478	3.676	85.273	9.411	1.076	0.031	0.046	0.004	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1311.38
2	0.6124	1008.6	1026.5	0.669	3.687	89.075	5.852	0.652	0.024	0.035	0.003	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1376.61
3	0.6899	1123.5	1143.4	0.618	4.050	75.081	17.738	2.276	0.081	0.139	0.008	0.007	0.002	0.000	0.000	0.000	0.000	0.000	1378.83
4	0.6827	1119.5	1139.3	0.421	3.926	75.912	17.647	1.901	0.065	0.110	0.006	0.005	0.007	0.000	0.000	0.000	0.000	0.000	1383.18
5	0.6813	1121.8	1141.7	0.361	3.744	76.027	17.890	1.812	0.056	0.091	0.004	0.004	0.012	0.000	0.000	0.000	0.000	0.000	1393.41
6	0.6897	1137.0	1157.1	0.387	3.561	74.626	19.213	2.027	0.063	0.107	0.005	0.005	0.006	0.000	0.000	0.000	0.000	0.000	1385.76
7	0.6918	1132.6	1152.6	0.563	3.769	74.333	19.132	2.001	0.065	0.117	0.006	0.005	0.010	0.000	0.000	0.000	0.000	0.000	1389.21
8	0.6956	1138.5	1158.7	0.570	3.750	74.169	18.791	2.438	0.089	0.165	0.008	0.008	0.011	0.000	0.000	0.000	0.000	0.000	1393.48
9	0.6969	1143.0	1163.3	0.551	3.619	74.078	18.873	2.581	0.096	0.182	0.009	0.008	0.004	0.000	0.000	0.000	0.000	0.000	1394.13
10	0.6949	1141.9	1162.1	0.508	3.563	74.312	18.855	2.490	0.088	0.165	0.008	0.007	0.003	0.000	0.000	0.000	0.000	0.000	1390.86
11	0.6913	1136.3	1156.4	0.519	3.556	74.672	18.821	2.217	0.070	0.124	0.006	0.005	0.009	0.000	0.000	0.000	0.000	0.000	1391.98
12	0.6907	1136.7	1156.9	0.498	3.508	74.601	19.127	2.064	0.065	0.116	0.005	0.004	0.011	0.000	0.000	0.000	0.000	0.000	1391.37
13	0.6907	1137.9	1158.0	0.473	3.475	74.579	19.209	2.063	0.066	0.114	0.005	0.004	0.011	0.000	0.000	0.000	0.000	0.000	1393.19
14	0.6907	1137.7	1157.9	0.461	3.504	74.561	19.207	2.074	0.065	0.111	0.005	0.004	0.010	0.000	0.000	0.000	0.000	0.000	1392.42
15	0.6900	1136.5	1156.7	0.458	3.517	74.663	19.114	2.060	0.063	0.109	0.005	0.004	0.007	0.000	0.000	0.000	0.000	0.000	1393.02
16	0.6909	1137.8	1157.9	0.458	3.525	74.625	18.986	2.215	0.067	0.115	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1391.23
17	0.6895	1135.1	1155.3	0.453	3.561	74.926	18.631	2.236	0.067	0.117	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1391.61
18	0.6906	1136.2	1156.3	0.478	3.565	74.751	18.762	2.239	0.071	0.123	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1394.24
19	0.6933	1138.6	1158.7	0.537	3.579	74.308	19.105	2.248	0.076	0.134	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1393.50
20	0.6952	1142.3	1162.5	0.542	3.522	74.074	19.324	2.255	0.088	0.174	0.011	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1397.07
21	0.6919	1139.0	1159.2	0.514	3.462	74.387	19.339	2.099	0.067	0.121	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1398.73
22	0.6954	1144.8	1165.0	0.532	3.408	73.894	19.699	2.257	0.069	0.124	0.006	0.005	0.007	0.000	0.000	0.000	0.000	0.000	1398.57
23	0.6975	1147.9	1168.2	0.533	3.414	73.728	19.642	2.432	0.079	0.148	0.007	0.007	0.009	0.000	0.000	0.000	0.000	0.000	1394.06
24	0.6985	1148.5	1168.9	0.552	3.436	73.650	19.593	2.499	0.085	0.160	0.008	0.007	0.010	0.000	0.000	0.000	0.000	0.000	1398.65
25	0.6955	1142.4	1162.6	0.559	3.524	73.726	19.876	2.103	0.068	0.127	0.007	0.007	0.003	0.000	0.000	0.000	0.000	0.000	1395.52
26	0.6955	1146.2	1166.5	0.510	3.367	73.786	19.935	2.195	0.066	0.123	0.006	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1396.71
27	0.6931	1141.6	1161.8	0.499	3.433	74.150	19.631	2.073	0.070	0.131	0.007	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1398.97
28	0.6928	1142.4	1162.6	0.493	3.372	74.237	19.567	2.124	0.067	0.127	0.007	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1398.26
29	0.6942	1145.3	1165.6	0.473	3.346	74.315	19.245	2.342	0.087	0.173	0.010	0.009	0.001	0.000	0.000	0.000	0.000	0.000	1396.98
30	0.6920	1142.9	1163.1	0.474	3.285	74.490	19.357	2.172	0.072	0.136	0.007	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1388.14
31	0.6904	1140.5	1160.7	0.461	3.299	74.753	19.123	2.157	0.068	0.126	0.007	0.006	0.001	0.000	0.000	0.000	0.000	0.000	
Avg	0.6877	1131.0	1151.2	0.503	3.548	75.283	18.345	2.109	0.069	0.125	0.006	0.006	0.005	0.000	0.000	0.000	0.000	0.000	

