



MONTANA-DAKOTA
UTILITIES CO.
A Division of MDU Resources Group, Inc.

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

September 30, 2011

RECEIVED

OCT 03 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 – August 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 September 2011.
2. Attachment B consists of copies of the monthly Heating Value Test Reports received from our supplier for the month of August 2011. There is a report for each of the 17 thermal zones for the month.
3. Attachment C is a listing which states the type of measuring device in place at each zone.
4. Attachment D is a monthly list of the heating value data, by zone, for the most recent 12-month period and an average thereof. It is being provided pursuant to a Staff request.
5. Attachment E provides a brief explanation of the thermal variances, where applicable, for the month of August 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
SEPT 2011

Div Nbr	Off Code	City Name	Heat Zone Nbr	Therm Billing Factor
12	314	APPLE VALLEY	271	1.1193
12	327	BISMARCK	28	1.1193
12	343	CARRINGTON	273	1.1193
12	344	CLEVELAND	272	1.1114
12	364	CAVALIER	273	1.1428
12	365	DAWSON	271	1.1114
12	374	FT TOTTEN	273	1.1272
12	375	DEVILS LAKE	273	1.1272
12	379	BARLOW	273	1.1193
12	387	ELDRIDGE	272	1.1193
12	411	GLEN ULLIN	31	1.0881
12	417	GRAFTON	273	1.1507
12	439	HANKINSON	600	1.0758
12	449	JAMESTOWN	272	1.1272
12	463	LANGDON	273	1.1193
12	475	LINTON	802	.9755
12	478	LINCOLN	28	1.1193
12	494	MEDINA	271	1.1114
12	498	MANDAN	28	1.1193
12	524	NEW SALEM	28	1.0956
12	532	NEW ROCKFORD	273	1.1193
12	539	PARK RIVER	273	1.1428
12	574	SANBORN	272	1.1272
12	593	STEELE	271	1.1114
12	598	SHEYENNE	273	1.1272
12	610	TAPPEN	271	1.1114
12	625	VALLEY CITY	272	1.1349
12	629	WALHALLA	273	1.1428
12	647	WILTON	262	1.0966
12	717	SPIRITWOOD	272	1.1272
12	718	FAIRMOUNT	600	1.0737
12	732	MSR SITE	273	1.1193
12	733	PAR SITE	273	1.1193
15	303	ALEXANDER	25	1.0730
15	308	ARNEGARD	25	1.0730

MONTANA-DAKOTA UTILITIES CO.
Therm Billing Factor
SEPT 2011

Div Nbr	Off Code	City Name	Heat Zone Nbr	Therm Billing Factor
15	318	BEACH	32	1.0405
15	319	BELFIELD	32	1.0482
15	323	BERTHOLD	262	1.0966
15	330	BOWMAN	34	1.0439
15	337	BURLINGTON	262	1.1202
15	368	DES LACS	262	1.1045
15	369	DICKINSON	31	1.0802
15	384	EPPING	264	1.1334
15	407	GLADSTONE	31	1.0802
15	413	GOLVA	32	1.0253
15	416	GARRISON	262	1.1045
15	429	HEBRON	31	1.0881
15	459	KILLDEER	33	1.1155
15	469	LEFOR	31	1.0802
15	474	LIGNITE	263	1.0731
15	500	MARMARTH	34	1.0516
15	505	MINOT	262	1.1202
15	510	MOTT	31	1.0802
15	512	MAX	262	1.0966
15	522	NEW ENGLAND	31	1.0724
15	540	PALERMO	262	1.0966
15	558	RAY	264	1.1334
15	561	REGENT	31	1.0802
15	563	RHAME	34	1.0363
15	564	RICHARDTON	31	1.0724
15	568	ROSS	261	1.0868
15	572	RUTHVILLE	262	1.1202
15	583	SENTINEL BUTTE	32	1.0405
15	588	SOUTH HEART	31	1.0724
15	590	SPRINGBROOK	264	1.1334
15	591	STANLEY	261	1.0947
15	605	SURREY	262	1.1202
15	611	TAYLOR	31	1.0724
15	616	TIOGA	261	1.0868
15	619	TURTLE LAKE	262	1.1045

MONTANA-DAKOTA UTILITIES CO.
Therm Billing Factor
SEPT 2011

Div Nbr	Off Code	City Name	Heat Zone Nbr	Therm Billing Factor
15	620	TRENTON	24	1.1416
15	624	UNDERWOOD	262	1.1045
15	632	WATFORD CITY	25	1.0730
15	636	WHEELLOCK	264	1.1252
15	637	WHITE EARTH	261	1.0947
15	642	WILLISTON	24	1.1416
15	646	WASHBURN	262	1.1124
15	664	RIVERDALE	262	1.1045
15	691	FAIRVIEW	241	1.1416
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

August 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	0.7255	1193.2	1214.4	0.440	3.416	69.481	22.469	3.878	0.113	0.181	0.010	0.009	0.002	0.000	0.000	0.000	0.000	1425.78	
2	0.7342	1201.0	1222.3	0.591	3.523	68.601	22.500	4.316	0.156	0.281	0.016	0.014	0.002	0.000	0.000	0.000	0.000	1426.56	
3	0.7307	1191.1	1212.2	0.732	3.592	68.863	22.539	3.862	0.132	0.249	0.015	0.013	0.002	0.000	0.000	0.000	0.000	1418.19	
4	0.7360	1181.9	1202.8	1.147	4.010	68.528	21.819	3.930	0.178	0.345	0.022	0.018	0.003	0.000	0.000	0.000	0.000	1402.10	
5	0.7362	1182.4	1203.3	1.148	3.998	68.556	21.748	3.967	0.183	0.355	0.023	0.019	0.002	0.000	0.000	0.000	0.000	1402.48	
6	0.7327	1187.8	1208.8	0.875	3.758	68.773	22.221	3.875	0.158	0.300	0.019	0.017	0.003	0.000	0.000	0.000	0.000	1412.31	
7	0.7168	1194.3	1215.5	0.048	3.135	69.780	23.772	3.146	0.048	0.064	0.003	0.003	0.002	0.000	0.000	0.000	0.000	1435.61	
8	0.7337	1189.0	1210.1	0.877	3.774	68.641	22.282	3.910	0.165	0.312	0.020	0.017	0.003	0.000	0.000	0.000	0.000	1412.85	
9	0.7400	1188.6	1209.7	1.142	3.985	68.202	21.768	4.248	0.203	0.400	0.026	0.022	0.003	0.000	0.000	0.000	0.000	1406.22	
10	0.7398	1188.3	1209.3	1.140	3.988	68.224	21.764	4.230	0.201	0.398	0.027	0.023	0.003	0.000	0.000	0.000	0.000	1406.00	
11	0.7183	1185.0	1206.0	0.398	3.311	70.083	22.806	3.136	0.089	0.158	0.009	0.008	0.001	0.000	0.000	0.000	0.000	1423.10	
12	0.7207	1200.2	1221.4	0.046	3.139	69.679	23.307	3.600	0.079	0.133	0.007	0.007	0.003	0.000	0.000	0.000	0.000	1438.78	
13	0.7170	1194.7	1215.8	0.046	3.133	69.859	23.603	3.218	0.054	0.077	0.003	0.004	0.002	0.000	0.000	0.000	0.000	1435.86	
14	0.7239	1207.7	1229.0	0.040	2.996	68.882	24.324	3.605	0.060	0.085	0.003	0.004	0.002	0.000	0.000	0.000	0.000	1444.53	
15	0.7325	1185.8	1206.8	0.904	3.824	68.822	22.076	3.873	0.160	0.303	0.019	0.016	0.002	0.000	0.000	0.000	0.000	1410.04	
16	0.7365	1183.8	1204.8	1.113	3.991	68.741	21.383	4.139	0.197	0.386	0.025	0.022	0.003	0.000	0.000	0.000	0.000	1403.87	
17	0.7345	1179.5	1200.4	1.153	4.013	68.871	21.418	3.984	0.176	0.341	0.022	0.019	0.003	0.000	0.000	0.000	0.000	1400.59	
18	0.7330	1177.0	1197.8	1.160	4.012	69.031	21.388	3.872	0.169	0.327	0.021	0.018	0.003	0.000	0.000	0.000	0.000	1399.07	
19	0.7289	1170.6	1191.4	1.159	4.017	69.253	21.668	3.461	0.140	0.269	0.017	0.014	0.001	0.000	0.000	0.000	0.000	1395.47	
20	0.7303	1172.9	1193.7	1.160	4.006	69.032	21.846	3.512	0.140	0.270	0.017	0.014	0.002	0.000	0.000	0.000	0.000	1396.85	
21	0.7307	1173.7	1194.5	1.161	4.003	69.075	21.680	3.621	0.145	0.281	0.017	0.014	0.002	0.000	0.000	0.000	0.000	1397.30	
22	0.7309	1173.8	1194.6	1.160	4.009	69.195	21.428	3.729	0.151	0.291	0.019	0.017	0.002	0.000	0.000	0.000	0.000	1397.32	
23	0.7321	1176.2	1197.0	1.158	3.986	69.035	21.511	3.836	0.149	0.289	0.018	0.015	0.002	0.000	0.000	0.000	0.000	1398.91	
24	0.7271	1180.4	1201.3	0.837	3.748	69.401	22.005	3.619	0.126	0.235	0.015	0.012	0.002	0.000	0.000	0.000	0.000	1408.81	
25	0.7307	1173.5	1194.3	1.159	4.011	69.191	21.449	3.732	0.145	0.278	0.018	0.015	0.002	0.000	0.000	0.000	0.000	1397.14	
26	0.7310	1174.1	1194.9	1.158	4.003	69.068	21.652	3.660	0.145	0.280	0.018	0.015	0.002	0.000	0.000	0.000	0.000	1397.58	
27	0.7315	1176.4	1197.3	1.122	3.968	69.052	21.609	3.787	0.146	0.280	0.018	0.015	0.002	0.000	0.000	0.000	0.000	1399.81	
28	0.7316	1175.3	1196.1	1.157	3.993	69.111	21.468	3.790	0.152	0.292	0.019	0.016	0.002	0.000	0.000	0.000	0.000	1398.35	
29	0.7311	1174.2	1195.0	1.154	4.010	69.266	21.279	3.790	0.157	0.301	0.021	0.018	0.003	0.000	0.000	0.000	0.000	1397.61	
30	0.7322	1176.3	1197.1	1.156	3.991	69.027	21.552	3.753	0.164	0.318	0.020	0.017	0.002	0.000	0.000	0.000	0.000	1398.96	
31	0.7301	1172.6	1193.4	1.154	4.013	69.200	21.578	3.578	0.150	0.291	0.018	0.016	0.002	0.000	0.000	0.000	0.000	1396.71	
Avg	0.7303	1183.0	1204.2	0.893	3.786	69.049	22.062	3.763	0.143	0.270	0.017	0.015	0.002	0.000	0.000	0.000	0.000	1409.19	

