

June 4, 2013

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

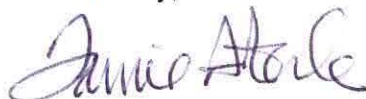
Re: Case No. 11,006 (Therm Billing)
Monthly Report – April 2013

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

1. Attachment A is a schedule showing the thermal billing factors by community that reflect the BTU values shown on Attachment B and were used for billing purposes in May 2013.
2. Attachment B consists of copies of the monthly Heating Value Test Reports received from our supplier for the month of April 2013. There is a report for each of the 17 thermal zones for the month.
3. Attachment C is a listing which states the type of measuring device in place at each zone.
4. Attachment D is a monthly list of the heating value data, by zone, for the most recent 12-month period and an average thereof. It is being provided pursuant to a Staff request.
5. Attachment E provides a brief explanation of the thermal variances, where applicable, for the month of April 2013.

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 Factors- North Dakota
May 2013

Town	Heat Zone	Therm Factor
MDU-303-ALEXANDER	025	1.133401
MDU-308-ARNEGARD	025	1.134346
MDU-314-APPLE VALLEY	271	1.126001
MDU-318-BEACH	032	1.005458
MDU-319-BELFIELD	032	1.012844
MDU-323-BERTHOLD	262	1.106955
MDU-327-BISMARCK	028	1.077758
MDU-330-BOWMAN	034	1.051279
MDU-337-BURLINGTON	262	1.128896
MDU-343-CARRINGTON	273	1.127931
MDU-364-CAVALIER	273	1.151739
MDU-365-DAWSON	271	1.097000
MDU-368-DES LACS	262	1.111107
MDU-369-DICKINSON	031	1.047424
MDU-374-FT TOTTEN	273	1.135866
MDU-375-DEVILS LAKE	273	1.135866
MDU-379-BARLOW	273	1.105739
MDU-384-EPPING	264	1.148513
MDU-387-ELDRIDGE	272	1.127931
MDU-407-GLADSTONE	031	1.034296
MDU-411-GLEN ULLIN	311	1.041785
MDU-411-GLEN ULLIN	028	1.040840
MDU-413-GOLVA	032	0.991597
MDU-416-GARRISON	262	1.114912
MDU-417-GRAFTON	273	1.159675
MDU-429-HEBRON	311	1.055008
MDU-432-HETTINGER	903	2.387549
MDU-449-JAMESTOWN	272	1.135866
MDU-459-KILLDEER	033	1.110733
MDU-463-LANGDON	273	1.127931
MDU-469-LEFOR	031	1.047424
MDU-474-LIGNITE	263	1.062591
MDU-475-LINTON	802	0.990919
MDU-478-LINCOLN	028	1.077758
MDU-494-MEDINA	271	1.118078
MDU-498-MANDAN	028	1.077758
MDU-500-MARMARTH	034	1.059058
MDU-505-MINOT	262	1.130825
MDU-510-MOTT	031	1.034296
MDU-512-MAX	262	1.106955
MDU-522-NEW ENGLAND	031	1.026808
MDU-524-NEW SALEM	028	1.055008
MDU-532-NEW ROCKFORD	273	1.127931
MDU-539-PARK RIVER	273	1.151739
MDU-540-PALERMO	262	1.106955
MDU-558-RAY	264	1.148513
MDU-561-REGENT	031	1.047424
MDU-563-RHAME	034	1.043498
MDU-564-RICHARDTON	311	1.026808
MDU-568-ROSS	261	1.090559
MDU-572-RUTHVILLE	262	1.130825
MDU-574-SANBORN	272	1.135866

Montana-Dakota Utilities Co.
Therm Billing Factors- North Dakota
May 2013

Town	Heat Zone	Therm Factor
MDU-583-SENTINEL BUTTE	032	1.006382
MDU-588-SOUTH HEART	031	1.026808
MDU-590-SPRINGBROOK	264	1.148513
MDU-591-STANLEY	261	1.098455
MDU-593-STEELE	271	1.118078
MDU-598-SHEYENNE	273	1.135866
MDU-605-SURREY	262	1.130825
MDU-610-TAPPEN	271	1.118078
MDU-611-TAYLOR	031	1.039841
MDU-616-TIOGA	261	1.090559
MDU-619-TURTLE LAKE	262	1.114912
MDU-620-TRENTON	024	1.156769
MDU-624-UNDERWOOD	262	1.114912
MDU-625-VALLEY CITY	272	1.143802
MDU-629-WALHALLA	273	1.151739
MDU-632-WATFORD CITY	025	1.134346
MDU-636-WHEELOCK	264	1.140258
MDU-637-WHITE EARTH	261	1.098455
MDU-642-WILLISTON	024	1.156769
MDU-646-WASHBURN	262	1.120952
MDU-647-WILTON	262	1.105066
MDU-664-RIVERDALE	262	1.114912
MDU-691-FAIRVIEW	241	1.136792
MDU-712-MINOT AFB	262	1.126966
MDU-732-MSR SITE	273	1.105739

