



MONTANA-DAKOTA

UTILITIES CO.

A Division of MDU Resources Group, Inc.

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

November 27, 2012

RECEIVED

NOV 28 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 – October 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 November 2012.
2. Attachment B consists of copies of the monthly Heating Value Test Reports received from our supplier for the month of October 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 October 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
Director of Regulatory Affairs

MONTANA-DAKOTA UTILITIES CO.
Therm Billing Factor
NOV 2012

Div Nbr	Off Code	City Name	Heat Zone Nbr	Therm Billing Factor
12	314	APPLE VALLEY	271	1.1289
12	323	BERTHOLD	262	1.1060
12	327	BISMARCK	28	1.1087
12	337	BURLINGTON	262	1.1299
12	343	CARRINGTON	273	1.1299
12	344	CLEVELAND	272	1.1219
12	364	CAVALIER	273	1.1537
12	365	DAWSON	271	1.1210
12	368	DES LACS	262	1.1140
12	374	FT TOTTEN	273	1.1379
12	375	DEVILS LAKE	273	1.1379
12	379	BARLOW	273	1.1299
12	387	ELDRIDGE	272	1.1299
12	411	GLEN ULLIN	31	1.0881
12	416	GARRISON	262	1.1140
12	417	GRAFTON	273	1.1616
12	439	HANKINSON	600	1.0926
12	449	JAMESTOWN	272	1.1379
12	463	LANGDON	273	1.1299
12	475	LINTON	802	.9881
12	478	LINCOLN	28	1.1087
12	494	MEDINA	271	1.1210
12	498	MANDAN	28	1.1087
12	505	MINOT	262	1.1299
12	512	MAX	262	1.1060
12	524	NEW SALEM	28	1.0852
12	532	NEW ROCKFORD	273	1.1299
12	539	PARK RIVER	273	1.1537
12	572	RUTHVILLE	262	1.1299
12	574	SANBORN	272	1.1379
12	593	STEELE	271	1.1210
12	598	SHEYENNE	273	1.1379
12	605	SURREY	262	1.1299
12	610	TAPPEN	271	1.1210
12	619	TURTLE LAKE	262	1.1140

MONTANA-DAKOTA UTILITIES CO.
Therm Billing Factor
NOV 2012

Div Nbr	Off Code	City Name	Heat Zone Nbr	Therm Billing Factor
12	624	UNDERWOOD	262	1.1140
12	625	VALLEY CITY	272	1.1457
12	629	WALHALLA	273	1.1537
12	646	WASHBURN	262	1.1219
12	647	WILTON	262	1.1060
12	664	RIVERDALE	262	1.1140
12	712	MINOT AFB	262	1.1299
12	717	SPIRITWOOD	272	1.1379
12	718	FAIRMOUNT	600	1.0904
12	732	MSR SITE	273	1.1299
12	733	PAR SITE	273	1.1299
15	303	ALEXANDER	25	1.1107
15	308	ARNEGARD	25	1.1107
15	318	BEACH	32	1.0359
15	319	BELFIELD	32	1.0435
15	330	BOWMAN	34	1.0457
15	369	DICKINSON	31	1.0802
15	384	EPPING	264	1.1287
15	407	GLADSTONE	31	1.0802
15	413	GOLVA	32	1.0208
15	429	HEBRON	31	1.0881
15	459	KILLDEER	33	1.1117
15	469	LEFOR	31	1.0802
15	474	LIGNITE	263	1.0845
15	500	MARMARTH	34	1.0535
15	510	MOTT	31	1.0802
15	522	NEW ENGLAND	31	1.0724
15	540	PALERMO	262	1.1060
15	558	RAY	264	1.1287
15	561	REGENT	31	1.0802
15	563	RHAME	34	1.0381
15	564	RICHARDTON	31	1.0724
15	568	ROSS	261	1.0915
15	583	SENTINEL BUTTE	32	1.0359
15	588	SOUTH HEART	31	1.0724

MONTANA-DAKOTA UTILITIES CO.
Therm Billing Factor
NOV 2012

Div Nbr	Off Code	City Name	Heat Zone Nbr	Therm Billing Factor
15	590	SPRINGBROOK	264	1.1287
15	591	STANLEY	261	1.0994
15	611	TAYLOR	31	1.0724
15	616	TIOGA	261	1.0915
15	620	TRENTON	24	1.1368
15	632	WATFORD CITY	25	1.1107
15	636	WHEELLOCK	264	1.1206
15	637	WHITE EARTH	261	1.0994
15	642	WILLISTON	24	1.1368
15	691	FAIRVIEW	241	1.1311
15	743	BAKER FIELD	35	.8980

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

GQ Source Daily Summary

October 2012

Number: 251

Pressure Base: 14.730

Contract Day: 1

Name: SIDNEY BORDER-MONDAK JNCTN-SIDNEY 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	0.7336	1181.9	1202.8	1.147	3.797	68.585	22.253	3.817	0.126	0.245	0.015	0.013	0.003	0.000	0.000	0.000	0.000	1404.29	
2	0.7352	1184.3	1205.3	1.144	3.800	68.522	22.095	3.994	0.139	0.271	0.017	0.015	0.003	0.000	0.000	0.000	0.000	1405.66	
3	0.7303	1178.7	1199.5	1.129	3.711	68.831	22.468	3.519	0.109	0.208	0.012	0.010	0.002	0.000	0.000	0.000	0.000	1403.64	
4	0.7268	1174.9	1195.7	1.088	3.668	69.465	22.015	3.404	0.112	0.214	0.015	0.014	0.004	0.000	0.000	0.000	0.000	1402.56	
5	0.7309	1177.4	1198.3	1.150	3.812	68.810	22.285	3.587	0.114	0.217	0.013	0.011	0.002	0.000	0.000	0.000	0.000	1401.56	
6	0.7312	1177.5	1198.3	1.155	3.828	68.798	22.236	3.619	0.116	0.221	0.013	0.011	0.002	0.000	0.000	0.000	0.000	1401.36	
7	0.7328	1179.9	1200.8	1.149	3.836	68.775	22.010	3.810	0.133	0.255	0.016	0.014	0.003	0.000	0.000	0.000	0.000	1402.75	
8	0.7280	1185.1	1206.1	0.774	3.697	68.755	23.182	3.324	0.109	0.195	0.011	0.010	0.003	0.000	0.000	0.000	0.000	1413.58	
9	0.7287	1175.9	1196.7	1.079	3.805	69.024	22.296	3.460	0.109	0.203	0.011	0.009	0.002	0.000	0.000	0.000	0.000	1401.86	
10	0.7273	1177.8	1198.7	0.947	3.758	68.979	22.690	3.327	0.099	0.181	0.010	0.008	0.002	0.000	0.000	0.000	0.000	1405.59	
11	0.7369	1212.2	1233.7	0.379	3.415	68.101	23.230	4.280	0.193	0.354	0.022	0.022	0.006	0.000	0.000	0.000	0.000	1437.01	
12	0.7265	1181.3	1202.2	0.744	3.776	69.392	22.062	3.674	0.115	0.212	0.012	0.010	0.003	0.000	0.000	0.000	0.000	1410.57	
13	0.7329	1179.8	1200.7	1.139	3.858	69.031	21.493	4.032	0.143	0.272	0.016	0.014	0.003	0.000	0.000	0.000	0.000	1402.60	
14	0.7344	1182.8	1203.8	1.140	3.820	68.864	21.569	4.141	0.148	0.283	0.017	0.014	0.004	0.000	0.000	0.000	0.000	1404.66	
15	0.7350	1184.1	1205.1	1.139	3.799	68.891	21.435	4.253	0.154	0.293	0.018	0.015	0.004	0.000	0.000	0.000	0.000	1405.62	
16	0.7329	1180.4	1201.3	1.138	3.825	69.017	21.540	4.043	0.140	0.265	0.016	0.013	0.003	0.000	0.000	0.000	0.000	1403.29	
17	0.7305	1176.4	1197.2	1.142	3.847	69.141	21.665	3.852	0.115	0.215	0.012	0.010	0.002	0.000	0.000	0.000	0.000	1400.72	
18	0.7320	1178.6	1199.5	1.141	3.851	69.029	21.598	4.003	0.124	0.230	0.013	0.010	0.002	0.000	0.000	0.000	0.000	1401.96	
19	0.7311	1177.2	1198.1	1.144	3.847	69.052	21.738	3.845	0.120	0.227	0.013	0.011	0.002	0.000	0.000	0.000	0.000	1401.17	
20	0.7340	1181.6	1202.6	1.140	3.850	68.900	21.535	4.128	0.142	0.271	0.016	0.014	0.003	0.000	0.000	0.000	0.000	1403.67	
21	0.7287	1173.2	1194.0	1.146	3.866	69.378	21.554	3.678	0.122	0.229	0.013	0.011	0.003	0.000	0.000	0.000	0.000	1398.67	
22	0.7306	1176.3	1197.1	1.142	3.857	69.217	21.522	3.872	0.126	0.237	0.013	0.011	0.003	0.000	0.000	0.000	0.000	1400.56	
23	0.7294	1174.2	1194.9	1.142	3.872	69.315	21.527	3.783	0.117	0.219	0.012	0.010	0.003	0.000	0.000	0.000	0.000	1399.20	
24	0.7301	1175.4	1196.2	1.135	3.877	69.213	21.573	3.840	0.118	0.220	0.012	0.010	0.003	0.000	0.000	0.000	0.000	1399.99	
25	0.7315	1177.7	1198.6	1.135	3.869	69.085	21.557	3.989	0.119	0.222	0.012	0.010	0.003	0.000	0.000	0.000	0.000	1401.35	
26	0.7275	1170.6	1191.3	1.136	3.927	69.701	21.075	3.796	0.119	0.221	0.012	0.010	0.003	0.000	0.000	0.000	0.000	1396.62	
27	0.7306	1176.5	1197.4	1.139	3.849	69.145	21.617	3.910	0.111	0.206	0.011	0.009	0.003	0.000	0.000	0.000	0.000	1400.83	
28	0.7304	1175.9	1196.7	1.139	3.871	69.171	21.575	3.901	0.111	0.207	0.011	0.009	0.003	0.000	0.000	0.000	0.000	1400.22	
29	0.7297	1174.8	1195.6	1.144	3.863	69.220	21.650	3.773	0.113	0.212	0.012	0.010	0.003	0.000	0.000	0.000	0.000	1399.65	
30	0.7231	1176.7	1197.5	0.807	3.640	69.800	22.046	3.415	0.096	0.176	0.010	0.008	0.003	0.000	0.000	0.000	0.000	1408.40	
31	0.7110	1178.8	1199.7	0.220	3.277	70.839	22.706	2.800	0.057	0.093	0.003	0.003	0.001	0.000	0.000	0.000	0.000	1422.72	
Avg	0.7301	1179.0	1200.2	1.042	3.784	69.098	21.929	3.770	0.122	0.228	0.013	0.011	0.003	0.000	0.000	0.000	0.000	1404.59	

