



A Division of MDU Resources Group, Inc.

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

May 14, 2014

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

Re: Case No. 11,006 (Therm Billing)
Monthly Report – March 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 April 2014.
2. Attachment B consists of copies of the monthly Heating Value Test Reports received from our supplier for the month of March 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 March 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,

A handwritten signature in red ink that reads 'Tamie Aberle'.

Tamie Aberle
Director of Regulatory Affairs

Montana-Dakota Utilities Co.
Therm Billing Factors - North Dakota
April 2014

Town	Heat Zone	Therm Factor
MDU-303-ALEXANDER	025	1.1523
MDU-308-ARNEGARD	025	1.1381
MDU-314-APPLE VALLEY	271	1.1183
MDU-318-BEACH	032	0.9805
MDU-319-BELFIELD	032	0.9877
MDU-323-BERTHOLD	262	1.1343
MDU-327-BISMARCK	028	1.0392
MDU-330-BOWMAN	034	0.9715
MDU-337-BURLINGTON	262	1.1588
MDU-343-CARRINGTON	273	1.1173
MDU-344-CLEVELAND	272	1.1095
MDU-364-CAVALIER	273	1.1409
MDU-365-DAWSON	271	1.1104
MDU-368-DES LACS	262	1.1425
MDU-369-DICKINSON	031	1.0118
MDU-374-FT TOTTEN	273	1.1252
MDU-375-DEVILS LAKE	273	1.1252
MDU-379-BARLOW	273	1.1173
MDU-384-EPPING	264	1.1155
MDU-387-ELDRIDGE	272	1.1173
MDU-407-GLADSTONE	031	1.0118
MDU-411-GLEN ULLIN	311	1.0125
MDU-413-GOLVA	032	0.9661
MDU-416-GARRISON	262	1.1425
MDU-417-GRAFTON	273	1.1488
MDU-429-HEBRON	311	1.0125
MDU-432-HETTINGER	903	2.3875
MDU-449-JAMESTOWN	272	1.1252
MDU-459-KILLDEER	033	1.1145
MDU-463-LANGDON	273	1.1173
MDU-469-LEFOR	031	1.0118
MDU-474-LIGNITE	263	1.0065
MDU-475-LINTON	802	1.0083
MDU-478-LINCOLN	028	1.0392
MDU-494-MEDINA	271	1.1104
MDU-498-MANDAN	028	1.0392
MDU-500-MARMARTH	034	0.9787
MDU-505-MINOT	262	1.1588
MDU-510-MOTT	031	1.0118
MDU-512-MAX	262	1.1343
MDU-522-NEW ENGLAND	031	1.0045
MDU-524-NEW SALEM	028	1.0172
MDU-532-NEW ROCKFORD	273	1.1173
MDU-539-PARK RIVER	273	1.1409
MDU-540-PALERMO	262	1.1343
MDU-558-RAY	264	1.1155
MDU-561-REGENT	031	1.0118
MDU-563-RHAME	034	0.9643
MDU-564-RICHARDTON	311	1.1143

MDU-568-ROSS	261	1.1131
MDU-572-RUTHVILLE	262	1.1588
MDU-574-SANBORN	272	1.1252
MDU-583-SENTINEL BUTTE	032	0.9805
MDU-588-SOUTH HEART	031	1.0045
MDU-717-SPIRITWOOD	272	1.1251
MDU-590-SPRINGBROOK	264	1.1155
MDU-591-STANLEY	261	1.1211
MDU-593-STEELE	271	1.1104
MDU-598-SHEYENNE	273	1.1252
MDU-605-SURREY	262	1.1588
MDU-610-TAPPEN	271	1.1104
MDU-611-TAYLOR	031	1.0045
MDU-616-TIOGA	261	1.1292
MDU-619-TURTLE LAKE	262	1.1425
MDU-620-TRENTON	024	1.1235
MDU-624-UNDERWOOD	262	1.1425
MDU-625-VALLEY CITY	272	1.1330
MDU-629-WALHALLA	273	1.1409
MDU-632-WATFORD CITY	025	1.1523
MDU-636-WHEELOCK	264	1.1074
MDU-637-WHITE EARTH	261	1.1211
MDU-642-WILLISTON	024	1.1235
MDU-646-WASHBURN	262	1.1507
MDU-647-WILTON	262	1.1343
MDU-664-RIVERDALE	262	1.1425
MDU-691-FAIRVIEW	241	1.1387
MDU-712-MINOT AFB	262	1.1588
MDU-732-MSR SITE	273	1.0874

GQ Source Daily Summary

March 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	0.6980	1159.6	1180.1	0.855	2.267	73.016	22.237	1.408	0.067	0.135	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1412.46	
2	0.6985	1160.2	1180.7	0.851	2.279	72.869	22.427	1.355	0.066	0.136	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1412.76	
3	0.6975	1158.8	1179.3	0.869	2.245	73.014	22.376	1.285	0.063	0.132	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1412.04	
4	0.6982	1159.7	1180.2	0.865	2.256	72.936	22.386	1.342	0.065	0.134	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1412.51	
5	0.6992	1161.5	1182.1	0.854	2.259	72.866	22.318	1.481	0.068	0.139	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1413.65	
6	0.7026	1162.0	1182.6	0.844	2.555	72.907	21.379	1.977	0.092	0.208	0.017	0.021	0.000	0.000	0.000	0.000	0.000	1410.88	
7	0.7000	1159.9	1180.4	0.857	2.423	73.073	21.652	1.712	0.080	0.175	0.013	0.014	0.000	0.000	0.000	0.000	0.000	1410.89	
8	0.7045	1164.0	1184.6	0.836	2.629	72.575	21.575	2.035	0.095	0.217	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1411.36	
9	0.7032	1161.8	1182.3	0.828	2.656	72.829	21.277	2.082	0.091	0.202	0.016	0.019	0.000	0.000	0.000	0.000	0.000	1409.93	
10	0.7019	1160.7	1181.3	0.843	2.577	72.907	21.444	1.911	0.088	0.197	0.015	0.017	0.000	0.000	0.000	0.000	0.000	1409.93	
11	0.7013	1160.4	1180.9	0.838	2.544	73.017	21.419	1.855	0.088	0.201	0.016	0.019	0.000	0.000	0.000	0.000	0.000	1410.17	
12	0.7040	1162.5	1183.1	0.832	2.676	72.796	21.207	2.126	0.097	0.224	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1410.05	
13	0.7009	1159.9	1180.5	0.836	2.543	73.000	21.484	1.834	0.085	0.188	0.014	0.016	0.000	0.000	0.000	0.000	0.000	1409.99	
14	0.6962	1156.7	1177.2	0.859	2.263	73.330	22.001	1.326	0.066	0.138	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1410.84	
15	0.7053	1171.3	1192.1	0.840	2.247	72.875	21.331	2.266	0.125	0.274	0.020	0.021	0.000	0.000	0.000	0.000	0.000	1419.25	
16	0.7064	1173.1	1193.9	0.826	2.264	72.676	21.468	2.349	0.120	0.257	0.018	0.021	0.000	0.000	0.000	0.000	0.000	1420.42	
17	0.7012	1159.2	1179.8	0.846	2.594	73.020	21.338	1.895	0.085	0.190	0.014	0.017	0.000	0.000	0.000	0.000	0.000	1408.87	
18	0.6965	1157.1	1177.6	0.852	2.273	73.388	21.826	1.430	0.069	0.144	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1411.08	
19	0.6953	1155.3	1175.7	0.853	2.273	73.526	21.778	1.349	0.066	0.138	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1410.02	
20	0.6960	1156.6	1177.1	0.848	2.271	73.389	21.905	1.362	0.067	0.140	0.008	0.009	0.000	0.000	0.000	0.000	0.000	1410.86	
21	0.6940	1152.6	1173.0	0.860	2.307	73.804	21.422	1.398	0.064	0.130	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1408.02	
22	0.6983	1159.6	1180.2	0.858	2.281	73.014	22.191	1.424	0.070	0.145	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1412.29	
23	0.6956	1155.9	1176.3	0.866	2.251	73.515	21.765	1.374	0.069	0.143	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1410.37	
24	0.6962	1156.8	1177.3	0.861	2.254	73.429	21.813	1.413	0.070	0.144	0.009	0.008	0.000	0.000	0.000	0.000	0.000	1410.97	
25	0.6950	1154.8	1175.3	0.861	2.266	73.648	21.605	1.391	0.069	0.144	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1409.70	
26	0.7093	1167.8	1188.5	0.829	2.854	72.134	21.301	2.464	0.112	0.259	0.022	0.026	0.000	0.000	0.000	0.000	0.000	1411.19	
27	0.7095	1166.2	1186.9	0.824	2.974	72.201	21.060	2.483	0.116	0.282	0.026	0.033	0.000	0.000	0.000	0.000	0.000	1409.07	
28	0.6977	1157.7	1178.2	0.849	2.351	73.319	21.670	1.552	0.075	0.161	0.011	0.011	0.000	0.000	0.000	0.000	0.000	1410.59	
29	0.6961	1156.3	1176.8	0.865	2.265	73.459	21.777	1.404	0.069	0.143	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1410.47	
30	0.6966	1157.2	1177.7	0.860	2.274	73.392	21.780	1.461	0.071	0.145	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1410.95	
31	0.6961	1156.9	1177.4	0.857	2.243	73.464	21.784	1.420	0.070	0.145	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1411.21	
Avg	0.6997	1160.0	1180.6	0.849	2.400	73.077	21.710	1.683	0.081	0.174	0.012	0.013	0.000	0.000	0.000	0.000	0.000	1411.38	

