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

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

March 13, 2014

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

Re: Case No. 11,006 (Therm Billing)
Monthly Report – January 2014

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 January 2014.

2. Attachment B consists of copies of the monthly Heating Value Test Reports received from our supplier for the month of January 2014. 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 January 2014.

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
February 2014

Town	Heat Zone	Therm Factor
MDU-303-ALEXANDER	025	1.1504
MDU-308-ARNEGARD	025	1.1504
MDU-314-APPLE VALLEY	271	1.1038
MDU-318-BEACH	032	0.9888
MDU-319-BELFIELD	032	0.9961
MDU-323-BERTHOLD	262	1.1343
MDU-327-BISMARCK	028	1.0430
MDU-330-BOWMAN	034	0.9843
MDU-337-BURLINGTON	262	1.1588
MDU-343-CARRINGTON	273	1.1038
MDU-344-CLEVELAND	272	1.0960
MDU-364-CAVALIER	273	1.1271
MDU-365-DAWSON	271	1.0960
MDU-368-DES LACS	262	1.1425
MDU-369-DICKINSON	031	1.0146
MDU-374-FT TOTTEN	273	1.1116
MDU-375-DEVILS LAKE	273	1.1116
MDU-379-BARLOW	273	1.1038
MDU-384-EPPING	264	1.1343
MDU-387-ELDRIDGE	272	1.1038
MDU-407-GLADSTONE	031	1.0146
MDU-411-GLEN ULLIN	311	1.0314
MDU-413-GOLVA	032	0.9743
MDU-416-GARRISON	262	1.1425
MDU-417-GRAFTON	273	1.1349
MDU-429-HEBRON	311	1.0314
MDU-432-HETTINGER	903	2.3875
MDU-449-JAMESTOWN	272	1.1116
MDU-459-KILLDEER	033	1.1164
MDU-463-LANGDON	273	1.1038
MDU-469-LEFOR	031	1.0146
MDU-474-LIGNITE	263	1.0112
MDU-475-LINTON	802	1.0054
MDU-478-LINCOLN	028	1.0430
MDU-494-MEDINA	271	1.0960
MDU-498-MANDAN	028	1.0430
MDU-500-MARMARTH	034	0.9916
MDU-505-MINOT	262	1.1588
MDU-510-MOTT	031	1.0146
MDU-512-MAX	262	1.1588
MDU-522-NEW ENGLAND	031	1.0073
MDU-524-NEW SALEM	028	1.0210
MDU-532-NEW ROCKFORD	273	1.1038
MDU-539-PARK RIVER	273	1.1271
MDU-540-PALERMO	262	1.1343
MDU-558-RAY	264	1.1343
MDU-561-REGENT	031	1.0146
MDU-563-RHAME	034	0.9770
MDU-564-RICHARDTON	311	1.0166

MDU-568-ROSS	261	1.1149
MDU-572-RUTHVILLE	262	1.1588
MDU-574-SANBORN	272	1.1116
MDU-583-SENTINEL BUTTE	032	0.9888
MDU-588-SOUTH HEART	031	1.0073
MDU-717-SPIRITWOOD	272	1.1116
MDU-590-SPRINGBROOK	264	1.1343
MDU-591-STANLEY	261	1.1230
MDU-593-STEELE	271	1.0960
MDU-598-SHEYENNE	273	1.1116
MDU-605-SURREY	262	1.1588
MDU-610-TAPPEN	271	1.0960
MDU-611-TAYLOR	031	1.0073
MDU-616-TIOGA	261	1.1149
MDU-619-TURTLE LAKE	262	1.1425
MDU-620-TRENTON	024	1.1425
MDU-624-UNDERWOOD	262	1.1425
MDU-625-VALLEY CITY	272	1.1193
MDU-629-WALHALLA	273	1.1271
MDU-632-WATFORD CITY	025	1.1504
MDU-636-WHEELOCK	264	1.1262
MDU-637-WHITE EARTH	261	1.1230
MDU-642-WILLISTON	024	1.1425
MDU-646-WASHBURN	262	1.1507
MDU-647-WILTON	262	1.1343
MDU-664-RIVERDALE	262	1.1425
MDU-691-FAIRVIEW	241	1.1444
MDU-712-MINOT AFB	262	1.1588
MDU-732-MSR SITE	273	1.1048

GQ Source Daily Summary

January 2014

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	0.7107	1177.9	1198.7	0.021	3.606	70.044	23.884	2.395	0.022	0.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.97	
2	0.7137	1183.8	1204.7	0.021	3.536	69.675	24.083	2.626	0.026	0.032	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1425.99	
3	0.7129	1181.0	1201.9	0.021	3.625	69.917	23.668	2.704	0.028	0.035	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1423.49	
4	0.7088	1173.6	1194.3	0.023	3.695	70.243	23.753	2.237	0.022	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1418.59	
5	0.7140	1182.5	1203.4	0.024	3.638	69.522	24.204	2.559	0.024	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.12	
6	0.7173	1188.6	1209.7	0.018	3.581	68.927	24.788	2.631	0.025	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1428.25	
7	0.7143	1183.1	1204.0	0.016	3.642	69.465	24.259	2.560	0.028	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.54	
8	0.7131	1181.0	1201.9	0.020	3.648	69.735	23.960	2.577	0.029	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.27	
9	0.7208	1188.7	1209.8	0.174	3.659	68.950	24.016	3.076	0.054	0.065	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1424.96	
10	0.7139	1176.6	1197.4	0.210	3.696	70.060	23.155	2.763	0.047	0.064	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1417.23	
11	0.7345	1193.1	1214.2	0.881	3.602	68.494	22.384	4.326	0.106	0.188	0.009	0.007	0.000	0.000	0.000	0.000	0.000	1416.73	
12	0.7177	1188.7	1209.7	0.031	3.588	69.224	24.149	2.920	0.036	0.050	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1427.97	
13	0.7145	1183.5	1204.4	0.024	3.615	69.598	24.021	2.661	0.033	0.046	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1424.93	
14	0.7163	1188.0	1209.1	0.024	3.515	69.355	24.217	2.826	0.028	0.034	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1428.51	
15	0.7175	1189.2	1210.3	0.026	3.551	69.210	24.241	2.892	0.034	0.045	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1428.75	
16	0.7162	1187.1	1208.1	0.025	3.554	69.437	24.060	2.844	0.035	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1427.56	
17	0.7151	1186.1	1207.1	0.026	3.512	69.609	23.983	2.798	0.032	0.040	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1427.42	
18	0.7186	1192.4	1213.5	0.031	3.449	69.193	24.178	3.067	0.036	0.045	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1431.48	
19	0.7165	1188.5	1209.6	0.028	3.494	69.411	24.102	2.894	0.031	0.039	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1428.95	
20	0.7185	1192.7	1213.8	0.028	3.429	69.178	24.240	3.043	0.035	0.045	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1431.92	
21	0.7194	1192.2	1213.3	0.025	3.548	69.051	24.174	3.123	0.035	0.043	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1430.43	
22	0.7197	1192.8	1213.9	0.024	3.543	68.997	24.224	3.136	0.033	0.042	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1430.82	
23	0.7114	1180.0	1200.9	0.030	3.531	70.134	23.662	2.569	0.031	0.043	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.79	
24	0.7138	1183.5	1204.5	0.034	3.535	69.802	23.847	2.695	0.035	0.051	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1425.61	
25	0.7179	1190.3	1211.4	0.034	3.508	69.197	24.249	2.915	0.039	0.056	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1429.68	
26	0.7192	1192.9	1214.1	0.035	3.465	69.160	24.129	3.107	0.043	0.060	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1431.55	
27	0.7217	1195.8	1216.9	0.037	3.522	68.722	24.415	3.214	0.038	0.050	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1432.48	
28	0.7162	1187.5	1208.5	0.036	3.520	69.479	23.992	2.904	0.030	0.038	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1427.95	
29	0.7152	1186.5	1207.5	0.037	3.484	69.664	23.873	2.870	0.032	0.038	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1427.73	
30	0.7144	1184.8	1205.8	0.037	3.515	69.584	24.142	2.667	0.025	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1426.50	
31	0.7203	1191.1	1212.2	0.134	3.532	69.062	24.033	3.121	0.046	0.068	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1428.19	
Avg	0.7166	1187.0	1207.6	0.069	3.559	69.422	24.003	2.862	0.036	0.047	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1426.50	

