

October 10, 2014

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

Re: Case No. 11,006 (Therm Billing)
Monthly Report – August 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 and pursuant to the North Dakota Administrative Code 69-09-01-02, part 2.

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 September 2014.
2. Attachment B consists of copies of the monthly Heating Value Test Reports received from our supplier for the month of August 2014. There is a report for each of the 18 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 August 2014.

Please acknowledge receipt by stamping or initialing the duplicate copy of this letter attached hereto and returning the same in the enclosed self-addressed, stamped envelope. Should the Commission or its Staff have any comments or questions with respect to these reports, please call me.

Sincerely,



Tamie Aberle
Director of Regulatory Affairs

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

Town	Heat Zone	Therm Factor
MDU-303-ALEXANDER	025	1.1381
MDU-308-ARNEGARD	025	1.1381
MDU-314-APPLE VALLEY	271	1.1077
MDU-318-BEACH	032	1.0480
MDU-319-BELFIELD	032	1.0557
MDU-323-BERTHOLD	262	1.0852
MDU-327-BISMARCK	028	1.1077
MDU-330-BOWMAN	034	1.0338
MDU-337-BURLINGTON	262	1.1086
MDU-343-CARRINGTON	273	1.1077
MDU-344-CLEVELAND	272	1.0999
MDU-364-CAVALIER	273	1.1310
MDU-365-DAWSON	271	1.0999
MDU-368-DES LACS	262	1.0930
MDU-369-DICKINSON	031	1.1009
MDU-374-FT TOTTEN	273	1.1155
MDU-375-DEVILS LAKE	273	1.1155
MDU-379-BARLOW	273	1.1077
MDU-384-EPPING	264	1.1202
MDU-387-ELDRIDGE	272	1.1077
MDU-407-GLADSTONE	031	1.1009
MDU-411-GLEN ULLIN	311	1.0522
MDU-413-GOLVA	032	1.0326
MDU-416-GARRISON	262	1.0930
MDU-417-GRAFTON	273	1.1388
MDU-429-HEBRON	311	1.0522
MDU-432-HETTINGER	903	2.3875
MDU-449-JAMESTOWN	272	1.1155
MDU-459-KILLDEER	033	1.1164
MDU-463-LANGDON	273	1.1077
MDU-469-LEFOR	031	1.1009
MDU-474-LIGNITE	263	1.0360
MDU-475-LINTON	802	1.0228
MDU-478-LINCOLN	028	1.1077
MDU-494-MEDINA	271	1.0999
MDU-498-MANDAN	028	1.1077
MDU-500-MARMARTH	034	1.0415
MDU-505-MINOT	262	1.1086
MDU-510-MOTT	031	1.1009
MDU-512-MAX	262	1.1086
MDU-522-NEW ENGLAND	031	1.0929
MDU-524-NEW SALEM	028	1.1077
MDU-532-NEW ROCKFORD	273	1.1077
MDU-539-PARK RIVER	273	1.1310
MDU-540-PALERMO	262	1.0852
MDU-558-RAY	264	1.1202
MDU-561-REGENT	031	1.1009
MDU-563-RHAME	034	1.0262
MDU-564-RICHARDTON	311	1.0370

MDU-568-ROSS	261	0.9499
MDU-572-RUTHVILLE	262	1.1086
MDU-574-SANBORN	272	1.1155
MDU-583-SENTINEL BUTTE	032	1.0480
MDU-588-SOUTH HEART	031	1.0929
MDU-717-SPIRITWOOD	272	1.1155
MDU-590-SPRINGBROOK	264	1.1202
MDU-591-STANLEY	261	0.9568
MDU-593-STEELE	271	1.0999
MDU-598-SHEYENNE	273	1.1155
MDU-605-SURREY	262	1.1086
MDU-610-TAPPEN	271	1.0999
MDU-611-TAYLOR	031	1.0929
MDU-616-TIOGA	261	0.9499
MDU-619-TURTLE LAKE	262	1.0930
MDU-620-TRENTON	024	1.1282
MDU-624-UNDERWOOD	262	1.0930
MDU-625-VALLEY CITY	272	1.1233
MDU-629-WALHALLA	273	1.1310
MDU-632-WATFORD CITY	610	1.1372
MDU-636-WHEELOCK	264	1.1121
MDU-637-WHITE EARTH	261	0.9568
MDU-642-WILLISTON	024	1.1282
MDU-646-WASHBURN	262	1.1008
MDU-647-WILTON	262	1.0852
MDU-664-RIVERDALE	262	1.0930
MDU-691-FAIRVIEW	241	1.1425
MDU-712-MINOT AFB	262	1.1086
MDU-732-MSR SITE	273	1.1106

GQ Source Analysis

GQ Source Number:	0602160	Specific Gravity:	0.7323
GQ Source Name:	FAIRVIEW BORDER	Dry Heat Value:	1201.19
Effective Date:	8/1/2014 9:00:00 AM	Wet Heat Value:	1180.28
Effective End Date:	1/18/2038 9:14:07 PM	As Deliv. Heat Value:	1201.19
Pressure Base:	14.730	Sample Pressure:	316.00
Viscosity:		Sample Temperature:	

	<u>Mol %</u>	<u>Liquid Content</u>			<u>Mol %</u>	
C1	Methane	68.832		CO2	Carbon Dioxide	1.169
C2	Ethane	21.768	5.8044	N2	Nitrogen	3.701
C3	Propane	4.128	1.1341	O2	Oxygen	0.000
IC4	Isobutane	0.122	0.0397	He	Helium	
NC4	n-Butane	0.249	0.0782	H2	Hydrogen	
IC5	Isopentane	0.016	0.0059	H2S	Hydrogen Sulfide	
NC5	n-Pentane	0.014	0.0052	Ar	Argon	
C6	Hexanes	0.000	0.0000	CO	Carbon Monoxide	
C7	Heptanes			H2	Water	
C8	Octanes			Neo-C5	Neopentane	
C9	Nonanes					
C10	Decanes					