GQ Source Daily Summary

April 2013

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	0.7140	1179.9	1200.8	0.148	3.598	69.956	23.414	2.803	0.032	0.045	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1421.15	
2	0.7325	1189.8	1210.9	0.876	3.612	68.956	21.835	4.436	0.098	0.169	0.009	0.007	0.002	0.000	0.000	0.000	0.000	1414.88	
3	0.7391	1193.8	1214.9	1.129	3.605	68.480	21.505	4.932	0.118	0.210	0.010	0.008	0.003	0.000	0.000	0.000	0.000	1413.17	
4	0.7371	1192.2	1213.4	1.061	3.613	68.522	21.799	4.682	0.109	0.194	0.010	0.007	0.002	0.000	0.000	0.000	0.000	1413.32	
5	0.7382	1192.5	1213.6	1.121	3.612	68.648	21.332	4.947	0.114	0.204	0.010	0.008	0.002	0.000	0.000	0.000	0.000	1412.50	
6	0.7247	1187.0	1208.1	0.492	3.641	69.252	22.678	3.765	0.061	0.102	0.004	0.003	0.001	0.000	0.000	0.000	0.000	1419.17	
7	0.7407	1196.8	1218.0	1.113	3.589	68.223	21.699	5.044	0.112	0.200	0.010	0.007	0.002	0.000	0.000	0.000	0.000	1415.31	
8	0.7327	1191.5	1212.6	0.826	3.607	68.760	22.158	4.394	0.087	0.154	0.007	0.005	0.002	0.000	0.000	0.000	0.000	1416.68	
9	0.7401	1196.2	1217.4	1.117	3.573	68.269	21.737	4.973	0.111	0.199	0.010	0.008	0.003	0.000	0.000	0.000	0.000	1415.03	
10	0.7389	1194.2	1215.4	1.120	3.576	68.502	21.501	4.978	0.107	0.193	0.010	0.008	0.003	0.000	0.000	0.000	0.000	1413.87	
11	0.7403	1196.3	1217.5	1.119	3.579	68.343	21.542	5.094	0.108	0.195	0.010	0.008	0.003	0.000	0.000	0.000	0.000	1415.00	
12	0.7387	1193.3	1214.4	1.111	3.628	68.539	21.411	4.981	0.111	0.197	0.010	0.008	0.003	0.000	0.000	0.000	0.000	1412.96	
13	0.7401	1195.0	1216.2	1.110	3.649	68.333	21.539	5.029	0.115	0.203	0.011	0.008	0.003	0.000	0.000	0.000	0.000	1413.74	
14	0.7174	1183.2	1204.1	0.255	3.554	69.947	22.875	3.211	0.056	0.092	0.004	0.004	0.001	0.000	0.000	0.000	0.000	1421.69	
15	0.7199	1181.2	1202.1	0.509	3.518	69.880	22.559	3.360	0.061	0.103	0.005	0.004	0.001	0.000	0.000	0.000	0.000	1416.94	
16	0.7353	1192.5	1213.6	0.958	3.588	68.606	22.007	4.530	0.105	0.187	0.009	0.007	0.002	0.000	0.000	0.000	0.000	1415.37	
17	0.7376	1192.6	1213.7	1.089	3.600	68.478	21.811	4.677	0.115	0.208	0.011	0.008	0.003	0.000	0.000	0.000	0.000	1413.21	
18	0.7456	1204.8	1226.2	1.103	3.578	67.995	21.318	5.532	0.154	0.281	0.018	0.016	0.005	0.000	0.000	0.000	0.000	1420.01	
19	0.7397	1194.9	1216.1	1.114	3.612	68.381	21.579	4.962	0.118	0.212	0.011	0.008	0.003	0.000	0.000	0.000	0.000	1413.99	
20	0.7387	1192.8	1213.9	1.116	3.651	68.365	21.751	4.775	0.115	0.207	0.010	0.008	0.003	0.000	0.000	0.000	0.000	1412.39	
21	0.7384	1192.3	1213.5	1.120	3.639	68.396	21.778	4.723	0.117	0.206	0.010	0.008	0.003	0.000	0.000	0.000	0.000	1412.18	
22	0.7378	1191.5	1212.6	1.122	3.634	68.493	21.710	4.688	0.120	0.212	0.011	0.008	0.003	0.000	0.000	0.000	0.000	1411.72	
23	0.7379	1191.6	1212.7	1.127	3.635	68.494	21.683	4.706	0.119	0.212	0.011	0.009	0.003	0.000	0.000	0.000	0.000	1411.67	
24	0.7374	1190.6	1211.6	1.125	3.647	68.504	21.780	4.582	0.122	0.219	0.011	0.008	0.003	0.000	0.000	0.000	0.000	1411.02	
25	0.7380	1191.6	1212.7	1.123	3.643	68.515	21.654	4.680	0.128	0.233	0.012	0.009	0.003	0.000	0.000	0.000	0.000	1411.67	
26	0.7362	1188.2	1209.3	1.123	3.680	69.016	21.001	4.776	0.135	0.244	0.013	0.010	0.003	0.000	0.000	0.000	0.000	1409.36	
27	0.7363	1189.2	1210.2	1.135	3.611	68.943	21.174	4.772	0.122	0.220	0.012	0.010	0.003	0.000	0.000	0.000	0.000	1410.42	
28	0.7388	1193.4	1214.5	1.117	3.622	68.265	21.981	4.665	0.117	0.212	0.010	0.008	0.003	0.000	0.000	0.000	0.000	1412.98	
29	0.7367	1188.2	1209.2	1.122	3.733	68.464	21.889	4.441	0.115	0.212	0.011	0.009	0.003	0.000	0.000	0.000	0.000	1408.85	
30	0.7351	1186.1	1207.1	1.127	3.704	68.649	21.874	4.296	0.117	0.211	0.010	0.008	0.003	0.000	0.000	0.000	0.000	1407.91	
Avg	0.7355	1191.0	1212.5	0.991	3.618	68.672	21.819	4.581	0.107	0.191	0.010	0.008	0.003	0.000	0.000	0.000	0.000	1413.94	

Zone 211

GQ Source Daily Summary

April 2013

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	0.7099	1180.5	1201.5	0.794	2.174	73.619	18.890	4.119	0.147	0.243	0.007	0.005	0.001	0.000	0.000	0.000	0.000	1425.96	
2	0.7111	1183.1	1204.0	0.801	2.123	73.616	18.714	4.335	0.151	0.247	0.007	0.005	0.000	0.000	0.000	0.000	0.000	1427.79	
3	0.7137	1187.6	1208.7	0.785	2.110	73.538	18.451	4.612	0.177	0.305	0.011	0.009	0.001	0.000	0.000	0.000	0.000	1430.66	
4	0.7162	1191.7	1212.8	0.790	2.085	73.357	18.413	4.783	0.194	0.348	0.014	0.013	0.002	0.000	0.000	0.000	0.000	1433.10	
5	0.7103	1181.5	1202.4	0.795	2.154	73.645	18.782	4.219	0.148	0.242	0.007	0.005	0.003	0.000	0.000	0.000	0.000	1426.68	
6	0.7351	1191.2	1212.3	1.073	3.469	68.930	21.596	4.576	0.122	0.215	0.009	0.008	0.003	0.000	0.000	0.000	0.000	1414.05	
7	0.7402	1195.3	1216.5	1.139	3.601	68.354	21.560	4.975	0.122	0.224	0.012	0.010	0.004	0.000	0.000	0.000	0.000	1413.92	
8	0.7398	1194.7	1215.9	1.140	3.601	68.165	21.965	4.804	0.109	0.195	0.010	0.008	0.003	0.000	0.000	0.000	0.000	1413.61	
9	0.7411	1196.8	1218.0	1.142	3.589	68.059	21.935	4.946	0.111	0.197	0.010	0.008	0.003	0.000	0.000	0.000	0.000	1414.85	
10	0.7432	1200.8	1222.1	1.136	3.555	67.722	22.221	5.033	0.113	0.201	0.010	0.007	0.003	0.000	0.000	0.000	0.000	1417.53	
11	0.7430	1200.6	1221.8	1.132	3.551	67.854	22.017	5.111	0.113	0.202	0.010	0.008	0.003	0.000	0.000	0.000	0.000	1417.50	
12	0.7413	1197.7	1218.9	1.135	3.569	68.081	21.861	5.030	0.109	0.195	0.010	0.008	0.003	0.000	0.000	0.000	0.000	1415.65	
13	0.7412	1197.3	1218.5	1.135	3.585	68.146	21.733	5.075	0.110	0.195	0.010	0.008	0.002	0.000	0.000	0.000	0.000	1415.25	
14	0.7414	1197.0	1218.2	1.129	3.623	68.053	21.855	5.001	0.115	0.203	0.010	0.008	0.002	0.000	0.000	0.000	0.000	1414.83	
15	0.7407	1195.7	1216.8	1.128	3.646	68.177	21.726	4.978	0.117	0.208	0.010	0.008	0.002	0.000	0.000	0.000	0.000	1413.85	
16	0.7412	1196.8	1218.0	1.133	3.614	67.966	22.081	4.867	0.114	0.204	0.010	0.008	0.002	0.000	0.000	0.000	0.000	1414.72	
17	0.7386	1194.7	1215.8	1.120	3.518	68.453	21.758	4.806	0.118	0.208	0.010	0.008	0.002	0.000	0.000	0.000	0.000	1414.73	
18	0.7405	1195.9	1217.1	1.134	3.602	68.079	22.024	4.812	0.118	0.212	0.010	0.008	0.002	0.000	0.000	0.000	0.000	1414.34	
19	0.7395	1195.0	1216.2	1.127	3.573	68.192	22.033	4.722	0.119	0.213	0.011	0.008	0.002	0.000	0.000	0.000	0.000	1414.26	
20	0.7498	1211.3	1232.7	1.119	3.554	67.525	21.468	5.818	0.170	0.309	0.020	0.015	0.002	0.000	0.000	0.000	0.000	1423.59	
21	0.7427	1199.6	1220.8	1.128	3.590	67.980	21.819	5.107	0.126	0.221	0.013	0.012	0.003	0.000	0.000	0.000	0.000	1416.62	
22	0.7410	1196.0	1217.2	1.133	3.644	67.982	22.066	4.827	0.117	0.209	0.011	0.009	0.003	0.000	0.000	0.000	0.000	1413.97	
23	0.7402	1194.9	1216.1	1.136	3.627	68.103	22.015	4.764	0.121	0.213	0.010	0.008	0.002	0.000	0.000	0.000	0.000	1413.52	
24	0.7397	1194.2	1215.3	1.138	3.626	68.160	22.006	4.712	0.122	0.216	0.010	0.008	0.002	0.000	0.000	0.000	0.000	1413.05	
25	0.7053	1160.3	1180.8	0.960	2.727	74.484	17.433	4.027	0.123	0.225	0.011	0.008	0.002	0.000	0.000	0.000	0.000	1406.14	
26	0.7427	1224.7	1246.4	0.863	2.448	69.907	19.807	6.101	0.284	0.544	0.024	0.020	0.002	0.000	0.000	0.000	0.000	1446.02	
27	0.7352	1219.0	1240.6	0.824	2.147	70.639	20.117	5.497	0.265	0.480	0.016	0.013	0.002	0.000	0.000	0.000	0.000	1446.84	
28	0.7163	1192.5	1213.7	0.796	2.033	73.358	18.499	4.688	0.223	0.385	0.010	0.007	0.001	0.000	0.000	0.000	0.000	1434.01	
29	0.7232	1204.5	1225.8	0.798	1.953	72.393	19.179	4.980	0.243	0.430	0.013	0.009	0.001	0.000	0.000	0.000	0.000	1441.38	
30	0.7076	1179.7	1200.6	0.809	1.987	74.069	18.639	4.124	0.147	0.220	0.004	0.002	0.000	0.000	0.000	0.000	0.000	1427.26	
Avg	0.7324	1195.0	1216.2	1.016	3.069	69.887	20.755	4.848	0.146	0.257	0.011	0.009	0.002	0.000	0.000	0.000	0.000	1421.19	

