Mn/DOT Name: 16 E

NGS Name: 16 E

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
Q	35	161 N	31 W	484313.00	943522.00	2	

NGS ACRN: TC0197 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1934	1966	GOOD	Horz=? Vert=YES	NO	RR		SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE FOOTING - LARGE	BOLT	GSC

Description: (1966)

Stamping:

1.0 MILE WEST OF RAINY RIVER, 1.0 MILE SOUTH ALONG THE CANADIAN NATIONAL RAILWAY FROM RAINY RIVER, IN THE SOUTH END OF THE WEST FACE OF AN EAST ABUTMENT OF A RAILROAD BRIDGE OVER THE RAINY RIVER, 2.5 FEET HIGHER THAN THE BRIDGE SEAT.

Station Notes

THE MARK IS A BOLT SET VERTICALLY.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1080.687	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1079.384	.007	1				VERTICAL CONTROL SURVEY	1941	L42 MINN

Geoid Separations(ft): GEOID18 = -95.397 12B = -95.351 09 = -95.275 03 = -95.308

*** No Horizontal Positions in the Database ***

Mn/DOT Name: 17 E

NGS Name: 17 E

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484313.00	943350.00	2	

NGS ACRN: TC0198 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1934	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE FOOTING - LARGE	BOLT	NGS

Description: (1934)

Stamping:

IN RAINY RIVER, AT THE PUBLIC SCHOOL, IN THE CONCRETE FOUNDATION OF THE NORTH WALL, 5.6 FEET FROM THE NORTHWEST CORNER, 3.7 FEET BELOW THE BRICK WORK.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1082.229	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

Geoid Separations(ft): GEOID18 = -95.462 12B = -95.423 09 = -95.334 03 = -95.377

*** No Horizontal Positions in the Database ***

Mn/DOT Name: 196 **NGS Name:** 196

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484320.25	942750.40		C

NGS ACRN: DN3584 Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1993	2011	GOOD	Horz=YES Vert=YES	YES		FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	ONCADH

Description: (2011) **Stamping:** 008 930196

4.5 MILES EAST OF RAINY RIVER, 4.5 MILES EAST ALONG CANADA HIGHWAY 11 FROM THE JUNCTION OF CANADA HIGHWAY 11 AND IN RAINY RIVER, 0.6 MILE WEST OF WORTHINGTON ROAD NUMBER 4, 0.4 MILE EAST OF WORTHINGTON ROAD NUMBER 3, 46.25 FEET WEST OF THE EAST EDGE OF A ROCK CUT, 23.6 FEET NORTH OF THE NORTH EDGE OF CANADA HIGHWAY 11 PAVEMENT, 9.1 FEET NORTHWEST OF SHARP POINT ON THE SOUTH FACE OF A ROCK OUTCROPPING.

Station Notes
TAKE PHOTO THREE 7/1/13.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
			1031.612	.010	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1127.360	.131		1031.697	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2826
1127.360	.131		1031.697	.066	2007	GPS - STATIC	2011	HRAINY
1127.393	.131		1031.684	.066	1996	GPS - STATIC	2011	HRAINY

Geoid Separations(ft): GEOID18 = -95.777 12B = -95.758 09 = -95.656 03 = -95.731

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 43 20.25045	94 27 50.39554			.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 43 20.25066	94 27 50.39612			.033	C	ADJUSTMENT	2011	GPS2826
48 43 20.25066	94 27 50.39612			.033	C	GPS - STATIC	2011	HRAINY

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 43 20.25072	94 27 50.39613			.033	C	GPS - STATIC	2011	HRAINY

State Plane and UTM Coordinates (Feet)

NAD83(2011)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1287159.114	17708688.107	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1287159.075	17708688.128	.033	C	ADJUSTMENT	2011	GPS2826
		1287159.075	17708688.128	.033	C	GPS - STATIC	2011	HRAINY

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1287159.075	17708688.135	.033	C	GPS - STATIC	2011	HRAINY

Station Photos

Type	File Name	Dir	Date
Location:			
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/ontario/rainy_river_district/196-DN3584-2-22FEB2011.jpg		Feb 22, 2011
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/ontario/rainy_river_district/196-DN3584-1-22FEB2011.jpg		Feb 22, 2011

** All station images can be viewed at: ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos **

Mn/DOT Name: 1962 **NGS Name:** 1962

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484309.10	943405.40	2	

NGS ACRN: DN8247 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1962	2011	GOOD	Horz=YES Vert=YES	YES		PROJECTS 36 IN.	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	BENCH MARK DISK	GSC

Description: (2011) **Stamping:** 1962

IN RAINY RIVER, ONTARIO, CANADA, 0.75 MILE NORTHEAST OF BAUDETTE, AT THE JUNCTION OF 4TH STREET AND MILL AVENUE, 40.0 FEET NORTH OF THE NORTH LIMIT OF MILL AVENUE, 16.1 FEET EAST OF THE EAST LIMIT OF FOURTH STREET.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1075.926	.016	2/1				VERTICAL ADJUSTMENT	2013	00000762
1075.923	.016	2/1				VERTICAL CONTROL SURVEY	2011	VRAINY

Geoid Separations(ft): GEOID18 = -95.443 12B = -95.403 09 = -95.318 03 = -95.357

*** No Horizontal Positions in the Database ***

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/ontario/rainy_river_district/1962-DN8247-3E-15FEB2011.jpg	E	Feb 15, 2011
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/ontario/rainy_river_district/1962-DN8247-2-15FEB2011.jpg		Feb 15, 2011
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/ontario/rainy_river_district/1962-DN8247-1-15FEB2011.jpg		Feb 15, 2011

** All station images can be viewed at: ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos **

Mn/DOT Name: 1963 **NGS Name:** 1963

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: DN8248 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484307.60	943405.40	2	

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1963	2011	GOOD	Horz=YES Vert=YES	YES			NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
CONCRETE FOUNDATION	BENCH MARK DISK	GSC

Description: (2011) **Stamping:** 1963

IN RAINY RIVER, ONTARIO, CANADA, 0.75 MILE NORTHEAST OF BAUDETTE, AT THE SOUTHEAST CORNER OF THE JUNCTION OF 4TH STREET AND MILL AVENUE, IN THE FRONT OF THE WEST STONE FOUNDATION WALL, 2.59 FEET FROM THE SOUTHWEST CORNER, 0.98 FEET BELOW THE TOP OF A FOUNDATION. THE DISK SET VERTICALLY IN A FOUNDATION WALL.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1073.791	.016	2/1				VERTICAL ADJUSTMENT	2013	00000762
1073.787	.016	2/1				VERTICAL CONTROL SURVEY	2011	VRAINY

Geoid Separations(ft): GEOID18 = -95.439 12B = -95.400 09 = -95.315 03 = -95.354

*** No Horizontal Positions in the Database ***

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/ontario/rainy_river_district/1963-DN8248-3E-15FEB2011.jpg	E	Feb 15, 2011
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/ontario/rainy_river_district/1963-DN8248-2-15FEB2011.jpg		Feb 15, 2011
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/ontario/rainy_river_district/1963-DN8248-1-15FEB2011.jpg		Feb 15, 2011

** All station images can be viewed at: ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos **

Mn/DOT Name: 1964 **NGS Name:** 30U1964

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483631.60	932343.80	1	

NGS ACRN: TB0273 Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	2005	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	BENCH MARK DISK	NGS

Description: (2005) **Stamping:** 1119.234 FEET

IN FORT FRANCES, AT AN ENTRANCE SIDEWALK AND PATIO OF CIVIC CENTRE AT THE SOUTHEAST CORNER OF CHURCH STREET AND PORTAGE AVENUE, A GSC PLAQUE ON THE SIDE OF THE MONUMENT HAS STAMPED ELEVATION OF 1119.23 FEET.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1120.618	.007	1/2				VERTICAL ADJUSTMENT	1991	00000025

Geoid Separations(ft): GEOID18 = -100.886 12B = -100.879 09 = -100.794 03 = -100.781

*** No Horizontal Positions in the Database ***

Mn/DOT Name: 1965 **NGS Name:** 30U1965

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483635.60	932343.60	1	

NGS ACRN: TB0272 Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	2005	GOOD	Horz=NO Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE FOOTING - LARGE	SURVEY DISK	NGS

Description: (1931) **Stamping:**

IN FORT FRANCES, IN THE WEST WALL OF THE NEW POST OFFICE, 3.0 FEET FROM THE NORTHWEST CORNER, 1.5 FEET BELOW A LETTER DROP, 4.0 FEET ABOVE THE GROUND, A GEODETIC SERVICE OF CANADA STANDARD DISK, SET VERTICALLY.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1122.937	.007	1/2				VERTICAL ADJUSTMENT	1991	00000025

Geoid Separations(ft): GEOID18 = -100.889 12B = -100.882 09 = -100.800 03 = -100.787

*** No Horizontal Positions in the Database ***

Mn/DOT Name: 207 **NGS Name:** 207

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484451.24	943505.52		C

NGS ACRN: DN3585 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1993	2011	GOOD	Horz=YES Vert=YES	YES		RECESSED 4 IN.	MARKER W/BAR MAGNET

Monument Type	Disk Type	Mon. Agency
OBJECT DRIVEN INTO THE GROUND	SURVEY DISK	ONCADH

Description: (2011) **Stamping:** 008 930207

3.0 MILES NORTH OF RAINY RIVER, 0.2 MILE NORTHEAST ALONG CANADA HIGHWAY 11 FROM THE NORTH END OF A BRIDGE AT BAUDETTE, MINNESOTA - RAINY RIVER, ONTARIO CROSSING, THEN 1.85 MILES NORTH ALONG CANADA HIGHWAY 600, 64.3 FEET NORTHEAST OF A NAIL AND A DISK IN A POWER POLE, 41.6 FEET EAST OF CANADA HIGHWAY 600, 39.0 FEET NORTH OF A GRAVEL ENTRANCE.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
			1013.351	.009	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1108.922	.131		1013.443	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2826
1108.922	.131		1013.443	.066	2007	GPS - STATIC	2011	HRAINY
1108.922	.131		1013.436	.066	1996	GPS - STATIC	2011	HRAINY

Geoid Separations(ft): GEOID18 = -95.617 12B = -95.584 09 = -95.489 03 = -95.515

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 44 51.23633	94 35 05.52248			.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 44 51.23654	94 35 05.52335			.033	C	ADJUSTMENT	2011	GPS2826
48 44 51.23654	94 35 05.52335			.033	C	GPS - STATIC	2011	HRAINY

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 44 51.23647	94 35 05.52321			.033	C	GPS - STATIC	2011	HRAINY

State Plane and UTM Coordinates (Feet)

NAD83(2011)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1258186.569	17718488.256	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1258186.511	17718488.279	.033	C	ADJUSTMENT	2011	GPS2826
		1258186.511	17718488.279	.033	C	GPS - STATIC	2011	HRAINY

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1258186.520	17718488.271	.033	C	GPS - STATIC	2011	HRAINY

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/ontario/rainy_river_district/207-DN3585-3E-15FEB2011.jpg	E	Feb 15, 2011
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/ontario/rainy_river_district/207-DN3585-2-15FEB2011.jpg		Feb 15, 2011
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/ontario/rainy_river_district/207-DN3585-1-15FEB2011.jpg		Feb 15, 2011

** All station images can be viewed at: ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos **

Mn/DOT Name: 208 **NGS Name:** 208

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484504.78	942547.28		C

NGS ACRN: DN3586 Get Map
NGS Quad / Sta Num : /
Quad Name: N R Canada - 52D/16

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1993	2011	GOOD	Horz=YES Vert=YES	YES		RECESSED 5 IN.	MARKER W/BAR MAGNET

Monument Type	Disk Type	Mon. Agency
OBJECT DRIVEN INTO THE GROUND	SURVEY DISK	ONCADH

Description: (2011) **Stamping:** 008 930208

6.3 MILES NORTHEAST OF RAINY RIVER, 6.1 MILES EAST ALONG CANADA HIGHWAY 11 FROM THE JUNCTION OF CANADA HIGHWAY 11 AND 1ST STREET IN RAINY RIVER, THEN 2.0 MILES NORTH ALONG CANADA HIGHWAY 621, 79.4 FEET WEST OF CANADA HIGHWAY 621, 47.0 FEET NORTHWEST OF A NAIL IN AN ANCHOR POLE, 14.1 FEET SOUTH OF BLUE ROAD NUMBER 2.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
			1023.374	.010	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1119.453	.131		1023.463	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2826
1119.453	.131		1023.463	.066	2007	GPS - STATIC	2011	HRAINY
1119.519	.131		1023.449	.066	1996	GPS - STATIC	2011	HRAINY

Geoid Separations(ft): GEOID18 = -96.096 12B = -96.086 09 = -95.977 03 = -96.082

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 45 04.77909	94 25 47.28123			.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 45 04.77930	94 25 47.28184			.033	C	ADJUSTMENT	2011	GPS2826
48 45 04.77930	94 25 47.28184			.033	C	GPS - STATIC	2011	HRAINY

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 45 04.77934	94 25 47.28183			.033	C	GPS - STATIC	2011	HRAINY

State Plane and UTM Coordinates (Feet)

NAD83(2011)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1295609.513	17719120.316	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1295609.473	17719120.338	.033	C	ADJUSTMENT	2011	GPS2826
		1295609.473	17719120.338	.033	C	GPS - STATIC	2011	HRAINY

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1295609.474	17719120.342	.033	C	GPS - STATIC	2011	HRAINY

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/ontario/rainy_river_district/208-DN3586-3S-15FEB2011.jpg	S	Feb 15, 2011
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/ontario/rainy_river_district/208-DN3586-2-15FEB2011.jpg		Feb 15, 2011
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/ontario/rainy_river_district/208-DN3586-1-15FEB2011.jpg		Feb 15, 2011

** All station images can be viewed at: ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos **

Mn/DOT Name: 29 E

NGS Name: 13U29E

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483635.70	932353.80	1	

NGS ACRN: TB0271 Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1931	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
STRUCTURE (MASSIVE)	BOLT	NGS

Description: (1931) **Stamping:** 29 E

IN FORT FRANCES, AT THE CANADIAN BANK OF COMMERCE, IN THE EAST STONE FOUNDATION WALL, 2.0 FEET FROM THE NORTHEAST CORNER, IN THE FIRST COURSE ABOVE THE SIDEWALK, A GEODETIC SERVICE OF CANADA STANDARD BOLT.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1120.303	.007	1/2				VERTICAL ADJUSTMENT	1991	00000025

Geoid Separations(ft): GEOID18 = -100.869 12B = -100.866 09 = -100.784 03 = -100.771

*** No Horizontal Positions in the Database ***

Mn/DOT Name: 30 E

NGS Name: 30 E

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB0274 Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483630.60	932338.60	1	

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1931	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE FOOTING - LARGE	BOLT	NGS

Description: (1931) **Stamping:** 30 E

IN FORT FRANCES, AT THE TOWN HALL, IN THE EAST STONE FOUNDATION WALL, 3.0 FEET FROM THE NORTHEAST CORNER OF THE MAIN PORTION OF THE BUILDING, 3.0 FEET LOWER THAN THE BRICKWORK, A GEODETIC SERVICE OF CANADA STANDARD BOLT.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1120.762	.007	1/2				VERTICAL ADJUSTMENT	1991	00000025

Geoid Separations(ft): GEOID18 = -100.886 12B = -100.879 09 = -100.794 03 = -100.781

*** No Horizontal Positions in the Database ***

Mn/DOT Name: 79 U 121 **NGS Name:** 79U121

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484313.20	943515.21	2	C

NGS ACRN: TC0478 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1979	2011	GOOD	Horz=YES Vert=YES	YES		FLUSH	MARKER IS STEEL ROD

Monument Type	Disk Type	Mon. Agency
STEEL PIPE - GALVANIZED (IN SLEEVE)	SEE DESCRIPTION	GSC

Description: (1981)

Stamping:

IN RAINY RIVER, ONTARIO, CANADA, 0.15 MILE NORTH ALONG FOURTH STREET FROM THE POST OFFICE IN RAINY RIVER, THEN 0.9 MILE WEST ALONG TRUNK HIGHWAY 11 TO THE CANADIAN CUSTOMS STATION, APPROXIMATELY 300.0 FEET SOUTHWEST OF THE CUSTOMS BUILDING, 0.4 MILE NORTH-NORTHEAST ALONG TRUNK HIGHWAY 72 FROM THE JUNCTION OF TRUNK HIGHWAY 11 IN BAUDETTE TO THE U.S. CUSTOMS STATION, THEN 0.4 MILE NORTHEAST ALONG TRUNK HIGHWAY 72, AT A SMALL ISLAND BETWEEN THE EAST AND WEST HIGHWAY LANES, 29.5 FEET SOUTHWEST OF A FLAG POLE, 9.0 FEET NORTHEAST OF THE SOUTHWEST TIP OF AN ISLAND BETWEEN THE EAST-WEST HIGHWAY LANES, 4.5 FEET SOUTHWEST OF A SECURITY LIGHT POLE, 305.0 FEET NORTHEAST OF THE NORTHEAST END AND THE CENTERLINE OF THE CANADIAN AND UNITED STATES HIGHWAY BRIDGE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1077.088	.016	2/1				VERTICAL ADJUSTMENT	2013	00000762
1077.088	.016	2/1				VERTICAL CONTROL SURVEY	2011	VRAINY
1077.088	.007	1/2				VERTICAL ADJUSTMENT	1991	00000025

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
			981.694	.007	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1077.098	.131		981.770	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2826
1077.098	.131		981.770	.066	2007	GPS - STATIC	2011	HRAINY
1077.098	.131		981.770	.066	1996	GPS - STATIC	2011	HRAINY

Geoid Separations(ft): GEOID18 = -95.403 12B = -95.357 09 = -95.282 03 = -95.311

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 43 13.20312	94 35 15.20732			.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 43 13.20329	94 35 15.20818			.033	C	ADJUSTMENT	2011	GPS2826
48 43 13.20329	94 35 15.20818			.033	C	GPS - STATIC	2011	HRAINY

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 43 13.20321	94 35 15.20804			.033	C	GPS - STATIC	2011	HRAINY

State Plane and UTM Coordinates (Feet)

NAD83(2011)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1257330.893	17708571.007	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1257330.836	17708571.025	.033	C	ADJUSTMENT	2011	GPS2826
		1257330.836	17708571.025	.033	C	GPS - STATIC	2011	HRAINY

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1257330.845	17708571.017	.033	C	GPS - STATIC	2011	HRAINY

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/ontario/rainy_river_district/79U121-TC0478-3NE-22FEB2011.jpg	NE	Feb 22, 2011
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/ontario/rainy_river_district/79U121-TC0478-2-22FEB2011.jpg		Feb 22, 2011
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/ontario/rainy_river_district/79U121-TC0478-1-22FEB2011.jpg		Feb 22, 2011

** All station images can be viewed at: ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos **

Mn/DOT Name: 79 U 123 **NGS Name:** 79 U 123

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484313.70	943346.80	2	

NGS ACRN: DN8249 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1979	2011	GOOD	Horz=NO Vert=YES	YES			NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
CONCRETE FOOTING - MEDIUM	BENCH MARK DISK	GSC

Description: (2011) **Stamping:** 79 U 123

IN RAINY RIVER, ONTARIO, CANADA, IN THE SOUTHWEST QUADRANT OF THE JUNCTION OF GOVERNMENT ROAD AND BROADWAY AVENUE, THE DISK SET VERTICALLY IN THE NORTHEAST FOUNDATION WALL OF THE RECREATION CENTRE AND ARENA, 2.36 FEET WEST OF THE NORTHEAST CORNER, 1.71 FEET BELOW SIDING, 1.15 FEET ABOVE THE GROUND LEVEL.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1082.741	.016	2/1				VERTICAL ADJUSTMENT	2013	00000762
1082.741	.016	2/1				VERTICAL CONTROL SURVEY	2011	VRAINY

Geoid Separations(ft): GEOID18 = -95.466 12B = -95.426 09 = -95.338 03 = -95.384

*** No Horizontal Positions in the Database ***

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/ontario/rainy_river_district/79_U_123-DN8249-3S-15FEB2011.jpg	S	Feb 15, 2011
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/ontario/rainy_river_district/79_U_123-DN8249-2-15FEB2011.jpg		Feb 15, 2011
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/ontario/rainy_river_district/79_U_123-DN8249-1-15FEB2011.jpg		Feb 15, 2011

** All station images can be viewed at: ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos **

ALAIN

Mn/DOT Name: ALAIN

NGS Name: ALAIN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484210.76	941511.16		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

2.3 MILES SOUTHEAST OF PINEWOOD, 1.9 MILES SOUTHEAST ALONG KING HIGHWAY 11 FROM THE JUNCTION OF KING HIGHWAY 11 AND DONALD STREET IN PINEWOOD, THEN 2250.0 FEET EAST FROM KING HIGHWAY 11, 563.0 FEET WEST FROM MORLEY DILKE ROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.706 12B = -96.706 09 = -96.614 03 = -96.604

ARBOR

Mn/DOT Name: ARBOR

NGS Name: ARBOR

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483902.27	941307.01		

NGS ACRN: TC0817 Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1957	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.6 MILES EAST OF THE FRONTIER STORE IN MINNESOTA, ON A POINT BETWEEN THE RIVER AND A CREEK, 98.4 FEET EAST OF THE CREEK, 26.2 FEET ABOVE AND 39.4 FEET BACK FROM THE RIVERS? EDGE, STATION ARBOR IS A BRONZE DISK SET IN CONCRETE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.545 12B = -96.542 09 = -96.466 03 = -96.437

ARBOSE IBC

Mn/DOT Name: ARBOSE IBC

NGS Name: ARBOSE IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483902.85	941323.83		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	SDDT

Description:

5.2 MILES SOUTHEAST OF PINEWOOD, 4.0 MILES SOUTHEAST ALONG TRUNK HIGHWAY 11 FROM THE JUNCTION OF TRUNK HIGHWAY 11 AND DONALD STREET, THEN 0.6 MILE SOUTH ON BUDS ROAD NORTH, THEN ABOUT 1.2 MILES SOUTHEAST OF BUDS ROAD NORTH.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.532 12B = -96.525 09 = -96.456 03 = -96.424

Mn/DOT Name: ARK **NGS Name:** ARK

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TA0180 Get Map
NGS Quad / Sta Num : /
Quad Name: N R Canada - 52B/5

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481539.95	914538.00		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1924	1924	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	NGS

Description: (1924) **Stamping:**

2.0 MILES NORTHWEST OF THE MOST NORTHERN EXTREMITY OF GARDNER BAY OF CROOKED LAKE, 0.5 MILE WEST OF ELK LAKE, ON THE DIVIDE BETWEEN ELK AND TROUT LAKES, ON A HIGH, PROMINENT, BURNED-OVER HILL MADE CONSPICUOUS BY A DENSE STAND OF A LARGE WHITE-PINE SNAGS, TO REACH FROM CROOKED LAKE, GO VIA DEEP BAY EXTENDING NORTH JUST WEST OF RAPIDS TO AN ENTRANCE INTO GARDNER BAY, PROCEED TO THE SOUTHWEST CORNER OF THE NORTHWEST BAY OF GARDNER BAY, MAKE PORTAGE INTO A SMALL BEAVER-DAM LAKE, CROSS LAKE AND MAKE PORTAGE TO ANOTHER BEAVER DAM, CONTINUE UP A NARROW CHANNEL THROUGH FLOATING BOG TO THE SHORT PORTAGE INTO ELK LAKE, PROCEED TO THE HEAD OF FIRST LITTLE BAY ON THE WEST SIDE OF ELK LAKE ABOUT 0.75 MILE FROM PORTAGE, FOLLOW A CUT-AND-BLAZED TRAIL TO STATION ARK SITE, MARKED BY THE GEODETIC SURVEY OF CANADA BRONZE DISK IN A SOLID ROCK, THE REFERENCE MARK IS STANDARD REFERENCE DISK IN A SOLID ROCK 49.3 FEET FROM STATION SOUTH 21 DEGREES 59 MINUTES WEST.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.708 12B = -104.698 09 = -104.724 03 = -104.609

ARK RM

Mn/DOT Name: ARK RM

NGS Name: ARK RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481540.00	914537.00		

NGS ACRN: CJ1796 Get Map
NGS Quad / Sta Num : /
Quad Name: N R Canada - 52B/5

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1924	1924	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	REFERENCE MARK DISK	NGS

Description: (1924)

Stamping:

2.0 MILES NORTHWEST OF THE MOST NORTHERN EXTREMITY OF THE GARDNER BAY OF CROOKED LAKE, 0.5 MILE WEST OF ELK LAKE, ON A DIVIDE BETWEEN ELK AND TROUT LAKES, ON A HIGH, PROMINENT, BURNED-OVER HILL MADE CONSPICUOUS BY A DENSE STAND OF LARGE WHITE-PINE SNAGS, TO REACH FROM CROOKED LAKE, GO VIA DEEP BAY EXTENDING NORTH JUST WEST OF RAPIDS TO AN ENTRANCE INTO GARDNER BAY, PROCEED TO THE SOUTHWEST CORNER OF THE NORTHWEST BAY OF GARDNER BAY, MAKE PORTAGE INTO A SMALL BEAVER-DAM LAKE, CROSS LAKE AND MAKE PORTAGE TO ANOTHER BEAVER DAM, CONTINUE UP A NARROW CHANNEL THROUGH FLOATING BOG TO A SHORT PORTAGE INTO ELK LAKE, PROCEED TO THE HEAD OF THE FIRST LITTLE BAY ON THE WEST SIDE OF ELK LAKE ABOUT 0.75 MILE FROM PORTAGE, FOLLOW A CUT-AND-BLAZED TRAIL TO THE STATION SITE, THE REFERENCE MARK IS STANDARD REFERENCE DISK IN A SOLID ROCK 49.3 FEET FROM STATION SOUTH 21 DEGREES 59 MINUTES WEST.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.708 12B = -104.698 09 = -104.724 03 = -104.609

ARM IBC

Mn/DOT Name: ARM IBC

NGS Name: ARM IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483856.33	940341.31		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

11.2 MILES SOUTHEAST OF PINEWOOD, 11.9 MILES SOUTHEAST ALONG HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND DONALD STREET, THEN ABOUT 1.0 MILE SOUTH OF HIGHWAY 11.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.208 12B = -97.214 09 = -97.113 03 = -97.077

ARMSTRONG

Mn/DOT Name: ARMSTRONG

NGS Name: ARMSTRONG

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483102.24	934629.81		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1918)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.6 MILES NORTHEAST OF LOMAN, 0.2 MILE EAST OF THE MOUTH OF A SMALL CREEK, ON A GRASSY SLOPE, ON THE PROPERTY OF MR ARMSTRONG, 53.5 FEET SOUTHEAST OF BOUNDARY REF MON 206.

Station Notes

SUBSURFACE MARK IS A BOTTLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.208 12B = -98.212 09 = -98.117 03 = -98.090

ARNOLD

Mn/DOT Name: ARNOLD

NGS Name: ARNOLD

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483944.07	941509.99		

NGS ACRN: TC0818 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE EAST BANK OF THE RAINY RIVER, 0.4 MILE NORTH OF THE FRONTIER STORE IN MINNESOTA, IN A HAYFIELD, 25.6 FEET EAST OF THE TOP OF THE BANK, 164.0 FEET NORTH OF ARNOLDS HOUSE, 49.2 FEET NORTH OF A SMALL CREEK, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.499 12B = -96.496 09 = -96.411 03 = -96.381

ARROW

Mn/DOT Name: ARROW

NGS Name: ARROW

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484209.63	943139.04		

NGS ACRN: TC0819 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 2.25 MILES SOUTHEAST OF RAINY RIVER, 150.9 FEET SOUTHWEST OF A HOUSE, 3.3 FEET ABOVE AND 13.1 FEET BACK FROM THE RIVERS? EDGE, JUST BEHIND A PILE OF ROCKS, AN 18.0 INCH DIAMETER OAK TREE IS 78.7 FEET EAST OF STATION ARROW, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.453 12B = -95.423 09 = -95.325 03 = -95.374

ASHES

Mn/DOT Name: ASHES

NGS Name: ASHES

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484304.39	943443.21		

NGS ACRN: TC0820 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.3 MILE WEST OF RAINY RIVER, 3.3 FEET ABOVE AND 6.6 FEET BACK FROM THE WATER, 4.9 FEET SOUTH OF THE SOUTH RAIL OF THE RAILROAD, AT A POINT JUST EAST OF THE EAST SWITCH OF THE WYE, 68.9 FEET EAST - SOUTHEAST OF A SMALL FRAME HOUSE, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.407 12B = -95.364 09 = -95.285 03 = -95.321

ATWOOD IBC

Mn/DOT Name: ATWOOD IBC

NGS Name: ATWOOD IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484321.39	943224.16		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

0.9 MILE EAST OF RAINY RIVER, 0.9 MILE EAST ALONG TRUNK HIGHWAY 11 FROM THE JUNCTION OF TRUNK HIGHWAY 11 AND LITTLE STREET, THEN 127.95 FEET NORTH ON AT WOOD NUMBER 2 ROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.535 12B = -95.505 09 = -95.407 03 = -95.466

BALDY

Mn/DOT Name: BALDY
NGS Name: BALDY
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483811.76	925704.76		1

NGS ACRN: TB1141 Get Map
NGS Quad / Sta Num : 48092443/
USGS Quad: SOLDIER POINT OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	IBWC

Description: (1913)
Stamping:

ON BALD ISLAND IN RAINY LAKE, 18.2 MILES EAST OF RANIER, NEAR THE HIGHEST POINT OF THE ISLAND, NEAR THE CENTER OF THE ISLAND AND 59.0 FEET ABOVE THE LAKE LEVEL, 19.4 FEET WEST OF AN IRON BOLT, 21.5 FEET SOUTH OF AN IRON BOLT, 19.5 FEET EAST OF AN IRON BOLT, 1.4 FEET FROM BOUNDARY REF MON 283, IN A ROCK LEDGE.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1128.607	.131		1025.588	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -103.336 12B = -103.261 09 = -103.176 03 = -103.290

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 38 11.76087	92 57 04.75945			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 38 11.75083	92 57 04.77865			.033	1	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 38 12.07400	92 57 04.16200			.100	1	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1652182.578	17674048.568	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1652181.289	17674047.549	.033	1	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	1	CLASSICAL SURVEY	1982	17020

BAR

Mn/DOT Name: BAR

NGS Name: BAR

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483823.16	935808.01		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093434/
USGS Quad: MANITOU OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	CHISELED CROSS	IBWC

Description: (1913)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.75 MILE EAST OF BARWICK, ON THE PROPERTY OF MR FERON, NEAR A FIELD FENCE, 328.0 FEET EAST OF HOUSE, 6.6 FEET ABOVE THE WATER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.572 12B = -97.572 09 = -97.477 03 = -97.454

BARN

Mn/DOT Name: BARN

NGS Name: BARN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483306.23	932749.27		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1914	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2009)

Stamping:

ON THE WEST BANK OF THE RAINY RIVER, 5.3 MILES SOUTHWEST OF FORT FRANCES.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.311 12B = -100.308 09 = -100.213 03 = -100.190

BAY

Mn/DOT Name: BAY

NGS Name: BAY

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484500.53	943834.76		

NGS ACRN: TC0825 Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1925	UNKNOWN	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	NGS

Description:

Stamping:

STATION BAY IS IN THE RAINY RIVER DISTRICT OF CANADA, 3.35 MILES NORTHWEST OF BAUDETTE ON THE EAST SIDE OF THE RAINY RIVER.

Station Notes

MARK WAS ADDED TO MATCH THE NATIONAL GEODETIC SURVEY (NGS) DATABASE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.472 12B = -95.439 09 = -95.364 03 = -95.367

BEACH

Mn/DOT Name: BEACH

NGS Name: BEACH

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483232.55	933002.61		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093422/
USGS Quad: PELLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1926)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.7 MILE SOUTHEAST OF ISHERWOOD, 0.3 MILE EAST OF THE MOUTH OF A SMALL CREEK, 229.6 FEET SOUTHEAST OF THE RUINS OF AN OLD HOUSE, 24.1 FEET SOUTH OF BOUNDARY REF MON 234.