Zone 211

GQ Source Daily Summary

October 2012

Number: 372

Pressure Base: 14.730

Contract Day: 1

Name: NESSON PLANT-CHARBONNEAU 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	0.7105	1179.2	1200.1	0.835	2.245	73.673	18.561	4.303	0.140	0.234	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1423.78	
2	0.7123	1178.9	1199.8	0.821	2.464	73.102	19.178	3.980	0.144	0.277	0.014	0.015	0.006	0.000	0.000	0.000	0.000	1421.54	
3	0.7164	1181.3	1202.2	0.808	2.718	72.052	20.234	3.679	0.143	0.307	0.021	0.026	0.011	0.000	0.000	0.000	0.000	1420.44	
4	0.7199	1184.1	1205.1	0.787	2.907	71.223	21.033	3.489	0.147	0.341	0.027	0.032	0.014	0.000	0.000	0.000	0.000	1420.37	
5	0.7202	1191.6	1212.7	0.809	2.438	71.997	19.898	4.330	0.165	0.321	0.016	0.018	0.008	0.000	0.000	0.000	0.000	1429.04	
6	0.7118	1176.6	1197.4	0.797	2.593	72.916	19.534	3.696	0.135	0.279	0.018	0.021	0.010	0.000	0.000	0.000	0.000	1419.26	
7	0.7171	1183.3	1204.3	0.818	2.651	72.066	20.129	3.825	0.146	0.309	0.021	0.024	0.011	0.000	0.000	0.000	0.000	1422.07	
8	0.7197	1186.9	1207.9	0.795	2.704	71.458	20.803	3.700	0.150	0.328	0.023	0.027	0.011	0.000	0.000	0.000	0.000	1423.90	
9	0.7098	1170.6	1191.4	0.920	2.605	70.161	25.168	0.940	0.048	0.123	0.012	0.014	0.009	0.000	0.000	0.000	0.000	1414.10	
10	0.7105	1172.1	1192.9	0.918	2.579	70.132	25.121	1.039	0.052	0.128	0.011	0.013	0.007	0.000	0.000	0.000	0.000	1415.26	
11	0.7139	1174.3	1195.1	0.952	2.720	69.756	24.995	1.365	0.057	0.129	0.010	0.011	0.006	0.000	0.000	0.000	0.000	1414.41	
12	0.7129	1176.9	1197.7	0.904	2.539	70.210	24.531	1.569	0.069	0.151	0.011	0.011	0.005	0.000	0.000	0.000	0.000	1418.51	
13	0.7097	1174.1	1194.8	0.882	2.433	71.325	23.111	1.976	0.082	0.167	0.009	0.010	0.004	0.000	0.000	0.000	0.000	1418.34	
14	0.7123	1177.9	1198.8	0.885	2.444	70.524	24.155	1.737	0.075	0.159	0.009	0.010	0.004	0.000	0.000	0.000	0.000	1420.36	
15	0.7139	1183.3	1204.2	0.848	2.314	72.101	20.925	3.434	0.128	0.234	0.008	0.007	0.002	0.000	0.000	0.000	0.000	1425.17	
16	0.7099	1173.4	1194.2	0.890	2.493	69.987	25.572	0.887	0.044	0.104	0.009	0.010	0.004	0.000	0.000	0.000	0.000	1417.35	
17	0.7117	1175.8	1196.6	0.891	2.509	70.186	24.856	1.329	0.063	0.138	0.011	0.012	0.004	0.000	0.000	0.000	0.000	1418.45	
18	0.7116	1177.1	1197.9	0.873	2.449	70.746	23.863	1.792	0.083	0.168	0.011	0.011	0.004	0.000	0.000	0.000	0.000	1420.03	
19	0.7043	1161.8	1182.3	0.901	2.662	70.341	25.686	0.355	0.012	0.030	0.003	0.005	0.004	0.000	0.000	0.000	0.000	1408.87	
20	0.7062	1164.3	1184.9	0.926	2.652	70.043	25.888	0.443	0.014	0.027	0.002	0.002	0.003	0.000	0.000	0.000	0.000	1410.04	
21	0.7140	1169.0	1189.7	0.989	2.990	69.846	24.432	1.573	0.053	0.103	0.006	0.006	0.002	0.000	0.000	0.000	0.000	1408.00	
22	0.7082	1170.0	1190.7	0.910	2.517	69.565	26.612	0.328	0.016	0.041	0.004	0.004	0.002	0.000	0.000	0.000	0.000	1414.93	
23	0.7063	1165.1	1185.7	0.920	2.625	69.780	26.398	0.252	0.007	0.015	0.001	0.001	0.001	0.000	0.000	0.000	0.000	1410.86	
24	0.7130	1167.2	1187.9	0.993	3.003	69.663	24.924	1.300	0.039	0.070	0.004	0.003	0.001	0.000	0.000	0.000	0.000	1406.82	
25	0.7173	1169.7	1190.4	1.028	3.202	69.459	24.274	1.869	0.056	0.102	0.005	0.004	0.001	0.000	0.000	0.000	0.000	1405.51	
26	0.7184	1171.3	1192.0	1.025	3.215	69.347	24.258	1.978	0.059	0.108	0.006	0.004	0.001	0.000	0.000	0.000	0.000	1406.33	
27	0.7169	1169.7	1190.4	1.017	3.182	69.436	24.410	1.795	0.053	0.097	0.005	0.004	0.001	0.000	0.000	0.000	0.000	1405.93	
28	0.7140	1165.8	1186.4	1.011	3.156	69.736	24.424	1.530	0.047	0.087	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1404.06	
29	0.7150	1166.1	1186.7	1.020	3.222	69.724	24.156	1.733	0.048	0.088	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1403.41	
30	0.7136	1166.2	1186.8	1.002	3.107	69.683	24.656	1.429	0.041	0.075	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1404.98	
31	0.7129	1167.0	1187.6	0.993	3.007	69.648	24.970	1.267	0.037	0.069	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1406.62	
AVG	0.7130	1174.0	1194.7	0.909	2.721	70.642	23.444	2.030	0.076	0.155	0.010	0.010	0.004	0.000	0.000	0.000	0.000	1414.80	

Zone 24, 264

GQ Source Analysis

WBI Energy Transmission, Inc.

GQ Source Number:	0602160	Specific Gravity:	0.7261
GQ Source Name:	FAIRVIEW BORDER	Dry Heat Value:	1189.05
Effective Date:	10/1/2012 9:00:00 AM	Wet Heat Value:	1168.36
Effective End Date:	11/1/2012 9:00:00 AM	As Deliv. Heat Value:	1189.05
Pressure Base:	14.730	Sample Pressure:	0.00
Viscosity:		Sample Temperature:	

		<u>Mol %</u>	<u>Liquid Content</u>			<u>Mol %</u>
C1	Methane	69.690		CO2	Carbon Dioxide	1.148
C2	Ethane	21.098	5.6260	N2	Nitrogen	3.878
C3	Propane	3.815	1.0480	O2	Oxygen	0.000
IC4	Isobutane	0.119	0.0390	He	Helium	
NC4	n-Butane	0.228	0.0720	H2	Hydrogen	
IC5	Isopentane	0.013	0.0050	H2S	Hydrogen Sulfide	
NC5	n-Pentane	0.011	0.0040	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% 6.794 GPM

Sample Date: 10/31/2012 12:00:00 AM
Sample Type: Composite
Sample Tech: sampler
H2S: ppm

Sample Remarks:

Analysis Tech: Lab

Analysis Remarks:

Zone 241

GQ Source Analysis

WBI Energy Transmission, Inc.

GQ Source Number:	0602230	Specific Gravity:	0.7044
GQ Source Name:	WATFORD CITY BORDER	Dry Heat Value:	1176.07
Effective Date:	10/1/2012 9:00:00 AM	Wet Heat Value:	1155.60
Effective End Date:	11/1/2012 9:00:00 AM	As Deliv. Heat Value:	1176.07
Pressure Base:	14.730	Sample Pressure:	0.00
Viscosity:		Sample Temperature:	

		<u>Mol %</u>	<u>Liquid Content</u>			<u>Mol %</u>
C1	Methane	70.761		CO2	Carbon Dioxide	0.970
C2	Ethane	24.265	6.4700	N2	Nitrogen	2.907
C3	Propane	1.001	0.2750	O2	Oxygen	0.000
IC4	Isobutane	0.031	0.0100	He	Helium	
NC4	n-Butane	0.058	0.0180	H2	Hydrogen	
IC5	Isopentane	0.003	0.0010	H2S	Hydrogen Sulfide	
NC5	n-Pentane	0.003	0.0010	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	99.999%	6.775 GPM
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Sample Date: 10/31/2012 12:00:00 AM
Sample Type: Composite
Sample Tech: sampler
H2S: ppm

Sample Remarks:

Analysis Tech: Lab

Analysis Remarks:

Zone 25

GQ Source Daily Summary

October 2012

Number: 163

Pressure Base: 14.730

Contract Day: 1

Name: NORTH TIOGA TRANSFER-PALERMO 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	0.6944	1148.2	1168.6	0.470	3.194	74.374	19.372	2.250	0.088	0.194	0.018	0.024	0.016					1402.30	
2	0.6900	1141.8	1162.0	0.317	3.408	74.778	19.201	1.996	0.069	0.166	0.019	0.025	0.023					1398.86	
3	0.6829	1131.8	1151.9	0.265	3.433	75.406	19.263	1.410	0.052	0.124	0.013	0.016	0.020					1393.84	
4	0.6732	1118.6	1138.5	0.166	3.470	76.690	18.566	0.957	0.033	0.078	0.008	0.010	0.020					1387.58	
5	0.6891	1140.7	1160.9	0.380	3.296	74.842	19.393	1.768	0.077	0.178	0.018	0.023	0.025					1398.45	
6	0.6974	1154.4	1174.8	0.500	3.056	74.067	19.518	2.518	0.096	0.195	0.015	0.018	0.016					1406.75	
7	0.6907	1143.2	1163.5	0.503	3.103	74.688	19.409	2.109	0.061	0.108	0.005	0.005	0.008					1399.93	
8	0.6910	1143.3	1163.5	0.505	3.124	74.675	19.349	2.154	0.062	0.112	0.005	0.006	0.007					1399.71	
9	0.6899	1141.4	1161.6	0.523	3.108	74.619	19.703	1.865	0.056	0.106	0.006	0.007	0.008					1398.56	
10	0.6905	1142.7	1162.9	0.518	3.100	74.504	19.798	1.900	0.057	0.104	0.005	0.005	0.007					1399.43	
11	0.6914	1143.9	1164.2	0.519	3.107	74.360	19.894	1.942	0.058	0.104	0.005	0.004	0.006					1400.04	
12	0.6933	1146.8	1167.1	0.504	3.127	74.152	19.943	2.073	0.064	0.117	0.006	0.006	0.008					1401.67	
13	0.6930	1146.4	1166.7	0.493	3.142	74.261	19.766	2.135	0.065	0.119	0.006	0.007	0.007					1401.46	
14	0.6923	1144.5	1164.8	0.499	3.177	74.195	19.986	1.960	0.059	0.108	0.005	0.005	0.007					1399.98	
15	0.6915	1143.9	1164.2	0.487	3.161	74.487	19.572	2.105	0.061	0.112	0.005	0.005	0.006					1399.99	
16	0.6927	1145.4	1165.7	0.496	3.169	74.375	19.580	2.153	0.071	0.135	0.007	0.007	0.005					1400.58	
17	0.6917	1143.1	1163.4	0.508	3.195	74.435	19.625	2.021	0.069	0.129	0.006	0.006	0.004					1398.82	
18	0.6920	1144.3	1164.6	0.506	3.148	74.399	19.706	2.023	0.070	0.129	0.007	0.007	0.006					1400.04	
19	0.6917	1144.1	1164.4	0.487	3.166	74.316	19.885	1.949	0.063	0.117	0.005	0.005	0.006					1400.04	
20	0.6935	1146.7	1167.0	0.499	3.159	74.241	19.715	2.155	0.073	0.139	0.006	0.006	0.007					1401.35	
21	0.6951	1147.1	1167.4	0.533	3.238	73.920	19.924	2.151	0.074	0.139	0.007	0.007	0.006					1400.20	
22	0.6925	1142.8	1163.0	0.534	3.252	74.129	19.988	1.896	0.066	0.120	0.005	0.005	0.004					1397.62	
23	0.6931	1144.1	1164.4	0.540	3.218	73.983	20.189	1.879	0.064	0.115	0.005	0.005	0.002					1398.66	
24	0.6943	1144.3	1164.5	0.572	3.271	73.874	20.127	1.948	0.068	0.125	0.006	0.006	0.003					1397.61	
25	0.6982	1149.0	1169.3	0.582	3.333	73.634	19.867	2.267	0.093	0.187	0.014	0.015	0.007					1399.42	
26	0.6982	1149.9	1170.2	0.556	3.323	73.571	20.010	2.213	0.093	0.192	0.015	0.017	0.009					1400.46	
27	0.6950	1144.5	1164.8	0.564	3.340	73.825	19.989	2.070	0.070	0.128	0.007	0.006	0.002					1397.16	
28	0.6951	1144.9	1165.2	0.559	3.331	73.834	19.971	2.084	0.072	0.135	0.006	0.006	0.002					1397.54	
29	0.6960	1146.8	1167.1	0.543	3.328	73.926	19.678	2.245	0.085	0.168	0.011	0.011	0.005					1398.86	
30	0.6942	1144.4	1164.7	0.521	3.333	74.274	19.368	2.217	0.085	0.171	0.012	0.012	0.009					1397.84	
31	0.6945	1142.0	1162.3	0.497	3.424	74.409	18.991	2.342	0.091	0.203	0.016	0.020	0.007					259.21	
Avg	0.6922	1144.0	1164.0	0.489	3.233	74.363	19.656	2.024	0.070	0.137	0.009	0.010	0.009					1362.39	

Zone 261

GQ Source Daily Summary

October 2012

Number: 091

Pressure Base: 14.730

Contract Day: 1

Name: MINOT BRDR-PALERMO BRDR-BISMARCK Temperature Base: 5

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	0.6971	1153.1	1173.5	0.492	3.119	73.936	19.730	2.406	0.089	0.192	0.013	0.018	0.006	0.000	0.000	0.000	0.000	1405.51	
2	0.6958	1150.8	1171.2	0.495	3.129	74.002	19.810	2.276	0.082	0.176	0.011	0.015	0.004	0.000	0.000	0.000	0.000	1404.08	
3	0.7131	1162.1	1182.7	0.504	4.055	71.243	20.828	2.992	0.101	0.234	0.017	0.021	0.006	0.000	0.000	0.000	0.000	1400.60	
4	0.7309	1175.4	1196.2	0.530	4.870	68.307	22.159	3.723	0.113	0.261	0.016	0.018	0.004	0.000	0.000	0.000	0.000	1399.24	
5	0.7193	1165.7	1186.3	0.477	4.455	70.151	21.342	3.155	0.108	0.261	0.019	0.024	0.008	0.000	0.000	0.000	0.000	1398.85	
6	0.7029	1161.8	1182.4	0.516	3.092	73.305	19.989	2.647	0.120	0.276	0.022	0.027	0.006	0.000	0.000	0.000	0.000	1410.26	
7	0.6936	1147.5	1167.8	0.539	3.061	74.196	19.829	2.184	0.066	0.121	0.001	0.002	0.001	0.000	0.000	0.000	0.000	1402.24	
8	0.6925	1145.4	1165.7	0.526	3.105	74.332	19.704	2.156	0.062	0.113	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1400.79	
9	0.6920	1144.7	1165.0	0.539	3.081	74.285	19.935	1.988	0.059	0.111	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1400.43	
10	0.6924	1145.2	1165.5	0.552	3.071	74.172	20.089	1.945	0.059	0.111	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1400.62	
11	0.6923	1145.3	1165.6	0.530	3.084	74.155	20.120	1.945	0.058	0.107	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1400.92	
12	0.6945	1148.5	1168.9	0.542	3.080	73.732	20.529	1.946	0.060	0.112	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1402.58	
13	0.6956	1150.3	1170.7	0.514	3.112	73.827	20.112	2.234	0.068	0.129	0.001	0.002	0.000	0.000	0.000	0.000	0.000	1403.69	
14	0.6939	1147.1	1167.4	0.535	3.120	73.927	20.224	2.021	0.061	0.112	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1401.43	
15	0.6949	1147.6	1168.0	0.520	3.206	73.647	20.469	1.986	0.059	0.113	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1401.09	
16	0.6931	1146.2	1166.5	0.514	3.131	74.214	19.799	2.157	0.065	0.119	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1401.15	
17	0.6947	1148.1	1168.4	0.517	3.164	73.978	19.951	2.162	0.076	0.146	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1401.81	
18	0.6930	1145.6	1165.8	0.523	3.152	74.117	20.003	2.006	0.068	0.127	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1400.42	
19	0.6937	1147.1	1167.4	0.526	3.116	73.896	20.337	1.937	0.066	0.122	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1401.66	
20	0.6941	1147.4	1167.7	0.525	3.129	74.049	19.959	2.136	0.071	0.131	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1401.68	
21	0.6962	1149.7	1170.1	0.542	3.160	73.692	20.217	2.175	0.074	0.138	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1402.39	
22	0.6955	1147.3	1167.6	0.554	3.229	73.720	20.227	2.058	0.072	0.136	0.001	0.002	0.000	0.000	0.000	0.000	0.000	1400.06	
23	0.6950	1147.0	1167.3	0.554	3.205	73.636	20.485	1.929	0.067	0.124	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1400.17	
24	0.6949	1146.1	1166.4	0.581	3.208	73.613	20.538	1.878	0.064	0.118	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1399.23	
25	0.6981	1148.4	1168.8	0.618	3.304	73.426	20.236	2.170	0.081	0.158	0.004	0.004	0.001	0.000	0.000	0.000	0.000	1398.89	
26	0.7023	1155.6	1176.1	0.597	3.296	73.051	20.309	2.351	0.108	0.243	0.017	0.021	0.006	0.000	0.000	0.000	0.000	1403.34	
27	0.6971	1147.7	1168.0	0.591	3.303	73.454	20.329	2.109	0.073	0.139	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1398.91	
28	0.6972	1148.0	1168.3	0.584	3.306	73.386	20.433	2.083	0.071	0.135	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1399.17	
29	0.6974	1148.5	1168.8	0.568	3.315	73.544	20.115	2.211	0.081	0.159	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1399.59	
30	0.6980	1150.2	1170.5	0.553	3.291	73.612	19.936	2.315	0.090	0.185	0.008	0.009	0.000	0.000	0.000	0.000	0.000	1401.02	
31	0.6950	1145.3	1165.6	0.556	3.298	73.940	19.847	2.113	0.078	0.157	0.005	0.006	0.000	0.000	0.000	0.000	0.000	1398.16	
Avg	0.6979	1150.0	1170.7	0.539	3.298	73.437	20.245	2.239	0.077	0.154	0.005	0.006	0.001	0.000	0.000	0.000	0.000	1401.29	

zone 262

GQ Source Analysis

WBI Energy Transmission, Inc.