Zone 24, 264

GQ Source Analysis

WBI Energy Transmission, Inc.

GQ Source Number:	0602160	Specific Gravity:	0.7329
GQ Source Name:	FAIRVIEW BORDER	Dry Heat Value:	1202.92
Effective Date:	4/1/2013 9:00:00 AM	Wet Heat Value:	1181.98
Effective End Date:	1/18/2038 9:14:07 PM	As Deliv. Heat Value:	1202.92
Pressure Base:	14.730	Sample Pressure:	250.00
Viscosity:		Sample Temperature:	

		<u>Mol %</u>	<u>Liquid Content</u>			<u>Mol %</u>
C1	Methane	68.676		CO2	Carbon Dioxide	1.150
C2	Ethane	21.911	5.8425	N2	Nitrogen	3.677
C3	Propane	4.253	1.1682	O2	Oxygen	0.000
IC4	Isobutane	0.114	0.0371	He	Hellum	
NC4	n-Butane	0.203	0.0638	H2	Hydrogen	
IC5	Isopentane	0.007	0.0026	H2S	Hydrogen Sulfide	
NC5	n-Pentane	0.008	0.0030	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% 7.117 GPM

Sample Date: 4/30/2013 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:	0.7265
GQ Source Name:	WATFORD CITY BORDER	Dry Heat Value:	1200.29
Effective Date:	4/1/2013 9:00:00 AM	Wet Heat Value:	1179.40
Effective End Date:	1/18/2038 9:14:07 PM	As Deliv. Heat Value:	1200.29
Pressure Base:	14.730	Sample Pressure:	420.00
Viscosity:		Sample Temperature:	

	<u>Mol %</u>	<u>Liquid Content</u>		<u>Mol %</u>
C1 Methane	70.203		CO2 Carbon Dioxide	1.061
C2 Ethane	20.541	5.4771	N2 Nitrogen	3.371
C3 Propane	4.475	1.2292	O2 Oxygen	0.000
IC4 Isobutane	0.112	0.0367	He Helium	
NC4 n-Butane	0.212	0.0667	H2 Hydrogen	
IC5 Isopentane	0.011	0.0041	H2S Hydrogen Sulfide	
NC5 n-Pentane	0.013	0.0046	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% 6.818 GPM

Sample Date: 4/30/2013 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

April 2013

Number: 091 Pressure Base: 14.730 Contract Day: 1
 Name: MINOT BRDR-PALERMO BRDR-BISMARCK STATI 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	0.7023	1139.1	1159.3	0.421	4.577	72.185	20.331	2.278	0.065	0.138	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1383.31	
2	0.6988	1143.4	1163.7	0.468	3.908	73.094	20.011	2.306	0.070	0.140	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1392.02	
3	0.6976	1143.0	1163.2	0.473	3.815	73.266	20.019	2.216	0.068	0.136	0.003	0.003	0.001	0.000	0.000	0.000	0.000	1392.66	
4	0.6980	1145.1	1165.4	0.475	3.721	73.266	20.052	2.267	0.073	0.144	0.002	0.001	0.000	0.000	0.000	0.000	0.000	1394.85	
5	0.6997	1148.4	1168.7	0.490	3.658	73.235	19.890	2.458	0.086	0.172	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1397.11	
6	0.7011	1150.2	1170.5	0.534	3.608	72.985	20.127	2.516	0.077	0.148	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1397.97	
7	0.7046	1153.1	1173.5	0.566	3.713	72.424	20.406	2.664	0.078	0.148	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1398.00	
8	0.7049	1154.4	1174.9	0.560	3.671	72.326	20.598	2.603	0.081	0.156	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1399.32	
9	0.7049	1154.9	1175.3	0.545	3.659	72.361	20.572	2.610	0.084	0.163	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1399.93	
10	0.7031	1151.8	1172.2	0.537	3.689	72.507	20.577	2.466	0.075	0.145	0.002	0.001	0.000	0.000	0.000	0.000	0.000	1398.00	
11	0.7022	1149.2	1169.5	0.543	3.764	72.609	20.443	2.431	0.072	0.138	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1395.63	
12	0.7033	1151.4	1171.8	0.551	3.709	72.581	20.381	2.545	0.077	0.150	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1397.35	
13	0.7061	1154.7	1175.1	0.597	3.713	72.188	20.567	2.704	0.077	0.150	0.002	0.001	0.000	0.000	0.000	0.000	0.000	1398.40	
14	0.7065	1155.0	1175.5	0.606	3.709	72.178	20.533	2.734	0.080	0.154	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1398.50	
15	0.7061	1153.6	1174.0	0.600	3.768	72.290	20.317	2.783	0.081	0.156	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1397.16	
16	0.7053	1152.4	1172.8	0.597	3.766	72.445	20.235	2.660	0.092	0.204	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1396.57	
17	0.7036	1149.6	1170.0	0.601	3.778	72.744	19.905	2.730	0.083	0.157	0.001	0.002	0.000	0.000	0.000	0.000	0.000	1394.78	
18	0.7037	1151.7	1172.1	0.574	3.698	72.635	20.188	2.673	0.079	0.151	0.002	0.001	0.000	0.000	0.000	0.000	0.000	1397.25	
19	0.7057	1155.6	1176.0	0.591	3.627	72.416	20.307	2.814	0.082	0.158	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1399.90	
20	0.7048	1155.3	1175.8	0.566	3.598	72.498	20.360	2.734	0.082	0.157	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1400.47	
21	0.7066	1156.6	1177.0	0.583	3.658	72.318	20.326	2.846	0.088	0.169	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1400.26	
22	0.7049	1153.7	1174.1	0.572	3.695	72.379	20.454	2.670	0.078	0.149	0.002	0.001	0.000	0.000	0.000	0.000	0.000	1398.45	
23	0.7054	1154.6	1175.1	0.572	3.687	72.357	20.419	2.718	0.082	0.158	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1399.04	
24	0.7036	1152.4	1172.8	0.554	3.675	72.625	20.273	2.630	0.081	0.156	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1398.22	
25	0.7045	1153.6	1174.1	0.562	3.675	72.494	20.341	2.685	0.081	0.157	0.003	0.001	0.000	0.000	0.000	0.000	0.000	1398.78	
26	0.7008	1150.2	1170.6	0.478	3.663	72.982	20.138	2.499	0.079	0.155	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1398.31	
27	0.7045	1153.9	1174.4	0.500	3.744	72.646	20.029	2.794	0.088	0.180	0.008	0.009	0.001	0.000	0.000	0.000	0.000	1399.20	
28	0.7040	1152.5	1173.0	0.460	3.852	72.383	20.484	2.562	0.083	0.168	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1397.94	
29	0.7014	1149.3	1169.6	0.475	3.783	72.792	20.257	2.454	0.079	0.156	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1396.56	
30	0.7014	1149.9	1170.3	0.472	3.744	72.776	20.350	2.411	0.079	0.158	0.004	0.004	0.000	0.000	0.000	0.000	0.000	1397.41	
Avg	0.7033	1151.0	1171.7	0.537	3.744	72.600	20.296	2.582	0.079	0.156	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1397.11	

Zone 2b2

GQ Source Analysis

WBI Energy Transmission, Inc.