Zone 24, 264

GQ Source Analysis

GQ Source Number:	0602160	Specific Gravity:	0.7237
GQ Source Name:	FAIRVIEW BORDER	Dry Heat Value:	1197.30
Effective Date:	3/1/2014 9:00:00 AM	Wet Heat Value:	1176.47
Effective End Date:	1/18/2038 9:14:07 PM	As Deliv. Heat Value:	1197.30
Pressure Base:	14.730	Sample Pressure:	404.00
Viscosity:		Sample Temperature:	

	<u>Mol %</u>	<u>Liquid Content</u>		<u>Mol %</u>	
C1	Methane	69.357	CO2	Carbon Dioxide	0.861
C2	Ethane	22.528	N2	Nitrogen	3.593
C3	Propane	3.402	O2	Oxygen	0.000
IC4	Isobutane	0.080	He	Helium	
NC4	n-Butane	0.140	H2	Hydrogen	
IC5	Isopentane	0.016	H2S	Hydrogen Sulfide	
NC5	n-Pentane	0.010	Ar	Argon	
C6	Hexanes	0.004	CO	Carbon Monoxide	
C7	Heptanes		H2	Water	
C8	Octanes		Neo-C5	Neopentane	
C9	Nonanes				
C10	Decanes				

Totals 99.991% 7.021 GPM

Sample Date: 4/1/2014 9:00:00 AM
Sample Type: Composite
Sample Tech: RR
H2S: ppm

Sample Remarks:

Analysis Tech: DW

Analysis Remarks:

Zone 241

GQ Source Analysis

GQ Source Number:	0602230	Specific Gravity:	0.7460
GQ Source Name:	WATFORD CITY BORDER	Dry Heat Value:	1219.91
Effective Date:	3/1/2014 9:00:00 AM	Wet Heat Value:	1198.67
Effective End Date:	1/18/2038 9:14:07 PM	As Deliv. Heat Value:	1219.91
Pressure Base:	14.730	Sample Pressure:	336.00
Viscosity:		Sample Temperature:	

	<u>Mol %</u>	<u>Liquid Content</u>		<u>Mol %</u>
C1 Methane	67.310		CO2 Carbon Dioxide	0.851
C2 Ethane	21.605	5.7610	N2 Nitrogen	4.335
C3 Propane	5.203	1.4293	O2 Oxygen	0.000
IC4 Isobutane	0.183	0.0596	He Helium	
NC4 n-Butane	0.443	0.1394	H2 Hydrogen	
IC5 Isopentane	0.032	0.0119	H2S Hydrogen Sulfide	
NC5 n-Pentane	0.034	0.0124	Ar Argon	
C6 Hexanes	0.003	0.0000	CO Carbon Monoxide	
C7 Heptanes			H2 Water	
C8 Octanes			Neo-C5 Neopentane	
C9 Nonanes				
C10 Decanes				

Totals 100.000% 7.414 GPM

Sample Date: 4/1/2014 9:00:00 AM
Sample Type: Composite
Sample Tech: ES
H2S: ppm

Sample Remarks:

Analysis Tech: DW

Analysis Remarks:

Zone 25

GQ Source Daily Summary

March 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	0.7067	1159.4	1180.0	0.812	3.141	72.634	20.463	2.547	0.107	0.250	0.021	0.025	0.000	0.000	0.000	0.000	0.000	1403.67	
2	0.7114	1166.8	1187.5	0.816	3.130	72.057	20.798	2.723	0.121	0.290	0.029	0.036	0.000	0.000	0.000	0.000	0.000	1407.86	
3	0.7097	1164.7	1185.3	0.821	3.088	72.287	20.752	2.581	0.118	0.288	0.029	0.036	0.000	0.000	0.000	0.000	0.000	1407.07	
4	0.7112	1166.7	1187.3	0.818	3.120	72.126	20.734	2.708	0.123	0.301	0.031	0.039	0.000	0.000	0.000	0.000	0.000	1407.87	
5	0.7151	1168.5	1189.2	0.790	3.404	72.081	19.911	3.220	0.144	0.360	0.039	0.051	0.000	0.000	0.000	0.000	0.000	1406.33	
6	0.7165	1170.8	1191.6	0.792	3.389	72.058	19.755	3.338	0.160	0.406	0.045	0.057	0.000	0.000	0.000	0.000	0.000	1407.73	
7	0.7169	1171.0	1191.7	0.795	3.421	72.072	19.652	3.375	0.162	0.414	0.047	0.062	0.000	0.000	0.000	0.000	0.000	1407.40	
8	0.7130	1165.0	1185.6	0.792	3.422	72.317	19.720	3.220	0.134	0.323	0.031	0.039	0.000	0.000	0.000	0.000	0.000	1404.12	
9	0.7146	1167.8	1188.4	0.801	3.387	72.056	19.968	3.259	0.134	0.322	0.032	0.041	0.000	0.000	0.000	0.000	0.000	1405.92	
10	0.7134	1166.3	1187.0	0.780	3.394	72.376	19.627	3.242	0.143	0.354	0.037	0.047	0.000	0.000	0.000	0.000	0.000	1405.34	
11	0.7169	1172.1	1192.9	0.784	3.362	71.745	20.184	3.344	0.145	0.356	0.035	0.043	0.000	0.000	0.000	0.000	0.000	1408.90	
12	0.7154	1169.1	1189.8	0.799	3.387	71.949	20.025	3.284	0.141	0.339	0.033	0.042	0.000	0.000	0.000	0.000	0.000	1406.67	
13	0.7162	1170.1	1190.8	0.797	3.409	71.815	20.107	3.311	0.141	0.342	0.034	0.042	0.000	0.000	0.000	0.000	0.000	1407.02	
14	0.7162	1169.8	1190.5	0.801	3.415	71.715	20.284	3.231	0.139	0.340	0.033	0.041	0.000	0.000	0.000	0.000	0.000	1406.74	
15	0.7144	1170.9	1191.6	0.806	3.173	71.911	20.523	3.033	0.141	0.341	0.032	0.039	0.000	0.000	0.000	0.000	0.000	1409.83	
16	0.7152	1167.5	1188.2	0.802	3.462	71.890	20.043	3.271	0.135	0.324	0.032	0.040	0.000	0.000	0.000	0.000	0.000	1404.97	
17	0.7159	1169.7	1190.4	0.796	3.400	71.834	20.112	3.313	0.138	0.334	0.033	0.040	0.000	0.000	0.000	0.000	0.000	1406.92	
18	0.7148	1169.7	1190.4	0.793	3.305	72.099	19.990	3.210	0.149	0.370	0.037	0.046	0.000	0.000	0.000	0.000	0.000	1407.97	
19	0.7104	1164.2	1184.8	0.793	3.229	72.332	20.301	2.891	0.118	0.279	0.025	0.031	0.000	0.000	0.000	0.000	0.000	1405.69	
20	0.7072	1160.2	1180.8	0.799	3.169	72.430	20.692	2.550	0.097	0.221	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1404.03	
21	0.7075	1162.0	1182.5	0.801	3.081	72.332	20.956	2.444	0.102	0.239	0.021	0.025	0.000	0.000	0.000	0.000	0.000	1405.93	
22	0.7075	1161.8	1182.3	0.798	3.103	72.390	20.861	2.433	0.107	0.255	0.024	0.028	0.000	0.000	0.000	0.000	0.000	1405.62	
23	0.7109	1161.7	1182.3	0.791	3.433	72.254	20.182	2.854	0.120	0.298	0.030	0.038	0.000	0.000	0.000	0.000	0.000	1402.20	
24	0.7092	1162.1	1182.7	0.797	3.235	72.347	20.537	2.627	0.115	0.279	0.028	0.036	0.000	0.000	0.000	0.000	0.000	1404.43	
25	0.7132	1169.0	1189.7	0.664	3.390	72.306	19.769	3.291	0.155	0.356	0.032	0.037	0.000	0.000	0.000	0.000	0.000	1408.73	
26	0.7094	1169.9	1190.6	0.084	3.847	74.258	16.215	4.806	0.270	0.484	0.021	0.015	0.000	0.000	0.000	0.000	0.000	1413.56	
27	0.7031	1161.7	1182.2	0.125	3.699	74.939	16.173	4.395	0.230	0.405	0.018	0.015	0.000	0.000	0.000	0.000	0.000	1409.87	
28	0.7088	1164.9	1185.5	0.467	3.523	73.319	18.450	3.639	0.177	0.368	0.027	0.030	0.000	0.000	0.000	0.000	0.000	1408.16	
29	0.7091	1166.5	1187.2	0.695	3.114	72.550	20.234	2.936	0.133	0.289	0.022	0.026	0.000	0.000	0.000	0.000	0.000	1409.81	
30	0.7151	1169.0	1189.7	0.840	3.306	71.490	20.949	2.935	0.124	0.296	0.027	0.032	0.000	0.000	0.000	0.000	0.000	1406.85	
31	0.7130	1170.4	1191.2	0.520	3.499	72.707	18.874	3.754	0.189	0.398	0.029	0.031	0.000	0.000	0.000	0.000	0.000	1410.67	
Avg	0.7122	1167.0	1187.4	0.728	3.337	72.344	19.898	3.154	0.142	0.330	0.030	0.037	0.000	0.000	0.000	0.000	0.000	1407.03	