Station Notes

SUBSURFACE MARK IS A BOTTLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.065 12B = -100.056 09 = -99.970 03 = -99.944

BEAN

Mn/DOT Name: BEAN

NGS Name: BEAN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480647.67	913900.53		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

ON THE EAST BANK OF THE BASSWOOD RIVER, ABOUT 0.5 MILE NORTH OF BASSWOOD FALLS, STATION BEAN IS ON A POINT JUTTING OUT TO THE SOUTH OF A SMALL BAY, IT IS ABOUT 29.5 FEET FROM HIGH-WATER MARK AND ABOUT 19.7 FEET ABOVE IT.

Station Notes

STATION MARK: A BRONZE DISK SET IN A ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.310 12B = -103.340 09 = -103.294 03 = -103.021

BEAR

Mn/DOT Name: BEAR
NGS Name: BEAR
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB1050 Get Map
NGS Quad / Sta Num : 48092311/
USGS Quad: HALE BAY

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	30	69 N	18 W	482952.71	923601.00		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	IBWC

Description: (1914)

Stamping:

1.7 MILES EASTERLY OF KETTLE FALLS, BETWEEN RAINY LAKE AND NAMAKAN LAKE, NEAR THE TOP OF A RIDGE, IN SOME TALL PINES, 85.3 FEET ABOVE THE LAKE LEVEL, 0.1 MILE EAST OF THE SHORE OF THE CANADIAN CHANNEL, 0.2 MILE NORTH OF THE SHORE OF HALE BAY, 21.9 FEET NORTH OF AN IRON BOLT, 26.1 FEET WEST-SOUTHWEST OF AN IRON BOLT, A BRONZE DISK SET IN CONCRETE IN A NAIL KEG AND PARTLY BURIED IN THE EARTH.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1174.538	.131		1070.670	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -104.216 12B = -104.186 09 = -104.143 03 = -104.176

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 29 52.71122	92 36 01.00015			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 29 52.71547	92 36 01.04444			.033	1	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 29 53.05300	92 36 00.45600			.100	1	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1737297.589	17623743.194	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1737294.604	17623743.609	.033	1	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	1	CLASSICAL SURVEY	1982	17020

BEAVER

Mn/DOT Name: BEAVER
NGS Name: BEAVER
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480858.37	913405.43		1

NGS ACRN: TA0139 Get Map
NGS Quad / Sta Num : /
Quad Name: N R Canada - 52B/4

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1924	1924	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	CGS

Description: (1924)
Stamping:

1.0 MILES NORTH OF HEAD OF NORTH BAY OF BASSWOOD LAKE, 0.5 MILE NORTHWEST OF AN INLAND LAKE, ON SUMMIT OF ROCKY BURNED OVER RIDGE, TO STATION BEAVER FROM NORTH BAY MAKE 0.5 MILE PORTAGE TO INLAND LAKE AND POINT WHERE CUT AND BLAZED TRAIL LEADS FROM BAY IN NORTH SHORE OF LAKE JUST WEST OF NARROWS AT WEST END OF MAIN BODY OF WATER, FOLLOW TRAIL TO STATION BEAVER SITE, TO REACH STATION BEAVER SITE WITH OUTFIT GO ALONG NORTHWEST SHORE FROM ARM OF BASSWOOD LAKE EAST OF NORTH BAY TO NARROWS OPENING INTO LAKE, CROSS LAKE TO PORTAGE AT MOUTH OF SMALL CREEK, MAKE SHORT PORTAGE TO BEAVER DAM, CONTINUE UP SLOUGH TO ANOTHER SHORT PORTAGE LEADING INTO ABOVE MENTIONED INLAND LAKE , FOLLOW LEFT SHORE OF LAKE THROUGH FIRST NARROWS TO THE NORTH SHORE OF BAY , AND FOLLOW TRAIL TO STATION BEAVER SITE.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1499.341	.131		1395.952	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -103.707 12B = -103.740 09 = -103.717 03 = -103.458

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 08 58.36573	91 34 05.42875			.033	1	ADJUSTMENT	1999	17648

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1989817.160	17499680.146	.033	1	ADJUSTMENT	1999	17648

BEAVER 1913

Mn/DOT Name: BEAVER 1913 **NGS Name:** BEAVER

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483808.35	935708.60		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093434/
USGS Quad: MANITOU OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1918) **Stamping:**

1.7 MILES SOUTHEAST OF BARWICK, 1.0 MILE EAST ALONG TRUNK HIGHWAY 11 FROM THE JUNCTION OF TRUNK HIGHWAY 11 AND MAIN STREET, THEN 0.7 MILE SOUTH ON NIGHSWANDER ROAD, THEN ABOUT 2619.0 FEET SOUTHEAST OF NIGHSWANDER ROAD, ON THE NORTH BANK OF THE RAINY RIVER, 492.0 FEET EAST OF SIMS CREEK, AT THE EDGE OF THE TIMBER, 6.6 FEET ABOVE THE HIGH-WATER MARK, 66.0 FEET SOUTH OF REF MON 170 IBC.

Station Notes

SUBSURFACE MARK IS A BOTTLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.608 12B = -97.611 09 = -97.513 03 = -97.497

BEAVER RM 1

Mn/DOT Name: BEAVER RM 1

NGS Name: BEAVER RM 1

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: CJ2230 Get Map
NGS Quad / Sta Num : /
Quad Name: N R Canada - 52B/4

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480858.00	913405.00		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1924	2008	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SEE DESCRIPTION	NGS

Description: (2019)

Stamping:

LOCATED BETWEEN MCNAUGHT LAKE AND NEST LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.707 12B = -103.737 09 = -103.714 03 = -103.458

BEAVER RM 2

Mn/DOT Name: BEAVER RM 2

NGS Name: BEAVER RM 2

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480858.00	913406.00		

NGS ACRN: CJ2231 Get Map
NGS Quad / Sta Num : /
Quad Name: N R Canada - 52B/4

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1924	2008	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNKNOWN	CGS

Description:

35.1 MILES NORTH-NORTHEAST OF BABBITT, 32.5 MILES NORTHEAST OF EAGLES NEST AND 21.9 MILES NORTHEAST OF ELY.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.707 12B = -103.737 09 = -103.714 03 = -103.458

BECKY

Mn/DOT Name: BECKY

NGS Name: BECKY

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481429.91	915712.76		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091334/
USGS Quad: IRON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON AN ISLAND IN IRON LAKE ABOUT 0.75 MILE SOUTH OF THE SHALLOW ROCKY NARROWS THAT CONNECT THE NORTHWEST ARM WITH THE MAIN BODY OF THE LAKE, THE MONUMENT IS ON A KNOLL ON THE WEST END OF THE ISLAND.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.344 12B = -104.337 09 = -104.298 03 = -104.275

BEFORE

Mn/DOT Name: BEFORE

NGS Name: BEFORE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481403.67	915701.14		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091334/
USGS Quad: IRON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON AN ISLAND IN IRON LAKE ABOUT A MILE SOUTH OF THE SHALLOW ROCKY NARROWS THAT CONNECT THE NORTHWEST ARM WITH THE MAIN BODY OF THE LAKE, THE MONUMENT IS ON THE SOUTHWEST END OF THE ISLAND.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN A ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.291 12B = -104.288 09 = -104.242 03 = -104.216

BELL

Mn/DOT Name: BELL **NGS Name:** BELL

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB1057 Get Map
NGS Quad / Sta Num : 48092314/1020
USGS Quad: NAMAKAN ISLAND

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482958.02	923745.27		2

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1923	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	TRIANGULATION STATION DISK	NGS

Description: (1923) **Stamping:** BELL 1923

AT THE UPPER END OF RAINY LAKE, 0.5 MILE EAST OF KETTLE FALLS, ON THE EASTERN POINT OF THE FIRST ISLAND EAST OF KETTLE FALLS, SOUTHEAST OF BELL RM.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -104.117 12B = -104.088 09 = -104.035 03 = -104.071

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 29 58.02318	92 37 45.27226			.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 29 58.02540	92 37 45.30801			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 29 58.41163	92 37 44.78587			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	UTM - Zone 15 Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
		1730274.855	17624245.947	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	UTM - Zone 15 Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
		1730272.447	17624246.161	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	MN State Plane - North Zone Y	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
2114172.330	729692.640			.100		CLASSICAL SURVEY	1950	UNK

BENCH MARK 28 E GSC

Mn/DOT Name: BENCH MARK 28 E GSC **NGS Name:** 28 E

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483650.08	933117.81		2

NGS ACRN: TB0990 Get Map
NGS Quad / Sta Num : 48093422/1005
USGS Quad: PELLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1967	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	GSC

Description: (1967) **Stamping:** BM 28 E CSC

6.0 MILES WEST OF FORT FRANCES, 0.3 MILE NORTHWEST OF THE JUNCTION OF KINGS HIGHWAYS 11 AND 71 AND ONTARIO HIGHWAY 611, NEAR A RAILROAD CROSSING, 42.6 FEET SOUTH OF THE RAILROAD TRACKS, 38.0 FEET EAST-SOUTHEAST OF A TELEPHONE POLE, 151.30 FEET NORTHWEST OF FORT FRANCES WEST BASE, 2.3 FEET NORTH OF A WITNESS POST.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1151.572	.197		1051.645	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

NGVD29

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1151.901						DIGITIZED FROM MAP	1967	HORZ

Geoid Separations(ft): GEOID18 = -100.082 12B = -100.102 09 = -100.023 03 = -100.062

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
48 36 50.07797	93 31 17.81462			.066	2	ADJUSTMENT	1999	17648

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
48 36 50.26747	93 31 17.28788			.100	2	CLASSICAL SURVEY	1977	15935

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1514281.087	17666200.876	.066	2	ADJUSTMENT	1999	17648

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	2	CLASSICAL SURVEY	1977	15935

BEND

Mn/DOT Name: BEND

NGS Name: BEND

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484233.67	941729.87		

NGS ACRN: TC0829 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

1.5 MILES EAST OF PINEWOOD, ON THE NORTH BANK OF THE RAINY RIVER, 984.0 FEET EAST OF A SMALL CREEK, BEHIND THE OLD PILING OF A PIER, 9.9 FEET BACK FROM THE RIVER'S EDGE, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.555 12B = -96.548 09 = -96.453 03 = -96.460

BERRY

Mn/DOT Name: BERRY
NGS Name: BERRY
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483916.65	930220.85		1

NGS ACRN: TB0851 Get Map
NGS Quad / Sta Num : 48093121/
USGS Quad: CRANBERRY BAY OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	IBWC

Description: (1913) **Stamping:**

15.8 MILES EAST OF FORT FRANCES, ON BERRY ISLAND IN RAINY LAKE, 0.5 MILE WEST OF LITTLE ROCKY NARROWS, IN A CLEARED AREA ON THE HIGHEST POINT AND THE EAST END OF THE ISLAND, 88.6 FEET ABOVE THE LAKE LEVEL, 393.6 FEET FROM THE SOUTH SHORE, 0.3 MILE WEST OF THE EAST SHORE, 22.6 FEET SOUTH OF AN IRON BOLT, 17.6 FEET EAST OF AN IRON BOLT.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1161.415	.131		1058.699	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -103.054 12B = -102.982 09 = -102.903 03 = -102.959

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 39 16.64662	93 02 20.84503			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 39 16.63579	93 02 20.86151			.033	1	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 39 16.95400	93 02 20.24100			.100	1	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1630963.491	17680620.384	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1630962.384	17680619.288	.033	1	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	1	CLASSICAL SURVEY	1982	17020

BIG FORK POLE

Mn/DOT Name: BIG FORK POLE

NGS Name: BIG FORK POLE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483117.65	934019.80		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093423/
USGS Quad: DEVLIN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1914	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description:

4.5 MILES NORTHWEST OF PELLAND, NORTH OF THE RAINY RIVER, NEAR THE JUNCTION OF PROVINCIAL ROAD 602 AND PROVINCIAL ROAD 613.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.878 12B = -98.874 09 = -98.786 03 = -98.763

BIG IBC

Mn/DOT Name: BIG IBC **NGS Name:** BIG

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				490450.70	944317.32		1

NGS ACRN: TC0760 Get Map
NGS Quad / Sta Num : 49094323/1024
USGS Quad: UNKNOWN10 LAKE OF THE WOOD

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1966	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	IBWC

Description: (1966) **Stamping:**

27.0 MILES EAST AND 12.0 MILES NORTH OF WARROAD, ON BASIL POINT WHICH FORMS THE EXTREME SOUTHWEST TIP OF BIG ISLAND, 30.0 FEET SOUTH OF THE HIGHEST POINT OF A ROCK, ABOUT 15.0 FEET ABOVE THE LEVEL OF THE LAKE, AT THE CENTER OF A TRIANGLE FORMED BY THREE 6.0 INCH DIAMETER HOLES, OUTLINED BY CONCRETE, THAT WERE THE LEG BASES OF THE OLD TOWER, A 2.0-INCH DIAMETER BRONZE DISK, WITH THE LETTERS U S AND C B SURVEY AND A SMALL TRIANGLE CAST THEREIN, CEMENTED IN A DRILL HOLE IN BEDROCK 3.0 INCHES BELOW THE GROUND SURFACE, A RING OF ROCKS 18.0 INCHES HIGH WAS PLACED AROUND BIG IBC, STATION BIG IBC WAS REACHED BY FLOAT PLANE FROM WARROAD, THE PLANE WAS BEACHED IN A SMALL SANDY COVE JUST NORTH OF THE POINT AND STATION BIG IBC PACKED TO BY WALKING SOUTH ALONG THE SHORE LINE TO THE POINT , ABOUT A 10 MINUTES PACK.

*** No Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.677 12B = -97.733 09 = -97.631 03 = -97.523

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
49 04 50.70284	94 43 17.32238			.033	1	ADJUSTMENT	1999	17648

NAD27

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
49 04 50.69400	94 43 16.47900			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1227993.157	17840711.403	.033	1	ADJUSTMENT	1999	17648

NAD27

MN State Plane - North Zone X	Y	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
1611387.940	945475.450			.100		CLASSICAL SURVEY	1950	UNK

BILLY

Mn/DOT Name: BILLY

NGS Name: BILLY

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484157.56	942606.33		

NGS ACRN: TC0830 Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1947	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
OBJECT DRIVEN INTO THE GROUND	CHISELED CROSS	NGS

Description: (1914)

Stamping:

1.25 MILES UPRIVER FROM THE MOUTH OF RAPID RIVER, ON THE NORTH BANK OF THE RAINY RIVER, IN A HAYFIELD ON THE PROPERTY OF BILLY SLEEMAN, 13.1 FEET NORTHWEST OF A FENCE, 121.3 FEET SOUTHWEST OF A FENCE CORNER AT A GATE, 39.4 FEET FROM THE TOP EDGE OF A BANK, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.827 12B = -95.794 09 = -95.705 03 = -95.758

BILLY WEST BASE

Mn/DOT Name: BILLY WEST BASE
NGS Name: BILLY WEST BASE
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484158.44	942617.89		

NGS ACRN: TC0831 Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1912	UNKNOWN	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	NGS

Description:

780.3 FEET WEST-NORTHWEST OF STATION BILLY (TC0830), 942.6 FEET NORTH OF STATION SECOND (TC1208).

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.810 12B = -95.781 09 = -95.689 03 = -95.741

BIRCH

Mn/DOT Name: BIRCH

NGS Name: BIRCH

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484153.14	941538.99		

NGS ACRN: TC0833 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1914)

Stamping:

2.1 MILES SOUTHEAST OF PINEWOOD, ON THE NORTH BANK OF THE RAINY RIVER, ON A SLOPE OF THE BANK, 9.9 FEET BACK FROM THE RIVERS' EDGE, OPPOSITE KAVANAGHS POINT, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.647 12B = -96.647 09 = -96.555 03 = -96.545

BIRCH IBC

Mn/DOT Name: BIRCH IBC

NGS Name: BIRCH

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481853.79	922620.13		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

4.2 MILES NORTHEAST OF CRANE LAKE, ON THE EAST SIDE OF THE LITTLE VERMILION NARROWS.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.671 12B = -103.658 09 = -103.625 03 = -103.645

BIRCH LOON FALLS

Mn/DOT Name: BIRCH LOON FALLS

NGS Name: BIRCH LOON FALLS

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481432.19	921841.67		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=YES Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (1921)

Stamping:

ON THE NORTH SIDE OF THE WEST ARM OF LOON LAKE, NEARLY A MILE FROM THE PORTAGE TO LOON RIVER, 800.0 FEET WEST OF BOUNDARY REF MON 473, ON A KNOLL ABOUT 30.0 FEET ABOVE THE HIGH-WATER MARK AND 100.0 FEET FROM THE SHORE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.605 12B = -103.599 09 = -103.543 03 = -103.579

BIRD

Mn/DOT Name: BIRD **NGS Name:** BIRD

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481825.91	922506.88		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010) **Stamping:**

4.4 MILES NORTHEAST OF CRANE LAKE, ON THE EAST SIDE OF LITTLE VERMILION LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.694 12B = -103.681 09 = -103.645 03 = -103.664

BIRD IBC

Mn/DOT Name: BIRD IBC

NGS Name: BIRD IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481535.41	921657.14		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092242/
USGS Quad: SNOW BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=YES Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description:

ON A POINT OF THE WEST SHORE OF THE NORTH ARM OF LOON LAKE, ABOUT 3.0 MILES NORTHEAST OF THE PORTAGE TO LOON RIVER AND 1.25 MILES SOUTH OF THE PORTAGE TO LAC LA CROIX, 800.0 FEET SOUTHWEST OF THE LARGE ISLAND IN THE MIDDLE OF THE CHANNEL, ON A SMALL KNOLL CLOSE TO THE SHORE.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.786 12B = -103.776 09 = -103.733 03 = -103.763

BLACK

Mn/DOT Name: BLACK **NGS Name:** BLACK

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0838 Get Map
NGS Quad / Sta Num : 49094332/
USGS Quad: GARDEN ISLAND EAST OE S

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	21	165 N	32 W	490621.89	944523.34		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=YES Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	UNK

Description: (2007)

Stamping:

28.2 MILES NORTHEAST OF WARROAD, BOAT 28.2 MILES NORTHEAST ALONG LAKE OF THE WOODS FROM WARROAD, STATION BLACK IS 0.7 MILE NORTH OF KNIGHT ISLAND ON MINNESOTA/CANADA BORDER. THE MONUMENT AND THE DISK TYPE UNKNOWN.

