



MONTANA-DAKOTA

UTILITIES CO.

A Division of MDU Resources Group, Inc.

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

May 25, 2012

RECEIVED

MAY 29 2012

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

PUBLIC SERVICE COMMISSION

Re: Case No. 11,006 (Therm Billing)
Monthly Report – April 2012

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

1. Attachment A is a schedule showing the thermal billing factors by community that reflect the BTU values shown on Attachment B and were used for billing purposes in May 2012.
2. Attachment B consists of copies of the monthly Heating Value Test Reports received from our supplier for the month of April 2012. 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 April 2012.

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

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PU-12-2 Filed: 5/29/2012 Pages: 23
April 2012 Therm Billing Report

MONTANA-DAKOTA UTILITIES CO.
Therm Billing Factor
MAY 2012

Div Nbr	Off Code	City Name	Heat Zone Nbr	Therm Billing Factor
12	314	APPLE VALLEY	271	1.1164
12	323	BERTHOLD	262	1.0928
12	327	BISMARCK	28	1.1029
12	337	BURLINGTON	262	1.1164
12	343	CARRINGTON	273	1.1164
12	344	CLEVELAND	272	1.1076
12	364	CAVALIER	273	1.1399
12	365	DAWSON	271	1.1085
12	368	DES LACS	262	1.1007
12	374	FT TOTTEN	273	1.1243
12	375	DEVILS LAKE	273	1.1243
12	379	BARLOW	273	1.1164
12	387	ELDRIDGE	272	1.1154
12	411	GLEN ULLIN	31	1.0493
12	416	GARRISON	262	1.1007
12	417	GRAFTON	273	1.1477
12	439	HANKINSON	600	1.0847
12	449	JAMESTOWN	272	1.1233
12	463	LANGDON	273	1.1164
12	475	LINTON	802	.9823
12	478	LINCOLN	28	1.1029
12	494	MEDINA	271	1.1085
12	498	MANDAN	28	1.1029
12	505	MINOT	262	1.1164
12	512	MAX	262	1.0928
12	524	NEW SALEM	28	1.0796
12	532	NEW ROCKFORD	273	1.1164
12	539	PARK RIVER	273	1.1399
12	572	RUTHVILLE	262	1.1164
12	574	SANBORN	272	1.1233
12	593	STEELE	271	1.1085
12	598	SHEYENNE	273	1.1243
12	605	SURREY	262	1.1164
12	610	TAPPEN	271	1.1085
12	619	TURTLE LAKE	262	1.1007

MONTANA-DAKOTA UTILITIES CO.
Therm Billing Factor
MAY 2012

Div Nbr	Off Code	City Name	Heat Zone Nbr	Therm Billing Factor
12	624	UNDERWOOD	262	1.1007
12	625	VALLEY CITY	272	1.1310
12	629	WALHALLA	273	1.1399
12	646	WASHBURN	262	1.1085
12	647	WILTON	262	1.0928
12	664	RIVERDALE	262	1.1007
12	712	MINOT AFB	262	1.1164
12	717	SPIRITWOOD	272	1.1233
12	718	FAIRMOUNT	600	1.0825
12	732	MSR SITE	273	1.1164
12	733	PAR SITE	273	1.1164
15	303	ALEXANDER	25	1.0758
15	308	ARNEGARD	25	1.0758
15	318	BEACH	32	1.0091
15	319	BELFIELD	32	1.0165
15	330	BOWMAN	34	1.0365
15	369	DICKINSON	31	1.0418
15	384	EPPING	264	1.1277
15	407	GLADSTONE	31	1.0418
15	413	GOLVA	32	.9944
15	429	HEBRON	31	1.0493
15	459	KILLDEER	33	1.1155
15	469	LEFOR	31	1.0418
15	474	LIGNITE	263	1.0455
15	500	MARMARTH	34	1.0442
15	510	MOTT	31	1.0418
15	522	NEW ENGLAND	31	1.0342
15	540	PALERMO	262	1.0928
15	558	RAY	264	1.1277
15	561	REGENT	31	1.0418
15	563	RHAME	34	1.0290
15	564	RICHARDTON	31	1.0342
15	568	ROSS	261	1.0830
15	583	SENTINEL BUTTE	32	1.0091
15	588	SOUTH HEART	31	1.0342

MONTANA-DAKOTA UTILITIES CO.
Therm Billing Factor
MAY 2012

Div Nbr	Off Code	City Name	Heat Zone Nbr	Therm Billing Factor
15	590	SPRINGBROOK	264	1.1277
15	591	STANLEY	261	1.0909
15	611	TAYLOR	31	1.0342
15	616	TIOGA	261	1.0830
15	620	TRENTON	24	1.1359
15	632	WATFORD CITY	25	1.0758
15	636	WHEELOCK	264	1.1196
15	637	WHITE EARTH	261	1.0909
15	642	WILLISTON	24	1.1359
15	691	FAIRVIEW	241	1.1273
15	743	BAKER FIELD	35	.8980

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

GQ Source Daily Summary

April 2012

Number: 251

Pressure Base: 14.730

Contract Day: 1

Name: SIDNEY BORDER

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	0.7213	1173.0	1193.8	0.761	3.768	69.456	22.905	2.857	0.085	0.153	0.008	0.006	0.000	0.000	0.000	0.000	0.000	1405.74	
2	0.7254	1165.8	1186.5	1.155	3.989	69.309	22.197	3.006	0.116	0.207	0.011	0.009	0.001	0.000	0.000	0.000	0.000	1393.12	
3	0.7211	1176.8	1197.7	0.626	3.727	69.467	22.957	2.977	0.086	0.146	0.007	0.006	0.001	0.000	0.000	0.000	0.000	1410.42	
4	0.7275	1169.5	1190.2	1.158	3.960	69.043	22.350	3.126	0.121	0.220	0.012	0.009	0.001	0.000	0.000	0.000	0.000	1395.46	
5	0.7273	1169.1	1189.8	1.160	3.962	69.079	22.320	3.115	0.121	0.221	0.011	0.009	0.001	0.000	0.000	0.000	0.000	1395.16	
6	0.7273	1169.8	1190.5	1.149	3.943	69.021	22.432	3.104	0.117	0.213	0.011	0.009	0.001	0.000	0.000	0.000	0.000	1395.93	
7	0.7277	1170.0	1190.7	1.163	3.939	69.026	22.368	3.147	0.119	0.217	0.011	0.009	0.001	0.000	0.000	0.000	0.000	1395.87	
8	0.7238	1163.3	1183.9	1.135	4.027	69.827	21.464	3.181	0.122	0.223	0.012	0.009	0.001	0.000	0.000	0.000	0.000	1391.51	
9	0.7197	1185.9	1206.9	0.309	3.523	69.139	24.065	2.805	0.054	0.094	0.006	0.005	0.001	0.000	0.000	0.000	0.000	1422.69	
10	0.7161	1187.4	1208.4	0.052	3.490	69.597	23.863	2.888	0.038	0.062	0.004	0.004	0.002	0.000	0.000	0.000	0.000	1427.94	
11	0.7195	1184.0	1204.9	0.054	3.544	69.026	24.266	2.981	0.053	0.069	0.003	0.003	0.001	0.000	0.000	0.000	0.000	1420.47	
12	0.7258	1174.2	1195.0	0.956	3.818	69.228	22.476	3.179	0.115	0.207	0.011	0.009	0.001	0.000	0.000	0.000	0.000	1402.75	
13	0.7273	1170.2	1191.0	1.151	3.911	69.207	22.138	3.202	0.130	0.237	0.012	0.010	0.001	0.000	0.000	0.000	0.000	1396.46	
14	0.7274	1170.0	1190.7	1.155	3.927	69.214	22.091	3.220	0.130	0.239	0.013	0.010	0.001	0.000	0.000	0.000	0.000	1396.11	
15	0.7261	1169.9	1190.6	1.091	3.912	69.292	22.186	3.159	0.121	0.218	0.012	0.009	0.001	0.000	0.000	0.000	0.000	1397.20	
16	0.7159	1189.0	1210.0	0.047	3.378	69.463	24.277	2.759	0.033	0.041	0.002	0.001	0.001	0.000	0.000	0.000	0.000	1430.12	
17	0.7209	1185.1	1206.0	0.406	3.543	69.257	23.558	3.057	0.067	0.102	0.005	0.004	0.001	0.000	0.000	0.000	0.000	1420.45	
18	0.7270	1169.0	1189.7	1.155	3.944	69.258	22.069	3.189	0.127	0.235	0.012	0.010	0.001	0.000	0.000	0.000	0.000	1395.39	
19	0.7155	1174.0	1194.8	0.521	3.526	70.170	22.891	2.694	0.070	0.116	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1412.71	
20	0.7108	1184.3	1205.2	0.050	3.184	70.335	23.787	2.565	0.032	0.044	0.001	0.001	0.001	0.000	0.000	0.000	0.000	1429.53	
21	0.7201	1185.6	1206.6	0.378	3.472	69.455	23.436	3.065	0.070	0.114	0.005	0.004	0.001	0.000	0.000	0.000	0.000	1421.94	
22	0.7231	1176.0	1196.8	0.762	3.753	69.437	22.629	3.129	0.099	0.172	0.009	0.007	0.001	0.000	0.000	0.000	0.000	1407.52	
23	0.7294	1173.3	1194.1	1.147	3.919	69.061	22.034	3.422	0.137	0.254	0.014	0.011	0.001	0.000	0.000	0.000	0.000	1398.19	
24	0.7293	1172.8	1193.6	1.153	3.929	69.155	21.864	3.476	0.138	0.258	0.014	0.011	0.001	0.000	0.000	0.000	0.000	1397.72	
25	0.7279	1170.0	1190.8	1.163	3.954	69.225	21.967	3.282	0.134	0.250	0.014	0.011	0.001	0.000	0.000	0.000	0.000	1395.73	
26	0.7265	1168.3	1189.0	1.145	3.957	69.401	21.887	3.213	0.130	0.243	0.013	0.011	0.001	0.000	0.000	0.000	0.000	1394.97	
27	0.7283	1170.8	1191.6	1.166	3.944	69.056	22.200	3.250	0.127	0.234	0.012	0.010	0.001	0.000	0.000	0.000	0.000	1396.24	
28	0.7279	1187.4	1208.5	0.645	3.680	69.752	21.329	4.081	0.173	0.314	0.015	0.011	0.001	0.000	0.000	0.000	0.000	1416.31	
29	0.7279	1170.7	1191.4	1.157	3.933	69.160	22.091	3.263	0.130	0.242	0.013	0.010	0.001	0.000	0.000	0.000	0.000	1396.39	
30	0.7291	1172.5	1193.3	1.155	3.929	69.104	21.991	3.412	0.134	0.250	0.014	0.011	0.001	0.000	0.000	0.000	0.000	1397.52	
Avg	0.7241	1175.0	1195.7	0.838	3.783	69.341	22.603	3.127	0.104	0.186	0.010	0.008	0.001	0.000	0.000	0.000	0.000	1405.25	

