

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

December 23, 2009

RECEIVED

DEC 24 2009

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

PUBLIC SERVICE COMMISSION

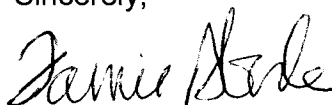
Re: Case No. 11,006 (Therm Billing)  
Monthly Report – November 2009

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 December 2009.
2. Attachment B consists of copies of the monthly Heating Value Test Reports received from our supplier for the month of November 2009. There is a report for each of the 16 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 November.

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  
Pricing & Tariff Manager

MONTANA-DAKOTA UTILITIES CO.  
Therm Billing Factor  
DEC 2009

Div Nbr	Off Code	City Name	Heat Zone Nbr	Therm Billing Factor
12	314	APPLE VALLEY	271	1.1222
12	327	BISMARCK	28	1.0556
12	343	CARRINGTON	273	1.1231
12	344	CLEVELAND	272	1.1143
12	364	CAVALIER	273	1.1468
12	365	DAWSON	271	1.1143
12	374	FT TOTTEN	273	1.1311
12	375	DEVILS LAKE	273	1.1311
12	379	BARLOW	273	1.1231
12	387	ELDRIDGE	272	1.1222
12	411	GLEN ULLIN	31	.9388
12	417	GRAFTON	273	1.1547
12	449	JAMESTOWN	272	1.1301
12	463	LANGDON	273	1.1231
12	475	LINTON	802	.9707
12	478	LINCOLN	28	1.0556
12	494	MEDINA	271	1.1143
12	498	MANDAN	28	1.0556
12	524	NEW SALEM	28	1.0333
12	532	NEW ROCKFORD	273	1.1231
12	539	PARK RIVER	273	1.1468
12	574	SANBORN	272	1.1301
12	593	STEELE	271	1.1143
12	598	SHEYENNE	273	1.1311
12	610	TAPPEN	271	1.1143
12	625	VALLEY CITY	272	1.1379
12	629	WALHALLA	273	1.1468
12	647	WILTON	262	1.1003
12	717	SPIRITWOOD	272	1.1301
12	732	MSR SITE	273	1.1231
12	733	PAR SITE	273	1.1231
15	303	ALEXANDER	25	1.0663
15	308	ARNEGARD	25	1.0663
15	318	BEACH	32	.9139
15	319	BELFIELD	32	.9207

MONTANA-DAKOTA UTILITIES CO.  
Therm Billing Factor  
DEC 2009

Div Nbr	Off Code	City Name	Heat Zone Nbr	Therm Billing Factor
15	323	BERTHOLD	262	1.1003
15	330	BOWMAN	34	1.0723
15	337	BURLINGTON	262	1.1241
15	368	DES LACS	262	1.1083
15	369	DICKINSON	31	.9321
15	384	EPPING	264	1.1268
15	407	GLADSTONE	31	.9321
15	413	GOLVA	32	.9006
15	416	GARRISON	262	1.1083
15	429	HEBRON	31	.9388
15	459	KILLDEER	33	1.0937
15	469	LEFOR	31	.9321
15	474	LIGNITE	263	1.0588
15	500	MARMARTH	34	1.0803
15	505	MINOT	262	1.1241
15	510	MOTT	31	.9321
15	512	MAX	262	1.1003
15	522	NEW ENGLAND	31	.9253
15	540	PALERMO	262	1.1003
15	558	RAY	264	1.1268
15	561	REGENT	31	.9321
15	563	RHAME	34	1.0645
15	564	RICHARDTON	31	.9253
15	568	ROSS	261	1.0690
15	572	RUTHVILLE	262	1.1241
15	583	SENTINEL BUTTE	32	.9139
15	588	SOUTH HEART	31	.9253
15	590	SPRINGBROOK	264	1.1268
15	591	STANLEY	261	1.0767
15	605	SURREY	262	1.1241
15	611	TAYLOR	31	.9253
15	616	TIOGA	261	1.0690
15	619	TURTLE LAKE	262	1.1083
15	620	TRENTON	24	1.1349
15	624	UNDERWOOD	262	1.1083

MONTANA-DAKOTA UTILITIES CO.  
Therm Billing Factor  
DEC 2009

Div Nbr	Off Code	City Name	Heat Zone Nbr	Therm Billing Factor
15	632	WATFORD CITY	25	1.0663
15	636	WHEELLOCK	264	1.1187
15	637	WHITE EARTH	261	1.0767
15	642	WILLISTON	24	1.1349
15	646	WASHBURN	262	1.1162
15	664	RIVERDALE	262	1.1083
15	691	FAIRVIEW	24	1.1349
15	712	MINOT AFB	262	1.1241
15	743	BAKER FIELD	35	.8971

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

# GQ Source Daily Summary

November 2009

Number: 251

Pressure Base: 14.730

Contract Day: 1

Name: SIDNEY AREA

Temperature Base:

Contract Hour: 9

Day	Relative Density		Heating Value		CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
	Wet	Dry	Wet	Dry																
1	0.6961	1164.8	1185.4	0.034	3.011	72.878	21.913	2.083	0.033	0.044	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1420.76
2	0.6987	1167.2	1187.9	0.082	3.078	72.465	22.140	2.179	0.035	0.047	0.002	0.002	0.002	0.001	0.000	0.000	0.000	0.000	0.000	1421.12
3	0.7072	1168.9	1189.6	0.305	3.383	71.476	22.086	2.611	0.051	0.080	0.004	0.003	0.003	0.001	0.000	0.000	0.000	0.000	0.000	1414.79
4	0.6950	1160.6	1181.1	0.035	3.164	72.993	21.716	2.016	0.033	0.041	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1416.76
5	0.6968	1164.7	1185.3	0.033	3.083	72.677	22.089	2.039	0.033	0.042	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1419.97
6	0.6934	1160.2	1180.8	0.036	3.030	73.194	21.811	1.858	0.032	0.037	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1418.02
7	0.6966	1164.3	1184.9	0.036	3.083	72.651	22.175	1.986	0.029	0.038	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1419.69
8	0.6960	1163.7	1184.3	0.038	3.064	72.739	22.132	1.963	0.028	0.034	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1419.52
9	0.6966	1165.9	1186.6	0.035	2.986	72.887	21.846	2.138	0.045	0.058	0.002	0.002	0.002	0.001	0.000	0.000	0.000	0.000	0.000	1421.66
10	0.6964	1164.1	1184.7	0.040	3.070	72.759	22.018	2.036	0.035	0.040	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1419.65
11	0.6947	1161.5	1182.1	0.045	3.065	72.972	21.923	1.933	0.027	0.033	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1418.20
12	0.6942	1160.7	1181.3	0.036	3.081	72.975	21.998	1.856	0.025	0.028	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	1417.73
13	0.7166	1166.5	1187.2	0.734	3.761	70.475	21.788	3.034	0.073	0.124	0.006	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1402.69
14	0.7328	1173.9	1194.6	1.172	4.170	68.595	21.847	3.914	0.101	0.184	0.009	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1395.51
15	0.7324	1173.5	1194.2	1.159	4.172	68.639	21.848	3.881	0.101	0.183	0.009	0.007	0.007	0.001	0.000	0.000	0.000	0.000	0.000	1395.47
16	0.7322	1173.3	1194.1	1.157	4.172	68.689	21.779	3.901	0.101	0.183	0.010	0.008	0.008	0.001	0.000	0.000	0.000	0.000	0.000	1395.40
17	0.7352	1178.4	1199.3	1.149	4.154	68.374	21.826	4.186	0.104	0.189	0.010	0.008	0.008	0.001	0.000	0.000	0.000	0.000	0.000	1398.60
18	0.7295	1167.8	1188.5	1.150	4.259	69.224	21.191	3.853	0.108	0.196	0.010	0.008	0.008	0.001	0.000	0.000	0.000	0.000	0.000	1391.48
19	0.7285	1165.8	1186.5	1.154	4.277	69.440	20.957	3.842	0.110	0.201	0.010	0.008	0.008	0.001	0.000	0.000	0.000	0.000	0.000	1390.03
20	0.7310	1170.6	1191.3	1.170	4.200	68.899	21.604	3.806	0.107	0.196	0.010	0.008	0.008	0.001	0.000	0.000	0.000	0.000	0.000	1393.38
21	0.7334	1175.0	1195.8	1.159	4.176	68.630	21.663	4.055	0.106	0.193	0.010	0.008	0.008	0.001	0.000	0.000	0.000	0.000	0.000	1396.31
22	0.7327	1173.9	1194.7	1.159	4.176	68.669	21.731	3.947	0.107	0.194	0.010	0.008	0.008	0.001	0.000	0.000	0.000	0.000	0.000	1395.70
23	0.7329	1176.6	1197.4	1.105	4.109	68.664	21.783	4.029	0.105	0.189	0.009	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1398.71
24	0.7283	1175.5	1196.3	0.963	3.962	69.214	21.755	3.824	0.096	0.171	0.008	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	1401.92
25	0.7319	1172.8	1193.6	1.155	4.174	68.724	21.796	3.831	0.107	0.194	0.010	0.008	0.008	0.001	0.000	0.000	0.000	0.000	0.000	1395.13
26	0.7369	1180.8	1201.7	1.161	4.146	68.283	21.683	4.406	0.107	0.195	0.010	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1399.87
27	0.7314	1179.6	1200.5	0.974	3.989	68.818	21.878	4.063	0.094	0.168	0.008	0.007	0.007	0.001	0.000	0.000	0.000	0.000	0.000	1403.76
28	0.7014	1170.1	1190.8	0.045	3.172	71.964	22.460	2.287	0.031	0.039	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1421.80
29	0.7047	1176.2	1197.0	0.036	3.120	71.477	22.836	2.444	0.035	0.047	0.002	0.002	0.002	0.001	0.000	0.000	0.000	0.000	0.000	1425.92
30	0.7231	1175.8	1196.6	0.742	3.797	69.721	21.933	3.585	0.077	0.133	0.007	0.005	0.005	0.001	0.000	0.000	0.000	0.000	0.000	1407.35
AVG	0.7152	1170.0	1190.5	0.602	3.636	70.639	21.873	3.053	0.069	0.117	0.005	0.004	0.004	0.001	0.000	0.000	0.000	0.000	0.000	1407.90