Station Notes

NOT ALL INFORMATION IS CERTAIN.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1059.709	.262		962.662	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -97.647 12B = -97.700 09 = -97.611 03 = -97.510

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position		Lake of the Woods County - North Zone					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
49 06 21.88781	94 45 23.33949	554345.777	84055.603	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position		Lake of the Woods County - North Zone					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
49 06 21.86070	94 45 23.29757	554348.575	84052.864	.131	3	ADJUSTMENT	1989	17085

State Plane and UTM Coordinates (Feet)

NAD83(1996)

MN State Plane - North Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2227819.944	1282982.037	1219821.348	17850141.239	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - North Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2227822.674	1282979.230	1219824.072	17850138.428	.131	3	ADJUSTMENT	1989	17085

BLACK 1915

Mn/DOT Name: BLACK 1915 **NGS Name:** BLACK

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482631.38	923747.27		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092314/
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010) **Stamping:**

4.2 MILES SOUTHWEST OF KETTLE FALLS, ON SIX DEER ISLAND IN NAMAKAN LAKE.

Station Notes

7/14/2015 MNDOT NAME CHANGED AS THERE WAS NO PROJECTS ASSOCIATED WITH THIS STATION TO ALLOW AN INCORRECT COUNTY ON ANOTHER STATION.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.769 12B = -103.750 09 = -103.694 03 = -103.724

BLACK IBC

Mn/DOT Name: BLACK IBC

NGS Name: BLACK IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480719.33	914034.72		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1915	GOOD	Horz=YES Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

ON THE NORTH BANK OF BASSWOOD RIVER, STATION BLACK IBC IS ON THE NORTHEAST SIDE OF THE BAY OR POND THAT LIES ABOVE WHEELBARROW FALLS, IT IS ON A BLACK, FLAT, ROCK POINT, NEAR THE SHORE LINE AND ABOUT 7.9 FEET ABOVE THE WATER.

Station Notes

STATION MARK: A DRILL HOLE WITHIN A TRIANGLE CUT IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.412 12B = -103.435 09 = -103.395 03 = -103.140

BLAZE

Mn/DOT Name: BLAZE

NGS Name: BLAZE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481355.48	922052.23		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

6.9 MILES SOUTHEAST OF CRANE LAKE, ON THE NORTH SHORE OF THE LOON RIVER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.451 12B = -103.448 09 = -103.369 03 = -103.415

BLOW

Mn/DOT Name: BLOW **NGS Name:** BLOW

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480636.08	913856.01		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

ON THE EAST SIDE OF THE BASSWOOD RIVER, ON THE ROCKY KNOLL NORTH ACROSS THE RAPIDS FROM THE NORTH END OF THE LARGE ISLAND THAT LIES JUST NORTH OF BASSWOOD FALLS, STATION BLOW IS ABOUT 164.0 FEET FROM THE WATER.

Station Notes

STATION MARK: A BRONZE DISK SET IN A ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.274 12B = -103.304 09 = -103.254 03 = -102.979

BLUFF

Mn/DOT Name: BLUFF
NGS Name: BLUFF
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482159.55	920655.80		3

NGS ACRN: TB1025 Get Map
NGS Quad / Sta Num : 48092212/
USGS Quad: COLEMAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1913	UNKNOWN	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SEE DESCRIPTION	IBWC

Description:

25.2 MILES NORTHEAST OF BUYCK, HIKE AND BOAT OR TAKE A HELICOPTER 25.2 MILES NORTHEAST THROUGH SUPERIOR NATIONAL FOREST STATION BLUFF IS ON THE SOUTH PORTION OF INDIAN ISLAND. THE MONUMENT AND THE DISK TYPE UNKNOWN.

Stamping:

Station Notes

ALL INFORMATION IS NOT CERTAIN.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1190.942	.262		1086.432	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -104.836 12B = -104.800 09 = -104.770 03 = -104.865

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 21 59.55400	92 06 55.79858			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 21 59.57215	92 06 55.85450			.131	3	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 21 59.92000	92 06 55.37000			.100	3	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1855346.408	17576799.447	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1855342.612	17576801.242	.131	3	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	3	CLASSICAL SURVEY	1982	17020

BOAT

Mn/DOT Name: BOAT

NGS Name: BOAT

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483552.56	934854.59		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	CHISELED CROSS	IBWC

Description: (1918)

Stamping:

ON THE EAST BANK OF THE RAINY RIVER, 2.4 MILES SOUTH OF EMO, 0.4 MILE NORTH OF CONMEE ISLAND, 410.0 FEET NORTH OF A SMALL STREAM, 75.5 FEET WEST OF BOUNDARY REF MON 191.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.012 12B = -98.015 09 = -97.926 03 = -97.976

BOOM

Mn/DOT Name: BOOM **NGS Name:** BOOM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	27	161 N	31 W	484417.67	943702.08		3

NGS ACRN: TC0843 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1913	GOOD	Horz=YES Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	UNK

Description:

2.0 MILES NORTHWEST OF RAINY RIVER, 1.1 MILES NORTH ALONG PROVINCE ROAD 600 FROM THE JUNCTION OF PROTHEVINCEN ROAD 600 AND TRUNK HIGHWAY 11 IN RAINY RIVER, THEN 1.2 MILES WEST ON RIVER ROAD, THEN HIKE 0.25 MILE WESTERLY TO MARK.

Stamping:

Station Notes

NOT ALL INFORMATION IS CERTAIN.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1079.394	.262		984.335	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -95.456 12B = -95.413 09 = -95.338 03 = -95.357

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 44 17.67453	94 37 02.08146			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 44 17.65290	94 37 02.07306			.131	3	ADJUSTMENT	1989	17085

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1250306.037	17715252.534	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1250306.554	17715250.331	.131	3	ADJUSTMENT	1989	17085

BOUCH IBC

Mn/DOT Name: BOUCH IBC

NGS Name: BOUCH IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483855.79	940945.64		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1968	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

2.1 MILES SOUTH OF STRATTON, 2.1 MILES SOUTH ALONG BOUCHERVILLE ROAD FROM THE JUNCTION OF BOUCHERVILLE ROAD AND HIGHWAY 11.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.732 12B = -96.742 09 = -96.647 03 = -96. 611

BOUCHER

Mn/DOT Name: BOUCHER

NGS Name: BOUCHER

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483705.88	934936.50		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	IBWC

Description: (1918) **Stamping:**

ON THE EAST BANK OF THE RAINY RIVER, 1.0 MILE SOUTHEAST OF EMO, 0.2 MILE NORTH OF THE END OF SMOOT ISLAND, ON A HIGH BANK, ON THE PROPERTY OF THOMAS BOUCHER, 278.8 FEET SOUTH OF A PIG HOUSE, 492.0 FEET SOUTHWEST OF A BARN, 6.6 FEET WEST OF BOUNDARY REF MON 187.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.012 12B = -98.021 09 = -97.920 03 = -97.979

BOUNDARY IBC-LATE

Mn/DOT Name: BOUNDARY IBC-LATE
NGS Name: BOUNDARY LATE
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB1114 Get Map
NGS Quad / Sta Num : 48092423/1001
USGS Quad: KETTLE FALLS

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483247.28	924318.33		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1925	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	SURVEY DISK	IBWC

Description: (1925) **Stamping:** U.S. & C.B. SURVEY

29.0 MILES SOUTHEAST OF RANIER, ON A SMALL ROCK ISLAND IN RAINY LAKE, 8.5 MILES SOUTHEAST OF THE EAST ENTRANCE OF BRULE NARROWS, 5.0 MILES NORTHWEST OF KETTLE FALLS, ON THE NORTHWESTERN ISLAND OF A GROUP OF SIX ISLANDS, ON THE HIGHEST POINT OF THE ISLAND, 9.8 FEET ABOVE THE LAKE LEVEL, 10.7 FEET NORTH OF AN IRON BOLT, 12.5 FEET EAST OF AN IRON BOLT, 14.9 FEET SOUTH OF AN IRON BOLT, 12.5 FEET WEST OF AN IRON BOLT, 10.3 FEET SOUTHEAST OF BOUNDARY LATE RM.

Station Notes
THE COAST AND GEODETIC SURVEY OCCUPIED THIS STATION IN 1923 AND CALLED IT LATE.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -104.029 12B = -103.979 09 = -103.920 03 = -103.960

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 32 47.28061	92 43 18.33066			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 32 47.27866	92 43 18.36736			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 32 47.64670	92 43 17.87720			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1707789.927	17641296.792	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1707787.459	17641296.585	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	Y	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
2091654.950	746719.330			.100		CLASSICAL SURVEY	1950	UNK

BOUNDARY LATE RM

Mn/DOT Name: BOUNDARY LATE RM

NGS Name: BOUNDARY LATE RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: CJ2274 Get Map
NGS Quad / Sta Num : 48092423/
USGS Quad: KETTLE FALLS

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483247.00	924318.00		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1925	NOT FOUND	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	REFERENCE MARK DISK	NGS

Description: (1925)

Stamping:

29.0 MILES SOUTHEAST OF RANIER, ON A SMALL ROCK ISLAND IN RAINY LAKE, 8.5 MILES SOUTHEAST OF THE EAST ENTRANCE OF BRULE NARROWS, 5.0 MILES NORTHWEST OF KETTLE FALLS, ON THE NORTHWESTERN ISLAND OF A GROUP OF SIX ISLANDS, ON THE HIGHEST POINT OF THE ISLAND, 9.8 FEET ABOVE THE LAKE LEVEL, 10.3 FEET NORTHWEST OF BOUNDARY IBC-LATE.

Station Notes

THE MARK WAS SET DURING THE 1923 SURVEY BY THE COAST AND GEODETIC SURVEY (CGS).

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.029 12B = -103.979 09 = -103.920 03 = -103.960

BOUNDARY MON 760

Mn/DOT Name: BOUNDARY MON 760
NGS Name: BOUNDARY MON 760
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TA0096 Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480659.82	914241.89	2	

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1935	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	SURVEY DISK	IBWC

Description: (1914) **Stamping:**

DESCRIBED BY COAST AND GEODETIC SURVEY IN 1935. AT CROOKED LAKE CABIN. NEAR CROOKED LAKE CABIN, LAKE COUNTY, AT THE EXTREME SOUTHEASTERN END OF CROOKED LAKE, NEAR THE FALLS FROM BASSWOOD RIVER, ON THE NORTHWEST END OF A SMALL ROCK ISLAND WHICH RISES 0.9 FEET ABOVE THE WATER, AND IN THE TOP OF A ROCK. AN INTERNATIONAL BOUNDARY COMMISSION STANDARD 8.0-INCH BRONZE POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1252.891	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1252.078	.007	1				VERTICAL CONTROL SURVEY	1935	L18 MINN

Geoid Separations(ft): GEOID18 = -103.350 12B = -103.372 09 = -103.327 03 = -103.077

*** No Horizontal Positions in the Database ***

BOUNDARY REF MON 101

Mn/DOT Name: BOUNDARY REF MON 101

NGS Name: BOUNDARY REF MON 101

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1005 Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484148.50	942745.64		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1969	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	NGS

Description: (1914)

Stamping:

1.25 MILES WEST OF CLEMENTSON, ON THE NORTH BANK OF THE RAINY RIVER, 39.4 FEET BACK FROM THE RIVER'S EDGE WHERE THE BANK IS IRREGULAR, 49.2 FEET EAST OF SMALL SWALE, 328.0 FEET FROM THE OLD ELY HOUSE, AN 8.0 INCH DIAMETER MANGANESE BRONZE REFERENCE POST SET IN A CONCRETE BASE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.689 12B = -95.659 09 = -95.564 03 = -95.617

BOUNDARY REF MON 103

Mn/DOT Name: BOUNDARY REF MON 103

NGS Name: BOUNDARY REF MON 103

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484137.95	942659.29		

NGS ACRN: TC1007 Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1969	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	NGS

Description: (1914)

Stamping:

0.6 MILE WEST OF CLEMENTSON, ON THE NORTH BANK OF THE RAINY RIVER, 26.2 FEET BACK FROM THE RIVER'S EDGE, 426.4 FEET EAST OF A FENCE, 246.0 FEET SOUTHWEST OF AN OLD, HEWED TIMBER HOUSE, AN 8.0 INCH DIAMETER MANGANESE BRONZE REFERENCE POST SET IN A CONCRETE BASE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.741 12B = -95.708 09 = -95.620 03 = -95.669

BOUNDARY REF MON 107

Mn/DOT Name: BOUNDARY REF MON 107

NGS Name: BOUNDARY REF MON 107

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1012 Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484243.09	942445.74		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1969	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

1.75 MILES NORTHEAST OF CLEMENTSON, ON THE NORTH BANK OF THE RAINY RIVER, 78.7 FEET BACK FROM THE RIVER'S EDGE, 29.5 FEET EAST OF A SWALE, NEAR THE EDGE OF A HAYFIELD, 246.0 FEET WEST OF A NORTH-SOUTH ROAD, AN 8.0 INCH DIAMETER MANGANESE BRONZE REFERENCE POST SET IN A CONCRETE BASE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.964 12B = -95.941 09 = -95.843 03 = -95.909

BOUNDARY REF MON 109

Mn/DOT Name: BOUNDARY REF MON 109 **NGS Name:** REF MON 109

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1014 Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484246.44	942301.93		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1969	UNKNOWN	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	NGS

Description: (1918) **Stamping:**

2.8 MILES NORTHEAST OF CLEMENTSON, ON THE NORTH BANK OF THE RAINY RIVER, 246.0 FEET EAST OF A RANGE LINE, MIDWAY BETWEEN BUNTING AND BUDROW CREEKS, 16.4 FEET ABOVE AND 42.6 FEET BACK FROM THE RIVERS' EDGE, 6.6 FEET SOUTH OF A FENCE, 124.6 FEET SOUTH OF LIPKIE'S BARN, BACK OF A BOATHOUSE, 3.1 FEET NORTH OF STATION LIPKIE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.102 12B = -96.092 09 = -95.984 03 = -96.040

BOUNDARY REF MON 111

Mn/DOT Name: BOUNDARY REF MON 111 **NGS Name:** BOUNDARY REF MON 111

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1016 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484227.41	942204.53		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1969	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	NGS