zone 211

GQ Source Analysis

Williston Basin Interstate Pipeline Co.

Attachment B
Page 2 of 16

GQ Source Number:	0602330	Specific Gravity:	0.7329
GQ Source Name:	WILLISTON BORDER	BTU Base:	Dry
Effective Date:	8/1/2011 9:00:00 AM	Measured Heat Value:	1203.07
Effective End Date:	1/18/2038 9:14:07 PM	Dry Heat Value:	1199.80
Pressure Base:	14.730	Wet Heat Value:	1178.92
Viscosity:		As Deliv. Heat Value:	1199.80
		Sample Pressure:	340.00
		Sample Temperature:	

		<u>Mol %</u>	<u>GPM</u>			<u>Mol %</u>
C1	Methane	68.729		CO2	Carbon Dioxide	0.980
C2	Ethane	21.558	5.748	N2	Nitrogen	4.120
C3	Propane	4.058	1.115	O2	Oxygen	0.000
IC4	Iso-Butane	0.174	0.057	HE	Helium	
NC4	N-Butane	0.332	0.104	H2	Hydrogen	
IC5	Iso-Pentane	0.024	0.009	H2S	Hydrogen Sulfide	
NC5	N-Pentane	0.021	0.007	AR	Argon	
C6	Hexane	0.004	0.002	CO	Carbon Monoxide	
C7	Heptane			H2O	Water	
C8	Octane			Neo-C5	Neo-Pentane	
C9	Nonane					
C10	Decane					

Totals 99.999% 7.042 GPM

Sample Date: 8/31/2011 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.

Attachment B
Page 3 of 16

GQ Source Number:	0602160	Specific Gravity:	0.7332
GQ Source Name:	FAIRVIEW BORDER	BTU Base:	Dry
Effective Date:	8/1/2011 9:00:00 AM	Measured Heat Value:	1203.67
Effective End Date:	1/18/2038 9:14:07 PM	Dry Heat Value:	1200.39
Pressure Base:	14.730	Wet Heat Value:	1179.49
Viscosity:		As Deliv. Heat Value:	1200.39
		Sample Pressure:	0.00
		Sample Temperature:	

	<u>Mol %</u>	<u>GPM</u>		<u>Mol %</u>
C1 Methane	68.698		CO2 Carbon Dioxide	1.091
C2 Ethane	21.724	0.000	N2 Nitrogen	3.946
C3 Propane	4.021	1.105	O2 Oxygen	0.000
IC4 Iso-Butane	0.165	0.054	HE Helium	
NC4 N-Butane	0.314	0.099	H2 Hydrogen	
IC5 Iso-Pentane	0.021	0.008	H2S Hydrogen Sulfide	
NC5 N-Pentane	0.018	0.007	AR Argon	
C6 Hexane	0.002	0.001	CO Carbon Monoxide	
C7 Heptane			H2O Water	
C8 Octane			Neo-C5 Neo-Pentane	
C9 Nonane				
C10 Decane				

Totals 100.002% 1.273 GPM

Sample Date: 8/31/2011 12:00:00 AM
Sample Type: Composite
Sample Tech: sampler
Sample Remarks:

Analysis Tech: Mary Berger

Analysis Remarks:

Zone 241

GQ Source Analysis

Williston Basin Interstate Pipeline Co.

Attachment B
Page 4 of 16

GQ Source Number:	0602230	Specific Gravity:	0.7304
GQ Source Name:	WATFORD CITY BORDER	BTU Base:	Dry
Effective Date:	8/1/2011 9:00:00 AM	Measured Heat Value:	1138.26
Effective End Date:	1/18/2038 9:14:07 PM	Dry Heat Value:	1135.55
Pressure Base:	14.730	Wet Heat Value:	1115.79
Viscosity:		As Deliv. Heat Value:	1135.55
		Sample Pressure:	470.00
		Sample Temperature:	

	<u>Mol %</u>	<u>GPM</u>		<u>Mol %</u>
C1 Methane	68.410		CO2 Carbon Dioxide	0.731
C2 Ethane	18.212	4.856	N2 Nitrogen	8.128
C3 Propane	3.888	1.068	O2 Oxygen	0.000
IC4 Iso-Butane	0.194	0.063	HE Helium	
NC4 N-Butane	0.367	0.116	H2 Hydrogen	
IC5 Iso-Pentane	0.029	0.011	H2S Hydrogen Sulfide	
NC5 N-Pentane	0.030	0.011	AR Argon	
C6 Hexane	0.007	0.003	CO Carbon Monoxide	
C7 Heptane			H2O Water	
C8 Octane			Neo-C5 Neo-Pentane	
C9 Nonane				
C10 Decane				
Totals		99.998%	6.128 GPM	

Sample Date: 8/31/2011 12:00:00 AM
Sample Type: Composite
Sample Tech: sampler
Sample Remarks:

Analysis Tech: Mary Berger

Analysis Remarks:

Zone 25

GQ Source Daily Summary

August 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	0.6908	1139.7	1159.9	0.423	3.446	74.859	18.753	2.240	0.080	0.166	0.011	0.013	0.009					1395.55	
2	0.6892	1137.3	1157.4	0.428	3.438	75.175	18.462	2.210	0.083	0.170	0.012	0.013	0.009					1394.16	
3	0.6921	1139.4	1159.6	0.449	3.548	74.758	18.572	2.391	0.081	0.166	0.012	0.013	0.010					1393.86	
4	0.6914	1138.2	1158.4	0.446	3.552	74.834	18.587	2.296	0.080	0.165	0.013	0.015	0.012					1393.16	
5	0.6915	1137.8	1158.0	0.469	3.559	74.710	18.776	2.207	0.081	0.165	0.011	0.013	0.008					1392.49	
6	0.6934	1139.1	1159.3	0.496	3.618	74.383	18.979	2.240	0.084	0.169	0.012	0.012	0.007					1392.16	
7	0.6954	1141.9	1162.1	0.501	3.624	74.176	19.008	2.388	0.089	0.180	0.013	0.014	0.008					1393.58	
8	0.6928	1139.2	1159.4	0.486	3.571	74.490	18.924	2.250	0.085	0.169	0.011	0.011	0.004					1392.87	
9	0.6927	1140.7	1160.9	0.472	3.494	74.699	18.663	2.352	0.093	0.192	0.014	0.015	0.006					1394.75	
10	0.6915	1138.6	1158.8	0.480	3.490	74.903	18.531	2.276	0.090	0.188	0.015	0.017	0.010					1393.51	
11	0.6916	1135.4	1155.6	0.511	3.644	74.706	18.629	2.254	0.082	0.155	0.010	0.009	0.000					1389.54	
12	0.6964	1142.8	1163.1	0.516	3.635	74.252	18.613	2.688	0.093	0.178	0.012	0.012	0.001					1393.76	
13	0.6931	1139.3	1159.5	0.486	3.588	74.646	18.518	2.496	0.084	0.159	0.010	0.010	0.001					1392.74	
14	0.6930	1139.7	1159.9	0.478	3.567	74.716	18.469	2.460	0.095	0.188	0.012	0.013	0.002					1393.33	
15	0.6915	1138.8	1158.9	0.473	3.494	74.602	19.042	2.137	0.074	0.147	0.011	0.013	0.007					1393.69	
16	0.6916	1138.0	1158.2	0.490	3.518	74.616	18.967	2.161	0.074	0.146	0.010	0.011	0.007					1392.73	
17	0.6924	1138.7	1158.9	0.500	3.536	74.512	19.003	2.187	0.078	0.155	0.011	0.012	0.006					1392.78	
18	0.6944	1143.9	1164.2	0.492	3.422	74.410	18.985	2.380	0.089	0.183	0.015	0.017	0.008					1397.06	
19	0.6933	1142.3	1162.5	0.467	3.454	74.604	18.813	2.331	0.091	0.194	0.016	0.019	0.010					1396.17	
20	0.6921	1139.1	1159.2	0.475	3.531	74.739	18.631	2.344	0.082	0.163	0.012	0.014	0.009					1393.40	
21	0.6914	1136.6	1156.8	0.491	3.591	74.662	18.815	2.198	0.072	0.141	0.010	0.011	0.009					1391.12	
22	0.6914	1137.3	1157.5	0.499	3.529	74.645	18.901	2.200	0.071	0.134	0.009	0.009	0.003					1392.07	
23	0.6920	1137.5	1157.6	0.506	3.571	74.656	18.707	2.318	0.077	0.145	0.009	0.009	0.002					1391.56	
24	0.6941	1138.7	1158.9	0.528	3.660	74.316	18.893	2.335	0.082	0.160	0.011	0.011	0.004					1390.97	
25	0.6925	1138.3	1158.5	0.526	3.533	74.531	18.948	2.199	0.078	0.154	0.011	0.013	0.007					1392.15	
26	0.6953	1139.3	1159.5	0.547	3.704	73.946	19.340	2.205	0.077	0.152	0.011	0.012	0.006					1390.56	
27	0.6960	1138.6	1158.8	0.562	3.794	73.746	19.471	2.177	0.075	0.148	0.011	0.011	0.004					1388.96	
28	0.6948	1139.7	1159.9	0.545	3.635	74.199	18.995	2.378	0.078	0.149	0.010	0.009	0.001					1391.52	
29	0.6958	1139.4	1159.6	0.552	3.737	74.071	18.967	2.383	0.088	0.175	0.012	0.012	0.002					1390.18	
30	0.6955	1139.2	1159.4	0.555	3.716	74.304	18.606	2.502	0.101	0.191	0.011	0.011	0.001					1390.20	
31	0.6935	1135.9	1156.1	0.532	3.761	74.548	18.486	2.358	0.098	0.190	0.013	0.012	0.002					1388.23	
Avg	0.6930	1139.0	1159.2	0.496	3.579	74.529	18.808	2.308	0.083	0.166	0.012	0.013	0.006					1392.54	