Zone 2b1

GQ Source Daily Summary

March 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	0.7318	1170.4	1191.1	0.782	4.880	68.266	21.918	3.837	0.101	0.204	0.006	0.006	0.000	0.000	0.000	0.000	0.000	1392.38	
2	0.7373	1180.3	1201.2	0.772	4.806	67.709	22.172	4.083	0.125	0.290	0.020	0.023	0.000	0.000	0.000	0.000	0.000	1398.94	
3	0.7393	1180.4	1201.3	0.782	4.976	67.358	22.255	4.191	0.123	0.279	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1397.10	
4	0.7382	1180.2	1201.1	0.798	4.857	67.529	22.273	4.111	0.120	0.274	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1397.96	
5	0.7400	1181.3	1202.2	0.796	4.964	67.325	22.205	4.265	0.123	0.282	0.018	0.022	0.000	0.000	0.000	0.000	0.000	1397.54	
6	0.7443	1182.4	1203.4	0.789	5.307	66.749	22.110	4.579	0.130	0.296	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1394.84	
7	0.7457	1184.0	1205.0	0.785	5.344	66.589	22.131	4.663	0.134	0.309	0.020	0.024	0.000	0.000	0.000	0.000	0.000	1395.42	
8	0.7468	1183.4	1204.3	0.790	5.484	66.394	22.114	4.730	0.136	0.310	0.019	0.023	0.000	0.000	0.000	0.000	0.000	1393.59	
9	0.7471	1184.5	1205.5	0.788	5.446	66.311	22.237	4.746	0.134	0.301	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1394.64	
10	0.7453	1183.0	1204.0	0.789	5.367	66.544	22.201	4.648	0.128	0.288	0.016	0.018	0.000	0.000	0.000	0.000	0.000	1394.58	
11	0.7450	1183.5	1204.4	0.787	5.312	66.642	22.153	4.646	0.129	0.293	0.018	0.020	0.000	0.000	0.000	0.000	0.000	1395.40	
12	0.7460	1184.8	1205.8	0.786	5.330	66.439	22.321	4.665	0.130	0.293	0.017	0.019	0.000	0.000	0.000	0.000	0.000	1396.00	
13	0.7458	1184.7	1205.7	0.790	5.305	66.485	22.304	4.659	0.130	0.292	0.017	0.019	0.000	0.000	0.000	0.000	0.000	1396.17	
14	0.7432	1182.6	1203.5	0.792	5.192	66.906	22.124	4.529	0.129	0.291	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1396.04	
15	0.7415	1182.1	1203.1	0.795	5.051	67.218	22.043	4.414	0.133	0.305	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1397.14	
16	0.7428	1182.9	1203.8	0.793	5.127	66.986	22.147	4.474	0.133	0.302	0.018	0.020	0.000	0.000	0.000	0.000	0.000	1396.84	
17	0.7455	1183.8	1204.7	0.792	5.335	66.620	22.073	4.704	0.134	0.303	0.018	0.020	0.000	0.000	0.000	0.000	0.000	1395.28	
18	0.7419	1183.6	1204.6	0.791	5.002	67.391	21.734	4.553	0.145	0.335	0.023	0.027	0.000	0.000	0.000	0.000	0.000	1398.54	
19	0.7421	1182.9	1203.9	0.789	5.064	67.213	21.945	4.496	0.136	0.313	0.020	0.024	0.000	0.000	0.000	0.000	0.000	1397.55	
20	0.7383	1178.6	1199.5	0.792	4.970	67.610	21.936	4.260	0.123	0.275	0.015	0.018	0.000	0.000	0.000	0.000	0.000	1396.01	
21	0.7368	1177.1	1197.9	0.779	4.948	67.743	21.986	4.126	0.120	0.267	0.015	0.016	0.000	0.000	0.000	0.000	0.000	1395.56	
22	0.7369	1178.2	1199.1	0.782	4.879	67.733	22.101	4.070	0.122	0.276	0.016	0.019	0.000	0.000	0.000	0.000	0.000	1396.83	
23	0.7395	1179.2	1200.1	0.777	5.073	67.341	22.126	4.245	0.124	0.280	0.016	0.018	0.000	0.000	0.000	0.000	0.000	1395.53	
24	0.7387	1177.3	1198.2	0.790	5.092	67.520	21.910	4.249	0.123	0.279	0.017	0.019	0.000	0.000	0.000	0.000	0.000	1394.05	
25	0.7401	1180.3	1201.2	0.793	5.030	67.366	22.058	4.285	0.130	0.296	0.019	0.022	0.000	0.000	0.000	0.000	0.000	1396.34	
26	0.7342	1180.9	1201.8	0.558	4.799	68.906	20.523	4.653	0.173	0.352	0.018	0.017	0.000	0.000	0.000	0.000	0.000	1402.55	
27	0.7278	1175.0	1195.8	0.373	4.832	70.363	18.919	4.894	0.204	0.389	0.015	0.012	0.000	0.000	0.000	0.000	0.000	1401.68	
28	0.7282	1174.2	1195.0	0.512	4.709	69.900	19.834	4.505	0.169	0.339	0.016	0.016	0.000	0.000	0.000	0.000	0.000	1400.39	
29	0.7142	1168.7	1189.4	0.588	3.616	72.074	19.642	3.545	0.155	0.332	0.022	0.026	0.000	0.000	0.000	0.000	0.000	1407.46	
30	0.7393	1182.9	1203.9	0.771	4.834	67.484	22.180	4.271	0.130	0.291	0.018	0.020	0.000	0.000	0.000	0.000	0.000	1400.14	
31	0.7346	1179.8	1200.7	0.711	4.679	68.401	21.500	4.228	0.141	0.306	0.017	0.019	0.000	0.000	0.000	0.000	0.000	1400.84	
Avg	0.7393	1180.0	1201.3	0.749	5.020	67.584	21.780	4.398	0.134	0.298	0.017	0.020	0.000	0.000	0.000	0.000	0.000	1397.20	

Zone 2b2

GQ Source Analysis

GQ Source Number:	2501030	Specific Gravity:	0.6310
GQ Source Name:	LIGNITE PLANT	Dry Heat Value:	1057.54
Effective Date:	3/1/2014 9:00:00 AM	Wet Heat Value:	1039.14
Effective End Date:	1/18/2038 9:14:07 PM	As Deliv. Heat Value:	1057.54
Pressure Base:	14.730	Sample Pressure:	400.00
Viscosity:		Sample Temperature:	

		<u>Mol %</u>	<u>Liquid Content</u>			<u>Mol %</u>
C1	Methane	84.033		CO2	Carbon Dioxide	0.031
C2	Ethane	11.004	2.9341	N2	Nitrogen	4.529
C3	Propane	0.383	0.1053	O2	Oxygen	0.000
IC4	Isobutane	0.014	0.0045	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 99.994% 3.044 GPM

Sample Date: 4/1/2014 9:00:00 AM
Sample Type: Composite
Sample Tech: ES
H2S: ppm

Sample Remarks:

Analysis Tech: DW

Analysis Remarks:

Zone 263

*** End of Report ***

GQ Source Daily Summary

March 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															Wobbe	CCT	
				CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10			
1	0.6614	1082.4	1101.5	0.569	3.948	80.534	12.863	1.856	0.071	0.130	0.016	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1354.50	
2	0.6585	1078.2	1097.3	0.564	3.946	81.026	12.458	1.782	0.069	0.126	0.016	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1352.16	
3	0.6632	1084.2	1103.4	0.562	4.018	80.161	13.143	1.895	0.069	0.124	0.015	0.013	0.000	0.000	0.000	0.000	0.000	0.000	1354.95	
4	0.6737	1097.9	1117.3	0.605	4.111	78.423	14.394	2.209	0.078	0.148	0.017	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1361.25	
5	0.6825	1111.0	1130.6	0.647	4.075	76.994	15.540	2.457	0.085	0.168	0.018	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1368.57	
6	0.6741	1098.7	1118.1	0.550	4.182	78.277	14.517	2.227	0.074	0.141	0.016	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1361.81	
7	0.6790	1105.1	1124.6	0.542	4.265	77.434	15.114	2.387	0.078	0.149	0.016	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1364.81	
8	0.6915	1118.9	1138.7	0.599	4.511	75.503	16.200	2.871	0.092	0.188	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1369.29	
9	0.7080	1139.0	1159.2	0.647	4.759	72.757	18.078	3.397	0.104	0.221	0.019	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1377.65	
10	0.7107	1142.6	1162.9	0.674	4.753	72.275	18.479	3.467	0.103	0.216	0.018	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1379.36	
11	0.7117	1145.3	1165.6	0.682	4.675	72.112	18.697	3.479	0.103	0.217	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1381.59	
12	0.7121	1145.9	1166.2	0.701	4.646	72.094	18.686	3.513	0.102	0.221	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1381.93	
13	0.7424	1181.5	1202.4	0.765	5.224	67.117	21.877	4.554	0.128	0.293	0.020	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1395.46	
14	0.7277	1165.8	1186.4	0.711	4.886	69.418	20.617	3.963	0.114	0.252	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1390.76	
15	0.7089	1142.0	1162.2	0.665	4.637	72.565	18.414	3.354	0.104	0.223	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1380.33	
16	0.6828	1110.4	1130.0	0.571	4.254	76.804	15.635	2.456	0.083	0.164	0.017	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1367.54	
17	0.7028	1133.2	1153.2	0.625	4.661	73.604	17.531	3.232	0.101	0.211	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1375.60	
18	0.7256	1162.1	1182.7	0.697	4.927	69.818	20.192	3.964	0.114	0.251	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1388.44	
19	0.7280	1169.5	1190.2	0.718	4.671	69.630	20.494	3.999	0.132	0.303	0.024	0.028	0.000	0.000	0.000	0.000	0.000	0.000	1394.96	
20	0.7212	1159.8	1180.4	0.693	4.665	70.492	20.046	3.704	0.112	0.248	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1389.87	
21	0.7146	1150.8	1171.1	0.680	4.614	71.385	19.591	3.397	0.098	0.206	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1385.42	
22	0.6911	1123.4	1143.3	0.616	4.178	75.222	17.162	2.549	0.082	0.162	0.015	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1375.22	
23	0.7023	1136.7	1156.8	0.641	4.375	73.427	18.291	2.951	0.093	0.190	0.016	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1380.39	
24	0.7232	1159.7	1180.3	0.708	4.827	70.128	20.189	3.749	0.112	0.249	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1387.94	
25	0.7275	1165.1	1185.7	0.739	4.860	69.435	20.675	3.872	0.115	0.263	0.019	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1390.17	
26	0.7373	1181.2	1202.1	0.682	4.880	68.180	21.268	4.463	0.150	0.330	0.022	0.024	0.000	0.000	0.000	0.000	0.000	0.000	1400.03	
27	0.7285	1176.7	1197.6	0.367	4.798	70.339	18.926	4.925	0.208	0.404	0.017	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1403.12	
28	0.7196	1164.9	1185.5	0.438	4.583	71.372	18.796	4.295	0.164	0.320	0.017	0.016	0.000	0.000	0.000	0.000	0.000	0.000	1397.53	
29	0.7074	1155.8	1176.2	0.548	3.826	73.119	18.686	3.342	0.138	0.294	0.021	0.024	0.000	0.000	0.000	0.000	0.000	0.000	1398.57	
30	0.7272	1171.3	1192.0	0.694	4.528	69.515	20.948	3.888	0.123	0.267	0.018	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1397.81	
31	0.7107	1148.9	1169.3	0.650	4.404	72.084	19.255	3.255	0.100	0.217	0.017	0.017	0.000	0.000	0.000	0.000	0.000	0.000	1387.01	
Avg	0.7050	1139.0	1159.1	0.631	4.506	73.266	17.960	3.273	0.106	0.223	0.018	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1380.45	

Zone 271

GQ Source Daily Summary

March 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	0.6620	1083.9	1103.1	0.562	3.925	80.411	13.006	1.864	0.071	0.130	0.016	0.014	0.000	0.000	0.000	0.000	0.000	1355.78	
2	0.6584	1077.7	1096.8	0.582	3.932	81.088	12.391	1.781	0.070	0.126	0.016	0.014	0.000	0.000	0.000	0.000	0.000	1351.69	
3	0.6621	1083.4	1102.6	0.564	3.966	80.336	13.073	1.841	0.068	0.123	0.015	0.012	0.000	0.000	0.000	0.000	0.000	1354.98	
4	0.6703	1093.6	1113.0	0.588	4.072	78.977	14.025	2.094	0.074	0.139	0.016	0.014	0.000	0.000	0.000	0.000	0.000	1359.44	
5	0.6810	1108.8	1128.4	0.648	4.062	77.223	15.397	2.393	0.083	0.161	0.018	0.016	0.000	0.000	0.000	0.000	0.000	1367.45	
6	0.6765	1101.9	1121.4	0.589	4.150	77.929	14.779	2.294	0.078	0.150	0.017	0.015	0.000	0.000	0.000	0.000	0.000	1363.41	
7	0.6777	1104.1	1123.7	0.547	4.188	77.618	15.107	2.294	0.075	0.142	0.016	0.014	0.000	0.000	0.000	0.000	0.000	1365.01	
8	0.6880	1115.4	1135.2	0.587	4.409	76.029	15.959	2.719	0.087	0.176	0.018	0.017	0.000	0.000	0.000	0.000	0.000	1368.59	
9	0.7027	1132.2	1152.3	0.639	4.684	73.627	17.493	3.210	0.100	0.209	0.019	0.018	0.000	0.000	0.000	0.000	0.000	1374.61	
10	0.7114	1143.9	1164.2	0.658	4.759	72.127	18.633	3.470	0.102	0.216	0.018	0.017	0.000	0.000	0.000	0.000	0.000	1380.32	
11	0.7113	1144.4	1164.7	0.694	4.672	72.159	18.671	3.454	0.102	0.213	0.018	0.017	0.000	0.000	0.000	0.000	0.000	1380.94	
12	0.7103	1143.9	1164.1	0.694	4.612	72.375	18.518	3.447	0.101	0.215	0.018	0.018	0.000	0.000	0.000	0.000	0.000	1381.23	
13	0.7335	1171.3	1192.1	0.748	5.031	68.532	21.040	4.227	0.119	0.264	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1391.88	
14	0.7343	1173.3	1194.0	0.746	4.996	68.344	21.292	4.198	0.119	0.265	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1393.38	
15	0.7134	1147.7	1168.1	0.678	4.683	71.792	18.995	3.488	0.104	0.224	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1382.98	
16	0.6872	1116.2	1136.0	0.595	4.277	76.095	16.142	2.592	0.088	0.177	0.018	0.017	0.000	0.000	0.000	0.000	0.000	1370.30	
17	0.6981	1128.3	1148.3	0.613	4.535	74.314	17.188	3.023	0.096	0.198	0.017	0.016	0.000	0.000	0.000	0.000	0.000	1374.31	
18	0.7192	1153.9	1174.4	0.681	4.851	70.867	19.460	3.762	0.109	0.235	0.018	0.018	0.000	0.000	0.000	0.000	0.000	1384.75	
19	0.7268	1167.5	1188.2	0.714	4.678	69.815	20.344	3.977	0.128	0.294	0.024	0.026	0.000	0.000	0.000	0.000	0.000	1393.84	
20	0.7246	1163.6	1184.2	0.705	4.730	70.015	20.267	3.855	0.118	0.266	0.020	0.022	0.000	0.000	0.000	0.000	0.000	1391.16	
21	0.7166	1153.9	1174.3	0.693	4.597	71.043	19.871	3.460	0.098	0.207	0.015	0.015	0.000	0.000	0.000	0.000	0.000	1387.17	
22	0.6954	1128.3	1148.3	0.631	4.258	74.522	17.599	2.703	0.085	0.172	0.015	0.014	0.000	0.000	0.000	0.000	0.000	1376.97	
23	0.6949	1128.3	1148.3	0.617	4.225	74.628	17.549	2.694	0.085	0.171	0.016	0.015	0.000	0.000	0.000	0.000	0.000	1377.54	
24	0.7168	1152.9	1173.4	0.691	4.669	71.090	19.706	3.477	0.105	0.226	0.018	0.018	0.000	0.000	0.000	0.000	0.000	1385.92	
25	0.7236	1160.3	1180.8	0.716	4.826	70.036	20.276	3.751	0.110	0.246	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1388.12	
26	0.7373	1178.4	1199.3	0.774	4.921	67.870	21.769	4.197	0.128	0.294	0.022	0.025	0.000	0.000	0.000	0.000	0.000	1396.63	
27	0.7311	1179.6	1200.5	0.453	4.741	69.713	19.685	4.799	0.192	0.379	0.019	0.018	0.000	0.000	0.000	0.000	0.000	1403.98	
28	0.7219	1168.2	1188.9	0.401	4.653	71.149	18.715	4.529	0.180	0.340	0.017	0.015	0.000	0.000	0.000	0.000	0.000	1399.27	
29	0.7124	1158.0	1178.5	0.527	4.195	72.360	18.739	3.692	0.144	0.300	0.021	0.022	0.000	0.000	0.000	0.000	0.000	1396.26	
30	0.7197	1167.4	1188.1	0.657	4.108	70.834	20.347	3.618	0.128	0.270	0.018	0.020	0.000	0.000	0.000	0.000	0.000	1400.61	
31	0.7159	1155.0	1175.5	0.673	4.482	71.244	19.805	3.428	0.104	0.226	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1389.31	
Avg	0.7043	1138.0	1158.4	0.634	4.480	73.360	17.930	3.237	0.105	0.218	0.018	0.018	0.000	0.000	0.000	0.000	0.000	1380.25	