Zone 211

GQ Source Daily Summary

April 2012

Number: 372

Pressure Base: 14.730

Contract Day: 1

Name: NESSON PLANT WEST

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	0.7288	1170.9	1191.7	1.184	3.959	68.858	22.460	3.166	0.122	0.229	0.012	0.009	0.001	0.000	0.000	0.000	0.000	1395.88	
2	0.7286	1170.6	1191.3	1.185	3.955	68.840	22.548	3.105	0.121	0.225	0.011	0.009	0.001	0.000	0.000	0.000	0.000	1395.72	
3	0.7287	1171.1	1191.8	1.181	3.944	68.828	22.559	3.117	0.121	0.228	0.011	0.009	0.001	0.000	0.000	0.000	0.000	1396.17	
4	0.7283	1171.1	1191.9	1.165	3.929	68.900	22.508	3.131	0.121	0.225	0.011	0.009	0.001	0.000	0.000	0.000	0.000	1396.59	
5	0.7275	1172.8	1193.5	1.147	3.776	69.233	22.195	3.278	0.123	0.228	0.011	0.008	0.001	0.000	0.000	0.000	0.000	1399.39	
6	0.7293	1172.5	1193.2	1.180	3.922	68.714	22.678	3.136	0.121	0.227	0.012	0.009	0.001	0.000	0.000	0.000	0.000	1397.20	
7	0.7294	1172.4	1193.1	1.178	3.937	68.713	22.654	3.146	0.122	0.229	0.012	0.009	0.001	0.000	0.000	0.000	0.000	1397.02	
8	0.7299	1173.4	1194.1	1.183	3.917	68.658	22.678	3.194	0.121	0.228	0.011	0.009	0.001	0.000	0.000	0.000	0.000	1397.72	
9	0.7279	1170.1	1190.8	1.159	3.966	69.033	22.285	3.183	0.123	0.229	0.012	0.009	0.001	0.000	0.000	0.000	0.000	1395.66	
10	0.7285	1172.0	1192.8	1.163	3.898	68.823	22.652	3.096	0.121	0.226	0.011	0.009	0.001	0.000	0.000	0.000	0.000	1397.46	
11	0.7283	1172.9	1193.6	1.130	3.876	68.877	22.615	3.132	0.121	0.227	0.012	0.009	0.001	0.000	0.000	0.000	0.000	1398.66	
12	0.7282	1175.1	1195.9	1.050	3.850	68.881	22.678	3.168	0.122	0.229	0.012	0.009	0.001	0.000	0.000	0.000	0.000	1401.42	
13	0.7295	1173.9	1194.7	1.145	3.897	69.001	22.185	3.334	0.142	0.269	0.015	0.012	0.002	0.000	0.000	0.000	0.000	1398.78	
14	0.7294	1173.1	1193.9	1.175	3.892	68.858	22.448	3.223	0.131	0.247	0.013	0.010	0.001	0.000	0.000	0.000	0.000	1397.94	
15	0.7296	1173.1	1193.9	1.178	3.908	68.845	22.420	3.245	0.131	0.249	0.013	0.010	0.001	0.000	0.000	0.000	0.000	1397.71	
16	0.7291	1173.1	1193.8	1.153	3.908	68.849	22.486	3.218	0.127	0.238	0.012	0.009	0.001	0.000	0.000	0.000	0.000	1398.09	
17	0.7274	1175.3	1196.2	1.009	3.828	68.929	22.735	3.145	0.117	0.217	0.011	0.009	0.001	0.000	0.000	0.000	0.000	1402.45	
18	0.7285	1176.2	1197.0	1.046	3.821	68.917	22.560	3.281	0.123	0.230	0.012	0.009	0.001	0.000	0.000	0.000	0.000	1402.42	
19	0.7290	1171.9	1192.7	1.181	3.916	68.931	22.360	3.213	0.130	0.245	0.012	0.010	0.001	0.000	0.000	0.000	0.000	1396.91	
20	0.7303	1174.4	1195.2	1.175	3.898	68.696	22.576	3.259	0.129	0.244	0.012	0.009	0.001	0.000	0.000	0.000	0.000	1398.62	
21	0.7301	1175.4	1196.2	1.137	3.876	68.730	22.586	3.274	0.129	0.244	0.013	0.010	0.001	0.000	0.000	0.000	0.000	1399.99	
22	0.7296	1174.7	1195.5	1.135	3.883	68.798	22.520	3.275	0.127	0.239	0.013	0.010	0.001	0.000	0.000	0.000	0.000	1399.52	
23	0.7314	1176.2	1197.0	1.177	3.891	68.696	22.393	3.418	0.138	0.261	0.014	0.011	0.001	0.000	0.000	0.000	0.000	1399.63	
24	0.7311	1175.4	1196.2	1.177	3.904	68.810	22.229	3.447	0.140	0.267	0.014	0.011	0.002	0.000	0.000	0.000	0.000	1399.08	
25	0.7322	1176.4	1197.2	1.174	3.955	68.683	22.200	3.546	0.142	0.272	0.014	0.011	0.002	0.000	0.000	0.000	0.000	1399.14	
26	0.7306	1172.8	1193.6	1.183	4.009	68.798	22.229	3.353	0.137	0.263	0.014	0.011	0.002	0.000	0.000	0.000	0.000	1396.43	
27	0.7293	1172.0	1192.8	1.152	3.986	68.930	22.222	3.304	0.131	0.249	0.014	0.011	0.002	0.000	0.000	0.000	0.000	1396.70	
28	0.7303	1173.5	1194.2	1.186	3.936	68.756	22.425	3.298	0.129	0.245	0.013	0.010	0.001	0.000	0.000	0.000	0.000	1397.51	
29	0.7299	1173.4	1194.2	1.178	3.921	68.800	22.420	3.282	0.130	0.245	0.013	0.010	0.001	0.000	0.000	0.000	0.000	1397.76	
30	0.7302	1174.0	1194.8	1.180	3.910	68.770	22.441	3.291	0.132	0.252	0.013	0.010	0.001	0.000	0.000	0.000	0.000	1398.16	
Avg	0.7294	1173.0	1194.1	1.155	3.909	68.839	22.465	3.242	0.127	0.240	0.012	0.010	0.001	0.000	0.000	0.000	0.000	1398.19	

*** End of Report***

Zone 24, 264

GQ Source Analysis

Williston Basin Interstate Pipeline Co.

GQ Source Number:	0602160	Specific Gravity:	0.7246
GQ Source Name:	FAIRVIEW BORDER	Dry Heat Value:	1184.74
Effective Date:	4/1/2012 9:00:00 AM	Wet Heat Value:	1164.13
Effective End Date:	1/18/2038 9:14:07 PM	As Deliv. Heat Value:	1184.74
Pressure Base:	14.730	Sample Pressure:	130.00
Viscosity:		Sample Temperature:	

	<u>Mol %</u>	<u>Liquid Content</u>		<u>Mol %</u>
C1 Methane	69.448		CO2 Carbon Dioxide	1.183
C2 Ethane	21.830	0.0000	N2 Nitrogen	3.943
C3 Propane	3.219	0.8841	O2 Oxygen	0.000
IC4 Isobutane	0.127	0.0413	He Helium	
NC4 n-Butane	0.228	0.0716	H2 Hydrogen	
IC5 Isopentane	0.013	0.0046	H2S Hydrogen Sulfide	
NC5 n-Pentane	0.010	0.0037	Ar Argon	
C6 Hexanes	0.000	0.0000	CO Carbon Monoxide	
C7 Heptanes			H2 Water	
C8 Octanes			Neo-C5 Neopentane	
C9 Nonanes				
C10 Decanes				

Totals 100.000% 1.005 GPM

Sample Date: 4/30/2012 12:00:00 AM
Sample Type: Composite
Sample Tech: sampler
H2S: ppm

Sample Remarks:

Analysis Tech: Mary Berger

Analysis Remarks:

Zone 241

GQ Source Analysis

Williston Basin Interstate Pipeline Co.