Zone 261

GQ Source Daily Summary

August 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	0.6868	1132.5	1152.6	0.325	3.654	75.298	18.442	2.018	0.069	0.159	0.012	0.016	0.008	0.000	0.000	0.000	0.000	1390.78	
2	0.6970	1148.9	1169.3	0.424	3.452	74.384	18.689	2.561	0.124	0.295	0.026	0.033	0.012	0.000	0.000	0.000	0.000	1400.60	
3	0.6961	1147.9	1168.2	0.428	3.427	74.388	18.880	2.410	0.114	0.275	0.027	0.036	0.015	0.000	0.000	0.000	0.000	1400.21	
4	0.6911	1140.4	1160.6	0.429	3.416	74.795	18.860	2.218	0.080	0.172	0.011	0.014	0.006	0.000	0.000	0.000	0.000	1396.12	
5	0.6899	1138.7	1158.9	0.441	3.396	75.045	18.618	2.212	0.083	0.176	0.011	0.013	0.006	0.000	0.000	0.000	0.000	1395.16	
6	0.6920	1140.4	1160.6	0.458	3.462	74.768	18.666	2.365	0.082	0.171	0.010	0.012	0.006	0.000	0.000	0.000	0.000	1395.12	
7	0.6918	1139.2	1159.3	0.459	3.516	74.723	18.737	2.283	0.081	0.169	0.011	0.014	0.007	0.000	0.000	0.000	0.000	1393.85	
8	0.6926	1139.5	1159.7	0.488	3.522	74.548	18.919	2.240	0.083	0.171	0.011	0.012	0.006	0.000	0.000	0.000	0.000	1393.54	
9	0.6944	1140.7	1160.9	0.516	3.577	74.210	19.159	2.254	0.085	0.173	0.010	0.011	0.005	0.000	0.000	0.000	0.000	1393.18	
10	0.6956	1142.4	1162.6	0.516	3.591	74.127	19.081	2.383	0.090	0.184	0.011	0.012	0.005	0.000	0.000	0.000	0.000	1393.95	
11	0.6940	1141.4	1161.6	0.504	3.516	74.338	19.060	2.294	0.087	0.177	0.010	0.011	0.004	0.000	0.000	0.000	0.000	1394.40	
12	0.6931	1141.9	1162.1	0.487	3.422	74.690	18.697	2.379	0.095	0.198	0.012	0.014	0.005	0.000	0.000	0.000	0.000	1395.93	
13	0.6929	1141.2	1161.4	0.493	3.444	74.698	18.700	2.326	0.095	0.203	0.015	0.018	0.007	0.000	0.000	0.000	0.000	1395.21	
14	0.6931	1138.3	1158.5	0.526	3.587	74.532	18.760	2.317	0.087	0.169	0.009	0.009	0.004	0.000	0.000	0.000	0.000	1391.52	
15	0.6972	1144.2	1164.5	0.539	3.594	74.109	18.779	2.678	0.094	0.183	0.011	0.010	0.004	0.000	0.000	0.000	0.000	1394.57	
16	0.6948	1142.0	1162.3	0.510	3.542	74.444	18.638	2.588	0.087	0.168	0.009	0.009	0.004	0.000	0.000	0.000	0.000	1394.36	
17	0.6927	1139.6	1159.8	0.490	3.526	74.676	18.635	2.386	0.087	0.176	0.010	0.010	0.004	0.000	0.000	0.000	0.000	1393.47	
18	0.6923	1140.0	1160.2	0.490	3.460	74.504	19.110	2.184	0.075	0.151	0.009	0.011	0.005	0.000	0.000	0.000	0.000	1394.45	
19	0.6921	1139.0	1159.2	0.505	3.481	74.533	19.056	2.176	0.075	0.150	0.009	0.010	0.005	0.000	0.000	0.000	0.000	1393.41	
20	0.6928	1139.6	1159.8	0.520	3.496	74.424	19.116	2.186	0.078	0.156	0.009	0.010	0.005	0.000	0.000	0.000	0.000	1393.32	
21	0.6966	1147.5	1167.9	0.506	3.383	74.203	19.044	2.497	0.103	0.223	0.016	0.019	0.007	0.000	0.000	0.000	0.000	1399.25	
22	0.6938	1143.5	1163.8	0.483	3.403	74.476	18.987	2.334	0.089	0.192	0.014	0.017	0.007	0.000	0.000	0.000	0.000	1397.15	
23	0.6930	1140.7	1160.9	0.492	3.483	74.592	18.790	2.362	0.082	0.168	0.011	0.012	0.006	0.000	0.000	0.000	0.000	1394.51	
24	0.6930	1139.5	1159.6	0.509	3.534	74.500	18.895	2.297	0.078	0.158	0.010	0.011	0.006	0.000	0.000	0.000	0.000	1393.01	
25	0.6921	1138.5	1158.7	0.517	3.498	74.540	18.992	2.219	0.073	0.143	0.007	0.008	0.004	0.000	0.000	0.000	0.000	1392.76	
26	0.6927	1138.8	1159.0	0.525	3.526	74.541	18.841	2.322	0.078	0.149	0.007	0.007	0.003	0.000	0.000	0.000	0.000	1392.47	
27	0.6952	1140.6	1160.8	0.545	3.620	74.192	18.960	2.407	0.085	0.169	0.009	0.009	0.003	0.000	0.000	0.000	0.000	1392.14	
28	0.6938	1140.4	1160.6	0.538	3.507	74.319	19.125	2.244	0.080	0.161	0.010	0.011	0.005	0.000	0.000	0.000	0.000	1393.36	
29	0.6951	1140.1	1160.3	0.560	3.616	73.998	19.359	2.211	0.077	0.155	0.009	0.010	0.004	0.000	0.000	0.000	0.000	1391.69	
30	0.6971	1140.7	1160.9	0.578	3.746	73.571	19.645	2.209	0.076	0.153	0.009	0.010	0.004	0.000	0.000	0.000	0.000	1390.36	
31	0.6956	1140.3	1160.5	0.567	3.641	74.008	19.194	2.344	0.077	0.150	0.008	0.008	0.003	0.000	0.000	0.000	0.000	1391.42	
Avg	0.6936	1141.0	1161.1	0.496	3.517	74.457	18.917	2.319	0.085	0.177	0.011	0.013	0.006	0.000	0.000	0.000	0.000	1394.23	

Zone 262

GQ Source Analysis

Williston Basin Interstate Pipeline Co.