Zone 272



GQ Source Daily Summary

March 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	0.6250	1035.2	1053.5	0.463	3.569	86.634	8.425	0.793	0.044	0.051	0.013	0.008	0.000	0.000	0.000	0.000	0.000	1332.59	
2	0.6237	1033.0	1051.3	0.469	3.568	86.879	8.207	0.761	0.045	0.051	0.013	0.008	0.000	0.000	0.000	0.000	0.000	1331.23	
3	0.6255	1035.9	1054.2	0.451	3.591	86.492	8.592	0.759	0.044	0.051	0.013	0.008	0.000	0.000	0.000	0.000	0.000	1332.97	
4	0.6269	1038.4	1056.7	0.479	3.525	86.289	8.810	0.773	0.047	0.053	0.014	0.009	0.000	0.000	0.000	0.000	0.000	1334.71	
5	0.6289	1042.9	1061.3	0.517	3.388	86.007	9.130	0.824	0.051	0.058	0.016	0.010	0.000	0.000	0.000	0.000	0.000	1338.30	
6	0.6296	1042.9	1061.4	0.400	3.626	85.631	9.430	0.804	0.042	0.046	0.013	0.007	0.000	0.000	0.000	0.000	0.000	1337.60	
7	0.6347	1051.8	1070.4	0.386	3.589	84.633	10.412	0.870	0.042	0.047	0.012	0.007	0.000	0.000	0.000	0.000	0.000	1343.57	
8	0.6321	1046.6	1065.2	0.417	3.604	85.222	9.777	0.863	0.045	0.051	0.013	0.008	0.000	0.000	0.000	0.000	0.000	1339.81	
9	0.6368	1055.9	1074.6	0.409	3.505	84.246	10.869	0.857	0.044	0.048	0.014	0.008	0.000	0.000	0.000	0.000	0.000	1346.53	
10	0.6368	1055.6	1074.3	0.459	3.440	84.311	10.831	0.842	0.045	0.048	0.015	0.008	0.000	0.000	0.000	0.000	0.000	1346.27	
11	0.6377	1059.0	1077.7	0.474	3.297	84.237	10.985	0.882	0.049	0.051	0.016	0.009	0.000	0.000	0.000	0.000	0.000	1349.60	
12	0.6329	1053.0	1071.6	0.527	3.127	85.134	10.336	0.778	0.039	0.039	0.013	0.007	0.000	0.000	0.000	0.000	0.000	1347.07	
13	0.6544	1078.2	1097.3	0.589	3.521	81.619	12.568	1.529	0.059	0.090	0.015	0.010	0.000	0.000	0.000	0.000	0.000	1356.49	
14	0.6453	1072.3	1091.3	0.446	3.242	82.604	12.749	0.842	0.047	0.044	0.016	0.008	0.000	0.000	0.000	0.000	0.000	1358.45	
15	0.6341	1049.8	1068.4	0.397	3.632	84.774	10.223	0.863	0.043	0.047	0.013	0.008	0.000	0.000	0.000	0.000	0.000	1341.72	
16	0.6341	1049.9	1068.5	0.393	3.637	84.739	10.280	0.840	0.043	0.047	0.013	0.007	0.000	0.000	0.000	0.000	0.000	1341.76	
17	0.6344	1050.2	1068.8	0.374	3.668	84.672	10.319	0.862	0.041	0.044	0.012	0.007	0.000	0.000	0.000	0.000	0.000	1341.91	
18	0.6453	1069.4	1088.4	0.369	3.537	82.604	12.367	1.019	0.041	0.043	0.013	0.007	0.000	0.000	0.000	0.000	0.000	1354.84	
19	0.6489	1075.3	1094.3	0.350	3.548	81.903	13.005	1.090	0.041	0.044	0.012	0.006	0.000	0.000	0.000	0.000	0.000	1358.45	
20	0.6468	1071.7	1090.7	0.353	3.564	82.312	12.599	1.069	0.040	0.044	0.012	0.007	0.000	0.000	0.000	0.000	0.000	1356.12	
21	0.6470	1071.5	1090.4	0.379	3.559	82.296	12.596	1.065	0.041	0.045	0.012	0.007	0.000	0.000	0.000	0.000	0.000	1355.62	
22	0.6453	1067.7	1086.6	0.444	3.531	82.696	12.180	1.038	0.043	0.048	0.012	0.007	0.000	0.000	0.000	0.000	0.000	1352.60	
23	0.6440	1066.8	1085.7	0.418	3.500	82.952	11.988	1.027	0.044	0.049	0.013	0.007	0.000	0.000	0.000	0.000	0.000	1352.86	
24	0.6415	1063.3	1082.1	0.377	3.542	83.372	11.600	0.995	0.044	0.050	0.013	0.007	0.000	0.000	0.000	0.000	0.000	1351.04	
25	0.6333	1049.4	1068.0	0.379	3.607	84.957	10.037	0.909	0.042	0.049	0.012	0.007	0.000	0.000	0.000	0.000	0.000	1342.06	
26	0.6333	1049.3	1067.9	0.366	3.637	84.917	10.069	0.902	0.042	0.048	0.012	0.007	0.000	0.000	0.000	0.000	0.000	1341.91	
27	0.6465	1069.6	1088.5	0.345	3.672	82.564	12.063	1.219	0.050	0.067	0.012	0.007	0.000	0.000	0.000	0.000	0.000	1353.82	
28	0.6518	1080.2	1099.4	0.319	3.563	81.378	13.439	1.197	0.040	0.046	0.011	0.006	0.000	0.000	0.000	0.000	0.000	1361.70	
29	0.6484	1073.8	1092.8	0.331	3.616	82.079	12.676	1.190	0.041	0.049	0.011	0.006	0.000	0.000	0.000	0.000	0.000	1357.15	
30	0.6480	1073.2	1092.2	0.340	3.603	82.113	12.709	1.130	0.041	0.048	0.011	0.007	0.000	0.000	0.000	0.000	0.000	1356.81	
31	0.6465	1071.2	1090.2	0.329	3.598	82.354	12.526	1.094	0.039	0.044	0.010	0.006	0.000	0.000	0.000	0.000	0.000	1355.88	
Avg	0.6387	1058.0	1076.9	0.411	3.536	83.955	11.026	0.958	0.044	0.050	0.013	0.008	0.000	0.000	0.000	0.000	0.000	1347.47	