GQ Source Number:	2501030	Specific Gravity:	0.6640
GQ Source Name:	LIGNITE PLANT	Dry Heat Value:	1116.81
Effective Date:	4/1/2013 9:00:00 AM	Wet Heat Value:	1097.38
Effective End Date:	1/18/2038 9:14:07 PM	As Deliv. Heat Value:	1116.81
Pressure Base:	14.730	Sample Pressure:	425.00
Viscosity:		Sample Temperature:	

		<u>Mol %</u>	<u>Liquid Content</u>			<u>Mol %</u>
C1	Methane	78.048		CO2	Carbon Dioxide	0.085
C2	Ethane	16.819	4.4848	N2	Nitrogen	4.002
C3	Propane	1.008	0.2770	O2	Oxygen	0.000
IC4	Isobutane	0.000	0.0000	He	Helium	
NC4	n-Butane	0.000	0.0000	H2	Hydrogen	
IC5	Isopentane	0.003	0.0011	H2S	Hydrogen Sulfide	
NC5	n-Pentane	0.000	0.0000	Ar	Argon	
C6	Hexanes	0.025	0.0000	CO	Carbon Monoxide	
C7	Heptanes			H2	Water	
C8	Octanes			Neo-C5	Neopentane	
C9	Nonanes					
C10	Decanes					

Totals 99.991% 4.763 GPM

Sample Date: 4/30/2013 12:00:00 AM
Sample Type: Composite
Sample Tech: sampler
H2S: ppm

Sample Remarks:

Analysis Tech: Lab

Analysis Remarks:

Zone 263

*** End of Report ***

GQ Source Daily Summary

April 2013

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	0.6967	1131.0	1151.1	0.425	4.528	73.540	18.890	2.384	0.068	0.133	0.010	0.008	0.014	0.000	0.000	0.000	0.000	1379.04	
2	0.6847	1125.4	1145.3	0.408	3.775	75.450	18.355	1.820	0.056	0.104	0.008	0.007	0.016	0.000	0.000	0.000	0.000	1384.07	
3	0.6940	1138.4	1158.6	0.465	3.767	74.053	19.304	2.179	0.067	0.131	0.008	0.009	0.018	0.000	0.000	0.000	0.000	1390.70	
4	0.6956	1142.1	1162.3	0.463	3.693	73.745	19.677	2.190	0.068	0.133	0.007	0.007	0.017	0.000	0.000	0.000	0.000	1393.61	
5	0.6945	1141.3	1161.5	0.470	3.626	74.172	19.164	2.302	0.079	0.155	0.009	0.008	0.015	0.000	0.000	0.000	0.000	1393.72	
6	0.6984	1147.5	1167.8	0.512	3.550	73.593	19.609	2.468	0.078	0.153	0.009	0.010	0.018	0.000	0.000	0.000	0.000	1397.41	
7	0.7030	1151.4	1171.8	0.558	3.678	72.750	20.173	2.595	0.075	0.142	0.007	0.007	0.015	0.000	0.000	0.000	0.000	1397.54	
8	0.6972	1144.2	1164.5	0.526	3.621	73.711	19.491	2.416	0.073	0.134	0.007	0.007	0.015	0.000	0.000	0.000	0.000	1394.57	
9	0.6924	1137.8	1158.0	0.510	3.584	74.599	18.755	2.305	0.075	0.140	0.009	0.008	0.016	0.000	0.000	0.000	0.000	1391.55	
10	0.6928	1138.3	1158.4	0.496	3.610	74.408	19.022	2.233	0.070	0.131	0.008	0.007	0.016	0.000	0.000	0.000	0.000	1391.78	
11	0.6974	1143.3	1163.6	0.532	3.684	73.573	19.654	2.328	0.069	0.129	0.007	0.006	0.018	0.000	0.000	0.000	0.000	1393.30	
12	0.6987	1145.7	1166.0	0.521	3.670	73.401	19.782	2.381	0.072	0.137	0.008	0.008	0.019	0.000	0.000	0.000	0.000	1394.98	
13	0.7020	1150.3	1170.7	0.577	3.623	72.993	19.966	2.593	0.075	0.142	0.008	0.007	0.017	0.000	0.000	0.000	0.000	1397.19	
14	0.7000	1147.9	1168.2	0.568	3.591	73.286	19.816	2.498	0.074	0.136	0.008	0.007	0.015	0.000	0.000	0.000	0.000	1396.30	
15	0.7047	1152.5	1172.9	0.601	3.700	72.619	20.093	2.724	0.079	0.151	0.008	0.008	0.016	0.000	0.000	0.000	0.000	1397.23	
16	0.7041	1151.3	1171.7	0.589	3.739	72.651	20.080	2.684	0.078	0.149	0.007	0.007	0.014	0.000	0.000	0.000	0.000	1396.36	
17	0.7029	1149.3	1169.6	0.596	3.734	72.911	19.821	2.686	0.077	0.147	0.007	0.007	0.013	0.000	0.000	0.000	0.000	1395.12	
18	0.7018	1148.7	1169.1	0.583	3.690	73.089	19.746	2.630	0.078	0.151	0.008	0.009	0.015	0.000	0.000	0.000	0.000	1395.46	
19	0.7050	1154.6	1175.0	0.601	3.600	72.665	20.059	2.808	0.082	0.155	0.008	0.007	0.014	0.000	0.000	0.000	0.000	1399.45	
20	0.7027	1152.2	1172.6	0.569	3.575	72.950	19.984	2.662	0.079	0.151	0.008	0.007	0.015	0.000	0.000	0.000	0.000	1398.92	
21	0.7055	1155.9	1176.3	0.577	3.612	72.616	20.060	2.843	0.088	0.168	0.010	0.010	0.017	0.000	0.000	0.000	0.000	1400.43	
22	0.7001	1148.5	1168.9	0.561	3.569	73.311	19.795	2.513	0.077	0.141	0.008	0.007	0.018	0.000	0.000	0.000	0.000	1397.01	
23	0.7033	1152.3	1172.7	0.566	3.636	72.783	20.107	2.655	0.077	0.146	0.007	0.007	0.016	0.000	0.000	0.000	0.000	1398.39	
24	0.7031	1152.2	1172.6	0.550	3.646	72.837	20.073	2.618	0.082	0.159	0.009	0.009	0.019	0.000	0.000	0.000	0.000	1398.45	
25	0.7033	1152.4	1172.8	0.568	3.631	72.806	20.074	2.658	0.080	0.152	0.007	0.007	0.016	0.000	0.000	0.000	0.000	1398.42	
26	0.7004	1149.6	1170.0	0.495	3.635	73.187	19.903	2.520	0.077	0.150	0.007	0.007	0.017	0.000	0.000	0.000	0.000	1397.99	
27	0.7014	1149.0	1169.4	0.483	3.787	73.034	19.848	2.578	0.076	0.153	0.009	0.010	0.023	0.000	0.000	0.000	0.000	1396.23	
28	0.7045	1153.8	1174.3	0.454	3.823	72.520	20.247	2.653	0.086	0.176	0.009	0.009	0.022	0.000	0.000	0.000	0.000	1399.05	
29	0.6998	1147.0	1167.3	0.474	3.776	73.146	19.947	2.396	0.077	0.150	0.007	0.007	0.020	0.000	0.000	0.000	0.000	1395.35	
30	0.7019	1151.2	1171.6	0.467	3.725	72.883	20.134	2.508	0.080	0.161	0.009	0.010	0.022	0.000	0.000	0.000	0.000	1398.38	
Avg	0.6997	1147.0	1167.2	0.526	3.696	73.309	19.721	2.494	0.076	0.145	0.008	0.008	0.017	0.000	0.000	0.000	0.000	1395.27	