Description: (1914) **Stamping:**

3.0 MILES WEST OF PINEWOOD, ON THE NORTH BANK OF THE RAINY RIVER, 29.5 FEET BACK FROM THE RIVER'S EDGE, 492.0 FEET WEST OF THE MOUTH OF A CREEK, 196.8 FEET WEST BY NORTH OF AN OLD HOUSE, AN 8.0 INCH DIAMETER MANGANESE BRONZE REFERENCE POST SET IN A CONCRETE BASE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.161 12B = -96.155 09 = -96.043 03 = -96.082

BOUNDARY REF MON 112

Mn/DOT Name: BOUNDARY REF MON 112
NGS Name: BOUNDARY REF MON 112 CD US
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: CU8067 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484224.00	942148.00		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1937	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	NGS

Description: (1914)

Stamping:

2.75 MILES WEST OF PINEWOOD, ON THE NORTH BANK OF THE RAINY RIVER, 36.1 FEET BACK FROM THE RIVER'S EDGE, 6.6 FEET WEST OF A FENCE, 19.7 FEET NORTHWEST OF A 20.0 INCH DIAMETER LEANING PINE TREE, A NORTH-SOUTH SECTION LINE ROAD GOES DOWN TO THE RIVER AT THIS POINT, AN 8.0 INCH DIAMETER MANGANESE BRONZE REFERENCE POST SET IN A CONCRETE BASE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.181 12B = -96.174 09 = -96.063 03 = -96.099

BOUNDARY REF MON 112 RESET

Mn/DOT Name: BOUNDARY REF MON 112 RESET
NGS Name: BOUNDARY REF MON 112 CD US RES
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484224.47	942147.08		

NGS ACRN: TC1017 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1937	1969	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	NGS

Description: (1969) **Stamping:** RM 112 1937

ON THE NORTH BANK OF THE RAINY RIVER, 2.75 MILES WEST OF PINEWOOD, ON A 20.0 FOOT BANK AND 7.0 FEET BACK FROM ITS TOP, 20.0 FEET NORTHWEST OF A 20.0-INCH DIAMETER LEANING PINE TREE, 2.0 FEET EAST OF THE WEST ROAD FENCE EXTENDED, SECTION - LINE ROAD COMES DOWN TO THE RIVER AT THIS POINT, A BRONZE DISK STAMPED RM 112 1937, SET IN A CONCRETE BASE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.184 12B = -96.174 09 = -96.063 03 = -96.099

BOUNDARY REF MON 113 RESET

Mn/DOT Name: BOUNDARY REF MON 113 RESET
NGS Name: BOUNDARY REF MON 113 CD US RES
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484220.11	942109.24		

NGS ACRN: TC1018 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1937	1969	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	NGS

Description: (1937)

Stamping:

ON THE TOP OF A HIGH BANK, UNDER A LARGE TREE, 10.0 FEET BACK FROM THE TOP OF A BANK, 28.0 FEET ABOVE THE WATER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.230 12B = -96.227 09 = -96.112 03 = -96.142

BOUNDARY REF MON 1147

Mn/DOT Name: BOUNDARY REF MON 1147 **NGS Name:** BOUNDARY REF MON 1147

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	16	65 N	2 W	480717.15	903435.84		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48090322/
USGS Quad: SOUTH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1911	1917	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1917) **Stamping:**

ON THE SHORE OF LITTLE NORTH LAKE, ON THE POINT ON THE WEST END OF THE NARROWS FROM NORTH LAKE. STATION BOUNDARY REF MON 1147 IS ABOUT 49.2 FEET NORTHWEST OF THE EXTREME POINT AND NEAR THE HIGH-WATER MARK.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK. A DRILL HOLE WITHIN A TRIANGLE CUT IN A GRANITE BOULDER, MARKING TRIANGULATION STATION "CITA," BEARS SOUTH 70 DEGREES WEST, 2.46 FEET FROM THE STATION.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.461 12B = -103.399 09 = -103.402 03 = -103.054

BOUNDARY REF MON 1149

Mn/DOT Name: BOUNDARY REF MON 1149

NGS Name: BOUNDARY REF MON 1149

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	16	65 N	2 W	480716.14	903428.27		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48090322/
USGS Quad: SOUTH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1917	1917	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1917)

Stamping:

ON THE NORTH SIDE OF THE NARROWS BETWEEN NORTH AND LITTLE NORTH LAKES. STATION BOUNDARY REF MON 1149 IS NEAR THE SHORE LINE, ABOUT 0.1 MILE EAST OF LITTLE NORTH LAKE.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.471 12B = -103.409 09 = -103.409 03 = -103.064

BOUNDARY REF MON 1151

Mn/DOT Name: BOUNDARY REF MON 1151 **NGS Name:** BOUNDARY REF MON 1151

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	16	65 N	2 W	480717.70	903417.60		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48090322/
USGS Quad: SOUTH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1917	1917	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type
ROCK (1 TO 3 METERS)

Disk Type
METAL ROD

Mon. Agency
IBWC

Description: (1917)

Stamping:

ON THE NORTH SHORE OF THE NARROWS .BETWEEN NORTH LAKE AND LITTLE NORTH LAKE, ABOUT 0.3 MILE WEST OF THE OUTLET OF NORTH LAKE. STATION BOUNDARY REF MON 1151 IS ON A ROCK ABOUT 13.1 FEET BACK FROM THE SHORE LINE.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.514 12B = -103.455 09 = -103.451 03 = -103.103

BOUNDARY REF MON 116

Mn/DOT Name: BOUNDARY REF MON 116

NGS Name: BOUNDARY REF MON 116

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1021 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	1	160 N	29 W	484241.09	941833.00		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1937	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (2007)

Stamping:

13.5 MILES SOUTHEAST OF BAUDETTE, 0.2 MILE EAST ALONG TRUNK HIGHWAY 72 (MAIN STREET) FROM THE JUNCTION OF TRUNK HIGHWAY 72 (MAIN STREET) AND COUNTY ROAD 3 (3RD AVENUE SOUTHWEST) IN BAUDETTE, THEN 0.7 MILE NORTH ON TRUNK HIGHWAY 72 TO THE BORDER, THEN 12.8 MILES EAST ALONG CANADIAN HIGHWAY 11 TO PINEWOOD, SOUTH OF CANADIAN HIGHWAY 11, ON THE NORTH BANK OF THE RAINY RIVER, ON THE EAST SIDE OF THE MOUTH OF PINE CREEK, 656.0 FEET WEST OF THE PINEWOOD CATHOLIC CHURCH, 19.7 FEET BACK FROM THE RIVER'S EDGE, 88.6 FEET EAST OF A FENCE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.473 12B = -96.466 09 = -96.368 03 = -96.381

BOUNDARY REF MON 116 RESET

Mn/DOT Name: BOUNDARY REF MON 116 RESET
NGS Name: BOUNDARY REF MON 116 RESET
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1022 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	1	160 N	29 W	484241.21	941833.04		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1937	1968	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	TRIANGULATION STATION DISK	IBWC

Description: (2007)

Stamping:

13.5 MILES SOUTHEAST OF BAUDETTE, 0.2 MILE EAST ALONG TRUNK HIGHWAY 72 (MAIN STREET) FROM THE JUNCTION OF TRUNK HIGHWAY 72 (MAIN STREET) AND COUNTY ROAD 3 (3RD AVENUE SOUTHWEST) IN BAUDETTE, THEN 0.7 MILE NORTH ON TRUNK HIGHWAY 72 TO THE BORDER, THEN 12.8 MILES EAST ALONG CANADIAN HIGHWAY 11 TO PINEWOOD, SOUTH OF CANADIAN HIGHWAY 11, 10.0 FEET NORTH OF THE RAINY RIVER, NEAR A CHURCH, THE MONUMENT AND THE DISK TYPE ARE UNKNOWN.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1079.394	.262		983.253	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -96.473 12B = -96.466 09 = -96.368 03 = -96.381

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 42 41.21337	94 18 33.03829			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 42 41.19546	94 18 33.02938			.131	3	ADJUSTMENT	1989	17085

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1324448.169	17704054.050	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1324448.735	17704052.225	.131	3	ADJUSTMENT	1989	17085

BOUNDARY REF MON 116 RESET 2

Mn/DOT Name: BOUNDARY REF MON 116 RESET 2 **NGS Name:** BOUNDARY REF MON 116 RESET 2

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	1	160 N	29 W	484241.00	941833.00		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1968	2007	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2007) **Stamping:**

13.5 MILES SOUTHEAST OF BAUDETTE, 0.2 MILE EAST ALONG TRUNK HIGHWAY 72 (MAIN STREET) FROM THE JUNCTION OF TRUNK HIGHWAY 72 (MAIN STREET) AND COUNTY ROAD 3 (3RD AVENUE SOUTHWEST) IN BAUDETTE, THEN 0.7 MILE NORTH ON TRUNK HIGHWAY 72 TO THE BORDER, THEN 12.8 MILES EAST ALONG CANADIAN HIGHWAY 11 TO PINEWOOD, SOUTH OF CANADIAN HIGHWAY 11, 600.0 FEET WEST OF A CHURCH, 25.0 FEET NORTH OF THE RAINY RIVER, NEAR A CHURCH, THE MONUMENT AND THE DISK TYPE ARE UNKNOWN.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.473 12B = -96.466 09 = -96.368 03 = -96.381

BOUNDARY REF MON 1171

Mn/DOT Name: BOUNDARY REF MON 1171

NGS Name: BOUNDARY REF MON 1171

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	19	65 N	1 W	480558.57	903008.57		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48090322/
USGS Quad: SOUTH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1917	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

AT THE WEST END OF RAT LAKE. STATION BOUNDARY REF MON 1171 IS ON A ROCK OUTCROP, ABOUT 49.2 FEET FROM THE SHORE ON THE NORTH SIDE OF THE ROAD FROM RAT LAKE TO SOUTH LAKE.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.336 12B = -103.304 09 = -103.254 03 = -102.939

BOUNDARY REF MON 1173

Mn/DOT Name: BOUNDARY REF MON 1173 **NGS Name:** BOUNDARY REF MON 1173

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	19	65 N	1 W	480558.71	902944.58		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48090233/
USGS Quad: HUNGRY JACK LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1917	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921) **Stamping:**

BETWEEN RAT AND ROSE LAKES. STATION BOUNDARY REF MON 1173 IS ON THE POINT ON THE NORTH SIDE OF THE NARROWS, ON A ROCK OUTCROP ABOUT 4.9 FEET ABOVE THE WATER.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK. A BRONZE DISK NEAR THE SHORE LINE, MARKING TRIANGULATION STATION "DUKE," BEARS SOUTH 73 DEGREES 27 MINUTES EAST, 54.19 FEET DISTANT.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.405 12B = -103.376 09 = -103.330 03 = -103.002

BOUNDARY REF MON 1174

Mn/DOT Name: BOUNDARY REF MON 1174 **NGS Name:** BOUNDARY REF MON 1174

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	19	65 N	1 W	480556.60	902936.78		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48090233/
USGS Quad: HUNGRY JACK LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1917	1917	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1917)

Stamping:

AT THE WEST END OF ROSE LAKE, ON THE POINT ABOUT 0.1 MILE EAST OF RAT PORTAGE. STATION BOUNDARY REF MON 1174 IS ON A SOLID ROCK ABOUT 3.94 FEET IN DIAMETER, ABOUT 49.2 FEET BACK FROM THE SHORE AND 'ABOUT 13.1 FEET ABOVE THE WATER LEVEL.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK. STATION "DARK," MARKED BY A DRILL HOLE IN ROCK, BEARS NORTH 33 DEGREES 18 MINUTES EAST, 50.85 FEET DISTANT FROM THE STATION.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.405 12B = -103.376 09 = -103.330 03 = -103.002

BOUNDARY REF MON 1175

Mn/DOT Name: BOUNDARY REF MON 1175 **NGS Name:** BOUNDARY REF MON 1175

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	19	65 N	1 W	480603.04	902946.77		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48090233/
USGS Quad: HUNGRY JACK LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1910	1917	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1917) **Stamping:**

ON THE WEST SHORE OF ROSE LAKE, ABOUT 0.1 MILE NORTH OF THE BOUNDARY CHANNEL INTO RAT LAKE. STATION BOUNDARY REF MON 1175 IS ON A LEDGE ON THE LITTLE ROCK POINT, ABOUT 7.87 FEET BACK FROM THE ROCK SHORE AND ABOUT 4.92 FEET ABOVE THE WATER LEVEL.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.448 12B = -103.418 09 = -103.372 03 = -103.038

BOUNDARY REF MON 118

Mn/DOT Name: BOUNDARY REF MON 118

NGS Name: BOUNDARY REF MON 118

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1024 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484224.52	941657.89		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1937	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.0 MILE EAST OF PINEWOOD, 19.7 FEET BACK FROM THE RIVERS? EDGE, 26.2 FEET WEST OF THE CENTER OF A SMALL WASHOUT OR CREEK, A STANDARD 8.0 INCH DIAMETER MANGANESE, BRONZE REFERENCE POST SET IN A CONCRETE BASE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.588 12B = -96.581 09 = -96.489 03 = -96.493

BOUNDARY REF MON 118 RESET

Mn/DOT Name: BOUNDARY REF MON 118 RESET
NGS Name: BOUNDARY REF MON 118 RESET
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1025 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	6	160 N	28 W	484224.61	941657.79		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1937	1969	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (2006)

Stamping:

14.6 MILES SOUTHEAST OF BAUDETTE, 0.2 MILE EAST ALONG TRUNK HIGHWAY 72 (MAIN STREET) FROM THE JUNCTION OF TRUNK HIGHWAY 72 (MAIN STREET) AND COUNTY ROAD 3 (3RD AVENUE SOUTHWEST) IN BAUDETTE, THEN 0.7 MILE NORTH ON TRUNK HIGHWAY 72 TO THE BORDER, THEN 14.7 MILES EAST ALONG CANADIAN HIGHWAY 11, EAST OF PINEWOOD, 13.0 FEET NORTH OF THE RAINY RIVER.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1069.552	.262		973.295	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -96.588 12B = -96.581 09 = -96.489 03 = -96.493

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 42 24.61280	94 16 57.79371			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 42 24.59524	94 16 57.78497			.131	3	ADJUSTMENT	1989	17085

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1330805.065	17702263.853	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1330805.621	17702262.065	.131	3	ADJUSTMENT	1989	17085

BOUNDARY REF MON 120

Mn/DOT Name: BOUNDARY REF MON 120 **NGS Name:** BOUNDARY REF MON 120

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484202.09	941618.11		

NGS ACRN: TC1029 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1937	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	NGS

Description: (1914) **Stamping:**

ON THE NORTH SHORE OF THE RAINY RIVER, 1.75 MILES EAST OF PINEWOOD, 16.4 FEET BACK FROM THE RIVERS? EDGE, IN A PASTURE, 131.2 FEET EAST OF THE MOUTH OF A CREEK, A STANDARD 8.0 INCH DIAMETER MANGANESE BRONZE REFERENCE POST SET IN CONCRETE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.611 12B = -96.607 09 = -96.516 03 = -96.512

BOUNDARY REF MON 120 A

Mn/DOT Name: BOUNDARY REF MON 120 A

NGS Name: BOUNDARY REF MON 120 A CD US

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484202.34	941618.02		

NGS ACRN: TC1031 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1957	1969	DESTROYED	Horz=NO Vert=NO	NO		PROJECTS 3 IN.	SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	NGS

Description: (1957)

Stamping:

1.75 MILES EAST OF PINEWOOD, IN A PASTURE, 15.0 FEET INLAND FROM THE TOP OF THE RIVER BANK, 25.0 FEET EAST OF A FENCE PERPENDICULAR TO THE RIVER, 125.0 FEET EAST OF THE MOUTH OF A SMALL CREEK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.611 12B = -96.607 09 = -96.516 03 = -96.512

BOUNDARY REF MON 120 RESET

Mn/DOT Name: BOUNDARY REF MON 120 RESET
NGS Name: BOUNDARY REF MON 120 RESET
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1030 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	8	160 N	28 W	484202.18	941618.05		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1937	1968	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (2007)

Stamping:

15.3 MILES SOUTHEAST OF BAUDETTE, 0.2 MILE EAST ALONG TRUNK HIGHWAY 72 (MAIN STREET) FROM THE JUNCTION OF TRUNK HIGHWAY 72 (MAIN STREET) AND COUNTY ROAD 3 (3RD AVENUE SOUTHWEST) IN BAUDETTE, THEN 0.7 MILE NORTH ON TRUNK HIGHWAY 72 TO BORDER, THEN 15.1 MILES EAST ALONG CANADIAN HIGHWAY 11, EAST OF PINEWOOD, 12.0 FEET NORTH OF THE RAINY RIVER.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1069.552	.262		973.272	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -96.611 12B = -96.607 09 = -96.516 03 = -96.512

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 42 02.18377	94 16 18.04601			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 42 02.16639	94 16 18.03729			.131	3	ADJUSTMENT	1989	17085

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1333432.099	17699947.124	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1333432.654	17699945.354	.131	3	ADJUSTMENT	1989	17085

BOUNDARY REF MON 122

Mn/DOT Name: BOUNDARY REF MON 122 **NGS Name:** REF MON 122

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1033 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484133.58	941524.18		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	UNKNOWN	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	NGS

Description: (1918) **Stamping:**

2.6 MILES SOUTHEAST OF PINEWOOD, ON THE NORTH BANK OF THE RAINY RIVER, BETWEEN TWO FIELDS, ON CRAIGEN'S PROPERTY, NEAR THE SUMMIT OF A RIDGE BETWEEN THE RIVER AND A CREEK, WEST OF A SMALL GRAVEYARD, 21.2 FEET SOUTHWEST OF STATION CRAIGEN (TC0883).