Zone 28

GQ Source Daily Summary

March 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																Wobbe	CCT
				CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10			
1	0.6233	1033.9	1052.2	0.304	3.731	86.684	8.392	0.797	0.033	0.045	0.009	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1332.72	
2	0.6239	1034.9	1053.3	0.293	3.736	86.506	8.620	0.755	0.032	0.044	0.010	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1333.50	
3	0.6252	1036.3	1054.7	0.283	3.793	86.216	8.859	0.760	0.032	0.043	0.010	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1333.87	
4	0.6288	1043.2	1061.6	0.371	3.584	85.743	9.358	0.829	0.039	0.050	0.018	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1338.77	
5	0.6255	1036.7	1055.0	0.310	3.761	86.184	8.902	0.754	0.033	0.043	0.009	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1333.95	
6	0.6386	1058.8	1077.5	0.229	3.764	83.606	11.359	0.960	0.029	0.039	0.007	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1348.41	
7	0.6340	1050.7	1069.3	0.256	3.786	84.506	10.484	0.882	0.031	0.043	0.008	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1342.95	
8	0.6349	1051.8	1070.4	0.237	3.831	84.240	10.760	0.855	0.029	0.039	0.005	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1343.41	
9	0.6396	1061.0	1079.8	0.202	3.772	83.276	11.777	0.902	0.026	0.036	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1350.12	
10	0.6393	1062.2	1081.1	0.298	3.523	83.524	11.661	0.909	0.032	0.041	0.007	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1352.00	
11	0.6347	1055.1	1073.8	0.332	3.468	84.380	10.935	0.819	0.025	0.033	0.006	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1347.82	
12	0.6362	1057.7	1076.4	0.319	3.471	84.032	11.301	0.819	0.022	0.029	0.005	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1349.58	
13	0.6532	1086.5	1105.7	0.123	3.615	80.444	14.824	0.944	0.020	0.027	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1368.06	
14	0.6388	1059.1	1077.9	0.182	3.844	83.375	11.645	0.894	0.024	0.031	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1348.52	
15	0.6348	1051.5	1070.1	0.210	3.885	84.232	10.734	0.865	0.028	0.038	0.006	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1343.06	
16	0.6335	1049.1	1067.7	0.205	3.911	84.451	10.524	0.838	0.027	0.036	0.005	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1341.46	
17	0.6437	1066.4	1085.3	0.168	3.878	82.504	12.358	1.028	0.025	0.034	0.003	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1352.66	
18	0.6516	1080.6	1099.8	0.146	3.785	80.981	13.893	1.135	0.024	0.032	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1362.42	
19	0.6464	1071.5	1090.5	0.172	3.811	82.016	12.862	1.072	0.026	0.035	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1356.36	
20	0.6484	1074.8	1093.9	0.167	3.806	81.644	13.200	1.116	0.026	0.036	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1358.45	
21	0.6467	1072.2	1091.2	0.176	3.791	81.986	12.891	1.086	0.027	0.038	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1356.94	
22	0.6453	1070.3	1089.3	0.192	3.748	82.299	12.611	1.074	0.029	0.039	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1356.02	
23	0.6435	1067.5	1086.4	0.201	3.741	82.606	12.362	1.013	0.029	0.040	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1354.32	
24	0.6379	1057.5	1076.3	0.225	3.786	83.779	11.116	1.014	0.030	0.042	0.005	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1347.52	
25	0.6326	1048.7	1067.2	0.237	3.808	84.757	10.221	0.897	0.029	0.041	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1341.82	
26	0.6407	1062.0	1080.8	0.206	3.805	83.142	11.786	0.990	0.027	0.037	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1350.28	
27	0.6517	1080.3	1099.5	0.173	3.769	81.051	13.760	1.182	0.025	0.035	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1361.97	
28	0.6493	1075.5	1094.6	0.211	3.779	81.639	13.079	1.214	0.030	0.042	0.004	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1358.41	
29	0.6486	1074.1	1093.1	0.211	3.804	81.707	13.038	1.163	0.029	0.041	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1357.30	
30	0.6510	1079.0	1098.1	0.172	3.793	81.149	13.659	1.166	0.025	0.033	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1360.95	
31	0.6438	1067.0	1085.9	0.217	3.773	82.699	12.092	1.135	0.031	0.044	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1353.34	
Avg	0.6395	1061.0	1079.3	0.227	3.753	83.399	11.583	0.964	0.028	0.038	0.005	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1349.58	

Zone 31

GQ Source Analysis

GQ Source Number:	0202080	Specific Gravity:	0.6363
GQ Source Name:	RICHARDTON-GLEN ULLIN COMPRE	Dry Heat Value:	1072.40
Effective Date:	3/1/2014 9:00:00 AM	Wet Heat Value:	1053.74
Effective End Date:	1/18/2038 9:14:00 PM	As Deliv. Heat Value:	1072.40
Pressure Base:	14.730	Sample Pressure:	336.00
Viscosity:		Sample Temperature:	0.00

		<u>Mol %</u>	<u>Liquid Content</u>			<u>Mol %</u>
C1	Methane	84.374		CO2	Carbon Dioxide	0.398
C2	Ethane	10.586	2.8230	N2	Nitrogen	3.606
C3	Propane	0.927	0.2550	O2	Oxygen	
IC4	Isobutane	0.042	0.0140	He	Helium	
NC4	n-Butane	0.046	0.0140	H2	Hydrogen	
IC5	Isopentane	0.014	0.0050	H2S	Hydrogen Sulfide	
NC5	n-Pentane	0.007	0.0030	Ar	Argon	
C6	Hexanes			CO	Carbon Monoxide	
C7	Heptanes			H2	Water	
C8	Octanes			Neo-C5	Neopentane	
C9	Nonanes					
C10	Decanes					

Totals 100.000% 3.114 GPM

Sample Date: 3/3/2014 10:05:00 AM
Sample Type: Composite
Sample Tech: RR
H2S: ppm

Sample Remarks:

Analysis Tech: MB

Analysis Remarks:

Zone 311

GQ Source Daily Summary

March 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	0.6172	1020.3	1038.3	0.348	3.914	88.027	6.777	0.835	0.036	0.050	0.008	0.006	0.000	0.000	0.000	0.000	0.000	1321.74	
2	0.6166	1018.4	1036.4	0.343	3.984	88.107	6.649	0.818	0.036	0.050	0.008	0.006	0.000	0.000	0.000	0.000	0.000	1319.88	
3	0.6173	1019.0	1037.0	0.366	3.977	88.016	6.709	0.827	0.038	0.051	0.008	0.006	0.000	0.000	0.000	0.000	0.000	1319.91	
4	0.6207	1025.9	1044.1	0.443	3.757	87.562	7.215	0.901	0.044	0.059	0.011	0.008	0.000	0.000	0.000	0.000	0.000	1325.26	
5	0.6209	1024.1	1042.2	0.310	4.093	87.213	7.416	0.878	0.033	0.045	0.007	0.005	0.000	0.000	0.000	0.000	0.000	1322.61	
6	0.6275	1035.1	1053.4	0.294	4.068	85.961	8.590	0.995	0.034	0.046	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1329.82	
7	0.6248	1030.7	1048.9	0.312	4.057	86.482	8.124	0.930	0.035	0.048	0.007	0.005	0.000	0.000	0.000	0.000	0.000	1326.98	
8	0.6292	1037.4	1055.8	0.274	4.115	85.600	8.908	1.015	0.032	0.044	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1331.01	
9	0.6252	1031.9	1050.2	0.349	3.963	86.485	8.152	0.955	0.035	0.046	0.008	0.006	0.000	0.000	0.000	0.000	0.000	1328.15	
10	0.6269	1035.1	1053.4	0.378	3.877	86.271	8.364	1.009	0.036	0.049	0.009	0.007	0.000	0.000	0.000	0.000	0.000	1330.52	
11	0.6218	1030.1	1048.3	0.477	3.560	87.215	7.809	0.875	0.024	0.033	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1329.42	
12	0.6344	1046.0	1064.5	0.246	4.128	84.546	9.914	1.096	0.027	0.036	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1336.44	
13	0.6334	1043.4	1061.9	0.206	4.246	84.625	9.821	1.035	0.025	0.034	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1334.30	
14	0.6261	1032.0	1050.3	0.268	4.166	86.155	8.369	0.956	0.032	0.044	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1327.30	
15	0.6261	1031.2	1049.5	0.277	4.197	86.186	8.283	0.968	0.033	0.046	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1326.33	
16	0.6271	1032.7	1051.0	0.244	4.255	85.899	8.560	0.961	0.030	0.041	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1327.07	
17	0.6422	1058.7	1077.5	0.203	4.145	83.048	11.301	1.228	0.028	0.038	0.004	0.003	0.000	0.000	0.000	0.000	0.000	1344.55	
18	0.6427	1059.9	1078.6	0.214	4.107	83.004	11.336	1.258	0.030	0.042	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1345.44	
19	0.6428	1060.3	1079.1	0.220	4.086	83.005	11.332	1.277	0.030	0.042	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1345.87	
20	0.6414	1057.7	1076.4	0.221	4.112	83.234	11.132	1.220	0.030	0.043	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1344.02	
21	0.6402	1056.5	1075.2	0.241	4.041	83.519	10.899	1.210	0.033	0.047	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1343.75	
22	0.6380	1052.8	1071.4	0.258	4.028	83.984	10.451	1.187	0.034	0.048	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1341.40	
23	0.6356	1048.2	1066.7	0.272	4.062	84.479	9.919	1.169	0.036	0.051	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1338.05	
24	0.6273	1035.7	1054.1	0.292	4.010	86.051	8.525	1.029	0.033	0.046	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1330.87	
25	0.6277	1035.5	1053.8	0.285	4.071	85.945	8.591	1.017	0.033	0.047	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1330.17	
26	0.6362	1049.0	1067.6	0.255	4.093	84.274	10.152	1.142	0.031	0.043	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1338.50	
27	0.6488	1069.9	1088.8	0.239	4.036	81.898	12.375	1.369	0.031	0.044	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1351.71	
28	0.6450	1063.2	1082.0	0.265	4.042	82.680	11.604	1.317	0.034	0.049	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1347.29	
29	0.6454	1064.6	1083.4	0.228	4.055	82.488	11.870	1.279	0.030	0.042	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1348.60	
30	0.6438	1062.5	1081.3	0.240	4.011	82.814	11.595	1.261	0.030	0.042	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1347.68	
31	0.6381	1053.6	1072.2	0.256	3.996	84.037	10.359	1.254	0.036	0.052	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1342.25	
Avg	0.6319	1043.0	1061.1	0.285	4.040	85.123	9.390	1.073	0.033	0.045	0.006	0.005	0.000	0.000	0.000	0.000	0.000	1334.74	

