



MONTANA-DAKOTA

UTILITIES CO.

A Division of MDU Resources Group, Inc.

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

July 2, 2012

RECEIVED

JUL 03 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 – May 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 June 2012.
2. Attachment B consists of copies of the monthly Heating Value Test Reports received from our supplier for the month of May 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 May 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

MONTANA-DAKOTA UTILITIES CO.
Therm Billing Factor
JUNE 2012

Div Nbr	Off Code	City Name	Heat Zone Nbr	Therm Billing Factor
12	314	APPLE VALLEY	271	1.1164
12	323	BERTHOLD	262	1.0947
12	327	BISMARCK	28	1.1164
12	337	BURLINGTON	262	1.1183
12	343	CARRINGTON	273	1.1174
12	344	CLEVELAND	272	1.1095
12	364	CAVALIER	273	1.1409
12	365	DAWSON	271	1.1085
12	368	DES LACS	262	1.1026
12	374	FT TOTTEN	273	1.1252
12	375	DEVILS LAKE	273	1.1252
12	379	BARLOW	273	1.1174
12	387	ELDRIDGE	272	1.1174
12	411	GLEN ULLIN	31	1.0106
12	416	GARRISON	262	1.1026
12	417	GRAFTON	273	1.1487
12	439	HANKINSON	600	1.0877
12	449	JAMESTOWN	272	1.1252
12	463	LANGDON	273	1.1174
12	475	LINTON	802	.9823
12	478	LINCOLN	28	1.1164
12	494	MEDINA	271	1.1085
12	498	MANDAN	28	1.1164
12	505	MINOT	262	1.1183
12	512	MAX	262	1.0947
12	524	NEW SALEM	28	1.0928
12	532	NEW ROCKFORD	273	1.1174
12	539	PARK RIVER	273	1.1409
12	572	RUTHVILLE	262	1.1183
12	574	SANBORN	272	1.1252
12	593	STEELE	271	1.1085
12	598	SHEYENNE	273	1.1252
12	605	SURREY	262	1.1183
12	610	TAPPEN	271	1.1085
12	619	TURTLE LAKE	262	1.1026

MONTANA-DAKOTA UTILITIES CO.
Therm Billing Factor
JUNE 2012

Div Nbr	Off Code	City Name	Heat Zone Nbr	Therm Billing Factor
12	624	UNDERWOOD	262	1.1026
12	625	VALLEY CITY	272	1.1330
12	629	WALHALLA	273	1.1409
12	646	WASHBURN	262	1.1104
12	647	WILTON	262	1.0947
12	664	RIVERDALE	262	1.1026
12	712	MINOT AFB	262	1.1183
12	717	SPIRITWOOD	272	1.1252
12	718	FAIRMOUNT	600	1.0855
12	732	MSR SITE	273	1.1174
12	733	PAR SITE	273	1.1174
15	303	ALEXANDER	25	1.0947
15	308	ARNEGARD	25	1.0947
15	318	BEACH	32	1.0553
15	319	BELFIELD	32	1.0631
15	330	BOWMAN	34	1.0402
15	369	DICKINSON	31	1.0033
15	384	EPPING	264	1.1296
15	407	GLADSTONE	31	1.0033
15	413	GOLVA	32	1.0399
15	429	HEBRON	31	1.0106
15	459	KILLDEER	33	1.1155
15	469	LEFOR	31	1.0033
15	474	LIGNITE	263	1.0712
15	500	MARMARTH	34	1.0479
15	510	MOTT	31	1.0033
15	522	NEW ENGLAND	31	.9961
15	540	PALERMO	262	1.0947
15	558	RAY	264	1.1296
15	561	REGENT	31	1.0033
15	563	RHAME	34	1.0326
15	564	RICHARDTON	31	.9961
15	568	ROSS	261	1.0849
15	583	SENTINEL BUTTE	32	1.0553
15	588	SOUTH HEART	31	.9961

MONTANA-DAKOTA UTILITIES CO.
Therm Billing Factor
JUNE 2012

Div Nbr	Off Code	City Name	Heat Zone Nbr	Therm Billing Factor
15	590	SPRINGBROOK	264	1.1296
15	591	STANLEY	261	1.0928
15	611	TAYLOR	31	.9961
15	616	TIOGA	261	1.0849
15	620	TRENTON	24	1.1378
15	632	WATFORD CITY	25	1.0947
15	636	WHEELLOCK	264	1.1215
15	637	WHITE EARTH	261	1.0928
15	642	WILLISTON	24	1.1378
15	691	FAIRVIEW	241	1.1263
15	743	BAKER FIELD	35	.8980

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

GQ Source Daily Summary

May 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	0.7279	1170.8	1191.6	1.148	3.933	69.234	21.952	3.332	0.132	0.243	0.014	0.011	0.001	0.000	0.000	0.000	0.000	1396.62	
2	0.7271	1170.2	1191.0	1.135	3.914	69.272	22.068	3.210	0.132	0.245	0.013	0.011	0.001	0.000	0.000	0.000	0.000	1396.68	
3	0.7278	1170.7	1191.4	1.158	3.911	69.222	22.039	3.262	0.134	0.247	0.014	0.011	0.001	0.000	0.000	0.000	0.000	1396.63	
4	0.7289	1172.4	1193.1	1.156	3.917	69.111	22.041	3.358	0.137	0.254	0.014	0.011	0.001	0.000	0.000	0.000	0.000	1397.53	
5	0.7272	1169.2	1189.9	1.160	3.943	69.325	21.911	3.261	0.132	0.244	0.013	0.010	0.001	0.000	0.000	0.000	0.000	1395.42	
6	0.7280	1170.8	1191.6	1.160	3.921	69.145	22.130	3.248	0.131	0.240	0.013	0.011	0.001	0.000	0.000	0.000	0.000	1396.57	
7	0.7238	1176.6	1197.5	0.760	3.789	69.267	22.793	3.087	0.101	0.185	0.010	0.008	0.001	0.000	0.000	0.000	0.000	1407.55	
8	0.7300	1173.8	1194.6	1.162	3.930	68.911	22.183	3.401	0.136	0.250	0.014	0.011	0.001	0.000	0.000	0.000	0.000	1398.11	
9	0.7303	1174.0	1194.8	1.160	3.945	68.997	21.968	3.494	0.142	0.266	0.015	0.012	0.001	0.000	0.000	0.000	0.000	1398.11	
10	0.7282	1170.9	1191.7	1.162	3.935	69.121	22.125	3.249	0.134	0.248	0.014	0.011	0.001	0.000	0.000	0.000	0.000	1396.44	
11	0.7295	1173.0	1193.8	1.158	3.932	69.009	22.107	3.372	0.139	0.258	0.014	0.011	0.001	0.000	0.000	0.000	0.000	1397.74	
12	0.7306	1174.9	1195.7	1.156	3.929	68.942	22.038	3.488	0.146	0.272	0.015	0.013	0.001	0.000	0.000	0.000	0.000	1398.82	
13	0.7298	1173.4	1194.2	1.155	3.943	69.074	21.919	3.461	0.146	0.273	0.015	0.012	0.001	0.000	0.000	0.000	0.000	1397.87	
14	0.7292	1172.2	1192.9	1.160	3.955	69.056	22.046	3.362	0.138	0.257	0.014	0.011	0.001	0.000	0.000	0.000	0.000	1396.98	
15	0.7286	1171.2	1192.0	1.161	3.953	69.109	22.061	3.298	0.136	0.254	0.014	0.012	0.001	0.000	0.000	0.000	0.000	1396.43	
16	0.7295	1172.7	1193.4	1.163	3.948	69.028	22.044	3.395	0.136	0.256	0.015	0.012	0.001	0.000	0.000	0.000	0.000	1397.26	
17	0.7284	1170.9	1191.6	1.163	3.950	69.160	21.999	3.316	0.134	0.251	0.014	0.011	0.001	0.000	0.000	0.000	0.000	1396.25	
18	0.7276	1170.1	1190.8	1.153	3.941	69.297	21.883	3.320	0.133	0.245	0.014	0.012	0.001	0.000	0.000	0.000	0.000	1396.05	
19	0.7292	1172.7	1193.4	1.153	3.937	69.044	22.061	3.400	0.133	0.246	0.014	0.011	0.001	0.000	0.000	0.000	0.000	1397.55	
20	0.7301	1174.1	1194.9	1.153	3.928	68.922	22.162	3.417	0.136	0.254	0.015	0.012	0.001	0.000	0.000	0.000	0.000	1398.45	
21	0.7308	1175.4	1196.2	1.138	3.938	68.867	22.138	3.487	0.140	0.263	0.015	0.013	0.001	0.000	0.000	0.000	0.000	1399.31	
22	0.7291	1172.4	1193.1	1.150	3.951	69.051	22.056	3.381	0.134	0.249	0.014	0.011	0.001	0.000	0.000	0.000	0.000	1397.27	
23	0.7428	1194.6	1215.8	1.133	3.891	68.085	21.588	4.607	0.129	0.425	0.027	0.023	0.003	0.000	0.000	0.000	0.000	1410.55	
24	0.7299	1173.7	1194.5	1.151	3.939	69.018	22.024	3.425	0.145	0.271	0.015	0.012	0.001	0.000	0.000	0.000	0.000	1398.13	
25	0.7271	1171.2	1192.0	1.097	3.911	69.161	22.265	3.193	0.123	0.227	0.013	0.010	0.001	0.000	0.000	0.000	0.000	1397.88	
26	0.7275	1169.7	1190.5	1.157	3.952	69.165	22.122	3.225	0.125	0.230	0.013	0.010	0.001	0.000	0.000	0.000	0.000	1395.67	
27	0.7277	1170.2	1191.0	1.153	3.946	69.166	22.100	3.249	0.127	0.236	0.013	0.011	0.001	0.000	0.000	0.000	0.000	1396.09	
28	0.7279	1170.7	1191.5	1.154	3.926	69.114	22.194	3.231	0.125	0.232	0.013	0.011	0.001	0.000	0.000	0.000	0.000	1396.56	
29	0.7285	1171.8	1192.5	1.156	3.925	69.022	22.240	3.272	0.126	0.234	0.013	0.011	0.001	0.000	0.000	0.000	0.000	1397.12	
30	0.7287	1172.0	1192.7	1.155	3.925	69.014	22.238	3.281	0.127	0.235	0.013	0.011	0.001	0.000	0.000	0.000	0.000	1397.26	
31	0.7295	1173.5	1194.3	1.155	3.911	68.905	22.306	3.328	0.129	0.241	0.014	0.011	0.001	0.000	0.000	0.000	0.000	1398.26	
Avg	0.7291	1173.0	1193.7	1.140	3.928	69.059	22.090	3.368	0.136	0.253	0.014	0.012	0.001	0.000	0.000	0.000	0.000	1397.97	