Zone 273

GQ Source Daily Summary

May 2011

Number: 041

Pressure Base: 14.730

Contract Day: 1

Name: BISMARCK-DICKINSON

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.5975	984.6	1002.0	0.673	3.742	91.857	3.261	0.423	0.017	0.019	0.003	0.002	0.003	0.000	0.000	0.000	0.000	1296.21	
2	0.5940	976.2	993.5	0.754	3.805	92.472	2.651	0.289	0.012	0.013	0.002	0.001	0.002	0.000	0.000	0.000	0.000	1289.07	
3	0.6083	1000.3	1018.0	0.706	3.754	89.829	5.101	0.551	0.022	0.031	0.002	0.002	0.002	0.000	0.000	0.000	0.000	1305.24	
4	0.6422	1066.8	1085.7	0.240	3.605	82.999	11.987	1.101	0.030	0.032	0.002	0.002	0.002	0.000	0.000	0.000	0.000	1354.71	
5	0.6426	1065.7	1084.5	0.274	3.655	82.878	12.113	1.002	0.030	0.038	0.002	0.002	0.005	0.000	0.000	0.000	0.000	1352.89	
6	0.6814	1117.2	1137.0	0.531	3.773	76.275	17.373	1.858	0.061	0.105	0.006	0.005	0.013	0.000	0.000	0.000	0.000	1377.29	
7	0.6924	1132.2	1152.2	0.577	3.821	74.414	18.842	2.116	0.072	0.131	0.006	0.005	0.016	0.000	0.000	0.000	0.000	1384.75	
8	0.6967	1141.6	1161.8	0.568	3.664	74.114	18.811	2.543	0.093	0.174	0.008	0.007	0.017	0.000	0.000	0.000	0.000	1391.91	
9	0.6972	1144.8	1165.0	0.526	3.583	74.077	18.898	2.600	0.097	0.185	0.009	0.008	0.018	0.000	0.000	0.000	0.000	1395.26	
10	0.6930	1139.2	1159.4	0.522	3.534	74.465	18.945	2.306	0.073	0.130	0.006	0.005	0.016	0.000	0.000	0.000	0.000	1392.71	
11	0.6906	1135.9	1156.0	0.506	3.540	74.555	19.209	1.990	0.064	0.114	0.005	0.004	0.013	0.000	0.000	0.000	0.000	1391.01	
12	0.6901	1137.2	1157.4	0.467	3.468	74.598	19.295	1.988	0.060	0.104	0.004	0.003	0.013	0.000	0.000	0.000	0.000	1393.20	
13	0.6664	1103.9	1123.4	0.350	3.452	78.622	16.035	1.422	0.039	0.064	0.003	0.003	0.010	0.000	0.000	0.000	0.000	1376.12	
14	0.6789	1141.1	1161.3	0.122	2.712	75.255	20.994	0.861	0.018	0.029	0.001	0.001	0.006	0.000	0.000	0.000	0.000	1409.34	
15	0.6889	1138.4	1158.6	0.401	3.386	74.703	19.401	1.937	0.056	0.096	0.004	0.003	0.012	0.000	0.000	0.000	0.000	1395.86	