Zone 211

GQ Source Daily Summary

January 2014

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	0.7089	1176.7	1197.5	0.851	2.233	73.207	19.739	3.679	0.112	0.174	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1422.30	
2	0.7108	1179.5	1200.4	0.850	2.236	73.028	19.742	3.822	0.121	0.194	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1423.85	
3	0.7049	1170.4	1191.2	0.844	2.246	73.984	18.979	3.665	0.107	0.168	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1418.77	
4	0.7075	1174.3	1195.1	0.848	2.246	73.560	19.311	3.738	0.112	0.177	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1420.90	
5	0.7258	1186.1	1207.1	0.837	3.278	69.782	21.902	3.927	0.098	0.165	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1416.89	
6	0.7309	1190.7	1211.8	0.751	3.607	68.520	22.951	3.952	0.078	0.131	0.006	0.004	0.000	0.000	0.000	0.000	0.000	1417.42	
7	0.7348	1192.5	1213.6	0.915	3.608	68.258	22.747	4.202	0.095	0.162	0.007	0.005	0.000	0.000	0.000	0.000	0.000	1415.81	
8	0.7323	1193.1	1214.2	0.782	3.542	68.420	23.020	3.961	0.094	0.165	0.009	0.007	0.000	0.000	0.000	0.000	0.000	1418.93	
9	0.7194	1184.5	1205.5	0.843	2.754	71.373	20.677	4.046	0.113	0.184	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1421.32	
10	0.7243	1201.2	1222.4	0.825	2.225	71.429	20.304	4.777	0.160	0.269	0.007	0.005	0.000	0.000	0.000	0.000	0.000	1436.33	
11	0.7136	1183.7	1204.7	0.839	2.257	72.859	19.510	4.184	0.131	0.212	0.005	0.003	0.000	0.000	0.000	0.000	0.000	1426.13	
12	0.7088	1176.4	1197.3	0.842	2.247	73.488	19.190	3.934	0.114	0.178	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1422.15	
13	0.7121	1182.1	1203.0	0.833	2.228	73.085	19.379	4.140	0.126	0.202	0.005	0.003	0.000	0.000	0.000	0.000	0.000	1425.62	
14	0.7101	1178.6	1199.5	0.841	2.241	73.407	19.117	4.073	0.121	0.194	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1423.41	
15	0.7107	1179.9	1200.8	0.834	2.229	73.241	19.344	4.024	0.123	0.197	0.005	0.003	0.000	0.000	0.000	0.000	0.000	1424.37	
16	0.7135	1184.2	1205.2	0.835	2.224	72.874	19.550	4.155	0.135	0.219	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1426.81	
17	0.7120	1181.7	1202.7	0.837	2.235	73.240	19.096	4.243	0.130	0.211	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1425.28	
18	0.7092	1178.6	1199.5	0.761	2.277	73.566	18.935	4.143	0.120	0.190	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1424.33	
19	0.7054	1170.6	1191.4	0.815	2.325	74.229	18.325	3.987	0.119	0.191	0.005	0.003	0.000	0.000	0.000	0.000	0.000	1418.47	
20	0.7208	1195.7	1216.9	0.835	2.209	72.026	19.886	4.567	0.170	0.292	0.008	0.006	0.000	0.000	0.000	0.000	0.000	1433.32	
21	0.7153	1186.7	1207.7	0.831	2.251	72.697	19.526	4.310	0.142	0.234	0.006	0.004	0.000	0.000	0.000	0.000	0.000	1427.96	
22	0.7054	1170.6	1191.3	0.839	2.297	73.993	18.822	3.735	0.119	0.188	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1418.37	
23	0.7095	1177.8	1198.6	0.840	2.237	73.223	19.613	3.766	0.120	0.193	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1423.03	
24	0.7111	1180.5	1201.5	0.837	2.219	73.169	19.451	3.973	0.129	0.213	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1424.80	
25	0.7124	1181.6	1202.5	0.857	2.256	73.091	19.280	4.162	0.131	0.214	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1424.64	
26	0.7057	1171.9	1192.7	0.855	2.214	74.026	18.809	3.769	0.122	0.196	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1419.76	
27	0.7099	1178.5	1199.4	0.831	2.238	73.750	18.612	4.122	0.157	0.275	0.009	0.007	0.000	0.000	0.000	0.000	0.000	1423.51	
28	0.7030	1167.5	1188.1	0.842	2.251	74.213	18.887	3.540	0.102	0.158	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1417.09	
29	0.7047	1170.6	1191.3	0.841	2.231	73.909	19.144	3.618	0.100	0.152	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1419.07	
30	0.7029	1168.1	1188.8	0.841	2.210	74.467	18.472	3.707	0.117	0.181	0.004	0.002	0.000	0.000	0.000	0.000	0.000	1417.90	
31	0.7006	1163.9	1184.5	0.851	2.234	74.596	18.610	3.457	0.096	0.150	0.003	0.002	0.000	0.000	0.000	0.000	0.000	1415.13	
Avg	0.7128	1180.0	1200.8	0.835	2.422	72.733	19.707	3.980	0.120	0.194	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1422.38	

Zone 24, 264

GQ Source Analysis

GQ Source Number:	0602160	**Specific Gravity:**	0.7288
GQ Source Name:	FAIRVIEW BORDER	**Dry Heat Value:**	1203.10
Effective Date:	1/1/2014 9:00:00 AM	**Wet Heat Value:**	1182.16
Effective End Date	1/18/2038 9:14:00 PM	**As Deliv. Heat Value:**	1203.10
Pressure Base:	14.730	**Sample Pressure:**	372.00
Viscosity:		**Sample Temperature:**	0.00

		Mol %	Liquid Content			Mol %
C1	Methane	69.100		CO2	Carbon Dioxide	0.997
C2	Ethane	22.032	5.8747	N2	Nitrogen	3.520
C3	Propane	4.064	1.1173	O2	Oxygen	0.000
IC4	Isobutane	0.091	0.0297	He	Helium	
NC4	n-Butane	0.179	0.0563	H2	Hydrogen	
IC5	Isopentane	0.009	0.0031	H2S	Hydrogen Sulfide	
NC5	n-Pentane	0.007	0.0026	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% 7.084 GPM

Sample Date: 2/3/2014 9:00:00 AM
Sample Type: Composite
Sample Tech: RR
H2S: ppm

Sample Remarks:

Analysis Tech: MB

Analysis Remarks:

Zone 241

GQ Source Analysis

GQ Source Number:	0602230	**Specific Gravity:**	0.7456
GQ Source Name:	WATFORD CITY BORDER	**Dry Heat Value:**	1218.08
Effective Date:	1/1/2014 9:00:00 AM	**Wet Heat Value:**	1196.88
Effective End Date	1/18/2038 9:14:00 PM	**As Deliv. Heat Value:**	1218.08
Pressure Base:	14.730	**Sample Pressure:**	470.00
Viscosity:		**Sample Temperature:**	0.00

		Mol %	Liquid Content			Mol %
C1	Methane	68.786		CO2	Carbon Dioxide	0.837
C2	Ethane	19.301	5.1470	N2	Nitrogen	4.420
C3	Propane	5.313	1.4590	O2	Oxygen	0.000
IC4	Isobutane	0.384	0.1250	He	Helium	
NC4	n-Butane	0.860	0.2700	H2	Hydrogen	
IC5	Isopentane	0.050	0.0180	H2S	Hydrogen Sulfide	
NC5	n-Pentane	0.046	0.0170	Ar	Argon	
C6	Hexanes	0.003	0.0010	CO	Carbon Monoxide	
C7	Heptanes			H2	Water	
C8	Octanes			Neo-C5	Neopentane	
C9	Nonanes					
C10	Decanes					

Totals 100.000% 7.037 GPM

Sample Date: 2/3/2014 9:00:00 AM
Sample Type: Composite
Sample Tech: PP
H2S: ppm

Sample Remarks: Using Red Wing sampler due to bad GQ. ts

Analysis Tech: MB

Analysis Remarks:

Zone 25

GQ Source Daily Summary

January 2014

Number: 163 **Pressure Base:** 14.730 **Contract Day:** 1

Name: NORTH TIOGA TRANSFER-PALERMO BORDER LI **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	0.7158	1174.5	1195.3	0.811	3.081	71.781	20.510	3.344	0.129	0.280	0.027	0.037	0.000	0.000	0.000	0.000	0.000	1412.77	
2	0.7157	1174.5	1195.3	0.816	3.061	71.695	20.714	3.256	0.124	0.275	0.025	0.032	0.000	0.000	0.000	0.000	0.000	1412.88	
3	0.7104	1164.9	1185.5	0.810	3.159	72.303	20.319	3.055	0.102	0.213	0.017	0.022	0.000	0.000	0.000	0.000	0.000	1406.55	
4	0.7041	1158.6	1179.1	0.819	2.946	73.146	19.975	2.861	0.086	0.153	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1405.11	
5	0.7065	1158.9	1179.4	0.822	3.145	72.629	20.248	2.948	0.076	0.125	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1403.17	
6	0.7182	1176.1	1197.0	0.785	3.246	70.849	21.382	3.455	0.095	0.172	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1412.40	
7	0.7153	1171.5	1192.3	0.820	3.203	71.278	21.158	3.274	0.089	0.161	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1409.73	
8	0.7119	1167.0	1187.6	0.828	3.151	71.729	20.984	3.055	0.084	0.153	0.008	0.007	0.000	0.000	0.000	0.000	0.000	1407.57	
9	0.7088	1161.2	1181.8	0.786	3.274	72.220	20.503	2.960	0.082	0.156	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1403.68	
10	0.7116	1164.4	1185.1	0.803	3.319	71.708	20.960	2.905	0.089	0.189	0.014	0.015	0.000	0.000	0.000	0.000	0.000	1404.79	
11	0.7128	1166.4	1187.1	0.813	3.285	71.580	21.078	2.918	0.094	0.200	0.015	0.017	0.000	0.000	0.000	0.000	0.000	1406.11	
12	0.7113	1164.2	1184.8	0.818	3.275	71.699	21.076	2.848	0.087	0.175	0.011	0.012	0.000	0.000	0.000	0.000	0.000	1404.90	
13	0.7114	1166.9	1187.5	0.826	3.111	71.946	20.805	2.999	0.095	0.190	0.013	0.015	0.000	0.000	0.000	0.000	0.000	1407.96	
14	0.7133	1170.0	1190.7	0.819	3.106	71.802	20.751	3.169	0.106	0.215	0.015	0.017	0.000	0.000	0.000	0.000	0.000	1409.85	
15	0.7134	1169.7	1190.4	0.807	3.160	71.859	20.602	3.194	0.110	0.230	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1409.30	
16	0.7166	1176.2	1197.0	0.820	3.037	71.591	20.752	3.332	0.129	0.285	0.024	0.030	0.000	0.000	0.000	0.000	0.000	1414.03	
17	0.7152	1173.7	1194.4	0.820	3.056	71.778	20.599	3.334	0.117	0.249	0.021	0.026	0.000	0.000	0.000	0.000	0.000	1412.41	
18	0.7114	1166.2	1186.9	0.814	3.172	71.843	20.871	3.014	0.088	0.175	0.011	0.012	0.000	0.000	0.000	0.000	0.000	1407.17	
19	0.7143	1170.0	1190.8	0.805	3.218	71.581	20.877	3.170	0.101	0.212	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1408.95	
20	0.7152	1173.8	1194.6	0.814	3.060	71.644	20.834	3.234	0.117	0.253	0.021	0.025	0.000	0.000	0.000	0.000	0.000	1412.57	
21	0.7171	1177.0	1197.8	0.817	3.041	71.765	20.358	3.507	0.139	0.308	0.029	0.036	0.000	0.000	0.000	0.000	0.000	1414.44	
22	0.7163	1176.2	1197.0	0.797	3.037	72.024	20.068	3.515	0.149	0.341	0.031	0.038	0.000	0.000	0.000	0.000	0.000	1414.38	
23	0.7137	1171.1	1191.8	0.800	3.106	72.381	19.790	3.412	0.137	0.307	0.029	0.038	0.000	0.000	0.000	0.000	0.000	1410.71	
24	0.7112	1165.9	1186.5	0.804	3.191	72.046	20.564	3.064	0.097	0.202	0.015	0.017	0.000	0.000	0.000	0.000	0.000	1406.88	
25	0.7114	1167.9	1188.6	0.804	3.079	72.112	20.467	3.238	0.094	0.183	0.011	0.012	0.000	0.000	0.000	0.000	0.000	1409.24	
26	0.7076	1161.8	1182.4	0.813	3.081	72.553	20.331	2.952	0.085	0.165	0.010	0.011	0.000	0.000	0.000	0.000	0.000	1405.62	
27	0.7108	1166.6	1187.3	0.806	3.104	72.230	20.347	3.189	0.099	0.198	0.012	0.014	0.000	0.000	0.000	0.000	0.000	1408.18	
28	0.7128	1170.8	1191.5	0.807	3.034	72.110	20.420	3.221	0.114	0.248	0.020	0.025	0.000	0.000	0.000	0.000	0.000	1411.24	
29	0.7119	1168.5	1189.2	0.800	3.095	72.204	20.372	3.113	0.113	0.251	0.023	0.029	0.000	0.000	0.000	0.000	0.000	1409.46	
30	0.7084	1162.8	1183.4	0.805	3.109	72.446	20.418	2.909	0.092	0.191	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1406.01	
31	0.7116	1165.6	1186.3	0.808	3.231	71.997	20.604	3.001	0.102	0.218	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1406.27	
Avg	0.7125	1168.0	1189.2	0.810	3.135	71.953	20.604	3.143	0.104	0.215	0.016	0.019	0.000	0.000	0.000	0.000	0.000	1408.85	

Zone 261

GQ Source Daily Summary

January 2014

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	0.7352	1177.5	1198.4	0.801	4.732	68.039	21.937	4.116	0.117	0.237	0.010	0.011	0.000	0.000	0.000	0.000	0.000	1397.63	
2	0.7384	1182.9	1203.9	0.796	4.713	67.681	22.115	4.235	0.133	0.292	0.016	0.019	0.000	0.000	0.000	0.000	0.000	1400.97	
3	0.7390	1182.1	1203.0	0.797	4.819	67.530	22.147	4.266	0.128	0.280	0.015	0.018	0.000	0.000	0.000	0.000	0.000	1399.42	
4	0.7327	1173.0	1193.8	0.798	4.785	68.297	21.813	3.962	0.107	0.220	0.008	0.009	0.000	0.000	0.000	0.000	0.000	1394.58	
5	0.7255	1164.6	1185.2	0.822	4.588	69.171	21.583	3.643	0.075	0.118	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1391.43	
6	0.7351	1178.6	1199.5	0.779	4.691	67.958	22.123	4.099	0.110	0.222	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1399.01	
7	0.7334	1175.3	1196.1	0.781	4.737	68.068	22.121	3.995	0.099	0.190	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1396.64	
8	0.7374	1180.4	1201.3	0.805	4.762	67.564	22.360	4.150	0.112	0.230	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1398.91	
9	0.7380	1180.7	1201.6	0.767	4.862	67.498	22.241	4.271	0.111	0.232	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1398.65	
10	0.7390	1179.3	1200.2	0.771	5.025	67.348	22.187	4.293	0.112	0.242	0.011	0.011	0.000	0.000	0.000	0.000	0.000	1396.15	
11	0.7394	1180.6	1201.5	0.773	4.982	67.277	22.311	4.270	0.115	0.249	0.011	0.012	0.000	0.000	0.000	0.000	0.000	1397.29	
12	0.7406	1181.1	1202.1	0.794	5.032	67.120	22.340	4.316	0.118	0.255	0.012	0.013	0.000	0.000	0.000	0.000	0.000	1396.80	
13	0.7387	1180.9	1201.8	0.798	4.863	67.415	22.307	4.237	0.114	0.244	0.011	0.011	0.000	0.000	0.000	0.000	0.000	1398.28	
14	0.7378	1180.6	1201.5	0.798	4.798	67.620	22.153	4.250	0.116	0.243	0.010	0.011	0.000	0.000	0.000	0.000	0.000	1398.78	
15	0.7406	1185.0	1205.9	0.780	4.814	67.339	22.202	4.431	0.127	0.276	0.015	0.016	0.000	0.000	0.000	0.000	0.000	1401.35	
16	0.7382	1181.7	1202.6	0.782	4.789	67.578	22.179	4.287	0.116	0.246	0.011	0.011	0.000	0.000	0.000	0.000	0.000	1399.74	
17	0.7415	1187.8	1208.8	0.781	4.727	67.393	22.111	4.496	0.138	0.310	0.020	0.025	0.000	0.000	0.000	0.000	0.000	1403.81	
18	0.7385	1180.7	1201.6	0.800	4.848	67.561	22.108	4.293	0.116	0.248	0.012	0.013	0.000	0.000	0.000	0.000	0.000	1398.29	
19	0.7390	1179.9	1200.8	0.793	4.961	67.349	22.256	4.262	0.114	0.243	0.010	0.011	0.000	0.000	0.000	0.000	0.000	1396.80	
20	0.7390	1181.8	1202.8	0.798	4.835	67.494	22.166	4.295	0.121	0.263	0.013	0.016	0.000	0.000	0.000	0.000	0.000	1399.10	
21	0.7378	1182.9	1203.9	0.803	4.649	67.794	22.025	4.311	0.123	0.266	0.013	0.016	0.000	0.000	0.000	0.000	0.000	1401.54	
22	0.7409	1185.6	1206.6	0.801	4.775	67.424	22.032	4.514	0.134	0.292	0.014	0.015	0.000	0.000	0.000	0.000	0.000	1401.78	
23	0.7422	1186.5	1207.5	0.788	4.856	67.438	21.773	4.624	0.143	0.327	0.023	0.028	0.000	0.000	0.000	0.000	0.000	1401.67	
24	0.7411	1183.1	1204.1	0.792	4.958	67.290	22.048	4.468	0.128	0.282	0.016	0.018	0.000	0.000	0.000	0.000	0.000	1398.67	
25	0.7379	1180.7	1201.6	0.800	4.801	67.703	21.968	4.337	0.118	0.250	0.012	0.012	0.000	0.000	0.000	0.000	0.000	1398.75	
26	0.7366	1177.8	1198.7	0.798	4.848	67.769	21.997	4.244	0.109	0.222	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1396.70	
27	0.7377	1178.0	1198.9	0.796	4.949	67.567	22.072	4.252	0.112	0.236	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1395.83	
28	0.7398	1182.6	1203.6	0.794	4.861	67.441	22.089	4.400	0.123	0.265	0.013	0.014	0.000	0.000	0.000	0.000	0.000	1399.33	
29	0.7390	1181.7	1202.7	0.794	4.846	67.572	22.020	4.334	0.125	0.275	0.015	0.018	0.000	0.000	0.000	0.000	0.000	1398.98	
30	0.7383	1180.5	1201.4	0.792	4.858	67.629	22.021	4.281	0.121	0.266	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1398.23	
31	0.7391	1180.7	1201.6	0.792	4.918	67.441	22.137	4.314	0.118	0.255	0.012	0.013	0.000	0.000	0.000	0.000	0.000	1397.71	
Avg	0.7380	1180.0	1201.4	0.792	4.829	67.625	22.095	4.266	0.118	0.251	0.012	0.013	0.000	0.000	0.000	0.000	0.000	1398.48	

Zone 262

GQ Source Analysis

GQ Source Number:	2501030	**Specific Gravity:**	0.6304
GQ Source Name:	LIGNITE PLANT	**Dry Heat Value:**	1062.57
Effective Date:	1/1/2014 9:00:00 AM	**Wet Heat Value:**	1044.08
Effective End Date	1/18/2038 9:14:00 PM	**As Deliv. Heat Value:**	1062.57
Pressure Base:	14.730	**Sample Pressure:**	425.00
Viscosity:		**Sample Temperature:**	0.00

