Pipeline Tally

Client: Enbridge Energy Limited Partnership | Run Date: July 31, 2013 | Projection: UTM | Zone: 16

Project: NPS 20 GEOPIG Geometry Inspection | Location: Line 5 Straights of Mackinac-East Loop | Datum: WGS 84 | C.M.: -87

BAKER HUGHES

Feature Identifier	Absolute Distance (ft)	Enbridge Chainage (ft)	Nearest U/S GWD	Dist to U/S GWD (ft)	Wall Thickness (in)	Description	Northing (m)	Easting (m)	Height (m)
GWD 21	36.06	.0	n/a	n/a	.500	Master GW#21	5,078,854.80	674,423.47	141.21
GWD 31	53.15	76.8	21	17.09	.500	Master GW#31	5,078,853.52	674,428.52	141.22
GWD 41	56.53	80.2	31	3.39	.500	Master GW#41	5,078,853.27	674,429.52	141.23
GWD 51	57.20	80.9	41	.66	.500	Master GW#51	5,078,853.22	674,429.72	141.23
VLV 1	57.79	82.8	51	.59	.500	Launch Valve GPS-1	5,078,853.08	674,430.27	141.23
GWD 61	60.97	84.7	51	3.77	.500	Master GW#61	5,078,852.94	674,430.83	141.23
TEE 1	62.59	87.1	61	1.62	.500		5,078,852.77	674,431.55	141.23
GWD 71	67.30	91.0	61	6.32	.500	Master GW#71	5,078,852.46	674,432.70	141.23
BND 1	70.30	98.3	71	3.01	.500	9.5D Bend 29.7 Down	5,078,851.91	674,434.83	141.06
GWD 81	81.49	105.2	71	14.20	.500	Master GW#81	5,078,851.44	674,436.66	140.16
GWD 91	83.24	106.9	81	1.75	.500	Master GW#91	5,078,851.33	674,437.10	139.89
BND 2	85.91	114.2	91	2.67	.500	10.2D Bend 30.2 Up	5,078,850.83	674,439.04	138.94
GWD 101	97.97	121.6	91	14.73	.500	Master GW#101	5,078,850.28	674,441.21	138.76
BND 3	100.93	129.2	101	2.96	.500	10.3D Bend 29.8 RT	5,078,849.54	674,443.40	138.75
GWD 111	112.69	136.3	101	14.73	.500	Master GW#111	5,078,848.18	674,445.07	138.75
GWD 121	131.96	155.6	111	19.27	.500	Master GW#121	5,078,844.15	674,449.34	138.77
GWD 131	146.48	170.1	121	14.52	.500	Master GW#131	5,078,841.17	674,452.62	138.76
BND 4	149.46	177.3	131	2.98	.500	9.6D Bend 29.7 LT	5,078,839.83	674,454.34	138.78
GWD 141	160.82	184.4	131	14.34	.812	Master GW#141	5,078,839.19	674,456.41	138.81
GWD 151	164.34	187.9	141	3.52	.812	Master GW#151	5,078,838.95	674,457.46	138.84
TEE 2	185.70	210.3	151	21.36	.812		5,078,837.40	674,464.09	139.00
GWD 160	188.72	212.3	151	24.38	.812	Master GW#160	5,078,837.25	674,464.69	139.01
GWD 170	208.73	232.4	160	20.01	.812	Master GW#170	5,078,835.86	674,470.63	139.15
GWD 180	235.07	258.8	170	26.35	.812	Master GW#180	5,078,834.02	674,478.44	139.23
GWD 190	252.36	276.1	180	17.29	.812	Master GW#190	5,078,832.83	674,483.57	139.22
GWD 200	278.28	302.1	190	25.92	.812	Master GW#200	5,078,831.05	674,491.27	139.17
GWD 210	306.17	330.0	200	27.89	.812	Master GW#210	5,078,829.18	674,499.56	139.17
GWD 220	333.07	356.9	210	26.90	.812	Master GW#220	5,078,827.38	674,507.55	139.23
GWD 230	359.85	383.8	220	26.77	.812	Master GW#230	5,078,825.58	674,515.51	139.32
GWD 240	381.53	405.4	230	21.68	.812	Master GW#240	5,078,824.13	674,521.96	139.36
GWD 250	387.74	411.7	240	6.21	.812	Master GW#250	5,078,823.71	674,523.80	139.36
GWD 260	414.37	438.3	250	26.64	.812	Master GW#260	5,078,821.94	674,531.72	139.31

ENBDNR0001374

Pipeline Tally

Client: Enbridge Energy Limited Partnership | Run Date: July 31, 2013 | Projection: UTM | Zone: 16

Project: NPS 20 GEOPIG Geometry Inspection | Location: Line 5 Straights of Mackinac-East Loop | Datum: WGS 84 | C.M.: -87

Feature Identifier	Absolute Distance (ft)	Enbridge Chainage (ft)	Nearest U/S GWD	Dist to U/S GWD (ft)	Wall Thickness (in)	Description	Northing (m)	Easting (m)	Height (m)
GWD 270	440.42	464.5	260	26.05	.812	Master GW#270	5,078,820.20	674,539.47	139.26
GWD 280	466.53	490.6	270	26.11	.812	Master GW#280	5,078,818.45	674,547.23	139.21
GWD 290	494.10	518.2	280	27.56	.812	Master GW#290	5,078,816.63	674,555.43	139.13
GWD 300	522.08	546.2	290	27.98	.812	Master GW#300	5,078,814.78	674,563.75	139.02
BND 5	527.05	557.4	300	4.98	.812	31.7D Bend 11.8 RT	5,078,813.96	674,567.03	138.97
GWD 310	542.85	567.1	300	20.77	.812	Master GW#310	5,078,812.84	674,569.75	138.93
BND 6	548.10	582.4	310	5.25	.812	31.3D Bend 16.9 RT	5,078,810.44	674,573.73	138.91
GWD 320	571.03	595.3	310	28.18	.812	Master GW#320	5,078,807.79	674,576.63	138.90
BND 7	575.92	609.3	320	4.89	.812	32.8D Bend 15.0 RT	5,078,804.54	674,579.33	138.90
GWD 330	597.63	622.1	320	26.60	.812	Master GW#330	5,078,801.17	674,581.24	138.90
BND 8	601.19	634.8	330	3.55	.812	34.6D Bend 13.2 RT .5 Down	5,078,797.64	674,582.75	138.89
GWD 340	619.32	644.0	330	21.69	.812	Master GW#340	5,078,794.98	674,583.50	138.88
BND 9	621.25	657.5	340	1.92	.812	24.6D Bend 26.1 RT .6 Up	5,078,790.92	674,583.97	138.84
GWD 350	646.82	671.7	340	27.49	.812	Master GW#350	5,078,786.70	674,583.37	138.83
GWD 360	665.85	690.8	350	19.03	.812	Master GW#360	5,078,781.08	674,581.93	138.82
GWD 370	674.15	699.2	360	8.30	.812	Master GW#370	5,078,778.62	674,581.33	138.81
GWD 380	689.63	714.7	370	15.48	.812	Master GW#380	5,078,774.03	674,580.23	138.78
GWD 390	715.65	740.7	380	26.01	.812	Master GW#390	5,078,766.32	674,578.40	138.69
GWD 400	741.47	766.6	390	25.83	.812	Master GW#400	5,078,758.66	674,576.59	138.59
GWD 410	768.76	793.9	400	27.29	.812	Master GW#410	5,078,750.57	674,574.69	138.52
GWD 420	794.23	819.4	410	25.46	.812	Master GW#420	5,078,743.02	674,572.89	138.43
GWD 430	821.62	846.8	420	27.39	.812	Master GW#430	5,078,734.91	674,570.95	138.33
GWD 440	849.15	874.3	430	27.53	.812	Master GW#440	5,078,726.74	674,569.01	138.32
GWD 450	876.97	902.2	440	27.82	.812	Master GW#450	5,078,718.49	674,567.06	138.37
GWD 460	903.12	928.4	450	26.15	.812	Master GW#460	5,078,710.75	674,565.21	138.22
GWD 470	929.04	954.3	460	25.92	.812	Master GW#470	5,078,703.07	674,563.38	138.01
GWD 480	954.66	979.9	470	25.62	.812	Master GW#480	5,078,695.48	674,561.58	137.64
GWD 490	980.48	1,005.9	480	25.82	.812	Master GW#490	5,078,687.84	674,559.75	137.25
GWD 500	1,006.69	1,032.1	490	26.21	.812	Master GW#500	5,078,680.09	674,557.89	136.82
GWD 510	1,029.79	1,055.2	500	23.10	.812	Master GW#510	5,078,673.26	674,556.26	136.48
GWD 520	1,055.41	1,080.9	510	25.63	.812	Master GW#520	5,078,665.68	674,554.46	136.10
GWD 530	1,078.87	1,104.3	520	23.46	.812	Master GW#530	5,078,658.73	674,552.81	135.78

Pipeline Tally

Client: Enbridge Energy Limited Partnership | Run Date: July 31, 2013 | Projection: UTM | Zone: 16

Project: NPS 20 GEOPIG Geometry Inspection | Location: Line 5 Straights of Mackinac-East Loop | Datum: WGS 84 | C.M.: -87

Feature Identifier	Absolute Distance (ft)	Enbridge Chainage (ft)	Nearest U/S GWD	Dist to U/S GWD (ft)	Wall Thickness (in)	Description	Northing (m)	Easting (m)	Height (m)
GWD 540	1,107.02	1,132.5	530	28.15	.812	Master GW#540	5,078,650.39	674,550.83	135.53
GWD 550	1,133.79	1,159.4	540	26.77	.812	Master GW#550	5,078,642.46	674,548.94	135.44
GWD 560	1,154.79	1,180.4	550	21.00	.812	Master GW#560	5,078,636.24	674,547.45	135.40
GWD 570	1,178.58	1,204.2	560	23.78	.812	Master GW#570	5,078,629.20	674,545.72	135.34
GWD 580	1,204.36	1,230.0	570	25.79	.812	Master GW#580	5,078,621.58	674,543.81	135.25
GWD 590	1,232.03	1,257.8	580	27.66	.812	Master GW#590	5,078,613.40	674,541.75	135.22
GWD 600	1,255.64	1,281.3	590	23.62	.812	Master GW#600	5,078,606.42	674,540.02	135.22
GWD 610	1,281.89	1,307.5	600	26.25	.812	Master GW#610	5,078,598.66	674,538.09	135.12
GWD 620	1,309.35	1,335.1	610	27.46	.812	Master GW#620	5,078,590.54	674,536.07	135.00
GWD 630	1,335.57	1,361.3	620	26.22	.812	Master GW#630	5,078,582.79	674,534.14	134.93
GWD 640	1,362.99	1,388.8	630	27.42	.812	Master GW#640	5,078,574.67	674,532.16	134.90
GWD 650	1,388.75	1,414.6	640	25.76	.812	Master GW#650	5,078,567.03	674,530.35	134.97
GWD 660	1,416.73	1,442.6	650	27.99	.812	Master GW#660	5,078,558.73	674,528.40	135.08
GWD 670	1,443.83	1,469.7	660	27.10	.812	Master GW#670	5,078,550.71	674,526.45	135.04
GWD 680	1,464.50	1,490.4	670	20.67	.812	Master GW#680	5,078,544.59	674,524.96	135.00
GWD 690	1,491.34	1,517.4	680	26.83	.812	Master GW#690	5,078,536.65	674,523.02	134.88
GWD 700	1,513.65	1,539.7	690	22.31	.812	Master GW#700	5,078,530.04	674,521.43	134.75
GWD 710	1,541.28	1,567.5	700	27.63	.812	Master GW#710	5,078,521.86	674,519.45	134.66
GWD 720	1,565.27	1,591.5	710	23.99	.812	Master GW#720	5,078,514.75	674,517.74	134.52
GWD 730	1,592.36	1,618.6	720	27.10	.812	Master GW#730	5,078,506.74	674,515.81	134.22
GWD 740	1,620.28	1,646.5	730	27.91	.812	Master GW#740	5,078,498.48	674,513.83	133.85
GWD 750	1,646.62	1,672.9	740	26.34	.812	Master GW#750	5,078,490.69	674,511.96	133.50
GWD 760	1,672.84	1,699.1	750	26.22	.812	Master GW#760	5,078,482.93	674,510.09	133.16
GWD 770	1,699.79	1,726.1	760	26.95	.812	Master GW#770	5,078,474.96	674,508.20	132.69
GWD 780	1,724.87	1,751.2	770	25.08	.812	Master GW#780	5,078,467.54	674,506.43	132.25
GWD 790	1,745.47	1,771.8	780	20.60	.812	Master GW#790	5,078,461.45	674,504.95	131.91
GWD 800	1,769.10	1,795.4	790	23.62	.812	Master GW#800	5,078,454.48	674,503.24	131.51
GWD 810	1,796.13	1,822.5	800	27.03	.812	Master GW#810	5,078,446.49	674,501.29	131.11
GWD 820	1,821.85	1,848.3	810	25.72	.812	Master GW#820	5,078,438.89	674,499.41	130.83
GWD 830	1,849.64	1,876.1	820	27.79	.812	Master GW#830	5,078,430.67	674,497.38	130.60
GWD 840	1,874.77	1,901.3	830	25.13	.812	Master GW#840	5,078,423.23	674,495.57	130.51
GWD 850	1,901.15	1,927.6	840	26.38	.812	Master GW#850	5,078,415.41	674,493.72	130.54

Pipeline Tally

Client: Enbridge Energy Limited Partnership | Run Date: July 31, 2013 | Projection: UTM | Zone: 16

Project: NPS 20 GEOPIG Geometry Inspection | Location: Line 5 Straights of Mackinac-East Loop | Datum: WGS 84 | C.M.: -87

Feature Identifier	Absolute Distance (ft)	Enbridge Chainage (ft)	Nearest U/S GWD	Dist to U/S GWD (ft)	Wall Thickness (in)	Description	Northing (m)	Easting (m)	Height (m)
GWD 860	1,926.80	1,953.3	850	25.65	.812	Master GW#860	5,078,407.78	674,492.00	130.65
GWD 870	1,951.38	1,978.0	860	24.58	.812	Master GW#870	5,078,400.46	674,490.40	130.80
GWD 880	1,977.85	2,004.6	870	26.47	.812	Master GW#880	5,078,392.58	674,488.71	130.99
GWD 890	2,001.80	2,028.4	880	23.95	.812	Master GW#890	5,078,385.44	674,487.19	131.18
GWD 900	2,028.35	2,055.1	890	26.55	.812	Master GW#900	5,078,377.53	674,485.49	131.38
GWD 910	2,051.93	2,078.7	900	23.59	.812	Master GW#910	5,078,370.51	674,483.96	131.48
GWD 920	2,080.22	2,106.9	910	28.29	.812	Master GW#920	5,078,362.10	674,482.07	131.53
GWD 930	2,100.82	2,127.7	920	20.60	.812	Master GW#930	5,078,355.98	674,480.69	131.50
GWD 940	2,127.30	2,154.2	930	26.48	.812	Master GW#940	5,078,348.12	674,478.89	131.37
GWD 950	2,153.38	2,180.2	940	26.08	.812	Master GW#950	5,078,340.39	674,477.08	131.20
GWD 960	2,180.91	2,207.7	950	27.53	.812	Master GW#960	5,078,332.23	674,475.14	131.09
GWD 970	2,207.52	2,234.5	960	26.61	.812	Master GW#970	5,078,324.34	674,473.29	131.10
GWD 980	2,234.19	2,261.3	970	26.67	.812	Master GW#980	5,078,316.42	674,471.46	131.21
GWD 990	2,257.28	2,284.3	980	23.10	.812	Master GW#990	5,078,309.57	674,469.86	131.38
GWD 1000	2,284.58	2,311.6	990	27.30	.812	Master GW#1000	5,078,301.47	674,467.98	131.58
GWD 1010	2,312.07	2,339.2	1000	27.49	.812	Master GW#1010	5,078,293.32	674,466.07	131.71
GWD 1020	2,337.90	2,365.0	1010	25.82	.812	Master GW#1020	5,078,285.66	674,464.25	131.79
GWD 1030	2,358.10	2,385.2	1020	20.20	.812	Master GW#1030	5,078,279.67	674,462.82	131.84
GWD 1040	2,382.64	2,409.7	1030	24.54	.812	Master GW#1040	5,078,272.40	674,461.10	131.88
GWD 1050	2,409.42	2,436.5	1040	26.77	.812	Master GW#1050	5,078,264.45	674,459.23	131.95
GWD 1060	2,436.91	2,464.0	1050	27.49	.812	Master GW#1060	5,078,256.29	674,457.34	132.02
GWD 1070	2,464.50	2,491.7	1060	27.59	.812	Master GW#1070	5,078,248.09	674,455.49	132.10
GWD 1080	2,491.04	2,518.2	1070	26.54	.812	Master GW#1080	5,078,240.20	674,453.72	132.17
GWD 1090	2,518.77	2,545.9	1080	27.72	.812	Master GW#1090	5,078,231.97	674,451.86	132.18
GWD 1100	2,541.24	2,568.4	1090	22.47	.812	Master GW#1100	5,078,225.29	674,450.34	132.19
GWD 1110	2,563.88	2,591.1	1100	22.64	.812	Master GW#1110	5,078,218.57	674,448.79	132.22
GWD 1120	2,591.44	2,618.7	1110	27.56	.812	Master GW#1120	5,078,210.39	674,446.88	132.30
GWD 1130	2,614.37	2,641.6	1120	22.94	.812	Master GW#1130	5,078,203.60	674,445.26	132.41
GWD 1140	2,641.34	2,668.6	1130	26.97	.812	Master GW#1140	5,078,195.61	674,443.32	132.48
GWD 1150	2,668.80	2,696.0	1140	27.46	.812	Master GW#1150	5,078,187.48	674,441.36	132.53
GWD 1160	2,696.10	2,723.4	1150	27.30	.812	Master GW#1160	5,078,179.38	674,439.44	132.54
GWD 1170	2,716.04	2,743.4	1160	19.95	.812	Master GW#1170	5,078,173.47	674,438.02	132.55