16	0.6904	1136.5	1156.6	0.455	3.555	74.785	18.788	2.216	0.065	0.113	0.005	0.004	0.014	0.000	0.000	0.000	0.000	1392.01	
17	0.6892	1134.3	1154.3	0.465	3.562	74.992	18.609	2.169	0.066	0.114	0.005	0.004	0.014	0.000	0.000	0.000	0.000	1390.51	
18	0.6929	1139.1	1159.3	0.500	3.567	74.432	18.984	2.289	0.074	0.129	0.006	0.005	0.014	0.000	0.000	0.000	0.000	1392.63	
19	0.6947	1140.4	1160.5	0.562	3.558	74.200	19.152	2.254	0.085	0.160	0.008	0.007	0.014	0.000	0.000	0.000	0.000	1392.44	
20	0.6939	1141.0	1161.2	0.531	3.501	74.200	19.346	2.170	0.076	0.144	0.008	0.008	0.015	0.000	0.000	0.000	0.000	1393.90	
21	0.6932	1141.2	1161.4	0.520	3.436	74.231	19.449	2.161	0.064	0.115	0.005	0.005	0.014	0.000	0.000	0.000	0.000	1394.95	
22	0.6959	1145.4	1165.6	0.538	3.410	73.900	19.617	2.304	0.072	0.132	0.006	0.006	0.014	0.000	0.000	0.000	0.000	1397.28	
23	0.6991	1150.0	1170.4	0.548	3.413	73.511	19.773	2.490	0.083	0.154	0.008	0.007	0.014	0.000	0.000	0.000	0.000	1399.72	
24	0.6950	1142.4	1162.6	0.555	3.484	73.905	19.698	2.129	0.071	0.132	0.007	0.006	0.013	0.000	0.000	0.000	0.000	1394.53	
25	0.6969	1145.9	1166.2	0.550	3.454	73.476	20.194	2.118	0.064	0.119	0.007	0.006	0.014	0.000	0.000	0.000	0.000	1396.94	
26	0.6937	1143.2	1163.4	0.497	3.398	74.028	19.810	2.061	0.063	0.117	0.006	0.005	0.016	0.000	0.000	0.000	0.000	1396.85	
27	0.6934	1142.1	1162.3	0.509	3.413	74.222	19.498	2.127	0.070	0.133	0.007	0.006	0.014	0.000	0.000	0.000	0.000	1395.87	
28	0.6931	1142.6	1162.8	0.480	3.403	74.270	19.465	2.149	0.071	0.135	0.007	0.007	0.013	0.000	0.000	0.000	0.000	1396.73	
29	0.6927	1144.0	1164.3	0.474	3.287	74.477	19.289	2.221	0.075	0.148	0.008	0.008	0.013	0.000	0.000	0.000	0.000	1398.87	
30	0.6915	1142.1	1162.3	0.471	3.290	74.585	19.287	2.147	0.068	0.127	0.006	0.006	0.013	0.000	0.000	0.000	0.000	1397.81	
31	0.6905	1140.5	1160.7	0.467	3.300	74.763	19.111	2.150	0.065	0.121	0.006	0.005	0.012	0.000	0.000	0.000	0.000	1396.85	
Avg	0.6792	1119.0	1139.0	0.495	3.501	76.745	17.193	1.876	0.061	0.108	0.005	0.005	0.012	0.000	0.000	0.000	0.000	1381.72	