		Mol %	Liquid Content			Mol %
C1	Methane	84.287		CO2	Carbon Dioxide	0.036
C2	Ethane	11.014	2.9369	N2	Nitrogen	4.167
C3	Propane	0.481	0.1322	O2	Oxygen	0.000
IC4	Isobutane	0.012	0.0040	He	Helium	
NC4	n-Butane	0.000	0.0000	H2	Hydrogen	
IC5	Isopentane	0.000	0.0000	H2S	Hydrogen Sulfide	
NC5	n-Pentane	0.000	0.0000	Ar	Argon	
C6	Hexanes	0.000	0.0000	CO	Carbon Monoxide	
C7	Heptanes			H2	Water	
C8	Octanes			Neo-C5	Neopentane	
C9	Nonanes					
C10	Decanes					

Totals 99.997% 3.073 GPM

Sample Date: 2/3/2014 9:00:00 AM
Sample Type: Composite
Sample Tech: ES
H2S: ppm

Sample Remarks:

Analysis Tech: MB

Analysis Remarks:

Zone 263

*** End of Report ***

GQ Source Daily Summary

January 2014

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	0.6806	1111.1	1130.8	0.558	4.021	77.102	15.701	2.369	0.078	0.145	0.014	0.012	0.000	0.000	0.000	0.000	0.000	1370.69	
2	0.6863	1119.3	1139.1	0.550	4.070	76.173	16.381	2.542	0.086	0.167	0.016	0.015	0.000	0.000	0.000	0.000	0.000	1375.04	
3	0.6868	1119.0	1138.9	0.557	4.123	76.033	16.484	2.532	0.082	0.160	0.015	0.014	0.000	0.000	0.000	0.000	0.000	1374.21	
4	0.6832	1114.4	1134.1	0.526	4.113	76.634	16.027	2.442	0.079	0.151	0.014	0.013	0.000	0.000	0.000	0.000	0.000	1372.11	
5	0.6711	1098.6	1118.0	0.517	3.959	78.569	14.717	2.040	0.066	0.112	0.011	0.008	0.000	0.000	0.000	0.000	0.000	1364.73	
6	0.6732	1101.7	1121.2	0.538	3.927	78.347	14.793	2.186	0.071	0.120	0.011	0.008	0.000	0.000	0.000	0.000	0.000	1366.57	
7	0.6783	1107.9	1127.5	0.559	4.004	77.477	15.403	2.336	0.073	0.126	0.012	0.009	0.000	0.000	0.000	0.000	0.000	1368.97	
8	0.6840	1114.1	1133.8	0.589	4.113	76.469	16.136	2.467	0.074	0.132	0.011	0.009	0.000	0.000	0.000	0.000	0.000	1370.93	
9	0.7007	1134.8	1154.9	0.638	4.347	73.675	18.071	3.003	0.084	0.161	0.011	0.010	0.000	0.000	0.000	0.000	0.000	1379.66	
10	0.7067	1142.1	1162.3	0.620	4.492	72.692	18.664	3.248	0.088	0.174	0.012	0.011	0.000	0.000	0.000	0.000	0.000	1382.61	
11	0.7094	1145.2	1165.5	0.631	4.543	72.206	19.035	3.283	0.091	0.186	0.013	0.012	0.000	0.000	0.000	0.000	0.000	1383.72	
12	0.7174	1154.9	1175.4	0.670	4.637	70.914	19.922	3.526	0.098	0.205	0.014	0.014	0.000	0.000	0.000	0.000	0.000	1387.71	
13	0.7127	1150.5	1170.8	0.642	4.515	71.623	19.569	3.343	0.093	0.189	0.013	0.012	0.000	0.000	0.000	0.000	0.000	1386.86	
14	0.7062	1142.4	1162.7	0.725	4.270	72.749	18.872	3.127	0.079	0.159	0.010	0.010	0.000	0.000	0.000	0.000	0.000	1383.49	
15	0.7143	1152.7	1173.2	0.664	4.484	71.565	19.437	3.512	0.101	0.210	0.014	0.014	0.000	0.000	0.000	0.000	0.000	1388.13	
16	0.7068	1143.3	1163.6	0.633	4.405	72.782	18.606	3.254	0.095	0.195	0.015	0.014	0.000	0.000	0.000	0.000	0.000	1384.02	
17	0.7016	1137.6	1157.7	0.624	4.275	73.711	17.972	3.104	0.093	0.191	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1382.23	
18	0.7063	1142.9	1163.1	0.634	4.388	72.970	18.377	3.297	0.098	0.203	0.016	0.017	0.000	0.000	0.000	0.000	0.000	1383.92	
19	0.7076	1143.4	1163.6	0.641	4.466	72.546	18.804	3.253	0.089	0.178	0.012	0.011	0.000	0.000	0.000	0.000	0.000	1383.31	
20	0.6926	1124.5	1144.5	0.576	4.307	75.001	17.106	2.752	0.079	0.154	0.013	0.011	0.000	0.000	0.000	0.000	0.000	1375.13	
21	0.6847	1115.4	1135.1	0.573	4.122	76.441	16.078	2.532	0.078	0.149	0.014	0.012	0.000	0.000	0.000	0.000	0.000	1371.83	
22	0.6788	1108.6	1128.2	0.548	4.018	77.465	15.352	2.373	0.076	0.142	0.014	0.012	0.000	0.000	0.000	0.000	0.000	1369.42	
23	0.6808	1109.7	1129.3	0.550	4.143	77.239	15.273	2.523	0.082	0.161	0.015	0.014	0.000	0.000	0.000	0.000	0.000	1368.64	
24	0.6980	1131.5	1151.5	0.594	4.356	74.480	17.113	3.118	0.099	0.205	0.018	0.018	0.000	0.000	0.000	0.000	0.000	1378.33	
25	0.7004	1134.8	1154.9	0.602	4.366	73.809	17.879	3.055	0.088	0.174	0.013	0.012	0.000	0.000	0.000	0.000	0.000	1380.04	
26	0.6810	1111.8	1131.5	0.522	4.073	76.891	15.944	2.354	0.070	0.125	0.012	0.009	0.000	0.000	0.000	0.000	0.000	1371.12	
27	0.6680	1095.3	1114.7	0.482	3.913	79.103	14.351	1.957	0.064	0.108	0.012	0.009	0.000	0.000	0.000	0.000	0.000	1363.91	
28	0.6737	1102.2	1121.7	0.536	3.950	78.255	14.846	2.200	0.070	0.121	0.012	0.010	0.000	0.000	0.000	0.000	0.000	1366.65	
29	0.6845	1116.1	1135.9	0.569	4.064	76.517	16.041	2.554	0.080	0.150	0.014	0.012	0.000	0.000	0.000	0.000	0.000	1372.97	
30	0.6742	1103.6	1123.2	0.538	3.908	78.215	14.910	2.200	0.073	0.131	0.014	0.012	0.000	0.000	0.000	0.000	0.000	1367.89	
31	0.6758	1106.1	1125.7	0.533	3.913	77.849	15.298	2.187	0.070	0.125	0.014	0.011	0.000	0.000	0.000	0.000	0.000	1369.36	
Avg	0.6911	1124.0	1143.6	0.585	4.203	75.339	16.876	2.731	0.082	0.158	0.013	0.012	0.000	0.000	0.000	0.000	0.000	1375.62	