Attachment B
Page 7 of 16

GQ Source Number:	2501030	Specific Gravity:	0.6668
GQ Source Name:	LIGNITE PLANT	BTU Base:	Dry
Effective Date:	8/1/2011 9:00:00 AM	Measured Heat Value:	1129.89
Effective End Date:	1/18/2038 9:14:07 PM	Dry Heat Value:	1128.18
Pressure Base:	14.730	Wet Heat Value:	1108.54
Viscosity:		As Deliv. Heat Value:	1128.18
		Sample Pressure:	0.00
		Sample Temperature:	

	<u>Mol %</u>	<u>GPM</u>		<u>Mol %</u>
C1 Methane	77.442		CO2 Carbon Dioxide	0.161
C2 Ethane	18.115	4.830	N2 Nitrogen	3.462
C3 Propane	0.785	0.216	O2 Oxygen	0.000
IC4 Iso-Butane	0.000	0.000	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	0.035	0.016	CO Carbon Monoxide	
C7 Heptane			H2O Water	
C8 Octane			Neo-C5 Neo-Pentane	
C9 Nonane				
C10 Decane				

Totals 100.001% 5.062 GPM

Sample Date: 9/1/2011 12:00:00 AM
Sample Type: Spot
Sample Tech: DU
Sample Remarks:

Analysis Tech: Mary Berger

Analysis Remarks:

Zone 263

*** End of Report ***

GQ Source Daily Summary

August 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	0.6904	1139.4	1159.6	0.448	3.386	74.982	18.711	2.171	0.082	0.175	0.011	0.013	0.020	0.000	0.000	0.000	0.000	1395.60	
2	0.6895	1138.1	1158.3	0.440	3.397	75.097	18.610	2.178	0.076	0.161	0.010	0.012	0.019	0.000	0.000	0.000	0.000	1394.89	
3	0.6905	1139.7	1159.9	0.454	3.366	75.107	18.466	2.298	0.084	0.179	0.012	0.014	0.019	0.000	0.000	0.000	0.000	1395.87	
4	0.6913	1137.6	1157.8	0.470	3.552	74.933	18.418	2.334	0.078	0.166	0.012	0.015	0.022	0.000	0.000	0.000	0.000	1392.42	
5	0.6921	1140.2	1160.4	0.474	3.463	74.748	18.728	2.292	0.080	0.168	0.012	0.014	0.021	0.000	0.000	0.000	0.000	1394.78	
6	0.6923	1138.8	1159.0	0.502	3.522	74.633	18.841	2.211	0.082	0.169	0.011	0.013	0.017	0.000	0.000	0.000	0.000	1392.95	
7	0.6945	1141.1	1161.3	0.529	3.549	74.249	19.131	2.249	0.084	0.171	0.011	0.012	0.016	0.000	0.000	0.000	0.000	1393.49	
8	0.6946	1141.1	1161.4	0.518	3.574	74.335	18.921	2.341	0.088	0.181	0.012	0.013	0.017	0.000	0.000	0.000	0.000	1393.43	
9	0.6929	1140.5	1160.7	0.506	3.465	74.574	18.900	2.262	0.084	0.172	0.011	0.011	0.015	0.000	0.000	0.000	0.000	1394.44	
10	0.6932	1142.7	1162.9	0.494	3.381	74.906	18.391	2.442	0.102	0.224	0.018	0.022	0.021	0.000	0.000	0.000	0.000	1396.70	
11	0.6909	1137.2	1157.3	0.514	3.475	74.890	18.629	2.218	0.081	0.159	0.009	0.010	0.014	0.000	0.000	0.000	0.000	1392.29	
12	0.6944	1139.2	1159.4	0.547	3.624	74.446	18.670	2.406	0.090	0.179	0.012	0.012	0.014	0.000	0.000	0.000	0.000	1391.32	
13	0.6950	1142.0	1162.2	0.532	3.535	74.467	18.561	2.643	0.079	0.151	0.009	0.009	0.014	0.000	0.000	0.000	0.000	1394.10	
14	0.6927	1138.7	1158.8	0.510	3.550	74.830	18.356	2.445	0.091	0.181	0.012	0.012	0.014	0.000	0.000	0.000	0.000	1392.39	
15	0.6926	1139.6	1159.8	0.498	3.502	74.721	18.629	2.362	0.083	0.167	0.011	0.011	0.016	0.000	0.000	0.000	0.000	1393.65	
16	0.6922	1140.3	1160.4	0.502	3.423	74.580	19.072	2.149	0.075	0.154	0.012	0.014	0.019	0.000	0.000	0.000	0.000	1394.80	
17	0.6916	1138.1	1158.2	0.527	3.466	74.635	19.002	2.113	0.074	0.148	0.010	0.011	0.015	0.000	0.000	0.000	0.000	1392.71	
18	0.6930	1140.4	1160.6	0.523	3.459	74.505	19.005	2.231	0.079	0.159	0.011	0.012	0.016	0.000	0.000	0.000	0.000	1394.19	
19	0.6966	1148.7	1169.0	0.509	3.312	74.347	18.906	2.525	0.105	0.233	0.018	0.025	0.020	0.000	0.000	0.000	0.000	1400.63	
20	0.6909	1137.9	1158.0	0.498	3.449	74.848	18.765	2.169	0.076	0.156	0.011	0.012	0.016	0.000	0.000	0.000	0.000	1393.23	
21	0.6940	1141.8	1162.0	0.507	3.489	74.602	18.633	2.456	0.085	0.176	0.013	0.015	0.022	0.000	0.000	0.000	0.000	1394.87	
22	0.6898	1134.6	1154.7	0.519	3.518	74.890	18.766	2.088	0.063	0.122	0.007	0.008	0.019	0.000	0.000	0.000	0.000	1390.29	
23	0.6919	1138.7	1158.8	0.524	3.464	74.701	18.799	2.258	0.074	0.145	0.009	0.009	0.016	0.000	0.000	0.000	0.000	1393.09	
24	0.6931	1138.4	1158.5	0.545	3.559	74.603	18.655	2.371	0.079	0.154	0.009	0.009	0.015	0.000	0.000	0.000	0.000	1391.56	
25	0.6936	1139.1	1159.3	0.551	3.555	74.395	18.988	2.235	0.079	0.158	0.011	0.012	0.015	0.000	0.000	0.000	0.000	1391.93	
26	0.6930	1139.0	1159.2	0.556	3.490	74.531	18.923	2.230	0.077	0.154	0.010	0.011	0.018	0.000	0.000	0.000	0.000	1392.50	
27	0.6965	1140.4	1160.6	0.578	3.713	73.719	19.550	2.176	0.075	0.151	0.011	0.011	0.016	0.000	0.000	0.000	0.000	1390.56	
28	0.6961	1139.7	1159.9	0.585	3.701	73.900	19.288	2.263	0.076	0.152	0.010	0.010	0.015	0.000	0.000	0.000	0.000	1390.18	
29	0.6941	1138.8	1158.9	0.573	3.589	74.337	18.933	2.313	0.076	0.148	0.009	0.009	0.014	0.000	0.000	0.000	0.000	1391.03	
30	0.6984	1144.4	1164.7	0.581	3.627	73.940	18.936	2.551	0.104	0.216	0.014	0.014	0.016	0.000	0.000	0.000	0.000	1393.69	
31	0.6935	1136.4	1156.5	0.567	3.681	74.619	18.442	2.387	0.094	0.178	0.010	0.009	0.013	0.000	0.000	0.000	0.000	1388.76	
Avg	0.6931	1140.0	1159.9	0.519	3.511	74.583	18.794	2.302	0.082	0.168	0.011	0.012	0.017	0.000	0.000	0.000	0.000	1393.30	