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.640 12B = -96.640 09 = -96.548 03 = -96.535

BOUNDARY REF MON 124

Mn/DOT Name: BOUNDARY REF MON 124

NGS Name: BOUNDARY REF MON 124

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484101.84	941458.16		

NGS ACRN: TC1035 Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1947	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	NGS

Description: (1914)

Stamping:

ON THE EAST BANK OF THE RAINY RIVER, 1.0 MILE NORTH OF THE FRONTIER SCHOOLHOUSE, 492.0 FEET SOUTH OF THE MOUTH OF CLEMENT CREEK, 49.2 FEET NORTHWEST FROM THE NORTHWEST CORNER OF THE PEARSON HOUSE, 29.5 FEET BACK FROM THE RIVERS? EDGE, A STANDARD 8.0 INCH DIAMETER MANGANESE BRONZE REFERENCE POST SET IN A CONCRETE BASE.

Station Notes

WAS FOUND AT THE BOTTOM OF THE BANK AND RESET IN 1947.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.627 12B = -96.627 09 = -96.535 03 = -96.516

BOUNDARY REF MON 125

Mn/DOT Name: BOUNDARY REF MON 125

NGS Name: BOUNDARY REF MON 125 CD US

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484040.00	941455.00		

NGS ACRN: CU8068 Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1937	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	NGS

Description: (1914)

Stamping:

ON THE EAST BANK OF THE RAINY RIVER, 0.6 MILE NORTHEAST OF THE FRONTIER SCHOOLHOUSE, 68.9 FEET BACK FROM THE RIVER'S EDGE, 6.6 FEET BELOW THE TOP OF A BANK, 9.9 FEET FROM THE EDGE OF A FIELD, A LOG HOUSE BEARS NORTH - NORTHWEST 328.0 FEET FROM THE STATION, A STANDARD 8.0 INCH DIAMETER MANGANESE BRONZE REFERENCE POST SET IN A CONCRETE BASE.

Station Notes

BRONZE POST BROKEN OFF IN 1937 BY IBC.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.601 12B = -96.598 09 = -96.509 03 = -96.486

BOUNDARY REF MON 125 RESET

Mn/DOT Name: BOUNDARY REF MON 125 RESET
NGS Name: BOUNDARY REF MON 125 CD US RES
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1037 Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484040.90	941454.82		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1937	1969	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	NGS

Description: (1937) **Stamping:** RM 125 1937

ON THE EAST BANK OF THE RAINY RIVER, 0.6 MILE NORTHEAST OF THE FRONTIER SCHOOLHOUSE, 68.9 FEET BACK FROM THE RIVERS' EDGE, 6.6 FEET BELOW THE TOP OF THE BANK, 9.9 FEET FROM THE EDGE OF A FIELD, A LOG HOUSE BEARS NORTH - NORTHWEST 328.0 FEET FROM THE STATION.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.601 12B = -96.601 09 = -96.509 03 = -96.486

BOUNDARY REF MON 127

Mn/DOT Name: BOUNDARY REF MON 127 **NGS Name:** REF MON 127

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483950.87	941511.44		

NGS ACRN: TC1039 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1921	UNKNOWN	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	NGS

Description: (1921) **Stamping:**

4.1 MILES SOUTHEAST OF PINEWOOD, ON THE EAST BANK OF THE RAINY RIVER, ON A GRAVEL RIDGE SLOPING TOWARDS THE RIVER, 65.6 FEET SOUTHWEST OF AN OLD LOG HOUSE, 59.0 FEET BACK FROM THE RIVER'S EDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.509 12B = -96.506 09 = -96.420 03 = -96.391

BOUNDARY REF MON 130

Mn/DOT Name: BOUNDARY REF MON 130 **NGS Name:** REF MON 130

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483916.27	941438.66		

NGS ACRN: TC1044 Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1969	UNKNOWN	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	NGS

Description: (1921) **Stamping:**

4.8 MILES SOUTHEAST OF PINEWOOD, 3.5 MILES SOUTHEAST ALONG TRUNK HIGHWAY 11 FROM THE JUNCTION OF TRUNK HIGHWAY 11 AND AMY STREET, THEN 0.1 MILE WEST ON SUNDWALL ROAD, THEN CONTINUE 1.9 MILES SOUTH ON SUNDWALL ROAD, THEN ABOUT 1065.0 FEET SOUTHEAST OF SUNDWALL ROAD, ON THE NORTH BANK OF THE RAINY RIVER, IN A FIELD NEAR THE WEST CORNER, 13.1 FEET FROM THE SOUTHWEST SIDE AND 78.7 FROM THE NORTHWEST SIDE OF A FIELD, 39.4 FEET BACK FROM THE RIVER'S EDGE, 262.4 FEET SOUTH-SOUTHEAST OF A BUILDING.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.486 12B = -96.479 09 = -96.404 03 = -96.371

BOUNDARY REF MON 132

Mn/DOT Name: BOUNDARY REF MON 132 **NGS Name:** REF MON 132

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483907.13	941337.26		

NGS ACRN: TC1046 Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1969	UNKNOWN	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	NGS

Description: (1918) **Stamping:**

5.4 MILES SOUTHEAST OF PINEWOOD, 4.3 MILES SOUTHEAST ALONG TRUNK HIGHWAY 11 FROM THE JUNCTION OF TRUNK HIGHWAY 11 AND AMY STREET, THEN 0.6 MILE SOUTH ON BUD'S ROAD NORTH, THEN ABOUT 1.2 MILES SOUTH OF BUD'S ROAD NORTH, ON THE NORTH BANK OF THE RAINY RIVER, 15.0 FEET NORTHEAST OF STATION MEADOW (TC0956), 19.7 FEET BACK FROM THE RIVER'S EDGE, 656.0 FEET EAST OF AN OLD PIER, 131.2 FEET WEST OF A FENCE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.525 12B = -96.522 09 = -96.450 03 = -96.417

BOUNDARY REF MON 134

Mn/DOT Name: BOUNDARY REF MON 134 **NGS Name:** BOUNDARY REF MON 134

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483907.51	941207.30		

NGS ACRN: TC1048 Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1969	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	NGS

Description: (1914) **Stamping:**

ON THE NORTH BANK OF THE RAINY RIVER, 2.25 MILES EAST OF THE FRONTIER STORE, ON A SLOPE OF THE BANK, 29.5 FEET BACK FROM THE RIVERS? EDGE, A SMALL SHACK BEARS NORTHEAST 196.8 FEET FROM THE STATION, A STANDARD 8.0 INCH DIAMETER MANGANESE BRONZE REFERENCE POST SET IN A CONCRETE BASE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.614 12B = -96.611 09 = -96.532 03 = -96.496

BOUNDARY REF MON 134 A

Mn/DOT Name: BOUNDARY REF MON 134 A
NGS Name: BOUNDARY REF MON 134 A
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1049 Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483907.67	941207.31		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1957	1969	NOT FOUND	Horz=? Vert=YES	NO		PROJECTS 9 IN.	SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	NGS

Description: (1957)

Stamping:

2.25 MILES OF THE OLD FRONTIER LANDING, 15.0 FEET BACK OF THE TOP OF A HIGH BANK IN AN OPEN FIELD, NOW GROWING WILLOWS UP TO 5.0 FEET HIGH, IN THE CENTER OF AN OLD CLEARING, A TRIANGULATION TABLET SET IN THE TOP OF A CYLINDER OF CONCRETE 5.0 INCH DIAMETER AND 2.0 FEET LONG, SET VERTICALLY IN THE GROUND.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.617 12B = -96.611 09 = -96.532 03 = -96.499

BOUNDARY REF MON 138

Mn/DOT Name: BOUNDARY REF MON 138 **NGS Name:** BOUNDARY REF MON 138

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483848.88	940924.75		

NGS ACRN: TC1054 Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1968	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	NGS

Description: (1914) **Stamping:**

ON THE NORTH BANK OF THE RAINY RIVER, 0.3 MILE EAST OF THE BOUCHERVILLE POST OFFICE, 229.6 FEET EAST OF DEL VIPONTS LOG CABIN, 16.4 FEET BACK FROM THE RIVERS? EDGE, A STANDARD 8.0 INCH DIAMETER MANGANESE BRONZE REFERENCE POST SET IN A CONCRETE BASE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.742 12B = -96.748 09 = -96.653 03 = -96.621

BOUNDARY REF MON 138 RM 1

Mn/DOT Name: BOUNDARY REF MON 138 RM 1

NGS Name: BOUNDARY REF MON 138 RM 1

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: CR9154 Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483848.00	940924.00		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1947	1947	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	REFERENCE MARK DISK	NGS

Description: (1947) **Stamping:**

ON THE NORTH BANK OF THE RAINY RIVER, 0.3 MILE EAST OF THE BOUCHERVILLE POST OFFICE, A BRONZE DISK SET IN A 6.0-INCH CONCRETE POST, 26.36 FEET NORTH OF BOUNDARY REF MON 138 (TC1054), JUST INSIDE THE INNER EDGE OF THE TREES AND BRUSH.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.742 12B = -96.748 09 = -96.653 03 = -96.617

BOUNDARY REF MON 140

Mn/DOT Name: BOUNDARY REF MON 140 **NGS Name:** REF MON 140

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1061 Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483847.27	940836.03		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1969	UNKNOWN	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	NGS

Description: (1918) **Stamping:**

2.4 MILES SOUTHEAST OF STRATTON, 0.4 MILE NORTHEAST OF BOUNDARY REF MON 139 RESET (TC1056), ON THE EAST END OF A LARGE ISLAND IN THE RAINY RIVER, 23.0 FEET ABOVE THE WATER, 130.5 FEET WEST OF STATION ISLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.798 12B = -96.808 09 = -96.709 03 = -96.673

BOUNDARY REF MON 142

Mn/DOT Name: BOUNDARY REF MON 142

NGS Name: BOUNDARY REF MON 142

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1063 Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483844.12	940731.45		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1937	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.0 MILE WEST OF BIRCHDALE LANDING, 19.7 FEET BACK FROM THE RIVERS? EDGE, ON A FLAT POINT, A LEANING POPLAR TREE WITH A SMALL NOTCH IS 13.1 FEET SOUTHWEST OF THE STATION, A STANDARD 8.0 INCH DIAMETER MANGANESE BRONZE REFERENCE POST SET IN CONCRETE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.876 12B = -96.883 09 = -96.788 03 = -96.755

BOUNDARY REF MON 142 RESET

Mn/DOT Name: BOUNDARY REF MON 142 RESET
NGS Name: BOUNDARY REF MON 142 RESET
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1064 Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483844.21	940731.47		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1937	1968	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	NGS

Description: (1937)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.0 MILE WEST OF BIRCHDALE LANDING, 10.0 FEET FROM THE TOP OF A BANK, A STANDARD 8.0 INCH DIAMETER MANGANESE BRONZE REFERENCE POST SET IN CONCRETE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.876 12B = -96.883 09 = -96.788 03 = -96.755

BOUNDARY REF MON 145

Mn/DOT Name: BOUNDARY REF MON 145

NGS Name: BOUNDARY REF MON 145

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483850.46	940608.81		

NGS ACRN: TC1067 Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1969	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, OPPOSITE BIRCHDALE LANDING, IN THE TIMBER 6.6 FEET ABOVE AND 32.8 FEET BACK FROM THE RIVERS? EDGE, A STANDARD 8.0 INCH DIAMETER MANGANESE BRONZE REFERENCE POST SET IN A CONCRETE BASE, 29.9 FEET NORTH OF STATION PARSON.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.998 12B = -97.004 09 = -96.909 03 = -96.873

BOUNDARY REF MON 151

Mn/DOT Name: BOUNDARY REF MON 151 **NGS Name:** BOUNDARY REF MON 151

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483850.11	940358.51		

NGS ACRN: TC1074 Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1969	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	NGS

Description: (1913) **Stamping:**

ON THE NORTH BANK OF THE RAINY RIVER, 0.4 MILE BELOW THE HEAD OF LONG SAULT RAPIDS, IN A FIELD 9.9 FEET FROM A FENCE LINE, 3.3 FEET ABOVE THE WATER, A STANDARD 8.0 INCH DIAMETER MANGANESE BRONZE REFERENCE POST SET IN A CONCRETE BASE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.168 12B = -97.178 09 = -97.077 03 = -97.040

BOUNDARY REF MON 153

Mn/DOT Name: BOUNDARY REF MON 153 **NGS Name:** REF MON 153

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1076 Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483838.30	940338.04		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	UNKNOWN	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	IBWC

Description: (1918)

Stamping:

5.3 MILES SOUTHEAST OF STRATTON, ON THE NORTH BANK OF THE RAINY RIVER, 4.8 MILES EAST ALONG TRUNK HIGHWAY 11 FROM THE JUNCTION OF TRUNK HIGHWAY 617, THEN ABOUT 1.3 MILES SOUTH OF TRUNK HIGHWAY 11, AT THE HEAD OF LONG SAULT RAPIDS, ON TOP OF A PLATEAU, 75.4 FEET ABOVE AND 59.0 FEET BACK FROM THE RIVER'S EDGE, IN A CLEARED GRASSY PLACE, IN WHICH ARE A NUMBER OF OUTCROPPING BOULDERS A PATH FROM THE RIVER ABOVE THE RAPIDS PASSES CLOSE TO STATION BOUNDARY REF MON 153, 6.7 FEET FROM STATION RIGHT.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.175 12B = -97.182 09 = -97.080 03 = -97.047

BOUNDARY REF MON 155

Mn/DOT Name: BOUNDARY REF MON 155
NGS Name: BOUNDARY REF MON 155
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483841.08	940316.30		

NGS ACRN: TC1078 Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1969	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	NGS

Description: (1914) **Stamping:**

ON THE NORTH BANK OF THE RAINY RIVER, 0.25 MILE EAST OF THE HEAD OF LONG SAULT RAPIDS, 147.6 FEET WEST OF THE MOUTH OF A SMALL CREEK, 9.9 FEET ABOVE THE WATER, A STANDARD 8.0 INCH DIAMETER MANGANESE BRONZE REFERENCE POST SET IN A CONCRETE BASE, 24.9 FEET NORTH OF STATION DOG.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.211 12B = -97.218 09 = -97.113 03 = -97.083

BOUNDARY REF MON 157

Mn/DOT Name: BOUNDARY REF MON 157

NGS Name: BOUNDARY REF MON 157 CD US

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483839.46	940253.15		

NGS ACRN: TC1080 Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1918	1969	POOR	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	NGS

Description: (1969)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.5 MILE EAST OF THE HEAD OF LONG SAULT RAPIDS, 75.0 FEET WEST OF A PROJECTING ROCKY BLUFF, 6.6 FEET ABOVE AND 29.5 FEET BACK FROM THE RIVER'S EDGE, STATION BOUNDARY REF MON 157 IS A BRONZE SHANK ONLY SET IN A CONCRETE BASE.