Zone 271

GQ Source Daily Summary

January 2014

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	0.6803	1111.1	1130.8	0.559	3.994	77.134	15.721	2.355	0.076	0.138	0.013	0.011	0.000	0.000	0.000	0.000	0.000	1370.97	
2	0.6827	1114.8	1134.5	0.546	4.010	76.771	15.993	2.412	0.082	0.156	0.016	0.015	0.000	0.000	0.000	0.000	0.000	1373.13	
3	0.6879	1120.8	1140.7	0.565	4.100	75.877	16.617	2.564	0.083	0.163	0.016	0.015	0.000	0.000	0.000	0.000	0.000	1375.36	
4	0.6832	1114.4	1134.1	0.533	4.110	76.641	16.002	2.454	0.080	0.153	0.015	0.013	0.000	0.000	0.000	0.000	0.000	1372.02	
5	0.6759	1104.8	1124.3	0.526	4.018	77.789	15.262	2.189	0.070	0.124	0.013	0.010	0.000	0.000	0.000	0.000	0.000	1367.57	
6	0.6693	1097.0	1116.4	0.525	3.872	78.987	14.363	2.053	0.067	0.113	0.011	0.008	0.000	0.000	0.000	0.000	0.000	1364.63	
7	0.6788	1108.6	1128.3	0.563	3.998	77.366	15.533	2.323	0.072	0.125	0.012	0.009	0.000	0.000	0.000	0.000	0.000	1369.42	
8	0.6816	1112.1	1131.8	0.581	4.018	76.865	15.942	2.375	0.072	0.127	0.011	0.008	0.000	0.000	0.000	0.000	0.000	1370.92	
9	0.6955	1128.5	1148.5	0.629	4.258	74.532	17.509	2.815	0.082	0.154	0.012	0.009	0.000	0.000	0.000	0.000	0.000	1377.13	
10	0.7062	1142.2	1162.4	0.628	4.430	72.761	18.685	3.215	0.088	0.171	0.012	0.010	0.000	0.000	0.000	0.000	0.000	1383.19	
11	0.7086	1144.2	1164.5	0.631	4.524	72.313	19.005	3.234	0.089	0.179	0.013	0.012	0.000	0.000	0.000	0.000	0.000	1383.35	
12	0.7158	1153.3	1173.7	0.665	4.601	71.155	19.787	3.470	0.096	0.200	0.014	0.014	0.000	0.000	0.000	0.000	0.000	1387.23	
13	0.7137	1150.8	1171.2	0.656	4.568	71.496	19.569	3.394	0.094	0.194	0.014	0.013	0.000	0.000	0.000	0.000	0.000	1386.28	
14	0.7074	1144.6	1164.9	0.634	4.380	72.534	18.982	3.179	0.088	0.177	0.013	0.012	0.000	0.000	0.000	0.000	0.000	1385.02	
15	0.7113	1149.3	1169.6	0.658	4.427	71.975	19.265	3.363	0.095	0.192	0.013	0.012	0.000	0.000	0.000	0.000	0.000	1386.85	
16	0.7104	1148.6	1168.9	0.642	4.409	72.215	19.022	3.379	0.099	0.204	0.016	0.015	0.000	0.000	0.000	0.000	0.000	1386.87	
17	0.7013	1137.1	1157.3	0.624	4.283	73.645	18.108	3.050	0.089	0.176	0.014	0.012	0.000	0.000	0.000	0.000	0.000	1381.90	
18	0.7055	1143.0	1163.2	0.630	4.311	73.163	18.281	3.262	0.101	0.213	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1384.85	
19	0.7078	1144.1	1164.4	0.643	4.435	72.524	18.853	3.254	0.089	0.178	0.012	0.011	0.000	0.000	0.000	0.000	0.000	1384.01	
20	0.6982	1131.2	1151.2	0.602	4.382	74.081	17.744	2.924	0.082	0.161	0.012	0.011	0.000	0.000	0.000	0.000	0.000	1377.78	
21	0.6859	1116.8	1136.6	0.575	4.142	76.240	16.228	2.559	0.079	0.151	0.014	0.012	0.000	0.000	0.000	0.000	0.000	1372.44	
22	0.6788	1108.6	1128.2	0.548	4.018	77.465	15.352	2.372	0.076	0.142	0.014	0.012	0.000	0.000	0.000	0.000	0.000	1369.42	
23	0.6808	1109.7	1129.3	0.550	4.143	77.239	15.273	2.523	0.082	0.161	0.015	0.014	0.000	0.000	0.000	0.000	0.000	1368.65	
24	0.6980	1131.5	1151.6	0.594	4.357	74.476	17.115	3.120	0.099	0.206	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1378.33	
25	0.7004	1134.8	1154.9	0.602	4.367	73.809	17.879	3.055	0.088	0.174	0.013	0.012	0.000	0.000	0.000	0.000	0.000	1380.03	
26	0.6809	1111.7	1131.4	0.522	4.071	76.905	15.932	2.353	0.070	0.125	0.011	0.009	0.000	0.000	0.000	0.000	0.000	1371.09	
27	0.6680	1095.3	1114.7	0.482	3.913	79.104	14.351	1.957	0.064	0.108	0.012	0.009	0.000	0.000	0.000	0.000	0.000	1363.91	
28	0.6737	1102.2	1121.8	0.536	3.950	78.254	14.847	2.200	0.070	0.121	0.012	0.010	0.000	0.000	0.000	0.000	0.000	1366.65	
29	0.6834	1114.5	1134.2	0.576	4.048	76.732	15.855	2.537	0.080	0.147	0.014	0.012	0.000	0.000	0.000	0.000	0.000	1372.06	
30	0.6772	1107.5	1127.1	0.545	3.943	77.706	15.281	2.288	0.074	0.136	0.015	0.013	0.000	0.000	0.000	0.000	0.000	1369.63	
31	0.6747	1104.8	1124.4	0.527	3.895	78.071	15.114	2.169	0.071	0.127	0.014	0.012	0.000	0.000	0.000	0.000	0.000	1368.91	
Avg	0.6911	1124.0	1143.7	0.584	4.193	75.349	16.886	2.723	0.082	0.158	0.014	0.012	0.000	0.000	0.000	0.000	0.000	1375.79	

Zone 272

GQ Source Daily Summary

January 2014

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	0.6800	1110.5	1130.2	0.557	4.001	77.177	15.686	2.343	0.075	0.136	0.013	0.011	0.000	0.000	0.000	0.000	0.000	1370.58	
2	0.6830	1115.0	1134.8	0.549	4.021	76.729	16.005	2.426	0.082	0.158	0.016	0.014	0.000	0.000	0.000	0.000	0.000	1373.10	
3	0.6876	1120.5	1140.4	0.564	4.098	75.922	16.578	2.561	0.084	0.163	0.015	0.014	0.000	0.000	0.000	0.000	0.000	1375.20	
4	0.6831	1114.1	1133.8	0.533	4.116	76.658	15.986	2.448	0.079	0.152	0.015	0.013	0.000	0.000	0.000	0.000	0.000	1371.78	
5	0.6759	1104.5	1124.0	0.525	4.030	77.797	15.244	2.188	0.070	0.124	0.012	0.010	0.000	0.000	0.000	0.000	0.000	1367.28	
6	0.6690	1096.5	1115.9	0.524	3.878	79.037	14.316	2.046	0.067	0.113	0.011	0.008	0.000	0.000	0.000	0.000	0.000	1364.26	
7	0.6785	1108.2	1127.8	0.561	4.005	77.407	15.496	2.315	0.072	0.125	0.012	0.009	0.000	0.000	0.000	0.000	0.000	1369.11	
8	0.6815	1111.9	1131.6	0.583	4.020	76.880	15.926	2.372	0.072	0.127	0.011	0.008	0.000	0.000	0.000	0.000	0.000	1370.78	
9	0.6952	1128.0	1148.0	0.628	4.258	74.590	17.464	2.805	0.081	0.153	0.012	0.009	0.000	0.000	0.000	0.000	0.000	1376.82	
10	0.7063	1142.1	1162.3	0.629	4.437	72.753	18.685	3.216	0.087	0.171	0.012	0.010	0.000	0.000	0.000	0.000	0.000	1383.06	
11	0.7082	1143.6	1163.9	0.629	4.522	72.387	18.947	3.223	0.088	0.179	0.013	0.012	0.000	0.000	0.000	0.000	0.000	1383.07	
12	0.7154	1152.7	1173.1	0.662	4.601	71.218	19.735	3.460	0.096	0.200	0.014	0.013	0.000	0.000	0.000	0.000	0.000	1386.95	
13	0.7138	1150.7	1171.1	0.656	4.574	71.492	19.565	3.396	0.095	0.195	0.014	0.013	0.000	0.000	0.000	0.000	0.000	1386.18	
14	0.7073	1144.3	1164.6	0.634	4.388	72.552	18.961	3.176	0.088	0.177	0.013	0.012	0.000	0.000	0.000	0.000	0.000	1384.77	
15	0.7111	1149.0	1169.3	0.658	4.428	72.005	19.244	3.354	0.095	0.191	0.013	0.012	0.000	0.000	0.000	0.000	0.000	1386.64	
16	0.7107	1148.8	1169.2	0.645	4.417	72.168	19.045	3.391	0.099	0.204	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1386.86	
17	0.7012	1136.9	1157.1	0.623	4.287	73.660	18.095	3.046	0.088	0.175	0.013	0.012	0.000	0.000	0.000	0.000	0.000	1381.75	
18	0.7054	1142.7	1162.9	0.630	4.313	73.191	18.258	3.254	0.102	0.214	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1384.68	
19	0.7077	1144.1	1164.3	0.643	4.433	72.532	18.848	3.252	0.089	0.178	0.012	0.011	0.000	0.000	0.000	0.000	0.000	1384.01	
20	0.6983	1131.2	1151.2	0.603	4.391	74.065	17.745	2.929	0.082	0.161	0.012	0.011	0.000	0.000	0.000	0.000	0.000	1377.66	
21	0.6858	1116.8	1136.6	0.575	4.142	76.243	16.226	2.558	0.079	0.151	0.014	0.012	0.000	0.000	0.000	0.000	0.000	1372.41	
22	0.6788	1108.6	1128.2	0.548	4.018	77.465	15.352	2.372	0.076	0.142	0.014	0.012	0.000	0.000	0.000	0.000	0.000	1369.42	
23	0.6808	1109.7	1129.3	0.550	4.143	77.239	15.273	2.523	0.082	0.161	0.015	0.014	0.000	0.000	0.000	0.000	0.000	1368.65	
24	0.6980	1131.5	1151.5	0.594	4.356	74.480	17.113	3.118	0.099	0.205	0.018	0.018	0.000	0.000	0.000	0.000	0.000	1378.33	
25	0.7004	1134.8	1154.9	0.602	4.367	73.809	17.879	3.055	0.088	0.174	0.013	0.012	0.000	0.000	0.000	0.000	0.000	1380.03	
26	0.6810	1111.8	1131.5	0.522	4.073	76.892	15.943	2.354	0.070	0.125	0.012	0.009	0.000	0.000	0.000	0.000	0.000	1371.12	
27	0.6680	1095.3	1114.7	0.482	3.913	79.104	14.351	1.957	0.064	0.108	0.012	0.009	0.000	0.000	0.000	0.000	0.000	1363.91	
28	0.6737	1102.2	1121.8	0.536	3.950	78.254	14.847	2.200	0.070	0.121	0.012	0.010	0.000	0.000	0.000	0.000	0.000	1366.65	
29	0.6832	1114.2	1133.9	0.577	4.047	76.765	15.828	2.532	0.080	0.147	0.014	0.012	0.000	0.000	0.000	0.000	0.000	1371.90	
30	0.6773	1107.5	1127.1	0.545	3.949	77.691	15.286	2.291	0.074	0.136	0.015	0.013	0.000	0.000	0.000	0.000	0.000	1369.58	
31	0.6746	1104.6	1124.2	0.527	3.894	78.093	15.094	2.167	0.071	0.127	0.014	0.012	0.000	0.000	0.000	0.000	0.000	1368.80	
Avg	0.6910	1124.0	1143.5	0.584	4.196	75.363	16.872	2.720	0.082	0.158	0.014	0.012	0.000	0.000	0.000	0.000	0.000	1375.66	