Pipeline Tally

Client: Enbridge Energy Limited Partnership | Run Date: July 31, 2013 | Projection: UTM | Zone: 16

Project: NPS 20 GEOPIG Geometry Inspection | Location: Line 5 Straights of Mackinac-East Loop | Datum: WGS 84 | C.M.: -87

Feature Identifier	Absolute Distance (ft)	Enbridge Chainage (ft)	Nearest U/S GWD	Dist to U/S GWD (ft)	Wall Thickness (in)	Description	Northing (m)	Easting (m)	Height (m)
GWD 1180	2,742.03	2,769.5	1170	25.98	.812	Master GW#1180	5,078,165.79	674,436.13	132.56
GWD 1190	2,768.37	2,795.9	1180	26.35	.812	Master GW#1190	5,078,158.00	674,434.18	132.59
GWD 1200	2,794.09	2,821.6	1190	25.72	.812	Master GW#1200	5,078,150.39	674,432.30	132.63
GWD 1210	2,821.49	2,849.0	1200	27.40	.812	Master GW#1210	5,078,142.28	674,430.34	132.66
GWD 1220	2,847.41	2,875.0	1210	25.92	.812	Master GW#1220	5,078,134.60	674,428.51	132.63
GWD 1230	2,870.31	2,897.8	1220	22.90	.812	Master GW#1230	5,078,127.81	674,426.89	132.52
GWD 1240	2,896.49	2,924.0	1230	26.18	.812	Master GW#1240	5,078,120.05	674,425.04	132.36
GWD 1250	2,923.16	2,950.8	1240	26.67	.812	Master GW#1250	5,078,112.15	674,423.17	132.08
GWD 1260	2,950.00	2,977.6	1250	26.84	.812	Master GW#1260	5,078,104.21	674,421.25	131.74
GWD 1270	2,977.16	3,004.7	1260	27.16	.812	Master GW#1270	5,078,096.19	674,419.29	131.37
GWD 1280	3,004.13	3,031.8	1270	26.97	.812	Master GW#1280	5,078,088.21	674,417.36	130.98
GWD 1290	3,032.22	3,059.8	1280	28.08	.812	Master GW#1290	5,078,079.88	674,415.42	130.63
GWD 1300	3,053.94	3,081.6	1290	21.72	.812	Master GW#1300	5,078,073.44	674,413.94	130.45
GWD 1310	3,081.00	3,108.7	1300	27.07	.812	Master GW#1310	5,078,065.41	674,412.05	130.34
GWD 1320	3,107.22	3,135.0	1310	26.21	.812	Master GW#1320	5,078,057.64	674,410.21	130.37
GWD 1330	3,134.29	3,162.0	1320	27.07	.812	Master GW#1330	5,078,049.61	674,408.32	130.39
GWD 1340	3,161.03	3,188.8	1330	26.74	.812	Master GW#1340	5,078,041.68	674,406.46	130.34
GWD 1350	3,183.07	3,210.8	1340	22.05	.812	Master GW#1350	5,078,035.14	674,404.94	130.26
GWD 1360	3,210.27	3,238.0	1350	27.20	.812	Master GW#1360	5,078,027.07	674,403.04	130.17
GWD 1370	3,232.84	3,260.7	1360	22.57	.812	Master GW#1370	5,078,020.38	674,401.46	130.10
GWD 1380	3,258.47	3,286.2	1370	25.62	.812	Master GW#1380	5,078,012.78	674,399.66	130.01
GWD 1390	3,281.46	3,309.4	1380	23.00	.812	Master GW#1390	5,078,005.97	674,398.04	129.90
GWD 1400	3,309.12	3,336.9	1390	27.66	.812	Master GW#1400	5,077,997.78	674,396.07	129.69
GWD 1410	3,334.84	3,362.7	1400	25.72	.812	Master GW#1410	5,077,990.18	674,394.18	129.42
GWD 1420	3,359.52	3,387.5	1410	24.67	.812	Master GW#1420	5,077,982.88	674,392.39	129.25
GWD 1430	3,384.68	3,412.6	1420	25.16	.812	Master GW#1430	5,077,975.42	674,390.64	129.24
GWD 1440	3,404.17	3,432.1	1430	19.49	.812	Master GW#1440	5,077,969.63	674,389.31	129.28
GWD 1450	3,428.38	3,456.4	1440	24.21	.812	Master GW#1450	5,077,962.44	674,387.66	129.31
GWD 1460	3,455.87	3,483.8	1450	27.49	.812	Master GW#1460	5,077,954.27	674,385.79	129.37
GWD 1470	3,482.94	3,511.0	1460	27.07	.812	Master GW#1470	5,077,946.24	674,383.94	129.38
GWD 1480	3,509.81	3,537.8	1470	26.87	.812	Master GW#1480	5,077,938.27	674,382.07	129.35
GWD 1490	3,537.21	3,565.2	1480	27.40	.812	Master GW#1490	5,077,930.14	674,380.17	129.31

Pipeline Tally

Client: Enbridge Energy Limited Partnership | Run Date: July 31, 2013 | Projection: UTM | Zone: 16

Project: NPS 20 GEOPIG Geometry Inspection | Location: Line 5 Straights of Mackinac-East Loop | Datum: WGS 84 | C.M.: -87

Feature Identifier	Absolute Distance (ft)	Enbridge Chainage (ft)	Nearest U/S GWD	Dist to U/S GWD (ft)	Wall Thickness (in)	Description	Northing (m)	Easting (m)	Height (m)
GWD 1500	3,554.53	3,582.6	1490	17.32	.812	Master GW#1500	5,077,925.01	674,378.94	129.27
GWD 1510	3,581.43	3,609.5	1500	26.90	.812	Master GW#1510	5,077,917.05	674,377.00	129.20
GWD 1520	3,606.07	3,634.2	1510	24.64	.812	Master GW#1520	5,077,909.75	674,375.26	129.14
GWD 1530	3,630.58	3,658.7	1520	24.51	.812	Master GW#1530	5,077,902.48	674,373.56	129.15
GWD 1540	3,652.95	3,681.0	1530	22.37	.812	Master GW#1540	5,077,895.84	674,372.01	129.17
GWD 1550	3,677.36	3,705.5	1540	24.41	.812	Master GW#1550	5,077,888.60	674,370.27	129.14
GWD 1560	3,701.41	3,729.5	1550	24.05	.812	Master GW#1560	5,077,881.48	674,368.58	129.09
GWD 1570	3,728.58	3,756.8	1560	27.17	.812	Master GW#1570	5,077,873.42	674,366.69	128.99
GWD 1580	3,750.72	3,778.8	1570	22.14	.812	Master GW#1580	5,077,866.85	674,365.14	128.89
GWD 1590	3,774.74	3,802.9	1580	24.02	.812	Master GW#1590	5,077,859.73	674,363.47	128.79
GWD 1600	3,801.25	3,829.4	1590	26.51	.812	Master GW#1600	5,077,851.86	674,361.64	128.62
GWD 1610	3,827.53	3,855.7	1600	26.28	.812	Master GW#1610	5,077,844.07	674,359.83	128.43
GWD 1620	3,849.51	3,877.8	1610	21.98	.812	Master GW#1620	5,077,837.55	674,358.31	128.25
GWD 1630	3,875.79	3,904.1	1620	26.28	.812	Master GW#1630	5,077,829.75	674,356.50	128.03
GWD 1640	3,902.49	3,930.8	1630	26.71	.812	Master GW#1640	5,077,821.85	674,354.59	127.75
GWD 1650	3,921.92	3,950.3	1640	19.42	.812	Master GW#1650	5,077,816.11	674,353.18	127.53
GWD 1660	3,948.06	3,976.5	1650	26.15	.812	Master GW#1660	5,077,808.37	674,351.31	127.26
GWD 1670	3,974.54	4,003.0	1660	26.48	.812	Master GW#1670	5,077,800.52	674,349.46	127.07
GWD 1680	3,999.90	4,028.4	1670	25.36	.812	Master GW#1680	5,077,793.00	674,347.68	126.94
GWD 1690	4,026.15	4,054.7	1680	26.24	.812	Master GW#1690	5,077,785.22	674,345.86	126.84
GWD 1700	4,052.63	4,081.2	1690	26.48	.812	Master GW#1700	5,077,777.36	674,344.02	126.76
GWD 1710	4,079.92	4,108.5	1700	27.30	.812	Master GW#1710	5,077,769.26	674,342.14	126.65
GWD 1720	4,104.43	4,133.0	1710	24.51	.812	Master GW#1720	5,077,761.99	674,340.43	126.55
GWD 1730	4,122.25	4,150.9	1720	17.82	.812	Master GW#1730	5,077,756.71	674,339.16	126.45
GWD 1740	4,139.93	4,168.5	1730	17.68	.812	Master GW#1740	5,077,751.48	674,337.91	126.33
GWD 1750	4,167.29	4,196.0	1740	27.37	.812	Master GW#1750	5,077,743.36	674,336.01	126.09
GWD 1760	4,193.18	4,221.8	1750	25.88	.812	Master GW#1760	5,077,735.69	674,334.18	125.82
GWD 1770	4,215.75	4,244.5	1760	22.57	.812	Master GW#1770	5,077,729.02	674,332.56	125.52
GWD 1780	4,243.31	4,272.1	1770	27.56	.812	Master GW#1780	5,077,720.88	674,330.58	124.98
GWD 1790	4,265.91	4,294.8	1780	22.61	.812	Master GW#1790	5,077,714.23	674,328.91	124.38
GWD 1800	4,292.55	4,321.4	1790	26.64	.812	Master GW#1800	5,077,706.39	674,326.96	123.64
GWD 1810	4,316.27	4,345.2	1800	23.72	.812	Master GW#1810	5,077,699.40	674,325.23	122.99

Pipeline Tally

Client: Enbridge Energy Limited Partnership | Run Date: July 31, 2013 | Projection: UTM | Zone: 16

Project: NPS 20 GEOPIG Geometry Inspection | Location: Line 5 Straights of Mackinac-East Loop | Datum: WGS 84 | C.M.: -87

Feature Identifier	Absolute Distance (ft)	Enbridge Chainage (ft)	Nearest U/S GWD	Dist to U/S GWD (ft)	Wall Thickness (in)	Description	Northing (m)	Easting (m)	Height (m)
GWD 1820	4,339.86	4,368.7	1810	23.58	.812	Master GW#1820	5,077,692.46	674,323.49	122.36
GWD 1830	4,367.43	4,396.3	1820	27.57	.812	Master GW#1830	5,077,684.34	674,321.46	121.67
GWD 1840	4,392.91	4,421.7	1830	25.48	.812	Master GW#1840	5,077,676.84	674,319.56	121.10
GWD 1850	4,420.09	4,449.0	1840	27.17	.812	Master GW#1850	5,077,668.84	674,317.52	120.54
BND 10	4,425.23	4,456.6	1850	5.15	.812	79.7D Bend 1.5 Up	5,077,666.59	674,316.95	120.42
GWD 1860	4,446.29	4,475.2	1850	26.21	.812	Master GW#1860	5,077,661.11	674,315.51	120.30
GWD 1870	4,473.29	4,502.3	1860	27.00	.812	Master GW#1870	5,077,653.15	674,313.45	120.20
GWD 1880	4,499.87	4,528.8	1870	26.58	.812	Master GW#1880	5,077,645.31	674,311.42	120.10
GWD 1890	4,522.64	4,551.7	1880	22.77	.812	Master GW#1890	5,077,638.60	674,309.68	120.01
BND 11	4,539.77	4,571.1	1890	17.13	.812	50.1D Bend 1.9 LT	5,077,632.86	674,308.29	119.95
GWD 1900	4,545.86	4,574.9	1890	23.22	.812	Master GW#1900	5,077,631.71	674,308.06	119.94
GWD 1910	4,571.69	4,600.7	1900	25.82	.812	Master GW#1910	5,077,623.99	674,306.53	119.92
GWD 1920	4,598.75	4,627.9	1910	27.07	.812	Master GW#1920	5,077,615.92	674,304.85	119.89
GWD 1930	4,625.16	4,654.2	1920	26.41	.812	Master GW#1930	5,077,608.07	674,303.10	119.81
GWD 1940	4,652.33	4,681.5	1930	27.17	.812	Master GW#1940	5,077,600.01	674,301.21	119.63
GWD 1950	4,679.30	4,708.5	1940	26.97	.812	Master GW#1950	5,077,591.98	674,299.45	119.49
GWD 1960	4,705.22	4,734.5	1950	25.92	.812	Master GW#1960	5,077,584.28	674,297.72	119.39
GWD 1970	4,732.25	4,761.5	1960	27.03	.812	Master GW#1970	5,077,576.24	674,295.92	119.34
GWD 1980	4,759.25	4,788.5	1970	27.00	.812	Master GW#1980	5,077,568.23	674,294.08	119.32
GWD 1990	4,786.58	4,815.8	1980	27.33	.812	Master GW#1990	5,077,560.12	674,292.18	119.30
GWD 2000	4,813.62	4,842.9	1990	27.03	.812	Master GW#2000	5,077,552.11	674,290.27	119.24
GWD 2010	4,838.02	4,867.4	2000	24.41	.812	Master GW#2010	5,077,544.87	674,288.54	119.20
GWD 2020	4,860.76	4,890.1	2010	22.74	.812	Master GW#2020	5,077,538.13	674,286.94	119.17
GWD 2030	4,886.82	4,916.3	2020	26.06	.812	Master GW#2030	5,077,530.40	674,285.12	119.12
GWD 2040	4,913.32	4,942.8	2030	26.50	.812	Master GW#2040	5,077,522.55	674,283.24	119.06
GWD 2050	4,940.95	4,970.4	2040	27.63	.812	Master GW#2050	5,077,514.36	674,281.29	119.00
GWD 2060	4,962.40	4,991.9	2050	21.45	.812	Master GW#2060	5,077,508.00	674,279.79	118.89
GWD 2070	4,989.44	5,018.9	2060	27.04	.812	Master GW#2070	5,077,499.98	674,277.92	118.80
GWD 2080	5,017.23	5,046.7	2070	27.79	.812	Master GW#2080	5,077,491.74	674,275.97	118.75
GWD 2090	5,044.59	5,074.1	2080	27.36	.812	Master GW#2090	5,077,483.63	674,274.05	118.69
GWD 2100	5,072.08	5,101.6	2090	27.50	.812	Master GW#2100	5,077,475.49	674,272.08	118.73
GWD 2110	5,097.70	5,127.2	2100	25.62	.812	Master GW#2110	5,077,467.91	674,270.24	118.85

Pipeline Tally

Client: Enbridge Energy Limited Partnership | Run Date: July 31, 2013 | Projection: UTM | Zone: 16

Project: NPS 20 GEOPIG Geometry Inspection | Location: Line 5 Straights of Mackinac-East Loop | Datum: WGS 84 | C.M.: -87