Zone 28

GQ Source Daily Summary

May 2011

Number: 271

Pressure Base: 14.730

Contract Day: 1

Name: DICKINSON AREA

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.5874	967.4	984.5	0.758	3.700	93.658	1.708	0.175	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1284.62
2	0.6145	1013.8	1031.8	0.570	3.706	88.501	6.502	0.676	0.020	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1316.16
3	0.6400	1063.5	1082.3	0.231	3.595	83.340	11.737	1.050	0.023	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1352.91
4	0.6337	1051.9	1070.5	0.250	3.683	84.491	10.622	0.897	0.026	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1344.75
5	0.6344	1051.5	1070.1	0.310	3.679	84.456	10.563	0.938	0.022	0.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1343.58
6	0.6236	1031.3	1049.6	0.447	3.684	86.522	8.617	0.691	0.014	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1329.14
7	0.6310	1047.8	1066.4	0.386	3.470	84.937	10.495	0.691	0.006	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1342.41
8	0.6463	1077.7	1096.8	0.227	3.330	81.949	13.508	0.958	0.012	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1364.28
9	0.6439	1073.5	1092.5	0.216	3.380	82.322	13.188	0.875	0.008	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1361.49
10	0.6396	1061.3	1080.1	0.233	3.687	83.500	11.380	1.161	0.017	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1350.57
11	0.6772	1145.7	1166.0	0.018	2.416	75.232	21.659	0.674	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1416.87
12	0.6775	1147.9	1168.2	0.000	2.346	74.973	22.187	0.494	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.26
13	0.6680	1126.8	1146.7	0.056	2.652	77.074	19.583	0.629	0.002	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1402.87
14	0.6553	1095.6	1115.0	0.123	3.247	79.991	15.681	0.934	0.009	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1377.37
15	0.6627	1111.2	1130.8	0.087	3.056	78.375	17.596	0.874	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1389.06
16	0.6550	1093.6	1113.0	0.128	3.334	80.153	15.318	1.037	0.014	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1375.04
17	0.6507	1082.6	1101.8	0.144	3.573	81.134	13.963	1.151	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1365.87
18	0.6554	1090.8	1110.1	0.130	3.536	80.317	14.695	1.284	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1371.23
19	0.6674	1114.9	1134.7	0.066	3.294	77.726	17.680	1.212	0.013	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1388.89
20	0.6662	1113.1	1132.8	0.063	3.302	78.004	17.358	1.244	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1387.84
21	0.6649	1109.4	1129.1	0.072	3.387	78.219	17.093	1.207	0.013	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1384.66
22	0.6698	1122.1	1142.0	0.047	3.117	77.038	18.748	1.041	0.008	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1395.31
23	0.6719	1124.7	1144.6	0.044	3.159	76.798	18.765	1.212	0.012	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1396.30
24	0.6753	1134.9	1155.0	0.028	2.882	75.755	20.463	0.860	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1405.44
25	0.6840	1155.6	1176.1	0.001	2.484	73.758	23.133	0.623	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1422.02
26	0.6825	1153.0	1173.5	0.000	2.501	74.020	22.895	0.583	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.42
27	0.6530	1088.5	1107.8	0.163	3.400	80.655	14.662	1.085	0.015	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1370.87
28	0.6516	1086.3	1105.5	0.161	3.411	80.915	14.408	1.066	0.017	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1369.50
29	0.6523	1087.0	1106.2	0.161	3.435	80.706	14.647	1.017	0.016	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1369.67
30	0.6512	1084.3	1103.5	0.169	3.484	80.915	14.398	0.999	0.017	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1367.45
31	0.6486	1078.8	1097.9	0.182	3.550	81.488	13.727	1.009	0.019	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1363.25
Avg	0.6527	1090.0	1109.2	0.176	3.274	80.546	15.064	0.914	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1372.55