Totals 100.000% 7.067 GPM

Sample Date: 9/2/2014 12:00:00 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:	0.7256
GQ Source Name:	WATFORD CITY BORDER	Dry Heat Value:	1205.11
Effective Date:	8/1/2014 9:00:00 AM	Wet Heat Value:	1184.14
Effective End Date:	1/18/2038 9:14:07 PM	As Deliv. Heat Value:	1205.11
Pressure Base:	14.730	Sample Pressure:	370.00
Viscosity:		Sample Temperature:	

		<u>Mol %</u>	<u>Liquid Content</u>			<u>Mol %</u>
C1	Methane	69.851		CO2	Carbon Dioxide	0.968
C2	Ethane	22.046	0.0000	N2	Nitrogen	3.142
C3	Propane	3.361	0.9234	O2	Oxygen	0.000
IC4	Isobutane	0.171	0.0558	He	Helium	
NC4	n-Butane	0.375	0.1180	H2	Hydrogen	
IC5	Isopentane	0.038	0.0141	H2S	Hydrogen Sulfide	
NC5	n-Pentane	0.042	0.0152	Ar	Argon	
C6	Hexanes	0.005	0.0000	CO	Carbon Monoxide	
C7	Heptanes			H2	Water	
C8	Octanes			Neo-C5	Neopentane	
C9	Nonanes					
C10	Decanes					

Totals 100.000% 1.126 GPM

Sample Date: 9/2/2014 12:00:00 AM
Sample Type: Composite
Sample Tech: 0
H2S: ppm

Sample Remarks:

Analysis Tech: DW

Analysis Remarks:

Zone 25

GQ Source Analysis

GQ Source Number:	2501030	Specific Gravity:	0.6507
GQ Source Name:	LIGNITE PLANT	Dry Heat Value:	1089.32
Effective Date:	8/1/2014 9:00:00 AM	Wet Heat Value:	1070.37
Effective End Date:	1/18/2038 9:14:07 PM	As Deliv. Heat Value:	1089.32
Pressure Base:	14.730	Sample Pressure:	313.00
Viscosity:		Sample Temperature:	

		<u>Mol %</u>	<u>Liquid Content</u>			<u>Mol %</u>
C1	Methane	80.689		CO2	Carbon Dioxide	0.078
C2	Ethane	13.736	0.0000	N2	Nitrogen	4.366
C3	Propane	1.084	0.2977	O2	Oxygen	0.035
IC4	Isobutane	0.013	0.0041	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 100.000% 0.302 GPM

Sample Date: 9/2/2014 12:00:00 AM
Sample Type: Composite
Sample Tech: ES
H2S: ppm

Sample Remarks:

Analysis Tech: MB

Analysis Remarks:

Zone 263

*** End of Report ***

GQ Source Daily Summary

August 2014

Number: 043

Pressure Base: 14.730

Contract Day: 1

Name: BISMARCK STATION-CLEVELAND STATION

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7079	1129.3	1149.3	0.582	5.436	72.917	17.096	3.481	0.135	0.314	0.019	0.021	0.000	0.000	0.000	0.000	0.000	1366.03	
2	0.7075	1129.3	1149.3	0.586	5.396	72.962	17.115	3.455	0.135	0.312	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1366.36	
3	0.7080	1129.7	1149.7	0.588	5.414	72.847	17.223	3.446	0.133	0.310	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1366.40	
4	0.7044	1124.7	1144.7	0.561	5.419	73.478	16.689	3.374	0.132	0.308	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1363.84	
5	0.7116	1135.5	1155.7	0.597	5.386	72.220	17.789	3.516	0.134	0.315	0.020	0.022	0.000	0.000	0.000	0.000	0.000	1369.91	
6	0.7075	1128.9	1148.9	0.575	5.435	72.972	17.043	3.503	0.130	0.303	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1365.89	
7	0.7093	1132.6	1152.7	0.581	5.364	72.641	17.438	3.498	0.130	0.306	0.020	0.021	0.000	0.000	0.000	0.000	0.000	1368.67	
8	0.7114	1137.6	1157.7	0.613	5.212	72.353	17.796	3.529	0.134	0.317	0.022	0.024	0.000	0.000	0.000	0.000	0.000	1372.65	
9	0.7114	1135.4	1155.5	0.600	5.366	72.343	17.615	3.583	0.135	0.316	0.020	0.022	0.000	0.000	0.000	0.000	0.000	1370.02	
10	0.7105	1135.2	1155.3	0.596	5.305	72.459	17.625	3.529	0.133	0.311	0.020	0.022	0.000	0.000	0.000	0.000	0.000	1370.55	
11	0.7119	1136.0	1156.1	0.608	5.363	72.279	17.676	3.569	0.136	0.322	0.022	0.024	0.000	0.000	0.000	0.000	0.000	1370.20	
12	0.7069	1128.7	1148.7	0.576	5.382	73.113	16.967	3.483	0.131	0.307	0.020	0.021	0.000	0.000	0.000	0.000	0.000	1366.33	
13	0.7023	1121.4	1141.2	0.546	5.445	73.888	16.256	3.407	0.127	0.295	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1361.85	
14	0.6981	1116.2	1136.0	0.528	5.391	74.567	15.793	3.281	0.122	0.283	0.017	0.018	0.000	0.000	0.000	0.000	0.000	1359.68	
15	0.7068	1129.6	1149.6	0.574	5.335	73.041	17.141	3.446	0.127	0.296	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1367.31	
16	0.7071	1129.3	1149.3	0.575	5.374	72.958	17.203	3.436	0.126	0.292	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1366.72	
17	0.6974	1115.4	1135.2	0.529	5.382	74.595	15.856	3.213	0.118	0.274	0.016	0.017	0.000	0.000	0.000	0.000	0.000	1359.29	
18	0.7067	1127.8	1147.8	0.577	5.426	73.051	17.045	3.439	0.127	0.296	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1365.30	
19	0.7132	1136.9	1157.0	0.612	5.430	71.948	17.937	3.592	0.132	0.309	0.019	0.021	0.000	0.000	0.000	0.000	0.000	1370.02	
20	0.7086	1130.6	1150.6	0.587	5.421	72.695	17.374	3.461	0.127	0.297	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1366.81	
21	0.7065	1127.1	1147.1	0.572	5.457	73.038	17.065	3.416	0.125	0.291	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1364.67	
22	0.7050	1125.6	1145.5	0.563	5.418	73.306	16.888	3.378	0.123	0.287	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1364.32	
23	0.7046	1124.1	1144.0	0.564	5.474	73.353	16.799	3.364	0.123	0.286	0.017	0.018	0.000	0.000	0.000	0.000	0.000	1362.85	
24	0.7048	1124.5	1144.4	0.565	5.466	73.298	16.884	3.342	0.123	0.286	0.017	0.018	0.000	0.000	0.000	0.000	0.000	1363.14	
25	0.7047	1124.1	1144.0	0.564	5.484	73.286	16.891	3.333	0.123	0.284	0.017	0.018	0.000	0.000	0.000	0.000	0.000	1362.78	
26	0.7003	1118.9	1138.7	0.548	5.408	74.072	16.304	3.239	0.119	0.275	0.017	0.017	0.000	0.000	0.000	0.000	0.000	1360.75	
27	0.7032	1122.0	1141.9	0.553	5.482	73.530	16.717	3.284	0.121	0.279	0.017	0.018	0.000	0.000	0.000	0.000	0.000	1361.74	
28	0.7022	1120.3	1140.2	0.556	5.488	73.723	16.528	3.269	0.121	0.280	0.017	0.018	0.000	0.000	0.000	0.000	0.000	1360.66	
29	0.7177	1144.1	1164.3	0.641	5.369	71.065	18.887	3.550	0.133	0.312	0.020	0.023	0.000	0.000	0.000	0.000	0.000	1374.40	
30	0.7054	1124.9	1144.9	0.571	5.490	73.102	17.112	3.285	0.122	0.283	0.017	0.018	0.000	0.000	0.000	0.000	0.000	1363.10	
31	0.7048	1124.3	1144.2	0.571	5.473	73.188	17.077	3.253	0.121	0.282	0.017	0.018	0.000	0.000	0.000	0.000	0.000	1362.91	
Avg	0.7067	1128.0	1148.0	0.576	5.409	73.042	17.091	3.418	0.128	0.298	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1365.65	