Zone 2/1

## GQ Source Analysis

<b>GQ Source Number:</b>	0602330	<b>Specific Gravity:</b>	0.7329
<b>GQ Source Name:</b>	WILLISTON BORDER	<b>BTU Base:</b>	Dry
<b>Effective Date:</b>	11/1/2009 9:00:00 AM	<b>Measured Heat Value:</b>	1196.17
<b>Effective End Date:</b>	1/18/2038 9:14:07 PM	<b>Dry Heat Value:</b>	1192.98
<b>Pressure Base:</b>	14.730	<b>Wet Heat Value:</b>	1172.22
<b>Viscosity:</b>		<b>As Deliv. Heat Value:</b>	1192.98

		<u>Mol %</u>	<u>GPM</u>			<u>Mol %</u>
C1	Methane	68.523		CO2	Carbon Dioxide	1.066
C2	Ethane	21.393	0.000	N2	Nitrogen	4.408
C3	Propane	4.269	1.173	O2	Oxygen	0.000
IC4	Iso-Butane	0.110	0.036	HE	Helium	
NC4	N-Butane	0.205	0.064	H2	Hydrogen	
IC5	Iso-Pentane	0.013	0.005	H2S	Hydrogen Sulfide	
NC5	N-Pentane	0.012	0.004	AR	Argon	
C6	Hexane	0.000	0.000	CO	Carbon Monoxide	
C7	Heptane			H2O	Water	
C8	Octane					
C9	Nonane					
C10	Decane					

**Totals**      99.999%      1.282 GPM

**Sample Date:** 11/30/2009 12:00:00 AM  
**Sample Type:** Composite  
**Sample Tech:** sampler  
**Sample Remarks:**  
*Zone 24 + 264*  
**Analysis Remarks:**

## GQ Source Analysis

<b>GQ Source Number:</b> 0602230	<b>Specific Gravity:</b> 0.7308
<b>GQ Source Name:</b> WATFORD CITY BORDER	<b>BTU Base:</b> Dry
<b>Effective Date:</b> 11/1/2009 9:00:00 AM	<b>Measured Heat Value:</b> 1131.98
<b>Effective End Date:</b> 1/18/2038 9:14:07 PM	<b>Dry Heat Value:</b> 1129.30
<b>Pressure Base:</b> 14.730	<b>Wet Heat Value:</b> 1109.65
<b>Viscosity:</b>	<b>As Deliv. Heat Value:</b> 1129.30

		<u>Mol %</u>	<u>GPM</u>			<u>Mol %</u>
C1	Methane	68.294		CO2	Carbon Dioxide	0.712
C2	Ethane	17.867	4.764	N2	Nitrogen	8.572
C3	Propane	3.908	1.074	O2	Oxygen	0.000
IC4	Iso-Butane	0.204	0.067	HE	Helium	
NC4	N-Butane	0.376	0.118	H2	Hydrogen	
IC5	Iso-Pentane	0.030	0.011	H2S	Hydrogen Sulfide	
NC5	N-Pentane	0.028	0.010	AR	Argon	
C6	Hexane	0.007	0.003	CO	Carbon Monoxide	
C7	Heptane			H2O	Water	
C8	Octane					
C9	Nonane					
C10	Decane					
<b>Totals</b>			99.998 %		6.047 GPM	

**Sample Date:** 11/30/2009 12:00:00 AM  
**Sample Type:** Composite  
**Sample Tech:** sampler

**Sample Remarks:** *Zone 25*

**Analysis Remarks:**

# GQ Source Daily Summary

November 2009

Number: 163

Pressure Base: 14.730

Contract Day: 1

Name: NORTH TIOGA-MINOT

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT	
1	0.6726	1111.2	1130.9	0.383	3.526	77.773	16.438	1.711	0.053	0.096	0.006	0.007	0.007	0.007					1379.01	
2	0.6680	1107.0	1126.6	0.331	3.442	78.327	16.318	1.451	0.041	0.072	0.002	0.002	0.003	0.013					1378.35	
3	0.6683	1109.7	1129.4	0.314	3.322	78.329	16.401	1.506	0.041	0.072	0.001	0.001	0.002	0.013					1381.52	
4	0.6635	1102.2	1121.7	0.285	3.376	79.049	15.892	1.260	0.040	0.079	0.003	0.002	0.002	0.014					1377.07	
5	0.6759	1121.9	1141.8	0.304	3.306	77.617	16.527	1.902	0.090	0.210	0.012	0.012	0.012	0.019					1388.79	
6	0.6709	1114.3	1134.1	0.298	3.307	77.909	16.734	1.617	0.044	0.079	0.001	0.000	0.001	0.011					1384.60	
7	0.6709	1113.8	1133.6	0.312	3.316	77.836	16.879	1.514	0.044	0.086	0.002	0.001	0.001	0.010					1384.00	
8	0.6703	1112.9	1132.6	0.313	3.322	77.774	17.065	1.421	0.036	0.061	0.000	0.000	0.000	0.009					1383.38	
9	0.6660	1106.0	1125.6	0.300	3.361	78.321	16.776	1.163	0.027	0.044	0.000	0.000	0.000	0.008					1379.21	
10	0.6660	1106.0	1125.6	0.300	3.361	78.321	16.776	1.163	0.027	0.044	0.000	0.000	0.000	0.008					1379.21	
11	0.6623	1098.0	1117.5	0.325	3.340	76.413	17.044	1.866	0.035	0.059	0.001	0.001	0.001	0.008					1373.12	
12	0.6816	1125.5	1145.4	0.391	3.496	76.000	18.137	1.837	0.047	0.079	0.003	0.002	0.002	0.009					1387.40	
13	0.6853	1127.3	1147.3	0.469	3.618	75.547	18.165	2.035	0.055	0.095	0.004	0.003	0.002	0.010					1385.83	
14	0.6844	1128.5	1148.5	0.440	3.499	75.567	18.442	1.898	0.051	0.088	0.003	0.002	0.002	0.010					1388.30	
15	0.6839	1127.3	1147.3	0.451	3.514	75.543	18.559	1.789	0.048	0.081	0.003	0.002	0.002	0.010					1387.29	
16	0.6831	1126.2	1146.1	0.462	3.484	75.734	18.395	1.778	0.049	0.084	0.003	0.002	0.002	0.010					1386.78	
17	0.6827	1128.0	1148.0	0.417	3.406	75.854	18.322	1.851	0.049	0.085	0.003	0.002	0.002	0.011					1389.38	
18	0.6806	1127.1	1147.1	0.362	3.349	76.224	18.088	1.815	0.052	0.093	0.003	0.002	0.002	0.012					1390.39	
19	0.6739	1118.3	1138.1	0.348	3.273	77.206	17.549	1.509	0.038	0.064	0.001	0.001	0.001	0.012					1386.43	
20	0.6785	1122.9	1142.8	0.401	3.349	76.647	17.649	1.812	0.047	0.080	0.002	0.001	0.001	0.011					1387.34	
21	0.6778	1121.8	1141.7	0.382	3.381	76.726	17.585	1.788	0.046	0.079	0.002	0.001	0.001	0.010					1386.67	
22	0.6830	1125.9	1145.8	0.452	3.507	75.963	17.943	1.974	0.054	0.092	0.003	0.002	0.002	0.010					1386.47	
23	0.6837	1126.6	1146.5	0.465	3.516	75.909	17.889	2.053	0.056	0.097	0.003	0.003	0.003	0.009					1386.57	
24	0.6825	1124.1	1144.0	0.477	3.536	76.058	17.795	1.986	0.049	0.083	0.003	0.002	0.002	0.011					1384.77	
25	0.6834	1125.9	1145.8	0.468	3.524	75.944	17.866	2.040	0.053	0.091	0.003	0.002	0.002	0.010					1386.06	
26	0.6768	1116.5	1136.3	0.405	3.589	76.936	17.165	1.787	0.045	0.078	0.002	0.002	0.002	0.011					1381.24	
27	0.6912	1135.8	1155.9	0.561	3.512	74.883	18.433	2.419	0.065	0.113	0.004	0.003	0.003	0.008					1390.32	
28	0.6942	1137.8	1157.9	0.606	3.607	74.339	18.788	2.470	0.065	0.112	0.004	0.003	0.003	0.005					1389.69	
29	0.6961	1140.2	1160.4	0.616	3.609	74.138	18.834	2.601	0.069	0.119	0.004	0.003	0.003	0.007					1390.92	
30	0.6961	1140.2	1160.4	0.616	3.609	74.138	18.834	2.601	0.069	0.119	0.004	0.003	0.003	0.007					1390.92	
AVG	0.6779	1120.0	1140.2	0.401	3.441	76.644	17.537	1.779	0.049	0.087	0.003	0.002	0.002	0.010					1384.84	