Zone 211

GQ Source Daily Summary

May 2012

Number: 372

Pressure Base: 14.730

Contract Day: 1

Name: NESSON PLANT-WILLISTON STATION

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	0.7312	1175.6	1196.4	1.178	3.909	68.729	22.342	3.419	0.136	0.261	0.014	0.011	0.001	0.000	0.000	0.000	0.000	0.000	1399.09
2	0.7309	1175.0	1195.8	1.179	3.908	68.769	22.328	3.401	0.133	0.256	0.014	0.011	0.001	0.000	0.000	0.000	0.000	0.000	1398.77
3	0.7294	1173.6	1194.4	1.156	3.896	68.888	22.392	3.252	0.134	0.256	0.014	0.011	0.001	0.000	0.000	0.000	0.000	0.000	1398.48
4	0.7307	1175.0	1195.8	1.183	3.892	68.747	22.424	3.328	0.137	0.262	0.014	0.011	0.001	0.000	0.000	0.000	0.000	0.000	1398.86
5	0.7307	1175.0	1195.8	1.178	3.896	68.807	22.318	3.369	0.138	0.266	0.014	0.012	0.001	0.000	0.000	0.000	0.000	0.000	1398.88
6	0.7294	1172.5	1193.3	1.183	3.918	68.960	22.228	3.293	0.134	0.258	0.014	0.011	0.002	0.000	0.000	0.000	0.000	0.000	1397.21
7	0.7302	1174.1	1194.9	1.180	3.903	68.777	22.446	3.284	0.133	0.253	0.013	0.010	0.001	0.000	0.000	0.000	0.000	0.000	1398.30
8	0.7309	1175.2	1196.0	1.165	3.924	68.724	22.390	3.375	0.137	0.260	0.014	0.011	0.001	0.000	0.000	0.000	0.000	0.000	1398.93
9	0.7311	1175.1	1195.9	1.183	3.922	68.735	22.337	3.396	0.138	0.263	0.014	0.011	0.001	0.000	0.000	0.000	0.000	0.000	1398.60
10	0.7304	1173.7	1194.5	1.189	3.932	68.792	22.350	3.311	0.137	0.262	0.014	0.011	0.001	0.000	0.000	0.000	0.000	0.000	1397.66
11	0.7319	1176.4	1197.2	1.184	3.917	68.663	22.343	3.446	0.143	0.276	0.015	0.012	0.001	0.000	0.000	0.000	0.000	0.000	1399.39
12	0.7321	1176.9	1197.7	1.182	3.904	68.582	22.475	3.425	0.140	0.268	0.014	0.011	0.001	0.000	0.000	0.000	0.000	0.000	1399.85
13	0.7331	1178.9	1199.8	1.175	3.891	68.439	22.571	3.478	0.143	0.274	0.015	0.012	0.001	0.000	0.000	0.000	0.000	0.000	1401.21
14	0.7314	1175.5	1196.3	1.183	3.922	68.781	22.231	3.423	0.147	0.283	0.016	0.013	0.002	0.000	0.000	0.000	0.000	0.000	1398.82
15	0.7321	1176.5	1197.3	1.179	3.935	68.700	22.223	3.505	0.147	0.282	0.016	0.012	0.002	0.000	0.000	0.000	0.000	0.000	1399.32
16	0.7318	1176.1	1196.9	1.183	3.920	68.612	22.461	3.389	0.140	0.266	0.015	0.012	0.002	0.000	0.000	0.000	0.000	0.000	1399.22
17	0.7301	1173.1	1193.9	1.185	3.945	68.870	22.256	3.311	0.138	0.266	0.015	0.012	0.002	0.000	0.000	0.000	0.000	0.000	1397.22
18	0.7312	1176.6	1197.4	1.135	3.909	68.915	21.985	3.619	0.142	0.268	0.014	0.012	0.002	0.000	0.000	0.000	0.000	0.000	1400.35
19	0.7310	1173.9	1194.7	1.184	3.978	68.796	22.197	3.407	0.139	0.269	0.015	0.012	0.002	0.000	0.000	0.000	0.000	0.000	1397.35
20	0.7306	1174.8	1195.6	1.179	3.898	68.822	22.299	3.376	0.137	0.261	0.015	0.012	0.002	0.000	0.000	0.000	0.000	0.000	1398.73
21	0.7307	1174.8	1195.6	1.176	3.910	68.763	22.369	3.363	0.135	0.257	0.014	0.011	0.002	0.000	0.000	0.000	0.000	0.000	1398.71
22	0.7308	1177.8	1198.7	1.148	3.772	68.878	22.286	3.502	0.135	0.254	0.013	0.010	0.001	0.000	0.000	0.000	0.000	0.000	1402.28
23	0.6999	1160.0	1180.6	0.843	2.411	75.245	17.303	3.898	0.113	0.181	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1411.18
24	0.7289	1182.8	1203.8	1.069	3.406	69.819	21.266	3.967	0.155	0.291	0.014	0.011	0.001	0.000	0.000	0.000	0.000	0.000	1410.02
25	0.7355	1182.4	1203.4	1.168	3.905	68.368	22.299	3.742	0.164	0.321	0.018	0.014	0.002	0.000	0.000	0.000	0.000	0.000	1403.15
26	0.7298	1173.0	1193.8	1.181	3.932	68.735	22.560	3.196	0.127	0.243	0.014	0.011	0.002	0.000	0.000	0.000	0.000	0.000	1397.39
27	0.7294	1172.3	1193.1	1.181	3.929	68.880	22.366	3.249	0.128	0.243	0.013	0.010	0.001	0.000	0.000	0.000	0.000	0.000	1397.01
28	0.7299	1173.3	1194.1	1.178	3.922	68.790	22.450	3.265	0.128	0.243	0.013	0.010	0.001	0.000	0.000	0.000	0.000	0.000	1397.68
29	0.7296	1174.6	1195.4	1.161	3.841	68.958	22.275	3.361	0.131	0.249	0.013	0.010	0.001	0.000	0.000	0.000	0.000	0.000	1399.51
30	0.7302	1174.2	1195.0	1.179	3.904	68.726	22.524	3.268	0.128	0.246	0.013	0.010	0.001	0.000	0.000	0.000	0.000	0.000	1398.35
31	0.7301	1174.9	1195.7	1.169	3.861	68.692	22.665	3.220	0.126	0.243	0.013	0.011	0.001	0.000	0.000	0.000	0.000	0.000	1399.37
Avg	0.7298	1175.0	1195.8	1.161	3.842	68.999	22.160	3.414	0.137	0.261	0.014	0.011	0.001	0.000	0.000	0.000	0.000	0.000	1399.71

Zone 24, 264

GQ Source Analysis

Williston Basin Interstate Pipeline Co.