Feature Identifier	Absolute Distance (ft)	Enbridge Chainage (ft)	Nearest U/S GWD	Dist to U/S GWD (ft)	Wall Thickness (in)	Description	Northing (m)	Easting (m)	Height (m)
GWD 2120	5,120.54	5,150.2	2110	22.84	.812	Master GW#2120	5,077,461.14	674,268.62	118.92
GWD 2130	5,141.37	5,171.0	2120	20.83	.812	Master GW#2130	5,077,454.97	674,267.15	118.97
GWD 2140	5,166.34	5,196.0	2130	24.97	.812	Master GW#2140	5,077,447.57	674,265.37	119.00
GWD 2150	5,194.29	5,224.0	2140	27.95	.812	Master GW#2150	5,077,439.29	674,263.37	119.00
GWD 2160	5,212.11	5,241.8	2150	17.81	.812	Master GW#2160	5,077,434.01	674,262.12	119.00
GWD 2170	5,240.42	5,270.1	2160	28.31	.812	Master GW#2170	5,077,425.61	674,260.17	119.00
GWD 2180	5,266.01	5,295.8	2170	25.59	.812	Master GW#2180	5,077,418.01	674,258.41	119.01
GWD 2190	5,289.80	5,319.6	2180	23.79	.812	Master GW#2190	5,077,410.96	674,256.75	119.02
GWD 2200	5,315.82	5,345.6	2190	26.02	.812	Master GW#2200	5,077,403.24	674,254.93	119.00
GWD 2210	5,335.95	5,365.8	2200	20.13	.812	Master GW#2210	5,077,397.27	674,253.55	118.96
GWD 2220	5,363.49	5,393.4	2210	27.54	.812	Master GW#2220	5,077,389.11	674,251.58	118.93
GWD 2230	5,390.91	5,420.7	2220	27.42	.812	Master GW#2230	5,077,380.99	674,249.60	118.91
GWD 2240	5,413.48	5,443.3	2230	22.57	.812	Master GW#2240	5,077,374.31	674,248.00	118.96
GWD 2250	5,441.18	5,471.0	2240	27.69	.812	Master GW#2250	5,077,366.10	674,246.03	119.00
GWD 2260	5,465.65	5,495.6	2250	24.48	.812	Master GW#2260	5,077,358.85	674,244.29	119.03
GWD 2270	5,491.34	5,521.3	2260	25.69	.812	Master GW#2270	5,077,351.24	674,242.47	119.05
GWD 2280	5,516.37	5,546.3	2270	25.03	.812	Master GW#2280	5,077,343.82	674,240.72	119.06
GWD 2290	5,543.96	5,573.9	2280	27.59	.812	Master GW#2290	5,077,335.63	674,238.80	119.10
GWD 2300	5,568.24	5,598.3	2290	24.28	.812	Master GW#2300	5,077,328.43	674,237.10	119.16
GWD 2310	5,590.78	5,620.8	2300	22.54	.812	Master GW#2310	5,077,321.76	674,235.46	119.21
GWD 2320	5,615.13	5,645.1	2310	24.35	.812	Master GW#2320	5,077,314.56	674,233.69	119.24
GWD 2330	5,639.99	5,670.0	2320	24.86	.812	Master GW#2330	5,077,307.20	674,231.91	119.25
GWD 2340	5,664.96	5,695.0	2330	24.97	.812	Master GW#2340	5,077,299.79	674,230.19	119.32
GWD 2350	5,689.76	5,719.9	2340	24.80	.812	Master GW#2350	5,077,292.42	674,228.50	119.40
GWD 2360	5,714.90	5,744.9	2350	25.13	.812	Master GW#2360	5,077,284.96	674,226.79	119.49
GWD 2370	5,740.68	5,770.9	2360	25.78	.812	Master GW#2370	5,077,277.30	674,225.03	119.56
GWD 2380	5,768.34	5,798.4	2370	27.66	.812	Master GW#2380	5,077,269.09	674,223.13	119.64
GWD 2390	5,790.94	5,821.2	2380	22.60	.812	Master GW#2390	5,077,262.38	674,221.59	119.73
GWD 2400	5,815.26	5,845.6	2390	24.31	.812	Master GW#2400	5,077,255.16	674,219.91	119.80
GWD 2410	5,841.67	5,871.9	2400	26.41	.812	Master GW#2410	5,077,247.33	674,218.08	119.85
GWD 2420	5,869.10	5,899.4	2410	27.43	.812	Master GW#2420	5,077,239.19	674,216.18	119.88
GWD 2430	5,895.86	5,926.1	2420	26.77	.812	Master GW#2430	5,077,231.25	674,214.33	119.92

Pipeline Tally

Client: Enbridge Energy Limited Partnership | Run Date: July 31, 2013 | Projection: UTM | Zone: 16

Project: NPS 20 GEOPIG Geometry Inspection | Location: Line 5 Straights of Mackinac-East Loop | Datum: WGS 84 | C.M.: -87

Feature Identifier	Absolute Distance (ft)	Enbridge Chainage (ft)	Nearest U/S GWD	Dist to U/S GWD (ft)	Wall Thickness (in)	Description	Northing (m)	Easting (m)	Height (m)
GWD 2440	5,922.67	5,953.0	2430	26.81	.812	Master GW#2440	5,077,223.30	674,212.48	119.92
GWD 2450	5,947.05	5,977.5	2440	24.38	.812	Master GW#2450	5,077,216.06	674,210.81	119.88
GWD 2460	5,974.31	6,004.7	2450	27.27	.812	Master GW#2460	5,077,207.96	674,208.95	119.82
GWD 2470	6,001.90	6,032.3	2460	27.59	.812	Master GW#2470	5,077,199.78	674,207.06	119.70
GWD 2480	6,028.38	6,058.8	2470	26.48	.812	Master GW#2480	5,077,191.92	674,205.23	119.58
GWD 2490	6,055.35	6,085.8	2480	26.97	.812	Master GW#2490	5,077,183.91	674,203.38	119.49
GWD 2500	6,079.69	6,110.2	2490	24.35	.812	Master GW#2500	5,077,176.69	674,201.69	119.43
GWD 2510	6,105.48	6,135.9	2500	25.79	.812	Master GW#2510	5,077,169.04	674,199.91	119.39
GWD 2520	6,132.09	6,162.5	2510	26.61	.812	Master GW#2520	5,077,161.15	674,198.06	119.31
GWD 2530	6,156.49	6,187.0	2520	24.40	.812	Master GW#2530	5,077,153.91	674,196.35	119.20
GWD 2540	6,182.48	6,212.9	2530	25.99	.812	Master GW#2540	5,077,146.22	674,194.50	119.05
GWD 2550	6,206.43	6,237.0	2540	23.95	.812	Master GW#2550	5,077,139.12	674,192.80	118.89
GWD 2560	6,233.46	6,264.0	2550	27.03	.812	Master GW#2560	5,077,131.12	674,190.87	118.66
GWD 2570	6,257.52	6,288.1	2560	24.06	.812	Master GW#2570	5,077,124.00	674,189.17	118.40
GWD 2580	6,284.09	6,314.6	2570	26.57	.812	Master GW#2580	5,077,116.14	674,187.27	118.05
GWD 2590	6,311.09	6,341.7	2580	27.00	.812	Master GW#2590	5,077,108.16	674,185.34	117.62
GWD 2600	6,336.19	6,366.8	2590	25.10	.812	Master GW#2600	5,077,100.74	674,183.55	117.14
GWD 2610	6,363.85	6,394.5	2600	27.66	.812	Master GW#2610	5,077,092.57	674,181.57	116.54
GWD 2620	6,391.18	6,421.8	2610	27.33	.812	Master GW#2620	5,077,084.52	674,179.59	115.88
GWD 2630	6,416.21	6,446.9	2620	25.03	.812	Master GW#2630	5,077,077.14	674,177.76	115.20
GWD 2640	6,439.27	6,470.0	2630	23.07	.812	Master GW#2640	5,077,070.35	674,176.08	114.53
GWD 2650	6,465.36	6,496.1	2640	26.08	.812	Master GW#2650	5,077,062.68	674,174.18	113.72
GWD 2660	6,491.53	6,522.3	2650	26.18	.812	Master GW#2660	5,077,054.98	674,172.28	112.89
GWD 2670	6,518.93	6,549.7	2660	27.40	.812	Master GW#2670	5,077,046.93	674,170.29	111.99
GWD 2680	6,543.70	6,574.5	2670	24.77	.812	Master GW#2680	5,077,039.65	674,168.50	111.14
GWD 2690	6,568.87	6,599.7	2680	25.16	.812	Master GW#2690	5,077,032.26	674,166.68	110.20
GWD 2700	6,596.26	6,627.2	2690	27.40	.812	Master GW#2700	5,077,024.23	674,164.71	109.11
GWD 2710	6,623.26	6,654.1	2700	27.00	.812	Master GW#2710	5,077,016.31	674,162.77	108.03
GWD 2720	6,651.08	6,682.0	2710	27.82	.812	Master GW#2720	5,077,008.14	674,160.77	106.97
GWD 2730	6,676.45	6,707.4	2720	25.36	.812	Master GW#2730	5,077,000.71	674,158.92	105.96
GWD 2740	6,701.70	6,732.7	2730	25.26	.812	Master GW#2740	5,076,993.30	674,157.08	105.01
GWD 2750	6,726.11	6,757.1	2740	24.41	.812	Master GW#2750	5,076,986.12	674,155.32	104.17

Pipeline Tally

Client: Enbridge Energy Limited Partnership | Run Date: July 31, 2013 | Projection: UTM | Zone: 16

Project: NPS 20 GEOPIG Geometry Inspection | Location: Line 5 Straights of Mackinac-East Loop | Datum: WGS 84 | C.M.: -87

Feature Identifier	Absolute Distance (ft)	Enbridge Chainage (ft)	Nearest U/S GWD	Dist to U/S GWD (ft)	Wall Thickness (in)	Description	Northing (m)	Easting (m)	Height (m)
GWD 2760	6,753.55	6,784.6	2750	27.43	.812	Master GW#2760	5,076,978.06	674,153.34	103.25
GWD 2770	6,781.14	6,812.2	2760	27.59	.812	Master GW#2770	5,076,969.96	674,151.34	102.27
GWD 2780	6,808.53	6,839.7	2770	27.39	.812	Master GW#2780	5,076,961.91	674,149.36	101.26
GWD 2790	6,835.11	6,866.1	2780	26.58	.812	Master GW#2790	5,076,954.11	674,147.45	100.24
GWD 2800	6,862.33	6,893.5	2790	27.23	.812	Master GW#2800	5,076,946.12	674,145.50	99.19
GWD 2810	6,889.57	6,920.7	2800	27.23	.812	Master GW#2810	5,076,938.13	674,143.56	98.11
GWD 2820	6,915.85	6,947.0	2810	26.28	.812	Master GW#2820	5,076,930.42	674,141.68	97.04
GWD 2830	6,942.32	6,973.4	2820	26.48	.812	Master GW#2830	5,076,922.66	674,139.78	95.92
GWD 2840	6,968.84	7,000.0	2830	26.51	.812	Master GW#2840	5,076,914.92	674,137.87	94.69
GWD 2850	6,994.52	7,025.6	2840	25.69	.812	Master GW#2850	5,076,907.41	674,136.03	93.43
GWD 2860	7,020.11	7,051.2	2850	25.59	.812	Master GW#2860	5,076,899.94	674,134.20	92.19
GWD 2870	7,044.09	7,075.3	2860	23.98	.812	Master GW#2870	5,076,892.93	674,132.49	91.08
GWD 2880	7,070.83	7,102.0	2870	26.74	.812	Master GW#2880	5,076,885.09	674,130.60	89.89
GWD 2890	7,098.10	7,129.3	2880	27.26	.812	Master GW#2890	5,076,877.10	674,128.65	88.75
GWD 2900	7,123.99	7,155.3	2890	25.89	.812	Master GW#2900	5,076,869.52	674,126.79	87.69
GWD 2910	7,148.42	7,179.7	2900	24.44	.812	Master GW#2910	5,076,862.35	674,125.03	86.69
GWD 2920	7,173.69	7,205.0	2910	25.26	.812	Master GW#2920	5,076,854.94	674,123.23	85.69
GWD 2930	7,196.72	7,228.0	2920	23.03	.812	Master GW#2930	5,076,848.18	674,121.59	84.79
GWD 2940	7,221.95	7,253.3	2930	25.23	.812	Master GW#2940	5,076,840.77	674,119.81	83.83
GWD 2950	7,244.69	7,276.0	2940	22.74	.812	Master GW#2950	5,076,834.10	674,118.17	82.94
GWD 2960	7,270.51	7,301.9	2950	25.82	.812	Master GW#2960	5,076,826.52	674,116.32	81.94
GWD 2970	7,298.49	7,329.9	2960	27.98	.812	Master GW#2970	5,076,818.32	674,114.30	80.77
GWD 2980	7,324.90	7,356.3	2970	26.42	.812	Master GW#2980	5,076,810.58	674,112.40	79.64
GWD 2990	7,351.77	7,383.1	2980	26.87	.812	Master GW#2990	5,076,802.70	674,110.48	78.53
GWD 3000	7,377.69	7,409.1	2990	25.92	.812	Master GW#3000	5,076,795.09	674,108.62	77.53
GWD 3010	7,402.66	7,434.1	3000	24.97	.812	Master GW#3010	5,076,787.75	674,106.84	76.65
GWD 3020	7,428.48	7,459.9	3010	25.82	.812	Master GW#3020	5,076,780.14	674,105.01	75.83
GWD 3030	7,455.68	7,487.1	3020	27.20	.812	Master GW#3030	5,076,772.12	674,103.08	75.10
GWD 3040	7,481.50	7,512.9	3030	25.82	.812	Master GW#3040	5,076,764.49	674,101.26	74.53
GWD 3050	7,507.71	7,539.1	3040	26.21	.812	Master GW#3050	5,076,756.74	674,099.40	74.08
GWD 3060	7,535.34	7,566.8	3050	27.63	.812	Master GW#3060	5,076,748.57	674,097.42	73.74
GWD 3070	7,561.55	7,592.9	3060	26.21	.812	Master GW#3070	5,076,740.82	674,095.54	73.53

Pipeline Tally

Client: Enbridge Energy Limited Partnership | Run Date: July 31, 2013 | Projection: UTM | Zone: 16

Project: NPS 20 GEOPIG Geometry Inspection | Location: Line 5 Straights of Mackinac-East Loop | Datum: WGS 84 | C.M.: -87

Feature Identifier	Absolute Distance (ft)	Enbridge Chainage (ft)	Nearest U/S GWD	Dist to U/S GWD (ft)	Wall Thickness (in)	Description	Northing (m)	Easting (m)	Height (m)
GWD 3080	7,588.13	7,619.7	3070	26.58	.812	Master GW#3080	5,076,732.96	674,093.61	73.38
GWD 3090	7,615.06	7,646.6	3080	26.93	.812	Master GW#3090	5,076,724.99	674,091.64	73.28
GWD 3100	7,642.35	7,673.9	3090	27.29	.812	Master GW#3100	5,076,716.92	674,089.63	73.23
GWD 3110	7,668.41	7,700.0	3100	26.05	.812	Master GW#3110	5,076,709.21	674,087.76	73.23
GWD 3120	7,695.05	7,726.6	3110	26.64	.812	Master GW#3120	5,076,701.32	674,085.86	73.27
GWD 3130	7,713.49	7,745.0	3120	18.44	.812	Master GW#3130	5,076,695.86	674,084.55	73.31
GWD 3140	7,730.09	7,761.8	3130	16.60	.812	Master GW#3140	5,076,690.94	674,083.38	73.36
GWD 3150	7,756.56	7,788.3	3140	26.48	.812	Master GW#3150	5,076,683.09	674,081.52	73.40
GWD 3160	7,776.77	7,808.5	3150	20.21	.812	Master GW#3160	5,076,677.09	674,080.12	73.42
GWD 3170	7,802.59	7,834.3	3160	25.82	.812	Master GW#3170	5,076,669.43	674,078.33	73.46
GWD 3180	7,831.20	7,862.9	3170	28.61	.812	Master GW#3180	5,076,660.95	674,076.33	73.50
GWD 3190	7,858.01	7,889.7	3180	26.80	.812	Master GW#3190	5,076,653.00	674,074.44	73.52
GWD 3200	7,875.76	7,907.5	3190	17.75	.812	Master GW#3200	5,076,647.74	674,073.18	73.51
GWD 3210	7,901.67	7,933.4	3200	25.92	.812	Master GW#3210	5,076,640.06	674,071.34	73.50
GWD 3220	7,927.69	7,959.5	3210	26.02	.812	Master GW#3220	5,076,632.35	674,069.51	73.50
GWD 3230	7,954.13	7,985.9	3220	26.44	.812	Master GW#3230	5,076,624.51	674,067.65	73.51
GWD 3240	7,975.53	8,007.4	3230	21.39	.812	Master GW#3240	5,076,618.17	674,066.13	73.51
GWD 3250	8,001.83	8,033.7	3240	26.31	.812	Master GW#3250	5,076,610.38	674,064.25	73.49
GWD 3260	8,024.85	8,056.7	3250	23.01	.812	Master GW#3260	5,076,603.56	674,062.62	73.46
GWD 3270	8,042.87	8,074.7	3260	18.02	.812	Master GW#3270	5,076,598.22	674,061.35	73.45
GWD 3280	8,070.51	8,102.4	3270	27.63	.812	Master GW#3280	5,076,590.03	674,059.39	73.41
GWD 3290	8,097.41	8,129.3	3280	26.90	.812	Master GW#3290	5,076,582.06	674,057.49	73.32
GWD 3300	8,124.08	8,156.0	3290	26.67	.812	Master GW#3300	5,076,574.16	674,055.60	73.16
GWD 3310	8,150.56	8,182.6	3300	26.48	.812	Master GW#3310	5,076,566.31	674,053.72	72.95
GWD 3320	8,174.51	8,206.5	3310	23.95	.812	Master GW#3320	5,076,559.22	674,052.03	72.72
GWD 3330	8,198.98	8,231.0	3320	24.47	.812	Master GW#3330	5,076,551.97	674,050.32	72.39
GWD 3340	8,224.64	8,256.7	3330	25.66	.812	Master GW#3340	5,076,544.39	674,048.51	71.91
GWD 3350	8,251.58	8,283.7	3340	26.94	.812	Master GW#3350	5,076,536.42	674,046.63	71.42
GWD 3360	8,270.24	8,302.3	3350	18.67	.812	Master GW#3360	5,076,530.89	674,045.33	71.10
GWD 3370	8,297.34	8,329.4	3360	27.10	.812	Master GW#3370	5,076,522.87	674,043.42	70.72
GWD 3380	8,321.13	8,353.2	3370	23.79	.812	Master GW#3380	5,076,515.83	674,041.74	70.46
GWD 3390	8,340.55	8,372.6	3380	19.42	.812	Master GW#3390	5,076,510.07	674,040.38	70.30