Zone 261

# GQ Source Daily Summary

November 2009

**Number:** 091      **Pressure Base:** 14.730      **Contract Day:** 1  
**Name:** MINOT      **Temperature Base:**      **Contract Hour:** 9

Day	Relative Density		Heating Value		CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
	Wet	Dry	Wet	Dry																
1	0.7331	1145.4	1165.6	0.609	6.795	67.046	21.822	3.451	0.098	0.169	0.004	0.002	0.003	0.003	0.000	0.000	0.000	0.000	0.000	1361.43
2	0.7238	1134.9	1155.0	0.543	6.659	68.340	21.251	2.980	0.082	0.137	0.001	0.000	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1357.69
3	0.7210	1138.9	1159.1	0.533	6.169	68.987	21.112	2.955	0.086	0.147	0.001	0.000	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1365.07
4	0.7263	1143.9	1164.1	0.539	6.358	68.266	21.269	3.299	0.096	0.162	0.002	0.000	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1365.94
5	0.7247	1137.6	1157.8	0.550	6.569	68.539	20.843	3.203	0.101	0.180	0.010	0.003	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1359.98
6	0.7275	1145.5	1165.8	0.533	6.379	68.158	21.292	3.309	0.101	0.201	0.010	0.010	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1366.75
7	0.7242	1139.9	1160.1	0.533	6.411	68.533	21.099	3.162	0.090	0.158	0.003	0.001	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1363.19
8	0.7275	1146.6	1166.9	0.547	6.283	68.329	21.071	3.437	0.113	0.202	0.006	0.005	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1368.13
9	0.7264	1144.2	1164.4	0.543	6.338	68.413	21.018	3.384	0.110	0.182	0.003	0.000	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1366.24
10	0.7283	1148.6	1168.9	0.539	6.248	68.203	21.225	3.427	0.124	0.218	0.006	0.002	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1369.75
11	0.7285	1147.8	1168.1	0.536	6.324	68.047	21.374	3.386	0.117	0.201	0.004	0.002	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1368.56
12	0.7227	1143.6	1163.9	0.568	5.991	68.796	21.367	3.010	0.095	0.162	0.002	0.000	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1369.03
13	0.7237	1142.4	1162.6	0.566	6.155	68.523	21.516	2.990	0.089	0.151	0.002	0.000	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1368.57
14	0.7257	1145.5	1165.8	0.587	6.118	68.369	21.487	3.162	0.098	0.167	0.003	0.000	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1366.70
15	0.7241	1143.5	1163.7	0.581	6.107	68.487	21.564	3.006	0.091	0.154	0.002	0.000	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1367.60
16	0.7243	1141.1	1161.3	0.601	6.240	68.435	21.461	3.015	0.089	0.150	0.001	0.000	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1364.51
17	0.7249	1141.5	1161.7	0.581	6.305	68.421	21.318	3.097	0.099	0.167	0.003	0.000	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1364.47
18	0.7249	1146.4	1166.7	0.564	6.028	68.384	21.708	3.057	0.091	0.157	0.002	0.001	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1370.36
19	0.7251	1143.3	1163.6	0.550	6.256	68.447	21.310	3.146	0.102	0.176	0.004	0.001	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1366.48
20	0.7263	1144.4	1164.6	0.553	6.302	68.351	21.219	3.255	0.112	0.193	0.005	0.002	0.009	0.009	0.000	0.000	0.000	0.000	0.000	1366.58
21	0.7270	1147.1	1167.4	0.587	6.151	68.100	21.716	3.164	0.100	0.171	0.003	0.000	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1369.18
22	0.7251	1143.3	1163.5	0.570	6.229	68.478	21.266	3.165	0.102	0.176	0.004	0.001	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1366.37
23	0.7252	1144.1	1164.3	0.590	6.162	68.422	21.349	3.184	0.103	0.177	0.004	0.002	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1367.25
24	0.7244	1145.9	1166.2	0.594	5.963	68.670	21.312	3.198	0.092	0.160	0.003	0.000	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1370.26
25	0.7243	1142.0	1162.2	0.604	6.185	68.524	21.328	3.122	0.083	0.143	0.002	0.000	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1365.59
26	0.7250	1143.2	1163.4	0.603	6.177	68.396	21.467	3.111	0.086	0.150	0.002	0.001	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1366.39
27	0.7264	1144.1	1164.4	0.571	6.300	68.275	21.328	3.232	0.101	0.179	0.004	0.002	0.007	0.007	0.000	0.000	0.000	0.000	0.000	1366.18
28	0.7317	1149.8	1170.1	0.678	6.290	67.297	22.174	3.302	0.092	0.158	0.003	0.000	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1367.99
29	0.7322	1150.6	1171.0	0.670	6.298	67.356	21.968	3.428	0.100	0.171	0.004	0.001	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1366.18
30	0.7330	1151.6	1172.0	0.663	6.325	67.242	22.007	3.470	0.103	0.179	0.004	0.001	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1368.49
Avg	0.7262	1144.0	1164.5	0.576	6.271	68.261	21.408	3.204	0.098	0.170	0.003	0.001	0.008	0.008	0.000	0.000	0.000	0.000	0.000	1366.46

Zone 262

## GQ Source Analysis

<b>GQ Source Number:</b>	2501030	<b>Specific Gravity:</b>	0.6524
<b>GQ Source Name:</b>	LIGNITE PLANT	<b>BTU Base:</b>	Dry
<b>Effective Date:</b>	11/1/2009 9:00:00 AM	<b>Measured Heat Value:</b>	1114.26
<b>Effective End Date:</b>	1/18/2038 9:14:07 PM	<b>Dry Heat Value:</b>	1112.72
<b>Pressure Base:</b>	14.730	<b>Wet Heat Value:</b>	1093.36
<b>Viscosity:</b>		<b>As Deliv. Heat Value:</b>	1112.72

		<u>Mol %</u>	<u>GPM</u>			<u>Mol %</u>
C1	Methane	80.622		CO2	Carbon Dioxide	0.151
C2	Ethane	15.165	4.044	N2	Nitrogen	3.053
C3	Propane	0.969	0.266	O2	Oxygen	0.000
IC4	Iso-Butane	0.000	0.000	HE	Helium	
NC4	N-Butane	0.000	0.000	H2	Hydrogen	
IC5	Iso-Pentane	0.000	0.000	H2S	Hydrogen Sulfide	
NC5	N-Pentane	0.000	0.000	AR	Argon	
C6	Hexane	0.035	0.016	CO	Carbon Monoxide	
C7	Heptane			H2O	Water	
C8	Octane					
C9	Nonane					
C10	Decane					
<b>Totals</b>			99.994%	4.326	GPM	