GQ Source Number:	0602160	Specific Gravity:	0.7241
GQ Source Name:	FAIRVIEW BORDER	Dry Heat Value:	1183.65
Effective Date:	5/1/2012 9:00:00 AM	Wet Heat Value:	1163.05
Effective End Date:	1/18/2038 9:14:07 PM	As Deliv. Heat Value:	1183.65
Pressure Base:	14.730	Sample Pressure:	0.00
Viscosity:		Sample Temperature:	

		<u>Mol %</u>	<u>Liquid Content</u>			<u>Mol %</u>
C1	Methane	69.697		CO2	Carbon Dioxide	1.164
C2	Ethane	21.410	0.0000	N2	Nitrogen	3.992
C3	Propane	3.326	0.9138	O2	Oxygen	0.000
IC4	Isobutane	0.134	0.0439	He	Helium	
NC4	n-Butane	0.252	0.0794	H2	Hydrogen	
IC5	Isopentane	0.013	0.0049	H2S	Hydrogen Sulfide	
NC5	n-Pentane	0.011	0.0038	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%	1.046 GPM
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Sample Date: 5/31/2012 12:00:00 AM
Sample Type: Composite
Sample Tech: Sampler
H2S: ppm

Sample Remarks:

Analysis Tech: Kevin Moos

Analysis Remarks:

Zone 241

GQ Source Analysis

Williston Basin Interstate Pipeline Co.

GQ Source Number:	0602230	Specific Gravity:	0.7276
GQ Source Name:	WATFORD CITY BORDER	Dry Heat Value:	1159.03
Effective Date:	5/1/2012 9:00:00 AM	Wet Heat Value:	1138.86
Effective End Date:	1/18/2038 9:14:07 PM	As Deliv. Heat Value:	1159.03
Pressure Base:	14.730	Sample Pressure:	0.00
Viscosity:		Sample Temperature:	

	<u>Mol %</u>	<u>Liquid Content</u>		<u>Mol %</u>
C1 Methane	69.066		CO2 Carbon Dioxide	1.033
C2 Ethane	19.727	5.2600	N2 Nitrogen	6.002
C3 Propane	3.685	1.0122	O2 Oxygen	0.000
IC4 Isobutane	0.157	0.0512	He Helium	
NC4 n-Butane	0.292	0.0919	H2 Hydrogen	
IC5 Isopentane	0.019	0.0069	H2S Hydrogen Sulfide	
NC5 n-Pentane	0.017	0.0061	Ar Argon	
C6 Hexanes	0.003	0.0013	CO Carbon Monoxide	
C7 Heptanes			H2 Water	
C8 Octanes			Neo-C5 Neopentane	
C9 Nonanes				
C10 Decanes				
Totals		100.000%	6.430 GPM	

Sample Date: 5/31/2012 12:00:00 AM
Sample Type: Composite
Sample Tech: Sampler
H2S: ppm

Sample Remarks:

Analysis Tech: Kevin Moos

Analysis Remarks:

zone 25

GQ Source Daily Summary

May 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	ICS	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6891	1132.3	1152.4	0.555	3.535	74.959	18.690	2.067	0.065	0.115	0.006	0.005	0.002					1388.24	
2	0.6883	1131.0	1151.0	0.547	3.553	75.092	18.591	2.018	0.064	0.115	0.007	0.007	0.006					1387.40	
3	0.6890	1132.5	1152.5	0.550	3.531	74.911	18.805	2.008	0.064	0.115	0.006	0.006	0.003					1388.43	
4	0.6919	1137.1	1157.3	0.558	3.501	74.406	19.270	2.066	0.066	0.119	0.006	0.006	0.001					1391.30	
5	0.6912	1135.9	1156.0	0.563	3.511	74.586	19.044	2.084	0.070	0.127	0.007	0.006	0.002					1390.40	
6	0.6903	1133.4	1153.4	0.573	3.555	74.811	18.788	2.028	0.074	0.143	0.010	0.011	0.005					1388.32	
7	0.6923	1136.8	1157.0	0.567	3.540	74.563	18.949	2.098	0.082	0.164	0.013	0.015	0.009					1390.55	
8	0.6905	1134.9	1155.0	0.546	3.526	74.884	18.629	2.158	0.079	0.152	0.010	0.010	0.005					1389.96	
9	0.6879	1129.7	1149.7	0.512	3.649	75.096	18.603	1.899	0.070	0.141	0.011	0.012	0.008					1386.22	
10	0.6894	1132.9	1153.0	0.523	3.574	75.177	18.267	2.177	0.082	0.166	0.012	0.014	0.008					1388.64	
11	0.6913	1135.4	1155.5	0.548	3.565	74.954	18.408	2.199	0.087	0.180	0.018	0.023	0.018					1389.73	
12	0.6920	1137.3	1157.5	0.544	3.518	74.475	19.114	2.139	0.070	0.123	0.006	0.005	0.006					1391.47	
13	0.6911	1137.1	1157.2	0.517	3.495	74.615	19.033	2.133	0.068	0.121	0.006	0.005	0.007					1392.00	
14	0.6910	1136.1	1156.3	0.507	3.555	74.685	18.881	2.140	0.074	0.137	0.007	0.007	0.007					1390.98	
15	0.6889	1134.2	1154.3	0.511	3.468	74.933	18.871	2.025	0.064	0.113	0.005	0.005	0.006					1390.77	
16	0.6927	1138.8	1159.0	0.522	3.524	74.418	19.176	2.084	0.076	0.156	0.013	0.016	0.014					1392.60	
17	0.6916	1140.2	1160.4	0.489	3.390	74.864	18.684	2.273	0.083	0.173	0.014	0.017	0.014					1395.34	
18	0.6909	1138.3	1158.5	0.483	3.446	75.023	18.448	2.292	0.086	0.179	0.014	0.017	0.011					1393.74	
19	0.6894	1135.5	1155.6	0.497	3.455	75.163	18.406	2.221	0.077	0.150	0.011	0.012	0.009					1391.85	
20	0.6911	1139.2	1159.4	0.497	3.393	74.901	18.668	2.270	0.078	0.155	0.012	0.014	0.011					1394.60	
21	0.6895	1135.9	1156.1	0.490	3.454	75.222	18.311	2.227	0.082	0.168	0.014	0.017	0.014					1392.19	
22	0.6841	1129.7	1149.7	0.429	3.420	75.749	18.272	1.947	0.057	0.107	0.006	0.007	0.007					1390.02	
23	0.6844	1130.6	1150.6	0.418	3.406	75.762	18.205	2.018	0.059	0.111	0.007	0.007	0.007					1390.87	
24	0.6952	1144.6	1164.8	0.472	3.483	74.733	18.337	2.494	0.118	0.274	0.029	0.037	0.023					1397.04	
25	0.6983	1148.5	1168.8	0.533	3.442	74.055	18.979	2.597	0.114	0.230	0.017	0.020	0.013					1398.75	
26	0.6936	1141.1	1161.3	0.530	3.462	74.624	18.669	2.397	0.096	0.188	0.013	0.014	0.008					1394.39	
27	0.6895	1135.2	1155.3	0.520	3.453	75.093	18.513	2.168	0.076	0.147	0.010	0.012	0.008					1391.30	
28	0.6914	1138.6	1158.8	0.512	3.433	74.748	18.822	2.240	0.078	0.146	0.009	0.009	0.005					1393.63	
29	0.6877	1132.8	1152.8	0.504	3.452	75.281	18.444	2.114	0.069	0.123	0.006	0.005	0.002					1390.21	
30	0.6945	1143.9	1164.1	0.497	3.424	74.409	18.991	2.342	0.091	0.203	0.016	0.020	0.007					1396.90	
31	0.6922	1140.3	1160.5	0.508	3.413	74.763	18.726	2.291	0.086	0.173	0.013	0.015	0.011					1394.81	
Avg	0.6906	1136.0	1156.6	0.517	3.488	74.870	18.697	2.168	0.077	0.152	0.011	0.012	0.008					1391.70	