Zone 31

GQ Source Daily Summary

May 2011

Number: 051

Pressure Base: 14.730

Contract Day: 1

Name: CABIN CR-DICKINSON

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.5918	971.4	988.6	0.783	3.847	93.007	1.989	0.332	0.016	0.020	0.002	0.001	0.002	0.000	0.000	0.000	0.000	1285.09	
2	0.6271	1034.9	1053.2	0.349	3.955	86.209	8.279	1.131	0.034	0.037	0.003	0.002	0.002	0.000	0.000	0.000	0.000	1329.98	
3	0.6352	1051.9	1070.6	0.265	3.810	84.522	10.158	1.158	0.038	0.042	0.003	0.002	0.002	0.000	0.000	0.000	0.000	1343.18	
4	0.6231	1029.5	1047.7	0.318	3.961	86.708	8.077	0.869	0.026	0.033	0.003	0.002	0.002	0.000	0.000	0.000	0.000	1327.23	
5	0.6221	1026.4	1044.5	0.441	3.869	87.148	7.520	0.938	0.029	0.045	0.004	0.003	0.003	0.000	0.000	0.000	0.000	1324.28	
6	0.6128	1008.8	1026.6	0.550	3.900	88.853	5.952	0.692	0.019	0.026	0.003	0.002	0.002	0.000	0.000	0.000	0.000	1311.43	
7	0.6355	1050.8	1069.4	0.295	3.867	84.430	10.184	1.165	0.023	0.030	0.003	0.002	0.002	0.000	0.000	0.000	0.000	1341.37	
8	0.6308	1042.7	1061.1	0.309	3.896	85.301	9.366	1.073	0.021	0.027	0.002	0.002	0.002	0.000	0.000	0.000	0.000	1335.98	
9	0.6375	1055.1	1073.8	0.244	3.870	84.038	10.560	1.224	0.025	0.033	0.003	0.002	0.002	0.000	0.000	0.000	0.000	1344.78	
10	0.6352	1052.3	1071.0	0.262	3.787	84.422	10.362	1.113	0.022	0.027	0.002	0.002	0.002	0.000	0.000	0.000	0.000	1343.77	
11	0.6367	1053.8	1072.5	0.243	3.866	84.088	10.634	1.115	0.021	0.026	0.002	0.002	0.002	0.000	0.000	0.000	0.000	1344.10	
12	0.6411	1060.6	1079.4	0.214	3.909	83.375	11.124	1.315	0.027	0.031	0.002	0.002	0.002	0.000	0.000	0.000	0.000	1348.12	
13	0.6394	1057.8	1076.5	0.227	3.907	83.664	10.881	1.258	0.026	0.030	0.003	0.002	0.002	0.000	0.000	0.000	0.000	1346.24	
14	0.6392	1057.9	1076.7	0.231	3.867	83.785	10.741	1.312	0.027	0.031	0.003	0.002	0.002	0.000	0.000	0.000	0.000	1346.72	
15	0.6429	1064.2	1083.0	0.204	3.874	83.112	11.319	1.427	0.028	0.031	0.002	0.002	0.002	0.000	0.000	0.000	0.000	1350.79	
16	0.6431	1064.0	1082.9	0.196	3.919	82.944	11.547	1.335	0.026	0.027	0.002	0.002	0.002	0.000	0.000	0.000	0.000	1350.34	
17	0.6449	1065.7	1084.6	0.200	3.982	82.805	11.388	1.556	0.030	0.032	0.002	0.002	0.002	0.000	0.000	0.000	0.000	1350.52	
18	0.6548	1083.9	1103.1	0.130	3.906	80.782	13.496	1.631	0.026	0.026	0.001	0.001	0.001	0.000	0.000	0.000	0.000	1363.23	
19	0.6444	1067.2	1086.1	0.188	3.862	82.697	11.844	1.352	0.025	0.027	0.002	0.002	0.002	0.000	0.000	0.000	0.000	1352.93	
20	0.6468	1071.0	1090.0	0.173	3.879	82.308	12.101	1.477	0.027	0.029	0.002	0.002	0.002	0.000	0.000	0.000	0.000	1355.27	
21	0.6630	1105.4	1124.9	0.088	3.438	78.682	16.538	1.215	0.018	0.018	0.001	0.000	0.001	0.000	0.000	0.000	0.000	1381.40	
22	0.6836	1155.6	1176.1	0.001	2.457	73.808	23.173	0.547	0.005	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1422.45	
23	0.6794	1145.9	1166.1	0.015	2.636	74.771	21.901	0.661	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.75	
24	0.6744	1134.1	1154.2	0.032	2.854	75.911	20.395	0.786	0.010	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1405.40	
25	0.6662	1115.3	1135.1	0.076	3.154	77.791	17.995	0.943	0.016	0.022	0.001	0.001	0.001	0.000	0.000	0.000	0.000	1390.43	
26	0.6383	1057.3	1076.0	0.249	3.800	83.911	10.737	1.237	0.026	0.033	0.003	0.002	0.002	0.000	0.000	0.000	0.000	1346.70	
27	0.6353	1050.3	1068.9	0.262	3.915	84.628	9.805	1.317	0.029	0.036	0.003	0.003	0.002	0.000	0.000	0.000	0.000	1341.14	
28	0.6336	1047.7	1066.3	0.263	3.919	84.834	9.724	1.193	0.027	0.032	0.003	0.003	0.002	0.000	0.000	0.000	0.000	1339.54	
29	0.6319	1044.5	1063.0	0.269	3.944	85.147	9.418	1.154	0.028	0.033	0.003	0.003	0.003	0.000	0.000	0.000	0.000	1337.26	
30	0.6307	1042.2	1060.6	0.279	3.962	85.418	9.108	1.155	0.031	0.039	0.004	0.003	0.003	0.000	0.000	0.000	0.000	1335.48	
31	0.6274	1035.7	1054.1	0.304	4.000	86.068	8.453	1.098	0.030	0.038	0.004	0.003	0.003	0.000	0.000	0.000	0.000	1330.76	
Avg	0.6403	1061.0	1080.2	0.247	3.736	83.392	11.444	1.122	0.024	0.029	0.002	0.002	0.002	0.000	0.000	0.000	0.000	1349.70	