Pipeline Tally

Client: Enbridge Energy Limited Partnership | Run Date: July 31, 2013 | Projection: UTM | Zone: 16

Project: NPS 20 GEOPIG Geometry Inspection | Location: Line 5 Straights of Mackinac-East Loop | Datum: WGS 84 | C.M.: -87

Feature Identifier	Absolute Distance (ft)	Enbridge Chainage (ft)	Nearest U/S GWD	Dist to U/S GWD (ft)	Wall Thickness (in)	Description	Northing (m)	Easting (m)	Height (m)
GWD 3400	8,368.02	8,400.1	3390	27.46	.812	Master GW#3400	5,076,501.93	674,038.45	70.15
GWD 3410	8,395.28	8,427.4	3400	27.26	.812	Master GW#3410	5,076,493.84	674,036.57	70.11
GWD 3420	8,423.19	8,455.3	3410	27.91	.812	Master GW#3420	5,076,485.56	674,034.64	70.16
GWD 3430	8,449.12	8,481.8	3420	25.94	.812	Master GW#3430	5,076,477.86	674,032.85	70.23
GWD 3440	8,472.99	8,505.2	3430	23.87	.812	Master GW#3440	5,076,470.78	674,031.19	70.28
GWD 3450	8,498.33	8,530.5	3440	25.33	.812	Master GW#3450	5,076,463.27	674,029.42	70.31
GWD 3460	8,525.53	8,557.7	3450	27.20	.812	Master GW#3460	5,076,455.20	674,027.52	70.33
GWD 3470	8,551.92	8,584.1	3460	26.40	.812	Master GW#3470	5,076,447.38	674,025.67	70.33
GWD 3480	8,572.24	8,604.4	3470	20.32	.812	Master GW#3480	5,076,441.35	674,024.24	70.29
GWD 3490	8,599.39	8,631.7	3480	27.15	.812	Master GW#3490	5,076,433.31	674,022.34	70.16
GWD 3500	8,627.13	8,659.4	3490	27.74	.812	Master GW#3500	5,076,425.08	674,020.41	69.97
GWD 3510	8,654.79	8,687.0	3500	27.66	.812	Master GW#3510	5,076,416.89	674,018.46	69.79
GWD 3520	8,681.99	8,714.3	3510	27.20	.812	Master GW#3520	5,076,408.84	674,016.52	69.59
GWD 3530	8,706.86	8,739.1	3520	24.87	.812	Master GW#3530	5,076,401.48	674,014.73	69.42
GWD 3540	8,731.10	8,763.4	3530	24.25	.812	Master GW#3540	5,076,394.31	674,013.00	69.30
GWD 3550	8,752.82	8,785.1	3540	21.72	.812	Master GW#3550	5,076,387.87	674,011.46	69.26
GWD 3560	8,772.47	8,804.8	3550	19.65	.812	Master GW#3560	5,076,382.04	674,010.09	69.31
GWD 3570	8,799.41	8,831.8	3560	26.94	.812	Master GW#3570	5,076,374.06	674,008.19	69.52
GWD 3580	8,827.16	8,859.5	3570	27.75	.812	Master GW#3580	5,076,365.83	674,006.26	69.87
GWD 3590	8,854.27	8,886.7	3580	27.10	.812	Master GW#3590	5,076,357.80	674,004.38	70.32
GWD 3600	8,882.35	8,914.8	3590	28.08	.812	Master GW#3600	5,076,349.48	674,002.45	70.91
GWD 3610	8,907.32	8,939.8	3600	24.97	.812	Master GW#3610	5,076,342.10	674,000.73	71.59
GWD 3620	8,934.45	8,967.0	3610	27.13	.812	Master GW#3620	5,076,334.11	673,998.88	72.50
GWD 3630	8,958.79	8,991.3	3620	24.34	.812	Master GW#3630	5,076,326.94	673,997.23	73.42
GWD 3640	8,982.84	9,015.4	3630	24.05	.812	Master GW#3640	5,076,319.88	673,995.61	74.50
GWD 3650	9,006.63	9,039.2	3640	23.78	.812	Master GW#3650	5,076,312.91	673,994.00	75.69
GWD 3660	9,033.04	9,065.7	3650	26.41	.812	Master GW#3660	5,076,305.19	673,992.23	77.13
GWD 3670	9,058.33	9,091.0	3660	25.30	.812	Master GW#3670	5,076,297.82	673,990.51	78.62
GWD 3680	9,080.11	9,112.8	3670	21.78	.812	Master GW#3680	5,076,291.49	673,989.02	80.00
GWD 3690	9,107.71	9,140.5	3680	27.60	.812	Master GW#3690	5,076,283.49	673,987.11	81.79
GWD 3700	9,134.81	9,167.7	3690	27.10	.812	Master GW#3700	5,076,275.63	673,985.19	83.48
GWD 3710	9,161.06	9,193.9	3700	26.25	.812	Master GW#3710	5,076,268.00	673,983.30	84.96

Pipeline Tally

Client: Enbridge Energy Limited Partnership | Run Date: July 31, 2013 | Projection: UTM | Zone: 16

Project: NPS 20 GEOPIG Geometry Inspection | Location: Line 5 Straights of Mackinac-East Loop | Datum: WGS 84 | C.M.: -87

Feature Identifier	Absolute Distance (ft)	Enbridge Chainage (ft)	Nearest U/S GWD	Dist to U/S GWD (ft)	Wall Thickness (in)	Description	Northing (m)	Easting (m)	Height (m)
GWD 3720	9,188.16	9,221.0	3710	27.10	.812	Master GW#3720	5,076,260.10	673,981.34	86.38
GWD 3730	9,215.16	9,248.1	3720	27.00	.812	Master GW#3730	5,076,252.22	673,979.39	87.67
GWD 3740	9,241.54	9,274.5	3730	26.38	.812	Master GW#3740	5,076,244.50	673,977.48	88.96
GWD 3750	9,268.71	9,301.6	3740	27.17	.812	Master GW#3750	5,076,236.55	673,975.50	90.23
GWD 3760	9,289.13	9,322.0	3750	20.43	.812	Master GW#3760	5,076,230.56	673,974.03	91.13
GWD 3770	9,317.52	9,350.3	3760	28.39	.812	Master GW#3770	5,076,222.22	673,972.00	92.32
GWD 3780	9,343.93	9,376.8	3770	26.41	.812	Master GW#3780	5,076,214.45	673,970.15	93.36
GWD 3790	9,369.72	9,402.7	3780	25.79	.812	Master GW#3790	5,076,206.85	673,968.34	94.29
GWD 3800	9,388.78	9,421.7	3790	19.06	.812	Master GW#3800	5,076,201.23	673,967.02	94.89
GWD 3810	9,416.14	9,449.2	3800	27.36	.812	Master GW#3810	5,076,193.14	673,965.11	95.55
GWD 3820	9,436.32	9,469.3	3810	20.18	.812	Master GW#3820	5,076,187.17	673,963.71	95.90
GWD 3830	9,462.50	9,495.6	3820	26.18	.812	Master GW#3830	5,076,179.43	673,961.88	96.34
GWD 3840	9,487.30	9,520.3	3830	24.80	.812	Master GW#3840	5,076,172.09	673,960.15	96.77
GWD 3850	9,510.44	9,543.6	3840	23.13	.812	Master GW#3850	5,076,165.25	673,958.54	97.18
GWD 3860	9,538.65	9,571.8	3850	28.21	.812	Master GW#3860	5,076,156.92	673,956.54	97.77
GWD 3870	9,566.27	9,599.5	3860	27.63	.812	Master GW#3870	5,076,148.75	673,954.59	98.40
GWD 3880	9,592.95	9,626.2	3870	26.67	.812	Master GW#3880	5,076,140.85	673,952.71	98.98
GWD 3890	9,614.08	9,647.4	3880	21.13	.812	Master GW#3890	5,076,134.59	673,951.21	99.38
GWD 3900	9,639.37	9,672.7	3890	25.29	.812	Master GW#3900	5,076,127.10	673,949.41	99.77
GWD 3910	9,667.39	9,700.6	3900	28.02	.812	Master GW#3910	5,076,118.80	673,947.42	100.06
GWD 3920	9,691.01	9,724.3	3910	23.63	.812	Master GW#3920	5,076,111.80	673,945.73	100.17
GWD 3930	9,710.30	9,743.6	3920	19.29	.812	Master GW#3930	5,076,106.10	673,944.33	100.19
GWD 3940	9,733.76	9,767.0	3930	23.46	.812	Master GW#3940	5,076,099.17	673,942.59	100.07
GWD 3950	9,760.93	9,794.2	3940	27.16	.812	Master GW#3950	5,076,091.17	673,940.56	99.78
GWD 3960	9,785.63	9,819.0	3950	24.70	.812	Master GW#3960	5,076,083.89	673,938.70	99.50
GWD 3970	9,812.11	9,845.5	3960	26.48	.812	Master GW#3970	5,076,076.08	673,936.74	99.25
GWD 3980	9,837.76	9,871.1	3970	25.66	.812	Master GW#3980	5,076,068.50	673,934.87	99.10
GWD 3990	9,865.59	9,899.0	3980	27.82	.812	Master GW#3990	5,076,060.27	673,932.87	99.06
GWD 4000	9,888.62	9,922.0	3990	23.03	.812	Master GW#4000	5,076,053.45	673,931.23	99.03
GWD 4010	9,910.53	9,943.9	4000	21.92	.812	Master GW#4010	5,076,046.95	673,929.69	98.95
GWD 4020	9,936.25	9,969.7	4010	25.72	.812	Master GW#4020	5,076,039.32	673,927.90	98.72
GWD 4030	9,959.15	9,992.6	4020	22.90	.812	Master GW#4030	5,076,032.53	673,926.32	98.34

Pipeline Tally

Client: Enbridge Energy Limited Partnership | Run Date: July 31, 2013 | Projection: UTM | Zone: 16

Project: NPS 20 GEOPIG Geometry Inspection | Location: Line 5 Straights of Mackinac-East Loop | Datum: WGS 84 | C.M.: -87

Feature Identifier	Absolute Distance (ft)	Enbridge Chainage (ft)	Nearest U/S GWD	Dist to U/S GWD (ft)	Wall Thickness (in)	Description	Northing (m)	Easting (m)	Height (m)
GWD 4040	9,986.51	10,019.9	4030	27.36	.812	Master GW#4040	5,076,024.44	673,924.45	97.73
GWD 4050	10,013.72	10,047.2	4040	27.20	.812	Master GW#4050	5,076,016.40	673,922.59	97.06
GWD 4060	10,039.86	10,073.4	4050	26.15	.812	Master GW#4060	5,076,008.67	673,920.81	96.42
GWD 4070	10,064.40	10,097.9	4060	24.54	.812	Master GW#4070	5,076,001.41	673,919.12	95.87
GWD 4080	10,086.75	10,120.3	4070	22.34	.812	Master GW#4080	5,075,994.80	673,917.58	95.43
GWD 4090	10,115.12	10,148.6	4080	28.38	.812	Master GW#4090	5,075,986.39	673,915.63	94.98
GWD 4100	10,142.49	10,176.0	4090	27.36	.812	Master GW#4100	5,075,978.27	673,913.75	94.72
GWD 4110	10,171.03	10,204.6	4100	28.54	.812	Master GW#4110	5,075,969.80	673,911.77	94.68
GWD 4120	10,196.06	10,229.7	4110	25.03	.812	Master GW#4120	5,075,962.36	673,910.04	94.81
GWD 4130	10,213.32	10,246.9	4120	17.25	.812	Master GW#4130	5,075,957.24	673,908.84	94.94
GWD 4140	10,239.14	10,272.7	4130	25.82	.812	Master GW#4140	5,075,949.59	673,907.03	95.22
GWD 4150	10,265.75	10,299.4	4140	26.61	.812	Master GW#4150	5,075,941.69	673,905.18	95.58
GWD 4160	10,292.48	10,326.1	4150	26.73	.812	Master GW#4160	5,075,933.77	673,903.33	96.01
GWD 4170	10,319.98	10,353.6	4160	27.50	.812	Master GW#4170	5,075,925.62	673,901.40	96.44
GWD 4180	10,346.03	10,379.7	4170	26.05	.812	Master GW#4180	5,075,917.90	673,899.57	96.76
GWD 4190	10,372.54	10,406.3	4180	26.51	.812	Master GW#4190	5,075,910.04	673,897.71	96.92
GWD 4200	10,398.07	10,431.8	4190	25.52	.812	Master GW#4200	5,075,902.48	673,895.93	96.95
GWD 4210	10,425.10	10,458.8	4200	27.03	.812	Master GW#4210	5,075,894.46	673,894.06	96.94
GWD 4220	10,448.92	10,482.7	4210	23.82	.812	Master GW#4220	5,075,887.40	673,892.40	96.94
GWD 4230	10,473.03	10,506.8	4220	24.12	.812	Master GW#4230	5,075,880.25	673,890.71	96.94
GWD 4240	10,499.80	10,533.6	4230	26.77	.812	Master GW#4240	5,075,872.31	673,888.84	96.92
GWD 4250	10,526.58	10,560.4	4240	26.77	.812	Master GW#4250	5,075,864.39	673,886.96	96.80
GWD 4260	10,552.63	10,586.4	4250	26.05	.812	Master GW#4260	5,075,856.68	673,885.11	96.58
GWD 4270	10,578.67	10,612.5	4260	26.05	.812	Master GW#4270	5,075,848.97	673,883.28	96.34
GWD 4280	10,603.51	10,637.4	4270	24.84	.812	Master GW#4280	5,075,841.61	673,881.54	96.18
GWD 4290	10,628.74	10,662.6	4280	25.23	.812	Master GW#4290	5,075,834.14	673,879.78	96.14
GWD 4300	10,654.66	10,688.6	4290	25.92	.812	Master GW#4300	5,075,826.45	673,877.98	96.19
GWD 4310	10,681.66	10,715.6	4300	27.00	.812	Master GW#4310	5,075,818.44	673,876.11	96.26
GWD 4320	10,708.93	10,742.8	4310	27.27	.812	Master GW#4320	5,075,810.35	673,874.23	96.37
GWD 4330	10,727.33	10,761.3	4320	18.41	.812	Master GW#4330	5,075,804.89	673,872.96	96.50
GWD 4340	10,745.73	10,779.7	4330	18.40	.812	Master GW#4340	5,075,799.43	673,871.69	96.69
GWD 4350	10,773.26	10,807.3	4340	27.53	.812	Master GW#4350	5,075,791.26	673,869.81	97.10

Pipeline Tally

Client: Enbridge Energy Limited Partnership | Run Date: July 31, 2013 | Projection: UTM | Zone: 16

Project: NPS 20 GEOPIG Geometry Inspection | Location: Line 5 Straights of Mackinac-East Loop | Datum: WGS 84 | C.M.: -87