GQ Source Number:	0602230	Specific Gravity:	0.7329
GQ Source Name:	WATFORD CITY BORDER	Dry Heat Value:	1139.09
Effective Date:	4/1/2012 9:00:00 AM	Wet Heat Value:	1119.27
Effective End Date:	1/18/2038 9:14:07 PM	As Deliv. Heat Value:	1139.09
Pressure Base:	14.730	Sample Pressure:	410.00
Viscosity:		Sample Temperature:	

		<u>Mol %</u>	<u>Liquid Content</u>			<u>Mol %</u>
C1	Methane	68.247		CO2	Carbon Dioxide	0.816
C2	Ethane	18.095	4.8250	N2	Nitrogen	8.023
C3	Propane	4.230	1.1621	O2	Oxygen	0.000
IC4	Isobutane	0.187	0.0610	He	Helium	
NC4	n-Butane	0.337	0.1061	H2	Hydrogen	
IC5	Isopentane	0.027	0.0100	H2S	Hydrogen Sulfide	
NC5	n-Pentane	0.027	0.0096	Ar	Argon	
C6	Hexanes	0.011	0.0050	CO	Carbon Monoxide	
C7	Heptanes			H2	Water	
C8	Octanes			Neo-C5	Neopentane	
C9	Nonanes					
C10	Decanes					

Totals 100.000% 6.179 GPM

Sample Date: 4/30/2012 12:00:00 AM
Sample Type: Composite
Sample Tech: sampler
H2S: ppm

Sample Remarks:

Analysis Tech: Mary Berger

Analysis Remarks:

Zone 25

GQ Source Daily Summary

April 2012

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	0.6945	1136.4	1156.5	0.634	3.672	74.260	18.866	2.337	0.076	0.139	0.007	0.007	0.001					1387.81	
2	0.6938	1136.0	1156.1	0.632	3.637	74.221	19.101	2.195	0.071	0.128	0.006	0.006	0.001					1388.00	
3	0.6982	1144.5	1164.8	0.607	3.567	73.839	19.210	2.451	0.092	0.190	0.015	0.019	0.011					1393.98	
4	0.6968	1143.3	1163.6	0.608	3.509	73.946	19.311	2.323	0.086	0.176	0.014	0.017	0.011					1393.93	
5	0.6918	1138.2	1158.4	0.526	3.470	74.705	18.867	2.136	0.082	0.173	0.015	0.018	0.010					1392.77	
6	0.6887	1133.5	1153.5	0.498	3.515	74.962	18.814	1.999	0.068	0.126	0.007	0.007	0.003					1390.03	
7	0.6881	1129.6	1149.6	0.521	3.665	75.016	18.638	1.956	0.065	0.118	0.007	0.007	0.005					1385.83	
8	0.6886	1130.9	1151.0	0.531	3.610	74.912	18.810	1.940	0.064	0.116	0.007	0.007	0.004					1387.04	
9	0.6880	1129.8	1149.8	0.543	3.606	75.026	18.701	1.932	0.063	0.113	0.006	0.006	0.003					1386.22	
10	0.6893	1131.0	1151.0	0.566	3.620	74.838	18.810	1.964	0.066	0.120	0.007	0.007	0.003					1386.41	
11	0.6919	1133.0	1153.1	0.596	3.695	74.335	19.231	1.917	0.069	0.131	0.009	0.010	0.008					1386.28	
12	0.6957	1142.8	1163.0	0.522	3.569	74.374	18.706	2.433	0.109	0.241	0.018	0.020	0.008					1394.33	
13	0.6950	1140.3	1160.5	0.562	3.591	74.380	18.778	2.357	0.090	0.183	0.018	0.024	0.017					1392.04	
14	0.6934	1137.1	1157.3	0.578	3.611	74.304	19.087	2.177	0.077	0.145	0.009	0.009	0.003					1389.79	
15	0.6917	1134.0	1154.1	0.588	3.625	74.569	18.909	2.062	0.075	0.146	0.010	0.011	0.004					1387.67	
16	0.6914	1132.8	1152.9	0.597	3.658	74.648	18.773	2.071	0.078	0.151	0.010	0.011	0.003					1386.54	
17	0.6898	1132.6	1152.7	0.533	3.618	74.866	18.703	2.037	0.072	0.141	0.011	0.012	0.007					1387.88	
18	0.6918	1137.4	1157.5	0.509	3.548	74.948	18.367	2.269	0.094	0.206	0.019	0.024	0.016					1391.68	
19	0.6911	1133.8	1153.9	0.592	3.579	74.778	18.667	2.131	0.077	0.146	0.010	0.012	0.008					1387.99	
20	0.6922	1135.0	1155.1	0.594	3.606	74.462	19.013	2.097	0.073	0.134	0.008	0.008	0.005					1388.37	
21	0.6926	1136.3	1156.4	0.589	3.580	74.333	19.180	2.108	0.071	0.127	0.006	0.006	0.001					1389.46	
22	0.6928	1137.0	1157.2	0.562	3.591	74.305	19.197	2.127	0.072	0.131	0.007	0.006	0.003					1390.22	
23	0.6920	1135.6	1155.7	0.558	3.599	74.553	18.886	2.172	0.075	0.138	0.008	0.007	0.003					1389.38	
24	0.6926	1136.6	1156.7	0.564	3.587	74.643	18.643	2.291	0.084	0.162	0.011	0.011	0.004					1389.95	
25	0.6885	1129.4	1149.4	0.564	3.645	75.036	18.537	2.016	0.067	0.120	0.007	0.006	0.002					1385.24	
26	0.6916	1135.7	1155.8	0.575	3.536	74.561	18.999	2.109	0.071	0.130	0.008	0.008	0.002					1389.84	
27	0.6902	1133.4	1153.5	0.571	3.551	74.790	18.794	2.088	0.069	0.124	0.007	0.006	0.000					1388.41	
28	0.6903	1133.5	1153.6	0.572	3.555	74.795	18.764	2.106	0.069	0.121	0.007	0.007	0.005					1388.44	
29	0.6896	1133.0	1153.1	0.561	3.534	74.896	18.719	2.090	0.069	0.120	0.006	0.006	0.000					1388.54	
30	0.6897	1133.3	1153.4	0.550	3.546	74.840	18.791	2.076	0.067	0.116	0.006	0.005	0.003					1388.75	
Avg	0.6917	1135.0	1155.3	0.567	3.590	74.605	18.862	2.132	0.075	0.144	0.010	0.010	0.005					1389.09	

Zone 261

GQ Source Daily Summary

April 2012

Number: 091

Pressure Base: 14.730

Contract Day: 1

Name: MINOT BORDER

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	0.6996	1146.6	1166.9	0.626	3.542	73.846	19.007	2.601	0.101	0.209	0.018	0.030	0.020	0.000	0.000	0.000	0.000	1395.07	
2	0.6950	1137.8	1157.9	0.652	3.608	74.191	18.984	2.328	0.077	0.141	0.006	0.006	0.008	0.000	0.000	0.000	0.000	1388.96	
3	0.6947	1137.4	1157.6	0.654	3.598	74.106	19.214	2.207	0.072	0.133	0.005	0.003	0.009	0.000	0.000	0.000	0.000	1388.84	
4	0.7009	1149.7	1170.1	0.613	3.486	73.627	19.255	2.620	0.107	0.236	0.020	0.024	0.012	0.000	0.000	0.000	0.000	1397.66	
5	0.6957	1141.3	1161.5	0.622	3.503	73.949	19.478	2.190	0.077	0.154	0.010	0.011	0.004	0.000	0.000	0.000	0.000	1392.54	
6	0.6938	1141.3	1161.5	0.554	3.427	74.483	18.981	2.222	0.090	0.199	0.016	0.019	0.008	0.000	0.000	0.000	0.000	1394.44	
7	0.6886	1132.2	1152.3	0.523	3.543	74.928	18.856	1.951	0.064	0.119	0.002	0.002	0.010	0.000	0.000	0.000	0.000	1388.57	
8	0.6894	1131.7	1151.7	0.549	3.614	74.848	18.785	1.988	0.067	0.127	0.006	0.006	0.010	0.000	0.000	0.000	0.000	1387.09	
9	0.6890	1131.9	1151.9	0.557	3.552	74.869	18.879	1.946	0.064	0.116	0.004	0.003	0.011	0.000	0.000	0.000	0.000	1387.75	
10	0.6888	1130.8	1150.9	0.569	3.574	74.941	18.767	1.946	0.066	0.120	0.004	0.004	0.010	0.000	0.000	0.000	0.000	1386.73	
11	0.6911	1132.8	1152.8	0.604	3.621	74.526	19.074	1.964	0.068	0.125	0.005	0.004	0.010	0.000	0.000	0.000	0.000	1386.75	
12	0.6914	1134.0	1154.1	0.573	3.624	74.401	19.267	1.910	0.068	0.135	0.008	0.009	0.004	0.000	0.000	0.000	0.000	1387.90	
13	0.6995	1149.0	1169.4	0.551	3.493	74.121	18.647	2.697	0.128	0.293	0.026	0.032	0.012	0.000	0.000	0.000	0.000	1398.14	
14	0.6955	1140.1	1160.3	0.596	3.599	74.177	18.977	2.362	0.089	0.174	0.010	0.012	0.005	0.000	0.000	0.000	0.000	1391.26	
15	0.6942	1138.2	1158.3	0.606	3.575	74.235	19.124	2.200	0.081	0.157	0.008	0.009	0.004	0.000	0.000	0.000	0.000	1390.27	
16	0.6927	1135.0	1155.1	0.629	3.601	74.430	18.988	2.101	0.079	0.153	0.008	0.008	0.003	0.000	0.000	0.000	0.000	1387.82	
17	0.6892	1130.0	1150.0	0.593	3.630	74.896	18.725	1.933	0.069	0.131	0.007	0.007	0.009	0.000	0.000	0.000	0.000	1385.23	
18	0.6939	1139.5	1159.7	0.543	3.559	74.499	18.798	2.254	0.093	0.206	0.018	0.022	0.009	0.000	0.000	0.000	0.000	1392.22	
19	0.6904	1135.0	1155.1	0.563	3.482	75.046	18.403	2.223	0.084	0.169	0.011	0.013	0.006	0.000	0.000	0.000	0.000	1390.14	
20	0.6920	1134.8	1154.9	0.610	3.572	74.548	18.925	2.102	0.076	0.145	0.008	0.009	0.004	0.000	0.000	0.000	0.000	1388.34	
21	0.6929	1137.0	1157.1	0.601	3.536	74.316	19.225	2.103	0.072	0.131	0.005	0.003	0.009	0.000	0.000	0.000	0.000	1390.12	
22	0.6938	1138.5	1158.6	0.605	3.527	74.181	19.327	2.135	0.073	0.134	0.005	0.003	0.010	0.000	0.000	0.000	0.000	1390.99	
23	0.6928	1136.8	1156.9	0.581	3.569	74.286	19.268	2.085	0.069	0.127	0.004	0.002	0.009	0.000	0.000	0.000	0.000	1389.97	
24	0.6931	1137.8	1158.0	0.579	3.535	74.311	19.214	2.133	0.075	0.137	0.005	0.004	0.008	0.000	0.000	0.000	0.000	1390.96	
25	0.6941	1139.1	1159.3	0.584	3.545	74.407	18.858	2.327	0.087	0.168	0.008	0.008	0.007	0.000	0.000	0.000	0.000	1391.46	
26	0.6909	1133.3	1153.4	0.594	3.585	74.682	18.842	2.078	0.071	0.130	0.005	0.004	0.007	0.000	0.000	0.000	0.000	1387.58	
27	0.6921	1137.5	1157.6	0.589	3.451	74.490	19.129	2.125	0.071	0.130	0.005	0.003	0.007	0.000	0.000	0.000	0.000	1391.50	
28	0.6908	1134.2	1154.3	0.588	3.529	74.718	18.845	2.110	0.070	0.126	0.003	0.001	0.009	0.000	0.000	0.000	0.000	1388.81	
29	0.6904	1133.7	1153.8	0.595	3.514	74.794	18.789	2.103	0.069	0.123	0.003	0.001	0.009	0.000	0.000	0.000	0.000	1388.56	
30	0.6909	1135.4	1155.5	0.574	3.488	74.708	18.891	2.130	0.070	0.125	0.003	0.000	0.009	0.000	0.000	0.000	0.000	1390.13	
Avg	0.6929	1137.0	1157.2	0.589	3.549	74.452	18.984	2.169	0.078	0.152	0.008	0.009	0.008	0.000	0.000	0.000	0.000	1390.19	