**Sample Date:** 11/30/2009 12:00:00 AM  
**Sample Type:** Composite  
**Sample Tech:** sampler  
**Sample Remarks:**

**Analysis Remarks:**

\*\*\* End of Report \*\*\*

zone 263

# GQ Source Daily Summary

November 2009

**Number:** 043      **Pressure Base:** 14.730      **Contract Day:** 1  
**Name:** BISMARCK-CLEVELAND      **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	0.7324	1144.3	1164.6	0.619	6.776	67.163	21.804	3.355	0.095	0.166	0.006	0.006	0.011	0.000	0.000	0.000	0.000	0.000	1360.82
2	0.7236	1136.8	1157.0	0.561	6.497	68.539	21.131	3.023	0.082	0.143	0.005	0.004	0.014	0.000	0.000	0.000	0.000	0.000	1360.10
3	0.7211	1136.8	1156.9	0.536	6.299	69.010	20.959	2.931	0.088	0.153	0.005	0.004	0.015	0.000	0.000	0.000	0.000	0.000	1362.44
4	0.7230	1142.0	1162.3	0.539	6.148	69.061	20.676	3.281	0.099	0.171	0.006	0.004	0.015	0.000	0.000	0.000	0.000	0.000	1366.93
5	0.7214	1135.7	1155.9	0.561	6.347	69.233	20.448	3.106	0.098	0.178	0.008	0.007	0.015	0.000	0.000	0.000	0.000	0.000	1360.87
6	0.7249	1143.0	1163.3	0.544	6.260	68.797	20.760	3.285	0.107	0.209	0.011	0.011	0.017	0.000	0.000	0.000	0.000	0.000	1366.33
7	0.7217	1136.4	1156.5	0.542	6.370	69.010	20.747	3.067	0.086	0.154	0.006	0.005	0.013	0.000	0.000	0.000	0.000	0.000	1361.38
8	0.7226	1139.5	1159.7	0.550	6.253	69.049	20.662	3.182	0.099	0.179	0.007	0.006	0.013	0.000	0.000	0.000	0.000	0.000	1364.60
9	0.7252	1141.8	1162.1	0.550	6.353	68.545	21.009	3.250	0.100	0.171	0.005	0.004	0.012	0.000	0.000	0.000	0.000	0.000	1364.25
10	0.7267	1144.3	1164.6	0.555	6.333	68.416	21.038	3.319	0.113	0.201	0.007	0.005	0.013	0.000	0.000	0.000	0.000	0.000	1366.11
11	0.7251	1143.6	1163.9	0.548	6.232	68.615	21.073	3.211	0.107	0.189	0.007	0.005	0.013	0.000	0.000	0.000	0.000	0.000	1366.87
12	0.7208	1141.2	1161.4	0.566	5.953	69.167	21.114	2.921	0.093	0.163	0.006	0.005	0.012	0.000	0.000	0.000	0.000	0.000	1368.02
13	0.7238	1141.9	1162.2	0.573	6.179	68.677	21.211	3.091	0.091	0.156	0.005	0.004	0.012	0.000	0.000	0.000	0.000	0.000	1366.04
14	0.7251	1144.9	1165.2	0.602	6.074	68.513	21.414	3.117	0.094	0.164	0.006	0.004	0.012	0.000	0.000	0.000	0.000	0.000	1368.40
15	0.7249	1145.4	1165.7	0.587	6.054	68.433	21.620	3.031	0.093	0.161	0.006	0.004	0.013	0.000	0.000	0.000	0.000	0.000	1369.14
16	0.7240	1143.5	1163.8	0.600	6.066	68.520	21.596	2.960	0.087	0.150	0.005	0.004	0.012	0.000	0.000	0.000	0.000	0.000	1367.74
17	0.7250	1141.3	1161.6	0.607	6.278	68.526	21.174	3.124	0.098	0.171	0.006	0.004	0.012	0.000	0.000	0.000	0.000	0.000	1364.21
18	0.7250	1146.1	1166.4	0.584	6.022	68.501	21.522	3.090	0.092	0.164	0.006	0.005	0.014	0.000	0.000	0.000	0.000	0.000	1369.88
19	0.7266	1145.3	1165.6	0.566	6.251	68.354	21.256	3.248	0.108	0.191	0.007	0.005	0.014	0.000	0.000	0.000	0.000	0.000	1367.39
20	0.7246	1142.9	1163.1	0.557	6.216	68.728	20.972	3.201	0.108	0.193	0.007	0.005	0.013	0.000	0.000	0.000	0.000	0.000	1366.50
21	0.7241	1144.9	1165.2	0.581	6.012	68.728	21.275	3.110	0.098	0.174	0.006	0.005	0.013	0.000	0.000	0.000	0.000	0.000	1369.37
22	0.7247	1142.9	1163.1	0.581	6.199	68.668	21.058	3.186	0.102	0.181	0.007	0.005	0.013	0.000	0.000	0.000	0.000	0.000	1366.27
23	0.7254	1144.8	1165.1	0.599	6.115	68.509	21.332	3.147	0.099	0.176	0.006	0.005	0.013	0.000	0.000	0.000	0.000	0.000	1367.99
24	0.7235	1144.8	1165.0	0.598	5.939	68.879	21.165	3.137	0.094	0.165	0.006	0.005	0.012	0.000	0.000	0.000	0.000	0.000	1369.72
25	0.7235	1142.4	1162.6	0.612	6.070	68.754	21.212	3.106	0.081	0.143	0.005	0.004	0.013	0.000	0.000	0.000	0.000	0.000	1366.84
26	0.7247	1143.1	1163.3	0.618	6.130	68.581	21.258	3.161	0.083	0.147	0.005	0.004	0.012	0.000	0.000	0.000	0.000	0.000	1366.52
27	0.7261	1142.9	1163.2	0.590	6.308	68.411	21.162	3.226	0.100	0.179	0.007	0.005	0.011	0.000	0.000	0.000	0.000	0.000	1365.09
28	0.7298	1148.1	1168.4	0.664	6.232	67.675	21.927	3.232	0.089	0.158	0.006	0.005	0.011	0.000	0.000	0.000	0.000	0.000	1367.75
29	0.7308	1150.5	1170.9	0.676	6.160	67.583	21.995	3.310	0.093	0.164	0.006	0.005	0.010	0.000	0.000	0.000	0.000	0.000	1369.69
30	0.7334	1154.0	1174.4	0.680	6.185	67.359	21.927	3.527	0.107	0.192	0.007	0.005	0.011	0.000	0.000	0.000	0.000	0.000	1371.39
Avg	0.7251	1143.0	1163.4	0.585	6.210	68.533	21.217	3.165	0.096	0.170	0.006	0.005	0.013	0.000	0.000	0.000	0.000	0.000	1366.29

Zone 271

# GQ Source Daily Summary

November 2009

**Number:** 063      **Pressure Base:** 14.730      **Contract Day:** 1  
**Name:** CLEVELAND-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	0.7351	1146.1	1166.4	0.615	6.936	66.548	22.214	3.407	0.097	0.168	0.006	0.006	0.002	0.000	0.000	0.000	0.000	0.000	1360.41
2	0.7306	1142.7	1163.0	0.599	6.727	67.457	21.591	3.350	0.095	0.165	0.006	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1360.67
3	0.7233	1136.4	1156.5	0.551	6.512	68.488	21.243	2.964	0.084	0.143	0.005	0.004	0.007	0.000	0.000	0.000	0.000	0.000	1359.85
4	0.7233	1140.8	1161.0	0.538	6.256	68.846	20.859	3.218	0.098	0.167	0.006	0.004	0.009	0.000	0.000	0.000	0.000	0.000	1365.17
5	0.7187	1132.7	1152.8	0.541	6.320	69.581	20.223	3.067	0.092	0.158	0.005	0.004	0.008	0.000	0.000	0.000	0.000	0.000	1359.74
6	0.7248	1142.9	1163.2	0.551	6.242	68.662	21.031	3.163	0.104	0.212	0.012	0.013	0.010	0.000	0.000	0.000	0.000	0.000	1366.29
7	0.7254	1141.7	1161.9	0.539	6.401	68.488	20.992	3.275	0.102	0.182	0.007	0.006	0.009	0.000	0.000	0.000	0.000	0.000	1364.17
8	0.7231	1138.1	1158.2	0.547	6.389	68.851	20.740	3.184	0.097	0.174	0.006	0.005	0.007	0.000	0.000	0.000	0.000	0.000	1362.12
9	0.7234	1140.8	1161.1	0.548	6.248	68.811	20.898	3.214	0.098	0.166	0.005	0.004	0.007	0.000	0.000	0.000	0.000	0.000	1365.11
10	0.7232	1139.6	1159.8	0.547	6.303	68.807	20.907	3.148	0.101	0.171	0.005	0.004	0.007	0.000	0.000	0.000	0.000	0.000	1363.83
11	0.7278	1147.2	1167.5	0.549	6.264	68.212	21.260	3.372	0.118	0.206	0.007	0.006	0.007	0.000	0.000	0.000	0.000	0.000	1368.60
12	0.7218	1141.6	1161.8	0.551	6.044	69.010	21.092	3.017	0.098	0.170	0.006	0.005	0.006	0.000	0.000	0.000	0.000	0.000	1367.51
13	0.7229	1142.5	1162.8	0.558	6.083	68.755	21.302	3.036	0.092	0.158	0.006	0.005	0.006	0.000	0.000	0.000	0.000	0.000	1367.55
14	0.7238	1143.1	1163.3	0.594	6.079	68.570	21.482	3.018	0.089	0.153	0.005	0.004	0.006	0.000	0.000	0.000	0.000	0.000	1367.40
15	0.7246	1145.0	1165.3	0.585	6.050	68.532	21.448	3.110	0.095	0.164	0.006	0.004	0.007	0.000	0.000	0.000	0.000	0.000	1368.93
16	0.7244	1144.2	1164.5	0.587	6.080	68.417	21.642	3.011	0.091	0.156	0.005	0.004	0.007	0.000	0.000	0.000	0.000	0.000	1368.14
17	0.7241	1140.5	1160.7	0.609	6.246	68.487	21.380	3.021	0.090	0.152	0.005	0.004	0.006	0.000	0.000	0.000	0.000	0.000	1364.07
18	0.7250	1143.5	1163.7	0.591	6.178	68.421	21.427	3.105	0.095	0.165	0.006	0.005	0.007	0.000	0.000	0.000	0.000	0.000	1366.70
19	0.7253	1145.8	1166.1	0.567	6.093	68.492	21.376	3.165	0.105	0.183	0.006	0.005	0.007	0.000	0.000	0.000	0.000	0.000	1369.25
20	0.7247	1142.4	1162.6	0.556	6.258	68.578	21.137	3.167	0.104	0.181	0.007	0.005	0.008	0.000	0.000	0.000	0.000	0.000	1365.76
21	0.7256	1145.9	1166.2	0.567	6.111	68.454	21.365	3.186	0.107	0.190	0.007	0.005	0.007	0.000	0.000	0.000	0.000	0.000	1369.14
22	0.7260	1144.0	1164.2	0.586	6.243	68.405	21.213	3.251	0.103	0.181	0.006	0.005	0.007	0.000	0.000	0.000	0.000	0.000	1366.40
23	0.7227	1141.5	1161.7	0.583	6.083	68.819	21.227	3.016	0.093	0.161	0.006	0.005	0.007	0.000	0.000	0.000	0.000	0.000	1366.55
24	0.7257	1146.0	1166.3	0.594	6.084	68.470	21.334	3.211	0.104	0.183	0.007	0.005	0.007	0.000	0.000	0.000	0.000	0.000	1369.09
25	0.7243	1144.4	1164.7	0.608	6.032	68.653	21.251	3.199	0.087	0.153	0.006	0.004	0.007	0.000	0.000	0.000	0.000	0.000	1368.48
26	0.7229	1141.7	1161.9	0.604	6.064	68.776	21.243	3.077	0.080	0.140	0.005	0.004	0.007	0.000	0.000	0.000	0.000	0.000	1366.59
27	0.7254	1142.7	1163.0	0.606	6.230	68.370	21.398	3.135	0.089	0.158	0.006	0.004	0.006	0.000	0.000	0.000	0.000	0.000	1366.52
28	0.7263	1144.0	1164.3	0.596	6.250	68.276	21.390	3.200	0.098	0.174	0.006	0.005	0.006	0.000	0.000	0.000	0.000	0.000	1365.15
29	0.7323	1150.7	1171.0	0.687	6.280	67.208	22.238	3.316	0.093	0.163	0.006	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1368.42
30	0.7327	1151.9	1172.3	0.674	6.254	67.353	21.886	3.502	0.105	0.184	0.007	0.005	0.034	0.000	0.000	0.000	0.000	0.000	1369.59
AVG	0.7253	1143.0	1163.3	0.581	6.245	68.426	21.293	3.170	0.097	0.169	0.006	0.005	0.008	0.000	0.000	0.000	0.000	0.000	1365.91

zone 272

# GQ Source Daily Summary

November 2009

Number: 061

Pressure Base: 14.730

Contract Day: 1

Name: CLEVELAND-GRAFTON

Temperature Base:

Contract Hour: 9

Day	Relative Value		CO2	Heating Value																CCT
	Wet	Dry		N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe			
1	0.7348	1145.5	0.614	6.929	66.637	22.135	3.402	0.098	0.170	0.006	0.005	0.003	0.000	0.000	0.000	0.000	0.000	1360.07		
2	0.7302	1143.3	0.599	6.661	67.519	21.620	3.328	0.094	0.163	0.006	0.005	0.005	0.000	0.000	0.000	0.000	0.000	1361.68		
3	0.7235	1136.7	0.550	6.516	68.423	21.302	2.965	0.084	0.143	0.005	0.004	0.007	0.000	0.000	0.000	0.000	0.000	1360.12		
4	0.7231	1141.0	0.538	6.239	68.869	20.840	3.227	0.099	0.169	0.005	0.004	0.009	0.000	0.000	0.000	0.000	0.000	1365.55		
5	0.7186	1132.9	0.543	6.282	69.646	20.183	3.075	0.093	0.160	0.006	0.004	0.008	0.000	0.000	0.000	0.000	0.000	1360.20		
6	0.7249	1143.4	0.552	6.233	68.638	21.046	3.178	0.104	0.213	0.013	0.013	0.010	0.000	0.000	0.000	0.000	0.000	1366.73		
7	0.7255	1142.5	0.538	6.351	68.504	21.007	3.295	0.102	0.182	0.007	0.006	0.009	0.000	0.000	0.000	0.000	0.000	1365.19		
8	0.7229	1138.2	0.543	6.367	68.904	20.707	3.188	0.098	0.174	0.006	0.005	0.007	0.000	0.000	0.000	0.000	0.000	1362.44		
9	0.7238	1141.4	0.547	6.246	68.772	20.920	3.233	0.099	0.167	0.005	0.004	0.007	0.000	0.000	0.000	0.000	0.000	1365.44		
10	0.7228	1139.3	0.546	6.289	68.880	20.853	3.139	0.102	0.174	0.005	0.004	0.007	0.000	0.000	0.000	0.000	0.000	1363.77		
11	0.7273	1146.7	0.552	6.248	68.304	21.199	3.353	0.118	0.206	0.008	0.006	0.007	0.000	0.000	0.000	0.000	0.000	1368.41		
12	0.7221	1141.7	0.555	6.058	68.995	21.044	3.057	0.100	0.174	0.006	0.005	0.007	0.000	0.000	0.000	0.000	0.000	1367.43		
13	0.7228	1142.8	0.558	6.056	68.757	21.323	3.040	0.092	0.159	0.006	0.005	0.006	0.000	0.000	0.000	0.000	0.000	1367.96		
14	0.7239	1142.7	0.593	6.105	68.574	21.425	3.041	0.091	0.155	0.005	0.004	0.006	0.000	0.000	0.000	0.000	0.000	1366.76		
15	0.7248	1145.5	0.586	6.029	68.463	21.534	3.111	0.095	0.165	0.006	0.005	0.007	0.000	0.000	0.000	0.000	0.000	1369.28		
16	0.7243	1144.5	0.586	6.047	68.449	21.651	3.005	0.091	0.156	0.005	0.004	0.007	0.000	0.000	0.000	0.000	0.000	1368.65		
17	0.7240	1140.7	0.609	6.232	68.532	21.330	3.038	0.090	0.154	0.005	0.004	0.006	0.000	0.000	0.000	0.000	0.000	1364.36		
18	0.7252	1144.1	0.591	6.151	68.400	21.474	3.105	0.096	0.166	0.006	0.005	0.007	0.000	0.000	0.000	0.000	0.000	1367.33		
19	0.7256	1146.0	0.568	6.108	68.446	21.393	3.178	0.105	0.183	0.006	0.005	0.008	0.000	0.000	0.000	0.000	0.000	1369.20		
20	0.7249	1142.4	0.557	6.279	68.542	21.133	3.182	0.105	0.182	0.007	0.005	0.008	0.000	0.000	0.000	0.000	0.000	1365.61		
21	0.7256	1145.9	0.567	6.114	68.474	21.331	3.195	0.108	0.190	0.007	0.005	0.007	0.000	0.000	0.000	0.000	0.000	1369.13		
22	0.7259	1144.0	0.587	6.233	68.418	21.211	3.250	0.103	0.181	0.006	0.005	0.007	0.000	0.000	0.000	0.000	0.000	1366.51		
23	0.7232	1142.0	0.584	6.098	68.746	21.250	3.048	0.094	0.163	0.006	0.005	0.007	0.000	0.000	0.000	0.000	0.000	1366.62		
24	0.7261	1146.5	0.595	6.083	68.384	21.421	3.212	0.104	0.182	0.007	0.005	0.007	0.000	0.000	0.000	0.000	0.000	1369.35		
25	0.7243	1144.6	0.608	6.009	68.666	21.263	3.197	0.088	0.153	0.006	0.005	0.007	0.000	0.000	0.000	0.000	0.000	1368.74		
26	0.7227	1142.2	0.607	6.006	68.832	21.248	3.071	0.080	0.140	0.005	0.004	0.007	0.000	0.000	0.000	0.000	0.000	1367.47		
27	0.7254	1142.5	0.606	6.246	68.370	21.375	3.138	0.089	0.150	0.006	0.005	0.006	0.000	0.000	0.000	0.000	0.000	1365.12		
28	0.7264	1144.7	0.596	6.225	68.267	21.408	3.214	0.098	0.175	0.006	0.005	0.006	0.000	0.000	0.000	0.000	0.000	1365.98		
29	0.7326	1151.0	0.687	6.277	67.192	22.232	3.340	0.094	0.163	0.006	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1368.61		
30	0.7327	1152.1	0.674	6.240	67.403	21.855	3.521	0.106	0.184	0.007	0.005	0.004	0.000	0.000	0.000	0.000	0.000	1369.82		
AVG	0.7253	1143.0	0.581	6.232	68.434	21.290	3.178	0.097	0.170	0.006	0.005	0.007	0.000	0.000	0.000	0.000	0.000	1366.15		