Zone 271

GQ Source Daily Summary

August 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	0.6985	1151.9	1172.3	0.432	3.403	74.358	18.660	2.566	0.132	0.329	0.036	0.048	0.037	0.000	0.000	0.000	0.000	1402.65	
2	0.6906	1139.8	1160.0	0.442	3.392	74.936	18.707	2.235	0.081	0.175	0.011	0.013	0.007	0.000	0.000	0.000	0.000	1395.87	
3	0.6895	1138.2	1158.3	0.447	3.382	75.173	18.480	2.218	0.085	0.183	0.012	0.014	0.006	0.000	0.000	0.000	0.000	1394.94	
4	0.6918	1139.8	1159.9	0.467	3.468	74.866	18.521	2.393	0.082	0.172	0.012	0.013	0.007	0.000	0.000	0.000	0.000	1394.60	
5	0.6910	1138.0	1158.1	0.462	3.510	74.937	18.511	2.290	0.080	0.169	0.013	0.015	0.014	0.000	0.000	0.000	0.000	1393.21	
6	0.6913	1138.0	1158.2	0.485	3.499	74.789	18.735	2.212	0.082	0.169	0.012	0.013	0.004	0.000	0.000	0.000	0.000	1392.99	
7	0.6929	1139.3	1159.5	0.512	3.536	74.503	18.917	2.247	0.085	0.176	0.012	0.013	0.000	0.000	0.000	0.000	0.000	1392.89	
8	0.6954	1142.5	1162.7	0.518	3.561	74.203	19.024	2.390	0.089	0.185	0.013	0.014	0.005	0.000	0.000	0.000	0.000	1394.33	
9	0.6933	1139.8	1160.0	0.513	3.538	74.450	18.950	2.265	0.085	0.174	0.011	0.012	0.002	0.000	0.000	0.000	0.000	1393.14	
10	0.6918	1140.0	1160.2	0.495	3.412	74.848	18.616	2.331	0.089	0.185	0.012	0.012	0.000	0.000	0.000	0.000	0.000	1394.87	
11	0.6926	1140.9	1161.1	0.498	3.422	74.846	18.539	2.342	0.096	0.209	0.017	0.020	0.011	0.000	0.000	0.000	0.000	1395.22	
12	0.6908	1135.1	1155.2	0.529	3.568	74.830	18.612	2.209	0.080	0.154	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1389.90	
13	0.6967	1143.4	1163.6	0.546	3.590	74.245	18.622	2.684	0.096	0.191	0.013	0.013	0.000	0.000	0.000	0.000	0.000	1394.06	
14	0.6938	1140.8	1161.0	0.515	3.521	74.596	18.542	2.565	0.082	0.158	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1393.82	
15	0.6940	1141.5	1161.7	0.503	3.513	74.685	18.414	2.551	0.100	0.205	0.014	0.015	0.000	0.000	0.000	0.000	0.000	1394.51	
16	0.6913	1138.7	1158.8	0.496	3.443	74.700	18.960	2.145	0.074	0.150	0.011	0.013	0.008	0.000	0.000	0.000	0.000	1393.79	
17	0.6912	1138.3	1158.4	0.501	3.457	74.711	18.909	2.171	0.075	0.150	0.011	0.012	0.003	0.000	0.000	0.000	0.000	1393.33	
18	0.6922	1138.9	1159.1	0.516	3.480	74.579	18.971	2.190	0.079	0.159	0.011	0.012	0.003	0.000	0.000	0.000	0.000	1393.21	
19	0.6941	1143.6	1163.9	0.509	3.389	74.494	18.918	2.364	0.091	0.194	0.015	0.017	0.008	0.000	0.000	0.000	0.000	1396.96	
20	0.6938	1144.0	1164.3	0.490	3.362	74.641	18.764	2.398	0.093	0.204	0.016	0.019	0.013	0.000	0.000	0.000	0.000	1397.75	
21	0.6918	1138.8	1159.0	0.498	3.476	74.825	18.595	2.325	0.081	0.167	0.012	0.013	0.007	0.000	0.000	0.000	0.000	1393.45	
22	0.6919	1137.6	1157.8	0.516	3.532	74.692	18.744	2.260	0.076	0.152	0.011	0.012	0.006	0.000	0.000	0.000	0.000	1391.91	
23	0.6911	1137.2	1157.3	0.524	3.481	74.690	18.901	2.183	0.069	0.134	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1392.08	
24	0.6916	1137.6	1157.7	0.526	3.498	74.726	18.727	2.281	0.076	0.147	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1392.10	
25	0.6947	1139.8	1160.0	0.552	3.606	74.308	18.857	2.405	0.084	0.166	0.011	0.012	0.000	0.000	0.000	0.000	0.000	1391.80	
26	0.6930	1139.6	1159.8	0.543	3.474	74.508	18.975	2.227	0.079	0.160	0.011	0.013	0.009	0.000	0.000	0.000	0.000	1393.20	
27	0.6946	1139.5	1159.7	0.564	3.605	74.115	19.252	2.204	0.077	0.154	0.011	0.012	0.007	0.000	0.000	0.000	0.000	1391.44	
28	0.6966	1140.2	1160.4	0.581	3.722	73.712	19.507	2.215	0.078	0.157	0.012	0.012	0.003	0.000	0.000	0.000	0.000	1390.33	
29	0.6950	1140.0	1160.2	0.570	3.603	74.160	19.052	2.366	0.078	0.152	0.010	0.009	0.000	0.000	0.000	0.000	0.000	1391.64	
30	0.6954	1139.2	1159.4	0.576	3.676	74.141	18.975	2.345	0.086	0.174	0.012	0.012	0.002	0.000	0.000	0.000	0.000	1390.32	
31	0.6966	1141.5	1161.8	0.583	3.636	74.214	18.664	2.571	0.103	0.204	0.012	0.011	0.000	0.000	0.000	0.000	0.000	1391.91	
Avg	0.6932	1140.0	1160.3	0.513	3.508	74.564	18.794	2.327	0.085	0.176	0.013	0.014	0.005	0.000	0.000	0.000	0.000	1393.62	

Zone 272

GQ Source Daily Summary

August 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	0.6986	1152.1	1172.5	0.432	3.400	74.342	18.672	2.568	0.130	0.335	0.035	0.047	0.038	0.000	0.000	0.000	0.000	1402.83	
2	0.6907	1140.1	1160.3	0.442	3.386	74.924	18.721	2.237	0.081	0.176	0.011	0.013	0.008	0.000	0.000	0.000	0.000	1396.06	
3	0.6895	1138.1	1158.2	0.447	3.383	75.178	18.476	2.218	0.084	0.181	0.012	0.014	0.006	0.000	0.000	0.000	0.000	1394.89	
4	0.6895	1136.8	1156.9	0.458	3.454	75.099	18.513	2.202	0.078	0.166	0.011	0.013	0.006	0.000	0.000	0.000	0.000	1393.20	
5	0.6910	1138.1	1158.2	0.463	3.506	74.939	18.506	2.294	0.080	0.170	0.013	0.016	0.014	0.000	0.000	0.000	0.000	1393.28	
6	0.6912	1137.9	1158.1	0.484	3.497	74.806	18.720	2.212	0.082	0.170	0.012	0.013	0.005	0.000	0.000	0.000	0.000	1392.97	
7	0.6929	1139.2	1159.4	0.513	3.534	74.519	18.900	2.248	0.085	0.176	0.012	0.013	0.001	0.000	0.000	0.000	0.000	1392.85	
8	0.6954	1142.4	1162.6	0.522	3.562	74.198	19.028	2.384	0.089	0.185	0.013	0.014	0.005	0.000	0.000	0.000	0.000	1394.19	
9	0.6920	1138.1	1158.3	0.488	3.554	74.622	18.856	2.195	0.084	0.176	0.011	0.012	0.002	0.000	0.000	0.000	0.000	1392.43	
10	0.6918	1139.3	1159.5	0.504	3.440	74.736	18.788	2.252	0.085	0.173	0.011	0.011	0.000	0.000	0.000	0.000	0.000	1394.04	
11	0.6926	1140.9	1161.1	0.498	3.424	74.826	18.567	2.336	0.095	0.207	0.017	0.019	0.011	0.000	0.000	0.000	0.000	1395.21	
12	0.6908	1135.0	1155.1	0.531	3.570	74.843	18.590	2.214	0.080	0.154	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1389.76	
13	0.6972	1144.1	1164.4	0.548	3.586	74.176	18.672	2.699	0.098	0.196	0.013	0.013	0.000	0.000	0.000	0.000	0.000	1394.50	
14	0.6940	1141.0	1161.2	0.516	3.525	74.566	18.551	2.578	0.083	0.160	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1393.90	
15	0.6935	1140.5	1160.7	0.508	3.512	74.775	18.349	2.519	0.101	0.206	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1393.87	
16	0.6913	1138.9	1159.1	0.494	3.440	74.686	18.974	2.148	0.075	0.151	0.011	0.013	0.008	0.000	0.000	0.000	0.000	1393.98	
17	0.6915	1138.6	1158.8	0.502	3.459	74.675	18.922	2.190	0.075	0.150	0.011	0.011	0.004	0.000	0.000	0.000	0.000	1393.52	
18	0.6921	1138.9	1159.0	0.517	3.481	74.583	18.966	2.189	0.079	0.159	0.011	0.013	0.003	0.000	0.000	0.000	0.000	1393.17	
19	0.6929	1141.5	1161.7	0.512	3.402	74.588	18.931	2.278	0.083	0.170	0.012	0.014	0.010	0.000	0.000	0.000	0.000	1395.55	
20	0.6943	1145.0	1165.2	0.493	3.346	74.611	18.764	2.419	0.097	0.218	0.017	0.020	0.015	0.000	0.000	0.000	0.000	1398.41	
21	0.6919	1139.0	1159.2	0.499	3.476	74.805	18.603	2.335	0.082	0.168	0.012	0.013	0.008	0.000	0.000	0.000	0.000	1393.57	
22	0.6921	1138.1	1158.3	0.517	3.524	74.663	18.764	2.272	0.077	0.155	0.010	0.012	0.006	0.000	0.000	0.000	0.000	1392.25	
23	0.6915	1137.8	1157.9	0.525	3.478	74.658	18.896	2.214	0.072	0.140	0.008	0.009	0.000	0.000	0.000	0.000	0.000	1392.45	
24	0.6916	1137.5	1157.7	0.526	3.494	74.745	18.712	2.282	0.076	0.147	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1392.11	
25	0.6948	1140.1	1160.3	0.550	3.606	74.297	18.855	2.415	0.085	0.169	0.011	0.011	0.001	0.000	0.000	0.000	0.000	1391.96	
26	0.6929	1139.6	1159.7	0.543	3.470	74.521	18.966	2.229	0.080	0.160	0.011	0.011	0.009	0.000	0.000	0.000	0.000	1393.25	
27	0.6946	1139.5	1159.7	0.563	3.599	74.124	19.259	2.194	0.077	0.155	0.011	0.012	0.007	0.000	0.000	0.000	0.000	1391.53	
28	0.6968	1140.3	1160.5	0.585	3.723	73.680	19.543	2.207	0.077	0.157	0.012	0.012	0.003	0.000	0.000	0.000	0.000	1390.31	
29	0.6952	1140.3	1160.5	0.570	3.601	74.137	19.070	2.373	0.078	0.152	0.010	0.009	0.000	0.000	0.000	0.000	0.000	1391.81	
30	0.6957	1139.6	1159.8	0.575	3.679	74.108	18.986	2.359	0.088	0.179	0.012	0.012	0.002	0.000	0.000	0.000	0.000	1390.53	
31	0.6966	1141.6	1161.8	0.584	3.633	74.225	18.651	2.574	0.104	0.204	0.012	0.012	0.000	0.000	0.000	0.000	0.000	1391.94	
Avg	0.6931	1140.0	1160.2	0.513	3.508	74.570	18.799	2.317	0.085	0.176	0.012	0.014	0.005	0.000	0.000	0.000	0.000	1393.56	