Zone 273

GQ Source Daily Summary

January 2014

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	0.6406	1060.6	1079.4	0.403	3.577	83.628	11.229	1.048	0.044	0.053	0.012	0.007	0.000	0.000	0.000	0.000	0.000	1348.62	
2	0.6422	1064.5	1083.4	0.355	3.560	83.251	11.669	1.052	0.043	0.051	0.011	0.007	0.000	0.000	0.000	0.000	0.000	1351.94	
3	0.6407	1061.5	1080.3	0.351	3.616	83.523	11.355	1.044	0.042	0.051	0.011	0.007	0.000	0.000	0.000	0.000	0.000	1349.60	
4	0.6409	1062.1	1080.9	0.342	3.611	83.480	11.412	1.047	0.042	0.050	0.011	0.007	0.000	0.000	0.000	0.000	0.000	1350.15	
5	0.6379	1057.5	1076.2	0.373	3.564	84.093	10.852	1.004	0.043	0.052	0.011	0.007	0.000	0.000	0.000	0.000	0.000	1347.42	
6	0.6366	1055.4	1074.1	0.377	3.552	84.400	10.540	1.014	0.044	0.053	0.012	0.007	0.000	0.000	0.000	0.000	0.000	1346.28	
7	0.6362	1054.8	1073.5	0.395	3.526	84.484	10.487	0.990	0.045	0.053	0.012	0.007	0.000	0.000	0.000	0.000	0.000	1345.92	
8	0.6379	1056.1	1074.8	0.403	3.594	84.110	10.792	0.991	0.042	0.050	0.011	0.007	0.000	0.000	0.000	0.000	0.000	1345.78	
9	0.6394	1058.7	1077.4	0.370	3.634	83.761	11.123	1.007	0.041	0.047	0.011	0.006	0.000	0.000	0.000	0.000	0.000	1347.40	
10	0.6427	1064.8	1083.7	0.319	3.649	83.105	11.731	1.092	0.040	0.047	0.010	0.006	0.000	0.000	0.000	0.000	0.000	1351.72	
11	0.6444	1067.6	1086.5	0.314	3.651	82.744	12.103	1.086	0.040	0.046	0.010	0.006	0.000	0.000	0.000	0.000	0.000	1353.41	
12	0.6457	1069.6	1088.6	0.325	3.631	82.558	12.235	1.146	0.041	0.047	0.011	0.006	0.000	0.000	0.000	0.000	0.000	1354.65	
13	0.6472	1074.1	1093.1	0.314	3.518	82.202	12.775	1.094	0.039	0.041	0.011	0.006	0.000	0.000	0.000	0.000	0.000	1358.70	
14	0.6441	1067.7	1086.6	0.412	3.463	82.846	12.160	1.031	0.035	0.040	0.008	0.005	0.000	0.000	0.000	0.000	0.000	1353.94	
15	0.6444	1067.1	1086.0	0.323	3.665	82.811	11.957	1.139	0.040	0.047	0.010	0.006	0.000	0.000	0.000	0.000	0.000	1352.80	
16	0.6450	1067.2	1086.1	0.362	3.650	82.710	12.058	1.117	0.040	0.047	0.010	0.006	0.000	0.000	0.000	0.000	0.000	1352.40	
17	0.6428	1063.7	1082.5	0.375	3.639	83.171	11.600	1.109	0.041	0.049	0.010	0.006	0.000	0.000	0.000	0.000	0.000	1350.23	
18	0.6417	1062.6	1081.4	0.348	3.643	83.350	11.466	1.087	0.041	0.048	0.010	0.006	0.000	0.000	0.000	0.000	0.000	1349.98	
19	0.6434	1065.8	1084.7	0.334	3.629	83.032	11.763	1.137	0.040	0.048	0.010	0.006	0.000	0.000	0.000	0.000	0.000	1352.29	
20	0.6416	1062.2	1081.0	0.358	3.642	83.381	11.424	1.089	0.041	0.048	0.010	0.006	0.000	0.000	0.000	0.000	0.000	1349.59	
21	0.6387	1056.6	1075.3	0.396	3.653	83.953	10.867	1.025	0.041	0.049	0.010	0.006	0.000	0.000	0.000	0.000	0.000	1345.50	
22	0.6393	1058.4	1077.1	0.396	3.606	83.844	11.006	1.037	0.042	0.050	0.011	0.007	0.000	0.000	0.000	0.000	0.000	1347.10	
23	0.6346	1050.7	1069.3	0.374	3.660	84.700	10.212	0.946	0.041	0.049	0.011	0.007	0.000	0.000	0.000	0.000	0.000	1342.31	
24	0.6397	1059.2	1078.0	0.350	3.655	83.740	11.084	1.066	0.041	0.048	0.010	0.006	0.000	0.000	0.000	0.000	0.000	1347.84	
25	0.6441	1066.7	1085.6	0.339	3.627	82.870	11.967	1.089	0.041	0.049	0.011	0.006	0.000	0.000	0.000	0.000	0.000	1352.76	
26	0.6450	1067.2	1086.1	0.356	3.658	82.721	12.036	1.118	0.042	0.051	0.011	0.006	0.000	0.000	0.000	0.000	0.000	1352.39	
27	0.6417	1062.8	1081.6	0.372	3.600	83.389	11.448	1.075	0.044	0.054	0.011	0.007	0.000	0.000	0.000	0.000	0.000	1350.15	
28	0.6388	1059.7	1078.5	0.405	3.455	84.066	10.875	1.077	0.046	0.056	0.012	0.007	0.000	0.000	0.000	0.000	0.000	1349.41	
29	0.6409	1062.8	1081.7	0.401	3.471	83.652	11.254	1.101	0.046	0.055	0.012	0.008	0.000	0.000	0.000	0.000	0.000	1351.15	
30	0.6410	1063.0	1081.8	0.415	3.457	83.633	11.276	1.097	0.046	0.055	0.012	0.008	0.000	0.000	0.000	0.000	0.000	1351.13	
31	0.6431	1066.6	1085.5	0.404	3.449	83.186	11.751	1.092	0.045	0.054	0.012	0.008	0.000	0.000	0.000	0.000	0.000	1353.56	
Avg	0.6414	1062.0	1081.3	0.366	3.591	83.432	11.436	1.066	0.042	0.050	0.011	0.007	0.000	0.000	0.000	0.000	0.000	1350.20	