Station Notes

THIS MONUMENT (NOW ONLY A SHANK) WAS SET IN 1918 TO REPLACE THE ONE SET IN 1914 WHICH HAD BEEN BROKEN OFF, THEREFORE, IT IS THE ONE USED IN THE LARGE, PRINTED REPORT OF 1931, THE SHANK OF OLD MONUMENT 157-1914 IS STILL THERE IN A NEARBY 2.0 BY 3.0 FOOT ROCK AT THE EDGE OF THE WATER, REF MON 157 59 IBC WAS SET IN 1969.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.241 12B = -97.247 09 = -97.142 03 = -97.109

BOUNDARY REF MON 159

Mn/DOT Name: BOUNDARY REF MON 159 **NGS Name:** REF MON 159

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1082 Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483833.66	940211.97		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	UNKNOWN	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	IBWC

Description: (1918) **Stamping:**

ON THE NORTH BANK OF THE RAINY RIVER, 6.3 MILES SOUTHEAST OF STRATTON, 6.0 MILES EAST OF HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND HIGHWAY 617, THEN ABOUT 1.1 MILES SOUTH OF TRUNK HIGHWAY 11, 1.0 MILE EAST OF THE HEAD OF LONG SAULT RAPIDS, 0.4 MILE EAST OF THE MOUTH OF STURGEON RIVER, 246.0 FEET WEST OF THE EAST LINE OF THE INDIAN RESERVATION, NEAR SOME LEANING BIRCH TREES, 13.1 FEET ABOVE THE WATER, 38.3 FEET NORTHEAST OF STATION PLUMB.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.287 12B = -97.290 09 = -97.185 03 = -97.159

BOUNDARY REF MON 164

Mn/DOT Name: BOUNDARY REF MON 164

NGS Name: BOUNDARY REF MON 164

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483835.14	935931.49		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093434/
USGS Quad: MANITOU OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1918) **Stamping:**

ON THE NORTH BANK OF THE RAINY RIVER, 1.0 MILE NORTH OF MANITOU, OPPOSITE THE WEST END OF A SANDY ISLAND, 19.7 FEET ABOVE THE WATER, 49.2 FEET SOUTH OF A HOUSE, 8.8 FEET NORTH OF STATION HARTLEY.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.500 12B = -97.500 09 = -97.401 03 = -97.372

BOUNDARY REF MON 179

Mn/DOT Name: BOUNDARY REF MON 179

NGS Name: BOUNDARY REF MON 179

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483801.39	935339.55		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093434/
USGS Quad: MANITOU OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1918) **Stamping:**

ON THE NORTH BANK OF THE RAINY RIVER, 4.5 MILES EAST-NORTHEAST OF MANITOU, 1.0 MILE EAST OF MANITOU RAPIDS, OPPOSITE A LONG NARROW ISLAND NEAR THE AMERICAN SHORE, 26.2 FEET ABOVE AND 82.0 FEET BACK FROM THE RIVER'S EDGE, 84.2 FEET NORTH OF STATION FLAT.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.802 12B = -97.808 09 = -97.706 03 = -97.726

BOUNDARY REF MON 180

Mn/DOT Name: BOUNDARY REF MON 180

NGS Name: BOUNDARY REF MON 180

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483758.95	935303.28		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093434/
USGS Quad: MANITOU OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1918)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 5.0 MILES EAST-NORTHEAST OF MANITOU, 26.2 FEET ABOVE AND 45.9 FEET BACK FROM THE RIVER'S EDGE, ON A GRASSY BANK, 147.6 FEET BACK FROM HEAVY TIMBER GROWTH, 44.5 FEET NORTH OF STATION SPRING.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.834 12B = -97.841 09 = -97.739 03 = -97.766

BOUNDARY REF MON 182

Mn/DOT Name: BOUNDARY REF MON 182

NGS Name: BOUNDARY REF MON 182

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483757.58	935210.18		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093431/
USGS Quad: LOMAN OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1918)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.5 MILES NORTHWEST OF INDUS, IN FRONT OF BENJAMIN WILCOX'S HOUSE, 29.5 FEET ABOVE AND 98.4 FEET BACK FROM THE RIVER'S EDGE, 100.7 FEET NORTH OF STATION SHUT.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.894 12B = -97.897 09 = -97.795 03 = -97.831

BOUNDARY REF MON 184

Mn/DOT Name: BOUNDARY REF MON 184

NGS Name: BOUNDARY REF MON 184

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483751.55	935031.20		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093431/
USGS Quad: LOMAN OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1925	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1918)

Stamping:

IN EMO, ON THE NORTH BANK OF THE RAINY RIVER, 32.8 FEET ABOVE THE WATER, 42.6 FEET BACK FROM THE CANADIAN NATIONAL RAILWAYS PUMP HOUSE, 4.9 FEET SOUTHWEST OF EMO WEST BASE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.998 12B = -98.005 09 = -97.907 03 = -97.962

BOUNDARY REF MON 186

Mn/DOT Name: BOUNDARY REF MON 186 **NGS Name:** BOUNDARY REF MON 186

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483726.60	934948.60		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1918) **Stamping:**

ON THE EAST BANK OF THE RAINY RIVER, 0.5 MILE SOUTHEAST OF EMO, 29.5 FEET ABOVE AND 147.6 FEET BACK FROM THE RIVER'S EDGE, NEAR FRED CRUIKSHANK'S FRONT FENCE, 213.2 FEET FROM HOUSE, 3.7 FEET WEST OF STATION CROOK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.018 12B = -98.028 09 = -97.930 03 = -97.989

BOUNDARY REF MON 187

Mn/DOT Name: BOUNDARY REF MON 187

NGS Name: BOUNDARY REF MON 187

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483705.89	934936.41		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1918)

Stamping:

ON THE EAST BANK OF THE RAINY RIVER, 1.0 MILE SOUTHEAST OF EMO, 0.2 MILE NORTH OF THE END OF SMOOT ISLAND, ON A HIGH BANK, 23.0 FEET ABOVE THE WATER, ON THE PROPERTY OF THOMAS BOUCHER, 278.8 FEET SOUTH OF A PIG HOUSE, 492.0 FEET SOUTHWEST OF A BARN, 6.6 FEET EAST OF STATION BOUCHER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.012 12B = -98.021 09 = -97.920 03 = -97.979

BOUNDARY REF MON 191

Mn/DOT Name: BOUNDARY REF MON 191

NGS Name: BOUNDARY REF MON 191

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483552.82	934853.55		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1918)

Stamping:

ON THE EAST BANK OF THE RAINY RIVER, 2.4 MILES SOUTH OF EMO, 0.4 MILE NORTH OF CONMEE ISLAND, 410.0 FEET NORTH OF A SMALL STREAM, 26.2 FEET ABOVE AND 75.4 FEET BACK FROM THE RIVER'S EDGE, 75.5 FEET EAST OF STATION BOAT.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.012 12B = -98.015 09 = -97.926 03 = -97.976

BOUNDARY REF MON 192

Mn/DOT Name: BOUNDARY REF MON 192 **NGS Name:** BOUNDARY REF MON 192

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483517.54	934843.25		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1918) **Stamping:**

ON CONMEE ISLAND IN THE RAINY RIVER, 3.1 MILES SOUTH OF EMO, 0.2 MILE NORTH OF THE SOUTH END OF THE ISLAND, 147.6 FEET EAST OF THE WEST SHORE, 23.0 FEET ABOVE THE WATER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.012 12B = -98.015 09 = -97.926 03 = -97.966

BOUNDARY REF MON 194

Mn/DOT Name: BOUNDARY REF MON 194
NGS Name: BOUNDARY REF MON 194
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483413.89	934806.43		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1918) **Stamping:**

ON THE EAST BANK OF THE RAINY RIVER, 4.5 MILES SOUTH OF EMO, 656.0 FEET NORTH OF THE MOUTH OF LOCKING CREEK, 32.8 FEET ABOVE AND 82.0 FEET BACK FROM THE RIVER'S EDGE, 83.1 FEET EAST OF STATION UNCLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.048 12B = -98.054 09 = -97.962 03 = -97.995

BOUNDARY REF MON 196

Mn/DOT Name: BOUNDARY REF MON 196 **NGS Name:** BOUNDARY REF MON 196

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483323.48	934821.96		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1918) **Stamping:**

ON THE EAST BANK OF THE RAINY RIVER, 0.75 MILE NORTH OF AYLESWORTH, 3.3 FEET ABOVE THE RIVER, 9.8 FEET NORTH OF A LARGE WHITE BIRCH TREE, IN A PASTURE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.031 12B = -98.035 09 = -97.939 03 = -97.949

BOUNDARY REF MON 197

Mn/DOT Name: BOUNDARY REF MON 197

NGS Name: BOUNDARY REF MON 197

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483255.70	934835.48		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1918)

Stamping:

ON THE EAST BANK OF THE RAINY RIVER, IN AYLESWORTH, NEAR THE EDGE OF A STEEP BANK, 23.0 FEET ABOVE AND 49.2 FEET BACK FROM THE RIVER'S EDGE, 32.7 FEET SOUTH-SOUTHEAST OF STATION SWAN.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.018 12B = -98.015 09 = -97.926 03 = -97.923

BOUNDARY REF MON 198

Mn/DOT Name: BOUNDARY REF MON 198

NGS Name: BOUNDARY REF MON 198

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483240.19	934831.21		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1918)

Stamping:

ON THE EAST BANK OF THE RAINY RIVER, IN AYLESWORTH, NEAR THE EDGE OF A STEEP BANK, 29.5 FEET ABOVE AND 98.4 FEET BACK FROM THE RIVER'S EDGE, NEAR THE WEST SIDE OF A FARM ROAD, 360.8 FEET SOUTH OF AN EAST-WEST SECTION LINE ROAD TO THE RIVER, 3.7 FEET NORTHEAST OF STATION LINQUIST.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.028 12B = -98.021 09 = -97.936 03 = -97.930

BOUNDARY REF MON 200

Mn/DOT Name: BOUNDARY REF MON 200

NGS Name: BOUNDARY REF MON 200

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483157.29	934859.79		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1918) **Stamping:**

ON THE EAST BANK OF THE RAINY RIVER, 1.4 MILES NORTH OF LOMAN, 26.2 FEET ABOVE AND 82.0 FEET BACK FROM THE RIVER'S EDGE, ON THE PROPERTY OF W B OGDEN, 246.0 FEET FROM A HOUSE, 49.2 FEET FROM A CHICKEN HOUSE, 3.9 FEET EAST OF STATION TIP.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.998 12B = -97.985 09 = -97.907 03 = -97.880

BOUNDARY REF MON 203

Mn/DOT Name: BOUNDARY REF MON 203

NGS Name: BOUNDARY REF MON 203

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483111.69	934748.34		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1918)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.7 MILE NORTHEAST OF LOMAN, OPPOSITE THE HOUSE OF MACK LOMAN, 6.6 FEET ABOVE AND 19.7 FEET BACK FROM THE RIVER'S EDGE, 16.1 FEET NORTH OF STATION SHORE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.090 12B = -98.090 09 = -97.995 03 = -97.962

BOUNDARY REF MON 205

Mn/DOT Name: BOUNDARY REF MON 205

NGS Name: BOUNDARY REF MON 205

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483102.01	934716.26		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1918)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.9 MILE NORTHEAST OF LOMAN, 656.0 FEET UPSTREAM AND ACROSS THE RIVER FROM THE HOISTING PLANT, ON A HIGH BANK, 16.4 FEET ABOVE AND 65.6 FEET BACK FROM THE RIVER'S EDGE, NEAR A PATH PARALLEL TO THE RIVER, 131.2 FEET WEST OF THE MOUTH OF A SMALL STREAM, 13.1 FEET NORTHEAST OF STATION TEPEE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.136 12B = -98.140 09 = -98.041 03 = -98.012

BOUNDARY REF MON 206

Mn/DOT Name: BOUNDARY REF MON 206 **NGS Name:** BOUNDARY REF MON 206

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483102.73	934630.11		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1918) **Stamping:**

ON THE NORTH BANK OF THE RAINY RIVER, 1.6 MILES NORTHEAST OF LOMAN, 0.2 MILE EAST OF THE MOUTH OF A SMALL CREEK, ON A GRASSY SLOPE, ON THE PROPERTY OF MR ARMSTRONG, 23.0 FEET ABOVE AND 82.0 FEET BACK FROM THE RIVER'S EDGE, 53.5 FEET NORTHWEST OF STATION ARMSTRONG.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.208 12B = -98.212 09 = -98.117 03 = -98.090

BOUNDARY REF MON 208

Mn/DOT Name: BOUNDARY REF MON 208

NGS Name: BOUNDARY REF MON 208

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483102.36	934505.03		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1918)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 2.6 MILES NORTHEAST OF LOMAN, 131.2 FEET WEST OF THE MOUTH OF TURNER CREEK, 23.0 FEET ABOVE AND 65.6 FEET BACK FROM THE RIVER'S EDGE, ON THE WEST SIDE OF A GULLY, 11.8 FEET NORTH OF STATION CLARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.353 12B = -98.353 09 = -98.261 03 = -98.238

BOUNDARY REF MON 210

Mn/DOT Name: BOUNDARY REF MON 210 **NGS Name:** BOUNDARY REF MON 210

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483107.60	934301.87		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093423/
USGS Quad: DEVLIN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1926) **Stamping:**

ON THE NORTH BANK OF THE RAINY RIVER, 2.1 MILES SOUTHWEST OF THE BIG FORK, OPPOSITE BIG FORK RIVER, 26.2 FEET ABOVE THE WATER, 9.8 FEET FROM THE EDGE OF THE BANK, NEAR A FENCE LINE, 8.4 FEET NORTHWEST OF STATION FENCE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.573 12B = -98.573 09 = -98.487 03 = -98.468

BOUNDARY REF MON 212

Mn/DOT Name: BOUNDARY REF MON 212

NGS Name: BOUNDARY REF MON 212

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483101.86	934141.16		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093423/
USGS Quad: DEVLIN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1926)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.1 MILES SOUTHWEST OF THE BIG FORK, 1.0 MILE EAST OF THE MOUTH OF BIG FORK RIVER, AT THE SOUTHWEST CORNER OF A NORTH-SOUTH SECTION-LINE ROAD, 29.5 FEET ABOVE AND 114.8 FEET BACK FROM THE RIVER'S EDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.724 12B = -98.717 09 = -98.635 03 = -98.609

BOUNDARY REF MON 215

Mn/DOT Name: BOUNDARY REF MON 215 **NGS Name:** BOUNDARY REF MON 215

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483104.35	933932.39		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093423/
USGS Quad: DEVLIN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1926) **Stamping:**

ON THE NORTH BANK OF THE RAINY RIVER, 0.7 MILE SOUTHEAST OF THE BIG FORK, ON THE PROPERTY OF ALONZO SPENCER, IN A FIELD NEAR THE HIGH BANK, 29.5 FEET ABOVE AND 98.4 FEET BACK FROM THE RIVER'S EDGE, NEAR SEVERAL POPLAR TREES, 7.2 FEET NORTH OF STATION SPENCER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.963 12B = -98.960 09 = -98.871 03 = -98.842

BOUNDARY REF MON 217

Mn/DOT Name: BOUNDARY REF MON 217

NGS Name: BOUNDARY REF MON 217

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483120.52	933826.52		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093423/
USGS Quad: DEVLIN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1926)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.5 MILES EAST OF BIG FORK, 0.5 MILE SOUTHWEST OF THE MOUTH OF THE LA VALLEE RIVER, NEAR THE SOUTH EDGE OF A FIELD, 360.8 FEET SOUTHWEST OF A SMALL STREAM, 32.8 FEET ABOVE AND 49.2 FEET BACK FROM THE RIVER'S EDGE, 49.2 FEET EAST OF A LARGE PINE TREE, 5.0 FEET NORTH OF STATION DUN.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -99.088 12B = -99.088 09 = -98.999 03 = -98.976