Zone 273

GQ Source Daily Summary

August 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	0.6904	1139.5	1159.7	0.445	3.389	74.992	18.693	2.173	0.082	0.177	0.012	0.014	0.022	0.000	0.000	0.000	0.000	1395.64	
2	0.6897	1138.4	1158.5	0.441	3.396	75.066	18.646	2.171	0.076	0.162	0.011	0.012	0.019	0.000	0.000	0.000	0.000	1395.02	
3	0.6903	1139.4	1159.5	0.454	3.369	75.138	18.447	2.285	0.083	0.178	0.012	0.014	0.020	0.000	0.000	0.000	0.000	1395.64	
4	0.6916	1138.1	1158.3	0.470	3.542	74.902	18.444	2.347	0.079	0.167	0.012	0.015	0.021	0.000	0.000	0.000	0.000	1392.81	
5	0.6922	1140.2	1160.4	0.473	3.467	74.748	18.719	2.297	0.080	0.168	0.012	0.014	0.022	0.000	0.000	0.000	0.000	1394.76	
6	0.6922	1138.6	1158.8	0.500	3.524	74.660	18.816	2.208	0.081	0.169	0.011	0.013	0.018	0.000	0.000	0.000	0.000	1392.82	
7	0.6942	1140.7	1160.9	0.527	3.551	74.290	19.100	2.237	0.083	0.171	0.011	0.012	0.016	0.000	0.000	0.000	0.000	1393.25	
8	0.6950	1141.6	1161.9	0.523	3.571	74.293	18.935	2.364	0.088	0.182	0.012	0.014	0.017	0.000	0.000	0.000	0.000	1393.65	
9	0.6927	1140.3	1160.5	0.504	3.471	74.591	18.890	2.251	0.084	0.172	0.011	0.011	0.015	0.000	0.000	0.000	0.000	1394.26	
10	0.6934	1142.9	1163.2	0.494	3.382	74.882	18.401	2.452	0.103	0.227	0.018	0.021	0.021	0.000	0.000	0.000	0.000	1396.86	
11	0.6909	1137.3	1157.4	0.512	3.466	74.900	18.639	2.210	0.080	0.159	0.010	0.010	0.015	0.000	0.000	0.000	0.000	1392.47	
12	0.6942	1138.9	1159.1	0.547	3.629	74.475	18.642	2.403	0.090	0.178	0.012	0.012	0.014	0.000	0.000	0.000	0.000	1391.10	
13	0.6949	1141.7	1161.9	0.533	3.543	74.492	18.524	2.643	0.080	0.153	0.009	0.009	0.014	0.000	0.000	0.000	0.000	1393.82	
14	0.6924	1138.4	1158.6	0.508	3.546	74.855	18.351	2.434	0.090	0.178	0.012	0.012	0.015	0.000	0.000	0.000	0.000	1392.31	
15	0.6920	1138.6	1158.8	0.498	3.513	74.806	18.553	2.341	0.083	0.168	0.011	0.012	0.016	0.000	0.000	0.000	0.000	1392.97	
16	0.6922	1140.3	1160.5	0.501	3.422	74.588	19.057	2.159	0.075	0.153	0.012	0.014	0.019	0.000	0.000	0.000	0.000	1394.85	
17	0.6913	1137.7	1157.8	0.524	3.465	74.681	18.971	2.102	0.074	0.147	0.010	0.011	0.015	0.000	0.000	0.000	0.000	1392.53	
18	0.6929	1140.2	1160.4	0.524	3.463	74.503	19.020	2.214	0.078	0.159	0.011	0.012	0.016	0.000	0.000	0.000	0.000	1394.01	
19	0.6964	1148.3	1168.7	0.508	3.316	74.376	18.880	2.523	0.103	0.233	0.019	0.022	0.020	0.000	0.000	0.000	0.000	1400.40	
20	0.6911	1138.4	1158.5	0.498	3.439	74.813	18.807	2.172	0.076	0.155	0.011	0.013	0.016	0.000	0.000	0.000	0.000	1393.62	
21	0.6935	1141.1	1161.3	0.504	3.485	74.658	18.622	2.421	0.084	0.175	0.013	0.015	0.021	0.000	0.000	0.000	0.000	1394.58	
22	0.6900	1134.8	1154.9	0.519	3.529	74.860	18.769	2.101	0.064	0.123	0.008	0.008	0.020	0.000	0.000	0.000	0.000	1390.29	
23	0.6920	1138.7	1158.9	0.526	3.466	74.686	18.808	2.260	0.074	0.145	0.009	0.010	0.016	0.000	0.000	0.000	0.000	1393.09	
24	0.6928	1138.3	1158.4	0.542	3.541	74.658	18.629	2.365	0.079	0.153	0.009	0.010	0.015	0.000	0.000	0.000	0.000	1391.75	
25	0.6938	1139.1	1159.2	0.552	3.570	74.369	18.990	2.244	0.079	0.159	0.011	0.012	0.015	0.000	0.000	0.000	0.000	1391.74	
26	0.6927	1138.7	1158.8	0.554	3.487	74.569	18.911	2.209	0.076	0.152	0.011	0.012	0.019	0.000	0.000	0.000	0.000	1392.35	
27	0.6966	1140.5	1160.7	0.578	3.704	73.728	19.539	2.184	0.075	0.152	0.011	0.012	0.017	0.000	0.000	0.000	0.000	1390.75	
28	0.6959	1139.3	1159.5	0.585	3.705	73.911	19.298	2.240	0.075	0.150	0.010	0.011	0.015	0.000	0.000	0.000	0.000	1389.95	
29	0.6941	1138.9	1159.0	0.570	3.583	74.352	18.922	2.317	0.076	0.148	0.009	0.009	0.014	0.000	0.000	0.000	0.000	1391.20	
30	0.6981	1143.9	1164.2	0.581	3.631	73.959	18.950	2.524	0.101	0.207	0.015	0.015	0.016	0.000	0.000	0.000	0.000	1393.35	
31	0.6936	1136.5	1156.6	0.570	3.682	74.605	18.443	2.397	0.094	0.178	0.010	0.009	0.013	0.000	0.000	0.000	0.000	1388.77	
Avg	0.6930	1140.0	1159.8	0.518	3.511	74.594	18.788	2.298	0.082	0.168	0.011	0.013	0.017	0.000	0.000	0.000	0.000	1393.25	

Zone 28

GQ Source Daily Summary

August 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	0.6520	1087.8	1107.1	0.186	3.322	80.666	14.902	0.905	0.012	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1370.98	
2	0.6619	1102.5	1122.1	0.101	3.478	78.926	16.206	1.247	0.020	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1379.18	
3	0.6722	1112.3	1132.0	0.362	3.455	77.741	16.618	1.662	0.049	0.109	0.000	0.000	0.004	0.000	0.000	0.000	0.000	1380.62	
4	0.6893	1137.3	1157.4	0.433	3.423	75.246	18.328	2.264	0.086	0.197	0.003	0.004	0.016	0.000	0.000	0.000	0.000	1394.13	
5	0.6872	1134.4	1154.5	0.441	3.391	75.592	18.065	2.229	0.084	0.185	0.000	0.001	0.012	0.000	0.000	0.000	0.000	1392.68	
6	0.6882	1135.4	1155.5	0.459	3.405	75.358	18.292	2.220	0.078	0.169	0.000	0.000	0.019	0.000	0.000	0.000	0.000	1392.82	
7	0.6892	1134.6	1154.7	0.461	3.536	75.287	18.087	2.359	0.079	0.175	0.000	0.000	0.015	0.000	0.000	0.000	0.000	1390.90	
8	0.6892	1135.2	1155.3	0.470	3.493	75.192	18.320	2.258	0.080	0.172	0.000	0.000	0.015	0.000	0.000	0.000	0.000	1391.57	
9	0.6843	1145.3	1165.6	0.170	2.878	74.597	21.038	1.217	0.030	0.066	0.000	0.000	0.005	0.000	0.000	0.000	0.000	1409.06	
10	0.6834	1150.9	1171.3	0.056	2.633	74.240	22.146	0.887	0.010	0.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1416.78	
11	0.6814	1145.8	1166.1	0.083	2.709	74.776	21.414	0.967	0.015	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.64	
12	0.6750	1132.6	1152.6	0.115	2.863	76.029	20.025	0.935	0.009	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1402.90	
13	0.6847	1143.3	1163.5	0.234	2.936	74.828	20.461	1.412	0.039	0.086	0.000	0.001	0.002	0.000	0.000	0.000	0.000	1406.19	
14	0.6883	1131.4	1151.4	0.518	3.566	75.273	18.215	2.187	0.077	0.157	0.000	0.000	0.006	0.000	0.000	0.000	0.000	1387.82	
15	0.6944	1139.1	1159.3	0.548	3.620	74.612	18.287	2.627	0.098	0.200	0.001	0.000	0.008	0.000	0.000	0.000	0.000	1391.19	
16	0.6926	1138.6	1158.8	0.518	3.525	74.910	18.104	2.709	0.077	0.150	0.000	0.000	0.008	0.000	0.000	0.000	0.000	1392.40	
17	0.6912	1135.9	1156.0	0.512	3.564	75.031	18.158	2.457	0.089	0.179	0.000	0.000	0.009	0.000	0.000	0.000	0.000	1390.53	
18	0.6914	1137.2	1157.3	0.499	3.527	75.069	18.116	2.482	0.096	0.200	0.000	0.000	0.011	0.000	0.000	0.000	0.000	1391.84	
19	0.6889	1134.2	1154.3	0.498	3.480	75.084	18.565	2.144	0.071	0.148	0.000	0.000	0.010	0.000	0.000	0.000	0.000	1390.71	
20	0.6896	1134.1	1154.2	0.529	3.503	75.003	18.577	2.151	0.073	0.153	0.000	0.000	0.012	0.000	0.000	0.000	0.000	1389.89	
21	0.6898	1135.0	1155.1	0.517	3.483	75.011	18.542	2.200	0.078	0.163	0.000	0.000	0.006	0.000	0.000	0.000	0.000	1390.81	
22	0.6849	1145.5	1165.8	0.199	2.877	74.507	21.104	1.216	0.030	0.065	0.000	0.000	0.003	0.000	0.000	0.000	0.000	1408.72	
23	0.6790	1140.5	1160.7	0.137	2.731	75.175	21.066	0.845	0.014	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1408.40	
24	0.6619	1104.1	1123.6	0.106	3.374	78.868	16.455	1.151	0.021	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1381.08	
25	0.6646	1107.6	1127.3	0.055	3.490	78.269	16.960	1.181	0.021	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1382.77	
26	0.6697	1113.2	1133.0	0.165	3.458	77.645	17.241	1.410	0.029	0.051	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1384.50	
27	0.6911	1134.3	1154.4	0.546	3.602	74.890	18.373	2.345	0.079	0.158	0.000	0.000	0.006	0.000	0.000	0.000	0.000	1388.68	
28	0.6901	1134.6	1154.7	0.545	3.499	74.972	18.541	2.195	0.077	0.160	0.000	0.000	0.011	0.000	0.000	0.000	0.000	1389.96	
29	0.6925	1134.9	1155.0	0.567	3.667	74.466	18.874	2.184	0.074	0.155	0.000	0.000	0.012	0.000	0.000	0.000	0.000	1388.02	
30	0.6864	1144.6	1164.9	0.255	2.992	74.358	20.968	1.311	0.035	0.075	0.000	0.000	0.007	0.000	0.000	0.000	0.000	1406.04	
31	0.6841	1149.2	1169.6	0.134	2.675	74.419	21.634	1.071	0.022	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.07	
Avg	0.6828	1132.0	1152.0	0.336	3.295	75.679	18.764	1.756	0.053	0.110	0.000	0.000	0.006	0.000	0.000	0.000	0.000	1394.12	