zone 261

GQ Source Daily Summary May 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	0.6904	1134.6	1154.7	0.574	3.489	74.777	18.856	2.101	0.069	0.122	0.002	0.000	0.009	0.000	0.000	0.000	0.000	1389.67	
2	0.6896	1133.2	1153.3	0.572	3.504	74.858	18.823	2.050	0.065	0.116	0.002	0.000	0.011	0.000	0.000	0.000	0.000	1388.75	
3	0.6891	1132.7	1152.8	0.563	3.502	74.956	18.737	2.043	0.065	0.118	0.003	0.003	0.009	0.000	0.000	0.000	0.000	1388.65	
4	0.6894	1133.5	1153.5	0.565	3.476	74.877	18.871	2.015	0.065	0.116	0.003	0.001	0.011	0.000	0.000	0.000	0.000	1389.32	
5	0.6908	1135.5	1155.6	0.574	3.475	74.561	19.202	1.997	0.064	0.115	0.002	0.001	0.010	0.000	0.000	0.000	0.000	1390.35	
6	0.6929	1138.5	1158.7	0.586	3.467	74.327	19.285	2.118	0.071	0.129	0.005	0.003	0.010	0.000	0.000	0.000	0.000	1391.96	
7	0.6917	1135.5	1155.6	0.599	3.517	74.594	18.987	2.046	0.076	0.153	0.010	0.010	0.008	0.000	0.000	0.000	0.000	1389.52	
8	0.6940	1140.4	1160.6	0.583	3.454	74.351	19.125	2.196	0.086	0.174	0.011	0.013	0.008	0.000	0.000	0.000	0.000	1393.23	
9	0.6927	1137.4	1157.5	0.583	3.517	74.594	18.802	2.235	0.084	0.162	0.008	0.008	0.009	0.000	0.000	0.000	0.000	1390.82	
10	0.6899	1134.1	1154.2	0.542	3.521	74.887	18.749	2.046	0.077	0.153	0.009	0.009	0.006	0.000	0.000	0.000	0.000	1389.58	
11	0.6887	1132.5	1152.5	0.541	3.507	75.186	18.425	2.090	0.076	0.149	0.009	0.010	0.007	0.000	0.000	0.000	0.000	1388.79	
12	0.6953	1142.0	1162.3	0.557	3.519	74.605	18.435	2.459	0.110	0.248	0.024	0.031	0.013	0.000	0.000	0.000	0.000	1393.83	
13	0.6887	1131.7	1151.8	0.573	3.509	75.057	18.637	2.010	0.068	0.124	0.005	0.005	0.013	0.000	0.000	0.000	0.000	1387.85	
14	0.6924	1138.0	1158.2	0.561	3.490	74.382	19.242	2.117	0.069	0.124	0.003	0.001	0.012	0.000	0.000	0.000	0.000	1391.83	
15	0.6923	1135.4	1155.5	0.557	3.491	74.451	19.041	2.239	0.074	0.132	0.005	0.003	0.006	0.000	0.000	0.000	0.000	1388.70	
16	0.6920	1137.1	1157.3	0.538	3.543	74.446	19.123	2.135	0.072	0.137	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1391.17	
17	0.6903	1135.9	1156.0	0.540	3.457	74.649	19.119	2.055	0.064	0.115	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1391.36	
18	0.6946	1142.0	1162.2	0.546	3.474	74.077	19.490	2.147	0.078	0.163	0.009	0.012	0.003	0.000	0.000	0.000	0.000	1394.55	
19	0.6917	1139.4	1159.6	0.518	3.407	74.699	18.903	2.207	0.079	0.165	0.009	0.012	0.002	0.000	0.000	0.000	0.000	1394.24	
20	0.6942	1143.4	1163.6	0.513	3.405	74.552	18.768	2.431	0.096	0.203	0.013	0.016	0.003	0.000	0.000	0.000	0.000	1396.57	
21	0.6915	1138.8	1159.0	0.525	3.411	74.788	18.748	2.276	0.079	0.156	0.007	0.009	0.001	0.000	0.000	0.000	0.000	1393.73	
22	0.6926	1141.0	1161.2	0.532	3.375	74.532	19.054	2.267	0.076	0.149	0.007	0.008	0.001	0.000	0.000	0.000	0.000	1395.26	
23	0.6932	1141.8	1162.0	0.523	3.393	74.626	18.814	2.333	0.089	0.189	0.013	0.016	0.004	0.000	0.000	0.000	0.000	1395.64	
24	0.6863	1133.4	1153.4	0.449	3.370	75.393	18.567	2.041	0.061	0.117	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1392.35	
25	0.6996	1150.3	1170.7	0.517	3.480	74.049	18.836	2.592	0.129	0.310	0.030	0.040	0.016	0.000	0.000	0.000	0.000	1399.56	
26	0.7007	1152.0	1172.4	0.563	3.408	73.644	19.334	2.653	0.117	0.245	0.015	0.018	0.005	0.000	0.000	0.000	0.000	1400.60	
27	0.6966	1145.4	1165.7	0.559	3.430	74.133	19.069	2.485	0.100	0.202	0.009	0.011	0.001	0.000	0.000	0.000	0.000	1396.73	
28	0.6912	1137.3	1157.5	0.552	3.436	74.761	18.824	2.176	0.077	0.157	0.007	0.009	0.001	0.000	0.000	0.000	0.000	1392.19	
29	0.6938	1142.1	1162.4	0.540	3.401	74.343	19.169	2.298	0.081	0.158	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1395.51	
30	0.6902	1135.7	1155.8	0.542	3.450	74.845	18.797	2.161	0.073	0.133	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1391.30	
31	0.6903	1137.5	1157.7	0.528	3.373	74.764	19.014	2.124	0.069	0.127	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1393.38	
Avg	0.6922	1138.0	1158.5	0.549	3.460	74.605	18.931	2.198	0.079	0.157	0.007	0.008	0.006	0.000	0.000	0.000	0.000	1392.48	

Zone 262

GQ Source Analysis

Williston Basin Interstate Pipeline Co.

GQ Source Number:	2501030	Specific Gravity:	0.6661
GQ Source Name:	LIGNITE PLANT	Dry Heat Value:	1126.40
Effective Date:	5/1/2012 9:00:00 AM	Wet Heat Value:	1106.80
Effective End Date:	1/18/2038 9:14:07 PM	As Deliv. Heat Value:	1126.40
Pressure Base:	14.730	Sample Pressure:	0.00
Viscosity:		Sample Temperature:	

	<u>Mol %</u>	<u>Liquid Content</u>		<u>Mol %</u>
C1 Methane	77.958		CO2 Carbon Dioxide	0.142
C2 Ethane	17.038	4.5431	N2 Nitrogen	3.531
C3 Propane	1.312	0.3604	O2 Oxygen	0.000
IC4 Isobutane	0.000	0.0000	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	0.018	0.0084	CO Carbon Monoxide	
C7 Heptanes			H2 Water	
C8 Octanes			Neo-C5 Neopentane	
C9 Nonanes				
C10 Decanes				
Totals		100.000%	4.912 GPM	

Sample Date: 5/31/2012 12:00:00 AM
Sample Type: Composite
Sample Tech: Sampler
H2S: ppm

Sample Remarks:

Analysis Tech: Kevin Moos

Analysis Remarks:

*** End of Report ***

Zone 263

GQ Source Daily Summary May 2012

Number: 043

Pressure Base: 14.730

Contract Day: 1

Name: BISMARCK STATION-CLEVELAND STATION **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	1134.9	1155.0	0.581	3.458	74.824	18.831	2.097	0.066	0.119	0.005	0.005	0.015	0.000	0.000	0.000	0.000	1390.12	
2	0.6885	1131.6	1151.7	0.578	3.492	75.080	18.638	2.016	0.062	0.111	0.005	0.005	0.014	0.000	0.000	0.000	0.000	1387.94	
3	0.6885	1131.6	1151.6	0.573	3.503	75.115	18.574	2.025	0.064	0.117	0.006	0.006	0.017	0.000	0.000	0.000	0.000	1387.85	
4	0.6892	1133.1	1153.2	0.576	3.467	74.878	18.934	1.946	0.062	0.112	0.005	0.005	0.014	0.000	0.000	0.000	0.000	1389.10	
5	0.6937	1140.4	1160.6	0.594	3.419	74.229	19.392	2.144	0.070	0.127	0.006	0.006	0.014	0.000	0.000	0.000	0.000	1393.45	
6	0.6906	1134.7	1154.8	0.597	3.471	74.771	18.873	2.069	0.068	0.125	0.006	0.006	0.013	0.000	0.000	0.000	0.000	1389.60	
7	0.6917	1135.4	1155.5	0.610	3.512	74.637	18.958	2.003	0.076	0.158	0.013	0.015	0.019	0.000	0.000	0.000	0.000	1389.35	
8	0.6930	1138.4	1158.5	0.595	3.474	74.562	18.891	2.190	0.083	0.165	0.011	0.012	0.017	0.000	0.000	0.000	0.000	1391.65	
9	0.6897	1133.9	1154.0	0.561	3.489	74.964	18.703	2.026	0.074	0.148	0.010	0.010	0.015	0.000	0.000	0.000	0.000	1389.53	
10	0.6881	1130.4	1150.5	0.541	3.577	75.269	18.334	2.020	0.072	0.147	0.010	0.012	0.018	0.000	0.000	0.000	0.000	1386.90	
11	0.6921	1137.3	1157.5	0.557	3.504	75.008	18.274	2.286	0.095	0.208	0.019	0.024	0.024	0.000	0.000	0.000	0.000	1391.34	
12	0.6894	1132.9	1153.0	0.580	3.491	75.061	18.564	2.062	0.072	0.136	0.007	0.008	0.020	0.000	0.000	0.000	0.000	1388.63	
13	0.6926	1138.6	1158.8	0.567	3.466	74.445	19.135	2.167	0.070	0.126	0.006	0.005	0.015	0.000	0.000	0.000	0.000	1392.36	
14	0.6928	1139.7	1159.9	0.533	3.463	74.444	19.123	2.199	0.074	0.136	0.006	0.006	0.016	0.000	0.000	0.000	0.000	1393.58	
15	0.6883	1132.7	1152.8	0.533	3.471	75.115	18.664	2.010	0.064	0.117	0.006	0.006	0.016	0.000	0.000	0.000	0.000	1389.49	
16	0.6896	1135.1	1155.2	0.538	3.436	74.856	18.948	2.020	0.064	0.114	0.005	0.005	0.014	0.000	0.000	0.000	0.000	1391.19	
17	0.6940	1142.3	1162.6	0.537	3.415	74.452	19.045	2.222	0.085	0.183	0.016	0.020	0.026	0.000	0.000	0.000	0.000	1395.49	
18	0.6919	1140.5	1160.7	0.513	3.365	74.917	18.571	2.318	0.085	0.181	0.013	0.016	0.021	0.000	0.000	0.000	0.000	1395.35	
19	0.6923	1140.6	1160.8	0.512	3.390	74.909	18.513	2.337	0.090	0.194	0.015	0.018	0.021	0.000	0.000	0.000	0.000	1395.16	
20	0.6902	1137.6	1157.8	0.521	3.366	75.141	18.417	2.283	0.077	0.155	0.011	0.012	0.017	0.000	0.000	0.000	0.000	1393.59	
21	0.6907	1138.8	1158.9	0.527	3.340	75.036	18.576	2.233	0.079	0.161	0.012	0.015	0.022	0.000	0.000	0.000	0.000	1394.42	
22	0.6868	1132.1	1152.1	0.501	3.421	75.632	18.076	2.094	0.073	0.153	0.012	0.015	0.023	0.000	0.000	0.000	0.000	1390.15	
23	0.6850	1132.0	1152.0	0.440	3.353	75.694	18.305	2.002	0.059	0.116	0.007	0.008	0.017	0.000	0.000	0.000	0.000	1391.87	
24	0.6848	1131.9	1151.9	0.445	3.329	75.832	18.110	2.065	0.064	0.124	0.007	0.007	0.016	0.000	0.000	0.000	0.000	1391.96	
25	0.7004	1151.5	1171.9	0.544	3.442	73.973	18.925	2.580	0.127	0.302	0.031	0.041	0.036	0.000	0.000	0.000	0.000	1400.22	
26	0.7001	1152.4	1172.8	0.551	3.352	73.925	19.023	2.714	0.121	0.253	0.018	0.020	0.024	0.000	0.000	0.000	0.000	1401.57	
27	0.6909	1136.8	1157.0	0.558	3.422	75.023	18.460	2.248	0.083	0.167	0.011	0.012	0.016	0.000	0.000	0.000	0.000	1391.94	
28	0.6898	1136.2	1156.3	0.540	3.387	75.067	18.601	2.155	0.072	0.141	0.009	0.010	0.017	0.000	0.000	0.000	0.000	1392.25	
29	0.6909	1137.8	1157.9	0.544	3.387	74.896	18.712	2.209	0.077	0.146	0.008	0.008	0.014	0.000	0.000	0.000	0.000	1393.08	
30	0.6890	1135.9	1156.0	0.523	3.358	75.115	18.653	2.132	0.069	0.126	0.006	0.005	0.012	0.000	0.000	0.000	0.000	1392.67	
31	0.6918	1139.9	1160.1	0.535	3.352	74.842	18.717	2.274	0.081	0.161	0.010	0.012	0.016	0.000	0.000	0.000	0.000	1394.83	
Avg	0.6909	1137.0	1157.1	0.545	3.431	74.894	18.695	2.166	0.077	0.152	0.010	0.011	0.018	0.000	0.000	0.000	0.000	1392.15	

Zone 271

GQ Source Daily Summary May 2012

Number: 063

Pressure Base: 14.730

Contract Day: 1

Name: CLEVELAND STATION-MAPLETON LINE

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	0.6912	1135.7	1155.8	0.584	3.481	74.626	18.998	2.108	0.068	0.123	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1390.28	
2	0.6904	1134.1	1154.2	0.590	3.496	74.717	18.947	2.057	0.065	0.117	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1389.11	
3	0.6897	1133.7	1153.7	0.572	3.487	74.832	18.872	2.041	0.064	0.118	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1389.25	
4	0.6894	1133.0	1153.0	0.580	3.493	74.847	18.887	2.002	0.064	0.116	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1388.65	
5	0.6929	1138.7	1158.9	0.591	3.448	74.238	19.459	2.066	0.066	0.120	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1392.25	
6	0.6933	1139.1	1159.3	0.599	3.450	74.218	19.426	2.095	0.070	0.129	0.007	0.006	0.000	0.000	0.000	0.000	0.000	1392.33	
7	0.6913	1135.1	1155.2	0.607	3.493	74.618	19.009	2.045	0.072	0.138	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1389.42	
8	0.6940	1139.5	1159.7	0.607	3.481	74.255	19.259	2.112	0.083	0.172	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1392.05	
9	0.6919	1136.9	1157.1	0.584	3.475	74.662	18.847	2.173	0.081	0.159	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1391.02	
10	0.6888	1130.8	1150.8	0.550	3.608	74.911	18.815	1.884	0.069	0.142	0.010	0.012	0.000	0.000	0.000	0.000	0.000	1386.68	
11	0.6898	1134.1	1154.2	0.548	3.506	74.971	18.610	2.114	0.076	0.153	0.011	0.012	0.000	0.000	0.000	0.000	0.000	1389.68	
12	0.6935	1139.3	1159.5	0.572	3.499	74.724	18.520	2.321	0.097	0.212	0.019	0.024	0.013	0.000	0.000	0.000	0.000	1392.27	
13	0.6922	1137.3	1157.4	0.578	3.487	74.390	19.260	2.080	0.068	0.125	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1391.23	
14	0.6938	1141.0	1161.2	0.557	3.446	74.213	19.347	2.223	0.072	0.131	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1394.08	
15	0.6920	1138.1	1158.2	0.530	3.501	74.451	19.176	2.118	0.072	0.139	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1392.28	
16	0.6894	1135.0	1155.1	0.540	3.429	74.834	18.984	2.025	0.063	0.113	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1391.12	
17	0.6933	1139.9	1160.0	0.547	3.483	74.196	19.481	2.051	0.072	0.146	0.011	0.013	0.001	0.000	0.000	0.000	0.000	1393.23	
18	0.6937	1143.7	1163.9	0.517	3.331	74.517	19.005	2.324	0.086	0.185	0.016	0.019	0.000	0.000	0.000	0.000	0.000	1397.47	
19	0.6914	1139.2	1159.4	0.512	3.398	74.854	18.707	2.235	0.083	0.180	0.013	0.016	0.002	0.000	0.000	0.000	0.000	1394.30	
20	0.6913	1138.5	1158.6	0.528	3.405	74.869	18.662	2.266	0.081	0.163	0.012	0.014	0.000	0.000	0.000	0.000	0.000	1393.54	
21	0.6912	1139.2	1159.3	0.532	3.351	74.797	18.854	2.224	0.073	0.145	0.010	0.012	0.001	0.000	0.000	0.000	0.000	1394.48	
22	0.6925	1141.0	1161.2	0.524	3.374	74.809	18.634	2.333	0.090	0.195	0.018	0.022	0.001	0.000	0.000	0.000	0.000	1395.37	
23	0.6852	1130.9	1150.9	0.474	3.384	75.539	18.485	1.936	0.057	0.111	0.007	0.008	0.000	0.000	0.000	0.000	0.000	1390.39	
24	0.6855	1132.5	1152.6	0.444	3.356	75.553	18.438	2.019	0.059	0.115	0.007	0.008	0.000	0.000	0.000	0.000	0.000	1392.09	
25	0.6954	1146.0	1166.3	0.489	3.395	74.663	18.490	2.498	0.116	0.276	0.027	0.034	0.013	0.000	0.000	0.000	0.000	1398.48	
26	0.6978	1147.8	1168.1	0.559	3.405	74.001	19.163	2.509	0.105	0.219	0.016	0.019	0.002	0.000	0.000	0.000	0.000	1398.29	
27	0.6970	1146.9	1167.2	0.558	3.385	74.165	19.006	2.531	0.106	0.219	0.014	0.015	0.000	0.000	0.000	0.000	0.000	1398.04	
28	0.6905	1136.4	1156.5	0.555	3.417	74.926	18.684	2.156	0.078	0.159	0.012	0.013	0.000	0.000	0.000	0.000	0.000	1391.81	
29	0.6927	1140.9	1161.1	0.542	3.374	74.514	19.070	2.256	0.077	0.148	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1395.05	
30	0.6895	1135.6	1155.7	0.541	3.395	75.015	18.684	2.147	0.072	0.133	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1391.79	
31	0.6903	1137.9	1158.0	0.532	3.350	74.819	18.945	2.140	0.070	0.131	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1393.76	
Avg	0.6916	1138.0	1158.1	0.550	3.438	74.669	18.927	2.164	0.077	0.153	0.010	0.011	0.001	0.000	0.000	0.000	0.000	1392.57	