Zone 262

GQ Source Analysis

Williston Basin Interstate Pipeline Co.

GQ Source Number:	2501030	Specific Gravity:	0.6487
GQ Source Name:	LIGNITE PLANT	Dry Heat Value:	1098.51
Effective Date:	4/1/2012 9:00:00 AM	Wet Heat Value:	1079.39
Effective End Date:	1/18/2038 9:14:07 PM	As Deliv. Heat Value:	1098.51
Pressure Base:	14.730	Sample Pressure:	520.00
Viscosity:		Sample Temperature:	

	<u>Mol %</u>	<u>Liquid Content</u>			<u>Mol %</u>	
C1	Methane	80.690		CO2	Carbon Dioxide	0.088
C2	Ethane	15.075	4.0197	N2	Nitrogen	3.657
C3	Propane	0.455	0.1249	O2	Oxygen	0.000
IC4	Isobutane	0.001	0.0003	He	Helium	
NC4	n-Butane	0.000	0.0000	H2	Hydrogen	
IC5	Isopentane	0.000	0.0000	H2S	Hydrogen Sulfide	
NC5	n-Pentane	0.000	0.0000	Ar	Argon	
C6	Hexanes	0.035	0.0159	CO	Carbon Monoxide	
C7	Heptanes			H2	Water	
C8	Octanes			Neo-C5	Neopentane	
C9	Nonanes					
C10	Decanes					
Totals			100.000%	4.161 GPM		

Sample Date: 4/30/2012 12:00:00 AM
Sample Type: Composite
Sample Tech: sampler
H2S: ppm

Sample Remarks:

Analysis Tech: Mary Berger

Analysis Remarks:

*** End of Report ***

Zone 263

GQ Source Daily Summary

April 2012

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	0.7047	1152.1	1172.5	0.739	3.510	73.153	19.398	2.814	0.107	0.219	0.016	0.019	0.023	0.000	0.000	0.000	0.000	1396.74	
2	0.6924	1135.0	1155.1	0.630	3.572	74.579	18.783	2.209	0.071	0.131	0.006	0.006	0.012	0.000	0.000	0.000	0.000	1388.13	
3	0.6948	1138.2	1158.3	0.663	3.548	74.106	19.267	2.196	0.070	0.127	0.006	0.005	0.012	0.000	0.000	0.000	0.000	1389.70	
4	0.6994	1148.3	1168.6	0.627	3.425	73.854	19.171	2.540	0.099	0.219	0.019	0.023	0.022	0.000	0.000	0.000	0.000	1397.28	
5	0.6955	1143.0	1163.2	0.610	3.406	74.232	19.170	2.251	0.087	0.188	0.016	0.019	0.020	0.000	0.000	0.000	0.000	1394.78	
6	0.6901	1136.2	1156.3	0.547	3.403	74.904	18.851	2.047	0.071	0.139	0.009	0.010	0.018	0.000	0.000	0.000	0.000	1391.98	
7	0.6884	1133.2	1153.3	0.527	3.458	75.070	18.755	1.973	0.066	0.123	0.006	0.006	0.015	0.000	0.000	0.000	0.000	1390.03	
8	0.6892	1131.8	1151.8	0.559	3.576	74.915	18.764	1.964	0.066	0.124	0.007	0.008	0.016	0.000	0.000	0.000	0.000	1387.41	
9	0.6871	1129.9	1149.9	0.567	3.474	75.258	18.607	1.893	0.062	0.113	0.006	0.006	0.014	0.000	0.000	0.000	0.000	1387.33	
10	0.6852	1127.6	1147.6	0.578	3.425	75.633	18.288	1.877	0.062	0.113	0.006	0.006	0.013	0.000	0.000	0.000	0.000	1386.34	
11	0.6880	1129.6	1149.6	0.602	3.531	75.084	18.698	1.878	0.064	0.117	0.006	0.006	0.013	0.000	0.000	0.000	0.000	1385.97	
12	0.6911	1133.3	1153.3	0.589	3.617	74.509	19.166	1.885	0.066	0.131	0.010	0.011	0.017	0.000	0.000	0.000	0.000	1387.37	
13	0.6981	1147.5	1167.8	0.557	3.451	74.377	18.492	2.637	0.121	0.280	0.026	0.033	0.026	0.000	0.000	0.000	0.000	1397.63	
14	0.6951	1140.2	1160.4	0.614	3.531	74.267	18.979	2.321	0.085	0.163	0.010	0.010	0.019	0.000	0.000	0.000	0.000	1391.80	
15	0.6938	1138.8	1158.9	0.605	3.508	74.316	19.146	2.164	0.078	0.150	0.009	0.009	0.015	0.000	0.000	0.000	0.000	1391.39	
16	0.6921	1134.9	1155.0	0.635	3.540	74.520	19.043	2.009	0.073	0.144	0.010	0.011	0.015	0.000	0.000	0.000	0.000	1388.35	
17	0.6908	1133.1	1153.1	0.609	3.570	74.789	18.734	2.045	0.075	0.147	0.009	0.010	0.014	0.000	0.000	0.000	0.000	1387.40	
18	0.6922	1137.3	1157.5	0.559	3.517	74.728	18.721	2.157	0.083	0.181	0.016	0.019	0.020	0.000	0.000	0.000	0.000	1391.20	
19	0.6914	1137.3	1157.4	0.563	3.434	75.062	18.338	2.266	0.090	0.190	0.015	0.019	0.022	0.000	0.000	0.000	0.000	1391.95	
20	0.6915	1134.7	1154.8	0.622	3.516	74.699	18.834	2.073	0.074	0.144	0.009	0.011	0.017	0.000	0.000	0.000	0.000	1388.72	
21	0.6926	1137.1	1157.2	0.614	3.489	74.420	19.153	2.095	0.071	0.130	0.007	0.007	0.014	0.000	0.000	0.000	0.000	1390.50	
22	0.6940	1139.5	1159.7	0.612	3.468	74.188	19.365	2.141	0.072	0.130	0.006	0.005	0.012	0.000	0.000	0.000	0.000	1392.15	
23	0.6920	1136.4	1156.5	0.586	3.513	74.538	19.028	2.104	0.072	0.133	0.007	0.006	0.013	0.000	0.000	0.000	0.000	1390.28	
24	0.6917	1135.9	1156.1	0.592	3.503	74.674	18.839	2.150	0.075	0.140	0.007	0.007	0.013	0.000	0.000	0.000	0.000	1390.03	
25	0.6917	1135.7	1155.8	0.593	3.514	74.834	18.550	2.235	0.081	0.157	0.010	0.011	0.015	0.000	0.000	0.000	0.000	1389.73	
26	0.6895	1131.6	1151.7	0.603	3.547	74.938	18.673	2.024	0.067	0.123	0.006	0.006	0.013	0.000	0.000	0.000	0.000	1386.92	
27	0.6918	1137.7	1157.8	0.603	3.393	74.655	18.973	2.142	0.071	0.134	0.007	0.008	0.014	0.000	0.000	0.000	0.000	1392.02	
28	0.6898	1133.2	1153.3	0.599	3.478	74.957	18.661	2.093	0.068	0.121	0.006	0.005	0.012	0.000	0.000	0.000	0.000	1388.63	
29	0.6907	1134.7	1154.8	0.606	3.466	74.830	18.758	2.118	0.069	0.126	0.006	0.006	0.016	0.000	0.000	0.000	0.000	1389.49	
30	0.6896	1133.6	1153.7	0.590	3.449	74.944	18.756	2.052	0.067	0.120	0.005	0.005	0.012	0.000	0.000	0.000	0.000	1389.33	
Avg	0.6921	1137.0	1156.7	0.600	3.494	74.634	18.865	2.145	0.076	0.149	0.010	0.010	0.016	0.000	0.000	0.000	0.000	1390.35	