zone 32

GQ Source Daily Summary

May 2011

Number: 111

Pressure Base: 14.730

Contract Day: 1

Name: LITTLE KNIFE PLANT

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6798	1151.8	1172.2	0.000	2.329	74.704	22.313	0.633	0.008	0.011	0.000	0.000	0.001	0.000	0.000	0.000	0.000	1421.68	
2	0.6829	1156.5	1177.0	0.000	2.334	74.033	23.017	0.600	0.006	0.008	0.000	0.000	0.002	0.000	0.000	0.000	0.000	1424.25	
3	0.6840	1157.9	1178.4	0.000	2.353	73.791	23.249	0.593	0.006	0.007	0.000	0.000	0.001	0.000	0.000	0.000	0.000	1424.84	
4	0.6832	1157.3	1177.8	0.000	2.314	73.930	23.185	0.557	0.006	0.007	0.000	0.000	0.001	0.000	0.000	0.000	0.000	1424.92	
5	0.6827	1157.0	1177.5	0.000	2.284	74.033	23.112	0.558	0.005	0.007	0.000	0.000	0.001	0.000	0.000	0.000	0.000	1425.12	
6	0.6840	1159.9	1180.5	0.000	2.228	73.845	23.291	0.622	0.006	0.008	0.000	0.000	0.001	0.000	0.000	0.000	0.000	1427.35	
7	0.6829	1157.8	1178.3	0.000	2.250	74.019	23.145	0.572	0.006	0.007	0.000	0.000	0.001	0.000	0.000	0.000	0.000	1425.94	
8	0.6829	1157.7	1178.2	0.000	2.268	73.997	23.151	0.570	0.005	0.007	0.000	0.000	0.001	0.000	0.000	0.000	0.000	1425.64	
9	0.6843	1159.3	1179.8	0.000	2.297	73.878	23.076	0.733	0.006	0.008	0.000	0.000	0.002	0.000	0.000	0.000	0.000	1426.20	
10	0.6833	1157.0	1177.5	0.000	2.345	73.903	23.172	0.565	0.005	0.007	0.000	0.000	0.002	0.000	0.000	0.000	0.000	1424.42	
11	0.6825	1155.8	1176.3	0.000	2.338	73.997	23.170	0.482	0.005	0.007	0.000	0.000	0.001	0.000	0.000	0.000	0.000	1423.85	
12	0.6816	1154.9	1175.3	0.000	2.312	74.173	23.021	0.480	0.005	0.007	0.000	0.000	0.001	0.000	0.000	0.000	0.000	1423.60	
13	0.6838	1158.3	1178.8	0.000	2.311	73.756	23.408	0.512	0.005	0.007	0.000	0.000	0.001	0.000	0.000	0.000	0.000	1425.52	
14	0.6860	1160.4	1180.9	0.000	2.387	73.390	23.604	0.605	0.005	0.007	0.000	0.000	0.001	0.000	0.000	0.000	0.000	1425.83	
15	0.6852	1159.4	1179.9	0.000	2.371	73.494	23.583	0.540	0.005	0.007	0.000	0.000	0.001	0.000	0.000	0.000	0.000	1425.49	
16	0.6858	1160.6	1181.1	0.000	2.357	73.462	23.541	0.625	0.006	0.008	0.000	0.000	0.001	0.000	0.000	0.000	0.000	1426.28	
17	0.6877	1163.3	1183.9	0.011	2.356	73.099	23.898	0.616	0.007	0.009	0.001	0.001	0.002	0.000	0.000	0.000	0.000	1427.64	
18	0.6860	1159.9	1180.4	0.000	2.427	73.306	23.724	0.530	0.005	0.007	0.000	0.000	0.001	0.000	0.000	0.000	0.000	1425.17	
19	0.6873	1161.4	1182.0	0.000	2.453	73.082	23.887	0.565	0.005	0.007	0.000	0.000	0.001	0.000	0.000	0.000	0.000	1425.72	
20	0.6877	1162.3	1182.9	0.000	2.440	72.999	23.973	0.573	0.006	0.008	0.000	0.000	0.001	0.000	0.000	0.000	0.000	1426.38	
21	0.6867	1160.6	1181.2	0.000	2.441	73.181	23.828	0.537	0.005	0.007	0.000	0.000	0.002	0.000	0.000	0.000	0.000	1425.44	
22	0.6859	1159.1	1179.7	0.000	2.459	73.334	23.661	0.534	0.005	0.007	0.000	0.000	0.002	0.000	0.000	0.000	0.000	1424.41	
23	0.6870	1160.7	1181.3	0.000	2.468	73.145	23.794	0.577	0.006	0.008	0.000	0.000	0.002	0.000	0.000	0.000	0.000	1425.19	
24	0.6881	1162.7	1183.2	0.000	2.452	72.949	23.988	0.596	0.006	0.008	0.000	0.000	0.002	0.000	0.000	0.000	0.000	1426.43	
25	0.6868	1160.4	1181.0	0.000	2.462	73.159	23.821	0.545	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.10	
26	0.6891	1163.6	1184.2	0.000	2.485	72.786	24.072	0.644	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1426.59	
27	0.6895	1164.8	1185.4	0.000	2.454	72.713	24.164	0.655	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1427.61	
28	0.6866	1160.8	1181.4	0.000	2.427	73.241	23.729	0.588	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.67	
29	0.6870	1161.9	1182.5	0.000	2.391	73.201	23.780	0.613	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1426.69	
30	0.6890	1164.4	1185.0	0.000	2.427	72.874	23.986	0.697	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1427.69	
31	0.6883	1162.6	1183.2	0.000	2.473	72.864	24.097	0.553	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1426.16	
Avg	0.6854	1160.0	1180.2	0.000	2.377	73.495	23.530	0.583	0.006	0.008	0.000	0.000	0.001	0.000	0.000	0.000	0.000	1425.57	

