Bend Listing

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)	Bend		Azimuth		Pitch		Northing (m)	Easting (m)	Height (m)
					Rad. (D)	Angle (deg.)	Change (deg).	Dir.	Change (deg).	Dir.			
BND 1	70.30	98.3	71	3.01	9.5	29.7	.1	Right	29.7	Down	5,078,851.91	674,434.83	141.06
BND 2	85.91	114.2	91	2.67	10.2	30.2	.2	Left	30.2	Up	5,078,850.83	674,439.04	136.94
BND 3	100.93	129.2	101	2.96	10.3	29.8	29.8	Right	.0	Up	5,078,849.54	674,443.40	136.75
BND 4	149.46	177.3	131	2.98	9.6	29.7	29.7	Left	.5	Up	5,078,839.83	674,454.34	138.78
BND 5	527.05	557.4	300	4.98	31.7	11.8	11.8	Right	.3	Up	5,078,813.96	674,567.03	136.97
BND 6	548.10	582.4	310	5.25	31.3	16.9	16.9	Right	.2	Up	5,078,810.44	674,573.73	136.91
BND 7	575.92	609.3	320	4.89	32.8	15.0	15.0	Right	.1	Up	5,078,804.54	674,579.33	136.90
BND 8	601.19	634.8	330	3.55	34.6	13.2	13.2	Right	.5	Down	5,078,797.64	674,582.75	136.89
BND 9	621.25	657.5	340	1.92	24.6	26.1	26.1	Right	.6	Up	5,078,790.92	674,583.97	138.84
BND 10	4,425.23	4,456.6	1850	5.15	79.7	1.6	.5	Right	1.5	Up	5,077,666.59	674,316.95	120.42
BND 11	4,539.77	4,571.1	1890	17.13	50.1	2.0	1.9	Left	.3	Up	5,077,632.86	674,308.29	119.95
BND 12	20,851.79	20,898.6	8350	4.78	26.4	8.2	.6	Left	8.2	Up	5,072,804.95	673,156.02	153.43
BND 13	20,938.62	20,985.7	8380	13.19	26.1	8.4	.6	Right	8.4	Down	5,072,779.33	673,152.28	157.52
BND 14	21,196.77	21,243.2	8480	8.64	23.2	7.2	7.1	Right	.8	Up	5,072,703.15	673,134.04	158.70
BND 15	21,219.37	21,273.0	8490	4.67	27.1	22.3	22.3	Right	.0	Up	5,072,694.81	673,130.50	159.02
BND 16	21,246.39	21,297.5	8500	3.48	26.5	15.9	15.9	Right	1.4	Down	5,072,689.32	673,125.50	159.32
BND 17	21,273.75	21,328.0	8510	4.30	24.3	23.6	23.6	Right	.0	Down	5,072,684.82	673,117.49	159.50
BND 18	21,299.39	21,351.4	8520	3.13	24.0	18.8	18.8	Right	.4	Down	5,072,683.90	673,110.52	159.63
BND 19	21,719.52	21,769.8	8750	5.04	29.0	11.3	.7	Left	11.3	Up	5,072,712.47	672,986.52	161.02
BND 20	21,755.92	21,804.9	8770	7.00	25.4	11.8	1.2	Right	11.8	Down	5,072,714.79	672,975.98	163.15

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