Zone 273

# GQ Source Daily Summary

November 2009

**Number:** 041      **Pressure Base:** 14.730      **Contract Day:** 1  
**Name:** BISMARCK-DICKINSON      **Temperature Base:**      **Contract Hour:** 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	C02	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7166	1127.6	1147.6	0.641	6.272	70.088	19.737	3.007	0.085	0.149	0.006	0.005	0.010	0.000	0.000	0.000	0.000	0.000	1355.82
2	0.7247	1137.8	1157.9	0.566	6.526	68.381	21.208	3.068	0.084	0.145	0.005	0.004	0.013	0.000	0.000	0.000	0.000	0.000	1360.30
3	0.6956	1107.1	1126.7	0.613	5.594	73.721	17.499	2.367	0.069	0.119	0.004	0.003	0.012	0.000	0.000	0.000	0.000	0.000	1351.13
4	0.6092	1002.9	1020.7	0.990	3.246	90.170	4.849	0.661	0.032	0.040	0.004	0.003	0.006	0.000	0.000	0.000	0.000	0.000	1307.68
5	0.6066	1018.7	1036.7	0.984	2.042	90.929	5.311	0.612	0.054	0.042	0.010	0.005	0.010	0.000	0.000	0.000	0.000	0.000	1331.05
6	0.6744	1092.5	1111.8	0.644	4.437	78.300	14.102	2.249	0.089	0.144	0.012	0.009	0.015	0.000	0.000	0.000	0.000	0.000	1354.58
7	0.7231	1137.6	1157.7	0.546	6.419	68.772	20.889	3.108	0.087	0.154	0.006	0.005	0.013	0.000	0.000	0.000	0.000	0.000	1361.51
8	0.7231	1140.5	1160.7	0.551	6.240	69.029	20.626	3.236	0.106	0.186	0.007	0.006	0.013	0.000	0.000	0.000	0.000	0.000	1364.92
9	0.6979	1112.6	1132.3	0.622	5.458	73.793	17.109	2.747	0.094	0.152	0.007	0.005	0.013	0.000	0.000	0.000	0.000	0.000	1355.62
10	0.6773	1084.3	1103.5	0.675	5.162	77.547	14.136	2.232	0.082	0.147	0.006	0.004	0.010	0.000	0.000	0.000	0.000	0.000	1340.74
11	0.7081	1121.5	1141.3	0.584	5.931	71.784	18.527	2.881	0.098	0.172	0.006	0.005	0.012	0.000	0.000	0.000	0.000	0.000	1356.28
12	0.7218	1142.7	1163.0	0.568	5.951	69.013	21.227	2.957	0.095	0.166	0.006	0.005	0.012	0.000	0.000	0.000	0.000	0.000	1368.89
13	0.6792	1090.1	1109.4	0.770	4.842	77.112	14.947	2.120	0.073	0.115	0.006	0.004	0.011	0.000	0.000	0.000	0.000	0.000	1346.18
14	0.6607	1064.6	1083.4	0.812	4.600	80.448	12.263	1.724	0.051	0.088	0.003	0.003	0.008	0.000	0.000	0.000	0.000	0.000	1332.86
15	0.6438	1053.9	1072.6	0.732	3.775	83.538	10.473	1.358	0.042	0.071	0.003	0.002	0.006	0.000	0.000	0.000	0.000	0.000	1336.92
16	0.6499	1061.3	1080.1	0.783	3.823	82.424	11.405	1.438	0.043	0.072	0.003	0.002	0.007	0.000	0.000	0.000	0.000	0.000	1339.99
17	0.6899	1104.0	1123.5	0.652	5.185	74.955	16.673	2.321	0.072	0.124	0.004	0.003	0.009	0.000	0.000	0.000	0.000	0.000	1352.94
18	0.6446	1054.4	1073.1	0.726	3.831	83.387	10.542	1.391	0.041	0.071	0.003	0.002	0.007	0.000	0.000	0.000	0.000	0.000	1336.70
19	0.5958	991.5	1009.1	0.945	2.741	92.521	3.431	0.326	0.012	0.018	0.001	0.001	0.004	0.000	0.000	0.000	0.000	0.000	1307.32
20	0.6475	1054.7	1073.3	0.678	4.160	82.915	10.555	1.535	0.053	0.092	0.004	0.003	0.006	0.000	0.000	0.000	0.000	0.000	1333.91
21	0.6871	1103.4	1123.0	0.674	4.918	75.606	16.268	2.312	0.074	0.130	0.005	0.004	0.009	0.000	0.000	0.000	0.000	0.000	1354.91
22	0.7131	1130.3	1150.4	0.604	5.833	70.790	19.584	2.911	0.093	0.164	0.006	0.005	0.012	0.000	0.000	0.000	0.000	0.000	1362.31
23	0.6445	1051.6	1070.2	0.805	3.875	83.492	10.307	1.390	0.043	0.075	0.003	0.002	0.007	0.000	0.000	0.000	0.000	0.000	1333.17
24	0.6196	1025.2	1043.3	0.847	3.083	88.121	7.005	0.861	0.028	0.046	0.003	0.002	0.005	0.000	0.000	0.000	0.000	0.000	1325.42
25	0.6254	1025.5	1043.7	1.005	3.369	87.189	7.362	0.978	0.034	0.050	0.004	0.003	0.006	0.000	0.000	0.000	0.000	0.000	1319.72
26	0.6501	1055.4	1074.1	1.150	3.646	82.914	10.625	1.499	0.058	0.082	0.008	0.005	0.011	0.000	0.000	0.000	0.000	0.000	1332.18
27	0.6922	1103.3	1122.8	0.883	5.091	74.979	16.309	2.484	0.086	0.143	0.008	0.006	0.012	0.000	0.000	0.000	0.000	0.000	1349.63
28	0.6398	1033.2	1051.5	0.942	4.344	84.365	8.966	1.270	0.037	0.064	0.003	0.002	0.006	0.000	0.000	0.000	0.000	0.000	1314.62
29	0.6175	1004.3	1022.1	0.920	4.044	88.362	5.830	0.778	0.023	0.038	0.002	0.001	0.003	0.000	0.000	0.000	0.000	0.000	1300.69
30	0.6268	1016.6	1034.6	0.883	4.226	86.715	7.039	1.042	0.033	0.056	0.002	0.002	0.004	0.000	0.000	0.000	0.000	0.000	1306.78
Avg	0.6669	1075.0	1094.0	0.760	4.622	79.379	13.160	1.895	0.062	0.104	0.005	0.004	0.009	0.000	0.000	0.000	0.000	0.000	1339.83

Zone 28

# GQ Source Daily Summary

## November 2009

**Number:** 271      **Pressure Base:** 14.730      **Contract Day:** 1  
**Name:** DICKINSON AREA      **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	0.5889	988.7	1006.2	0.887	2.345	93.651	2.977	0.139	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1311.18
2	0.5853	972.6	989.8	0.885	2.996	94.254	1.744	0.120	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1293.79
3	0.5867	972.4	989.6	1.059	2.876	94.252	1.629	0.160	0.014	0.009	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1291.90
4	0.6004	1008.6	1026.5	1.189	1.750	92.181	4.327	0.468	0.048	0.035	0.000	0.000	0.003	0.000	0.000	0.000	0.000	0.000	1324.77
5	0.5923	1005.7	1023.5	0.801	1.758	93.475	3.408	0.457	0.051	0.041	0.000	0.000	0.008	0.000	0.000	0.000	0.000	0.000	1329.88
6	0.5856	984.4	1001.8	0.921	2.248	94.656	1.826	0.279	0.034	0.030	0.000	0.000	0.006	0.000	0.000	0.000	0.000	0.000	1309.06
7	0.5805	957.9	974.9	0.914	3.398	95.107	0.556	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1279.45
8	0.5824	962.7	979.8	0.872	3.341	94.697	1.066	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1283.90
9	0.5819	962.0	979.0	0.847	3.383	94.761	0.985	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1283.36
10	0.5880	983.8	1001.3	1.268	1.974	94.532	1.908	0.246	0.038	0.028	0.000	0.000	0.006	0.000	0.000	0.000	0.000	0.000	1305.76
11	0.5808	959.9	976.9	0.842	3.412	94.969	0.757	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1281.86
12	0.5832	964.2	981.2	1.093	2.991	94.816	1.066	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1284.91
13	0.5824	979.6	997.0	0.944	2.205	94.983	1.791	0.077	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1306.35
14	0.5817	986.0	1003.5	0.808	1.951	95.056	2.096	0.089	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1315.70
15	0.5829	987.8	1005.2	0.894	1.826	94.896	2.315	0.070	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1316.69
16	0.5818	983.3	1000.7	0.861	2.047	95.043	1.989	0.060	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1311.95
17	0.5805	981.0	998.4	0.836	2.099	95.272	1.743	0.051	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1310.40
18	0.5840	976.1	993.3	1.017	2.461	94.676	1.783	0.063	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1299.91
19	0.5825	979.3	996.7	0.821	2.419	94.817	1.859	0.080	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1305.84
20	0.5798	981.9	999.3	0.921	1.854	95.529	1.643	0.053	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1312.32
21	0.5828	981.4	998.8	0.960	2.110	94.919	1.944	0.067	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1308.29
22	0.5830	979.5	996.9	0.926	2.232	94.828	1.884	0.068	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1305.58
23	0.5841	984.6	1002.0	0.925	2.081	94.689	2.196	0.103	0.002	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1311.17
24	0.5853	979.4	996.7	1.119	2.228	94.644	1.864	0.127	0.010	0.008	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1302.76
25	0.5916	982.6	1000.0	1.567	1.945	94.076	2.079	0.271	0.032	0.026	0.000	0.000	0.004	0.000	0.000	0.000	0.000	0.000	1300.00
26	0.5831	960.3	977.3	1.110	3.194	94.823	0.834	0.038	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1279.85
27	0.5821	959.5	976.5	0.993	3.327	94.867	0.794	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1279.91
28	0.5821	959.2	976.2	0.979	3.369	94.845	0.791	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1279.47
29	0.5817	958.9	975.9	0.957	3.384	94.898	0.744	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1279.52
30	0.5835	963.0	980.1	1.075	3.119	94.762	0.970	0.063	0.006	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1283.03
Avg	0.5844	976.0	993.5	0.976	2.546	94.632	1.719	0.111	0.008	0.006	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1299.62

Zone 31

# GQ Source Daily Summary

November 2009

**Number:** 051      **Pressure Base:** 14.730      **Contract Day:** 1  
**Name:** CABIN CR-DICKINSON      **Temperature Base:**      **Contract Hour:** 9