Zone 271

GQ Source Daily Summary

April 2013

Number: 063

Pressure Base: 14.730

Contract Day: 1

Name: CLEVELAND STATION-MAPLETON

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7028	1138.5	1158.6	0.446	4.619	72.464	19.706	2.513	0.072	0.146	0.010	0.009	0.014	0.000	0.000	0.000	0.000	1382.04	
2	0.6861	1124.3	1144.2	0.398	3.989	75.150	18.422	1.848	0.057	0.106	0.009	0.007	0.015	0.000	0.000	0.000	0.000	1381.34	
3	0.6937	1138.2	1158.4	0.459	3.757	74.091	19.295	2.167	0.067	0.132	0.009	0.008	0.016	0.000	0.000	0.000	0.000	1390.81	
4	0.6958	1141.8	1162.0	0.467	3.721	73.641	19.806	2.144	0.064	0.125	0.007	0.008	0.017	0.000	0.000	0.000	0.000	1393.11	
5	0.6954	1142.4	1162.6	0.465	3.653	73.893	19.485	2.251	0.075	0.147	0.008	0.007	0.017	0.000	0.000	0.000	0.000	1394.18	
6	0.6991	1148.2	1168.6	0.497	3.594	73.455	19.723	2.441	0.085	0.169	0.010	0.011	0.016	0.000	0.000	0.000	0.000	1397.60	
7	0.7025	1151.7	1172.1	0.549	3.627	72.814	20.212	2.548	0.076	0.144	0.007	0.007	0.016	0.000	0.000	0.000	0.000	1398.40	
8	0.7014	1149.7	1170.0	0.545	3.649	73.061	19.924	2.571	0.078	0.144	0.007	0.007	0.015	0.000	0.000	0.000	0.000	1397.08	
9	0.6938	1139.5	1159.7	0.518	3.602	74.273	19.092	2.278	0.072	0.134	0.009	0.008	0.016	0.000	0.000	0.000	0.000	1392.19	
10	0.6938	1139.4	1159.6	0.510	3.612	74.305	19.030	2.297	0.074	0.139	0.008	0.007	0.016	0.000	0.000	0.000	0.000	1392.18	
11	0.6978	1144.8	1165.0	0.523	3.647	73.496	19.777	2.321	0.070	0.133	0.008	0.007	0.017	0.000	0.000	0.000	0.000	1394.65	
12	0.6998	1146.9	1167.2	0.531	3.688	73.171	19.994	2.372	0.072	0.138	0.008	0.008	0.017	0.000	0.000	0.000	0.000	1395.29	
13	0.7017	1150.1	1170.5	0.556	3.638	72.952	20.093	2.510	0.075	0.143	0.008	0.007	0.018	0.000	0.000	0.000	0.000	1397.25	
14	0.7015	1149.7	1170.0	0.574	3.612	73.035	20.002	2.531	0.075	0.140	0.008	0.007	0.016	0.000	0.000	0.000	0.000	1397.00	
15	0.7040	1152.2	1172.6	0.597	3.665	72.663	20.175	2.642	0.078	0.149	0.009	0.008	0.015	0.000	0.000	0.000	0.000	1397.50	
16	0.7056	1153.5	1173.9	0.593	3.740	72.461	20.170	2.766	0.081	0.158	0.008	0.008	0.014	0.000	0.000	0.000	0.000	1397.50	
17	0.7042	1151.2	1171.6	0.598	3.740	72.614	20.136	2.659	0.077	0.148	0.007	0.007	0.013	0.000	0.000	0.000	0.000	1396.12	
18	0.7034	1150.0	1170.3	0.598	3.739	72.867	19.816	2.710	0.080	0.158	0.009	0.009	0.014	0.000	0.000	0.000	0.000	1395.43	
19	0.7045	1153.4	1173.8	0.593	3.643	72.639	20.142	2.721	0.080	0.153	0.008	0.007	0.014	0.000	0.000	0.000	0.000	1398.47	
20	0.7050	1155.4	1175.9	0.588	3.576	72.589	20.227	2.751	0.082	0.157	0.008	0.008	0.014	0.000	0.000	0.000	0.000	1400.39	
21	0.7058	1156.4	1176.9	0.577	3.604	72.486	20.266	2.782	0.085	0.166	0.009	0.009	0.015	0.000	0.000	0.000	0.000	1400.83	
22	0.7027	1152.1	1172.5	0.574	3.582	72.967	19.948	2.660	0.082	0.152	0.009	0.008	0.017	0.000	0.000	0.000	0.000	1398.66	
23	0.7027	1151.8	1172.2	0.561	3.623	72.827	20.155	2.579	0.077	0.145	0.008	0.007	0.016	0.000	0.000	0.000	0.000	1398.26	
24	0.7046	1153.9	1174.3	0.564	3.665	72.564	20.276	2.657	0.081	0.158	0.009	0.009	0.017	0.000	0.000	0.000	0.000	1398.98	
25	0.7040	1153.3	1173.7	0.564	3.644	72.659	20.219	2.647	0.081	0.154	0.008	0.007	0.017	0.000	0.000	0.000	0.000	1398.88	
26	0.7032	1152.6	1173.0	0.537	3.654	72.756	20.172	2.615	0.080	0.155	0.008	0.008	0.016	0.000	0.000	0.000	0.000	1398.83	
27	0.7028	1152.3	1172.7	0.504	3.685	72.884	19.988	2.664	0.080	0.161	0.009	0.009	0.018	0.000	0.000	0.000	0.000	1398.81	
28	0.7044	1153.6	1174.1	0.457	3.825	72.413	20.451	2.579	0.077	0.159	0.009	0.009	0.022	0.000	0.000	0.000	0.000	1398.88	
29	0.7026	1150.6	1171.0	0.467	3.823	72.694	20.257	2.479	0.080	0.163	0.009	0.009	0.020	0.000	0.000	0.000	0.000	1397.03	
30	0.7022	1151.1	1171.4	0.476	3.746	72.802	20.209	2.488	0.081	0.161	0.009	0.009	0.019	0.000	0.000	0.000	0.000	1397.94	
Avg	0.7009	1148.0	1168.6	0.530	3.712	73.089	19.906	2.506	0.077	0.148	0.008	0.008	0.016	0.000	0.000	0.000	0.000	1395.85	