Zone 33

GQ Source Daily Summary

May 2011

Number: 331

Pressure Base: 14.730

Contract Day: 1

Name: MARMARTH PLANT

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7772	1127.5	1147.5	1.471	10.748	56.614	29.052	1.898	0.049	0.144	0.006	0.015	0.003	0.000	0.000	0.000	0.000	1301.87	
2	0.7946	1136.4	1156.5	2.109	10.869	54.437	29.763	2.550	0.062	0.181	0.007	0.019	0.003	0.000	0.000	0.000	0.000	1297.42	
3	0.7969	1135.8	1155.9	2.117	11.112	54.120	29.661	2.705	0.065	0.191	0.008	0.020	0.003	0.000	0.000	0.000	0.000	1294.84	
4	0.7979	1134.6	1154.7	2.188	11.165	54.039	29.564	2.760	0.064	0.189	0.008	0.020	0.003	0.000	0.000	0.000	0.000	1292.70	
5	0.8015	1140.6	1160.8	2.310	10.953	53.612	29.940	2.885	0.067	0.199	0.008	0.022	0.003	0.000	0.000	0.000	0.000	1296.61	
6	0.8011	1141.7	1161.9	2.276	10.904	53.633	30.011	2.891	0.065	0.189	0.008	0.020	0.003	0.000	0.000	0.000	0.000	1298.12	
7	0.7989	1138.3	1158.4	2.280	10.899	54.113	29.521	2.893	0.067	0.195	0.008	0.021	0.003	0.000	0.000	0.000	0.000	1296.03	
8	0.8001	1139.5	1159.7	2.248	10.978	53.901	29.630	2.939	0.069	0.202	0.008	0.022	0.004	0.000	0.000	0.000	0.000	1296.54	
9	0.8003	1139.1	1159.3	2.288	10.962	53.870	29.669	2.908	0.068	0.202	0.008	0.022	0.003	0.000	0.000	0.000	0.000	1295.89	
10	0.8015	1140.1	1160.3	2.287	11.021	53.693	29.706	2.980	0.070	0.208	0.009	0.022	0.003	0.000	0.000	0.000	0.000	1295.99	
11	0.7992	1137.9	1158.1	2.239	11.007	54.086	29.422	2.926	0.072	0.212	0.009	0.024	0.004	0.000	0.000	0.000	0.000	1295.42	
12	0.7932	1131.1	1151.1	2.035	11.173	54.862	28.888	2.739	0.068	0.201	0.008	0.022	0.004	0.000	0.000	0.000	0.000	1292.44	
13	0.7932	1128.8	1148.8	2.124	11.179	54.922	28.750	2.727	0.067	0.197	0.008	0.022	0.004	0.000	0.000	0.000	0.000	1289.83	
14	0.7937	1128.8	1148.8	2.135	11.201	54.836	28.802	2.729	0.067	0.197	0.008	0.022	0.004	0.000	0.000	0.000	0.000	1289.54	
15	0.7941	1127.7	1147.7	2.162	11.263	54.873	28.593	2.795	0.070	0.208	0.009	0.023	0.004	0.000	0.000	0.000	0.000	1287.96	
16	0.7939	1129.7	1149.7	2.141	11.163	54.814	28.847	2.729	0.068	0.203	0.009	0.023	0.004	0.000	0.000	0.000	0.000	1290.32	
17	0.7954	1130.9	1150.9	2.214	11.118	54.720	28.803	2.824	0.071	0.212	0.009	0.024	0.004	0.000	0.000	0.000	0.000	1290.48	
18	0.7957	1131.6	1151.7	2.203	11.115	54.625	28.931	2.810	0.070	0.208	0.009	0.023	0.004	0.000	0.000	0.000	0.000	1291.08	
19	0.7934	1128.3	1148.3	2.173	11.153	54.876	28.816	2.689	0.065	0.193	0.008	0.021	0.004	0.000	0.000	0.000	0.000	1289.14	
20	0.7928	1132.0	1152.0	2.119	10.955	54.938	29.053	2.639	0.066	0.195	0.008	0.022	0.004	0.000	0.000	0.000	0.000	1293.81	
21	0.7957	1128.4	1148.3	2.244	11.256	54.653	28.706	2.828	0.070	0.208	0.009	0.023	0.004	0.000	0.000	0.000	0.000	1287.33	
22	0.7900	1125.8	1145.7	2.043	11.184	55.443	28.360	2.670	0.068	0.198	0.008	0.022	0.004	0.000	0.000	0.000	0.000	1289.00	
23	0.7944	1129.5	1149.5	2.200	11.127	54.783	28.856	2.733	0.067	0.199	0.008	0.022	0.004	0.000	0.000	0.000	0.000	1289.73	
24	0.7937	1128.7	1148.7	2.104	11.257	54.793	28.819	2.729	0.067	0.198	0.008	0.021	0.004	0.000	0.000	0.000	0.000	1289.41	
25	0.7958	1129.0	1149.0	2.248	11.214	54.589	28.860	2.784	0.069	0.202	0.008	0.022	0.004	0.000	0.000	0.000	0.000	1288.04	
26	0.7956	1131.6	1151.7	2.171	11.154	54.608	28.936	2.826	0.069	0.202	0.009	0.022	0.004	0.000	0.000	0.000	0.000	1291.18	
27	0.7980	1136.4	1156.6	2.232	10.993	54.234	29.382	2.854	0.069	0.202	0.008	0.022	0.004	0.000	0.000	0.000	0.000	1294.72	
28	0.7998	1135.3	1155.4	2.332	11.086	54.035	29.286	2.955	0.070	0.203	0.008	0.021	0.003	0.000	0.000	0.000	0.000	1291.91	
29	0.7981	1132.6	1152.6	2.244	11.221	54.148	29.255	2.834	0.067	0.197	0.008	0.022	0.003	0.000	0.000	0.000	0.000	1290.23	
30	0.7990	1135.3	1155.4	2.252	11.127	53.992	29.488	2.839	0.068	0.200	0.008	0.021	0.003	0.000	0.000	0.000	0.000	1292.63	
31	0.7985	1134.0	1154.0	2.280	11.117	54.218	29.168	2.908	0.070	0.205	0.009	0.022	0.003	0.000	0.000	0.000	0.000	1291.50	
Avg	0.7959	1133.0	1153.2	2.176	11.086	54.486	29.179	2.773	0.067	0.198	0.008	0.022	0.004	0.000	0.000	0.000	0.000	1292.64	