Zone 271

GQ Source Daily Summary

April 2012

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	0.6992	1146.3	1166.6	0.619	3.529	73.999	18.865	2.585	0.102	0.218	0.019	0.029	0.035	0.000	0.000	0.000	0.000	1395.20	
2	0.6992	1143.0	1163.3	0.722	3.579	73.685	19.187	2.566	0.085	0.158	0.009	0.008	0.000	0.000	0.000	0.000	0.000	1391.14	
3	0.6935	1136.4	1156.5	0.649	3.564	74.319	19.046	2.209	0.072	0.131	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1388.72	
4	0.6972	1142.7	1163.0	0.639	3.532	73.899	19.271	2.372	0.084	0.169	0.013	0.014	0.005	0.000	0.000	0.000	0.000	1392.82	
5	0.6982	1146.1	1166.4	0.627	3.440	73.897	19.243	2.450	0.095	0.204	0.018	0.022	0.003	0.000	0.000	0.000	0.000	1395.91	
6	0.6928	1139.8	1160.0	0.566	3.413	74.608	18.920	2.181	0.086	0.187	0.016	0.019	0.004	0.000	0.000	0.000	0.000	1393.61	
7	0.6892	1134.8	1154.9	0.521	3.448	74.920	18.872	2.022	0.069	0.133	0.007	0.008	0.000	0.000	0.000	0.000	0.000	1391.12	
8	0.6879	1130.1	1150.1	0.541	3.582	75.066	18.667	1.947	0.064	0.119	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1386.69	
9	0.6886	1131.3	1151.3	0.557	3.552	74.954	18.785	1.954	0.065	0.121	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1387.45	
10	0.6826	1124.2	1144.1	0.575	3.391	76.069	17.953	1.832	0.060	0.109	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1384.78	
11	0.6867	1128.8	1148.8	0.580	3.488	75.327	18.501	1.908	0.064	0.119	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1386.31	
12	0.6918	1133.6	1153.7	0.617	3.622	74.391	19.198	1.949	0.070	0.135	0.009	0.010	0.000	0.000	0.000	0.000	0.000	1387.06	
13	0.6929	1138.0	1158.1	0.554	3.544	74.510	18.914	2.189	0.085	0.178	0.012	0.013	0.000	0.000	0.000	0.000	0.000	1391.36	
14	0.6977	1145.6	1165.9	0.576	3.499	74.237	18.726	2.528	0.113	0.252	0.023	0.030	0.016	0.000	0.000	0.000	0.000	1395.79	
15	0.6940	1138.1	1158.2	0.613	3.559	74.264	19.104	2.211	0.080	0.152	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1390.34	
16	0.6924	1135.8	1156.0	0.607	3.551	74.506	18.967	2.115	0.078	0.153	0.010	0.011	0.000	0.000	0.000	0.000	0.000	1389.22	
17	0.6921	1134.1	1154.2	0.632	3.597	74.577	18.834	2.101	0.080	0.157	0.011	0.012	0.000	0.000	0.000	0.000	0.000	1387.31	
18	0.6894	1131.9	1151.9	0.568	3.568	74.917	18.719	2.000	0.069	0.137	0.010	0.010	0.001	0.000	0.000	0.000	0.000	1387.42	
19	0.6932	1139.4	1159.6	0.541	3.506	74.783	18.489	2.299	0.098	0.223	0.021	0.027	0.015	0.000	0.000	0.000	0.000	1392.80	
20	0.6907	1134.0	1154.1	0.605	3.505	74.899	18.591	2.145	0.079	0.154	0.010	0.011	0.000	0.000	0.000	0.000	0.000	1388.71	
21	0.6925	1135.9	1156.0	0.616	3.547	74.468	19.007	2.126	0.075	0.142	0.009	0.010	0.000	0.000	0.000	0.000	0.000	1389.12	
22	0.6925	1136.7	1156.9	0.607	3.511	74.383	19.182	2.103	0.071	0.130	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1390.17	
23	0.6929	1137.4	1157.5	0.597	3.522	74.298	19.266	2.105	0.071	0.130	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1390.60	
24	0.6936	1138.9	1159.1	0.578	3.521	74.370	19.021	2.260	0.081	0.153	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1391.78	
25	0.6931	1137.8	1158.0	0.592	3.518	74.559	18.779	2.279	0.085	0.166	0.011	0.011	0.000	0.000	0.000	0.000	0.000	1390.93	
26	0.6887	1130.3	1150.3	0.588	3.578	75.058	18.526	2.043	0.068	0.126	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1386.06	
27	0.6912	1135.1	1155.2	0.601	3.499	74.655	18.930	2.094	0.071	0.133	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1389.42	
28	0.6911	1135.4	1155.5	0.597	3.472	74.704	18.881	2.133	0.071	0.129	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1389.98	
29	0.6903	1133.6	1153.7	0.599	3.500	74.819	18.782	2.093	0.069	0.126	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1388.65	
30	0.6898	1133.6	1153.7	0.580	3.484	74.912	18.711	2.108	0.069	0.125	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1389.11	
Avg	0.6922	1136.0	1156.4	0.595	3.521	74.602	18.865	2.164	0.078	0.152	0.010	0.011	0.003	0.000	0.000	0.000	0.000	1389.99	

Zone 272

GQ Source Daily Summary April 2012

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	0.6991	1146.3	1166.6	0.615	3.523	74.015	18.861	2.585	0.102	0.216	0.020	0.029	0.035	0.000	0.000	0.000	0.000	1395.30	
2	0.6990	1142.7	1162.9	0.720	3.585	73.711	19.162	2.563	0.085	0.158	0.009	0.008	0.000	0.000	0.000	0.000	0.000	1390.94	
3	0.6936	1136.4	1156.5	0.650	3.564	74.311	19.052	2.208	0.072	0.131	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1388.71	
4	0.6974	1143.1	1163.4	0.636	3.532	73.887	19.267	2.385	0.086	0.174	0.013	0.015	0.005	0.000	0.000	0.000	0.000	1393.09	
5	0.6983	1146.1	1166.4	0.631	3.440	73.882	19.257	2.447	0.095	0.205	0.018	0.021	0.004	0.000	0.000	0.000	0.000	1395.84	
6	0.6929	1140.0	1160.2	0.566	3.414	74.585	18.939	2.181	0.087	0.189	0.016	0.020	0.003	0.000	0.000	0.000	0.000	1393.70	
7	0.6898	1135.6	1155.7	0.524	3.447	74.833	18.932	2.045	0.071	0.134	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1391.57	
8	0.6879	1130.1	1150.1	0.540	3.584	75.059	18.681	1.938	0.064	0.121	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1386.68	
9	0.6887	1131.6	1151.6	0.556	3.547	74.931	18.809	1.956	0.065	0.121	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1387.67	
10	0.6828	1124.6	1144.5	0.575	3.385	76.039	17.976	1.842	0.060	0.110	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1385.09	
11	0.6867	1128.9	1148.9	0.578	3.486	75.326	18.504	1.909	0.065	0.119	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1386.40	
12	0.6921	1133.9	1154.0	0.620	3.627	74.340	19.238	1.954	0.070	0.134	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1387.10	
13	0.6931	1138.5	1158.6	0.554	3.539	74.485	18.923	2.208	0.086	0.179	0.012	0.014	0.000	0.000	0.000	0.000	0.000	1391.69	
14	0.6978	1145.7	1166.0	0.578	3.499	74.215	18.748	2.525	0.112	0.253	0.024	0.030	0.016	0.000	0.000	0.000	0.000	1395.82	
15	0.6941	1138.3	1158.4	0.612	3.559	74.245	19.118	2.215	0.080	0.153	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1390.44	
16	0.6925	1136.0	1156.1	0.612	3.550	74.489	18.972	2.123	0.078	0.154	0.010	0.011	0.000	0.000	0.000	0.000	0.000	1389.23	
17	0.6922	1134.2	1154.3	0.632	3.595	74.576	18.828	2.105	0.081	0.160	0.011	0.011	0.000	0.000	0.000	0.000	0.000	1387.40	
18	0.6896	1132.2	1152.3	0.571	3.566	74.891	18.734	2.009	0.070	0.138	0.010	0.011	0.001	0.000	0.000	0.000	0.000	1387.57	
19	0.6931	1139.6	1159.7	0.534	3.501	74.805	18.473	2.302	0.098	0.223	0.022	0.028	0.015	0.000	0.000	0.000	0.000	1393.02	
20	0.6908	1134.3	1154.4	0.605	3.500	74.867	18.628	2.146	0.079	0.153	0.010	0.011	0.000	0.000	0.000	0.000	0.000	1388.91	
21	0.6926	1136.0	1156.1	0.616	3.546	74.454	19.018	2.131	0.075	0.142	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1389.24	
22	0.6926	1136.8	1156.9	0.607	3.511	74.379	19.186	2.103	0.071	0.130	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1390.19	
23	0.6928	1137.3	1157.4	0.597	3.520	74.307	19.266	2.097	0.070	0.130	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1390.56	
24	0.6935	1138.7	1158.9	0.581	3.520	74.391	19.001	2.257	0.082	0.154	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1391.63	
25	0.6930	1137.5	1157.7	0.593	3.525	74.570	18.764	2.283	0.084	0.161	0.010	0.012	0.000	0.000	0.000	0.000	0.000	1390.69	
26	0.6889	1130.6	1150.6	0.589	3.574	75.042	18.535	2.051	0.069	0.127	0.007	0.007	0.001	0.000	0.000	0.000	0.000	1386.25	
27	0.6914	1135.4	1155.5	0.601	3.495	74.629	18.953	2.100	0.072	0.135	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1389.68	
28	0.6912	1135.6	1155.7	0.597	3.471	74.684	18.898	2.136	0.071	0.129	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1390.08	
29	0.6902	1133.6	1153.6	0.599	3.502	74.816	18.788	2.089	0.069	0.124	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1388.57	
30	0.6900	1133.7	1153.8	0.593	3.480	74.886	18.722	2.114	0.070	0.125	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1389.00	
Avg	0.6923	1136.0	1156.6	0.596	3.520	74.588	18.874	2.167	0.078	0.153	0.010	0.011	0.003	0.000	0.000	0.000	0.000	1390.07	