Zone 272

GQ Source Daily Summary

April 2013

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	0.6603	1096.4	1115.9	0.324	3.370	79.948	14.751	1.477	0.046	0.054	0.011	0.005	0.013	0.000	0.000	0.000	0.000	1373.17	
2	0.6521	1088.2	1107.5	0.328	3.096	81.245	14.175	1.027	0.046	0.044	0.014	0.006	0.019	0.000	0.000	0.000	0.000	1371.40	
3	0.6493	1084.2	1103.4	0.357	3.030	81.922	13.497	1.044	0.053	0.047	0.018	0.008	0.023	0.000	0.000	0.000	0.000	1369.31	
4	0.6503	1085.7	1104.9	0.209	3.259	81.284	14.243	0.908	0.035	0.033	0.010	0.005	0.015	0.000	0.000	0.000	0.000	1370.15	
5	0.6496	1081.9	1101.1	0.257	3.347	81.646	13.570	1.070	0.039	0.037	0.012	0.005	0.016	0.000	0.000	0.000	0.000	1366.15	
6	0.6519	1084.5	1103.7	0.285	3.362	81.313	13.751	1.180	0.039	0.037	0.011	0.005	0.016	0.000	0.000	0.000	0.000	1367.01	
7	0.6596	1094.9	1114.3	0.306	3.419	79.926	14.884	1.347	0.040	0.048	0.009	0.005	0.015	0.000	0.000	0.000	0.000	1372.07	
8	0.6498	1082.2	1101.3	0.238	3.388	81.388	13.947	0.957	0.030	0.028	0.009	0.004	0.012	0.000	0.000	0.000	0.000	1366.19	
9	0.6421	1064.7	1083.5	0.357	3.538	83.141	11.872	0.996	0.034	0.035	0.009	0.005	0.013	0.000	0.000	0.000	0.000	1352.22	
10	0.6350	1057.5	1076.2	0.280	3.433	84.408	10.913	0.864	0.036	0.036	0.010	0.005	0.014	0.000	0.000	0.000	0.000	1350.49	
11	0.6468	1079.4	1098.5	0.336	3.115	82.348	13.055	1.006	0.049	0.045	0.016	0.008	0.022	0.000	0.000	0.000	0.000	1365.91	
12	0.6519	1090.2	1109.5	0.313	2.977	81.324	14.234	0.999	0.053	0.051	0.017	0.008	0.024	0.000	0.000	0.000	0.000	1374.12	
13	0.6501	1087.9	1107.2	0.319	2.938	81.593	14.092	0.919	0.048	0.041	0.017	0.008	0.025	0.000	0.000	0.000	0.000	1373.14	
14	0.6515	1091.0	1110.3	0.323	2.876	81.253	14.565	0.846	0.047	0.038	0.017	0.008	0.026	0.000	0.000	0.000	0.000	1375.56	
15	0.6496	1083.5	1102.7	0.345	3.121	81.690	13.781	0.925	0.047	0.042	0.016	0.007	0.024	0.000	0.000	0.000	0.000	1368.09	
16	0.6546	1089.1	1108.3	0.420	3.135	81.042	14.079	1.158	0.056	0.061	0.017	0.008	0.025	0.000	0.000	0.000	0.000	1369.89	
17	0.6511	1085.0	1104.3	0.464	2.984	81.715	13.645	1.015	0.059	0.057	0.020	0.009	0.030	0.000	0.000	0.000	0.000	1368.49	
18	0.6513	1085.1	1104.3	0.511	2.926	81.817	13.502	1.046	0.065	0.066	0.022	0.011	0.034	0.000	0.000	0.000	0.000	1368.35	
19	0.6674	1109.3	1129.0	0.487	2.998	78.842	16.067	1.403	0.065	0.083	0.017	0.009	0.028	0.000	0.000	0.000	0.000	1381.93	
20	0.6458	1080.8	1099.9	0.572	2.581	82.916	12.868	0.847	0.074	0.061	0.029	0.013	0.040	0.000	0.000	0.000	0.000	1368.67	
21	0.6542	1099.2	1118.6	0.445	2.442	80.841	15.428	0.659	0.061	0.049	0.025	0.011	0.040	0.000	0.000	0.000	0.000	1383.04	
22	0.6491	1088.4	1107.7	0.467	2.591	81.840	14.271	0.658	0.058	0.043	0.024	0.010	0.037	0.000	0.000	0.000	0.000	1374.83	
23	0.6626	1100.8	1120.2	0.389	3.222	79.423	15.541	1.288	0.046	0.051	0.013	0.006	0.022	0.000	0.000	0.000	0.000	1376.22	
24	0.6578	1090.7	1110.0	0.378	3.400	80.417	14.319	1.343	0.047	0.061	0.011	0.006	0.018	0.000	0.000	0.000	0.000	1368.61	
25	0.6911	1136.4	1156.5	0.485	3.582	74.755	18.687	2.273	0.068	0.123	0.007	0.006	0.014	0.000	0.000	0.000	0.000	1391.15	
26	0.6983	1146.8	1167.1	0.489	3.619	73.540	19.649	2.449	0.075	0.146	0.008	0.007	0.018	0.000	0.000	0.000	0.000	1396.63	
27	0.7013	1148.7	1169.1	0.485	3.785	73.076	19.806	2.578	0.076	0.153	0.009	0.010	0.023	0.000	0.000	0.000	0.000	1396.07	
28	0.7046	1154.1	1174.6	0.452	3.821	72.500	20.261	2.661	0.086	0.177	0.009	0.009	0.022	0.000	0.000	0.000	0.000	1399.28	
29	0.6991	1146.1	1166.4	0.475	3.758	73.298	19.816	2.390	0.077	0.150	0.007	0.007	0.020	0.000	0.000	0.000	0.000	1394.99	
30	0.6755	1117.1	1136.9	0.492	3.283	77.417	16.902	1.705	0.063	0.095	0.013	0.008	0.021	0.000	0.000	0.000	0.000	1383.23	
Avg	0.6605	1098.0	1117.1	0.386	3.213	79.929	15.006	1.301	0.054	0.066	0.014	0.007	0.022	0.000	0.000	0.000	0.000	1374.55	

Zone 28

GQ Source Daily Summary

April 2013

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	0.6589	1096.4	1115.8	0.177	3.461	79.502	15.684	1.129	0.019	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1374.52	
2	0.6595	1100.0	1119.5	0.132	3.367	79.161	16.337	0.972	0.012	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1378.39	
3	0.6526	1087.2	1106.5	0.106	3.534	80.464	14.944	0.932	0.007	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1369.64	
4	0.6539	1086.4	1105.6	0.145	3.644	80.492	14.510	1.169	0.015	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1367.26	
5	0.6532	1085.5	1104.7	0.147	3.633	80.614	14.412	1.164	0.013	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1366.82	
6	0.6550	1089.0	1108.3	0.151	3.579	80.272	14.797	1.166	0.013	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1369.38	
7	0.6521	1084.1	1103.3	0.130	3.635	80.652	14.559	1.003	0.007	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1366.30	
8	0.6453	1071.8	1090.8	0.162	3.699	82.064	13.051	0.998	0.011	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1357.83	
9	0.6404	1063.7	1082.5	0.184	3.696	83.130	11.951	0.996	0.018	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1352.72	
10	0.6571	1094.7	1114.1	0.140	3.445	79.804	15.471	1.096	0.018	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1374.36	
11	0.6587	1098.1	1117.6	0.137	3.396	79.439	15.940	1.035	0.021	0.034	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1376.95	
12	0.6602	1101.3	1120.8	0.117	3.370	79.047	16.436	1.003	0.011	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1379.41	
13	0.6596	1101.4	1120.9	0.110	3.325	79.052	16.575	0.915	0.009	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1380.09	
14	0.6536	1088.2	1107.5	0.115	3.549	80.245	15.175	0.896	0.007	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1369.89	
15	0.6503	1084.4	1103.6	0.120	3.468	80.828	14.759	0.805	0.007	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1368.50	
16	0.6529	1087.1	1106.4	0.125	3.538	80.331	15.151	0.826	0.011	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1369.24	
17	0.6567	1096.9	1116.3	0.098	3.338	79.476	16.321	0.743	0.008	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1377.54	
18	0.6587	1100.5	1120.0	0.092	3.321	79.057	16.752	0.762	0.006	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1379.90	
19	0.6654	1115.6	1135.3	0.059	3.079	77.682	18.437	0.714	0.011	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1391.77	
20	0.6633	1111.4	1131.1	0.064	3.128	78.006	18.136	0.661	0.001	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1388.82	
21	0.6640	1112.4	1132.1	0.068	3.125	77.878	18.248	0.673	0.001	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1389.36	
22	0.6633	1103.4	1122.9	0.146	3.492	78.605	16.543	1.174	0.015	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1378.78	
23	0.6516	1081.8	1100.9	0.197	3.622	81.032	13.950	1.149	0.020	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1363.92	
24	0.6558	1089.1	1108.3	0.189	3.593	80.191	14.793	1.186	0.019	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1368.61	
25	0.6657	1104.3	1123.9	0.196	3.582	78.471	16.232	1.463	0.022	0.034	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1377.46	
26	0.6815	1136.3	1156.4	0.155	3.182	75.059	20.285	1.272	0.017	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1400.86	
27	0.6791	1128.2	1148.1	0.219	3.354	75.972	18.786	1.584	0.031	0.054	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1393.27	
28	0.6712	1115.6	1135.4	0.203	3.401	77.297	17.665	1.375	0.022	0.037	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1385.84	
29	0.6647	1104.2	1123.7	0.246	3.423	78.510	16.540	1.228	0.020	0.034	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1378.29	
30	0.6633	1101.9	1121.4	0.243	3.436	78.755	16.321	1.197	0.019	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1376.89	
Avg	0.6589	1097.0	1116.8	0.146	3.447	79.370	15.959	1.043	0.014	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1375.75	