Zone 28

GQ Source Daily Summary

January 2014

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	0.6411	1063.0	1081.8	0.263	3.698	83.267	11.613	1.068	0.034	0.046	0.006	0.004	0.000	0.000	0.000	0.000	0.000	1351.05	
2	0.6419	1064.7	1083.6	0.248	3.686	83.098	11.802	1.076	0.034	0.046	0.006	0.004	0.000	0.000	0.000	0.000	0.000	1352.45	
3	0.6393	1059.5	1078.3	0.239	3.776	83.547	11.311	1.041	0.032	0.043	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1348.53	
4	0.6402	1062.0	1080.8	0.252	3.688	83.440	11.460	1.069	0.034	0.046	0.006	0.004	0.000	0.000	0.000	0.000	0.000	1350.76	
5	0.6350	1053.5	1072.1	0.271	3.689	84.445	10.509	0.994	0.035	0.046	0.007	0.004	0.000	0.000	0.000	0.000	0.000	1345.42	
6	0.6375	1057.4	1076.1	0.280	3.672	84.002	10.910	1.041	0.036	0.048	0.007	0.004	0.000	0.000	0.000	0.000	0.000	1347.77	
7	0.6376	1058.0	1076.7	0.292	3.622	83.978	11.005	1.010	0.035	0.047	0.006	0.004	0.000	0.000	0.000	0.000	0.000	1348.46	
8	0.6368	1055.4	1074.1	0.264	3.747	84.042	10.882	0.981	0.032	0.043	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1346.01	
9	0.6415	1063.0	1081.8	0.246	3.762	83.120	11.724	1.067	0.031	0.042	0.005	0.003	0.000	0.000	0.000	0.000	0.000	1350.64	
10	0.6452	1068.9	1087.8	0.220	3.787	82.405	12.372	1.138	0.031	0.040	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1354.26	
11	0.6457	1069.6	1088.6	0.220	3.784	82.306	12.475	1.137	0.031	0.040	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1354.73	
12	0.6477	1073.6	1092.6	0.202	3.762	81.891	12.908	1.164	0.029	0.038	0.004	0.002	0.000	0.000	0.000	0.000	0.000	1357.60	
13	0.6464	1072.4	1091.4	0.190	3.725	82.079	12.841	1.099	0.027	0.034	0.003	0.001	0.000	0.000	0.000	0.000	0.000	1357.52	
14	0.6442	1067.7	1086.6	0.220	3.764	82.601	12.221	1.114	0.031	0.042	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1353.80	
15	0.6460	1070.4	1089.3	0.222	3.770	82.290	12.455	1.183	0.031	0.041	0.005	0.003	0.000	0.000	0.000	0.000	0.000	1355.28	
16	0.6444	1067.8	1086.7	0.229	3.763	82.606	12.167	1.152	0.032	0.043	0.005	0.003	0.000	0.000	0.000	0.000	0.000	1353.74	
17	0.6418	1063.3	1082.2	0.237	3.781	83.093	11.698	1.106	0.032	0.043	0.005	0.003	0.000	0.000	0.000	0.000	0.000	1350.78	
18	0.6437	1066.5	1085.4	0.228	3.771	82.748	12.023	1.150	0.031	0.042	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1352.94	
19	0.6427	1064.9	1083.8	0.231	3.777	82.932	11.837	1.142	0.032	0.042	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1351.87	
20	0.6392	1059.4	1078.2	0.238	3.771	83.594	11.243	1.071	0.032	0.043	0.005	0.003	0.000	0.000	0.000	0.000	0.000	1348.58	
21	0.6387	1058.5	1077.3	0.241	3.775	83.688	11.156	1.057	0.032	0.043	0.005	0.003	0.000	0.000	0.000	0.000	0.000	1347.95	
22	0.6363	1054.8	1073.5	0.255	3.757	84.137	10.771	0.994	0.032	0.044	0.006	0.004	0.000	0.000	0.000	0.000	0.000	1345.71	
23	0.6372	1055.5	1074.2	0.254	3.794	83.995	10.840	1.031	0.033	0.044	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1345.72	
24	0.6417	1063.7	1082.5	0.233	3.755	83.074	11.794	1.062	0.031	0.042	0.006	0.003	0.000	0.000	0.000	0.000	0.000	1351.32	
25	0.6451	1068.3	1087.2	0.207	3.832	82.428	12.302	1.149	0.031	0.043	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1353.63	
26	0.6446	1067.9	1086.9	0.229	3.777	82.557	12.208	1.140	0.033	0.045	0.006	0.004	0.000	0.000	0.000	0.000	0.000	1353.66	
27	0.6401	1061.3	1080.1	0.279	3.675	83.518	11.342	1.092	0.035	0.048	0.006	0.004	0.000	0.000	0.000	0.000	0.000	1350.05	
28	0.6380	1058.7	1077.4	0.320	3.574	84.001	10.937	1.071	0.036	0.049	0.007	0.005	0.000	0.000	0.000	0.000	0.000	1348.94	
29	0.6421	1064.6	1083.5	0.311	3.611	83.213	11.632	1.136	0.036	0.048	0.007	0.005	0.000	0.000	0.000	0.000	0.000	1352.16	
30	0.6415	1064.1	1082.9	0.322	3.578	83.331	11.553	1.117	0.037	0.049	0.008	0.005	0.000	0.000	0.000	0.000	0.000	1352.02	
31	0.6448	1069.7	1088.7	0.309	3.561	82.673	12.215	1.148	0.036	0.047	0.007	0.005	0.000	0.000	0.000	0.000	0.000	1355.76	
Avg	0.6415	1063.0	1082.3	0.250	3.725	83.164	11.684	1.090	0.033	0.044	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1351.26	

Zone 31

GQ Source Analysis

GQ Source Number:	0202080	**Specific Gravity:**	0.6468
GQ Source Name:	RICHARDTON-GLEN ULLIN COMPRE	**Dry Heat Value:**	1091.62
Effective Date:	12/1/2013 9:00:00 AM	**Wet Heat Value:**	1072.62
Effective End Date	1/18/2038 9:14:00 PM	**As Deliv. Heat Value:**	1091.62
Pressure Base:	14.730	**Sample Pressure:**	336.00
Viscosity:		**Sample Temperature:**	0.00

		Mol %	Liquid Content
C1	Methane	82.390	
C2	Ethane	12.481	3.3280
C3	Propane	1.146	0.3150
IC4	Isobutane	0.044	0.0140
NC4	n-Butane	0.052	0.0160
IC5	Isopentane	0.011	0.0040
NC5	n-Pentane	0.006	0.0020
C6	Hexanes	0.013	0.0050
C7	Heptanes		
C8	Octanes		
C9	Nonanes		
C10	Decanes		

		Mol %
CO2	Carbon Dioxide	0.347
N2	Nitrogen	3.510
O2	Oxygen	
He	Helium	
H2	Hydrogen	
H2S	Hydrogen Sulfide	
Ar	Argon	
CO	Carbon Monoxide	
H2	Water	
Neo-C5	Neopentane	0.000

Totals 100.000% 3.684 GPM

Sample Date: 1/2/2014 11:04:00 AM
Sample Type: Composite
Sample Tech: RR
H2S: ppm

Sample Remarks:

Analysis Tech: MB

Analysis Remarks:

Zone 31

GQ Source Daily Summary

January 2014

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	0.6370	1052.4	1071.0	0.315	3.877	84.278	10.258	1.168	0.039	0.053	0.008	0.005	0.000	0.000	0.000	0.000	0.000	1341.90	
2	0.6362	1051.0	1069.6	0.316	3.884	84.433	10.110	1.154	0.038	0.053	0.008	0.005	0.000	0.000	0.000	0.000	0.000	1340.96	
3	0.6352	1049.0	1067.6	0.298	3.939	84.576	9.949	1.140	0.036	0.049	0.007	0.005	0.000	0.000	0.000	0.000	0.000	1339.46	
4	0.6352	1049.8	1068.4	0.323	3.846	84.655	9.920	1.149	0.039	0.054	0.008	0.006	0.000	0.000	0.000	0.000	0.000	1340.57	
5	0.6303	1042.6	1061.0	0.323	3.834	85.560	9.109	1.071	0.038	0.052	0.008	0.005	0.000	0.000	0.000	0.000	0.000	1336.39	
6	0.6327	1046.1	1064.6	0.339	3.817	85.143	9.491	1.103	0.039	0.054	0.008	0.006	0.000	0.000	0.000	0.000	0.000	1338.39	
7	0.6334	1046.9	1065.4	0.337	3.831	85.007	9.605	1.114	0.039	0.053	0.008	0.005	0.000	0.000	0.000	0.000	0.000	1338.78	
8	0.6321	1043.9	1062.4	0.305	3.944	85.148	9.434	1.074	0.036	0.048	0.007	0.005	0.000	0.000	0.000	0.000	0.000	1336.30	
9	0.6368	1051.2	1069.8	0.279	3.978	84.252	10.227	1.170	0.035	0.047	0.006	0.004	0.000	0.000	0.000	0.000	0.000	1340.66	
10	0.6407	1057.5	1076.2	0.263	3.989	83.485	10.939	1.232	0.035	0.046	0.006	0.004	0.000	0.000	0.000	0.000	0.000	1344.57	
11	0.6407	1057.2	1075.9	0.262	4.014	83.510	10.849	1.274	0.034	0.046	0.006	0.004	0.000	0.000	0.000	0.000	0.000	1344.13	
12	0.6400	1056.6	1075.3	0.236	4.022	83.601	10.784	1.277	0.031	0.041	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1344.12	
13	0.6394	1055.9	1074.6	0.253	3.977	83.765	10.662	1.251	0.035	0.048	0.006	0.004	0.000	0.000	0.000	0.000	0.000	1343.91	
14	0.6404	1057.4	1076.1	0.266	3.967	83.556	10.879	1.241	0.034	0.047	0.006	0.004	0.000	0.000	0.000	0.000	0.000	1344.68	
15	0.6405	1057.5	1076.2	0.264	3.972	83.537	10.886	1.249	0.034	0.047	0.006	0.004	0.000	0.000	0.000	0.000	0.000	1344.72	
16	0.6390	1055.1	1073.8	0.274	3.959	83.889	10.525	1.256	0.037	0.050	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1343.27	
17	0.6367	1051.0	1069.6	0.276	3.986	84.289	10.171	1.184	0.035	0.049	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1340.51	
18	0.6388	1054.6	1073.3	0.269	3.972	83.911	10.508	1.247	0.035	0.048	0.006	0.004	0.000	0.000	0.000	0.000	0.000	1342.96	
19	0.6364	1050.4	1069.0	0.276	3.998	84.371	10.038	1.222	0.035	0.049	0.006	0.004	0.000	0.000	0.000	0.000	0.000	1340.02	
20	0.6333	1045.5	1064.0	0.292	3.975	84.951	9.556	1.128	0.036	0.049	0.007	0.005	0.000	0.000	0.000	0.000	0.000	1337.10	
21	0.6332	1045.5	1064.0	0.294	3.970	84.968	9.530	1.140	0.036	0.050	0.007	0.005	0.000	0.000	0.000	0.000	0.000	1337.13	
22	0.6283	1037.1	1055.5	0.309	3.996	85.885	8.680	1.031	0.036	0.050	0.007	0.005	0.000	0.000	0.000	0.000	0.000	1331.56	
23	0.6339	1046.5	1065.0	0.289	3.984	84.843	9.625	1.162	0.036	0.050	0.007	0.005	0.000	0.000	0.000	0.000	0.000	1337.63	
24	0.6368	1050.6	1069.2	0.269	4.035	84.240	10.176	1.184	0.035	0.049	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1339.84	
25	0.6402	1056.1	1074.8	0.255	4.046	83.600	10.735	1.268	0.035	0.050	0.006	0.004	0.000	0.000	0.000	0.000	0.000	1343.20	
26	0.6366	1050.2	1068.8	0.288	4.012	84.317	10.096	1.185	0.037	0.052	0.007	0.005	0.000	0.000	0.000	0.000	0.000	1339.52	
27	0.6364	1052.5	1071.2	0.353	3.755	84.514	10.050	1.218	0.041	0.057	0.008	0.006	0.000	0.000	0.000	0.000	0.000	1342.70	
28	0.6347	1049.5	1068.0	0.371	3.749	84.878	9.697	1.193	0.041	0.057	0.009	0.006	0.000	0.000	0.000	0.000	0.000	1340.63	
29	0.6373	1053.4	1072.0	0.366	3.762	84.362	10.181	1.219	0.040	0.056	0.008	0.006	0.000	0.000	0.000	0.000	0.000	1342.89	
30	0.6383	1055.2	1073.8	0.368	3.745	84.177	10.366	1.232	0.041	0.056	0.009	0.006	0.000	0.000	0.000	0.000	0.000	1344.10	
31	0.6417	1061.0	1079.8	0.354	3.733	83.500	11.029	1.276	0.040	0.054	0.008	0.006	0.000	0.000	0.000	0.000	0.000	1347.91	
Avg	0.6365	1051.0	1069.9	0.299	3.922	84.361	10.131	1.187	0.037	0.050	0.007	0.005	0.000	0.000	0.000	0.000	0.000	1340.98	