Zone 273

GQ Source Daily Summary

April 2012

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	0.7047	1152.2	1172.6	0.740	3.506	73.167	19.380	2.819	0.107	0.220	0.017	0.019	0.025	0.000	0.000	0.000	0.000	1396.81	
2	0.6922	1134.6	1154.7	0.627	3.581	74.604	18.758	2.205	0.071	0.129	0.007	0.006	0.013	0.000	0.000	0.000	0.000	1387.89	
3	0.6931	1137.0	1157.1	0.636	3.509	74.320	19.208	2.114	0.067	0.122	0.006	0.005	0.012	0.000	0.000	0.000	0.000	1389.88	
4	0.6992	1147.6	1167.9	0.630	3.439	73.864	19.173	2.520	0.098	0.214	0.018	0.022	0.022	0.000	0.000	0.000	0.000	1396.70	
5	0.6957	1142.9	1163.1	0.616	3.420	74.174	19.227	2.242	0.085	0.183	0.015	0.019	0.021	0.000	0.000	0.000	0.000	1394.49	
6	0.6904	1137.0	1157.1	0.549	3.387	74.904	18.812	2.084	0.074	0.148	0.010	0.012	0.019	0.000	0.000	0.000	0.000	1392.57	
7	0.6881	1133.0	1153.1	0.523	3.447	75.102	18.766	1.946	0.065	0.122	0.007	0.006	0.015	0.000	0.000	0.000	0.000	1390.07	
8	0.6890	1131.7	1151.8	0.555	3.559	74.972	18.722	1.970	0.066	0.124	0.007	0.008	0.016	0.000	0.000	0.000	0.000	1387.64	
9	0.5883	1010.7	1028.6	0.772	1.134	93.976	3.887	0.211	0.006	0.010	0.000	0.000	0.004	0.000	0.000	0.000	0.000	1341.07	
10	0.6494	1092.2	1111.6	0.474	2.371	81.785	14.398	0.890	0.026	0.046	0.002	0.002	0.005	0.000	0.000	0.000	0.000	1379.50	
11	0.6238	1066.0	1084.9	0.438	1.614	86.350	11.302	0.285	0.004	0.005	0.000	0.000	0.002	0.000	0.000	0.000	0.000	1373.55	
12	0.6701	1118.1	1137.9	0.420	2.821	77.734	17.799	1.107	0.034	0.066	0.005	0.005	0.009	0.000	0.000	0.000	0.000	1390.29	
13	0.6972	1145.9	1166.2	0.557	3.463	74.458	18.478	2.576	0.118	0.270	0.025	0.032	0.024	0.000	0.000	0.000	0.000	1396.64	
14	0.6949	1140.0	1160.2	0.608	3.531	74.336	18.908	2.321	0.086	0.166	0.011	0.012	0.021	0.000	0.000	0.000	0.000	1391.77	
15	0.6935	1138.4	1158.5	0.603	3.510	74.331	19.159	2.146	0.076	0.144	0.008	0.008	0.014	0.000	0.000	0.000	0.000	1391.18	
16	0.6618	1115.3	1135.0	0.208	2.543	78.500	18.182	0.535	0.011	0.017	0.001	0.001	0.003	0.000	0.000	0.000	0.000	1395.08	
17	0.6751	1115.7	1135.5	0.540	3.256	77.303	17.196	1.524	0.054	0.104	0.007	0.007	0.010	0.000	0.000	0.000	0.000	1382.03	
18	0.6854	1129.4	1149.4	0.531	3.409	75.771	18.090	1.926	0.072	0.153	0.014	0.017	0.018	0.000	0.000	0.000	0.000	1388.28	
19	0.6720	1113.9	1133.7	0.567	3.026	78.486	15.836	1.824	0.071	0.147	0.012	0.014	0.017	0.000	0.000	0.000	0.000	1382.98	
20	0.6791	1119.7	1139.6	0.635	3.241	77.027	17.006	1.861	0.067	0.128	0.009	0.010	0.016	0.000	0.000	0.000	0.000	1382.86	
21	0.6925	1136.8	1156.9	0.615	3.492	74.450	19.126	2.087	0.071	0.131	0.007	0.007	0.014	0.000	0.000	0.000	0.000	1390.29	
22	0.6937	1139.0	1159.2	0.613	3.474	74.238	19.312	2.135	0.072	0.131	0.006	0.006	0.013	0.000	0.000	0.000	0.000	1391.79	
23	0.6918	1136.1	1156.2	0.587	3.517	74.558	19.015	2.092	0.072	0.133	0.007	0.006	0.013	0.000	0.000	0.000	0.000	1390.04	
24	0.6918	1136.0	1156.2	0.593	3.503	74.691	18.796	2.170	0.076	0.142	0.008	0.007	0.014	0.000	0.000	0.000	0.000	1390.07	
25	0.6917	1135.8	1155.9	0.593	3.510	74.828	18.566	2.230	0.081	0.158	0.010	0.010	0.016	0.000	0.000	0.000	0.000	1389.84	
26	0.6888	1130.6	1150.7	0.599	3.549	75.062	18.563	2.014	0.067	0.122	0.006	0.006	0.013	0.000	0.000	0.000	0.000	1386.41	
27	0.6426	1076.5	1095.6	0.633	2.440	83.838	11.687	1.254	0.046	0.082	0.005	0.005	0.010	0.000	0.000	0.000	0.000	1366.87	
28	0.6575	1113.3	1133.0	0.302	2.112	79.706	17.185	0.634	0.021	0.029	0.004	0.003	0.006	0.000	0.000	0.000	0.000	1397.34	
29	0.6800	1127.3	1147.3	0.498	3.075	76.344	18.295	1.628	0.050	0.090	0.004	0.004	0.011	0.000	0.000	0.000	0.000	1391.37	
30	0.6888	1133.0	1153.0	0.584	3.425	75.060	18.707	2.018	0.065	0.117	0.005	0.005	0.013	0.000	0.000	0.000	0.000	1389.31	
Avg	0.6787	1123.0	1142.7	0.562	3.129	76.931	17.385	1.779	0.063	0.122	0.008	0.009	0.014	0.000	0.000	0.000	0.000	1387.15	

Zone 28

GQ Source Daily Summary

April 2012

Number: 271

Pressure Base: 14.730

Contract Day: 1

Name: DICKINSON BORDER

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	0.6834	1154.2	1174.6	0.000	2.519	73.795	23.132	0.554	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.88	
2	0.6835	1154.5	1174.9	0.000	2.513	73.772	23.160	0.555	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.08	
3	0.6835	1153.4	1173.8	0.000	2.576	73.775	23.090	0.558	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.79	
4	0.6651	1126.7	1146.6	0.122	2.279	77.643	19.477	0.480	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1405.71	
5	0.5796	999.4	1017.1	0.690	1.116	95.511	2.582	0.101	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1335.95	
6	0.5791	999.2	1016.9	0.676	1.103	95.581	2.554	0.087	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1336.28	
7	0.5795	1000.4	1018.1	0.684	1.054	95.523	2.643	0.097	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1337.45	
8	0.5843	1005.5	1023.3	0.713	1.152	94.579	3.430	0.126	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1338.70	
9	0.6823	1152.8	1173.2	0.000	2.499	74.031	22.917	0.552	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.28	
10	0.6826	1153.2	1173.6	0.000	2.506	73.974	22.954	0.566	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.45	
11	0.6822	1152.3	1172.7	0.000	2.520	74.041	22.891	0.548	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.81	
12	0.6832	1153.7	1174.2	0.000	2.526	73.853	23.057	0.563	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.53	
13	0.6674	1126.9	1146.8	0.109	2.510	77.135	19.738	0.510	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1403.65	
14	0.6439	1087.0	1106.3	0.276	2.466	82.079	14.719	0.454	0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1378.64	
15	0.6410	1080.6	1099.8	0.302	2.544	82.676	14.027	0.442	0.002	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1373.62	
16	0.6511	1100.4	1119.9	0.226	2.401	80.643	16.202	0.514	0.002	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1387.90	
17	0.6521	1104.0	1123.5	0.195	2.327	80.413	16.542	0.511	0.001	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1391.32	
18	0.6521	1103.3	1122.9	0.209	2.344	80.421	16.507	0.506	0.000	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1390.54	
19	0.6548	1107.9	1127.5	0.182	2.365	79.828	17.106	0.510	0.000	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1393.39	
20	0.6388	1084.5	1103.8	0.331	2.053	83.214	13.970	0.428	0.000	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1380.76	
21	0.5767	995.2	1012.8	0.753	1.007	96.164	1.986	0.090	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1333.62	
22	0.5767	996.5	1014.1	0.727	0.961	96.145	2.087	0.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1335.44	
23	0.5793	1000.2	1017.9	0.691	1.039	95.570	2.601	0.099	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1337.37	
24	0.5795	999.6	1017.3	0.694	1.089	95.509	2.624	0.084	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1336.36	
25	0.5803	1000.8	1018.5	0.687	1.100	95.376	2.723	0.113	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1337.03	
26	0.6705	1134.9	1155.0	0.077	2.362	76.480	20.591	0.490	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1410.27	
27	0.6821	1152.5	1172.9	0.000	2.500	74.038	22.936	0.526	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.15	
28	0.6811	1150.9	1171.3	0.003	2.489	74.263	22.715	0.529	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.33	
29	0.6826	1153.2	1173.7	0.000	2.494	73.968	22.996	0.542	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.62	
30	0.6835	1154.2	1174.7	0.000	2.526	73.784	23.128	0.561	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.81	
Avg	0.6421	1091.0	1110.6	0.278	2.031	82.459	14.836	0.392	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1385.59	