Zone 32

GQ Source Daily Summary

March 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	0.6863	1158.7	1179.2	0.000	2.529	73.184	23.781	0.493	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.39	
2	0.6869	1158.9	1179.4	0.000	2.565	73.104	23.795	0.524	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.11	
3	0.6870	1159.4	1179.9	0.000	2.549	73.098	23.792	0.548	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.57	
4	0.6870	1159.3	1179.9	0.000	2.556	73.094	23.794	0.544	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.44	
5	0.6871	1159.8	1180.3	0.000	2.534	73.110	23.767	0.576	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.94	
6	0.6873	1160.1	1180.7	0.000	2.533	73.043	23.857	0.555	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.14	
7	0.6871	1159.5	1180.1	0.000	2.553	73.070	23.816	0.548	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.59	
8	0.6874	1160.3	1180.9	0.000	2.525	73.070	23.806	0.587	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.33	
9	0.6875	1160.4	1180.9	0.000	2.537	73.093	23.729	0.613	0.009	0.016	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1424.23	
10	0.6871	1159.9	1180.4	0.000	2.530	73.084	23.821	0.553	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.03	
11	0.6857	1158.2	1178.8	0.000	2.493	73.362	23.606	0.526	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.53	
12	0.6863	1158.8	1179.4	0.000	2.521	73.229	23.701	0.537	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.55	
13	0.6865	1158.8	1179.4	0.000	2.531	73.190	23.744	0.523	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.44	
14	0.6867	1159.3	1179.8	0.000	2.528	73.158	23.762	0.540	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.73	
15	0.6887	1158.7	1179.2	0.001	2.511	73.021	23.662	0.793	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1421.11	
16	0.6876	1156.2	1176.7	0.000	2.802	72.941	23.687	0.557	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1419.08	
17	0.6867	1159.2	1179.7	0.000	2.535	73.149	23.769	0.534	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.57	
18	0.6867	1159.3	1179.8	0.000	2.526	73.157	23.767	0.538	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.76	
19	0.6871	1160.0	1180.5	0.000	2.519	73.095	23.823	0.551	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.21	
20	0.6870	1160.0	1180.5	0.000	2.510	73.105	23.833	0.539	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.29	
21	0.6864	1159.3	1179.8	0.000	2.501	73.192	23.777	0.517	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1424.01	
22	0.6859	1158.2	1178.7	0.002	2.518	73.296	23.651	0.521	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.21	
23	0.6869	1159.4	1180.0	0.000	2.538	73.105	23.809	0.535	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.69	
24	0.6868	1159.5	1180.1	0.001	2.523	73.118	23.819	0.527	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.92	
25	0.6859	1158.3	1178.8	0.001	2.516	73.287	23.675	0.510	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.28	
26	0.6866	1159.0	1179.5	0.000	2.537	73.173	23.733	0.544	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.46	
27	0.6885	1162.1	1182.7	0.002	2.520	72.904	23.911	0.647	0.007	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.36	
28	0.6890	1162.6	1183.2	0.002	2.535	72.861	23.888	0.696	0.007	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1425.46	
29	0.6870	1159.8	1180.3	0.001	2.527	73.156	23.698	0.604	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.99	
30	0.6866	1158.9	1179.5	0.000	2.535	73.194	23.711	0.546	0.005	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.44	
31	0.6867	1159.0	1179.5	0.001	2.547	73.140	23.764	0.535	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.35	
Avg	0.6870	1159.0	1179.9	0.000	2.538	73.122	23.766	0.560	0.005	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1423.59	

Zone 33



GQ Source Analysis

GQ Source Number:	1202160	Specific Gravity:	0.6822
GQ Source Name:	BOWMAN BORDER	Dry Heat Value:	1058.95
Effective Date:	3/1/2014 9:00:00 AM	Wet Heat Value:	1040.52
Effective End Date:	1/18/2038 9:14:07 PM	As Deliv. Heat Value:	1058.95
Pressure Base:	14.730	Sample Pressure:	
Viscosity:		Sample Temperature:	

		<u>Mol %</u>	<u>Liquid Content</u>			<u>Mol %</u>
C1	Methane	75.811		CO2	Carbon Dioxide	1.124
C2	Ethane	13.701	3.6530	N2	Nitrogen	7.631
C3	Propane	1.504	0.4130	O2	Oxygen	
IC4	Isobutane	0.057	0.0190	He	Helium	
NC4	n-Butane	0.137	0.0430	H2	Hydrogen	
IC5	Isopentane	0.010	0.0040	H2S	Hydrogen Sulfide	
NC5	n-Pentane	0.018	0.0070	Ar	Argon	
C6	Hexanes	0.007	0.0030	CO	Carbon Monoxide	
C7	Heptanes			H2	Water	
C8	Octanes			Neo-C5	Neopentane	0.000
C9	Nonanes					
C10	Decanes					
Totals		100.000%				4.142 GPM

Sample Date: 4/1/2014 1:01:00 PM
Sample Type: Composite
Sample Tech: MIKE GENTILINI
H2S: ppm

Sample Remarks:

Analysis Tech: MIKE GENTILINI

Analysis Remarks:

Zone 34

Gas Quality

| Gas Quality Download - Chromatograph |

Zone 802

ROW ID	LOCATION DESCRIPTION	GROSS HEATING VALUE (BTU/CF)	SPECIFIC GRAVITY	WOBBE (cal)	CRICONDENTHERM (deg F)	NITROGEN (mole percent)	CARBON DIOXIDE (mole percent)	METHANE (mole percent)	ETHANE (mole percent)	PROPANE (mole percent)	NORMAL BUTANE (mole percent)	ISO BUTANE (mole percent)	PENTANE (mole percent)	ISO PENTANE (mole percent)	NEO PENTANE (mole percent)	HEXANES PLUS (mole percent)	HYDROGEN (mole percent)	HELIUM (mole percent)	PRODUCTION DATE	POSTING DATE	Changestimestamp	NOTE
11587	GLEN ULLIN	1045.4	0.6035	1345.7	-42.4	1.2004	1.0093	91.3206	5.5614	0.5383	0.0691	0.0546	0.012	0.0157	0	0.0105	0.1929	0.017	2/28/2014	3/1/2014	3/1/2014 2:17:13 PM	
11587	GLEN ULLIN	1044.6	0.6025	1345.8	-44.7	1.1657	1.0007	91.4647	5.4923	0.513	0.0649	0.0516	0.0112	0.0148	0	0.0093	0.1946	0.017	3/1/2014	3/2/2014	3/2/2014 2:14:52 PM	
11587	GLEN ULLIN	1045	0.6029	1345.8	-41.7	1.1784	1.0021	91.4563	5.4403	0.5482	0.0711	0.0561	0.0122	0.0161	0	0.0107	0.1916	0.017	3/2/2014	3/3/2014	3/3/2014 2:15:57 PM	
11587	GLEN ULLIN	1042.5	0.602	1343.6	-44.7	1.2299	1.0106	91.589	5.2844	0.5231	0.0663	0.0517	0.0112	0.0147	0	0.0095	0.1919	0.017	3/3/2014	3/4/2014	3/4/2014 2:15:08 PM	
11587	GLEN ULLIN	1043.5	0.603	1343.8	-44.7	1.2415	1.0241	91.39	5.4393	0.5377	0.0645	0.0509	0.0109	0.0143	0	0.0093	0.2008	0.017	3/4/2014	3/5/2014	3/5/2014 2:14:25 PM	
11587	GLEN ULLIN	1044.3	0.6038	1343.9	-42.8	1.2551	1.0338	91.3022	5.4969	0.5499	0.0696	0.0546	0.0118	0.0155	0	0.0102	0.1831	0.017	3/5/2014	3/6/2014	3/6/2014 2:19:55 PM	
11587	GLEN ULLIN	1042.6	0.6034	1342.3	-46.5	1.3169	1.0356	91.2471	5.5355	0.5065	0.0616	0.048	0.0103	0.0135	0	0.0086	0.1989	0.017	3/6/2014	3/7/2014	3/7/2014 2:19:33 PM	
11587	GLEN ULLIN	1043.9	0.6039	1343.4	-53.2	1.3081	1.0243	91.0774	5.8095	0.4725	0.0513	0.0396	0.0084	0.0109	0	0.0059	0.1789	0.017	3/7/2014	3/8/2014	3/8/2014 2:19:11 PM	
11587	GLEN ULLIN	1045.9	0.6061	1343.5	-47.9	1.394	1.0249	90.7225	5.951	0.5549	0.0624	0.0483	0.0101	0.0132	0	0.0077	0.1936	0.017	3/8/2014	3/9/2014	3/9/2014 2:16:16 PM	
11587	GLEN ULLIN	1048.9	0.6083	1344.8	-46.1	1.3985	1.0402	90.3403	6.2892	0.5802	0.0645	0.0498	0.0105	0.0136	0	0.0083	0.1882	0.017	3/9/2014	3/10/2014	3/10/2014 2:18:10 PM	
11587	GLEN ULLIN	1045.7	0.6052	1344.2	-45.4	1.3773	0.9839	90.9484	5.8002	0.5497	0.0663	0.0517	0.011	0.0143	0	0.0088	0.1705	0.017	3/10/2014	3/11/2014	3/11/2014 2:16:24 PM	
11587	GLEN ULLIN	1047.5	0.6061	1345.5	-46.7	1.3988	0.9534	90.6752	6.0843	0.5446	0.0623	0.0482	0.0102	0.0133	0	0.0082	0.1838	0.017	3/11/2014	3/12/2014	3/12/2014 2:17:26 PM	
11587	GLEN ULLIN	1047	0.6062	1344.8	-51	1.3208	1.0336	90.7288	6.1325	0.499	0.0549	0.0426	0.009	0.0116	0	0.0065	0.1459	0.017	3/12/2014	3/13/2014	3/13/2014 2:13:53 PM	
11587	GLEN ULLIN	1044.5	0.6039	1344.1	-51	1.3243	0.9911	91.122	5.7457	0.4994	0.0579	0.0453	0.0094	0.0123	0	0.0065	0.1688	0.017	3/13/2014	3/14/2014	3/14/2014 2:19:46 PM	
11587	GLEN ULLIN	1045.7	0.6053	1344.1	-50.1	1.3788	0.9898	90.8426	5.9072	0.5383	0.0595	0.0463	0.0096	0.0125	0	0.0068	0.1906	0.017	3/14/2014	3/15/2014	3/15/2014 2:17:03 PM	
11587	GLEN ULLIN	1044.3	0.6043	1343.4	-52.5	1.3465	1.0091	91.0006	5.8009	0.507	0.056	0.0436	0.009	0.0118	0	0.006	0.192	0.017	3/15/2014	3/16/2014	3/16/2014 2:18:05 PM	
11587	GLEN ULLIN	1044.5	0.6043	1343.7	-53	1.3561	0.9924	91.0074	5.7927	0.5212	0.0555	0.0439	0.0087	0.0116	0	0.0057	0.1888	0.017	3/16/2014	3/17/2014	3/17/2014 2:18:01 PM	
11587	GLEN ULLIN	1043.7	0.6041	1342.8	-51.2	1.3542	1.0163	91.105	5.6635	0.5258	0.0598	0.0476	0.0096	0.0127	0	0.0063	0.1836	0.017	3/17/2014	3/18/2014	3/18/2014 2:17:18 PM	
11587	GLEN ULLIN	1044	0.6046	1342.7	-53.3	1.3604	1.0277	91.007	5.7498	0.5295	0.057	0.0453	0.009	0.0118	0	0.0056	0.1811	0.017	3/18/2014	3/19/2014	3/19/2014 2:15:31 PM	
11587	GLEN ULLIN	1047.9	0.6063	1345.7	-49.3	1.2996	1.022	90.7184	6.0649	0.5625	0.0599	0.047	0.0095	0.0125	0	0.007	0.1805	0.017	3/19/2014	3/20/2014	3/20/2014 2:15:37 PM	
11587	GLEN ULLIN	1050.7	0.6075	1348.1	-45.1	1.2952	0.9824	90.5297	6.2552	0.5934	0.0676	0.053	0.0108	0.0142	0	0.0085	0.174	0.017	3/20/2014	3/21/2014	3/21/2014 2:20:39 PM	
11587	GLEN ULLIN	1049.7	0.6067	1347.7	-46.2	1.2892	0.9815	90.6339	6.1699	0.5745	0.0653	0.0521	0.0106	0.014	0	0.0082	0.1844	0.017	3/21/2014	3/22/2014	3/22/2014 2:18:12 PM	
11587	GLEN ULLIN	1046.9	0.605	1345.9	-47.7	1.2738	0.9971	90.9553	5.8945	0.5423	0.0608	0.0488	0.0099	0.0132	0	0.0079	0.1813	0.017	3/22/2014	3/23/2014	3/23/2014 2:17:04 PM	
11587	GLEN ULLIN	1041.2	0.6028	1341	-55.7	1.3454	1.0401	91.3008	5.5322	0.4705	0.0505	0.0398	0.008	0.0105	0	0.0052	0.1795	0.017	3/23/2014	3/24/2014	3/24/2014 2:17:38 PM	
11587	GLEN ULLIN	1042.1	0.6033	1341.6	-55.6	1.3508	1.0328	91.1924	5.6329	0.482	0.0495	0.0394	0.0078	0.0103	0	0.0052	0.1806	0.017	3/24/2014	3/25/2014	3/25/2014 2:15:49 PM	
11587	GLEN ULLIN	1043.5	0.6047	1341.9	-55.8	1.3919	1.0352	90.9424	5.8443	0.4942	0.0498	0.0395	0.0079	0.0104	0	0.0051	0.1797	0.017	3/25/2014	3/26/2014	3/26/2014 2:15:23 PM	
11587	GLEN ULLIN	1042.2	0.6036	1341.5	-52.4	1.4053	1.0054	91.1474	5.6211	0.499	0.0537	0.0423	0.0088	0.0115	0	0.0061	0.1822	0.017	3/26/2014	3/27/2014	3/27/2014 2:14:38 PM	
11587	GLEN ULLIN	1047.8	0.6074	1344.4	-51.8	1.4291	1.0061	90.38	6.2917	0.543	0.0571	0.0441	0.009	0.0118	0	0.006	0.204	0.017	3/27/2014	3/28/2014	3/28/2014 2:21:20 PM	
11587	GLEN ULLIN	1047.7	0.6067	1345.1	-50.6	1.3981	0.9893	90.5508	6.1353	0.5766	0.0595	0.0461	0.0094	0.0123	0	0.0064	0.1995	0.017	3/28/2014	3/29/2014	3/29/2014 2:15:37 PM	
11587	GLEN ULLIN	1043.7	0.6043	1342.6	-58.2	1.3733	1.0163	90.8954	5.9159	0.4758	0.0462	0.0361	0.007	0.0093	0	0.0044	0.202	0.017	3/29/2014	3/30/2014	3/30/2014 2:17:10 PM	
11587	GLEN ULLIN	1046.2	0.6063	1343.6	-57.4	1.3828	1.0343	90.5558	6.2002	0.5062	0.0481	0.0375	0.0072	0.0096	0	0.0045	0.1966	0.017	3/30/2014	3/31/2014	3/31/2014 2:17:10 PM	

31 record(s) retrieved

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
802	Chromatograph	Linton

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	MAR 14	FEB 14	JAN 14	DEC 13	NOV 13	OCT 13	SEPT 13	AUG 13	JULY 13	JUNE 13	MAY 13	APR 13	ZONE
MT/ND	211	Sidney Area	1208	1204	1205	1208	1204	1209	1211	1206	1208	1209	1212	1201	1213	211
ND	24	Williston Area	1198	1181	1177	1201	1201	1207	1204	1199	1196	1198	1196	1197	1216	24
ND	25	Watford City Area	1195	1220	1205	1218	1191	1197	1183	1198	1193	1193	1188	1154	1200	25
ND/MT	241	Fairview Area	1200	1197	1197	1203	1197	1189	1198	1202	1203	1205	1205	1203	1203	241
ND	261	Williston - Tioga - Minot Line	1174	1187	1185	1189	1193	1166	1175	1180	1165	1172	1156	1159	1163	261
ND	262	Minot Area	1191	1201	1200	1201	1201	1192	1197	1196	1185	1191	1181	1177	1172	262
ND	263	Tioga - Portal	1101	1058	1051	1063	1061	1096	1125	1130	1130	1130	1127	1123	1117	263
ND	264	Williston - Ray	1198	1181	1177	1201	1201	1207	1204	1199	1196	1198	1196	1197	1216	264
ND	271	Bismarck - Cleveland	1169	1159	1127	1144	1145	1164	1184	1199	1187	1191	1183	1175	1167	271
ND	272	Cleveland - Mapleton	1169	1158	1127	1144	1145	1164	1184	1199	1187	1192	1183	1178	1169	272
ND	273	Cleveland - Grafton	1169	1158	1127	1144	1145	1164	1184	1199	1188	1192	1184	1177	1169	273
ND	28	Bismarck - Cabin Creek	1135	1077	1072	1081	1092	1105	1147	1199	1187	1191	1182	1173	1117	28
ND	31	Dickinson Area	1105	1079	1073	1082	1092	1107	1126	1079	1098	1112	1130	1163	1117	31
ND	311	Taylor Take-Off - Glen Ullin Comp	1122	1072	1197	1092	1092	1104	1108	1094	1135	1188	1097	1163	1117	311
ND/MT	32	Cabin Creek - Dickinson	1095	1061	1058	1070	1082	1096	1095	1115	1135	1142	1094	1100	1088	32
ND	33	Killdeer	1181	1180	1181	1182	1180	1180	1182	1183	1182	1183	1180	1179	1177	33
ND	34	Bowman Area	1109	1059	1047	1073	1082	1118	1118	1145	1127	1140	1121	1136	1146	34
ND	802	Linton	1035	1045	1039	1042	1033	1037	1037	1032	1032	1032	1036	1031	1027	802

THERMAL ZONE VARIANCE DOCUMENTATION		
March 2014		
<i>ZONE</i>	<i>BTU VARIANCE</i>	<i>REASON</i>
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