Zone 272

GQ Source Daily Summary

May 2012

Number: 271

Pressure Base: 14.730

Contract Day: 1

Name: DICKINSON STATION-GLEN ULLIN

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	0.6831	1153.5	1173.9	0.000	2.532	73.857	23.064	0.546	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.32	
2	0.6838	1154.8	1175.2	0.000	2.523	73.694	23.248	0.535	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.15	
3	0.6798	1149.2	1169.5	0.005	2.479	74.508	22.487	0.520	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.42	
4	0.6254	1062.2	1081.0	0.512	1.871	86.405	10.574	0.601	0.013	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1366.85	
5	0.6226	1052.2	1070.8	0.706	1.924	87.339	9.226	0.746	0.020	0.038	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1357.11	
6	0.6357	1068.4	1087.3	0.683	2.207	84.895	11.124	1.006	0.029	0.054	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1363.69	
7	0.6566	1092.9	1112.2	0.612	2.787	81.024	13.988	1.455	0.045	0.085	0.000	0.000	0.004	0.000	0.000	0.000	0.000	1372.66	
8	0.5885	1009.2	1027.0	0.783	1.215	93.801	4.062	0.137	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	1338.86	
9	0.5863	1004.0	1021.8	0.846	1.231	94.261	3.560	0.102	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1334.42	
10	0.5870	1010.1	1028.0	0.764	1.045	94.079	4.012	0.100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1341.77	
11	0.5914	1015.5	1033.5	0.815	1.055	93.298	4.657	0.172	0.001	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1343.90	
12	0.5908	1015.5	1033.4	0.772	1.066	93.346	4.671	0.145	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1344.53	
13	0.5906	1013.4	1031.3	0.789	1.152	93.392	4.514	0.153	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1341.95	
14	0.6152	1044.1	1062.6	0.746	1.657	88.810	8.107	0.632	0.016	0.031	0.000	0.000	0.001	0.000	0.000	0.000	0.000	1354.81	
15	0.6261	1057.1	1075.8	0.731	1.920	86.770	9.664	0.842	0.025	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1359.54	
16	0.6315	1063.8	1082.7	0.683	2.090	85.752	10.422	0.967	0.029	0.053	0.000	0.000	0.005	0.000	0.000	0.000	0.000	1362.37	
17	0.6453	1080.6	1099.7	0.648	2.420	83.149	12.458	1.209	0.038	0.071	0.000	0.000	0.007	0.000	0.000	0.000	0.000	1368.93	
18	0.6450	1080.2	1099.3	0.702	2.334	83.195	12.524	1.129	0.036	0.073	0.000	0.000	0.007	0.000	0.000	0.000	0.000	1368.78	
19	0.6229	1054.9	1073.6	0.677	1.831	87.369	9.250	0.787	0.026	0.057	0.000	0.000	0.004	0.000	0.000	0.000	0.000	1360.28	
20	0.6206	1054.0	1072.6	0.682	1.661	88.155	8.411	0.940	0.054	0.092	0.000	0.000	0.005	0.000	0.000	0.000	0.000	1361.56	
21	0.6205	1052.8	1071.5	0.665	1.749	88.072	8.478	0.901	0.047	0.081	0.000	0.000	0.006	0.000	0.000	0.000	0.000	1360.17	
22	0.6231	1055.7	1074.3	0.620	1.887	87.467	8.977	0.941	0.035	0.068	0.000	0.000	0.005	0.000	0.000	0.000	0.000	1361.03	
23	0.6204	1052.9	1071.5	0.631	1.784	87.985	8.605	0.900	0.030	0.062	0.000	0.000	0.004	0.000	0.000	0.000	0.000	1360.41	
24	0.6323	1067.2	1086.1	0.619	2.047	85.843	10.205	1.142	0.047	0.088	0.002	0.000	0.006	0.000	0.000	0.000	0.000	1365.96	
25	0.6083	1041.8	1060.3	0.769	1.101	91.162	5.779	0.903	0.103	0.129	0.021	0.010	0.023	0.000	0.000	0.000	0.000	1359.45	
26	0.5965	1024.3	1042.4	0.757	1.084	92.670	4.936	0.459	0.040	0.050	0.000	0.000	0.005	0.000	0.000	0.000	0.000	1349.73	
27	0.5958	1022.6	1040.7	0.769	1.105	92.679	5.004	0.376	0.029	0.036	0.000	0.000	0.002	0.000	0.000	0.000	0.000	1348.27	
28	0.5890	1012.9	1030.8	0.704	1.155	93.834	3.993	0.282	0.014	0.018	0.000	0.000	0.001	0.000	0.000	0.000	0.000	1343.17	
29	0.5851	1006.8	1024.6	0.681	1.190	94.490	3.432	0.189	0.008	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1339.59	
30	0.5830	1004.3	1022.1	0.666	1.178	94.800	3.222	0.135	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1338.56	
31	0.5846	1006.4	1024.2	0.686	1.167	94.573	3.378	0.185	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1339.54	
Avg	0.6183	1051.0	1069.7	0.636	1.692	88.086	8.904	0.617	0.022	0.038	0.001	0.000	0.003	0.000	0.000	0.000	0.000	1360.25	