GQ Source Number:	2501030	Specific Gravity:	0.6757
GQ Source Name:	LIGNITE PLANT	Dry Heat Value:	1139.81
Effective Date:	10/1/2012 9:00:00 AM	Wet Heat Value:	1119.98
Effective End Date:	11/1/2012 9:00:00 AM	As Deliv. Heat Value:	1139.81
Pressure Base:	14.730	Sample Pressure:	0.00
Viscosity:		Sample Temperature:	

		<u>Mol %</u>	<u>Liquid Content</u>			<u>Mol %</u>
C1	Methane	75.661		CO2	Carbon Dioxide	0.111
C2	Ethane	19.427	5.1800	N2	Nitrogen	3.686
C3	Propane	1.105	0.3030	O2	Oxygen	0.000
IC4	Isobutane	0.002	0.0010	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	0.008	0.0030	CO	Carbon Monoxide	
C7	Heptanes			H2	Water	
C8	Octanes			Neo-C5	Neopentane	
C9	Nonanes					
C10	Decanes					

Totals 100.000% 5.487 GPM

Sample Date: 10/31/2012 12:00:00 AM
Sample Type: Composite
Sample Tech: sampler
H2S: ppm

Sample Remarks:

Analysis Tech: Lab

Analysis Remarks:

Zone 263

GQ Source Daily Summary

October 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	Heating Value	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
		Wet	Dry																
1	0.6941	1148.7	1169.0	0.493	3.106	74.342	19.553	2.207	0.079	0.167	0.013	0.016	0.023	0.000	0.000	0.000	0.000	1403.14	
2	0.6965	1151.4	1171.8	0.483	3.171	74.205	19.417	2.323	0.096	0.224	0.023	0.029	0.030	0.000	0.000	0.000	0.000	1404.13	
3	0.7224	1168.3	1188.9	0.521	4.521	70.007	20.996	3.504	0.111	0.263	0.022	0.027	0.029	0.000	0.000	0.000	0.000	1398.94	
4	0.7301	1175.7	1196.5	0.533	4.779	68.442	22.178	3.658	0.107	0.246	0.017	0.019	0.020	0.000	0.000	0.000	0.000	1400.26	
5	0.7244	1170.7	1191.5	0.498	4.596	69.538	21.449	3.453	0.114	0.275	0.023	0.026	0.028	0.000	0.000	0.000	0.000	1399.88	
6	0.7026	1159.6	1180.1	0.492	3.237	73.403	19.776	2.604	0.120	0.282	0.025	0.030	0.030	0.000	0.000	0.000	0.000	1407.84	
7	0.6921	1145.8	1166.1	0.533	3.033	74.581	19.468	2.168	0.065	0.119	0.006	0.007	0.020	0.000	0.000	0.000	0.000	1401.66	
8	0.6920	1145.3	1165.6	0.523	3.066	74.540	19.517	2.155	0.062	0.111	0.005	0.005	0.016	0.000	0.000	0.000	0.000	1401.18	
9	0.6911	1143.9	1164.1	0.532	3.058	74.580	19.614	2.024	0.059	0.108	0.005	0.005	0.016	0.000	0.000	0.000	0.000	1400.34	
10	0.6912	1143.8	1164.0	0.551	3.047	74.446	19.876	1.885	0.057	0.109	0.006	0.007	0.016	0.000	0.000	0.000	0.000	1400.07	
11	0.6916	1144.6	1164.9	0.544	3.044	74.358	19.961	1.906	0.057	0.106	0.005	0.005	0.015	0.000	0.000	0.000	0.000	1400.70	
12	0.6925	1145.3	1165.6	0.551	3.066	74.234	20.015	1.944	0.059	0.108	0.004	0.004	0.014	0.000	0.000	0.000	0.000	1400.77	
13	0.6950	1150.1	1170.4	0.519	3.064	74.027	19.953	2.213	0.068	0.128	0.006	0.006	0.015	0.000	0.000	0.000	0.000	1403.97	
14	0.6920	1144.9	1165.2	0.524	3.095	74.340	19.863	1.984	0.059	0.108	0.005	0.005	0.017	0.000	0.000	0.000	0.000	1400.66	
15	0.6936	1146.9	1167.3	0.522	3.116	74.092	20.024	2.051	0.059	0.111	0.005	0.005	0.015	0.000	0.000	0.000	0.000	1401.61	
16	0.6915	1144.1	1164.3	0.510	3.119	74.609	19.409	2.147	0.064	0.117	0.005	0.005	0.016	0.000	0.000	0.000	0.000	1400.14	
17	0.6940	1147.5	1167.9	0.519	3.127	74.206	19.747	2.148	0.075	0.147	0.008	0.008	0.015	0.000	0.000	0.000	0.000	1401.84	
18	0.6923	1144.6	1164.8	0.527	3.133	74.346	19.783	1.991	0.067	0.127	0.006	0.006	0.014	0.000	0.000	0.000	0.000	1399.99	
19	0.6928	1146.2	1166.5	0.530	3.078	74.210	20.020	1.942	0.067	0.125	0.006	0.006	0.015	0.000	0.000	0.000	0.000	1401.44	
20	0.6929	1146.1	1166.4	0.518	3.113	74.281	19.796	2.075	0.067	0.125	0.005	0.005	0.015	0.000	0.000	0.000	0.000	1401.24	
21	0.6952	1148.9	1169.3	0.536	3.124	73.950	20.013	2.142	0.073	0.137	0.006	0.005	0.015	0.000	0.000	0.000	0.000	1402.42	
22	0.6949	1146.7	1167.0	0.558	3.198	73.998	19.898	2.106	0.073	0.139	0.007	0.007	0.016	0.000	0.000	0.000	0.000	1399.99	
23	0.6934	1144.6	1164.9	0.564	3.179	74.003	20.175	1.872	0.065	0.120	0.005	0.005	0.013	0.000	0.000	0.000	0.000	1398.93	
24	0.6940	1145.5	1165.8	0.577	3.164	73.884	20.296	1.879	0.063	0.116	0.005	0.004	0.013	0.000	0.000	0.000	0.000	1399.38	
25	0.6962	1147.0	1167.3	0.606	3.232	73.709	20.168	2.045	0.073	0.139	0.007	0.007	0.014	0.000	0.000	0.000	0.000	1399.00	
26	0.7005	1153.4	1173.8	0.590	3.271	73.431	19.986	2.328	0.104	0.230	0.019	0.022	0.020	0.000	0.000	0.000	0.000	1402.43	
27	0.6970	1148.3	1168.7	0.582	3.268	73.645	20.113	2.120	0.079	0.158	0.009	0.010	0.015	0.000	0.000	0.000	0.000	1399.77	
28	0.6955	1145.9	1166.2	0.584	3.273	73.779	20.086	2.054	0.069	0.131	0.006	0.006	0.012	0.000	0.000	0.000	0.000	1398.30	
29	0.6957	1146.1	1166.4	0.579	3.285	73.865	19.889	2.131	0.076	0.147	0.007	0.007	0.013	0.000	0.000	0.000	0.000	1398.39	
30	0.6970	1148.9	1169.2	0.565	3.255	73.877	19.711	2.289	0.088	0.177	0.011	0.012	0.017	0.000	0.000	0.000	0.000	1400.47	
31	0.6944	1145.3	1165.5	0.545	3.264	74.204	19.555	2.147	0.081	0.165	0.011	0.012	0.017	0.000	0.000	0.000	0.000	1398.66	
Avg	0.6974	1149.0	1169.8	0.539	3.293	73.649	20.010	2.242	0.076	0.154	0.009	0.010	0.018	0.000	0.000	0.000	0.000	1400.89	