Zone 31

GQ Source Daily Summary

April 2012

Number: 051

Pressure Base: 14.730

Contract Day: 1

Name: CABIN CR-BISMARCK

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	0.6780	1141.9	1162.1	0.069	2.667	75.032	21.627	0.589	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1410.88	
2	0.6732	1131.1	1151.1	0.044	2.904	76.053	20.309	0.670	0.008	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1402.66	
3	0.6598	1107.0	1126.6	0.096	3.034	78.830	17.352	0.663	0.010	0.013	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1386.02	
4	0.6864	1159.1	1179.6	0.003	2.504	73.246	23.682	0.553	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.83	
5	0.6763	1143.5	1163.7	0.069	2.403	75.359	21.635	0.520	0.005	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1415.01	
6	0.6403	1090.3	1109.7	0.300	1.901	82.850	14.578	0.361	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1386.71	
7	0.6460	1098.9	1118.4	0.261	1.972	81.651	15.736	0.371	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1391.48	
8	0.6743	1140.9	1161.1	0.069	2.373	75.754	21.285	0.505	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.84	
9	0.5906	998.6	1016.3	0.686	2.215	93.298	3.540	0.225	0.013	0.019	0.002	0.001	0.001	0.000	0.000	0.000	0.000	1322.51	
10	0.5896	996.2	1013.9	0.575	2.440	93.362	3.351	0.235	0.014	0.019	0.002	0.001	0.001	0.000	0.000	0.000	0.000	1320.41	
11	0.5953	1008.7	1026.6	0.608	2.163	92.443	4.377	0.346	0.021	0.034	0.004	0.003	0.002	0.000	0.000	0.000	0.000	1330.53	
12	0.5906	995.2	1012.9	0.588	2.573	93.182	3.365	0.248	0.016	0.022	0.002	0.002	0.001	0.000	0.000	0.000	0.000	1317.99	
13	0.5947	999.7	1017.4	0.644	2.610	92.466	3.911	0.315	0.020	0.028	0.003	0.002	0.001	0.000	0.000	0.000	0.000	1319.21	
14	0.5970	1005.2	1023.0	0.632	2.505	92.038	4.424	0.343	0.021	0.030	0.003	0.002	0.001	0.000	0.000	0.000	0.000	1323.98	
15	0.6010	1019.4	1037.4	0.588	2.087	91.351	5.470	0.432	0.025	0.039	0.003	0.003	0.001	0.000	0.000	0.000	0.000	1338.12	
16	0.5909	1002.6	1020.4	0.479	2.323	93.063	3.820	0.271	0.017	0.023	0.002	0.002	0.001	0.000	0.000	0.000	0.000	1327.35	
17	0.5926	1005.3	1023.1	0.488	2.305	92.769	4.091	0.299	0.018	0.026	0.002	0.002	0.001	0.000	0.000	0.000	0.000	1328.98	
18	0.6552	1107.9	1127.5	0.181	2.413	79.810	17.054	0.511	0.011	0.017	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1392.37	
19	0.6837	1155.0	1175.5	0.009	2.495	73.787	23.147	0.549	0.005	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.55	
20	0.6845	1156.3	1176.8	0.001	2.500	73.592	23.368	0.526	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1422.36	
21	0.6847	1156.5	1177.0	0.004	2.500	73.571	23.384	0.530	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1422.40	
22	0.6849	1156.5	1177.0	0.005	2.519	73.524	23.404	0.535	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1422.19	
23	0.6650	1126.6	1146.6	0.150	2.242	77.716	19.411	0.469	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1406.01	
24	0.6413	1091.5	1110.8	0.302	1.923	82.661	14.728	0.376	0.004	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1387.07	
25	0.6323	1074.2	1093.3	0.365	2.028	84.543	12.699	0.348	0.006	0.008	0.001	0.001	0.001	0.000	0.000	0.000	0.000	1374.66	
26	0.5864	975.1	992.3	0.780	3.123	94.055	1.830	0.171	0.016	0.018	0.003	0.002	0.002	0.000	0.000	0.000	0.000	1295.80	
27	0.5990	1009.7	1027.6	0.692	2.318	91.953	4.459	0.484	0.033	0.048	0.006	0.005	0.004	0.000	0.000	0.000	0.000	1327.75	
28	0.5930	1001.6	1019.4	0.573	2.433	92.856	3.712	0.358	0.025	0.033	0.004	0.003	0.002	0.000	0.000	0.000	0.000	1323.73	
29	0.6116	1032.5	1050.8	0.522	2.379	89.071	7.539	0.421	0.024	0.032	0.004	0.003	0.003	0.000	0.000	0.000	0.000	1343.33	
30	0.6460	1093.7	1113.0	0.250	2.309	81.720	15.230	0.464	0.010	0.014	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1384.40	
Avg	0.6348	1073.0	1091.7	0.335	2.405	84.054	12.751	0.423	0.012	0.017	0.001	0.001	0.001	0.000	0.000	0.000	0.000	1369.44	

Zone 32

GQ Source Daily Summary

April 2012

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	0.6885	1162.6	1183.2	0.000	2.487	72.846	24.072	0.584	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1426.04	
2	0.6883	1162.0	1182.6	0.000	2.510	72.854	24.065	0.560	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.43	
3	0.6879	1161.6	1182.2	0.000	2.499	72.947	23.970	0.573	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.34	
4	0.6877	1161.3	1181.8	0.000	2.497	72.991	23.931	0.569	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.16	
5	0.6866	1160.1	1180.7	0.000	2.468	73.206	23.749	0.566	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.84	
6	0.6866	1160.0	1180.5	0.000	2.474	73.197	23.764	0.554	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.71	
7	0.6868	1160.4	1181.0	0.000	2.463	73.177	23.778	0.569	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.08	
8	0.6870	1160.6	1181.2	0.000	2.479	73.117	23.832	0.561	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.00	
9	0.6868	1160.1	1180.6	0.000	2.490	73.147	23.805	0.547	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.57	
10	0.6870	1160.4	1181.0	0.000	2.486	73.111	23.840	0.552	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.82	
11	0.6870	1160.1	1180.6	0.000	2.509	73.109	23.816	0.555	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.37	
12	0.6877	1161.2	1181.8	0.011	2.492	73.001	23.913	0.566	0.006	0.008	0.001	0.001	0.001	0.000	0.000	0.000	0.000	1425.15	
13	0.6875	1161.1	1181.7	0.000	2.491	73.027	23.898	0.574	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.16	
14	0.6875	1161.1	1181.7	0.000	2.486	73.048	23.872	0.582	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.21	
15	0.6868	1160.2	1180.8	0.000	2.483	73.155	23.792	0.560	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.74	
16	0.6869	1160.2	1180.7	0.000	2.493	73.150	23.770	0.576	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.61	
17	0.6865	1159.5	1180.1	0.000	2.488	73.233	23.703	0.564	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.29	
18	0.6863	1159.1	1179.6	0.000	2.496	73.265	23.674	0.554	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.97	
19	0.6864	1159.6	1180.1	0.000	2.482	73.228	23.730	0.549	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.39	
20	0.6865	1159.5	1180.0	0.000	2.499	73.187	23.769	0.535	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.15	
21	0.6868	1159.8	1180.3	0.000	2.509	73.149	23.773	0.559	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.21	
22	0.6880	1161.2	1181.8	0.000	2.531	72.921	23.963	0.573	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.76	
23	0.6878	1160.8	1181.3	0.000	2.536	72.987	23.873	0.593	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.47	
24	0.6880	1161.5	1182.1	0.000	2.514	72.979	23.879	0.611	0.006	0.010	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1425.11	
25	0.6879	1161.4	1182.0	0.000	2.508	72.955	23.947	0.579	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.12	
26	0.6867	1159.7	1180.2	0.000	2.502	73.148	23.810	0.530	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.26	
27	0.6871	1160.6	1181.1	0.000	2.486	73.089	23.870	0.544	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.90	
28	0.6872	1160.7	1181.2	0.000	2.488	73.055	23.912	0.534	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.93	
29	0.6879	1161.3	1181.9	0.000	2.513	72.930	23.994	0.553	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.00	
30	0.6879	1161.2	1181.8	0.000	2.522	72.924	23.997	0.547	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.89	
Avg	0.6872	1161.0	1181.2	0.000	2.496	73.071	23.859	0.562	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.82	