Zone 31, 311

GQ Source Daily Summary

April 2013

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 Wet	Heating Value Dry	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6401	1056.0	1074.7	0.231	4.071	83.547	10.794	1.291	0.025	0.034	0.003	0.002	0.002	0.000	0.000	0.000	0.000	1343.28	
2	0.6428	1061.1	1079.9	0.179	4.098	83.065	11.172	1.409	0.030	0.041	0.003	0.002	0.002	0.000	0.000	0.000	0.000	1346.87	
3	0.6476	1066.9	1085.8	0.224	4.123	82.264	11.769	1.542	0.029	0.042	0.003	0.002	0.001	0.000	0.000	0.000	0.000	1349.27	
4	0.6461	1065.5	1084.4	0.215	4.086	82.454	11.709	1.478	0.024	0.029	0.002	0.002	0.001	0.000	0.000	0.000	0.000	1349.02	
5	0.6467	1064.9	1083.8	0.250	4.120	82.480	11.520	1.560	0.027	0.037	0.003	0.002	0.002	0.000	0.000	0.000	0.000	1347.72	
6	0.6417	1057.5	1076.2	0.215	4.159	83.191	11.061	1.316	0.022	0.029	0.002	0.002	0.002	0.000	0.000	0.000	0.000	1343.46	
7	0.6429	1060.7	1079.4	0.204	4.094	82.953	11.364	1.335	0.021	0.025	0.002	0.002	0.001	0.000	0.000	0.000	0.000	1346.26	
8	0.6351	1048.0	1066.6	0.258	4.050	84.524	9.893	1.202	0.027	0.037	0.004	0.003	0.003	0.000	0.000	0.000	0.000	1338.32	
9	0.6389	1054.3	1073.0	0.254	4.023	83.974	10.273	1.383	0.034	0.048	0.004	0.004	0.003	0.000	0.000	0.000	0.000	1342.41	
10	0.6440	1061.8	1080.6	0.257	4.051	83.019	11.078	1.516	0.030	0.040	0.004	0.003	0.003	0.000	0.000	0.000	0.000	1346.50	
11	0.6438	1061.7	1080.5	0.244	4.050	82.987	11.185	1.462	0.027	0.037	0.003	0.003	0.002	0.000	0.000	0.000	0.000	1346.69	
12	0.6409	1057.3	1076.0	0.209	4.108	83.282	11.099	1.240	0.023	0.031	0.003	0.002	0.002	0.000	0.000	0.000	0.000	1344.02	
13	0.6381	1053.2	1071.9	0.202	4.100	83.772	10.708	1.161	0.022	0.029	0.003	0.002	0.002	0.000	0.000	0.000	0.000	1341.83	
14	0.6369	1050.9	1069.6	0.221	4.100	84.020	10.459	1.137	0.024	0.031	0.003	0.003	0.002	0.000	0.000	0.000	0.000	1340.16	
15	0.6364	1050.4	1069.0	0.216	4.094	84.135	10.347	1.136	0.026	0.036	0.004	0.003	0.003	0.000	0.000	0.000	0.000	1339.96	
16	0.6412	1058.6	1077.4	0.205	4.052	83.351	11.006	1.302	0.031	0.045	0.003	0.003	0.002	0.000	0.000	0.000	0.000	1345.50	
17	0.6401	1056.2	1074.9	0.197	4.118	83.407	11.005	1.209	0.025	0.032	0.003	0.002	0.002	0.000	0.000	0.000	0.000	1343.49	
18	0.6405	1054.6	1073.2	0.255	4.158	83.541	10.639	1.331	0.028	0.040	0.003	0.003	0.002	0.000	0.000	0.000	0.000	1341.07	
19	0.6536	1075.9	1094.9	0.273	4.063	81.252	12.659	1.660	0.034	0.051	0.003	0.003	0.002	0.000	0.000	0.000	0.000	1354.38	
20	0.6648	1093.0	1112.3	0.265	4.089	79.202	14.426	1.935	0.032	0.048	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1364.23	
21	0.6538	1077.0	1096.0	0.246	4.058	81.133	12.841	1.645	0.030	0.043	0.002	0.002	0.001	0.000	0.000	0.000	0.000	1355.54	
22	0.6639	1102.8	1122.3	0.162	3.562	78.603	16.348	1.279	0.018	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1377.40	
23	0.6516	1081.8	1100.9	0.197	3.622	81.032	13.950	1.149	0.020	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1363.92	
24	0.6558	1089.1	1108.3	0.189	3.593	80.191	14.793	1.186	0.019	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1368.61	
25	0.6593	1101.7	1104.1	0.279	4.128	80.066	13.664	1.770	0.034	0.053	0.003	0.002	0.001					1376.75	
26	0.6779	1108.5	1128.1	0.335	4.081	77.312	15.908	2.250	0.041	0.066	0.004	0.003		0.000	0.000	0.000	0.000	1370.19	
27	0.6630	1088.1	1107.4	0.335	4.081	77.312	15.908	2.250	0.041	0.066	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1359.99	
28	0.6445	1059.4	1078.2	0.222	4.053	80.930	13.097	1.636	0.025	0.034	0.002	0.001	0.000	0.000	0.000	0.000	0.000	1343.06	
29	0.6610	1084.0	1103.2	0.244	3.436	78.776	16.299	1.196	0.019	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1356.95	
30	0.6528	1071.9	1090.9	0.186	4.092	82.005	11.892	1.765	0.026	0.030	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1350.20	
Avg	0.6482	1069.0	1087.5	0.232	4.017	81.926	12.296	1.458	0.027	0.038	0.003	0.002	0.001	0.000	0.000	0.000	0.000	1351.23	