Zone 271

GQ Source Daily Summary

October 2012

Number: 063

Pressure Base: 14.730

Contract Day: 1

Name: CLEVELAND STATION-MAPLETON

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value		CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
		Wet	Dry																
1	0.6964	1152.4	1172.8	0.500	3.086	74.107	19.636	2.330	0.087	0.189	0.017	0.022	0.026	0.000	0.000	0.000	0.000	0.000	1405.32
2	0.6963	1151.4	1171.8	0.498	3.140	74.046	19.705	2.270	0.087	0.195	0.018	0.022	0.020	0.000	0.000	0.000	0.000	0.000	1404.22
3	0.7152	1164.1	1184.7	0.528	4.087	71.336	20.352	3.207	0.119	0.282	0.027	0.035	0.027	0.000	0.000	0.000	0.000	0.000	1401.01
4	0.7238	1170.0	1190.7	0.514	4.558	69.414	21.760	3.371	0.099	0.228	0.017	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1399.70
5	0.7307	1176.8	1197.6	0.520	4.785	68.551	21.930	3.737	0.118	0.283	0.023	0.028	0.026	0.000	0.000	0.000	0.000	0.000	1401.01
6	0.7075	1157.2	1177.7	0.475	3.865	72.073	20.626	2.548	0.098	0.239	0.022	0.027	0.026	0.000	0.000	0.000	0.000	0.000	1400.24
7	0.7012	1160.3	1180.8	0.531	3.003	73.616	19.787	2.660	0.108	0.232	0.017	0.021	0.024	0.000	0.000	0.000	0.000	0.000	1410.11
8	0.6922	1145.5	1165.8	0.532	3.056	74.457	19.649	2.110	0.061	0.108	0.005	0.005	0.016	0.000	0.000	0.000	0.000	0.000	1401.25
9	0.6927	1145.9	1166.2	0.532	3.084	74.417	19.599	2.164	0.063	0.114	0.006	0.006	0.016	0.000	0.000	0.000	0.000	0.000	1401.18
10	0.6916	1144.1	1164.3	0.553	3.059	74.374	19.934	1.884	0.057	0.108	0.006	0.007	0.017	0.000	0.000	0.000	0.000	0.000	1400.10
11	0.6924	1145.5	1165.7	0.555	3.050	74.241	20.035	1.927	0.058	0.109	0.005	0.005	0.015	0.000	0.000	0.000	0.000	0.000	1400.94
12	0.6932	1146.6	1166.9	0.548	3.062	74.102	20.139	1.957	0.059	0.108	0.005	0.005	0.015	0.000	0.000	0.000	0.000	0.000	1401.58
13	0.6950	1149.4	1169.8	0.538	3.074	73.863	20.252	2.062	0.064	0.121	0.006	0.005	0.014	0.000	0.000	0.000	0.000	0.000	1403.20
14	0.6948	1149.1	1169.5	0.522	3.096	74.005	19.998	2.162	0.065	0.122	0.006	0.007	0.017	0.000	0.000	0.000	0.000	0.000	1403.05
15	0.6939	1147.2	1167.5	0.529	3.127	73.925	20.265	1.959	0.059	0.111	0.005	0.005	0.015	0.000	0.000	0.000	0.000	0.000	1401.51
16	0.6941	1147.9	1168.2	0.520	3.109	74.086	19.950	2.131	0.062	0.116	0.005	0.005	0.015	0.000	0.000	0.000	0.000	0.000	1402.22
17	0.6940	1147.5	1167.8	0.522	3.122	74.191	19.770	2.159	0.071	0.135	0.007	0.007	0.015	0.000	0.000	0.000	0.000	0.000	1401.84
18	0.6942	1147.0	1167.4	0.536	3.146	74.123	19.859	2.091	0.075	0.138	0.008	0.008	0.016	0.000	0.000	0.000	0.000	0.000	1401.10
19	0.6935	1146.4	1166.7	0.536	3.125	74.157	19.929	2.023	0.069	0.133	0.007	0.007	0.015	0.000	0.000	0.000	0.000	0.000	1400.97
20	0.6935	1147.4	1167.7	0.512	3.100	74.049	20.161	1.965	0.066	0.123	0.005	0.005	0.015	0.000	0.000	0.000	0.000	0.000	1402.20
21	0.6949	1148.8	1169.2	0.528	3.116	74.015	19.951	2.150	0.073	0.140	0.006	0.006	0.015	0.000	0.000	0.000	0.000	0.000	1402.57
22	0.6969	1149.9	1170.3	0.570	3.171	73.682	20.162	2.169	0.075	0.143	0.006	0.007	0.016	0.000	0.000	0.000	0.000	0.000	1401.92
23	0.6948	1146.4	1166.7	0.567	3.199	73.812	20.256	1.948	0.068	0.127	0.005	0.005	0.014	0.000	0.000	0.000	0.000	0.000	1399.69
24	0.6951	1147.2	1167.5	0.572	3.170	73.689	20.465	1.895	0.065	0.121	0.005	0.005	0.013	0.000	0.000	0.000	0.000	0.000	1400.37
25	0.6961	1147.3	1167.6	0.605	3.213	73.587	20.423	1.949	0.068	0.129	0.006	0.006	0.014	0.000	0.000	0.000	0.000	0.000	1399.41
26	0.6993	1150.8	1171.2	0.610	3.282	73.435	20.111	2.245	0.090	0.188	0.013	0.014	0.012	0.000	0.000	0.000	0.000	0.000	1400.55
27	0.7002	1153.0	1173.4	0.584	3.272	73.300	20.255	2.235	0.096	0.209	0.016	0.019	0.014	0.000	0.000	0.000	0.000	0.000	1402.32
28	0.6965	1147.1	1167.4	0.587	3.284	73.636	20.172	2.090	0.071	0.136	0.006	0.006	0.012	0.000	0.000	0.000	0.000	0.000	1398.82
29	0.6971	1148.0	1168.3	0.591	3.275	73.524	20.292	2.084	0.072	0.137	0.006	0.006	0.012	0.000	0.000	0.000	0.000	0.000	1399.38
30	0.6979	1149.8	1170.1	0.573	3.277	73.621	19.980	2.259	0.086	0.171	0.009	0.010	0.014	0.000	0.000	0.000	0.000	0.000	1400.63
31	0.6968	1148.5	1168.8	0.552	3.276	73.909	19.676	2.275	0.089	0.182	0.012	0.013	0.017	0.000	0.000	0.000	0.000	0.000	1400.25
Avg	0.6984	1151.0	1171.3	0.543	3.299	73.463	20.164	2.259	0.077	0.157	0.010	0.011	0.017	0.000	0.000	0.000	0.000	0.000	1401.57

Zone 272

GQ Source Daily Summary

October 2012

Number: 061

Pressure Base: 14.730

Contract Day: 1

Name: CLEVELAND STATION-GRAFTON 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	0.6964	1152.3	1172.7	0.500	3.088	74.111	19.634	2.326	0.087	0.189	0.017	0.022	0.027	0.000	0.000	0.000	0.000	1405.23	
2	0.6964	1151.5	1171.9	0.494	3.138	74.039	19.717	2.269	0.087	0.195	0.018	0.022	0.020	0.000	0.000	0.000	0.000	1404.37	
3	0.7152	1164.1	1184.7	0.528	4.086	71.331	20.360	3.214	0.117	0.275	0.028	0.035	0.026	0.000	0.000	0.000	0.000	1401.01	
4	0.7241	1170.6	1191.4	0.514	4.551	69.354	21.822	3.376	0.099	0.229	0.017	0.019	0.020	0.000	0.000	0.000	0.000	1400.11	
5	0.7307	1176.8	1197.7	0.519	4.782	68.553	21.930	3.737	0.118	0.285	0.023	0.027	0.026	0.000	0.000	0.000	0.000	1401.08	
6	0.7074	1157.2	1177.7	0.475	3.863	72.072	20.646	2.533	0.098	0.239	0.022	0.026	0.027	0.000	0.000	0.000	0.000	1400.23	
7	0.7009	1159.8	1180.3	0.530	3.006	73.650	19.781	2.635	0.106	0.230	0.018	0.021	0.024	0.000	0.000	0.000	0.000	1409.82	
8	0.6922	1145.6	1165.9	0.531	3.054	74.454	19.653	2.112	0.061	0.109	0.005	0.005	0.016	0.000	0.000	0.000	0.000	1401.37	
9	0.6927	1146.0	1166.3	0.531	3.081	74.406	19.614	2.163	0.063	0.115	0.006	0.006	0.016	0.000	0.000	0.000	0.000	1401.31	
10	0.6918	1144.5	1164.8	0.553	3.058	74.332	19.970	1.890	0.058	0.110	0.006	0.007	0.017	0.000	0.000	0.000	0.000	1400.34	
11	0.6927	1145.9	1166.2	0.558	3.043	74.196	20.074	1.936	0.059	0.109	0.005	0.005	0.015	0.000	0.000	0.000	0.000	1401.23	
12	0.6933	1146.9	1167.2	0.548	3.057	74.090	20.147	1.965	0.059	0.109	0.005	0.005	0.015	0.000	0.000	0.000	0.000	1401.78	
13	0.6951	1149.6	1170.0	0.537	3.073	73.847	20.266	2.065	0.065	0.121	0.006	0.005	0.015	0.000	0.000	0.000	0.000	1403.34	
14	0.6948	1149.2	1169.5	0.524	3.096	73.996	20.007	2.161	0.065	0.121	0.006	0.007	0.018	0.000	0.000	0.000	0.000	1403.06	
15	0.6939	1147.1	1167.4	0.528	3.131	73.935	20.253	1.959	0.059	0.110	0.005	0.005	0.016	0.000	0.000	0.000	0.000	1401.41	
16	0.6940	1147.8	1168.2	0.520	3.110	74.089	19.947	2.131	0.062	0.115	0.005	0.005	0.016	0.000	0.000	0.000	0.000	1402.20	
17	0.6939	1147.4	1167.7	0.522	3.124	74.192	19.778	2.151	0.070	0.134	0.007	0.007	0.015	0.000	0.000	0.000	0.000	1401.77	
18	0.6941	1147.0	1167.3	0.535	3.145	74.130	19.856	2.087	0.074	0.140	0.008	0.008	0.017	0.000	0.000	0.000	0.000	1401.11	
19	0.6935	1146.4	1166.7	0.537	3.124	74.149	19.946	2.014	0.069	0.133	0.007	0.007	0.015	0.000	0.000	0.000	0.000	1400.95	
20	0.6945	1148.2	1168.6	0.534	3.105	73.920	20.238	1.981	0.071	0.125	0.005	0.005	0.015	0.000	0.000	0.000	0.000	1402.27	
21	0.6949	1148.9	1169.3	0.527	3.114	74.007	19.965	2.148	0.073	0.140	0.006	0.005	0.015	0.000	0.000	0.000	0.000	1402.64	
22	0.6969	1150.2	1170.6	0.564	3.166	73.677	20.171	2.175	0.075	0.143	0.006	0.006	0.016	0.000	0.000	0.000	0.000	1402.23	
23	0.6948	1146.4	1166.7	0.569	3.198	73.811	20.253	1.949	0.068	0.127	0.005	0.005	0.014	0.000	0.000	0.000	0.000	1399.66	
24	0.6951	1147.3	1167.6	0.572	3.168	73.673	20.486	1.891	0.065	0.121	0.005	0.005	0.013	0.000	0.000	0.000	0.000	1400.45	
25	0.6962	1147.5	1167.8	0.605	3.208	73.570	20.444	1.951	0.068	0.129	0.006	0.006	0.014	0.000	0.000	0.000	0.000	1399.59	
26	0.6993	1151.0	1171.3	0.610	3.278	73.425	20.121	2.249	0.090	0.188	0.012	0.014	0.013	0.000	0.000	0.000	0.000	1400.69	
27	0.7004	1153.5	1173.9	0.584	3.266	73.261	20.291	2.244	0.096	0.210	0.016	0.019	0.014	0.000	0.000	0.000	0.000	1402.66	
28	0.6966	1147.2	1167.6	0.588	3.286	73.610	20.199	2.085	0.071	0.137	0.006	0.005	0.013	0.000	0.000	0.000	0.000	1398.88	
29	0.6971	1148.0	1168.3	0.593	3.276	73.525	20.289	2.082	0.072	0.138	0.006	0.006	0.013	0.000	0.000	0.000	0.000	1399.32	
30	0.6980	1149.9	1170.2	0.575	3.274	73.609	19.993	2.259	0.086	0.171	0.009	0.010	0.014	0.000	0.000	0.000	0.000	1400.69	
31	0.6969	1148.7	1169.0	0.552	3.275	73.899	19.682	2.278	0.089	0.184	0.011	0.013	0.017	0.000	0.000	0.000	0.000	1400.36	
Avg	0.6985	1151.0	1171.4	0.544	3.298	73.449	20.178	2.259	0.077	0.157	0.010	0.011	0.017	0.000	0.000	0.000	0.000	1401.65	