*** End of Report***

Zone 34

GQ Source Analysis

GQ Source Number:	1201140	Specific Gravity:	0.5725
GQ Source Name:	EAGLE 8B ND	BTU Base:	Dry
Effective Date:	6/7/2010 9:00:00 AM	Measured Heat Value:	979.18
Effective End Date:	1/18/2038 9:14:07 PM	Dry Heat Value:	979.09
Pressure Base:	14.730	Wet Heat Value:	962.05
Viscosity:		As Deliv. Heat Value:	979.09
		Sample Pressure:	29.00
		Sample Temperature:	

		<u>Mol %</u>	<u>GPM</u>			<u>Mol %</u>
C1	Methane	95.949		CO2	Carbon Dioxide	0.088
C2	Ethane	0.311	0.083	N2	Nitrogen	3.635
C3	Propane	0.009	0.003	O2	Oxygen	0.000
IC4	Iso-Butane	0.007	0.002	HE	Helium	
NC4	N-Butane	0.000	0.000	H2	Hydrogen	
IC5	Iso-Pentane	0.000	0.000	H2S	Hydrogen Sulfide	
NC5	N-Pentane	0.000	0.000	AR	Argon	
C6	Hexane	0.000	0.000	CO	Carbon Monoxide	
C7	Heptane			H2O	Water	
C8	Octane			Neo-C5	Neo-Pentane	
C9	Nonane					
C10	Decane					
Totals		100.000%	0.088 GPM			

Sample Date: 6/7/2010 12:00:00 AM
Sample Type: Spot
Sample Tech: MG
Sample Remarks:

Analysis Tech: Mary Berger
Analysis Remarks:

Zone 35

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	Chromatograph	Bowman Area
35	Monthly Sampler	Baker Field – North Dakota

Annual

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

STATE	ZONE	ZONE BOUNDARY	12 MONTH AVERAGE	MAY 11	APR 11	MAR 11	FEB 11	JAN 11	DEC 10	NOV 10	OCT 10	SEPT 10	AUG 10	JULY 10	JUNE 10	ZONE
MT/ND	211	Sidney Area	1208	1206	1202	1211	1216	1212	1218	1210	1206	1209	1208	1204	1197	21
ND	24	Williston Area	1199	1196	1194	1198	1196	1204	1207	1208	1193	1200	1212	1208	1171	24
ND	25	Watford City Area	1135	1128	1143	1143	1131	1150	1135	1133	1130	1133	1129	1130	1134	25
ND	261	Williston - Tioga - Minot Line	1157	1159	1162	1172	1176	1171	1154	1135	1140	1145	1161	1160	1147	261
ND	262	Minot Area	1183	1161	1167	1175	1178	1182	1191	1186	1190	1191	1189	1193	1188	262
ND	263	Tioga - Portal	1109	1093	1123	1094	1090	1094	1100	1107	1120	1133	1127	1124	1104	263
ND	264	Williston - Ray	1199	1196	1194	1198	1196	1204	1207	1208	1193	1200	1212	1208	1171	264
ND	271	Bismarck - Cleveland	1165	1152	1161	1136	1118	1130	1160	1172	1190	1191	1187	1193	1186	271
ND	272	Cleveland - Mapleton	1164	1151	1161	1134	1117	1130	1159	1171	1190	1190	1187	1193	1187	272
ND	273	Cleveland - Grafton	1164	1151	1161	1135	1117	1130	1159	1172	1190	1190	1187	1193	1187	273
ND	28	Bismarck - Cabin Creek	1122	1139	1112	1051	1042	1045	1055	1097	1173	1191	1182	1193	1186	28
ND	31	Dickinson Area	1063	1109	1093	1049	1040	1044	1053	1082	1088	1056	1065	1023	1053	31
ND/MT	32	Cabin Creek - Dickinson	1048	1080	1071	1046	1037	1041	1050	1079	1075	1040	1031	986	1043	32
ND	33	Killdeer	1177	1180	1177	1175	1175	1175	1175	1177	1179	1179	1177	1177	1172	33
ND	34	Bowman Area	1161	1153	1154	1163	1158	1163	1172	1167	1163	1157	1157	1156	1165	34
ND	35	Baker Field - North Dakota	979	979	979	979	979	979	979	979	979	979	979	979	979	35

THERMAL ZONE VARIANCE DOCUMENTATION		
May 2011		
ZONE	BTU VARIANCE	REASON
263	-30	Mix of gas in the area
28	27	Higher BTU coming from East