Zone 271

GQ Source Daily Summary

August 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	0.7069	1127.8	1147.8	0.575	5.450	73.048	16.996	3.450	0.134	0.309	0.020	0.021	0.000	0.000	0.000	0.000	0.000	1365.11	
2	0.7066	1127.8	1147.8	0.579	5.415	73.074	17.037	3.420	0.132	0.304	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1365.41	
3	0.7075	1129.1	1149.1	0.588	5.409	72.924	17.161	3.438	0.134	0.307	0.019	0.021	0.000	0.000	0.000	0.000	0.000	1366.09	
4	0.7061	1126.0	1145.9	0.580	5.478	73.108	16.983	3.386	0.130	0.297	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1363.67	
5	0.7102	1134.1	1154.2	0.591	5.352	72.433	17.679	3.454	0.135	0.313	0.021	0.023	0.000	0.000	0.000	0.000	0.000	1369.53	
6	0.7081	1129.1	1149.1	0.579	5.470	72.879	17.072	3.526	0.132	0.303	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1365.58	
7	0.7112	1134.0	1154.1	0.596	5.440	72.347	17.544	3.589	0.134	0.309	0.020	0.021	0.000	0.000	0.000	0.000	0.000	1368.47	
8	0.7021	1124.9	1144.8	0.560	5.196	73.822	16.711	3.257	0.123	0.288	0.020	0.023	0.000	0.000	0.000	0.000	0.000	1366.25	
9	0.7145	1139.8	1160.0	0.619	5.363	71.785	18.093	3.643	0.137	0.317	0.021	0.023	0.000	0.000	0.000	0.000	0.000	1372.31	
10	0.7111	1135.0	1155.1	0.603	5.362	72.340	17.662	3.550	0.132	0.308	0.020	0.022	0.000	0.000	0.000	0.000	0.000	1369.77	
11	0.7133	1139.2	1159.4	0.621	5.287	71.993	18.027	3.573	0.136	0.318	0.022	0.024	0.000	0.000	0.000	0.000	0.000	1372.68	
12	0.7051	1125.4	1145.3	0.567	5.434	73.383	16.718	3.429	0.128	0.300	0.020	0.021	0.000	0.000	0.000	0.000	0.000	1363.97	
13	0.7057	1126.4	1146.3	0.568	5.434	73.252	16.835	3.448	0.128	0.296	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1364.53	
14	0.6993	1117.9	1137.7	0.531	5.405	74.322	15.998	3.304	0.122	0.281	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1360.46	
15	0.7036	1124.9	1144.8	0.559	5.341	73.571	16.712	3.368	0.124	0.287	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1364.78	
16	0.7071	1129.5	1149.5	0.580	5.357	72.947	17.229	3.434	0.125	0.290	0.018	0.020	0.000	0.000	0.000	0.000	0.000	1366.96	
17	0.7018	1120.7	1140.6	0.548	5.441	73.840	16.403	3.333	0.121	0.279	0.017	0.018	0.000	0.000	0.000	0.000	0.000	1361.49	
18	0.6998	1118.5	1138.3	0.549	5.386	74.186	16.198	3.250	0.120	0.276	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1360.72	
19	0.7121	1135.2	1155.3	0.607	5.440	72.086	17.852	3.544	0.130	0.301	0.019	0.021	0.000	0.000	0.000	0.000	0.000	1368.99	
20	0.7116	1134.2	1154.3	0.603	5.450	72.189	17.752	3.537	0.130	0.300	0.019	0.021	0.000	0.000	0.000	0.000	0.000	1368.40	
21	0.7057	1125.8	1145.8	0.571	5.460	73.149	16.991	3.383	0.123	0.285	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1363.91	
22	0.7050	1125.1	1145.0	0.566	5.450	73.274	16.886	3.381	0.123	0.284	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1363.65	
23	0.7038	1123.1	1143.0	0.562	5.461	73.468	16.732	3.340	0.121	0.280	0.018	0.018	0.000	0.000	0.000	0.000	0.000	1362.44	
24	0.7041	1123.0	1142.9	0.563	5.493	73.409	16.759	3.336	0.122	0.281	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1362.04	
25	0.7048	1124.0	1143.9	0.566	5.495	73.259	16.912	3.330	0.122	0.280	0.017	0.018	0.000	0.000	0.000	0.000	0.000	1362.54	
26	0.7029	1121.3	1141.2	0.561	5.485	73.582	16.661	3.277	0.121	0.278	0.017	0.018	0.000	0.000	0.000	0.000	0.000	1361.21	
27	0.7038	1122.5	1142.4	0.558	5.502	73.384	16.851	3.274	0.121	0.276	0.017	0.018	0.000	0.000	0.000	0.000	0.000	1361.77	
28	0.7032	1121.4	1141.3	0.561	5.511	73.511	16.700	3.284	0.121	0.277	0.017	0.018	0.000	0.000	0.000	0.000	0.000	1360.99	
29	0.7098	1131.6	1151.6	0.600	5.453	72.395	17.689	3.402	0.127	0.294	0.019	0.021	0.000	0.000	0.000	0.000	0.000	1366.87	
30	0.7106	1132.9	1153.0	0.603	5.446	72.195	17.922	3.384	0.125	0.288	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1367.69	
31	0.7046	1123.8	1143.7	0.570	5.486	73.213	17.047	3.251	0.120	0.277	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1362.46	
Avg	0.7065	1128.0	1147.5	0.577	5.424	73.044	17.091	3.406	0.127	0.293	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1365.19	