Feature Identifier	Absolute Distance (ft)	Enbridge Chainage (ft)	Nearest U/S GWD	Dist to U/S GWD (ft)	Wall Thickness (in)	Description	Northing (m)	Easting (m)	Height (m)
GWD 4360	10,799.34	10,833.4	4350	26.08	.812	Master GW#4360	5,075,783.53	673,868.02	97.55
GWD 4370	10,821.59	10,855.7	4360	22.24	.812	Master GW#4370	5,075,776.93	673,866.51	97.99
GWD 4380	10,847.09	10,881.3	4370	25.50	.812	Master GW#4380	5,075,769.36	673,864.76	98.53
GWD 4390	10,869.58	10,903.7	4380	22.49	.812	Master GW#4390	5,075,762.70	673,863.21	99.02
GWD 4400	10,897.47	10,931.6	4390	27.89	.812	Master GW#4400	5,075,754.45	673,861.28	99.64
GWD 4410	10,914.37	10,948.5	4400	16.90	.812	Master GW#4410	5,075,749.44	673,860.11	99.97
GWD 4420	10,930.87	10,965.0	4410	16.50	.812	Master GW#4420	5,075,744.55	673,858.97	100.23
GWD 4430	10,957.45	10,991.7	4420	26.57	.812	Master GW#4430	5,075,736.68	673,857.13	100.58
GWD 4440	10,983.86	11,018.1	4430	26.41	.812	Master GW#4440	5,075,728.86	673,855.27	100.92
GWD 4450	11,009.48	11,043.7	4440	25.62	.812	Master GW#4450	5,075,721.28	673,853.46	101.31
GWD 4460	11,036.22	11,070.5	4450	26.74	.812	Master GW#4460	5,075,713.36	673,851.60	101.73
GWD 4470	11,062.40	11,096.7	4460	26.18	.812	Master GW#4470	5,075,705.60	673,849.78	102.22
GWD 4480	11,089.11	11,123.4	4470	26.70	.812	Master GW#4480	5,075,697.70	673,847.91	102.77
GWD 4490	11,115.45	11,149.8	4480	26.35	.812	Master GW#4490	5,075,689.91	673,846.06	103.32
GWD 4500	11,142.59	11,176.9	4490	27.13	.812	Master GW#4500	5,075,681.89	673,844.12	103.86
GWD 4510	11,166.57	11,200.9	4500	23.98	.812	Master GW#4510	5,075,674.79	673,842.41	104.26
GWD 4520	11,191.70	11,226.1	4510	25.14	.812	Master GW#4520	5,075,667.36	673,840.62	104.57
GWD 4530	11,218.90	11,253.3	4520	27.19	.812	Master GW#4530	5,075,659.30	673,838.67	104.75
GWD 4540	11,247.31	11,281.7	4530	28.41	.812	Master GW#4540	5,075,650.89	673,836.63	104.72
GWD 4550	11,271.75	11,306.2	4540	24.45	.812	Master GW#4550	5,075,643.66	673,834.86	104.59
GWD 4560	11,298.20	11,332.8	4550	26.44	.812	Master GW#4560	5,075,635.85	673,832.95	104.42
GWD 4570	11,325.20	11,359.6	4560	27.00	.812	Master GW#4570	5,075,627.86	673,831.00	104.28
GWD 4580	11,352.13	11,386.6	4570	26.94	.812	Master GW#4580	5,075,619.90	673,829.04	104.18
GWD 4590	11,374.80	11,409.3	4580	22.67	.812	Master GW#4590	5,075,613.19	673,827.39	104.15
GWD 4600	11,401.54	11,436.1	4590	26.74	.812	Master GW#4600	5,075,605.29	673,825.43	104.20
GWD 4610	11,423.07	11,457.6	4600	21.53	.812	Master GW#4610	5,075,598.92	673,823.84	104.29
GWD 4620	11,449.74	11,484.3	4610	26.67	.812	Master GW#4620	5,075,591.02	673,821.94	104.51
GWD 4630	11,476.81	11,511.4	4620	27.07	.812	Master GW#4630	5,075,582.99	673,820.03	104.79
GWD 4640	11,503.84	11,538.5	4630	27.03	.812	Master GW#4640	5,075,574.98	673,818.12	105.09
GWD 4650	11,524.28	11,559.0	4640	20.44	.812	Master GW#4650	5,075,568.92	673,816.68	105.29
GWD 4660	11,551.24	11,585.9	4650	26.96	.812	Master GW#4660	5,075,560.93	673,814.78	105.58
GWD 4670	11,578.97	11,613.7	4660	27.73	.812	Master GW#4670	5,075,552.72	673,812.81	105.94

Pipeline Tally

Client: Enbridge Energy Limited Partnership | Run Date: July 31, 2013 | Projection: UTM | Zone: 16

Project: NPS 20 GEOPIG Geometry Inspection | Location: Line 5 Straights of Mackinac-East Loop | Datum: WGS 84 | C.M.: -87

Feature Identifier	Absolute Distance (ft)	Enbridge Chainage (ft)	Nearest U/S GWD	Dist to U/S GWD (ft)	Wall Thickness (in)	Description	Northing (m)	Easting (m)	Height (m)
GWD 4680	11,605.91	11,640.7	4670	26.93	.812	Master GW#4680	5,075,544.74	673,810.89	106.35
GWD 4690	11,633.53	11,668.4	4680	27.63	.812	Master GW#4690	5,075,536.57	673,808.91	106.78
GWD 4700	11,659.88	11,694.7	4690	26.35	.812	Master GW#4700	5,075,528.77	673,807.01	107.09
GWD 4710	11,687.17	11,722.0	4700	27.30	.812	Master GW#4710	5,075,520.69	673,805.06	107.28
GWD 4720	11,715.29	11,750.1	4710	28.12	.812	Master GW#4720	5,075,512.37	673,803.05	107.44
GWD 4730	11,741.57	11,776.4	4720	26.28	.812	Master GW#4730	5,075,504.58	673,801.21	107.56
GWD 4740	11,768.60	11,803.5	4730	27.03	.812	Master GW#4740	5,075,496.57	673,799.32	107.66
GWD 4750	11,795.91	11,830.8	4740	27.31	.812	Master GW#4750	5,075,488.48	673,797.35	107.71
GWD 4760	11,815.38	11,850.2	4750	19.47	.812	Master GW#4760	5,075,482.72	673,795.97	107.74
GWD 4770	11,837.27	11,872.1	4760	21.89	.812	Master GW#4770	5,075,476.23	673,794.43	107.78
GWD 4780	11,863.06	11,897.9	4770	25.79	.812	Master GW#4780	5,075,468.60	673,792.60	107.81
GWD 4790	11,890.62	11,925.6	4780	27.56	.812	Master GW#4790	5,075,460.43	673,790.65	107.86
GWD 4800	11,915.78	11,950.7	4790	25.17	.812	Master GW#4800	5,075,452.97	673,788.87	107.89
GWD 4810	11,940.35	11,975.3	4800	24.57	.812	Master GW#4810	5,075,445.69	673,787.14	107.89
GWD 4820	11,968.28	12,003.2	4810	27.93	.812	Master GW#4820	5,075,437.41	673,785.19	107.86
GWD 4830	11,994.26	12,029.3	4820	25.98	.812	Master GW#4830	5,075,429.71	673,783.37	107.88
GWD 4840	12,019.23	12,054.3	4830	24.97	.812	Master GW#4840	5,075,422.31	673,781.61	107.96
GWD 4850	12,040.19	12,075.3	4840	20.97	.812	Master GW#4850	5,075,416.10	673,780.14	108.05
GWD 4860	12,066.99	12,102.1	4850	26.80	.812	Master GW#4860	5,075,408.15	673,778.24	108.19
GWD 4870	12,093.57	12,128.7	4860	26.57	.812	Master GW#4870	5,075,400.28	673,776.36	108.34
GWD 4880	12,113.19	12,148.4	4870	19.62	.812	Master GW#4880	5,075,394.46	673,774.99	108.47
GWD 4890	12,139.86	12,175.1	4880	26.67	.812	Master GW#4890	5,075,386.55	673,773.13	108.69
GWD 4900	12,166.01	12,201.3	4890	26.15	.812	Master GW#4900	5,075,378.79	673,771.31	108.93
GWD 4910	12,194.39	12,229.7	4900	28.38	.812	Master GW#4910	5,075,370.38	673,769.30	109.08
GWD 4920	12,222.05	12,257.3	4910	27.66	.812	Master GW#4920	5,075,362.18	673,767.34	109.16
GWD 4930	12,248.79	12,284.1	4920	26.74	.812	Master GW#4930	5,075,354.25	673,765.44	109.20
GWD 4940	12,276.08	12,311.4	4930	27.30	.812	Master GW#4940	5,075,346.17	673,763.50	109.18
GWD 4950	12,304.30	12,339.6	4940	28.22	.812	Master GW#4950	5,075,337.81	673,761.49	109.08
GWD 4960	12,331.46	12,366.8	4950	27.16	.812	Master GW#4960	5,075,329.77	673,759.55	108.95
GWD 4970	12,359.12	12,394.5	4960	27.66	.812	Master GW#4970	5,075,321.58	673,757.56	108.84
GWD 4980	12,386.61	12,422.0	4970	27.49	.812	Master GW#4980	5,075,313.44	673,755.59	108.75
GWD 4990	12,411.58	12,447.0	4980	24.97	.812	Master GW#4990	5,075,306.05	673,753.80	108.65

Pipeline Tally

Client: Enbridge Energy Limited Partnership | Run Date: July 31, 2013 | Projection: UTM | Zone: 16

Project: NPS 20 GEOPIG Geometry Inspection | Location: Line 5 Straights of Mackinac-East Loop | Datum: WGS 84 | C.M.: -87

Feature Identifier	Absolute Distance (ft)	Enbridge Chainage (ft)	Nearest U/S GWD	Dist to U/S GWD (ft)	Wall Thickness (in)	Description	Northing (m)	Easting (m)	Height (m)
GWD 5000	12,436.52	12,471.9	4990	24.94	.812	Master GW#5000	5,075,298.67	673,752.01	108.56
GWD 5010	12,462.47	12,497.9	5000	25.95	.812	Master GW#5010	5,075,290.98	673,750.16	108.46
GWD 5020	12,489.14	12,524.6	5010	26.68	.812	Master GW#5020	5,075,283.09	673,748.25	108.29
GWD 5030	12,511.22	12,546.7	5020	22.08	.812	Master GW#5030	5,075,276.56	673,746.68	108.11
GWD 5040	12,538.19	12,573.6	5030	26.97	.812	Master GW#5040	5,075,268.58	673,744.76	107.87
GWD 5050	12,565.81	12,601.3	5040	27.62	.812	Master GW#5050	5,075,260.40	673,742.78	107.68
GWD 5060	12,592.03	12,627.7	5050	26.21	.812	Master GW#5060	5,075,252.64	673,740.91	107.59
GWD 5070	12,619.39	12,655.0	5060	27.36	.812	Master GW#5070	5,075,244.54	673,738.96	107.56
GWD 5080	12,647.21	12,682.9	5070	27.82	.812	Master GW#5080	5,075,236.29	673,736.98	107.60
GWD 5090	12,674.41	12,710.2	5080	27.20	.812	Master GW#5090	5,075,228.24	673,735.04	107.72
GWD 5100	12,697.71	12,733.5	5090	23.30	.812	Master GW#5100	5,075,221.33	673,733.38	107.88
GWD 5110	12,725.03	12,760.9	5100	27.32	.812	Master GW#5110	5,075,213.25	673,731.38	108.06
GWD 5120	12,751.25	12,787.1	5110	26.22	.812	Master GW#5120	5,075,205.49	673,729.46	108.19
GWD 5130	12,775.75	12,811.6	5120	24.50	.812	Master GW#5130	5,075,198.24	673,727.68	108.30
GWD 5140	12,802.56	12,838.5	5130	26.81	.812	Master GW#5140	5,075,190.31	673,725.74	108.40
GWD 5150	12,826.61	12,862.5	5140	24.05	.812	Master GW#5150	5,075,183.19	673,724.01	108.44
GWD 5160	12,852.20	12,888.2	5150	25.59	.812	Master GW#5160	5,075,175.61	673,722.18	108.45
GWD 5170	12,879.27	12,915.3	5160	27.07	.812	Master GW#5170	5,075,167.59	673,720.25	108.38
GWD 5180	12,905.64	12,941.7	5170	26.38	.812	Master GW#5180	5,075,159.78	673,718.37	108.19
GWD 5190	12,933.04	12,969.0	5180	27.40	.812	Master GW#5190	5,075,151.68	673,716.41	107.92
GWD 5200	12,958.30	12,994.3	5190	25.26	.812	Master GW#5200	5,075,144.21	673,714.59	107.67
GWD 5210	12,985.50	13,021.6	5200	27.20	.812	Master GW#5210	5,075,136.16	673,712.63	107.46
GWD 5220	13,012.44	13,048.5	5210	26.94	.812	Master GW#5220	5,075,128.19	673,710.69	107.32
GWD 5230	13,038.32	13,074.5	5220	25.88	.812	Master GW#5230	5,075,120.53	673,708.83	107.26
GWD 5240	13,066.01	13,102.1	5230	27.69	.812	Master GW#5240	5,075,112.32	673,706.85	107.25
GWD 5250	13,091.60	13,127.7	5240	25.59	.812	Master GW#5250	5,075,104.74	673,705.04	107.29
GWD 5260	13,118.60	13,154.6	5250	27.01	.812	Master GW#5260	5,075,096.73	673,703.16	107.34
GWD 5270	13,145.60	13,181.7	5260	27.00	.812	Master GW#5270	5,075,088.72	673,701.25	107.34
GWD 5280	13,171.79	13,208.0	5270	26.18	.812	Master GW#5280	5,075,080.97	673,699.39	107.30
GWD 5290	13,199.15	13,235.3	5280	27.36	.812	Master GW#5290	5,075,072.86	673,697.44	107.25
GWD 5300	13,226.02	13,262.2	5290	26.87	.812	Master GW#5300	5,075,064.90	673,695.54	107.25
GWD 5310	13,252.72	13,288.9	5300	26.70	.812	Master GW#5310	5,075,056.99	673,693.64	107.29

Pipeline Tally

Client: Enbridge Energy Limited Partnership | Run Date: July 31, 2013 | Projection: UTM | Zone: 16

Project: NPS 20 GEOPIG Geometry Inspection | Location: Line 5 Straights of Mackinac-East Loop | Datum: WGS 84 | C.M.: -87

Feature Identifier	Absolute Distance (ft)	Enbridge Chainage (ft)	Nearest U/S GWD	Dist to U/S GWD (ft)	Wall Thickness (in)	Description	Northing (m)	Easting (m)	Height (m)
GWD 5320	13,279.17	13,315.4	5310	26.45	.812	Master GW#5320	5,075,049.15	673,691.78	107.33
GWD 5330	13,305.71	13,342.0	5320	26.54	.812	Master GW#5330	5,075,041.29	673,689.91	107.38
GWD 5340	13,333.30	13,369.6	5330	27.59	.812	Master GW#5340	5,075,033.11	673,687.95	107.45
GWD 5350	13,359.38	13,395.7	5340	26.08	.812	Master GW#5350	5,075,025.39	673,686.08	107.58
GWD 5360	13,386.88	13,423.2	5350	27.50	.812	Master GW#5360	5,075,017.24	673,684.13	107.75
GWD 5370	13,411.88	13,448.2	5360	25.00	.812	Master GW#5370	5,075,009.83	673,682.36	107.90
GWD 5380	13,438.12	13,474.5	5370	26.25	.812	Master GW#5380	5,075,002.05	673,680.52	108.05
GWD 5390	13,465.52	13,501.9	5380	27.40	.812	Master GW#5390	5,074,993.93	673,678.58	108.19
GWD 5400	13,492.13	13,528.5	5390	26.61	.812	Master GW#5400	5,074,986.05	673,676.70	108.32
GWD 5410	13,514.76	13,551.2	5400	22.63	.812	Master GW#5410	5,074,979.34	673,675.10	108.44
GWD 5420	13,537.50	13,574.0	5410	22.74	.812	Master GW#5420	5,074,972.60	673,673.50	108.55
GWD 5430	13,561.10	13,597.7	5420	23.59	.812	Master GW#5430	5,074,965.61	673,671.84	108.65
GWD 5440	13,587.14	13,623.5	5430	26.04	.812	Master GW#5440	5,074,957.89	673,670.00	108.76
GWD 5450	13,609.77	13,646.3	5440	22.63	.812	Master GW#5450	5,074,951.18	673,668.41	108.82
GWD 5460	13,638.07	13,674.6	5450	28.29	.812	Master GW#5460	5,074,942.79	673,666.42	108.90
GWD 5470	13,662.86	13,699.4	5460	24.79	.812	Master GW#5470	5,074,935.44	673,664.68	108.95
GWD 5480	13,689.37	13,725.9	5470	26.51	.812	Master GW#5480	5,074,927.58	673,662.82	109.02
GWD 5490	13,717.06	13,753.6	5480	27.69	.812	Master GW#5490	5,074,919.37	673,660.88	109.11
GWD 5500	13,744.68	13,781.3	5490	27.62	.812	Master GW#5500	5,074,911.18	673,658.95	109.17
GWD 5510	13,771.20	13,807.8	5500	26.51	.812	Master GW#5510	5,074,903.32	673,657.09	109.31
GWD 5520	13,798.88	13,835.6	5510	27.68	.812	Master GW#5520	5,074,895.11	673,655.17	109.49
GWD 5530	13,825.23	13,861.9	5520	26.35	.812	Master GW#5530	5,074,887.29	673,653.35	109.68
GWD 5540	13,851.48	13,888.2	5530	26.25	.812	Master GW#5540	5,074,879.51	673,651.53	109.90
GWD 5550	13,878.45	13,915.1	5540	26.97	.812	Master GW#5550	5,074,871.52	673,649.67	110.13
GWD 5560	13,905.71	13,942.4	5550	27.26	.812	Master GW#5560	5,074,863.43	673,647.78	110.31
GWD 5570	13,932.25	13,969.0	5560	26.54	.812	Master GW#5570	5,074,855.57	673,645.91	110.44
GWD 5580	13,957.12	13,993.8	5570	24.87	.812	Master GW#5580	5,074,848.21	673,644.16	110.58
GWD 5590	13,983.56	14,020.3	5580	26.44	.812	Master GW#5590	5,074,840.38	673,642.28	110.80
GWD 5600	14,008.99	14,045.8	5590	25.43	.812	Master GW#5600	5,074,832.85	673,640.49	111.12
GWD 5610	14,035.04	14,071.8	5600	26.05	.812	Master GW#5610	5,074,825.14	673,638.65	111.52
GWD 5620	14,060.33	14,097.2	5610	25.30	.812	Master GW#5620	5,074,817.65	673,636.85	112.00
GWD 5630	14,085.63	14,122.5	5620	25.30	.812	Master GW#5630	5,074,810.16	673,635.08	112.54