Zone 32

GQ Source Daily Summary

January 2014

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	0.6872	1159.0	1179.5	0.000	2.594	73.004	23.882	0.509	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1422.84	
2	0.6892	1162.3	1182.9	0.000	2.574	72.696	24.128	0.590	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.89	
3	0.6881	1160.1	1180.6	0.000	2.611	72.855	23.982	0.540	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.26	
4	0.6873	1159.0	1179.5	0.009	2.598	72.995	23.883	0.502	0.005	0.007	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1422.72	
5	0.6873	1159.0	1179.6	0.000	2.602	72.972	23.916	0.499	0.004	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1422.78	
6	0.6883	1160.6	1181.2	0.000	2.594	72.801	24.078	0.516	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.75	
7	0.6883	1161.0	1181.5	0.000	2.577	72.803	24.080	0.528	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.12	
8	0.6894	1162.8	1183.4	0.000	2.561	72.641	24.210	0.577	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.35	
9	0.6899	1163.4	1184.0	0.000	2.575	72.559	24.251	0.604	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.51	
10	0.6895	1162.6	1183.2	0.000	2.589	72.679	24.074	0.645	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.92	
11	0.6891	1161.9	1182.4	0.000	2.593	72.720	24.073	0.602	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.43	
12	0.6888	1161.4	1182.0	0.000	2.598	72.774	24.013	0.602	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.13	
13	0.6879	1160.2	1180.7	0.000	2.584	72.909	23.949	0.546	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.61	
14	0.6885	1161.2	1181.8	0.000	2.574	72.840	23.984	0.589	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.29	
15	0.6883	1161.2	1181.7	0.000	2.564	72.853	23.999	0.572	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.38	
16	0.6890	1162.4	1183.0	0.000	2.557	72.730	24.105	0.596	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.13	
17	0.6883	1161.1	1181.6	0.000	2.570	72.867	23.966	0.585	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.25	
18	0.6896	1163.5	1184.1	0.000	2.544	72.718	24.031	0.692	0.006	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.87	
19	0.6891	1162.4	1183.0	0.001	2.563	72.764	24.010	0.648	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.08	
20	0.6906	1164.8	1185.4	0.001	2.557	72.611	24.031	0.781	0.008	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1426.45	
21	0.6881	1160.7	1181.3	0.000	2.568	72.919	23.910	0.590	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.09	
22	0.6883	1161.1	1181.6	0.000	2.569	72.897	23.913	0.604	0.006	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.26	
23	0.6889	1162.2	1182.8	0.000	2.557	72.807	23.986	0.626	0.007	0.014	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1425.05	
24	0.6880	1160.7	1181.2	0.001	2.566	72.955	23.856	0.610	0.005	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.06	
25	0.6872	1159.3	1179.8	0.000	2.569	73.092	23.751	0.576	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.28	
26	0.6873	1159.6	1180.2	0.000	2.563	73.039	23.842	0.537	0.006	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.52	
27	0.6869	1159.8	1180.3	0.000	2.515	73.090	23.871	0.512	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.14	
28	0.6874	1160.5	1181.1	0.000	2.512	73.029	23.903	0.544	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.60	
29	0.6877	1160.7	1181.3	0.017	2.510	73.011	23.887	0.556	0.007	0.009	0.002	0.002	0.000	0.000	0.000	0.000	0.000	1424.46	
30	0.6873	1160.1	1180.7	0.000	2.529	73.027	23.907	0.523	0.005	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.19	
31	0.6875	1160.4	1181.0	0.008	2.533	72.978	23.934	0.531	0.006	0.008	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1424.25	
Avg	0.6883	1161.0	1181.7	0.001	2.567	72.859	23.981	0.578	0.005	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.31	

Zone 33

GQ Source Analysis

GQ Source Number:	1202160	**Specific Gravity:**	0.6942
GQ Source Name:	BOWMAN BORDER	**Dry Heat Value:**	1072.75
Effective Date:	1/1/2014 9:00:00 AM	**Wet Heat Value:**	1054.08
Effective End Date	1/18/2038 9:14:07 PM	**As Deliv. Heat Value:**	1072.75
Pressure Base:	14.730	**Sample Pressure:**	
Viscosity:		**Sample Temperature:**	

		Mol %	Liquid Content			Mol %
C1	Methane	73.325		CO2	Carbon Dioxide	1.063
C2	Ethane	15.774	4.2060	N2	Nitrogen	8.025
C3	Propane	1.582	0.4350	O2	Oxygen	
IC4	Isobutane	0.055	0.0180	He	Helium	
NC4	n-Butane	0.141	0.0440	H2	Hydrogen	
IC5	Isopentane	0.009	0.0030	H2S	Hydrogen Sulfide	
NC5	n-Pentane	0.020	0.0070	Ar	Argon	
C6	Hexanes	0.006	0.0020	CO	Carbon Monoxide	
C7	Heptanes			H2	Water	
C8	Octanes			Neo-C5	Neopentane	0.000
C9	Nonanes					
C10	Decanes					

Totals 100.000% 4.715 GPM

Sample Date: 12/30/2013 2:32:00 PM
Sample Type: Composite
Sample Tech: MIKE GENTILINI
H2S: ppm

Sample Remarks:

Analysis Tech: MIKE GENTILINI

Analysis Remarks:

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	Monthly Sampler	Taylor Take-Off – Glen Ullin Comp
32	Chromatograph	Cabin Creek – Dickinson
33	Chromatograph	Killdeer
34	Monthly Sampler	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	JAN 14	DEC 13	NOV 13	OCT 13	SEPT 13	AUG 13	JULY 13	JUNE 13	MAY 13	APR 13	MAR 13	FEB 13	ZONE
MT/ND	211	Sidney Area	1207	1208	1204	1209	1211	1206	1208	1209	1212	1201	1213	1206	1202	211
ND	24	Williston Area	1202	1201	1201	1207	1204	1199	1196	1198	1196	1197	1216	1204	1204	24
ND	25	Watford City Area	1193	1218	1191	1197	1183	1198	1193	1193	1188	1154	1200	1201	1196	25
ND/MT	241	Fairview Area	1200	1203	1197	1189	1198	1202	1203	1205	1205	1203	1203	1195	1196	241
ND	261	Williston - Tioga - Minot Line	1165	1189	1193	1166	1175	1180	1165	1172	1156	1159	1163	1123	1139	261
ND	262	Minot Area	1186	1201	1201	1192	1197	1196	1185	1191	1181	1177	1172	1170	1168	262
ND	263	Tioga - Portal	1111	1063	1061	1096	1125	1130	1130	1130	1127	1123	1117	1116	1116	263
ND	264	Williston - Ray	1202	1201	1201	1207	1204	1199	1196	1198	1196	1197	1216	1204	1204	264
ND	271	Bismarck - Cleveland	1169	1144	1145	1164	1184	1199	1187	1191	1183	1175	1167	1145	1144	271
ND	272	Cleveland - Mapleton	1170	1144	1145	1164	1184	1199	1187	1192	1183	1178	1169	1147	1145	272
ND	273	Cleveland - Grafton	1170	1144	1145	1164	1184	1199	1188	1192	1184	1177	1169	1146	1145	273
ND	28	Bismarck - Cabin Creek	1140	1081	1092	1105	1147	1199	1187	1191	1182	1173	1117	1102	1100	28
ND	31	Dickinson Area	1109	1082	1092	1107	1126	1079	1098	1112	1130	1163	1117	1103	1098	31
ND	311	Taylor Take-Off - Glen Ullin Comp	1116	1092	1092	1104	1108	1094	1135	1188	1097	1163	1117	1103	1098	311
ND/MT	32	Cabin Creek - Dickinson	1099	1070	1082	1096	1095	1115	1135	1142	1094	1100	1088	1089	1086	32
ND	33	Killdeer	1180	1182	1180	1180	1182	1183	1182	1183	1180	1179	1177	1176	1177	33
ND	34	Bowman Area	1125	1073	1082	1118	1118	1145	1127	1140	1121	1136	1146	1144	1147	34

THERMAL ZONE VARIANCE DOCUMENTATION January 2014		
ZONE	***BTU VARIANCE***	***REASON***
28	-52	Mix of gas in the area
31	47	Mix of gas in the area
32	-20	Mix of gas in the area
34	-27	Mix of gas in the area