Zone 272

GQ Source Daily Summary

August 2014

Number: 061

Pressure Base: 14.730

Contract Day: 1

Name: CLEVELAND STATION-GRAFTON BORDER

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7	C8	C9	C10	Wobbe	CCT
1	0.7069	1127.7	1147.7	0.575	5.449	73.057	16.987	3.449	0.134	0.309	0.020	0.021	0.000	0.000	0.000	0.000	0.000	1365.07	
2	0.7067	1127.9	1147.8	0.580	5.417	73.067	17.036	3.424	0.133	0.305	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1365.40	
3	0.7076	1129.3	1149.3	0.588	5.403	72.916	17.175	3.438	0.134	0.308	0.019	0.021	0.000	0.000	0.000	0.000	0.000	1366.26	
4	0.7061	1126.0	1145.9	0.581	5.480	73.107	16.980	3.387	0.130	0.297	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1363.63	
5	0.7101	1134.0	1154.1	0.591	5.348	72.452	17.664	3.455	0.135	0.312	0.021	0.022	0.000	0.000	0.000	0.000	0.000	1369.53	
6	0.7081	1129.1	1149.1	0.580	5.473	72.874	17.073	3.525	0.132	0.304	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1365.52	
7	0.7110	1133.7	1153.8	0.596	5.439	72.379	17.519	3.583	0.133	0.309	0.020	0.021	0.000	0.000	0.000	0.000	0.000	1368.33	
8	0.7017	1124.1	1144.0	0.560	5.204	73.908	16.617	3.257	0.123	0.288	0.020	0.023	0.000	0.000	0.000	0.000	0.000	1365.72	
9	0.7146	1140.0	1160.2	0.621	5.360	71.770	18.112	3.641	0.137	0.317	0.021	0.023	0.000	0.000	0.000	0.000	0.000	1372.40	
10	0.7111	1134.9	1155.0	0.603	5.366	72.342	17.654	3.552	0.132	0.308	0.020	0.022	0.000	0.000	0.000	0.000	0.000	1369.67	
11	0.7128	1138.4	1158.6	0.617	5.286	72.088	17.950	3.562	0.135	0.316	0.022	0.024	0.000	0.000	0.000	0.000	0.000	1372.30	
12	0.7050	1125.3	1145.2	0.567	5.435	73.392	16.711	3.426	0.129	0.300	0.020	0.021	0.000	0.000	0.000	0.000	0.000	1363.91	
13	0.7058	1126.4	1146.4	0.569	5.433	73.248	16.836	3.451	0.128	0.296	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1364.57	
14	0.6993	1117.9	1137.7	0.532	5.401	74.327	15.996	3.304	0.122	0.281	0.018	0.018	0.000	0.000	0.000	0.000	0.000	1360.50	
15	0.7036	1124.8	1144.7	0.559	5.340	73.583	16.703	3.365	0.124	0.287	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1364.71	
16	0.7074	1130.0	1150.0	0.581	5.351	72.906	17.267	3.442	0.125	0.290	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1367.26	
17	0.7017	1120.6	1140.5	0.548	5.440	73.856	16.389	3.331	0.121	0.279	0.017	0.018	0.000	0.000	0.000	0.000	0.000	1361.43	
18	0.6997	1118.4	1138.2	0.549	5.384	74.198	16.188	3.250	0.120	0.276	0.017	0.019	0.000	0.000	0.000	0.000	0.000	1360.68	
19	0.7118	1134.7	1154.8	0.606	5.441	72.137	17.809	3.536	0.130	0.300	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1368.72	
20	0.7114	1134.0	1154.0	0.602	5.451	72.219	17.728	3.531	0.129	0.300	0.019	0.021	0.000	0.000	0.000	0.000	0.000	1368.23	
21	0.7055	1125.5	1145.4	0.570	5.460	73.189	16.956	3.380	0.123	0.285	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1363.74	
22	0.7051	1125.2	1145.1	0.567	5.447	73.268	16.895	3.380	0.123	0.284	0.018	0.019	0.000	0.000	0.000	0.000	0.000	1363.74	
23	0.7038	1123.1	1143.0	0.563	5.460	73.468	16.733	3.339	0.121	0.280	0.018	0.018	0.000	0.000	0.000	0.000	0.000	1362.43	
24	0.7041	1123.0	1142.9	0.564	5.493	73.402	16.764	3.337	0.122	0.281	0.018	0.018	0.000	0.000	0.000	0.000	0.000	1362.04	
25	0.7048	1124.1	1144.0	0.567	5.490	73.251	16.923	3.331	0.122	0.280	0.017	0.018	0.000	0.000	0.000	0.000	0.000	1362.68	
26	0.7029	1121.4	1141.3	0.561	5.483	73.575	16.668	3.279	0.121	0.278	0.017	0.018	0.000	0.000	0.000	0.000	0.000	1361.28	
27	0.7045	1123.9	1143.8	0.558	5.490	73.227	17.020	3.273	0.121	0.276	0.017	0.018	0.000	0.000	0.000	0.000	0.000	1362.69	
28	0.7033	1121.6	1141.5	0.561	5.510	73.488	16.720	3.286	0.121	0.278	0.017	0.018	0.000	0.000	0.000	0.000	0.000	1361.10	
29	0.7098	1131.6	1151.7	0.601	5.451	72.394	17.690	3.404	0.127	0.294	0.019	0.021	0.000	0.000	0.000	0.000	0.000	1366.92	
30	0.7106	1132.8	1152.9	0.603	5.447	72.198	17.917	3.383	0.125	0.288	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1367.65	
31	0.7047	1123.8	1143.7	0.570	5.486	73.203	17.055	3.253	0.120	0.277	0.018	0.018	0.000	0.000	0.000	0.000	0.000	1362.51	
Avg	0.7065	1128.0	1147.5	0.577	5.423	73.048	17.088	3.405	0.127	0.293	0.019	0.020	0.000	0.000	0.000	0.000	0.000	1365.18	

Zone 273

GQ Source Analysis

GQ Source Number:	0202080	Specific Gravity:	0.6544
GQ Source Name:	RICHARDTON-GLEN ULLIN COMPRE	Dry Heat Value:	1114.36
Effective Date:	8/1/2014 9:00:00 AM	Wet Heat Value:	1094.97
Effective End Date:	1/18/2038 9:14:00 PM	As Deliv. Heat Value:	
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	81.698		CO2	Carbon Dioxide	1.008
C2	Ethane	14.518	3.8710	N2	Nitrogen	1.859
C3	Propane	0.629	0.1730	O2	Oxygen	
IC4	Isobutane	0.089	0.0290	He	Helium	
NC4	n-Butane	0.069	0.0220	H2	Hydrogen	
IC5	Isopentane	0.042	0.0150	H2S	Hydrogen Sulfide	
NC5	n-Pentane	0.021	0.0080	Ar	Argon	
C6	Hexanes	0.065	0.0270	CO	Carbon Monoxide	
C7	Heptanes			H2	Water	
C8	Octanes			Neo-C5	Neopentane	0.002
C9	Nonanes					
C10	Decanes					
Totals		100.000%	4.145 GPM			

Sample Date: 5/1/2014 10:29:00 AM
Sample Type: Composite
Sample Tech: RR
H2S: ppm

Sample Remarks:

Analysis Tech: MB

Analysis Remarks:

Zone 311

GQ Source Analysis

GQ Source Number:	1202160	Specific Gravity:	0.7757
GQ Source Name:	BOWMAN BORDER	Dry Heat Value:	1127.10
Effective Date:	8/1/2014 9:00:00 AM	Wet Heat Value:	1107.48
Effective End Date:	1/18/2038 9:14:07 PM	As Deliv. Heat Value:	1127.10
Pressure Base:	14.730	Sample Pressure:	
Viscosity:		Sample Temperature:	