Pipeline Tally

Client: Enbridge Energy Limited Partnership | Run Date: July 31, 2013 | Projection: UTM | Zone: 16

Project: NPS 20 GEOPIG Geometry Inspection | Location: Line 5 Straights of Mackinac-East Loop | Datum: WGS 84 | C.M.: -87

Feature Identifier	Absolute Distance (ft)	Enbridge Chainage (ft)	Nearest U/S GWD	Dist to U/S GWD (ft)	Wall Thickness (in)	Description	Northing (m)	Easting (m)	Height (m)
GWD 5640	14,112.96	14,149.8	5630	27.33	.812	Master GW#5640	5,074,802.07	673,633.20	113.14
GWD 5650	14,138.85	14,175.8	5640	25.89	.812	Master GW#5650	5,074,794.40	673,631.40	113.66
GWD 5660	14,165.88	14,202.8	5650	27.03	.812	Master GW#5660	5,074,786.38	673,629.53	114.15
GWD 5670	14,188.09	14,225.0	5660	22.21	.812	Master GW#5670	5,074,779.80	673,627.99	114.49
GWD 5680	14,211.22	14,248.2	5670	23.13	.812	Master GW#5680	5,074,772.94	673,626.37	114.80
GWD 5690	14,237.79	14,274.7	5680	26.57	.812	Master GW#5690	5,074,765.06	673,624.52	115.10
GWD 5700	14,264.76	14,301.7	5690	26.97	.812	Master GW#5700	5,074,757.07	673,622.63	115.30
GWD 5710	14,292.09	14,329.0	5700	27.33	.812	Master GW#5710	5,074,748.97	673,620.72	115.43
GWD 5720	14,317.59	14,354.5	5710	25.49	.812	Master GW#5720	5,074,741.41	673,618.93	115.54
GWD 5730	14,343.31	14,380.3	5720	25.72	.812	Master GW#5730	5,074,733.79	673,617.12	115.70
GWD 5740	14,366.67	14,403.7	5730	23.36	.812	Master GW#5740	5,074,726.87	673,615.49	115.88
GWD 5750	14,393.96	14,430.9	5740	27.30	.812	Master GW#5750	5,074,718.78	673,613.58	116.12
GWD 5760	14,420.38	14,457.4	5750	26.41	.812	Master GW#5760	5,074,710.94	673,611.76	116.34
GWD 5770	14,447.93	14,484.9	5760	27.55	.812	Master GW#5770	5,074,702.77	673,609.87	116.54
GWD 5780	14,473.10	14,510.2	5770	25.17	.812	Master GW#5780	5,074,695.31	673,608.10	116.70
GWD 5790	14,501.25	14,538.4	5780	28.15	.812	Master GW#5790	5,074,686.96	673,606.11	116.81
GWD 5800	14,526.87	14,564.0	5790	25.62	.812	Master GW#5800	5,074,679.36	673,604.34	116.90
GWD 5810	14,554.59	14,591.8	5800	27.72	.812	Master GW#5810	5,074,671.14	673,602.42	116.98
GWD 5820	14,581.43	14,618.6	5810	26.84	.812	Master GW#5820	5,074,663.17	673,600.58	117.01
GWD 5830	14,608.92	14,646.2	5820	27.49	.812	Master GW#5830	5,074,655.01	673,598.73	116.94
GWD 5840	14,628.28	14,665.6	5830	19.36	.812	Master GW#5840	5,074,649.26	673,597.39	116.91
GWD 5850	14,654.96	14,692.2	5840	26.68	.812	Master GW#5850	5,074,641.36	673,595.51	116.92
GWD 5860	14,681.92	14,719.3	5850	26.96	.812	Master GW#5860	5,074,633.36	673,593.65	117.04
GWD 5870	14,706.70	14,744.1	5860	24.78	.812	Master GW#5870	5,074,625.99	673,591.96	117.25
GWD 5880	14,727.65	14,765.0	5870	20.95	.812	Master GW#5880	5,074,619.77	673,590.53	117.45
GWD 5890	14,751.11	14,788.5	5880	23.46	.812	Master GW#5890	5,074,612.80	673,588.95	117.57
GWD 5900	14,776.91	14,814.3	5890	25.79	.812	Master GW#5900	5,074,605.13	673,587.25	117.55
GWD 5910	14,803.77	14,841.0	5900	26.86	.812	Master GW#5910	5,074,597.15	673,585.47	117.42
GWD 5920	14,831.86	14,869.3	5910	28.09	.812	Master GW#5920	5,074,588.80	673,583.62	117.17
GWD 5930	14,854.00	14,891.4	5920	22.15	.812	Master GW#5930	5,074,582.21	673,582.16	116.95
GWD 5940	14,880.31	14,917.8	5930	26.31	.812	Master GW#5940	5,074,574.39	673,580.45	116.69
GWD 5950	14,905.28	14,942.7	5940	24.97	.812	Master GW#5950	5,074,566.96	673,578.84	116.44

Pipeline Tally

Client: Enbridge Energy Limited Partnership | Run Date: July 31, 2013 | Projection: UTM | Zone: 16

Project: NPS 20 GEOPIG Geometry Inspection | Location: Line 5 Straights of Mackinac-East Loop | Datum: WGS 84 | C.M.: -87

Feature Identifier	Absolute Distance (ft)	Enbridge Chainage (ft)	Nearest U/S GWD	Dist to U/S GWD (ft)	Wall Thickness (in)	Description	Northing (m)	Easting (m)	Height (m)
GWD 5960	14,932.28	14,969.7	5950	27.00	.812	Master GW#5960	5,074,558.92	673,577.11	116.15
GWD 5970	14,960.11	14,997.6	5960	27.82	.812	Master GW#5970	5,074,550.64	673,575.34	115.89
GWD 5980	14,987.96	15,025.4	5970	27.85	.812	Master GW#5980	5,074,542.34	673,573.58	115.64
GWD 5990	15,012.90	15,050.4	5980	24.94	.812	Master GW#5990	5,074,534.91	673,571.99	115.44
GWD 6000	15,039.83	15,077.4	5990	26.93	.812	Master GW#6000	5,074,526.90	673,570.26	115.21
GWD 6010	15,066.67	15,104.2	6000	26.84	.812	Master GW#6010	5,074,518.91	673,568.50	115.00
GWD 6020	15,091.47	15,129.2	6010	24.81	.812	Master GW#6020	5,074,511.53	673,566.87	114.85
GWD 6030	15,117.98	15,155.6	6020	26.50	.812	Master GW#6030	5,074,503.66	673,565.11	114.70
GWD 6040	15,146.01	15,183.7	6030	28.03	.812	Master GW#6040	5,074,495.32	673,563.25	114.59
GWD 6050	15,173.06	15,210.7	6040	27.05	.812	Master GW#6050	5,074,487.28	673,561.46	114.55
GWD 6060	15,197.80	15,235.5	6050	24.74	.812	Master GW#6060	5,074,479.92	673,559.81	114.59
GWD 6070	15,222.77	15,260.5	6060	24.97	.812	Master GW#6070	5,074,472.49	673,558.17	114.62
GWD 6080	15,248.49	15,286.2	6070	25.72	.812	Master GW#6080	5,074,464.84	673,556.47	114.66
GWD 6090	15,274.61	15,312.4	6080	26.12	.812	Master GW#6090	5,074,457.08	673,554.73	114.63
GWD 6100	15,300.85	15,338.6	6090	26.24	.812	Master GW#6100	5,074,449.28	673,552.95	114.54
GWD 6110	15,328.25	15,366.1	6100	27.40	.812	Master GW#6110	5,074,441.14	673,551.09	114.47
GWD 6120	15,356.20	15,394.0	6110	27.95	.812	Master GW#6120	5,074,432.85	673,549.17	114.40
GWD 6130	15,381.99	15,419.8	6120	25.79	.812	Master GW#6130	5,074,425.20	673,547.39	114.33
GWD 6140	15,408.21	15,446.1	6130	26.22	.812	Master GW#6140	5,074,417.42	673,545.56	114.22
GWD 6150	15,423.85	15,461.8	6140	15.64	.812	Master GW#6150	5,074,412.78	673,544.48	114.13
GWD 6160	15,451.28	15,489.2	6150	27.43	.812	Master GW#6160	5,074,404.65	673,542.57	113.96
GWD 6170	15,478.02	15,516.0	6160	26.74	.812	Master GW#6170	5,074,396.72	673,540.71	113.82
GWD 6180	15,502.75	15,540.8	6170	24.73	.812	Master GW#6180	5,074,389.39	673,538.98	113.75
GWD 6190	15,528.74	15,566.8	6180	25.99	.812	Master GW#6190	5,074,381.69	673,537.15	113.75
GWD 6200	15,554.33	15,592.4	6190	25.59	.812	Master GW#6200	5,074,374.10	673,535.33	113.84
GWD 6210	15,581.30	15,619.4	6200	26.97	.812	Master GW#6210	5,074,366.11	673,533.42	114.03
GWD 6220	15,607.25	15,645.4	6210	25.95	.812	Master GW#6220	5,074,358.43	673,531.58	114.25
GWD 6230	15,627.75	15,665.9	6220	20.51	.812	Master GW#6230	5,074,352.35	673,530.13	114.40
GWD 6240	15,652.89	15,691.0	6230	25.14	.812	Master GW#6240	5,074,344.90	673,528.34	114.52
GWD 6250	15,679.69	15,717.9	6240	26.80	.812	Master GW#6250	5,074,336.97	673,526.43	114.64
GWD 6260	15,707.55	15,745.8	6250	27.86	.812	Master GW#6260	5,074,328.72	673,524.45	114.73
GWD 6270	15,725.33	15,763.6	6260	17.78	.812	Master GW#6270	5,074,323.45	673,523.18	114.80

Pipeline Tally

Client: Enbridge Energy Limited Partnership | Run Date: July 31, 2013 | Projection: UTM | Zone: 16

Project: NPS 20 GEOPIG Geometry Inspection | Location: Line 5 Straights of Mackinac-East Loop | Datum: WGS 84 | C.M.: -87

Feature Identifier	Absolute Distance (ft)	Enbridge Chainage (ft)	Nearest U/S GWD	Dist to U/S GWD (ft)	Wall Thickness (in)	Description	Northing (m)	Easting (m)	Height (m)
GWD 6280	15,742.69	15,781.1	6270	17.36	.812	Master GW#6280	5,074,318.31	673,521.92	114.88
GWD 6290	15,763.88	15,802.2	6280	21.19	.812	Master GW#6290	5,074,312.04	673,520.39	114.96
GWD 6300	15,789.86	15,828.2	6290	25.98	.812	Master GW#6300	5,074,304.35	673,518.52	115.07
GWD 6310	15,808.66	15,847.0	6300	18.80	.812	Master GW#6310	5,074,298.78	673,517.19	115.18
GWD 6320	15,836.55	15,875.0	6310	27.89	.812	Master GW#6320	5,074,290.51	673,515.22	115.29
GWD 6330	15,854.23	15,892.7	6320	17.68	.812	Master GW#6330	5,074,285.28	673,513.96	115.32
GWD 6340	15,879.14	15,917.6	6330	24.90	.812	Master GW#6340	5,074,277.90	673,512.18	115.30
GWD 6350	15,906.56	15,945.1	6340	27.43	.812	Master GW#6350	5,074,269.78	673,510.23	115.25
GWD 6360	15,933.23	15,971.6	6350	26.67	.812	Master GW#6360	5,074,261.89	673,508.31	115.28
GWD 6370	15,950.79	15,989.4	6360	17.56	.812	Master GW#6370	5,074,256.69	673,507.05	115.35
GWD 6380	15,975.95	16,014.5	6370	25.16	.812	Master GW#6380	5,074,249.25	673,505.21	115.50
GWD 6390	16,002.11	16,040.7	6380	26.16	.812	Master GW#6390	5,074,241.51	673,503.31	115.76
GWD 6400	16,027.69	16,066.2	6390	25.58	.812	Master GW#6400	5,074,233.95	673,501.43	116.06
GWD 6410	16,053.61	16,092.2	6400	25.92	.812	Master GW#6410	5,074,226.29	673,499.53	116.33
GWD 6420	16,081.01	16,119.6	6410	27.40	.812	Master GW#6420	5,074,218.19	673,497.52	116.55
GWD 6430	16,098.91	16,137.5	6420	17.90	.812	Master GW#6430	5,074,212.89	673,496.22	116.67
GWD 6440	16,124.54	16,163.2	6430	25.63	.812	Master GW#6440	5,074,205.31	673,494.36	116.86
GWD 6450	16,141.41	16,180.1	6440	16.86	.812	Master GW#6450	5,074,200.31	673,493.14	116.97
GWD 6460	16,163.80	16,202.4	6450	22.40	.812	Master GW#6460	5,074,193.69	673,491.52	117.11
GWD 6470	16,180.78	16,219.4	6460	16.98	.812	Master GW#6470	5,074,188.66	673,490.28	117.19
GWD 6480	16,197.80	16,236.5	6470	17.02	.812	Master GW#6480	5,074,183.63	673,489.05	117.27
GWD 6490	16,215.12	16,253.8	6480	17.33	.812	Master GW#6490	5,074,178.50	673,487.81	117.34
GWD 6500	16,239.83	16,279.0	6490	24.71	.812	Master GW#6500	5,074,171.19	673,486.01	117.40
GWD 6510	16,266.90	16,305.6	6500	27.06	.812	Master GW#6510	5,074,163.19	673,484.03	117.44
GWD 6520	16,293.96	16,332.8	6510	27.07	.812	Master GW#6520	5,074,155.18	673,482.05	117.45
DNT 1	16,300.17	16,339.0	6520	6.20	.812	1.5% Dent at 11:15 - On top of pipe, Multiple Dents	5,074,153.33	673,481.59	117.46
GWD 6530	16,319.71	16,358.5	6520	25.75	.812	Master GW#6530	5,074,147.57	673,480.18	117.48
GWD 6540	16,346.85	16,385.6	6530	27.13	.812	Master GW#6540	5,074,139.54	673,478.20	117.53
GWD 6550	16,373.76	16,412.6	6540	26.91	.812	Master GW#6550	5,074,131.58	673,476.26	117.63
GWD 6560	16,400.13	16,438.9	6550	26.38	.812	Master GW#6560	5,074,123.77	673,474.34	117.78
GWD 6570	16,423.36	16,462.3	6560	23.23	.812	Master GW#6570	5,074,116.90	673,472.66	117.92
GWD 6580	16,440.91	16,479.8	6570	17.55	.812	Master GW#6580	5,074,111.70	673,471.39	117.98

Pipeline Tally

Client: Enbridge Energy Limited Partnership | Run Date: July 31, 2013 | Projection: UTM | Zone: 16

Project: NPS 20 GEOPIG Geometry Inspection | Location: Line 5 Straights of Mackinac-East Loop | Datum: WGS 84 | C.M.: -87