Zone 273

GQ Source Daily Summary

October 2012

Number: 041

Pressure Base: 14.730

Contract Day: 1

Name: BISMARCK STATION-GLEN ULLIN 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	0.6941	1148.7	1169.0	0.493	3.103	74.344	19.557	2.206	0.079	0.166	0.013	0.016	0.023	0.000	0.000	0.000	0.000	1403.19	
2	0.6962	1151.0	1171.4	0.484	3.170	74.229	19.411	2.310	0.094	0.220	0.023	0.029	0.029	0.000	0.000	0.000	0.000	1403.90	
3	0.7209	1167.2	1187.8	0.512	4.458	70.271	20.849	3.460	0.111	0.260	0.023	0.027	0.028	0.000	0.000	0.000	0.000	1399.12	
4	0.7080	1153.6	1174.0	0.550	4.024	72.397	19.616	3.042	0.096	0.215	0.017	0.019	0.022	0.000	0.000	0.000	0.000	1395.24	
5	0.6310	1063.8	1082.7	0.662	2.080	86.513	9.220	1.301	0.063	0.116	0.015	0.014	0.017	0.000	0.000	0.000	0.000	1362.93	
6	0.6351	1073.4	1092.4	0.589	1.992	85.474	10.556	1.170	0.054	0.123	0.012	0.014	0.015	0.000	0.000	0.000	0.000	1370.75	
7	0.6793	1129.3	1149.3	0.547	2.807	76.966	17.565	1.920	0.058	0.107	0.006	0.007	0.017	0.000	0.000	0.000	0.000	1394.47	
8	0.6896	1142.2	1162.4	0.526	3.025	74.966	19.194	2.095	0.060	0.108	0.005	0.005	0.016	0.000	0.000	0.000	0.000	1399.81	
9	0.6131	1044.3	1062.7	0.646	1.617	89.349	7.581	0.713	0.030	0.047	0.005	0.004	0.008	0.000	0.000	0.000	0.000	1357.22	
10	0.6093	1040.3	1058.7	0.584	1.589	89.843	7.379	0.536	0.021	0.035	0.003	0.003	0.006	0.000	0.000	0.000	0.000	1356.35	
11	0.6406	1080.6	1099.8	0.552	2.128	83.832	12.402	0.990	0.029	0.053	0.002	0.002	0.008	0.000	0.000	0.000	0.000	1374.04	
12	0.6895	1148.4	1168.7	0.358	2.898	73.963	21.285	1.372	0.039	0.070	0.003	0.003	0.009	0.000	0.000	0.000	0.000	1407.55	
13	0.6934	1150.3	1170.7	0.450	3.005	74.003	20.356	1.991	0.060	0.112	0.005	0.005	0.013	0.000	0.000	0.000	0.000	1405.92	
14	0.6916	1146.1	1166.4	0.483	3.046	74.240	20.186	1.867	0.055	0.100	0.004	0.004	0.015	0.000	0.000	0.000	0.000	1402.56	
15	0.6935	1146.8	1167.1	0.521	3.118	74.105	20.014	2.045	0.059	0.111	0.005	0.005	0.016	0.000	0.000	0.000	0.000	1401.50	
16	0.6915	1144.0	1164.3	0.510	3.119	74.613	19.410	2.142	0.064	0.117	0.005	0.004	0.016	0.000	0.000	0.000	0.000	1400.08	
17	0.6940	1147.6	1167.9	0.519	3.121	74.192	19.777	2.147	0.073	0.141	0.007	0.007	0.015	0.000	0.000	0.000	0.000	1401.96	
18	0.6873	1152.8	1173.2	0.158	2.733	73.644	22.508	0.883	0.023	0.042	0.002	0.002	0.006	0.000	0.000	0.000	0.000	1415.18	
19	0.6872	1151.6	1172.0	0.189	2.751	73.770	22.254	0.951	0.027	0.049	0.002	0.002	0.006	0.000	0.000	0.000	0.000	1413.79	
20	0.6910	1148.2	1168.5	0.404	2.986	74.122	20.602	1.713	0.054	0.100	0.004	0.004	0.011	0.000	0.000	0.000	0.000	1405.66	
21	0.6941	1149.2	1169.6	0.494	3.072	73.975	20.218	2.021	0.068	0.127	0.005	0.005	0.014	0.000	0.000	0.000	0.000	1403.82	
22	0.6894	1151.4	1171.8	0.254	2.862	73.690	21.885	1.194	0.036	0.066	0.003	0.003	0.007	0.000	0.000	0.000	0.000	1411.38	
23	0.6898	1148.3	1168.7	0.351	2.947	73.843	21.404	1.323	0.042	0.076	0.003	0.003	0.008	0.000	0.000	0.000	0.000	1407.08	
24	0.6866	1153.4	1173.8	0.123	2.690	73.517	22.914	0.706	0.017	0.029	0.001	0.000	0.003	0.000	0.000	0.000	0.000	1416.58	
25	0.6861	1152.1	1172.5	0.107	2.739	73.625	22.749	0.730	0.016	0.028	0.001	0.001	0.002	0.000	0.000	0.000	0.000	1415.59	
26	0.6661	1112.8	1132.5	0.147	3.197	77.819	17.906	0.888	0.017	0.024	0.001	0.000	0.001	0.000	0.000	0.000	0.000	1387.55	
27	0.6595	1102.5	1122.1	0.135	3.215	79.059	16.756	0.794	0.016	0.022	0.001	0.000	0.001	0.000	0.000	0.000	0.000	1381.68	
28	0.6624	1106.6	1126.2	0.159	3.202	78.548	17.203	0.842	0.017	0.026	0.001	0.001	0.002	0.000	0.000	0.000	0.000	1383.77	
29	0.6662	1111.6	1131.3	0.210	3.177	78.022	17.537	0.981	0.024	0.041	0.002	0.002	0.003	0.000	0.000	0.000	0.000	1386.02	
30	0.6833	1134.5	1154.6	0.339	3.194	75.468	19.742	1.584	0.052	0.100	0.006	0.006	0.008	0.000	0.000	0.000	0.000	1396.73	
31	0.6812	1138.6	1158.8	0.193	2.968	75.064	20.665	1.011	0.030	0.056	0.003	0.004	0.005	0.000	0.000	0.000	0.000	1403.97	
Avg	0.6774	1129.0	1148.7	0.395	2.904	76.692	18.329	1.514	0.048	0.093	0.006	0.007	0.011	0.000	0.000	0.000	0.000	1395.66	

Zone 28

GQ Source Daily Summary

October 2012

Number: 271

Pressure Base: 14.730

Contract Day: 1

Name: DICKINSON STN-BELFIELD TSF-GLENULLIN STN

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	0.6211	1054.9	1073.6	0.631	1.724	87.953	8.624	0.948	0.039	0.073	0.000	0.000	0.007	0.000	0.000	0.000	0.000	1362.25	
2	0.6217	1055.6	1074.3	0.661	1.695	87.916	8.628	0.957	0.046	0.090	0.000	0.000	0.009	0.000	0.000	0.000	0.000	1362.51	
3	0.6122	1043.0	1061.5	0.673	1.553	89.651	7.240	0.764	0.040	0.072	0.000	0.000	0.008	0.000	0.000	0.000	0.000	1356.60	
4	0.6516	1103.3	1122.8	0.304	2.154	80.851	16.030	0.602	0.019	0.036	0.000	0.000	0.005	0.000	0.000	0.000	0.000	1390.72	
5	0.6811	1149.6	1170.0	0.000	2.583	74.142	22.837	0.438	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.60	
6	0.6812	1149.3	1169.7	0.000	2.608	74.099	22.876	0.418	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.19	
7	0.6825	1151.3	1171.7	0.000	2.605	73.849	23.120	0.426	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.34	
8	0.6817	1150.1	1170.5	0.000	2.604	73.988	23.013	0.395	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.65	
9	0.6815	1149.6	1170.0	0.000	2.613	74.024	22.971	0.393	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.31	
10	0.6818	1150.5	1170.9	0.000	2.588	74.016	22.948	0.448	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.08	
11	0.6807	1148.4	1168.7	0.000	2.616	74.197	22.783	0.404	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1416.55	
12	0.6810	1149.1	1169.4	0.000	2.603	74.150	22.827	0.417	0.001	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.10	
13	0.6811	1149.8	1170.2	0.000	2.570	74.145	22.846	0.439	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.87	
14	0.6818	1151.1	1171.5	0.000	2.558	74.043	22.922	0.477	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.70	
15	0.6818	1151.0	1171.4	0.000	2.562	74.039	22.929	0.470	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.61	
16	0.6825	1152.1	1172.5	0.000	2.556	73.941	22.996	0.507	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.30	
17	0.6814	1150.4	1170.8	0.000	2.560	74.078	22.928	0.434	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.33	
18	0.6812	1149.6	1169.9	0.000	2.591	74.150	22.795	0.462	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.50	
19	0.6821	1151.0	1171.4	0.000	2.587	74.015	22.896	0.503	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.33	
20	0.6820	1150.8	1171.2	0.000	2.597	74.018	22.882	0.503	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.11	
21	0.6807	1149.5	1169.9	0.000	2.552	74.199	22.838	0.411	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.91	
22	0.6812	1149.9	1170.3	0.000	2.573	74.082	22.954	0.392	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.88	
23	0.6818	1150.4	1170.8	0.000	2.601	73.973	23.008	0.417	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.87	
24	0.6801	1145.0	1165.3	0.028	2.719	74.510	22.167	0.566	0.004	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.05	
25	0.6634	1108.3	1128.0	0.133	3.218	78.328	17.393	0.897	0.011	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1384.89	
26	0.6578	1100.0	1119.4	0.119	3.223	79.361	16.459	0.810	0.010	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1380.24	
27	0.6592	1102.2	1121.7	0.131	3.206	79.081	16.750	0.806	0.009	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1381.53	
28	0.6630	1108.9	1128.6	0.125	3.162	78.337	17.506	0.841	0.010	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1385.99	
29	0.6716	1127.9	1147.9	0.059	2.916	76.284	20.121	0.609	0.003	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1400.66	
30	0.6750	1136.3	1156.4	0.033	2.768	75.450	21.260	0.486	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1407.46	
31	0.6772	1140.9	1161.1	0.018	2.712	74.974	21.837	0.459	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1410.98	
Avg	0.6711	1132.0	1151.6	0.094	2.586	76.447	20.303	0.552	0.006	0.012	0.000	0.000	0.001	0.000	0.000	0.000	0.000	1405.71	