Zone 31

GQ Source Daily Summary

August 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	0.6532	1079.5	1098.6	0.160	3.978	81.385	12.551	1.847	0.041	0.036	0.001	0.001	0.001	0.000	0.000	0.000	0.000	1359.21	
2	0.6455	1078.3	1097.4	0.347	3.056	82.008	13.899	0.657	0.012	0.017	0.002	0.002	0.001	0.000	0.000	0.000	0.000	1364.55	
3	0.6748	1135.6	1155.8	0.052	2.768	75.876	20.486	0.794	0.011	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1406.91	
4	0.6773	1133.8	1153.9	0.158	2.945	75.849	19.890	1.081	0.024	0.047	0.002	0.003	0.001	0.000	0.000	0.000	0.000	1402.13	
5	0.6875	1150.6	1171.0	0.183	2.848	74.299	21.125	1.373	0.045	0.103	0.008	0.010	0.007	0.000	0.000	0.000	0.000	1412.21	
6	0.6843	1146.7	1167.1	0.160	2.811	74.628	21.108	1.180	0.032	0.067	0.004	0.005	0.006	0.000	0.000	0.000	0.000	1410.84	
7	0.6851	1147.2	1167.5	0.183	2.824	74.618	20.967	1.274	0.037	0.078	0.005	0.006	0.007	0.000	0.000	0.000	0.000	1410.57	
8	0.6866	1146.4	1166.7	0.228	2.943	74.584	20.615	1.481	0.042	0.087	0.006	0.006	0.007	0.000	0.000	0.000	0.000	1408.04	
9	0.6406	1057.1	1075.9	0.327	3.907	83.563	10.841	1.296	0.024	0.035	0.002	0.002	0.002	0.000	0.000	0.000	0.000	1343.95	
10	0.6306	1038.7	1057.1	0.388	3.996	85.550	8.808	1.196	0.024	0.034	0.002	0.002	0.001	0.000	0.000	0.000	0.000	1331.06	
11	0.6265	1033.1	1051.4	0.383	3.964	86.117	8.521	0.971	0.018	0.024	0.001	0.001	0.001	0.000	0.000	0.000	0.000	1328.17	
12	0.6287	1036.1	1054.5	0.377	3.987	85.794	8.715	1.075	0.021	0.028	0.001	0.001	0.001	0.000	0.000	0.000	0.000	1329.83	
13	0.6676	1119.9	1139.7	0.120	2.938	77.456	18.631	0.822	0.012	0.018	0.001	0.001	0.002	0.000	0.000	0.000	0.000	1394.70	
14	0.6826	1150.9	1171.3	0.049	2.569	74.367	22.177	0.795	0.014	0.025	0.001	0.001	0.002	0.000	0.000	0.000	0.000	1417.74	
15	0.6852	1143.7	1163.9	0.248	2.949	74.724	20.596	1.344	0.041	0.083	0.005	0.005	0.004	0.000	0.000	0.000	0.000	1406.12	
16	0.6782	1128.7	1148.7	0.312	3.109	76.180	18.919	1.339	0.044	0.084	0.005	0.005	0.004	0.000	0.000	0.000	0.000	1394.53	
17	0.6872	1149.3	1169.6	0.199	2.874	74.247	21.212	1.332	0.040	0.081	0.005	0.005	0.004	0.000	0.000	0.000	0.000	1410.93	
18	0.6869	1147.3	1167.7	0.215	2.943	74.344	20.972	1.410	0.036	0.068	0.004	0.004	0.004	0.000	0.000	0.000	0.000	1408.82	
19	0.6874	1146.4	1166.7	0.243	2.994	74.508	20.561	1.521	0.051	0.104	0.006	0.006	0.005	0.000	0.000	0.000	0.000	1407.26	
20	0.6865	1145.1	1165.4	0.244	2.990	74.484	20.768	1.372	0.041	0.083	0.005	0.006	0.006	0.000	0.000	0.000	0.000	1406.56	
21	0.6814	1136.4	1156.5	0.196	3.118	75.448	19.704	1.408	0.038	0.072	0.004	0.005	0.006	0.000	0.000	0.000	0.000	1400.92	
22	0.6410	1058.1	1076.8	0.331	3.877	83.672	10.611	1.420	0.038	0.045	0.002	0.002	0.002	0.000	0.000	0.000	0.000	1344.43	
23	0.6540	1078.9	1098.0	0.132	4.130	81.090	12.827	1.724	0.041	0.051	0.002	0.002	0.001	0.000	0.000	0.000	0.000	1357.78	
24	0.6468	1066.9	1085.8	0.203	4.080	82.546	11.439	1.642	0.036	0.047	0.003	0.003	0.002	0.000	0.000	0.000	0.000	1349.87	
25	0.6167	1015.6	1033.6	0.592	3.788	88.322	6.336	0.909	0.021	0.028	0.002	0.001	0.002	0.000	0.000	0.000	0.000	1315.53	
26	0.6606	1099.9	1119.4	0.148	3.455	79.279	15.835	1.219	0.026	0.034	0.002	0.001	0.001	0.000	0.000	0.000	0.000	1376.82	
27	0.6743	1131.3	1151.3	0.040	2.995	76.034	20.032	0.866	0.014	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1402.14	
28	0.6867	1145.2	1165.5	0.246	3.004	74.440	20.765	1.420	0.039	0.075	0.004	0.004	0.003	0.000	0.000	0.000	0.000	1406.42	
29	0.6888	1147.6	1168.0	0.282	2.997	74.224	20.816	1.516	0.049	0.097	0.005	0.006	0.005	0.000	0.000	0.000	0.000	1407.26	
30	0.6362	1049.2	1067.8	0.463	3.772	84.686	9.686	1.289	0.038	0.056	0.004	0.003	0.002	0.000	0.000	0.000	0.000	1338.14	
31	0.6385	1055.6	1074.2	0.473	3.584	84.069	10.657	1.129	0.032	0.047	0.003	0.003	0.003	0.000	0.000	0.000	0.000	1343.70	
Avg	0.6647	1106.0	1126.0	0.248	3.297	78.658	16.454	1.248	0.032	0.054	0.003	0.003	0.003	0.000	0.000	0.000	0.000	1380.55	