Zone 32

GQ Source Daily Summary

April 2013

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	0.7987	1125.4	1145.3	2.239	11.730	54.108	28.689	2.865	0.081	0.247	0.010	0.027	0.004	0.000	0.000	0.000	0.000	1281.49	
2	0.7985	1125.5	1145.4	2.238	11.699	54.356	28.328	2.975	0.087	0.268	0.012	0.032	0.005	0.000	0.000	0.000	0.000	1281.79	
3	0.7983	1125.8	1145.7	2.244	11.655	54.243	28.603	2.880	0.081	0.249	0.011	0.029	0.005	0.000	0.000	0.000	0.000	1282.33	
4	0.7990	1128.0	1148.0	2.152	11.723	54.078	28.728	2.938	0.083	0.253	0.011	0.030	0.005	0.000	0.000	0.000	0.000	1284.30	
5	0.8009	1127.0	1147.0	2.413	11.564	54.049	28.589	2.997	0.084	0.258	0.011	0.030	0.005	0.000	0.000	0.000	0.000	1281.63	
6	0.8001	1127.1	1147.0	2.328	11.615	54.241	28.386	2.972	0.098	0.304	0.014	0.037	0.006	0.000	0.000	0.000	0.000	1282.31	
7	0.7996	1124.7	1144.6	2.404	11.602	54.068	28.771	2.758	0.086	0.264	0.012	0.031	0.005	0.000	0.000	0.000	0.000	1280.05	
8	0.7970	1122.2	1142.1	2.244	11.747	54.390	28.484	2.752	0.083	0.255	0.011	0.029	0.005	0.000	0.000	0.000	0.000	1279.33	
9	0.7985	1122.5	1142.4	2.283	11.809	54.326	28.261	2.916	0.087	0.269	0.012	0.032	0.005	0.000	0.000	0.000	0.000	1278.48	
10	0.8008	1127.8	1147.8	2.375	11.564	53.871	28.952	2.862	0.081	0.250	0.011	0.029	0.004	0.000	0.000	0.000	0.000	1282.63	
11	0.8006	1123.8	1143.7	2.458	11.666	54.070	28.495	2.915	0.085	0.264	0.012	0.031	0.005	0.000	0.000	0.000	0.000	1278.20	
12	0.8024	1125.5	1145.4	2.600	11.514	53.874	28.673	2.960	0.083	0.252	0.011	0.028	0.005	0.000	0.000	0.000	0.000	1278.71	
13	0.8027	1126.5	1146.5	2.507	11.620	53.803	28.650	3.028	0.085	0.261	0.011	0.031	0.005	0.000	0.000	0.000	0.000	1279.67	
14	0.8013	1123.5	1143.4	2.465	11.739	53.984	28.435	2.984	0.084	0.261	0.011	0.031	0.005	0.000	0.000	0.000	0.000	1277.29	
15	0.8020	1126.1	1146.1	2.467	11.640	53.813	28.740	2.954	0.084	0.258	0.011	0.029	0.005	0.000	0.000	0.000	0.000	1279.78	
16	0.8033	1127.4	1147.4	2.521	11.606	53.759	28.625	3.085	0.088	0.269	0.012	0.030	0.005	0.000	0.000	0.000	0.000	1280.14	
17	0.8019	1124.5	1144.4	2.454	11.750	53.939	28.404	3.043	0.088	0.273	0.012	0.033	0.005	0.000	0.000	0.000	0.000	1278.00	
18	0.8005	1125.3	1145.2	2.301	11.812	53.915	28.644	2.934	0.084	0.262	0.012	0.032	0.005	0.000	0.000	0.000	0.000	1279.91	
19	0.8020	1127.1	1147.1	2.418	11.660	53.851	28.669	2.984	0.089	0.278	0.012	0.034	0.005	0.000	0.000	0.000	0.000	1280.85	
20	0.8038	1127.6	1147.6	2.511	11.658	53.749	28.516	3.138	0.092	0.286	0.013	0.034	0.005	0.000	0.000	0.000	0.000	1279.95	
21	0.8030	1128.1	1148.1	2.411	11.696	53.763	28.621	3.088	0.090	0.280	0.012	0.034	0.005	0.000	0.000	0.000	0.000	1281.21	
22	0.8007	1125.8	1145.7	2.382	11.670	54.021	28.580	2.950	0.086	0.265	0.012	0.031	0.005	0.000	0.000	0.000	0.000	1280.39	
23	0.8007	1125.8	1145.7	2.382	11.670	54.021	28.580	2.950	0.086	0.265	0.012	0.031	0.005	0.000	0.000	0.000	0.000	1280.39	
24	0.8007	1125.8	1145.7	2.382	11.670	54.021	28.580	2.950	0.086	0.265	0.012	0.031	0.005	0.000	0.000	0.000	0.000	1280.39	
25	0.8007	1125.8	1145.7	2.382	11.670	54.021	28.580	2.950	0.086	0.265	0.012	0.031	0.005	0.000	0.000	0.000	0.000	1280.39	
26	0.8007	1125.8	1145.7	2.382	11.670	54.021	28.580	2.950	0.086	0.265	0.012	0.031	0.005	0.000	0.000	0.000	0.000	1280.39	
27	0.8007	1125.8	1145.7	2.382	11.670	54.021	28.580	2.950	0.086	0.265	0.012	0.031	0.005	0.000	0.000	0.000	0.000	1280.39	
28	0.8007	1125.8	1145.7	2.382	11.670	54.021	28.580	2.950	0.086	0.265	0.012	0.031	0.005	0.000	0.000	0.000	0.000	1280.39	
29	0.8007	1125.8	1145.7	2.382	11.670	54.021	28.580	2.950	0.086	0.265	0.012	0.031	0.005	0.000	0.000	0.000	0.000	1280.39	
30	0.8007	1125.8	1145.7	2.381	11.670	54.028	28.580	2.950	0.089	0.261	0.010	0.030	0.004	0.000	0.000	0.000	0.000	1280.39	
Avg	0.8007	1126.0	1145.7	2.382	11.670	54.015	28.583	2.953	0.086	0.265	0.012	0.031	0.005	0.000	0.000	0.000	0.000	1280.39	

Zone 34

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
311	Chromatograph	Taylor Take-Off – Glen Ullin Comp
32	Chromatograph	Cabin Creek – Dickinson
33	Chromatograph	Killdeer
34	Chromatograph	Bowman Area

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

STATE	ZONE	ZONE BOUNDARY	12 MONTH AVERAGE	APR 13	MAR 13	FEB 13	JAN 13	DEC 12	NOV 12	OCT 12	SEPT 12	AUG 12	JULY 12	JUNE 12	MAY 12	ZONE
MT/ND	211	Sidney Area	1201	1213	1206	1202	1203	1200	1201	1200	1202	1197	1197	1200	1194	211
ND	24	Williston Area	1201	1216	1204	1204	1204	1203	1199	1195	1197	1198	1203	1197	1196	24
ND	25	Watford City Area	1183	1200	1201	1196	1192	1192	1188	1176	1183	1184	1176	1151	1159	25
ND/MT	241	Fairview Area	1191	1203	1195	1196	1191	1191	1192	1189	1191	1187	1185	1191	1184	241
ND	261	Williston - Tioga - Minot Line	1156	1163	1123	1139	1160	1162	1162	1164	1170	1151	1161	1157	1157	261
ND	262	Minot Area	1168	1172	1170	1168	1163	1165	1165	1171	1175	1179	1163	1160	1159	262
ND	263	Tioga - Portal	1120	1117	1116	1116	1069	1069	1135	1140	1142	1143	1132	1136	1126	263
ND	264	Williston - Ray	1201	1216	1204	1204	1204	1203	1199	1195	1197	1198	1203	1197	1196	264
ND	271	Bismarck - Cleveland	1158	1167	1145	1144	1137	1147	1154	1170	1173	1178	1161	1157	1157	271
ND	272	Cleveland - Mapleton	1159	1169	1147	1145	1138	1148	1155	1171	1175	1180	1162	1159	1158	272
ND	273	Cleveland - Grafton	1159	1169	1146	1145	1138	1149	1155	1171	1175	1180	1162	1159	1158	273
ND	28	Bismarck - Cabin Creek	1135	1117	1102	1100	1108	1114	1104	1149	1173	1178	1160	1157	1157	28
ND	31	Dickinson Area	1107	1117	1103	1098	1105	1110	1111	1152	1074	1102	1150	1092	1070	31
ND	311	Taylor Take-Off - Glen Ullin Comp		1117	1103	1098	1105	1110								
ND/MT	32	Cabin Creek - Dickinson	1113	1088	1089	1086	1094	1099	1056	1121	1131	1135	1164	1152	1142	32
ND	33	Killdeer	1179	1177	1176	1177	1177	1176	1177	1177	1177	1179	1181	1184	1181	33
ND	34	Bowman Area	1136	1146	1144	1147	1143	1142	1142	1140	1136	1130	1126	1098	1134	34

**THERMAL ZONE VARIANCE
DOCUMENTATION**

April 2013

<i>ZONE</i>	<i>BTU VARIANCE</i>	<i>REASON</i>
261	40	Mix of gas in the area
271	22	Mix of gas in the area
272	22	Mix of gas in the area
273	23	Mix of gas in the area