	<u>Mol %</u>	<u>Liquid Content</u>			<u>Mol %</u>	
C1	Methane	57.880		CO2	Carbon Dioxide	1.581
C2	Ethane	25.930	6.9140	N2	Nitrogen	11.657
C3	Propane	2.595	0.7130	O2	Oxygen	
IC4	Isobutane	0.077	0.0250	He	Helium	
NC4	n-Butane	0.234	0.0740	H2	Hydrogen	
IC5	Isopentane	0.010	0.0040	H2S	Hydrogen Sulfide	
NC5	n-Pentane	0.029	0.0100	Ar	Argon	
C6	Hexanes	0.006	0.0020	CO	Carbon Monoxide	
C7	Heptanes			H2	Water	
C8	Octanes			Neo-C5	Neopentane	0.000
C9	Nonanes					
C10	Decanes					

Totals 99.999% 7.742 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

Aug-14

ZONE 610

Watford City 01320 Watford City Border				01312 Watford City East Border				Weighted	
Begin Date	End Date	MCF	DK	BTU Zone 25	MCF	DK	BTU Zone 43	AVG BTU	
8/1/2014	8/2/2014	94	114	1.205	6	7	1.198	1.205	8/1/2014
8/2/2014	8/3/2014	90	108	1.205	3	4	1.201	1.205	8/2/2014
8/3/2014	8/4/2014	105	127	1.205	10	11	1.197	1.204	8/3/2014
8/4/2014	8/5/2014	103	124	1.205	4	5	1.202	1.205	8/4/2014
8/5/2014	8/6/2014	111	134	1.205	3	4	1.204	1.205	8/5/2014
8/6/2014	8/7/2014	113	136	1.205	3	4	1.197	1.205	8/6/2014
8/7/2014	8/8/2014	98	118	1.205	8	10	1.200	1.205	8/7/2014
8/8/2014	8/9/2014	89	107	1.205	10	12	1.201	1.205	8/8/2014
8/9/2014	8/10/2014	102	123	1.205	3	4	1.205	1.205	8/9/2014
8/10/2014	8/11/2014	108	130	1.205	4	4	1.195	1.205	8/10/2014
8/11/2014	8/12/2014	99	119	1.205	3	4	1.196	1.205	8/11/2014
8/12/2014	8/13/2014	98	119	1.205	3	3	1.209	1.205	8/12/2014
8/13/2014	8/14/2014	94	114	1.205	11	13	1.206	1.205	8/13/2014
8/14/2014	8/15/2014	89	108	1.205	18	22	1.198	1.204	8/14/2014
8/15/2014	8/16/2014	93	112	1.205	3	4	1.210	1.205	8/15/2014
8/16/2014	8/17/2014	92	111	1.205	3	3	1.204	1.205	8/16/2014
8/17/2014	8/18/2014	89	108	1.205	4	4	1.192	1.204	8/17/2014
8/18/2014	8/19/2014	90	108	1.205	15	18	1.201	1.204	8/18/2014
8/19/2014	8/20/2014	90	108	1.205	3	4	1.216	1.205	8/19/2014
8/20/2014	8/21/2014	6	8	1.205	83	98	1.190	1.191	8/20/2014
8/21/2014	8/22/2014	63	76	1.205	45	53	1.190	1.199	8/21/2014
8/22/2014	8/23/2014	83	100	1.205	13	16	1.198	1.204	8/22/2014
8/23/2014	8/24/2014	96	115	1.205	26	31	1.201	1.204	8/23/2014
8/24/2014	8/25/2014	104	125	1.205	23	28	1.204	1.205	8/24/2014
8/25/2014	8/26/2014	121	145	1.205	49	58	1.185	1.199	8/25/2014
8/26/2014	8/27/2014	104	126	1.205	16	20	1.193	1.203	8/26/2014
8/27/2014	8/28/2014	93	112	1.205	17	21	1.191	1.203	8/27/2014
8/28/2014	8/29/2014	88	106	1.205	6	7	1.208	1.205	8/28/2014
8/29/2014	8/30/2014	91	109	1.205	15	19	1.220	1.207	8/29/2014
8/30/2014	8/31/2014	89	107	1.205	11	14	1.222	1.207	8/30/2014
8/31/2014	9/1/2014	85	103	1.205	8	10	1.203		8/31/2014
		2,870	3,460		429	515	1.2012	1.2039	

Gas Quality

[Gas Quality Download - Chromatograph]