Zone 32

GQ Source Daily Summary

August 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	0.7985	1128.3	1148.2	2.099	11.737	54.428	28.114	3.242	0.084	0.253	0.010	0.028	0.005	0.000	0.000	0.000	0.000	1285.01	
2	0.7979	1124.7	1144.6	2.223	11.716	54.538	28.007	3.148	0.082	0.244	0.010	0.027	0.004	0.000	0.000	0.000	0.000	1281.38	
3	0.7950	1122.1	1142.0	2.128	11.746	54.543	28.502	2.773	0.068	0.205	0.009	0.023	0.004	0.000	0.000	0.000	0.000	1280.75	
4	0.7986	1124.0	1143.9	2.349	11.628	54.329	28.341	3.039	0.071	0.209	0.009	0.023	0.003	0.000	0.000	0.000	0.000	1280.08	
5	0.7848	1108.6	1128.2	1.579	12.456	55.750	27.315	2.620	0.062	0.185	0.008	0.021	0.004	0.000	0.000	0.000	0.000	1273.41	
6	0.8164	1161.8	1182.4	2.117	11.340	52.942	27.993	5.109	0.123	0.336	0.010	0.026	0.003	0.000	0.000	0.000	0.000	1308.54	
7	0.8017	1129.0	1149.0	2.245	11.770	54.245	27.754	3.622	0.085	0.243	0.009	0.024	0.004	0.000	0.000	0.000	0.000	1283.27	
8	0.7952	1119.9	1139.7	2.195	11.803	54.556	28.359	2.780	0.069	0.205	0.008	0.023	0.003	0.000	0.000	0.000	0.000	1278.05	
9	0.7971	1123.3	1143.2	2.184	11.781	54.424	28.318	2.947	0.077	0.231	0.010	0.026	0.004	0.000	0.000	0.000	0.000	1280.49	
10	0.7985	1123.2	1143.1	2.220	11.863	54.347	28.102	3.106	0.080	0.240	0.010	0.027	0.004	0.000	0.000	0.000	0.000	1279.25	
11	0.7971	1118.9	1138.7	2.129	12.137	54.512	27.755	3.089	0.083	0.252	0.011	0.028	0.005	0.000	0.000	0.000	0.000	1275.43	
12	0.8023	1128.4	1148.3	2.095	12.099	53.943	27.939	3.489	0.096	0.289	0.012	0.033	0.005	0.000	0.000	0.000	0.000	1282.02	
13	0.7915	1111.9	1131.6	1.965	12.282	55.377	26.994	3.023	0.080	0.238	0.010	0.027	0.005	0.000	0.000	0.000	0.000	1271.94	
14	0.7918	1113.5	1133.2	2.031	12.125	54.995	27.802	2.739	0.069	0.204	0.009	0.023	0.004	0.000	0.000	0.000	0.000	1273.44	
15	0.7921	1115.2	1134.9	1.962	12.149	55.019	27.685	2.867	0.071	0.211	0.009	0.024	0.004	0.000	0.000	0.000	0.000	1275.19	
16	0.7988	1122.5	1142.4	2.092	12.130	54.461	27.509	3.441	0.083	0.244	0.010	0.027	0.004	0.000	0.000	0.000	0.000	1278.15	
17	0.7956	1109.2	1128.9	2.202	12.470	54.874	26.917	3.198	0.077	0.227	0.009	0.024	0.004	0.000	0.000	0.000	0.000	1265.64	
18	0.7932	1112.5	1132.2	2.018	12.334	54.759	27.745	2.838	0.068	0.203	0.009	0.023	0.004	0.000	0.000	0.000	0.000	1271.24	
19	0.7952	1111.9	1131.6	2.140	12.367	54.438	27.949	2.806	0.067	0.200	0.008	0.022	0.003	0.000	0.000	0.000	0.000	1269.00	
20	0.7955	1113.0	1132.7	2.176	12.281	54.478	27.900	2.854	0.069	0.205	0.009	0.023	0.004	0.000	0.000	0.000	0.000	1269.93	
21	0.7941	1112.9	1132.6	2.116	12.238	54.691	27.835	2.806	0.069	0.208	0.009	0.024	0.004	0.000	0.000	0.000	0.000	1271.05	
22	0.7959	1118.3	1138.1	2.116	12.087	54.449	28.118	2.907	0.071	0.214	0.009	0.025	0.004	0.000	0.000	0.000	0.000	1275.64	
23	0.7937	1113.9	1133.7	2.020	12.290	54.691	27.844	2.839	0.070	0.209	0.009	0.024	0.004	0.000	0.000	0.000	0.000	1272.47	
24	0.7903	1107.1	1126.8	1.947	12.491	55.205	27.308	2.724	0.072	0.214	0.009	0.025	0.005	0.000	0.000	0.000	0.000	1267.53	
25	0.7901	1113.3	1133.1	1.975	12.055	55.269	27.705	2.673	0.072	0.213	0.009	0.024	0.005	0.000	0.000	0.000	0.000	1274.71	
26	0.7851	1100.5	1120.0	1.822	12.601	56.038	26.573	2.630	0.073	0.221	0.010	0.026	0.005	0.000	0.000	0.000	0.000	1263.80	
27	0.7864	1115.4	1135.1	1.784	11.874	55.479	28.208	2.378	0.062	0.183	0.008	0.020	0.004	0.000	0.000	0.000	0.000	1280.02	
28	0.7881	1110.0	1129.7	1.973	12.073	55.530	27.548	2.574	0.067	0.199	0.009	0.023	0.004	0.000	0.000	0.000	0.000	1272.51	
29	0.7882	1112.6	1132.3	1.929	11.989	55.358	27.964	2.466	0.065	0.194	0.008	0.022	0.004	0.000	0.000	0.000	0.000	1275.44	
30	0.7924	1118.3	1138.1	2.115	11.750	54.997	28.127	2.703	0.069	0.205	0.009	0.022	0.004	0.000	0.000	0.000	0.000	1278.60	
31	0.7886	1113.0	1132.7	2.011	11.883	55.587	27.560	2.647	0.069	0.206	0.009	0.024	0.004	0.000	0.000	0.000	0.000	1275.51	
Avg	0.7945	1118.0	1137.8	2.063	12.050	54.782	27.800	2.970	0.075	0.222	0.009	0.024	0.004	0.000	0.000	0.000	0.000	1276.43	

Zone 34

GQ Source Analysis

Williston Basin Interstate Pipeline Co.

Attachment B
Page 16 of 16

GQ Source Number:	1201140	Specific Gravity:	0.5726
GQ Source Name:	EAGLE 8B ND	BTU Base:	Dry
Effective Date:	6/1/2011 9:00:00 AM	Measured Heat Value:	979.03
Effective End Date:	1/18/2038 9:14:07 PM	Dry Heat Value:	978.94
Pressure Base:	14.730	Wet Heat Value:	961.90
Viscosity:		As Deliv. Heat Value:	978.94
		Sample Pressure:	32.00
		Sample Temperature:	

		<u>Mol %</u>	<u>GPM</u>		<u>Mol %</u>	
C1	Methane	95.931		CO2	Carbon Dioxide	0.106
C2	Ethane	0.312	0.083	N2	Nitrogen	3.634
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: 6/22/2011 12:00:00 AM
Sample Type: Composite
Sample Tech: sampler
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
241	Monthly Sampler	Fairview Area
25	Monthly Sampler	Watford City Area
261	Chromatograph	Williston – Tioga – Minot Line
262	Chromatograph	Minot Area
263	Monthly Sampler	Tioga – Portal
264	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

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	AUG 11	JULY 11	JUNE 11	MAY 11	APR 11	MAR 11	FEB 11	JAN 11	DEC 10	NOV 10	OCT 10	SEPT 10	ZONE
MT/ND	211	Sidney Area	1210	1204	1215	1205	1206	1202	1211	1216	1212	1218	1210	1206	1209	211
ND	24	Williston Area	1199	1200	1198	1197	1196	1194	1198	1196	1204	1207	1208	1193	1200	24
ND	25	Watford City Area	1136	1136	1135	1140	1128	1143	1143	1131	1150	1135	1133	1130	1133	25
ND/MT	241	Fairview Area	1196	1200	1199	1193	1193	1194	1197	0	0	0	0	0	0	241
ND	261	Williston - Tioga - Minot Line	1160	1159	1176	1165	1159	1162	1172	1176	1171	1154	1135	1140	1145	261
ND	262	Minot Area	1177	1161	1179	1168	1161	1167	1175	1178	1182	1191	1186	1190	1191	262
ND	263	Tioga - Portal	1108	1128	1126	1082	1093	1123	1094	1090	1094	1100	1107	1120	1133	263
ND	264	Williston - Ray	1199	1200	1198	1197	1196	1194	1198	1196	1204	1207	1208	1193	1200	264
ND	271	Bismarck - Cleveland	1159	1160	1177	1166	1152	1161	1136	1118	1130	1160	1172	1190	1191	271
ND	272	Cleveland - Mapleton	1159	1160	1179	1166	1151	1161	1134	1117	1130	1159	1171	1190	1190	272
ND	273	Cleveland - Grafton	1159	1160	1179	1167	1151	1161	1135	1117	1130	1159	1172	1190	1190	273
ND	28	Bismarck - Cabin Creek	1118	1160	1180	1166	1139	1112	1051	1042	1045	1055	1097	1173	1191	28
ND	31	Dickinson Area	1085	1152	1135	1123	1109	1093	1049	1040	1044	1053	1082	1088	1056	31
ND/MT	32	Cabin Creek - Dickinson	1078	1126	1133	1153	1080	1071	1046	1037	1041	1050	1079	1075	1040	32
ND	33	Kildeer	1178	1181	1182	1183	1180	1177	1175	1175	1175	1175	1177	1179	1179	33
ND	34	Bowman Area	1157	1138	1144	1149	1153	1154	1163	1158	1163	1172	1167	1163	1157	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**

August 2011

ZONE	BTU VARIANCE	REASON
28	-20	Lower BTU gas from the North