Zone 31

GQ Source Daily Summary

May 2012

Number: 051

Pressure Base: 14.730

Contract Day: 1

Name: CABIN CREEK STATION-BISMARCK STATION

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	0.6867	1159.2	1179.7	0.001	2.525	73.171	23.746	0.544	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.70	
2	0.6866	1159.1	1179.6	0.000	2.526	73.189	23.721	0.551	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.65	
3	0.6864	1159.1	1179.6	0.000	2.511	73.218	23.716	0.543	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.80	
4	0.6858	1158.1	1178.7	0.002	2.506	73.353	23.584	0.543	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.30	
5	0.6551	1112.1	1131.8	0.225	2.079	79.839	17.389	0.450	0.008	0.010	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1398.33	
6	0.6814	1147.5	1167.8	0.118	2.563	74.613	21.923	0.745	0.014	0.023	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1414.75	
7	0.6726	1135.3	1155.4	0.158	2.419	76.303	20.494	0.600	0.010	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1408.77	
8	0.6722	1128.9	1148.9	0.278	2.586	76.886	19.258	0.921	0.023	0.042	0.002	0.002	0.002	0.000	0.000	0.000	0.000	1401.33	
9	0.6409	1089.8	1109.1	0.343	1.930	82.790	14.548	0.376	0.006	0.007	0.000	0.000	0.001	0.000	0.000	0.000	0.000	1385.30	
10	0.6336	1074.7	1093.7	0.375	2.103	84.245	12.943	0.321	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1373.93	
11	0.6408	1088.0	1107.3	0.308	2.074	82.733	14.528	0.347	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1382.99	
12	0.6366	1081.1	1100.2	0.362	2.018	83.672	13.574	0.358	0.007	0.008	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1378.80	
13	0.6750	1141.5	1161.7	0.108	2.340	75.681	21.329	0.528	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.99	
14	0.6538	1109.9	1129.5	0.285	2.007	80.169	17.060	0.462	0.007	0.009	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1396.82	
15	0.6558	1107.3	1126.9	0.374	2.208	80.164	16.485	0.712	0.018	0.033	0.002	0.002	0.002	0.000	0.000	0.000	0.000	1391.61	
16	0.6574	1109.3	1129.0	0.377	2.232	79.903	16.656	0.773	0.019	0.034	0.002	0.002	0.003	0.000	0.000	0.000	0.000	1392.45	
17	0.6606	1112.4	1132.1	0.363	2.363	79.325	17.021	0.856	0.023	0.041	0.002	0.002	0.003	0.000	0.000	0.000	0.000	1392.95	
18	0.6665	1119.1	1139.0	0.363	2.512	78.223	17.848	0.977	0.024	0.044	0.002	0.002	0.004	0.000	0.000	0.000	0.000	1395.11	
19	0.6665	1119.2	1139.0	0.363	2.512	78.214	17.856	0.979	0.024	0.044	0.002	0.002	0.004	0.000	0.000	0.000	0.000	1395.15	
20	0.6665	1119.2	1139.0	0.363	2.512	78.214	17.856	0.979	0.024	0.044	0.002	0.002	0.004	0.000	0.000	0.000	0.000	1395.15	
21	0.6665	1119.2	1139.0	0.363	2.512	78.214	17.856	0.979	0.024	0.044	0.002	0.002	0.004	0.000	0.000	0.000	0.000	1395.15	
22	0.6662	1118.8	1138.6	0.363	2.503	78.292	17.790	0.975	0.024	0.044	0.002	0.002	0.004	0.000	0.000	0.000	0.000	1395.00	
23	0.6310	1063.6	1082.5	0.448	2.423	85.248	11.165	0.647	0.022	0.037	0.003	0.003	0.004	0.000	0.000	0.000	0.000	1362.37	
24	0.6568	1109.8	1129.5	0.256	2.330	79.759	16.949	0.656	0.015	0.027	0.002	0.002	0.003	0.000	0.000	0.000	0.000	1393.55	
25	0.6569	1105.2	1124.8	0.311	2.538	80.326	15.607	1.109	0.034	0.064	0.004	0.004	0.003	0.000	0.000	0.000	0.000	1387.80	
26	0.6864	1148.7	1169.1	0.224	2.794	74.452	21.075	1.308	0.041	0.086	0.006	0.007	0.005	0.000	0.000	0.000	0.000	1411.08	
27	0.6749	1142.4	1162.6	0.080	2.321	75.746	21.250	0.583	0.008	0.011	0.000	0.000	0.002	0.000	0.000	0.000	0.000	1415.19	
28	0.6590	1117.8	1137.6	0.263	2.034	79.510	17.408	0.686	0.035	0.044	0.009	0.006	0.005	0.000	0.000	0.000	0.000	1401.40	
29	0.6639	1125.1	1145.0	0.208	2.147	78.212	18.787	0.602	0.015	0.019	0.003	0.002	0.003	0.000	0.000	0.000	0.000	1405.17	
30	0.6746	1141.6	1161.8	0.093	2.321	75.845	21.122	0.596	0.009	0.012	0.001	0.000	0.001	0.000	0.000	0.000	0.000	1414.50	
31	0.6791	1148.7	1169.0	0.046	2.388	74.884	22.028	0.637	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.52	
Avg	0.6644	1122.0	1141.5	0.239	2.350	78.206	18.470	0.689	0.015	0.026	0.002	0.001	0.002	0.000	0.000	0.000	0.000	1400.37	

zone 32

GQ Source Daily Summary

May 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	0.6882	1162.0	1182.6	0.000	2.507	72.875	24.035	0.572	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.45	
2	0.6875	1161.1	1181.7	0.000	2.489	73.008	23.941	0.551	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.18	
3	0.6871	1160.3	1180.8	0.000	2.506	73.089	23.834	0.560	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.52	
4	0.6881	1161.9	1182.5	0.000	2.497	72.904	24.013	0.575	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.55	
5	0.6876	1161.2	1181.8	0.000	2.491	73.010	23.925	0.564	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.20	
6	0.6872	1160.5	1181.1	0.000	2.494	73.069	23.880	0.546	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.80	
7	0.6870	1160.7	1181.2	0.000	2.473	73.114	23.853	0.550	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.10	
8	0.6870	1160.2	1180.7	0.000	2.500	73.115	23.822	0.553	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.52	
9	0.6879	1161.5	1182.0	0.000	2.506	72.965	23.921	0.596	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.18	
10	0.6876	1161.0	1181.5	0.000	2.508	72.992	23.936	0.553	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.87	
11	0.6886	1162.2	1182.8	0.000	2.525	72.819	24.058	0.587	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.40	
12	0.6880	1161.9	1182.4	0.000	2.493	72.937	23.973	0.585	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.55	
13	0.6880	1161.7	1182.3	0.000	2.498	72.946	23.960	0.586	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.42	
14	0.6875	1160.8	1181.4	0.000	2.470	73.152	23.748	0.617	0.005	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.81	
15	0.6871	1160.7	1181.3	0.000	2.474	73.190	23.705	0.601	0.009	0.018	0.002	0.002	0.001	0.000	0.000	0.000	0.000	1425.12	
16	0.6874	1161.2	1181.7	0.000	2.476	73.138	23.719	0.653	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.33	
17	0.6868	1160.2	1180.8	0.000	2.482	73.181	23.741	0.584	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.74	
18	0.6859	1158.9	1179.5	0.000	2.469	73.359	23.599	0.562	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.19	
19	0.6863	1159.6	1180.2	0.000	2.469	73.243	23.740	0.537	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.56	
20	0.6868	1160.5	1181.0	0.000	2.462	73.169	23.797	0.561	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.12	
21	0.6868	1160.5	1181.1	0.000	2.464	73.186	23.750	0.588	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.12	
22	0.6870	1160.7	1181.3	0.000	2.466	73.120	23.847	0.555	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.22	
23	0.6868	1160.1	1180.6	0.000	2.490	73.213	23.672	0.611	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.58	
24	0.6860	1158.9	1179.4	0.000	2.480	73.357	23.573	0.577	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.04	
25	0.6871	1161.0	1181.5	0.000	2.460	73.173	23.731	0.622	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.41	
26	0.6872	1160.9	1181.4	0.000	2.480	73.172	23.679	0.655	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.13	
27	0.6869	1160.1	1180.7	0.000	2.494	73.246	23.586	0.660	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.56	
28	0.6865	1160.0	1180.6	0.000	2.461	73.318	23.563	0.644	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.86	
29	0.6862	1159.6	1180.1	0.000	2.459	73.391	23.480	0.655	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.63	
30	0.6868	1160.6	1181.1	0.000	2.460	73.315	23.499	0.711	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.18	
31	0.6881	1161.9	1182.5	0.000	2.495	73.072	23.692	0.726	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.52	
Avg	0.6872	1161.0	1181.3	0.000	2.484	73.124	23.783	0.597	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.99	