ROW ID	LOCATION DESCRIPTION	GROSS HEATING VALUE (BTU/CF)	SPECIFIC GRAVITY	WOBBE (enl)	CIRCONDENTHERM (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	ChangeTimestamp	NOTES
11587	GLEN ULLIN	1064.5	0.6154	1357	-69.1	1.3004	0.9295	88.4624	8.6398	0.4494	0.0231	0.0144	0.0013	0.002	0	0.0001	0.1603	0.0221	7/31/2014	8/1/2014	8/1/2014 2:16:38 PM	
11587	GLEN ULLIN	1066.4	0.6167	1358	-67.7	1.2635	0.9572	88.2698	8.814	0.4712	0.0255	0.0161	0.0018	0.0026	0	0.0001	0.162	0.0221	8/1/2014	8/2/2014	8/2/2014 2:17:28 PM	
11587	GLEN ULLIN	1064	0.6152	1356.5	-69	1.2985	0.9407	88.5167	8.5489	0.4666	0.0241	0.014	0.0019	0.002	0	0	0.1705	0.0221	8/2/2014	8/3/2014	8/3/2014 2:16:26 PM	
11587	GLEN ULLIN	1064.7	0.6159	1356.6	-68.8	1.3304	0.9371	88.3554	8.6729	0.4803	0.0212	0.0127	0.0007	0.0014	0	0	0.1729	0.0221	8/3/2014	8/4/2014	8/4/2014 2:16:07 PM	
11587	GLEN ULLIN	1061	0.6134	1354.6	-71.1	1.3332	0.9281	88.809	8.2565	0.4519	0.0184	0.011	0	0.0007	0	0	0.176	0.0221	8/4/2014	8/5/2014	8/5/2014 2:16:27 PM	
11587	GLEN ULLIN	1060.4	0.6126	1354.8	-71.8	1.2886	0.9302	88.9464	8.1744	0.4331	0.0167	0.0103	0.0001	0.0005	0	0	0.184	0.0221	8/5/2014	8/6/2014	8/6/2014 2:16:13 PM	
11587	GLEN ULLIN	1062.3	0.6141	1355.6	-70.6	1.3206	0.9239	88.6651	8.4381	0.4324	0.0195	0.0115	0.0003	0.0011	0	0	0.1719	0.0221	8/6/2014	8/7/2014	8/7/2014 2:16:41 PM	
11587	GLEN ULLIN	1062.3	0.6141	1355.6	-70.6	1.3206	0.9239	88.6651	8.4381	0.4324	0.0195	0.0115	0.0003	0.0011	0	0	0.1719	0.0221	8/6/2014	8/8/2014	8/8/2014 2:18:05 PM	
11587	GLEN ULLIN	1062.2	0.6143	1355.2	-70.1	1.3565	0.9174	88.6899	8.3677	0.4611	0.0218	0.0134	0.0006	0.0015	0	0.0002	0.151	0.0221	8/8/2014	8/9/2014	8/9/2014 2:16:42 PM	
11587	GLEN ULLIN	1065.4	0.6163	1357.1	-66.5	1.36	0.9141	88.416	8.5154	0.5656	0.0304	0.0206	0.0024	0.0035	0	0.0007	0.1546	0.0221	8/9/2014	8/10/2014	8/10/2014 2:16:04 PM	
11587	GLEN ULLIN	1060.9	0.613	1355	-71	1.3243	0.9093	88.8981	8.1928	0.448	0.0218	0.0138	0.0011	0.0019	0	0.0001	0.172	0.0221	8/10/2014	8/11/2014	8/11/2014 2:15:58 PM	
11587	GLEN ULLIN	1061	0.6131	1355.1	-71.1	1.3209	0.9127	88.8786	8.2098	0.4542	0.0201	0.0121	0.0006	0.0012	0	0	0.1728	0.0221	8/11/2014	8/12/2014	8/12/2014 2:16:12 PM	
11587	GLEN ULLIN	1065.1	0.6154	1357.7	-68.5	1.3017	0.9051	88.4722	8.5683	0.5171	0.0225	0.0137	0.0012	0.0018	0	0	0.1799	0.0221	8/12/2014	8/13/2014	8/13/2014 2:16:28 PM	
11587	GLEN ULLIN	1065.7	0.6161	1357.7	-52.2	1.3581	0.885	88.8052	7.8138	0.8085	0.0631	0.0464	0.0079	0.0103	0	0.0044	0.1792	0.0221	8/13/2014	8/14/2014	8/14/2014 2:17:06 PM	
11587	GLEN ULLIN	1055.6	0.6096	1351.9	-71.6	1.3893	0.8638	89.6403	7.3288	0.5208	0.0303	0.0202	0.0027	0.0035	0	0.0005	0.1824	0.0221	8/14/2014	8/15/2014	8/15/2014 2:16:57 PM	
11587	GLEN ULLIN	1054.2	0.6086	1351.4	-73.2	1.3994	0.8467	89.7931	7.1712	0.5255	0.0276	0.0183	0.0021	0.003	0	0	0.1942	0.0192	8/15/2014	8/16/2014	8/16/2014 2:16:47 PM	
11587	GLEN ULLIN	1053.1	0.6079	1350.7	-74.5	1.4006	0.8452	89.9354	7.0803	0.5039	0.0225	0.0144	0.0015	0.0021	0	0	0.1758	0.019	8/16/2014	8/17/2014	8/17/2014 2:16:56 PM	
11587	GLEN ULLIN	1052.1	0.6065	1350.9	-75.7	1.3111	0.8585	90.1876	6.9467	0.4538	0.0235	0.0149	0.0015	0.0022	0	0	0.1821	0.019	8/17/2014	8/18/2014	8/18/2014 2:17:15 PM	
11587	GLEN ULLIN	1049.3	0.6049	1349.1	-76.7	1.3307	0.8606	90.4921	6.5765	0.4781	0.0241	0.0153	0.0017	0.0022	0	0	0.1995	0.019	8/18/2014	8/19/2014	8/19/2014 2:18:26 PM	
11587	GLEN ULLIN	1049.9	0.6056	1349.1	-76	1.3713	0.8529	90.332	6.7287	0.4551	0.0244	0.016	0.0019	0.0027	0	0.0003	0.1963	0.019	8/19/2014	8/20/2014	8/20/2014 2:17:03 PM	
11587	GLEN ULLIN	1056.9	0.6104	1352.8	-55.2	1.4107	0.848	89.7129	7.0266	0.6608	0.0607	0.043	0.0078	0.0098	0	0.0042	0.1967	0.019	8/20/2014	8/21/2014	8/21/2014 2:16:26 PM	
11587	GLEN ULLIN	1067	0.6165	1358.9	-44.5	1.3021	0.8983	88.7149	7.9331	0.7621	0.077	0.0563	0.0107	0.014	0	0.0074	0.2074	0.019	8/21/2014	8/22/2014	8/22/2014 2:17:51 PM	
11587	GLEN ULLIN	1071.4	0.6201	1360.5	-38.1	1.3527	0.9104	88.293	8.0479	0.9674	0.0951	0.0702	0.0136	0.0174	0	0.0096	0.2063	0.019	8/22/2014	8/23/2014	8/23/2014 2:17:52 PM	
11587	GLEN ULLIN	1063.5	0.6155	1355.6	-45.1	1.4485	0.8736	88.9078	7.6216	0.7747	0.0754	0.055	0.01	0.0133	0	0.0073	0.1955	0.019	8/23/2014	8/24/2014	8/24/2014 2:16:59 PM	
11587	GLEN ULLIN	1053.7	0.6089	1350.4	-60.2	1.4813	0.833	89.8821	6.7946	0.6659	0.0476	0.0339	0.0054	0.0072	0	0.0032	0.2267	0.019	8/24/2014	8/25/2014	8/25/2014 2:18:03 PM	
11587	GLEN ULLIN	1052.3	0.6069	1350.8	-60.6	1.3979	0.8195	90.1891	6.6968	0.5542	0.0472	0.0339	0.0058	0.0077	0	0.0034	0.225	0.019	8/25/2014	8/26/2014	8/26/2014 2:17:55 PM	
11587	GLEN ULLIN	1051.5	0.6074	1349.2	-62.3	1.4398	0.8516	90.0847	6.7217	0.5529	0.0457	0.0319	0.0053	0.0071	0	0.003	0.2373	0.019	8/26/2014	8/27/2014	8/27/2014 2:16:52 PM	
11587	GLEN ULLIN	1059.1	0.6119	1353.9	-56.3	1.3946	0.8669	89.3571	7.3716	0.6534	0.0572	0.0404	0.0072	0.0092	0	0.0039	0.22	0.019	8/27/2014	8/28/2014	8/28/2014 2:18:01 PM	
11587	GLEN ULLIN	1062.8	0.6144	1355.9	-50.9	1.4297	0.8491	88.9594	7.6579	0.7326	0.065	0.0464	0.0086	0.0109	0	0.0052	0.217	0.019	8/28/2014	8/29/2014	8/29/2014 2:18:13 PM	
11587	GLEN ULLIN	1061.1	0.614	1354.2	-51.9	1.4372	0.8845	89.0135	7.5437	0.7367	0.06	0.0435	0.0078	0.0101	0	0.005	0.2394	0.019	8/29/2014	8/30/2014	8/30/2014 2:18:26 PM	
11587	GLEN ULLIN	1058.2	0.6118	1353	-64.6	1.434	0.8631	89.2939	7.3756	0.6917	0.0417	0.029	0.0037	0.0051	0	0.0018	0.2417	0.019	8/30/2014	8/31/2014	8/31/2014 2:17:56 PM	