Day	Relative Density		Heating Value		CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
	Wet	Dry	Wet	Dry																
1	0.5833	973.2	990.4	990.4	0.950	2.682	94.830	1.409	0.110	0.006	0.009	0.001	0.001	0.002	0.000	0.000	0.000	0.000	0.000	1296.73
2	0.5833	962.0	979.0	979.0	0.925	3.404	94.682	0.875	0.095	0.006	0.009	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	1281.82
3	0.5871	981.4	998.7	998.7	1.295	2.005	94.822	1.527	0.262	0.038	0.029	0.008	0.004	0.008	0.000	0.000	0.000	0.000	0.000	1303.46
4	0.6013	1011.5	1029.4	1029.4	1.031	1.909	92.075	4.271	0.584	0.058	0.045	0.012	0.006	0.009	0.000	0.000	0.000	0.000	0.000	1327.47
5	0.5872	996.6	1014.3	1014.3	0.923	1.653	94.715	2.200	0.371	0.053	0.046	0.014	0.009	0.016	0.000	0.000	0.000	0.000	0.000	1323.58
6	0.5828	966.9	984.0	984.0	0.955	3.009	94.987	0.866	0.136	0.019	0.016	0.004	0.002	0.005	0.000	0.000	0.000	0.000	0.000	1288.86
7	0.5789	954.7	971.6	971.6	0.916	3.441	95.475	0.149	0.011	0.004	0.002	0.001	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1277.02
8	0.5786	955.1	972.0	972.0	0.898	3.414	95.524	0.145	0.011	0.004	0.002	0.001	0.000	0.002	0.000	0.000	0.000	0.000	0.000	1277.93
9	0.5831	969.3	986.4	986.4	1.115	2.643	95.201	0.831	0.145	0.026	0.020	0.007	0.004	0.007	0.000	0.000	0.000	0.000	0.000	1291.75
10	0.5811	964.6	981.7	981.7	0.981	2.944	95.330	0.604	0.097	0.019	0.013	0.004	0.002	0.005	0.000	0.000	0.000	0.000	0.000	1287.79
11	0.5798	953.9	970.8	970.8	1.063	3.352	95.444	0.122	0.010	0.004	0.002	0.001	0.000	0.002	0.000	0.000	0.000	0.000	0.000	1274.97
12	0.5805	967.7	984.8	984.8	1.078	2.552	95.485	0.829	0.047	0.003	0.003	0.001	0.000	0.002	0.000	0.000	0.000	0.000	0.000	1292.59
13	0.5790	979.7	997.1	997.1	0.831	2.052	95.656	1.370	0.079	0.004	0.005	0.001	0.000	0.002	0.000	0.000	0.000	0.000	0.000	1310.37
14	0.5803	982.8	1000.2	1000.2	0.962	1.788	95.546	1.630	0.065	0.003	0.004	0.001	0.000	0.002	0.000	0.000	0.000	0.000	0.000	1312.99
15	0.5787	979.0	996.3	996.3	0.867	2.019	95.711	1.346	0.051	0.002	0.002	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	1309.67
16	0.5784	977.3	994.6	994.6	0.875	2.078	95.774	1.221	0.045	0.002	0.002	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	1307.76
17	0.5786	976.5	993.8	993.8	0.883	2.136	95.729	1.199	0.045	0.002	0.002	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	1306.43
18	0.5803	968.0	985.1	985.1	0.979	2.667	95.415	0.880	0.046	0.005	0.004	0.001	0.000	0.002	0.000	0.000	0.000	0.000	0.000	1293.18
19	0.5802	980.3	997.7	997.7	0.886	2.048	95.447	1.539	0.070	0.004	0.004	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	1309.78
20	0.5798	978.2	995.5	995.5	0.982	1.991	95.622	1.343	0.053	0.003	0.003	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	1307.39
21	0.5799	972.6	989.8	989.8	0.983	2.342	95.537	1.082	0.047	0.002	0.003	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	1299.79
22	0.5815	978.7	996.0	996.0	0.937	2.193	95.272	1.475	0.096	0.008	0.011	0.002	0.002	0.003	0.000	0.000	0.000	0.000	0.000	1306.12
23	0.5817	980.4	997.7	997.7	0.970	2.053	95.243	1.648	0.074	0.004	0.004	0.001	0.000	0.003	0.000	0.000	0.000	0.000	0.000	1308.23
24	0.5895	979.4	996.7	996.7	1.446	2.124	94.445	1.651	0.251	0.032	0.028	0.008	0.005	0.009	0.000	0.000	0.000	0.000	0.000	1298.18
25	0.5836	963.2	980.3	980.3	1.390	2.422	95.257	0.579	0.095	0.014	0.012	0.004	0.002	0.005	0.000	0.000	0.000	0.000	0.000	1283.17
26	0.5806	956.1	973.0	973.0	1.010	3.380	95.240	0.328	0.032	0.004	0.003	0.001	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1276.92
27	0.5798	953.6	970.5	970.5	1.027	3.425	95.398	0.134	0.011	0.003	0.002	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1274.53
28	0.5795	953.8	970.7	970.7	1.000	3.428	95.420	0.137	0.011	0.003	0.001	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1275.13
29	0.5796	953.9	970.8	970.8	0.998	3.432	95.410	0.142	0.012	0.003	0.002	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1275.16
30	0.5859	967.7	984.9	984.9	1.292	2.736	94.771	0.980	0.165	0.023	0.020	0.005	0.003	0.005	0.000	0.000	0.000	0.000	0.000	1286.62
Avg	0.5821	971.0	988.5	988.5	1.015	2.585	95.182	1.084	0.104	0.012	0.010	0.003	0.001	0.004	0.000	0.000	0.000	0.000	0.000	1295.51

Zone 32

# GQ Source Daily Summary

November 2009

Number: 111      Pressure Base: 14.730      Contract Day: 1  
 Name: LITTLE KNIFE PLANT      Temperature Base:      Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.6707	1138.0	1158.2	0.000	2.311	76.308	20.982	0.386	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.23
2	0.6709	1138.9	1159.1	0.000	2.278	76.269	21.057	0.383	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1415.06
3	0.6703	1137.5	1157.6	0.000	2.305	76.390	20.908	0.384	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.98
4	0.6701	1137.5	1157.6	0.000	2.291	76.422	20.896	0.378	0.006	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.12
5	0.6690	1136.5	1156.6	0.000	2.248	76.660	20.690	0.387	0.006	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.04
6	0.6701	1137.7	1157.8	0.000	2.274	76.456	20.857	0.400	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.44
7	0.6710	1139.2	1159.4	0.000	2.266	76.260	21.067	0.393	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1415.40
8	0.6701	1138.0	1158.1	0.000	2.259	76.432	20.911	0.385	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.77
9	0.6731	1142.9	1163.1	0.000	2.246	75.850	21.473	0.418	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1417.65
10	0.6710	1139.9	1160.1	0.000	2.222	76.274	21.099	0.392	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1416.25
11	0.6701	1137.9	1158.1	0.000	2.259	76.444	20.897	0.387	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.74
12	0.6701	1137.7	1157.9	0.000	2.270	76.433	20.907	0.376	0.006	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.52
13	0.6697	1136.9	1157.1	0.000	2.283	76.502	20.833	0.370	0.006	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.91
14	0.6698	1137.3	1157.5	0.000	2.270	76.471	20.881	0.365	0.006	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.29
15	0.6706	1138.7	1158.8	0.000	2.267	76.320	21.018	0.383	0.006	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1415.07
16	0.6710	1139.0	1159.2	0.000	2.253	76.262	21.054	0.392	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1415.12
17	0.6705	1138.7	1158.8	0.000	2.279	76.361	20.981	0.391	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1415.22
18	0.6696	1137.1	1157.3	0.000	2.262	76.539	20.801	0.385	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.26
19	0.6699	1137.6	1157.7	0.000	2.263	76.480	20.858	0.382	0.006	0.008	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	1414.50
20	0.6690	1136.2	1156.3	0.000	2.268	76.658	20.674	0.387	0.006	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.65
21	0.6697	1136.9	1157.0	0.000	2.282	76.513	20.817	0.375	0.006	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.92
22	0.6701	1138.0	1158.2	0.000	2.258	76.413	20.942	0.373	0.006	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.80
23	0.6703	1138.0	1158.2	0.000	2.272	76.384	20.962	0.369	0.006	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.64
24	0.6710	1138.9	1159.1	0.000	2.285	76.231	21.101	0.370	0.006	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1415.01
25	0.6705	1137.6	1157.8	0.000	2.321	76.315	20.986	0.365	0.006	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.88
26	0.6702	1137.4	1157.5	0.000	2.303	76.415	20.882	0.387	0.006	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1413.94
27	0.6705	1137.9	1158.0	0.000	2.302	76.337	20.973	0.375	0.006	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.23
28	0.6709	1138.7	1158.8	0.000	2.293	76.248	21.069	0.376	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.78
29	0.6710	1138.7	1158.9	0.000	2.300	76.231	21.082	0.374	0.006	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.72
30	0.6690	1135.4	1155.5	0.000	2.311	76.639	20.667	0.369	0.006	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1412.74
AVG	0.6703	1138.0	1158.2	0.000	2.277	76.384	20.944	0.382	0.006	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1414.60

Zone 33

# GQ Source Daily Summary

November 2009

Number: 331      Pressure Base: 14.730      Contract Day: 1  
 Name: MARMARTH PLANT      Temperature Base:      Contract Hour: 9