Zone 33

GQ Source Daily Summary

April 2012

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	0.8079	1024.6	1042.7	2.067	19.014	50.721	25.211	2.594	0.080	0.250	0.013	0.039	0.011	0.000	0.000	0.000	0.000	1160.07	
2	0.7921	1115.7	1135.5	2.029	12.020	54.698	28.458	2.492	0.067	0.201	0.009	0.023	0.004	0.000	0.000	0.000	0.000	1275.80	
3	0.7917	1122.5	1142.4	1.995	11.617	54.868	28.687	2.508	0.072	0.215	0.009	0.024	0.005	0.000	0.000	0.000	0.000	1283.93	
4	0.7913	1115.1	1134.8	2.032	11.978	54.678	28.686	2.342	0.063	0.188	0.008	0.021	0.004	0.000	0.000	0.000	0.000	1275.75	
5	0.7932	1121.9	1141.8	2.075	11.668	54.523	28.984	2.462	0.064	0.191	0.008	0.021	0.004	0.000	0.000	0.000	0.000	1282.07	
6	0.7874	1117.0	1136.8	2.059	11.454	55.463	28.492	2.269	0.059	0.174	0.008	0.020	0.003	0.000	0.000	0.000	0.000	1281.08	
7	0.7907	1113.1	1132.8	2.320	11.605	55.103	28.372	2.334	0.060	0.176	0.008	0.020	0.004	0.000	0.000	0.000	0.000	1273.96	
8	0.8014	1065.4	1084.2	2.193	15.722	52.352	26.964	2.461	0.068	0.204	0.009	0.023	0.004	0.000	0.000	0.000	0.000	1211.23	
9	0.7946	1107.0	1126.7	2.098	12.678	54.082	28.410	2.434	0.066	0.197	0.008	0.022	0.004	0.000	0.000	0.000	0.000	1264.03	
10	0.7966	1109.6	1129.3	2.129	12.663	53.847	28.513	2.529	0.071	0.212	0.009	0.024	0.004	0.000	0.000	0.000	0.000	1265.29	
11	0.7954	1117.9	1137.7	2.183	11.955	54.396	28.509	2.619	0.075	0.223	0.010	0.025	0.005	0.000	0.000	0.000	0.000	1275.70	
12	0.7952	1071.6	1090.5	1.648	15.585	52.957	27.209	2.291	0.068	0.205	0.009	0.025	0.005	0.000	0.000	0.000	0.000	1223.30	
13	0.7866	1127.8	1147.7	1.727	11.221	55.518	28.878	2.355	0.067	0.198	0.009	0.023	0.005	0.000	0.000	0.000	0.000	1294.13	
14	0.7875	1134.8	1154.9	1.656	10.985	55.417	29.174	2.464	0.069	0.201	0.009	0.022	0.004	0.000	0.000	0.000	0.000	1301.41	
15	0.7874	1132.2	1152.3	1.667	11.117	55.416	29.035	2.460	0.069	0.201	0.009	0.022	0.004	0.000	0.000	0.000	0.000	1298.55	
16	0.7855	1132.5	1152.6	1.543	11.109	55.480	29.290	2.294	0.065	0.187	0.008	0.020	0.004	0.000	0.000	0.000	0.000	1300.47	
17	0.7873	1128.0	1147.9	1.700	11.313	55.472	28.727	2.485	0.069	0.201	0.009	0.022	0.004	0.000	0.000	0.000	0.000	1293.77	
18	0.7877	1135.7	1155.8	1.545	11.117	55.179	29.448	2.417	0.067	0.195	0.008	0.021	0.004	0.000	0.000	0.000	0.000	1302.31	
19	0.8023	1093.3	1112.6	2.815	13.149	53.448	27.593	2.662	0.075	0.220	0.009	0.024	0.004	0.000	0.000	0.000	0.000	1242.35	
20	0.8001	1086.7	1106.0	2.276	14.165	53.474	26.851	2.865	0.082	0.245	0.010	0.026	0.005	0.000	0.000	0.000	0.000	1236.64	
21	0.7896	1109.7	1129.4	2.016	12.163	55.097	27.987	2.456	0.063	0.186	0.008	0.021	0.003	0.000	0.000	0.000	0.000	1271.05	
22	0.7934	1113.0	1132.7	2.194	12.054	54.643	28.271	2.535	0.067	0.201	0.009	0.024	0.004	0.000	0.000	0.000	0.000	1271.70	
23	0.7942	1093.6	1113.0	2.126	13.417	54.387	27.060	2.678	0.073	0.220	0.009	0.025	0.005	0.000	0.000	0.000	0.000	1249.15	
24	0.7887	1121.2	1141.0	1.875	11.602	55.169	28.672	2.397	0.064	0.189	0.008	0.021	0.004	0.000	0.000	0.000	0.000	1284.80	
25	0.7860	1110.9	1130.6	1.940	11.869	55.782	27.700	2.419	0.065	0.191	0.008	0.022	0.004	0.000	0.000	0.000	0.000	1275.30	
26	0.7876	1113.9	1133.7	2.029	11.705	55.345	28.401	2.259	0.059	0.173	0.007	0.019	0.003	0.000	0.000	0.000	0.000	1277.40	
27	0.7882	1115.5	1135.2	2.150	11.479	55.411	28.416	2.281	0.059	0.174	0.007	0.019	0.003	0.000	0.000	0.000	0.000	1278.70	
28	0.7952	1123.0	1142.9	2.282	11.471	54.851	28.181	2.894	0.073	0.214	0.009	0.023	0.004	0.000	0.000	0.000	0.000	1281.69	
29	0.7948	1115.2	1134.9	2.350	11.809	55.341	26.976	3.132	0.085	0.254	0.012	0.032	0.010	0.000	0.000	0.000	0.000	1272.93	
30	0.7917	1113.3	1133.0	2.320	11.679	55.422	27.530	2.709	0.076	0.226	0.010	0.025	0.004	0.000	0.000	0.000	0.000	1273.41	
Avg	0.7924	1110.0	1129.7	2.035	12.379	54.618	28.156	2.503	0.069	0.204	0.009	0.023	0.004	0.000	0.000	0.000	0.000	1269.27	

Zone 34

GQ Source Analysis

Williston Basin Interstate Pipeline Co.

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

	<u>Mol %</u>	<u>Liquid Content</u>			<u>Mol %</u>	
C1	Methane	95.931		CO2	Carbon Dioxide	0.106
C2	Ethane	0.312	0.0833	N2	Nitrogen	3.634
C3	Propane	0.009	0.0026	O2	Oxygen	0.000
IC4	Isobutane	0.007	0.0024	He	Helium	
NC4	n-Butane	0.000	0.0000	H2	Hydrogen	
IC5	Isopentane	0.000	0.0000	H2S	Hydrogen Sulfide	
NC5	n-Pentane	0.000	0.0000	Ar	Argon	
C6	Hexanes	0.000	0.0000	CO	Carbon Monoxide	
C7	Heptanes			H2	Water	
C8	Octanes			Neo-C5	Neopentane	
C9	Nonanes					
C10	Decanes					
Totals		100.000%		0.088 GPM		

Sample Date: 6/22/2011 12:00:00 AM
Sample Type: Composite
Sample Tech: sampler
H2S: ppm

Sample Remarks:

Analysis Tech: Mary Berger

Analysis Remarks:

Zone 35

NORTH DAKOTA HEATING VALUE ZONES		
ZONES	MEASURING DEVICE	LOCATION
211	Chromatograph	Sidney Area
24	Chromatograph	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	Chromatograph	Williston – Ray
271	Chromatograph	Bismarck – Cleveland
272	Chromatograph	Cleveland – Mapleton
273	Chromatograph	Cleveland – Grafton
28	Chromatograph	Bismarck
31	Chromatograph	Dickinson
32	Chromatograph	Cabin Creek – Dickinson
33	Chromatograph	Killdeer
34	Chromatograph	Bowman Area
35	Yearly Sampler	Baker Field – North Dakota

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

STATE	ZONE	ZONE BOUNDARY	12 MONTH AVERAGE	APR 12	MAR 12	FEB 12	JAN 12	DEC 11	NOV 11	OCT 11	SEPT 11	AUG 11	JULY 11	JUNE 11	MAY 11	ZONE
MT/ND	211	Sidney Area	1207	1196	1199	1206	1210	1212	1215	1212	1199	1204	1215	1205	1206	211
ND	24	Williston Area	1197	1194	1199	1195	1184	1199	1203	1197	1200	1200	1198	1197	1196	24
ND	25	Watford City Area	1135	1139	1138	1132	1140	1140	1131	1129	1136	1136	1135	1140	1128	25
ND/MT	241	Fairview Area	1195	1185	1189	1193	1194	1194	1201	1198	1200	1200	1199	1193	1193	241
ND	261	Williston - Tioga - Minot Line	1160	1155	1162	1156	1160	1163	1166	1158	1144	1159	1176	1165	1159	261
ND	262	Minot Area	1164	1157	1162	1158	1161	1165	1168	1163	1160	1161	1179	1168	1161	262
ND	263	Tioga - Portal	1103	1099	1135	1081	1075	1074	1092	1126	1128	1128	1126	1082	1093	263
ND	264	Williston - Ray	1197	1194	1199	1195	1184	1199	1203	1197	1200	1200	1198	1197	1196	264
ND	271	Bismarck - Cleveland	1151	1157	1154	1123	1124	1130	1148	1161	1159	1160	1177	1166	1152	271
ND	272	Cleveland - Mapleton	1150	1156	1153	1121	1122	1129	1148	1161	1159	1160	1179	1166	1151	272
ND	273	Cleveland - Grafton	1151	1157	1153	1121	1123	1129	1148	1162	1159	1160	1179	1167	1151	273
ND	28	Bismarck - Cabin Creek	1126	1143	1117	1065	1073	1078	1084	1148	1160	1160	1180	1166	1139	28
ND	31	Dickinson Area	1112	1111	1114	1064	1072	1077	1081	1138	1162	1152	1135	1123	1109	31
ND/MT	32	Cabin Creek - Dickinson	1093	1092	1047	1044	1057	1063	1061	1100	1156	1126	1133	1153	1080	32
ND	33	Killdeer	1181	1181	1183	1182	1179	1183	1181	1181	1181	1181	1182	1183	1180	33
ND	34	Bowman Area	1136	1130	1126	1126	1147	1129	1117	1139	1132	1138	1144	1149	1153	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**

April 2012

<i>ZONE</i>	<i>BTU VARIANCE</i>	<i>REASON</i>
263	-36	Mix of Gas in the area
28	26	Mix of Gas in the area
32	45	Mix of Gas in the area