Zone 31

GQ Source Daily Summary

October 2012

Number: 051

Pressure Base: 14.730

Contract Day: 1

Name: CABIN CREEK STATION-BELFIELD TRANSFER

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value		CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
		Value Wet	Value Dry																
1	0.6523	1103.3	1122.9	0.363	2.138	81.087	15.512	0.789	0.031	0.059	0.006	0.007	0.008	0.000	0.000	0.000	0.000	1390.29	
2	0.6499	1100.2	1119.7	0.352	2.118	81.436	15.293	0.713	0.026	0.047	0.005	0.005	0.005	0.000	0.000	0.000	0.000	1388.96	
3	0.6755	1140.6	1160.8	0.104	2.455	75.575	21.324	0.504	0.011	0.020	0.002	0.002	0.002	0.000	0.000	0.000	0.000	1412.28	
4	0.6794	1146.4	1166.7	0.059	2.533	74.659	22.269	0.454	0.009	0.014	0.001	0.001	0.001	0.000	0.000	0.000	0.000	1415.46	
5	0.6821	1150.4	1170.7	0.024	2.597	74.031	22.890	0.440	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.57	
6	0.6843	1154.6	1175.0	0.001	2.585	73.513	23.482	0.409	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.47	
7	0.6857	1156.6	1177.1	0.001	2.594	73.239	23.733	0.421	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.48	
8	0.6839	1153.4	1173.8	0.005	2.618	73.562	23.417	0.387	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.37	
9	0.6816	1148.5	1168.8	0.019	2.678	74.081	22.784	0.421	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1415.69	
10	0.6848	1155.0	1175.4	0.002	2.608	73.386	23.600	0.393	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.41	
11	0.6547	1084.5	1103.7	0.215	3.733	81.423	12.619	1.770	0.081	0.138	0.009	0.008	0.003	0.000	0.000	0.000	0.000	1363.87	
12	0.6525	1078.1	1097.2	0.226	3.901	81.542	12.529	1.664	0.052	0.077	0.004	0.004	0.002	0.000	0.000	0.000	0.000	1358.17	
13	0.6824	1142.6	1162.8	0.079	3.015	74.507	21.424	0.926	0.019	0.029	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1407.59	
14	0.6849	1154.1	1174.5	0.015	2.650	73.511	23.297	0.508	0.007	0.012	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1419.21	
15	0.6853	1156.6	1177.1	0.002	2.552	73.379	23.584	0.471	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.96	
16	0.6836	1153.1	1173.6	0.013	2.593	73.728	23.179	0.471	0.006	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.35	
17	0.6657	1094.3	1113.7	0.331	3.998	79.121	14.524	1.914	0.041	0.066	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1364.92	
18	0.6711	1103.6	1123.2	0.338	3.923	78.097	15.559	1.968	0.041	0.068	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1371.06	
19	0.6564	1082.7	1101.9	0.255	3.936	80.706	13.327	1.679	0.036	0.056	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1360.06	
20	0.6706	1102.6	1122.1	0.336	3.941	78.183	15.471	1.954	0.041	0.067	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1370.30	
21	0.6636	1091.0	1110.3	0.372	3.934	79.448	14.371	1.770	0.038	0.061	0.003	0.003	0.001	0.000	0.000	0.000	0.000	1363.00	
22	0.6578	1083.3	1102.5	0.356	3.882	80.549	13.411	1.701	0.037	0.058	0.003	0.002	0.001	0.000	0.000	0.000	0.000	1359.36	
23	0.6516	1074.9	1094.0	0.301	3.896	81.528	12.685	1.506	0.031	0.047	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1355.20	
24	0.6491	1072.9	1091.9	0.252	3.856	81.988	12.334	1.487	0.032	0.047	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1355.24	
25	0.6345	1050.2	1068.8	0.270	3.837	84.680	9.951	1.187	0.028	0.041	0.002	0.001	0.001	0.000	0.000	0.000	0.000	1341.76	
26	0.6379	1055.7	1074.4	0.293	3.790	83.997	10.670	1.179	0.027	0.040	0.002	0.002	0.001	0.000	0.000	0.000	0.000	1345.20	
27	0.6452	1067.6	1086.5	0.286	3.769	82.651	11.886	1.328	0.029	0.044	0.003	0.002	0.001	0.000	0.000	0.000	0.000	1352.54	
28	0.6416	1063.0	1081.8	0.260	3.749	83.281	11.379	1.260	0.027	0.039	0.002	0.002	0.001	0.000	0.000	0.000	0.000	1350.51	
29	0.6660	1100.2	1119.6	0.174	3.910	78.793	15.193	1.842	0.034	0.051	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1371.90	
30	0.5803	962.4	979.4	0.564	3.648	94.876	0.809	0.089	0.007	0.004	0.001	0.000	0.001	0.000	0.000	0.000	0.000	1285.64	
31	0.5774	957.3	974.2	0.604	3.629	95.436	0.295	0.029	0.005	0.002	0.000	0.000	0.001	0.000	0.000	0.000	0.000	1282.07	
Avg	0.6604	1101.0	1120.8	0.209	3.260	79.226	16.219	1.020	0.024	0.037	0.002	0.002	0.001	0.000	0.000	0.000	0.000	1378.74	

Zone 32

GQ Source Daily Summary

October 2012

Number: 111

Pressure Base: 14.730

Contract Day: 1

Name: LITTLE KNIFE-BELFIELD TRANSFER

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	0.6857	1156.8	1177.2	0.000	2.584	73.237	23.749	0.420	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.72	
2	0.6857	1156.7	1177.2	0.000	2.589	73.235	23.751	0.418	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.63	
3	0.6857	1156.7	1177.2	0.000	2.591	73.218	23.770	0.410	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.60	
4	0.6849	1155.7	1176.2	0.000	2.577	73.390	23.607	0.416	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.20	
5	0.6856	1156.5	1177.0	0.000	2.597	73.236	23.739	0.417	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.44	
6	0.6868	1158.5	1179.0	0.000	2.585	72.997	23.994	0.415	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1422.69	
7	0.6856	1156.5	1177.0	0.000	2.594	73.205	23.817	0.375	0.004	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.45	
8	0.6859	1156.9	1177.4	0.000	2.599	73.153	23.842	0.395	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.65	
9	0.6862	1157.4	1177.9	0.000	2.597	73.130	23.830	0.432	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.94	
10	0.6862	1157.6	1178.1	0.000	2.585	73.122	23.868	0.414	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1422.15	
11	0.6861	1157.4	1177.9	0.000	2.585	73.183	23.763	0.458	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1422.07	
12	0.6856	1156.9	1177.3	0.000	2.568	73.281	23.707	0.427	0.006	0.010	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1421.94	
13	0.6864	1158.5	1179.0	0.000	2.545	73.154	23.813	0.477	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.12	
14	0.6858	1157.6	1178.1	0.000	2.548	73.257	23.718	0.466	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1422.56	
15	0.6847	1155.9	1176.4	0.000	2.547	73.427	23.605	0.412	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.65	
16	0.6877	1160.8	1181.3	0.000	2.529	73.086	23.705	0.661	0.007	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.53	
17	0.6851	1156.0	1176.5	0.000	2.578	73.351	23.638	0.422	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.37	
18	0.6854	1156.4	1176.9	0.000	2.583	73.293	23.687	0.426	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.52	
19	0.6856	1156.6	1177.1	0.000	2.587	73.238	23.752	0.412	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.62	
20	0.6856	1157.4	1177.9	0.000	2.542	73.263	23.754	0.429	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1422.51	
21	0.6856	1157.1	1177.6	0.000	2.557	73.239	23.785	0.409	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1422.22	
22	0.6857	1157.0	1177.4	0.000	2.574	73.205	23.818	0.392	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.93	
23	0.6863	1157.5	1178.0	0.000	2.601	73.103	23.867	0.419	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.93	
24	0.6858	1156.6	1177.1	0.000	2.605	73.202	23.775	0.408	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.38	
25	0.6857	1156.2	1176.7	0.000	2.618	73.218	23.748	0.406	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.03	
26	0.6861	1156.9	1177.4	0.000	2.620	73.140	23.805	0.424	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.39	
27	0.6858	1156.5	1177.0	0.000	2.617	73.199	23.748	0.424	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.20	
28	0.6858	1156.2	1176.7	0.000	2.630	73.197	23.750	0.412	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.90	
29	0.6860	1156.6	1177.0	0.000	2.627	73.149	23.810	0.402	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.14	
30	0.6850	1155.4	1175.9	0.000	2.607	73.331	23.659	0.393	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1420.72	
31	0.6855	1156.4	1176.8	0.000	2.592	73.258	23.733	0.406	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.40	
Avg	0.6858	1157.0	1177.4	0.000	2.586	73.216	23.762	0.426	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.79	