Zone 33

GQ Source Daily Summary

May 2012

Number: 331

Pressure Base: 14.730

Contract Day: 1

Name: MARMARTH PLANT BEAR PAW

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value	Heating Value																
		Wet	Dry	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7884	1118.9	1138.7	1.979	11.553	55.292	28.540	2.360	0.062	0.184	0.008	0.020	0.003	0.000	0.000	0.000	0.000	1282.42	
2	0.7911	1121.1	1140.9	2.143	11.422	55.224	28.315	2.579	0.070	0.209	0.009	0.023	0.004	0.000	0.000	0.000	0.000	1282.74	
3	0.7935	1125.3	1145.3	2.001	11.604	54.927	28.245	2.873	0.078	0.231	0.010	0.027	0.005	0.000	0.000	0.000	0.000	1285.64	
4	0.7946	1120.8	1140.6	2.246	11.610	54.994	27.887	2.903	0.080	0.238	0.010	0.027	0.005	0.000	0.000	0.000	0.000	1279.57	
5	0.7943	1121.0	1140.9	2.284	11.513	54.982	28.075	2.790	0.078	0.236	0.010	0.026	0.005	0.000	0.000	0.000	0.000	1280.08	
6	0.7966	1117.2	1137.0	2.314	11.911	54.641	27.867	2.891	0.083	0.250	0.011	0.028	0.005	0.000	0.000	0.000	0.000	1273.91	
7	0.7981	1117.8	1137.6	2.383	11.907	54.560	27.747	3.004	0.087	0.265	0.012	0.030	0.005	0.000	0.000	0.000	0.000	1273.47	
8	0.7959	1116.0	1135.8	2.192	12.101	54.867	27.373	3.055	0.090	0.274	0.012	0.031	0.005	0.000	0.000	0.000	0.000	1273.15	
9	0.7955	1107.6	1127.2	1.931	12.976	54.343	27.489	2.856	0.086	0.269	0.012	0.032	0.006	0.000	0.000	0.000	0.000	1263.86	
10	0.7933	1111.7	1131.4	2.362	11.865	54.449	28.819	2.265	0.054	0.160	0.007	0.017	0.003	0.000	0.000	0.000	0.000	1270.33	
11	0.7976	1109.6	1129.3	2.570	12.086	54.163	28.284	2.620	0.062	0.185	0.007	0.020	0.003	0.000	0.000	0.000	0.000	1264.47	
12	0.7932	1105.7	1125.2	2.296	12.328	54.863	27.545	2.657	0.069	0.206	0.009	0.022	0.004	0.000	0.000	0.000	0.000	1263.49	
13	0.7976	1115.8	1135.6	2.360	12.021	54.258	28.232	2.806	0.073	0.215	0.009	0.023	0.004	0.000	0.000	0.000	0.000	1271.58	
14	0.7915	1110.5	1130.1	2.148	12.098	55.212	27.486	2.730	0.072	0.215	0.009	0.024	0.004	0.000	0.000	0.000	0.000	1270.31	
15	0.7908	1115.0	1134.7	1.925	12.096	55.234	27.616	2.777	0.078	0.232	0.010	0.026	0.004	0.000	0.000	0.000	0.000	1276.01	
16	0.7869	1110.4	1130.1	1.807	12.184	55.808	27.162	2.698	0.076	0.225	0.010	0.025	0.005	0.000	0.000	0.000	0.000	1274.02	
17	0.7898	1116.5	1136.3	1.916	11.917	55.488	27.532	2.797	0.078	0.230	0.010	0.026	0.005	0.000	0.000	0.000	0.000	1278.61	
18	0.7894	1115.8	1135.5	1.976	11.840	55.544	27.554	2.752	0.074	0.221	0.009	0.025	0.004	0.000	0.000	0.000	0.000	1278.04	
19	0.7911	1112.7	1132.4	2.183	11.871	55.467	27.331	2.810	0.076	0.223	0.009	0.024	0.004	0.000	0.000	0.000	0.000	1273.14	
20	0.7934	1116.6	1136.4	2.174	11.856	55.110	27.620	2.888	0.079	0.233	0.010	0.026	0.004	0.000	0.000	0.000	0.000	1275.83	
21	0.7924	1110.3	1130.0	2.305	11.944	55.544	26.856	2.997	0.080	0.234	0.010	0.026	0.005	0.000	0.000	0.000	0.000	1269.49	
22	0.7937	1097.0	1116.4	3.324	11.338	55.764	26.764	2.511	0.067	0.197	0.008	0.022	0.004	0.000	0.000	0.000	0.000	1253.39	
23	0.7837	1109.3	1129.0	2.078	11.539	56.394	27.324	2.378	0.064	0.189	0.008	0.021	0.004	0.000	0.000	0.000	0.000	1275.32	
24	0.7888	1110.9	1130.6	2.330	11.534	55.946	27.222	2.648	0.072	0.212	0.009	0.023	0.004	0.000	0.000	0.000	0.000	1273.03	
25	0.7950	1115.3	1135.1	2.692	11.305	55.339	27.449	2.861	0.079	0.235	0.010	0.026	0.004	0.000	0.000	0.000	0.000	1273.02	
26	0.8062	1131.9	1151.9	2.616	11.444	54.649	26.700	3.981	0.130	0.402	0.019	0.051	0.009	0.000	0.000	0.000	0.000	1282.92	
27	0.7996	1106.3	1125.9	3.236	11.453	55.101	26.820	3.035	0.080	0.235	0.010	0.025	0.004	0.000	0.000	0.000	0.000	1259.13	
28	0.7988	1114.6	1134.3	2.875	11.420	55.012	27.221	3.103	0.083	0.244	0.010	0.026	0.005	0.000	0.000	0.000	0.000	1269.20	
29	0.7988	1117.6	1137.4	2.815	11.333	55.179	27.022	3.242	0.091	0.272	0.012	0.030	0.005	0.000	0.000	0.000	0.000	1272.54	
30	0.7994	1115.7	1135.4	2.720	11.646	54.964	26.984	3.276	0.091	0.272	0.012	0.030	0.005	0.000	0.000	0.000	0.000	1269.92	
31	0.7946	1109.2	1128.8	2.428	12.035	55.414	26.589	3.151	0.086	0.254	0.011	0.028	0.005	0.000	0.000	0.000	0.000	1266.38	
Avg	0.7940	1114.0	1134.1	2.342	11.798	55.120	27.538	2.848	0.078	0.234	0.010	0.026	0.005	0.000	0.000	0.000	0.000	1272.74	

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
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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	MAY 12	APR 12	MAR 12	FEB 12	JAN 12	DEC 11	NOV 11	OCT 11	SEPT 11	AUG 11	JULY 11	JUNE 11	ZONE
MT/ND	211	Sidney Area	1206	1194	1196	1199	1206	1210	1212	1215	1212	1199	1204	1215	1205	211
ND	24	Williston Area	1197	1196	1194	1199	1195	1184	1199	1203	1197	1200	1200	1198	1197	24
ND	25	Watford City Area	1138	1159	1139	1138	1132	1140	1140	1131	1129	1136	1136	1135	1140	25
ND/MT	241	Fairview Area	1194	1184	1185	1189	1193	1194	1194	1201	1198	1200	1200	1199	1193	241
ND	261	Williston - Tioga - Minot Line	1160	1157	1155	1162	1156	1160	1163	1166	1158	1144	1159	1176	1165	261
ND	262	Minot Area	1163	1159	1157	1162	1158	1161	1165	1168	1163	1160	1161	1179	1168	262
ND	263	Tioga - Portal	1106	1126	1099	1135	1081	1075	1074	1092	1126	1128	1128	1126	1082	263
ND	264	Williston - Ray	1197	1196	1194	1199	1195	1184	1199	1203	1197	1200	1200	1198	1197	264
ND	271	Bismarck - Cleveland	1151	1157	1157	1154	1123	1124	1130	1148	1161	1159	1160	1177	1166	271
ND	272	Cleveland - Mapleton	1151	1158	1156	1153	1121	1122	1129	1148	1161	1159	1160	1179	1166	272
ND	273	Cleveland - Grafton	1151	1158	1157	1153	1121	1123	1129	1148	1162	1159	1160	1179	1167	273
ND	28	Bismarck - Cabin Creek	1128	1157	1143	1117	1065	1073	1078	1084	1148	1160	1160	1180	1166	28
ND	31	Dickinson Area	1108	1070	1111	1114	1064	1072	1077	1081	1138	1162	1152	1135	1123	31
ND/MT	32	Cabin Creek - Dickinson	1098	1142	1092	1047	1044	1057	1063	1061	1100	1156	1126	1133	1153	32
ND	33	Killedeer	1182	1181	1181	1183	1182	1179	1183	1181	1181	1181	1181	1182	1183	33
ND	34	Bowman Area	1134	1134	1130	1126	1126	1147	1129	1117	1139	1132	1138	1144	1149	34
ND	35	Baker Field - North Dakota	979	979	979	979	979	979	979	979	979	979	979	979	979	35

**THERMAL ZONE VARIANCE
DOCUMENTATION**

May 2012

ZONE	BTU VARIANCE	REASON
25	20	Mix of Gas of higher BTU due to Red Wing plant down
263	27	Mix of Gas in the area
31	-41	Mix of Gas in the area
32	50	Mix of Gas in the area