Day	Relative Density	Heating Value		C02	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT		
		Wet	Dry																		
1	0.8090	1153.3	1173.8	2.631	10.386	53.063	30.272	3.251	0.085	0.267	0.012	0.030	0.003	0.000	0.000	0.000	0.000	0.000	1304.99		
2	0.8008	1146.9	1167.2	2.433	10.311	54.146	29.869	2.852	0.082	0.259	0.012	0.031	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1304.34	
3	0.8075	1155.2	1175.6	2.503	10.331	52.921	30.926	2.928	0.084	0.264	0.011	0.029	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1308.27	
4	0.8108	1157.9	1178.4	2.561	10.381	52.450	31.145	3.067	0.084	0.267	0.011	0.030	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1308.74	
5	0.8109	1156.5	1177.0	2.604	10.414	52.483	31.002	3.109	0.083	0.261	0.011	0.029	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1307.04	
6	0.8142	1153.4	1173.9	3.029	10.267	52.394	30.661	3.261	0.084	0.261	0.011	0.028	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1300.90	
7	0.8126	1155.3	1175.8	2.865	10.245	52.695	30.453	3.329	0.087	0.278	0.012	0.032	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1304.37	
8	0.8101	1152.0	1172.4	2.807	10.309	53.019	30.228	3.228	0.087	0.273	0.012	0.032	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1302.50	
9	0.8122	1149.9	1170.3	3.004	10.328	52.722	30.371	3.175	0.085	0.269	0.012	0.031	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1298.55	
10	0.8116	1152.2	1172.6	2.870	10.335	52.778	30.379	3.230	0.087	0.274	0.012	0.032	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1301.65	
11	0.8139	1155.9	1176.4	2.871	10.321	52.630	30.265	3.467	0.095	0.298	0.013	0.034	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1303.98	
12	0.8065	1146.3	1166.6	2.679	10.512	53.281	30.202	2.928	0.084	0.266	0.012	0.032	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1298.99	
13	0.8116	1154.8	1175.3	2.728	10.389	52.646	30.603	3.216	0.089	0.281	0.012	0.031	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1304.60	
14	0.8118	1154.7	1175.2	2.802	10.303	52.803	30.362	3.297	0.092	0.290	0.013	0.034	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1301.49	
15	0.8079	1149.5	1169.8	2.697	10.419	53.266	30.074	3.132	0.088	0.276	0.012	0.033	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1303.09	
16	0.8104	1152.7	1173.1	2.706	10.443	52.998	30.098	3.321	0.093	0.291	0.013	0.033	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1301.49	
17	0.8099	1148.5	1168.8	2.793	10.517	53.115	29.858	3.302	0.089	0.278	0.012	0.032	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1298.81	
18	0.8019	1136.9	1157.1	2.667	10.663	54.113	29.303	2.863	0.082	0.259	0.012	0.032	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1292.14	
19	0.8105	1152.0	1172.4	2.797	10.355	53.018	30.132	3.266	0.092	0.290	0.013	0.033	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1302.27	
20	0.8101	1148.6	1169.0	2.864	10.424	53.189	29.782	3.313	0.091	0.286	0.013	0.034	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1298.75	
21	0.8098	1147.9	1168.2	2.850	10.464	53.212	29.746	3.303	0.091	0.285	0.013	0.033	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1298.12	
22	0.8109	1151.5	1171.9	2.857	10.333	53.118	29.882	3.371	0.094	0.294	0.013	0.034	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1301.35	
23	0.8096	1147.7	1168.1	2.844	10.457	53.289	29.657	3.326	0.091	0.287	0.013	0.033	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1298.19	
24	0.8077	1143.9	1164.2	2.831	10.531	53.521	29.478	3.225	0.089	0.277	0.012	0.032	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1295.38	
25	0.8076	1144.9	1165.2	2.777	10.546	53.430	29.651	3.186	0.089	0.274	0.012	0.030	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1296.56	
26	0.8013	1127.5	1147.5	2.696	11.133	54.501	28.135	3.120	0.087	0.275	0.012	0.034	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1281.90	
27	0.8037	1134.5	1154.6	2.700	10.929	54.146	28.598	3.198	0.091	0.286	0.013	0.034	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1287.92	
28	0.8077	1142.3	1162.5	2.818	10.657	53.535	29.294	3.277	0.090	0.281	0.012	0.032	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1293.50	
29	0.8078	1141.5	1161.7	2.836	10.681	53.651	29.041	3.360	0.091	0.288	0.013	0.034	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1292.55	
30	0.8072	1140.5	1160.7	2.829	10.697	53.610	29.189	3.275	0.086	0.268	0.012	0.031	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1291.92	
Avg	0.8089	1148.0	1168.8	2.765	10.469	53.191	29.955	3.206	0.088	0.277	0.012	0.032	0.004	0.000	0.000	0.000	0.000	0.000	0.000	1299.57	

\*\*\* End of Report\*\*\*

zone 34

## GQ Source Analysis

<b>GQ Source Number:</b>	1201140	<b>Specific Gravity:</b>	0.5730
<b>GQ Source Name:</b>	EAGLE 8B ND	<b>BTU Base:</b>	Dry
<b>Effective Date:</b>	6/19/2009 9:00:00 AM	<b>Measured Heat Value:</b>	977.81
<b>Effective End Date:</b>	1/18/2038 9:14:07 PM	<b>Dry Heat Value:</b>	977.72
<b>Pressure Base:</b>	14.730	<b>Wet Heat Value:</b>	960.70
<b>Viscosity:</b>		<b>As Deliv. Heat Value:</b>	977.72

		<u>Mol %</u>	<u>GPM</u>			<u>Mol %</u>
C1	Methane	95.826		CO2	Carbon Dioxide	0.096
C2	Ethane	0.305		N2	Nitrogen	3.757
C3	Propane	0.009	0.002	O2	Oxygen	0.000
IC4	Iso-Butane	0.007	0.002	HE	Helium	
NC4	N-Butane	0.000	0.000	H2	Hydrogen	
IC5	Iso-Pentane	0.000	0.000	H2S	Hydrogen Sulfide	
NC5	N-Pentane	0.000	0.000	AR	Argon	
C6	Hexane	0.000	0.000	CO	Carbon Monoxide	
C7	Heptane			H2O	Water	
C8	Octane					
C9	Nonane					
C10	Decane					

**Totals**      100.000%      0.005 GPM

**Sample Date:** 6/12/2009 12:00:00 AM  
**Sample Type:** Spot  
**Sample Tech:** MG

**Sample Remarks:** *zone 35*

**Analysis Remarks:**

<b>NORTH DAKOTA HEATING VALUE ZONES</b>		
<b>ZONES</b>	<b>MEASURING DEVICE</b>	<b>LOCATION</b>
211	Chromatograph	Sidney Area
24	Monthly Sampler	Williston Area
25	Monthly Sampler	Watford City Area
261	Chromatograph	Williston – Tioga – Minot Line
262	Chromatograph	Minot Area
263	Monthly Sampler	Tioga – Portal
264	Monthly Sampler	Williston – Ray
271	Chromatograph	Bismarck – Cleveland
272	Chromatograph	Cleveland – Mapleton
273	Chromatograph	Cleveland – Grafton
28	Chromatograph	Bismarck
31	Chromatograph	Dickinson
32	Chromatograph	Cabin Creek – Dickinson
33	Chromatograph	Killdeer
34	Chromatograph	Bowman Area
35	Monthly Sampler	Baker Field – North Dakota

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

STATE	ZONE	ZONE BOUNDARY	12 MONTH AVERAGE	NOV 09	OCT 09	SEPT 09	AUG 09	JULY 09	JUNE 09	MAY 09	APR 09	MAR 09	FEB 09	JAN 09	DEC 08	ZONE
MT/ND	211	Sidney Area	1145	1191	1187	1192	1195	1202	1203	1200	1170	1100	1019	1021	1065	21
ND	24	Williston Area	1163	1193	1182	1181	1175	1143	1196	1180	1149	1106	1101	1158	1195	24
ND	25	Wattford City Area	1128	1129	1121	1123	1130	1125	1134	1130	1128	1128	1128	1130	1127	25
ND	261	Williston - Tioga - Minot Line	1127	1140	1160	1138	1129	1126	1131	1133	1136	1110	1101	1102	1123	261
ND	262	Minot Area	1147	1165	1174	1168	1165	1165	1157	1144	1143	1130	1114	1105	1129	262
ND	263	Tioga - Portal	1120	1113	1126	1138	1141	1141	1127	1122	1098	1092	1099	1103	1139	263
ND	264	Williston - Ray	1163	1193	1182	1181	1175	1143	1155	1180	1149	1106	1101	1158	1195	264
ND	271	Bismarck - Cleveland	1123	1163	1174	1166	1162	1160	1156	1143	1118	1043	1058	1056	1081	271
ND	272	Cleveland - Mapleton	1124	1164	1173	1167	1163	1162	1156	1143	1118	1043	1057	1056	1080	272
ND	273	Cleveland - Grafton	1097	1094	1141	1166	1163	1162	1155	1142	1061	1014	1021	1028	1080	273
ND	28	Bismarck - Cabin Creek	1028	984	1024	1140	1052	998	1044	996	1007	1013	1019	1027	1020	28
ND/MT	31	Dickinson Area	1018	989	994	1140	1040	980	1018	981	997	1013	1019	1027	1018	31
ND	32	Cabin Creek - Dickinson	1159	1158	1159	1158	1160	1164	1161	1163	1157	1156	1157	1027	1018	32
ND	33	Killdeer	1166	1169	1174	1174	1172	1170	1148	1148	1167	1172	1172	1156	1154	33
ND	34	Bowman Area	976	978	978	978	978	978	978	978	974	974	974	1168	1168	34
ND	35	Baker Field - North Dakota	976	978	978	978	978	978	978	978	974	974	974	974	974	35

**THERMAL ZONE VARIANCE  
DOCUMENTATION**

**November 2009**

<b>ZONE</b>	<b>BTU VARIANCE</b>	<b>REASON</b>
261	-20	Receipt from Williston, Tioga and Minot Areas
28	-47	Receipt from Cabin Creek and Minot Areas
31	-30	Receipt from Cabin Creek and Minot Areas