31 record(s) retrieved

Zone 802

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
610	Monthly Sampler & Chromatograph	Watford City
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	AUG 14	JULY 14	JUNE 14	MAY 14	APR 14	MAR 14	FEB 14	JAN 14	DEC 13	NOV 13	OCT 13	SEPT 13	ZONE
MT/ND	211	Sidney Area	1207	1209	1212	1207	1212	1198	1204	1205	1208	1204	1209	1211	1206	211
ND	24	Williston Area	1190	1186	1184	1183	1180	1177	1181	1177	1201	1201	1207	1204	1199	24
ND	25	Watford City Border	1210	1205	1219	1226	1241	1221	1220	1205	1218	1191	1197	1183	1198	25
ND/MT	241	Fairview Area	1199	1201	1208	1202	1204	1194	1197	1197	1203	1197	1189	1198	1202	241
ND	261	Williston - Tioga - Minot Line	1150	1013	1094	1115	1118	1181	1187	1185	1189	1193	1166	1175	1180	261
ND	262	Minot Area	1185	1149	1154	1166	1161	1196	1201	1200	1201	1201	1192	1197	1196	262
ND	263	Tioga - Portal	1082	1089	1098	1078	1062	1074	1058	1051	1063	1061	1096	1125	1130	263
ND	264	Williston - Ray	1190	1186	1184	1183	1180	1177	1181	1177	1201	1201	1207	1204	1199	264
ND	271	Bismarck - Cleveland	1162	1148	1152	1164	1162	1192	1159	1127	1144	1145	1164	1184	1199	271
ND	272	Cleveland - Mapleton	1161	1148	1151	1163	1162	1192	1158	1127	1144	1145	1164	1184	1199	272
ND	273	Cleveland - Grafton	1161	1148	1151	1163	1162	1190	1158	1127	1144	1145	1164	1184	1199	273
ND	28	Bismarck - Cabin Creek	1127	1148	1151	1163	1155	1135	1077	1072	1081	1092	1105	1147	1199	28
ND	31	Dickinson Area	1117	1174	1176	1171	1140	1102	1079	1073	1082	1092	1107	1126	1079	31
ND	311	Taylor Take-Off - Glen Ullin Comp	1112	1114	1131	1138	1105	1091	1072	1197	1092	1092	1104	1108	1094	311
ND/MT	32	Cabin Creek - Dickinson	1097	1134	1147	1134	1100	1077	1061	1058	1070	1082	1096	1095	1115	32
ND	33	Killdeer	1182	1182	1183	1183	1183	1183	1180	1181	1182	1180	1180	1182	1183	33
ND	34	Bowman Area	1098	1127	1130	1119	1123	1030	1059	1047	1073	1082	1118	1118	1145	34
ND	610	MDU-Watford City BTU	1201	1204	1204	1195										
ND	802	Linton	1043	1060	1050	1047	1047	1044	1045	1039	1042	1033	1037	1037	1032	802

**THERMAL ZONE VARIANCE
DOCUMENTATION**

August 2014

ZONE	<i>BTU VARIANCE</i>	<i>REASON</i>
261	-81	Less volume received at Tioga Plant