BAKER HUGHES

Feature Identifier	Absolute Distance (ft)	Enbridge Chainage (ft)	Nearest U/S GWD	Dist to U/S GWD (ft)	Wall Thickness (in)	Description	Northing (m)	Easting (m)	Height (m)
GWD 6590	16,468.90	16,507.9	6580	27.99	.812	Master GW#6590	5,074,103.42	673,469.36	118.05
GWD 6600	16,487.83	16,526.8	6590	18.93	.812	Master GW#6600	5,074,097.82	673,467.99	118.07
GWD 6610	16,515.06	16,554.0	6600	27.23	.812	Master GW#6610	5,074,089.77	673,466.00	118.07
GWD 6620	16,533.40	16,572.4	6610	18.34	.812	Master GW#6620	5,074,084.34	673,464.67	118.02
GWD 6630	16,551.41	16,590.5	6620	18.01	.812	Master GW#6630	5,074,079.01	673,463.38	117.95
GWD 6640	16,569.95	16,609.0	6630	18.53	.812	Master GW#6640	5,074,073.53	673,462.04	117.87
GWD 6650	16,595.24	16,634.3	6640	25.30	.812	Master GW#6650	5,074,066.04	673,460.23	117.81
GWD 6660	16,621.40	16,660.5	6650	26.15	.812	Master GW#6660	5,074,058.29	673,458.36	117.81
GWD 6670	16,648.17	16,687.3	6660	26.77	.812	Master GW#6670	5,074,050.36	673,456.45	117.89
GWD 6680	16,675.19	16,714.4	6670	27.02	.812	Master GW#6680	5,074,042.36	673,454.50	118.03
GWD 6690	16,702.99	16,742.1	6680	27.80	.812	Master GW#6690	5,074,034.14	673,452.48	118.20
GWD 6700	16,729.92	16,769.1	6690	26.94	.812	Master GW#6700	5,074,026.16	673,450.54	118.37
GWD 6710	16,757.94	16,797.1	6700	28.02	.812	Master GW#6710	5,074,017.86	673,448.55	118.47
GWD 6720	16,783.53	16,822.7	6710	25.59	.812	Master GW#6720	5,074,010.28	673,446.72	118.46
GWD 6730	16,810.47	16,849.8	6720	26.94	.812	Master GW#6730	5,074,002.30	673,444.81	118.44
GWD 6740	16,837.73	16,877.0	6730	27.26	.812	Master GW#6740	5,073,994.22	673,442.89	118.45
GWD 6750	16,861.09	16,900.3	6740	23.36	.812	Master GW#6750	5,073,987.30	673,441.24	118.48
GWD 6760	16,886.48	16,925.8	6750	25.39	.812	Master GW#6760	5,073,979.77	673,439.44	118.51
GWD 6770	16,913.45	16,952.7	6760	26.97	.812	Master GW#6770	5,073,971.78	673,437.51	118.50
GWD 6780	16,933.99	16,973.2	6770	20.54	.812	Master GW#6780	5,073,965.70	673,436.05	118.48
GWD 6790	16,961.78	17,001.1	6780	27.78	.812	Master GW#6790	5,073,957.47	673,434.08	118.45
GWD 6800	16,985.11	17,024.4	6790	23.33	.812	Master GW#6800	5,073,950.55	673,432.44	118.44
GWD 6810	17,012.73	17,052.2	6800	27.62	.812	Master GW#6810	5,073,942.37	673,430.47	118.47
GWD 6820	17,038.52	17,077.9	6810	25.79	.812	Master GW#6820	5,073,934.74	673,428.60	118.49
GWD 6830	17,065.55	17,105.0	6820	27.04	.812	Master GW#6830	5,073,926.74	673,426.62	118.51
GWD 6840	17,091.83	17,131.3	6830	26.28	.812	Master GW#6840	5,073,918.97	673,424.70	118.56
GWD 6850	17,116.24	17,155.7	6840	24.41	.812	Master GW#6850	5,073,911.75	673,422.92	118.63
GWD 6860	17,141.15	17,180.7	6850	24.91	.812	Master GW#6860	5,073,904.37	673,421.15	118.74
GWD 6870	17,167.13	17,206.7	6860	25.98	.812	Master GW#6870	5,073,896.66	673,419.35	118.86
GWD 6880	17,193.50	17,233.1	6870	26.38	.812	Master GW#6880	5,073,888.83	673,417.55	118.97
GWD 6890	17,220.64	17,260.2	6880	27.13	.812	Master GW#6890	5,073,880.76	673,415.74	119.05
GWD 6900	17,248.26	17,287.9	6890	27.63	.812	Master GW#6900	5,073,872.56	673,413.86	119.10

ENBDNR0001395

Pipeline Tally

Client: Enbridge Energy Limited Partnership | Run Date: July 31, 2013 | Projection: UTM | Zone: 16

Project: NPS 20 GEOPIG Geometry Inspection | Location: Line 5 Straights of Mackinac-East Loop | Datum: WGS 84 | C.M.: -87

Feature Identifier	Absolute Distance (ft)	Enbridge Chainage (ft)	Nearest U/S GWD	Dist to U/S GWD (ft)	Wall Thickness (in)	Description	Northing (m)	Easting (m)	Height (m)
GWD 6910	17,275.46	17,315.2	6900	27.20	.812	Master GW#6910	5,073,864.50	673,411.94	119.09
GWD 6920	17,302.89	17,342.6	6910	27.43	.812	Master GW#6920	5,073,856.38	673,409.97	119.05
GWD 6930	17,326.71	17,366.4	6920	23.82	.812	Master GW#6930	5,073,849.33	673,408.26	119.04
GWD 6940	17,353.67	17,393.5	6930	26.97	.812	Master GW#6940	5,073,841.34	673,406.34	119.07
GWD 6950	17,377.92	17,417.7	6940	24.25	.812	Master GW#6950	5,073,834.16	673,404.62	119.12
GWD 6960	17,405.15	17,445.0	6950	27.23	.812	Master GW#6960	5,073,826.08	673,402.72	119.22
GWD 6970	17,432.81	17,472.7	6960	27.66	.812	Master GW#6970	5,073,817.87	673,400.82	119.32
GWD 6980	17,459.81	17,499.7	6970	27.00	.812	Master GW#6980	5,073,809.87	673,398.92	119.38
GWD 6990	17,484.58	17,524.5	6980	24.77	.812	Master GW#6990	5,073,802.52	673,397.19	119.40
GWD 7000	17,510.76	17,550.7	6990	26.18	.812	Master GW#7000	5,073,794.75	673,395.38	119.39
GWD 7010	17,536.48	17,576.4	7000	25.72	.812	Master GW#7010	5,073,787.13	673,393.60	119.39
GWD 7020	17,564.04	17,604.0	7010	27.56	.812	Master GW#7020	5,073,778.96	673,391.63	119.39
GWD 7030	17,591.21	17,631.2	7020	27.16	.812	Master GW#7030	5,073,770.92	673,389.68	119.43
GWD 7040	17,619.23	17,659.2	7030	28.02	.812	Master GW#7040	5,073,762.62	673,387.69	119.55
GWD 7050	17,645.80	17,685.8	7040	26.57	.812	Master GW#7050	5,073,754.74	673,385.82	119.73
GWD 7060	17,672.34	17,712.3	7050	26.54	.812	Master GW#7060	5,073,746.88	673,383.92	119.89
GWD 7070	17,696.13	17,736.2	7060	23.79	.812	Master GW#7070	5,073,739.83	673,382.21	119.98
GWD 7080	17,718.41	17,758.5	7070	22.28	.812	Master GW#7080	5,073,733.23	673,380.63	120.04
GWD 7090	17,744.91	17,785.1	7080	26.51	.812	Master GW#7090	5,073,725.38	673,378.75	120.09
GWD 7100	17,763.85	17,804.0	7090	18.93	.812	Master GW#7100	5,073,719.77	673,377.43	120.10
GWD 7110	17,788.88	17,829.1	7100	25.03	.812	Master GW#7110	5,073,712.34	673,375.70	120.20
GWD 7120	17,805.71	17,845.9	7110	16.83	.812	Master GW#7120	5,073,707.35	673,374.54	120.31
GWD 7130	17,833.63	17,873.8	7120	27.92	.812	Master GW#7130	5,073,699.06	673,372.61	120.43
GWD 7140	17,861.45	17,901.7	7130	27.83	.812	Master GW#7140	5,073,690.81	673,370.69	120.55
GWD 7150	17,879.72	17,920.0	7140	18.27	.812	Master GW#7150	5,073,685.38	673,369.47	120.63
GWD 7160	17,898.10	17,938.4	7150	18.38	.812	Master GW#7160	5,073,679.92	673,368.20	120.72
GWD 7170	17,918.04	17,958.3	7160	19.94	.812	Master GW#7170	5,073,674.01	673,366.81	120.84
GWD 7180	17,939.89	17,980.2	7170	21.85	.812	Master GW#7180	5,073,667.53	673,365.28	120.96
GWD 7190	17,967.16	18,007.5	7180	27.26	.812	Master GW#7190	5,073,659.46	673,363.32	121.14
GWD 7200	17,991.70	18,032.0	7190	24.54	.812	Master GW#7200	5,073,652.20	673,361.52	121.27
GWD 7210	18,016.96	18,057.3	7200	25.26	.812	Master GW#7210	5,073,644.74	673,359.65	121.36
GWD 7220	18,044.13	18,084.5	7210	27.17	.812	Master GW#7220	5,073,636.70	673,357.69	121.43

Pipeline Tally

Client: Enbridge Energy Limited Partnership | Run Date: July 31, 2013 | Projection: UTM | Zone: 16

Project: NPS 20 GEOPIG Geometry Inspection | Location: Line 5 Straights of Mackinac-East Loop | Datum: WGS 84 | C.M.: -87

Feature Identifier	Absolute Distance (ft)	Enbridge Chainage (ft)	Nearest U/S GWD	Dist to U/S GWD (ft)	Wall Thickness (in)	Description	Northing (m)	Easting (m)	Height (m)
GWD 7230	18,071.06	18,111.5	7220	26.93	.812	Master GW#7230	5,073,628.73	673,355.73	121.52
GWD 7240	18,095.74	18,136.2	7230	24.67	.812	Master GW#7240	5,073,621.42	673,353.95	121.69
GWD 7250	18,120.47	18,160.9	7240	24.73	.812	Master GW#7250	5,073,614.09	673,352.21	121.91
GWD 7260	18,146.56	18,187.1	7250	26.08	.812	Master GW#7260	5,073,606.36	673,350.37	122.17
GWD 7270	18,173.39	18,213.9	7260	26.84	.812	Master GW#7270	5,073,598.40	673,348.51	122.48
GWD 7280	18,197.70	18,238.2	7270	24.31	.812	Master GW#7280	5,073,591.19	673,346.80	122.75
GWD 7290	18,224.61	18,265.1	7280	26.90	.812	Master GW#7290	5,073,583.21	673,344.93	122.98
GWD 7300	18,249.60	18,290.1	7290	25.00	.812	Master GW#7300	5,073,575.81	673,343.17	123.11
GWD 7310	18,268.57	18,309.2	7300	18.97	.812	Master GW#7310	5,073,570.19	673,341.83	123.18
GWD 7320	18,295.14	18,335.8	7310	26.57	.812	Master GW#7320	5,073,562.31	673,339.94	123.30
GWD 7330	18,321.92	18,362.6	7320	26.77	.812	Master GW#7330	5,073,554.38	673,338.03	123.40
GWD 7340	18,349.08	18,389.8	7330	27.16	.812	Master GW#7340	5,073,546.34	673,336.10	123.48
GWD 7350	18,367.59	18,408.3	7340	18.50	.812	Master GW#7350	5,073,540.86	673,334.78	123.51
GWD 7360	18,393.83	18,434.6	7350	26.25	.812	Master GW#7360	5,073,533.08	673,332.95	123.51
GWD 7370	18,410.07	18,450.9	7360	16.24	.812	Master GW#7370	5,073,528.27	673,331.81	123.49
GWD 7380	18,437.73	18,478.6	7370	27.66	.812	Master GW#7380	5,073,520.08	673,329.86	123.50
GWD 7390	18,456.10	18,496.9	7380	18.37	.812	Master GW#7390	5,073,514.63	673,328.56	123.49
GWD 7400	18,482.48	18,523.3	7390	26.38	.812	Master GW#7400	5,073,506.83	673,326.67	123.48
GWD 7410	18,509.32	18,550.2	7400	26.84	.812	Master GW#7410	5,073,498.89	673,324.71	123.50
GWD 7420	18,526.80	18,567.7	7410	17.49	.812	Master GW#7420	5,073,493.72	673,323.45	123.53
GWD 7430	18,543.50	18,584.4	7420	16.70	.812	Master GW#7430	5,073,488.78	673,322.23	123.56
GWD 7440	18,570.67	18,611.6	7430	27.17	.812	Master GW#7440	5,073,480.74	673,320.25	123.67
GWD 7450	18,594.58	18,635.4	7440	23.91	.812	Master GW#7450	5,073,473.66	673,318.52	123.77
GWD 7460	18,619.00	18,660.0	7450	24.41	.812	Master GW#7460	5,073,466.42	673,316.80	123.86
GWD 7470	18,646.16	18,687.1	7460	27.16	.812	Master GW#7470	5,073,458.36	673,314.94	123.96
GWD 7480	18,672.57	18,713.6	7470	26.41	.812	Master GW#7480	5,073,450.51	673,313.16	124.07
GWD 7490	18,698.98	18,739.9	7480	26.41	.812	Master GW#7490	5,073,442.67	673,311.35	124.16
GWD 7500	18,715.09	18,756.1	7490	16.11	.812	Master GW#7500	5,073,437.89	673,310.23	124.23
GWD 7510	18,743.24	18,784.3	7500	28.15	.812	Master GW#7510	5,073,429.55	673,308.20	124.39
GWD 7520	18,770.47	18,811.6	7510	27.23	.812	Master GW#7520	5,073,421.49	673,306.22	124.53
GWD 7530	18,792.42	18,833.5	7520	21.95	.812	Master GW#7530	5,073,414.99	673,304.65	124.62
GWD 7540	18,819.36	18,860.5	7530	26.94	.812	Master GW#7540	5,073,407.01	673,302.71	124.71

Pipeline Tally

Client: Enbridge Energy Limited Partnership | Run Date: July 31, 2013 | Projection: UTM | Zone: 16

Project: NPS 20 GEOPIG Geometry Inspection | Location: Line 5 Straights of Mackinac-East Loop | Datum: WGS 84 | C.M.: -87

Feature Identifier	Absolute Distance (ft)	Enbridge Chainage (ft)	Nearest U/S GWD	Dist to U/S GWD (ft)	Wall Thickness (in)	Description	Northing (m)	Easting (m)	Height (m)
GWD 7550	18,838.49	18,879.6	7540	19.13	.812	Master GW#7550	5,073,401.35	673,301.35	124.75
GWD 7560	18,859.09	18,900.2	7550	20.60	.812	Master GW#7560	5,073,395.24	673,299.88	124.76
GWD 7570	18,876.37	18,917.5	7560	17.28	.812	Master GW#7570	5,073,390.13	673,298.65	124.72
GWD 7580	18,902.00	18,943.2	7570	25.64	.812	Master GW#7580	5,073,382.54	673,296.81	124.64
GWD 7590	18,929.30	18,970.5	7580	27.29	.812	Master GW#7590	5,073,374.46	673,294.84	124.58
GWD 7600	18,956.89	18,998.2	7590	27.59	.812	Master GW#7600	5,073,366.29	673,292.87	124.56
GWD 7610	18,976.31	19,017.6	7600	19.42	.812	Master GW#7610	5,073,360.53	673,291.49	124.58
GWD 7620	19,004.07	19,045.4	7610	27.76	.812	Master GW#7620	5,073,352.31	673,289.53	124.58
GWD 7630	19,029.95	19,071.3	7620	25.88	.812	Master GW#7630	5,073,344.64	673,287.69	124.49
GWD 7640	19,053.88	19,095.2	7630	23.92	.812	Master GW#7640	5,073,337.54	673,286.06	124.34
GWD 7650	19,077.92	19,119.2	7640	24.04	.812	Master GW#7650	5,073,330.39	673,284.52	124.20
GWD 7660	19,104.56	19,146.0	7650	26.64	.812	Master GW#7660	5,073,322.46	673,282.82	124.13
GWD 7670	19,130.02	19,171.5	7660	25.46	.812	Master GW#7670	5,073,314.92	673,281.04	124.10
GWD 7680	19,156.66	19,198.2	7670	26.64	.812	Master GW#7680	5,073,307.04	673,279.09	124.13
GWD 7690	19,183.96	19,225.5	7680	27.30	.812	Master GW#7690	5,073,298.98	673,277.06	124.22
GWD 7700	19,208.99	19,250.6	7690	25.03	.812	Master GW#7700	5,073,291.59	673,275.16	124.36
GWD 7710	19,234.55	19,276.2	7700	25.56	.812	Master GW#7710	5,073,284.05	673,273.24	124.56
GWD 7720	19,260.04	19,301.7	7710	25.49	.812	Master GW#7720	5,073,276.52	673,271.34	124.84
GWD 7730	19,284.58	19,326.3	7720	24.54	.812	Master GW#7730	5,073,269.27	673,269.51	125.13
GWD 7740	19,310.27	19,352.0	7730	25.69	.812	Master GW#7740	5,073,261.67	673,267.65	125.43
GWD 7750	19,336.52	19,378.2	7740	26.25	.812	Master GW#7750	5,073,253.90	673,265.77	125.76
GWD 7760	19,363.94	19,405.7	7750	27.43	.812	Master GW#7760	5,073,245.78	673,263.78	126.10
GWD 7770	19,390.26	19,432.0	7760	26.31	.812	Master GW#7770	5,073,237.99	673,261.90	126.40
GWD 7780	19,410.89	19,452.7	7770	20.64	.812	Master GW#7780	5,073,231.88	673,260.43	126.64
GWD 7790	19,438.06	19,479.8	7780	27.16	.812	Master GW#7790	5,073,223.85	673,258.48	126.98
GWD 7800	19,465.16	19,507.0	7790	27.10	.812	Master GW#7800	5,073,215.82	673,256.55	127.30
GWD 7810	19,492.46	19,534.4	7800	27.30	.812	Master GW#7810	5,073,207.74	673,254.61	127.62
GWD 7820	19,513.32	19,555.2	7810	20.86	.812	Master GW#7820	5,073,201.57	673,253.12	127.88
GWD 7830	19,539.93	19,581.9	7820	26.61	.812	Master GW#7830	5,073,193.69	673,251.23	128.21
GWD 7840	19,567.92	19,609.9	7830	27.99	.812	Master GW#7840	5,073,185.41	673,249.24	128.55
GWD 7850	19,594.09	19,636.1	7840	26.18	.812	Master GW#7850	5,073,177.67	673,247.35	128.84
GWD 7860	19,620.64	19,662.6	7850	26.54	.812	Master GW#7860	5,073,169.81	673,245.44	129.16

Pipeline Tally

Client: Enbridge Energy Limited Partnership | Run Date: July 31, 2013 | Projection: UTM | Zone: 16