Zone 33

GQ Source Daily Summary

October 2012

Number: 331

Pressure Base: 14.730

Contract Day: 1

Name: MARMARTH PLANT-BOWMAN 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	0.7918	1118.5	1138.3	1.900	12.018	54.493	28.928	2.365	0.064	0.195	0.009	0.023	0.004	0.000	0.000	0.000	0.000	1279.20	
2	0.7953	1120.9	1140.7	2.116	11.874	54.039	29.290	2.379	0.065	0.200	0.009	0.024	0.004	0.000	0.000	0.000	0.000	1279.11	
3	0.7943	1120.3	1140.1	2.147	11.771	54.146	29.352	2.318	0.059	0.176	0.008	0.020	0.003	0.000	0.000	0.000	0.000	1279.24	
4	0.7962	1121.4	1141.2	2.231	11.747	54.010	29.297	2.431	0.062	0.188	0.008	0.022	0.004	0.000	0.000	0.000	0.000	1279.02	
5	0.7969	1122.9	1142.7	2.261	11.683	53.898	29.440	2.434	0.062	0.189	0.008	0.022	0.003	0.000	0.000	0.000	0.000	1280.09	
6	0.7986	1125.5	1145.4	2.402	11.464	53.816	29.533	2.488	0.065	0.197	0.008	0.022	0.004	0.000	0.000	0.000	0.000	1281.73	
7	0.7997	1128.7	1148.7	2.372	11.415	53.673	29.686	2.530	0.070	0.214	0.010	0.026	0.005	0.000	0.000	0.000	0.000	1284.53	
8	0.7972	1118.8	1138.6	2.313	11.878	53.988	28.999	2.517	0.066	0.202	0.009	0.024	0.004	0.000	0.000	0.000	0.000	1275.24	
9	0.7971	1117.5	1137.3	2.340	11.902	54.010	28.948	2.506	0.065	0.195	0.008	0.022	0.004	0.000	0.000	0.000	0.000	1273.87	
10	0.7923	1112.0	1131.7	2.203	12.002	54.715	28.391	2.393	0.064	0.195	0.008	0.023	0.004	0.000	0.000	0.000	0.000	1271.34	
11	0.7930	1113.1	1132.8	2.296	11.853	54.597	28.641	2.333	0.061	0.185	0.008	0.021	0.004	0.000	0.000	0.000	0.000	1272.15	
12	0.7981	1112.9	1132.6	2.479	12.073	54.052	28.471	2.605	0.070	0.212	0.009	0.025	0.005	0.000	0.000	0.000	0.000	1267.75	
13	0.7968	1118.7	1138.5	2.301	11.862	54.167	28.767	2.577	0.070	0.215	0.009	0.026	0.005	0.000	0.000	0.000	0.000	1275.46	
14	0.7994	1126.0	1146.0	2.327	11.618	53.707	29.453	2.567	0.071	0.217	0.010	0.026	0.005	0.000	0.000	0.000	0.000	1281.74	
15	0.7972	1116.9	1136.6	2.359	11.926	54.134	28.679	2.570	0.071	0.219	0.010	0.026	0.005	0.000	0.000	0.000	0.000	1272.99	
16	0.7973	1116.6	1136.4	2.311	12.022	54.003	28.805	2.536	0.070	0.214	0.009	0.025	0.005	0.000	0.000	0.000	0.000	1272.67	
17	0.7971	1121.5	1141.4	2.226	11.833	53.753	29.531	2.365	0.063	0.192	0.009	0.023	0.004	0.000	0.000	0.000	0.000	1278.44	
18	0.7956	1119.9	1139.8	2.137	11.923	53.947	29.351	2.352	0.063	0.192	0.008	0.022	0.004	0.000	0.000	0.000	0.000	1277.84	
19	0.7968	1117.5	1137.2	2.201	12.090	54.016	28.819	2.540	0.072	0.221	0.010	0.026	0.005	0.000	0.000	0.000	0.000	1274.04	
20	0.7965	1122.5	1142.4	2.125	11.873	54.002	29.153	2.513	0.072	0.220	0.010	0.026	0.005	0.000	0.000	0.000	0.000	1280.00	
21	0.7942	1118.5	1138.3	2.043	12.024	54.265	28.910	2.440	0.069	0.211	0.009	0.025	0.005	0.000	0.000	0.000	0.000	1277.32	
22	0.7953	1119.6	1139.4	2.065	12.028	54.090	29.028	2.472	0.069	0.210	0.009	0.025	0.004	0.000	0.000	0.000	0.000	1277.66	
23	0.7941	1116.9	1136.7	2.054	12.095	54.252	28.869	2.418	0.068	0.207	0.009	0.024	0.004	0.000	0.000	0.000	0.000	1275.56	
24	0.7937	1116.3	1136.1	2.073	12.068	54.290	28.889	2.377	0.066	0.201	0.009	0.023	0.004	0.000	0.000	0.000	0.000	1275.17	
25	0.7956	1124.4	1144.4	2.049	11.786	53.782	29.829	2.266	0.063	0.191	0.008	0.022	0.003	0.000	0.000	0.000	0.000	1282.94	
26	0.7979	1118.9	1138.7	2.335	11.905	53.583	29.617	2.275	0.062	0.189	0.008	0.021	0.003	0.000	0.000	0.000	0.000	1274.81	
27	0.7921	1120.5	1140.3	2.137	11.564	54.455	29.441	2.132	0.059	0.179	0.008	0.021	0.004	0.000	0.000	0.000	0.000	1281.29	
28	0.7978	1122.6	1142.4	2.441	11.514	53.724	29.804	2.231	0.063	0.191	0.008	0.022	0.004	0.000	0.000	0.000	0.000	1279.06	
29	0.7880	1129.5	1149.5	1.408	11.734	54.501	30.004	2.083	0.059	0.179	0.008	0.021	0.004	0.000	0.000	0.000	0.000	1294.98	
30	0.7870	1122.2	1142.1	1.531	11.898	54.985	29.070	2.223	0.064	0.193	0.009	0.023	0.004	0.000	0.000	0.000	0.000	1287.43	
31	0.7906	1129.4	1149.4	1.608	11.682	54.378	29.789	2.256	0.062	0.189	0.008	0.022	0.004	0.000	0.000	0.000	0.000	1292.70	
Avg	0.7953	1120.0	1140.2	2.155	11.843	54.112	29.187	2.403	0.066	0.199	0.009	0.023	0.004	0.000	0.000	0.000	0.000	1278.56	

Zone 34

GQ Source Analysis

WBI Energy Transmission, Inc.

GQ Source Number:	1201140	Specific Gravity:	0.5728
GQ Source Name:	EAGLE 8B ND LMD	Dry Heat Value:	979.13
Effective Date:	6/8/2012 9:00:00 AM	Wet Heat Value:	962.09
Effective End Date:	1/18/2038 9:14:07 PM	As Deliv. Heat Value:	979.13
Pressure Base:	14.730	Sample Pressure:	28.00
Viscosity:		Sample Temperature:	

		<u>Mol %</u>	<u>Liquid Content</u>			<u>Mol %</u>
C1	Methane	95.902		CO2	Carbon Dioxide	0.106
C2	Ethane	0.323	0.0860	N2	Nitrogen	3.640
C3	Propane	0.020	0.0054	O2	Oxygen	0.000
IC4	Isobutane	0.008	0.0026	He	Helium	
NC4	n-Butane	0.001	0.0002	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%	0.094 GPM
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Sample Date: 6/8/2012 12:00:00 AM
Sample Type: Spot
Sample Tech: MG
H2S: ppm

Sample Remarks:**Analysis Tech:** M. Barney**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	OCT 12	SEPT 12	AUG 12	JULY 12	JUNE 12	MAY 12	APR 12	MAR 12	FEB 12	JAN 12	DEC 11	NOV 11	ZONE
MT/ND	211	Sidney Area	1202	1200	1202	1197	1197	1200	1194	1196	1199	1206	1210	1212	1215	211
ND	24	Williston Area	1197	1195	1197	1198	1203	1197	1196	1194	1199	1195	1184	1199	1203	24
ND	25	Watford City Area	1154	1176	1183	1184	1176	1151	1159	1139	1138	1132	1140	1140	1131	25
ND/MT	241	Fairview Area	1190	1189	1191	1187	1185	1191	1184	1185	1189	1193	1194	1194	1201	241
ND	261	Williston - Tioga - Minot Line	1160	1164	1170	1151	1161	1157	1157	1155	1162	1156	1160	1163	1166	261
ND	262	Minot Area	1165	1171	1175	1179	1163	1160	1159	1157	1162	1158	1161	1165	1168	262
ND	263	Tioga - Portal	1115	1140	1142	1143	1132	1136	1126	1099	1135	1081	1075	1074	1092	263
ND	264	Williston - Ray	1197	1195	1197	1198	1203	1197	1196	1194	1199	1195	1184	1199	1203	264
ND	271	Bismarck - Cleveland	1153	1170	1173	1178	1161	1157	1157	1157	1154	1123	1124	1130	1148	271
ND	272	Cleveland - Mapleton	1153	1171	1175	1180	1162	1159	1158	1156	1153	1121	1122	1129	1148	272
ND	273	Cleveland - Grafton	1153	1171	1175	1180	1162	1159	1158	1157	1153	1121	1123	1129	1148	273
ND	28	Bismarck - Cabin Creek	1128	1149	1173	1178	1160	1157	1157	1143	1117	1065	1073	1078	1084	28
ND	31	Dickinson Area	1097	1152	1074	1102	1150	1092	1070	1111	1114	1064	1072	1077	1081	31
ND/MT	32	Cabin Creek - Dickinson	1101	1121	1131	1135	1164	1152	1142	1092	1047	1044	1057	1063	1061	32
ND	33	Killdeer	1181	1177	1180	1179	1181	1184	1181	1181	1183	1182	1179	1183	1181	33
ND	34	Bowman Area	1128	1140	1136	1130	1126	1098	1134	1130	1126	1126	1147	1129	1117	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**

October 2012

ZONE	BTU VARIANCE	REASON
28	-24	Mix of gas in the area. Variety of gas coming on and leaving the system.
31	78	Mix of gas in the area. Variety of gas coming on and leaving the system.