Project: NPS 20 GEOPIG Geometry Inspection | Location: Line 5 Straights of Mackinac-East Loop | Datum: WGS 84 | C.M.: -87

Feature Identifier	Absolute Distance (ft)	Enbridge Chainage (ft)	Nearest U/S GWD	Dist to U/S GWD (ft)	Wall Thickness (in)	Description	Northing (m)	Easting (m)	Height (m)
GWD 7870	19,646.72	19,688.6	7860	26.08	.812	Master GW#7870	5,073,162.10	673,243.56	129.56
GWD 7880	19,674.44	19,716.5	7870	27.72	.812	Master GW#7880	5,073,153.91	673,241.53	129.99
GWD 7890	19,701.02	19,743.1	7880	26.57	.812	Master GW#7890	5,073,146.06	673,239.60	130.40
GWD 7900	19,727.53	19,769.6	7890	26.51	.812	Master GW#7900	5,073,138.21	673,237.72	130.87
GWD 7910	19,750.92	19,793.0	7900	23.39	.812	Master GW#7910	5,073,131.29	673,236.08	131.39
GWD 7920	19,778.54	19,820.7	7910	27.62	.812	Master GW#7920	5,073,123.14	673,234.11	132.04
DNT 2	19,797.85	19,840.3	7920	19.31	.812	1.5% Dent at 1:15 - On top of pipe	5,073,117.36	673,232.69	132.54
GWD 7930	19,806.73	19,848.9	7920	28.18	.812	Master GW#7930	5,073,114.82	673,232.07	132.76
GWD 7940	19,830.84	19,873.0	7930	24.11	.812	Master GW#7940	5,073,107.70	673,230.35	133.24
GWD 7950	19,852.46	19,894.7	7940	21.62	.812	Master GW#7950	5,073,101.30	673,228.83	133.54
GWD 7960	19,881.10	19,923.3	7950	28.64	.812	Master GW#7960	5,073,092.81	673,226.85	133.86
GWD 7970	19,908.01	19,950.2	7960	26.90	.812	Master GW#7970	5,073,084.84	673,225.00	134.28
GWD 7980	19,933.14	19,975.4	7970	25.13	.812	Master GW#7980	5,073,077.39	673,223.31	134.82
GWD 7990	19,961.52	20,003.8	7980	28.38	.812	Master GW#7990	5,073,068.99	673,221.41	135.57
GWD 8000	19,989.04	20,031.4	7990	27.53	.812	Master GW#8000	5,073,060.84	673,219.51	136.23
GWD 8010	20,017.16	20,059.5	8000	28.12	.812	Master GW#8010	5,073,052.53	673,217.54	136.97
GWD 8020	20,038.35	20,080.7	8010	21.19	.812	Master GW#8020	5,073,046.27	673,216.05	137.52
GWD 8030	20,064.93	20,107.4	8020	26.58	.812	Master GW#8030	5,073,038.42	673,214.17	138.16
GWD 8040	20,088.49	20,130.9	8030	23.56	.812	Master GW#8040	5,073,031.46	673,212.50	138.68
GWD 8050	20,116.96	20,159.4	8040	28.47	.812	Master GW#8050	5,073,023.06	673,210.45	139.26
GWD 8060	20,143.83	20,186.3	8050	26.87	.812	Master GW#8060	5,073,015.14	673,208.50	139.82
GWD 8070	20,171.75	20,214.3	8060	27.92	.812	Master GW#8070	5,073,006.92	673,206.44	140.50
GWD 8080	20,185.31	20,227.9	8070	13.55	.812	Master GW#8080	5,073,002.93	673,205.44	140.89
GWD 8090	20,205.51	20,248.1	8080	20.20	.812	Master GW#8090	5,072,996.98	673,204.01	141.56
GWD 8100	20,232.48	20,275.1	8090	26.97	.812	Master GW#8100	5,072,989.04	673,202.09	142.54
GWD 8110	20,257.32	20,300.0	8100	24.84	.812	Master GW#8110	5,072,981.72	673,200.32	143.44
GWD 8120	20,284.32	20,327.0	8110	27.00	.812	Master GW#8120	5,072,973.78	673,198.43	144.50
GWD 8130	20,310.24	20,353.0	8120	25.92	.812	Master GW#8130	5,072,966.13	673,196.65	145.39
GWD 8140	20,336.39	20,379.2	8130	26.15	.812	Master GW#8140	5,072,958.40	673,194.90	146.22
GWD 8150	20,360.86	20,403.6	8140	24.48	.812	Master GW#8150	5,072,951.16	673,193.28	147.00
GWD 8160	20,385.89	20,428.7	8150	25.03	.812	Master GW#8160	5,072,943.74	673,191.62	147.72
GWD 8170	20,413.26	20,456.1	8160	27.36	.812	Master GW#8170	5,072,935.63	673,189.79	148.42

Pipeline Tally

Client: Enbridge Energy Limited Partnership | Run Date: July 31, 2013 | Projection: UTM | Zone: 16

Project: NPS 20 GEOPIG Geometry Inspection | Location: Line 5 Straights of Mackinac-East Loop | Datum: WGS 84 | C.M.: -87

Feature Identifier	Absolute Distance (ft)	Enbridge Chainage (ft)	Nearest U/S GWD	Dist to U/S GWD (ft)	Wall Thickness (in)	Description	Northing (m)	Easting (m)	Height (m)
GWD 8180	20,437.66	20,480.6	8170	24.41	.812	Master GW#8180	5,072,928.39	673,188.12	148.99
GWD 8190	20,462.24	20,505.1	8180	24.57	.812	Master GW#8190	5,072,921.12	673,186.41	149.46
GWD 8200	20,487.50	20,530.4	8190	25.26	.812	Master GW#8200	5,072,913.64	673,184.61	149.80
GWD 8210	20,512.07	20,554.9	8200	24.57	.812	Master GW#8210	5,072,906.38	673,182.85	150.19
GWD 8220	20,529.53	20,572.5	8210	17.45	.812	Master GW#8220	5,072,901.22	673,181.57	150.48
GWD 8230	20,555.29	20,598.2	8220	25.76	.812	Master GW#8230	5,072,893.62	673,179.66	150.84
GWD 8240	20,580.77	20,623.7	8230	25.48	.812	Master GW#8240	5,072,886.10	673,177.77	151.15
GWD 8250	20,608.24	20,651.3	8240	27.47	.812	Master GW#8250	5,072,878.00	673,175.72	151.48
GWD 8260	20,632.81	20,675.8	8250	24.57	.812	Master GW#8260	5,072,870.74	673,173.91	151.80
GWD 8270	20,660.24	20,703.2	8260	27.43	.812	Master GW#8270	5,072,862.64	673,171.90	152.27
GWD 8280	20,684.45	20,727.5	8270	24.21	.812	Master GW#8280	5,072,855.49	673,170.13	152.65
GWD 8290	20,711.25	20,754.4	8280	26.81	.812	Master GW#8290	5,072,847.57	673,168.19	152.96
GWD 8300	20,737.70	20,780.8	8290	26.44	.812	Master GW#8300	5,072,839.75	673,166.30	153.12
GWD 8310	20,765.03	20,808.0	8300	27.33	.812	Master GW#8310	5,072,831.66	673,164.35	153.16
GWD 8320	20,785.85	20,829.0	8310	20.82	.812	Master GW#8320	5,072,825.50	673,162.89	153.16
GWD 8330	20,813.78	20,857.0	8320	27.94	.812	Master GW#8330	5,072,817.23	673,160.93	153.22
GWD 8340	20,838.45	20,881.7	8330	24.67	.812	Master GW#8340	5,072,809.93	673,159.19	153.34
GWD 8350	20,847.01	20,890.3	8340	8.56	.812	Master GW#8350	5,072,807.39	673,158.59	153.36
BND 12	20,851.79	20,898.6	8350	4.78	.812	26.4D Bend .6 LT 8.2 Up	5,072,804.95	673,158.02	153.43
IDR 1	20,853.52	20,896.9	8350	6.51	.812	17.96in Internal Diameter - At Bend	5,072,805.46	673,158.14	153.39
GWD 8360	20,872.61	20,916.1	8350	25.59	.812	Master GW#8360	5,072,799.83	673,156.87	154.21
GWD 8370	20,898.16	20,941.6	8360	25.55	.812	Master GW#8370	5,072,792.31	673,155.18	155.49
GWD 8380	20,925.43	20,969.0	8370	27.27	.812	Master GW#8380	5,072,784.27	673,153.38	156.77
BND 13	20,938.62	20,985.7	8380	13.19	.812	26.1D Bend .6 RT 8.4 Down	5,072,779.33	673,152.28	157.52
IDR 2	20,944.41	20,987.9	8380	18.98	.812	17.96in Internal Diameter - At Bend	5,072,778.67	673,152.12	157.56
GWD 8390	20,950.43	20,994.0	8380	25.00	.812	Master GW#8390	5,072,776.89	673,151.70	157.59
GWD 8400	20,975.89	21,019.5	8390	25.46	.812	Master GW#8400	5,072,769.35	673,149.92	157.70
GWD 8410	21,002.17	21,045.8	8400	26.28	.812	Master GW#8410	5,072,761.57	673,148.08	157.86
GWD 8420	21,027.46	21,071.1	8410	25.29	.812	Master GW#8420	5,072,754.07	673,146.34	157.92
GWD 8430	21,054.72	21,098.4	8420	27.26	.812	Master GW#8430	5,072,745.98	673,144.47	157.88
GWD 8440	21,080.58	21,124.3	8430	25.86	.812	Master GW#8440	5,072,738.31	673,142.68	157.96
GWD 8450	21,106.40	21,150.1	8440	25.82	.812	Master GW#8450	5,072,730.65	673,140.87	158.05

Pipeline Tally

Client: Enbridge Energy Limited Partnership | Run Date: July 31, 2013 | Projection: UTM | Zone: 16

Project: NPS 20 GEOPIG Geometry Inspection | Location: Line 5 Straights of Mackinac-East Loop | Datum: WGS 84 | C.M.: -87

Feature Identifier	Absolute Distance (ft)	Enbridge Chainage (ft)	Nearest U/S GWD	Dist to U/S GWD (ft)	Wall Thickness (in)	Description	Northing (m)	Easting (m)	Height (m)
GWD 8460	21,133.92	21,177.6	8450	27.53	.812	Master GW#8460	5,072,722.51	673,138.88	158.20
GWD 8470	21,160.96	21,204.7	8460	27.04	.812	Master GW#8470	5,072,714.51	673,136.90	158.38
GWD 8480	21,188.12	21,231.9	8470	27.16	.812	Master GW#8480	5,072,706.48	673,134.91	158.62
BND 14	21,196.77	21,243.2	8480	8.64	.812	23.2D Bend 7.1 RT .8 Up	5,072,703.15	673,134.04	158.70
IDR 3	21,199.73	21,243.5	8480	11.60	.812	17.91in Internal Diameter - At Bend	5,072,703.06	673,134.02	158.70
GWD 8490	21,214.70	21,258.5	8480	26.58	.812	Master GW#8490	5,072,698.81	673,132.36	158.85
BND 15	21,219.37	21,273.0	8490	4.67	.812	27.1D Bend 22.3 RT	5,072,694.81	673,130.50	159.02
GWD 8500	21,242.91	21,286.7	8490	28.21	.812	Master GW#8500	5,072,691.59	673,127.86	159.20
BND 16	21,246.39	21,297.5	8500	3.48	.812	26.5D Bend 15.9 RT 1.4 Down	5,072,689.32	673,125.50	159.32
IDR 4	21,256.81	21,300.7	8500	13.90	.812	17.98in Internal Diameter - At Bend	5,072,688.74	673,124.74	159.34
GWD 8510	21,269.45	21,313.4	8500	26.54	.812	Master GW#8510	5,072,686.75	673,121.44	159.42
BND 17	21,273.75	21,328.0	8510	4.30	.812	24.3D Bend 23.6 RT	5,072,684.82	673,117.49	159.50
GWD 8520	21,296.26	21,340.4	8510	26.81	.812	Master GW#8520	5,072,684.07	673,113.82	159.57
BND 18	21,299.39	21,351.4	8520	3.13	.812	24.0D Bend 18.8 RT	5,072,683.90	673,110.52	159.63
GWD 8530	21,322.93	21,367.4	8520	26.67	.812	Master GW#8530	5,072,684.74	673,105.78	159.69
GWD 8540	21,346.29	21,390.9	8530	23.36	.812	Master GW#8540	5,072,686.27	673,098.83	159.78
GWD 8550	21,366.08	21,410.7	8540	19.78	.812	Master GW#8550	5,072,687.57	673,092.94	159.94
GWD 8560	21,384.94	21,429.5	8550	18.86	.812	Master GW#8560	5,072,688.82	673,087.33	160.06
GWD 8570	21,411.25	21,456.0	8560	26.31	.812	Master GW#8570	5,072,690.59	673,079.52	160.12
GWD 8580	21,438.13	21,482.8	8570	26.87	.812	Master GW#8580	5,072,692.44	673,071.54	160.05
GWD 8590	21,465.29	21,510.0	8580	27.17	.812	Master GW#8590	5,072,694.33	673,063.48	160.04
GWD 8600	21,491.24	21,536.0	8590	25.95	.812	Master GW#8600	5,072,696.15	673,055.79	160.09
GWD 8610	21,516.93	21,561.7	8600	25.69	.812	Master GW#8610	5,072,697.93	673,048.17	160.15
GWD 8620	21,541.73	21,586.5	8610	24.80	.812	Master GW#8620	5,072,699.65	673,040.81	160.28
GWD 8630	21,565.42	21,610.3	8620	23.69	.812	Master GW#8630	5,072,701.34	673,033.80	160.41
GWD 8640	21,593.74	21,638.6	8630	28.31	.812	Master GW#8640	5,072,703.34	673,025.41	160.53
GWD 8650	21,621.59	21,666.4	8640	27.86	.812	Master GW#8650	5,072,705.32	673,017.15	160.62
GWD 8660	21,647.83	21,692.8	8650	26.24	.812	Master GW#8660	5,072,707.18	673,009.38	160.70
GWD 8670	21,675.02	21,719.9	8660	27.19	.812	Master GW#8670	5,072,709.09	673,001.32	160.81
VLV 2	21,675.12	21,722.0	8670	.10	.812		5,072,709.23	673,000.72	160.82
GWD 8675	21,676.50	21,721.4	8670	1.48	.812	Master GW#8675	5,072,709.19	673,000.88	160.82
GWD 8685	21,677.62	21,722.7	8675	1.12	.812	Master GW#8685	5,072,709.27	673,000.55	160.82

Pipeline Tally

Client: Enbridge Energy Limited Partnership | Run Date: July 31, 2013 | Projection: UTM | Zone: 16

Project: NPS 20 GEOPIG Geometry Inspection | Location: Line 5 Straights of Mackinac-East Loop | Datum: WGS 84 | C.M.: -87

BAKER HUGHES

Feature Identifier	Absolute Distance (ft)	Enbridge Chainage (ft)	Nearest U/S GWD	Dist to U/S GWD (ft)	Wall Thickness (in)	Description	Northing (m)	Easting (m)	Height (m)
GWD 8690	21,679.09	21,724.0	8685	1.47	.812	Master GW#8690	5,072,709.37	673,000.11	160.83
GWD 8700	21,706.08	21,750.9	8690	26.99	.812	Master GW#8700	5,072,711.20	672,992.09	160.93
TEE 3	21,706.68	21,752.2	8700	.60	.812		5,072,711.28	672,991.70	160.94
GWD 8710	21,708.65	21,753.4	8700	2.57	.812	Master GW#8710	5,072,711.37	672,991.33	160.94
GWD 8720	21,711.55	21,756.5	8710	2.90	.812	Master GW#8720	5,072,711.57	672,990.47	160.95
VLV 3	21,711.70	21,758.3	8720	.15	.812	Receive Valve GPS-2	5,072,711.67	672,990.03	160.94
GWD 8750	21,714.48	21,760.1	8720	2.93	.812	Master GW#8750	5,072,711.77	672,989.60	160.94
BND 19	21,719.52	21,769.8	8750	5.04	.812	29.0D Bend .7 LT 11.3 Up	5,072,712.47	672,986.52	161.02
GWD 8760	21,738.89	21,782.8	8750	24.41	.812	Master GW#8760	5,072,713.38	672,982.42	161.81
GWD 8770	21,748.92	21,792.9	8760	10.04	.812	Master GW#8770	5,072,714.02	672,979.49	162.48
BND 20	21,755.92	21,804.9	8770	7.00	.812	25.4D Bend 1.2 RT 11.8 Down	5,072,714.79	672,975.98	163.15
IDR 5	21,759.51	21,803.5	8770	10.58	.812	17.96in Internal Diameter - At Bend	5,072,714.70	672,976.40	163.10
GWD 8780	21,774.20	21,818.1	8770	25.27	.812	Master GW#8780	5,072,715.70	672,972.04	163.23
TEE 4	21,775.45	21,819.8	8780	1.25	.812		5,072,715.82	672,971.54	163.23
GWD 8790	21,777.31	21,821.2	8780	3.11	.812	Weld	5,072,715.92	672,971.12	163.23