BOUNDARY REF MON 219

Mn/DOT Name: BOUNDARY REF MON 219

NGS Name: BOUNDARY REF MON 219

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483157.83	933742.48		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093423/
USGS Quad: DEVLIN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1926)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 2.1 MILES EAST OF BIG FORK, 0.5 MILE NORTHEAST OF THE MOUTH OF THE LA VALLEE RIVER, ON THE SOUTH SIDE OF PROVINCIAL HIGHWAY 602, 131.2 FEET WEST OF THE JUNCTION OF PROVINCIAL HIGHWAY 602 AND A NORTH-SOUTH ROAD, 32.8 FEET ABOVE AND 82.0 FEET BACK FROM THE RIVER'S EDGE, 57.1 FEET NORTH OF STATION WARD.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -99.180 12B = -99.183 09 = -99.091 03 = -99.078

BOUNDARY REF MON 221

Mn/DOT Name: BOUNDARY REF MON 221

NGS Name: BOUNDARY REF MON 221

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483137.91	933711.58		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093422/
USGS Quad: PELLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1926)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 4.9 MILES SOUTH WEST OF ISHERWOOD, 0.2 MILE SOUTHEAST OF THE MOUTH OF A SMALL STREAM, IN A GRAIN FIELD, NEAR THE RIVER BANK, 6.6 FEET ABOVE THE WATER, NEAR SEVERAL ELM TREES.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -99.239 12B = -99.235 09 = -99.150 03 = -99.127

BOUNDARY REF MON 223

Mn/DOT Name: BOUNDARY REF MON 223 **NGS Name:** BOUNDARY REF MON 223

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483127.21	933627.60		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093422/
USGS Quad: PELLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1926) **Stamping:**

ON THE NORTH BANK OF THE RAINY RIVER, 4.4 MILES SOUTH WEST OF ISHERWOOD, 410.0 FEET EAST OF PETER SPENCE'S HOUSE, 13.1 FEET ABOVE AND 49.2 FEET BACK FROM THE RIVER'S EDGE, 44.7 FEET NORTH OF STATION PETER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -99.317 12B = -99.317 09 = -99.232 03 = -99.203

BOUNDARY REF MON 225

Mn/DOT Name: BOUNDARY REF MON 225 **NGS Name:** BOUNDARY REF MON 225

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483146.49	933546.59		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093422/
USGS Quad: PELLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1926) **Stamping:**

ON THE NORTH BANK OF THE RAINY RIVER, 3.8 MILES SOUTH WEST OF ISHERWOOD, ON A HIGH BANK, 32.8 FEET ABOVE AND 98.4 FEET BACK FROM THE RIVER'S EDGE, 131.2 FEET SOUTHWEST OF A HOUSE, 4.5 FEET NORTH OF STATION INDIAN.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -99.403 12B = -99.403 09 = -99.314 03 = -99.291

BOUNDARY REF MON 228

Mn/DOT Name: BOUNDARY REF MON 228

NGS Name: BOUNDARY REF MON 228

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483146.55	933409.74		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093422/
USGS Quad: PELLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1926)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 2.6 MILES SOUTH WEST OF ISHERWOOD, 492.0 FEET EAST OF THE MOUTH OF A SMALL CREEK, IN THE SOUTHEAST CORNER OF A BOWEN'S FRONT YARD, 65.6 FEET SOUTHEAST OF HOUSE, 23.0 FEET ABOVE AND 32.8 FEET BACK FROM THE RIVER'S EDGE, 1.8 FEET SOUTH OF STATION BOWEN.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -99.586 12B = -99.583 09 = -99.498 03 = -99.468

BOUNDARY REF MON 229

Mn/DOT Name: BOUNDARY REF MON 229

NGS Name: BOUNDARY REF MON 229

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483150.44	933321.64		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093422/
USGS Quad: PELLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1926)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 2.0 MILES SOUTH WEST OF ISHERWOOD, 0.2 MILE WEST OF THE MOUTH OF WATSON CREEK, ON THE PROPERTY OF W H CONNER, IN A GROVE OF ELM TREES, 9.8 FEET ABOVE AND 32.8 FEET BACK FROM THE RIVER'S EDGE, 12.0 FEET NORTHEAST OF STATION GROVE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -99.682 12B = -99.672 09 = -99.590 03 = -99.560

Geodetic Data Sheet (Feet)
GSID Station # 88162

BOUNDARY REF MON 232

04/28/2026
Sheet Help

Mn/DOT Name: BOUNDARY REF MON 232
NGS Name: BOUNDARY REF MON 232
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483208.92	933118.98		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093422/
USGS Quad: PELLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1926)
Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.6 MILE SOUTH OF ISHERWOOD, ON THE PROPERTY OF MR ISHERWOOD, EAST ACROSS A GULLY FROM A HOUSE, 29.5 FEET ABOVE AND 164.0 FEET BACK FROM THE RIVER'S EDGE, 2.8 FEET WEST OF STATION ISHERWOOD.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -99.914 12B = -99.908 09 = -99.819 03 = -99.793

BOUNDARY REF MON 234

Mn/DOT Name: BOUNDARY REF MON 234

NGS Name: BOUNDARY REF MON 234

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483232.79	933002.65		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093422/
USGS Quad: PELLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1926)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.7 MILE SOUTHEAST OF ISHERWOOD, 0.3 MILE EAST OF THE MOUTH OF A SMALL CREEK, 9.8 FEET ABOVE AND 26.2 FEET BACK FROM THE RIVER'S EDGE, 229.6 FEET SOUTHEAST OF THE RUINS OF AN OLD HOUSE, 24.1 FEET NORTH OF STATION BEACH.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.065 12B = -100.056 09 = -99.970 03 = -99.944

BOUNDARY REF MON 236

Mn/DOT Name: BOUNDARY REF MON 236

NGS Name: BOUNDARY REF MON 236

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483239.83	932909.25		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1926	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1926)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 6.3 MILES SOUTHWEST OF FORT FRANCES, 65.6 FEET WEST OF AN OLD, ABANDONED PIER, 360.8 FEET WEST OF A SMALL CREEK, 26.2 FEET ABOVE AND 65.6 FEET BACK FROM THE RIVER'S EDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.157 12B = -100.151 09 = -100.065 03 = -100.039

BOUNDARY REF MON 237

Mn/DOT Name: BOUNDARY REF MON 237

NGS Name: BOUNDARY REF MON 237

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483251.32	932805.31		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1926)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 6.2 MILES SOUTHWEST OF FORT FRANCES, AT THE SOUTHWEST EDGE OF A SMALL TIMBER TRACT OWNED BY ALFRED WILSON, 26.2 FEET ABOVE AND 82.0 FEET BACK FROM THE RIVER'S EDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.272 12B = -100.266 09 = -100.177 03 = -100.151

BOUNDARY REF MON 240

Mn/DOT Name: BOUNDARY REF MON 240

NGS Name: BOUNDARY REF MON 240

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483322.38	932737.84		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1926)

Stamping:

ON THE WEST BANK OF THE RAINY RIVER, 5.0 MILES SOUTHWEST OF FORT FRANCES, 262.4 FEET SOUTH OF THE MOUTH OF A SMALL CREEK, ON THE PROPERTY OF WILLIAM WILSON, 164.0 FEET FROM A HOUSE, 26.2 FEET ABOVE AND 114.8 FEET BACK FROM THE RIVER'S EDGE, 8.2 FEET SOUTHWEST OF STATION WILSON.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.341 12B = -100.338 09 = -100.243 03 = -100.223

BOUNDARY REF MON 242

Mn/DOT Name: BOUNDARY REF MON 242

NGS Name: BOUNDARY REF MON 242

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483358.16	932732.82		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1926)

Stamping:

ON THE WEST BANK OF THE RAINY RIVER, 4.4 MILES SOUTHWEST OF FORT FRANCES, 0.2 MILE SOUTH OF THE MOUTH OF A SMALL STREAM, 410.0 FEET SOUTH OF THE WOODS, 32.8 FEET ABOVE AND 114.8 FEET BACK FROM THE RIVER'S EDGE, 85.7 FEET WEST-NORTHWEST OF STATION HOLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.374 12B = -100.377 09 = -100.279 03 = -100.262

BOUNDARY REF MON 244

Mn/DOT Name: BOUNDARY REF MON 244

NGS Name: BOUNDARY REF MON 244

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483520.75	932810.72		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1926)

Stamping:

ON THE WEST BANK OF THE RAINY RIVER, 3.9 MILES SOUTHWEST OF FORT FRANCES, 32.8 FEET EAST OF THE CENTER OF THE ROAD PARALLELING THE RIVER, 328.0 FEET SOUTH OF ROAD FORK, ON THE PROPERTY OF JOSEPH BONE, 91.8 FEET FROM HOUSE, 49.2 FEET ABOVE AND 246.0 FEET BACK FROM THE RIVER'S EDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.374 12B = -100.384 09 = -100.289 03 = -100.285

BOUNDARY REF MON 245

Mn/DOT Name: BOUNDARY REF MON 245

NGS Name: BOUNDARY REF MON 245

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483524.16	932758.57		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1926)

Stamping:

ON AN ISLAND IN THE RAINY RIVER, 3.7 MILES SOUTHWEST OF FORT FRANCES, ON THE HIGHEST POINT OF THE ISLAND, 3.3 FEET ABOVE AND 16.4 FEET NORTH OF THE SOUTH SHORE, 0.5 FOOT SOUTH OF STATION THIRD.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.397 12B = -100.410 09 = -100.311 03 = -100.308

BOUNDARY REF MON 247

Mn/DOT Name: BOUNDARY REF MON 247

NGS Name: BOUNDARY REF MON 247

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483537.74	932716.52		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1926)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 3.1 MILES SOUTHWEST OF FORT FRANCES, 0.25 MILE EAST OF THE MOUTH OF A SMALL STREAM, 9.8 FEET ABOVE AND 32.8 FEET BACK FROM THE RIVER'S EDGE, 30.4 FEET WEST-NORTHWEST OF STATION ENGLISH.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.482 12B = -100.492 09 = -100.397 03 = -100.387

BOUNDARY REF MON 248

Mn/DOT Name: BOUNDARY REF MON 248

NGS Name: BOUNDARY REF MON 248

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483540.92	932631.12		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1926)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 2.6 MILES SOUTHWEST OF FORT FRANCES, 196.8 FEET WEST OF A SMALL STREAM, 3.3 FEET ABOVE THE HIGH-WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.561 12B = -100.567 09 = -100.472 03 = -100.462

BOUNDARY REF MON 250

Mn/DOT Name: BOUNDARY REF MON 250

NGS Name: BOUNDARY REF MON 250

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483609.68	932532.68		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1926)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.7 MILES SOUTHWEST OF FORT FRANCES, ON THE PROPERTY OF WILLIAM FAIR, ON A ROCK LEDGE, 16.4 FEET ABOVE AND 65.6 FEET BACK FROM THE RIVER'S EDGE, 0.3 FOOT EAST OF STATION FISH.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.682 12B = -100.689 09 = -100.597 03 = -100.584

BOUNDARY REF MON 251

Mn/DOT Name: BOUNDARY REF MON 251
NGS Name: BOUNDARY REF MON 251
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483614.18	932509.55		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1926)

Stamping:

ON AN ISLAND IN THE RAINY RIVER, IN FORT FRANCES, ON THE HIGHEST POINT OF THE ISLAND, ON THE WEST END, 0.4 FOOT FROM STATION FALLS.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.725 12B = -100.728 09 = -100.636 03 = -100.626

BOUNDARY REF MON 252

Mn/DOT Name: BOUNDARY REF MON 252

NGS Name: BOUNDARY REF MON 252

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483618.69	932457.43		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1926)

Stamping:

ON AN ISLAND IN THE RAINY RIVER, IN FORT FRANCES, ON THE HIGHEST POINT OF THE ISLAND, ON THE SOUTHEAST SIDE, 0.5 FOOT FROM STATION NATIONAL.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.748 12B = -100.751 09 = -100.663 03 = -100.649

BOUNDARY REF MON 253

Mn/DOT Name: BOUNDARY REF MON 253

NGS Name: BOUNDARY REF MON 253

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483638.28	932418.40		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1918)

Stamping:

ON AN ISLAND IN THE RAINY RIVER, IN FORT FRANCES, ON THE HIGHEST POINT OF THE ISLAND, ON THE SOUTHWEST SIDE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.830 12B = -100.827 09 = -100.745 03 = -100.731

BOUNDARY REF MON 256

Mn/DOT Name: BOUNDARY REF MON 256

NGS Name: BOUNDARY REF MON 256

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483630.54	932403.74		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
BRIDGE PILLAR/PIER	METAL ROD	IBWC

Description: (1918)

Stamping:

IN FORT FRANCES, ON THE UPSTREAM END OF THE FORT FRANCES-INTERNATIONAL FALLS BRIDGE PIER BETWEEN THE SLUICEWAY AND THE RIVER, SOUTH OF THE RETAINING WALL OF THE SLUICEWAY, 93.8 FEET FROM THE BRIDGE ABUTMENT ON THE CANADIAN SIDE OF THE RIVER, 0.3 FOOT FROM STATION BRIDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.843 12B = -100.843 09 = -100.758 03 = -100.741

BOUNDARY REF MON 260

Mn/DOT Name: BOUNDARY REF MON 260
NGS Name: BOUNDARY REF MON 260
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483636.42	932210.47		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093132/
USGS Quad: RANIER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1918)
Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, IN FORT FRANCES, ON THE SOUTH SIDE AND EAST END OF SCOTT STREET, 26.2 FEET FROM THE RIVER BANK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -101.027 12B = -101.014 09 = -100.932 03 = -100.922

BOUNDARY REF MON 263

Mn/DOT Name: BOUNDARY REF MON 263

NGS Name: BOUNDARY REF MON 263

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483659.74	932136.63		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093132/
USGS Quad: RANIER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1918)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.7 MILE NORTHEAST OF FORT FRANCES, AT THE POINT WHERE THE RAILWAY CROSSES THE WAGON ROAD, 75.4 FEET FROM THE RAILWAY, 26.2 FEET FROM THE RIVER BANK, 3.8 FEET FROM STATION MUSKRAT.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -101.105 12B = -101.089 09 = -101.007 03 = -101.004

BOUNDARY REF MON 265

Mn/DOT Name: BOUNDARY REF MON 265 **NGS Name:** BOUNDARY REF MON 265

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483654.19	932115.68		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093132/
USGS Quad: RANIER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
BRIDGE ABUTMENT	METAL ROD	IBWC

Description: (1918) **Stamping:**

ON THE NORTH BANK OF THE RAINY RIVER, 0.9 MILE NORTHEAST OF FORT FRANCES, ON THE TOP OF THE LAKE END OF THE WEST ABUTMENT OF THE CANADIAN NATIONAL RAILWAY BRIDGE, 4.5 FEET FROM THE NORTH RAIL OF THE TRACK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -101.132 12B = -101.112 09 = -101.030 03 = -101.027

BOUNDARY REF MON 267

Mn/DOT Name: BOUNDARY REF MON 267 **NGS Name:** BOUNDARY REF MON 267

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483812.49	932115.79		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093131/
USGS Quad: RANIER OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1913) **Stamping:**

ON THE NORTH SHORE OF RAINY LAKE, 2.0 MILES NORTH OF FORT FRANCES, ON A HIGH ROCK KNOLL, 98.4 FEET NORTHEAST OF AN OLD CHURCH, 196.8 FEET FROM THE SHORE, 36.1 FEET ABOVE THE LAKE LEVEL, 0.7 FOOT FROM STATION R L 3.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -101.224 12B = -101.204 09 = -101.128 03 = -101.132

BOUNDARY REF MON 269

Mn/DOT Name: BOUNDARY REF MON 269

NGS Name: BOUNDARY REF MON 269

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483917.46	931525.12		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093131/
USGS Quad: RANIER OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1913)

Stamping:

ON THE SOUTHERN POINT OF AN ISLAND IN RAINY LAKE, 14.8 FEET ABOVE THE LAKE LEVEL, 98.4 FEET FROM THE EAST SHORE, 98.4 FEET FROM THE WEST SHORE, 98.4 FEET FROM THE SOUTH SHORE, IN A ROCK LEDGE, 0.4 FOOT FROM STATION R L 8.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -101.876 12B = -101.844 09 = -101.758 03 = -101.768

BOUNDARY REF MON 271

Mn/DOT Name: BOUNDARY REF MON 271

NGS Name: BOUNDARY REF MON 271

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483841.15	931226.21		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093124/
USGS Quad: ISLAND VIEW OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1913)

Stamping:

ON THE SOUTHERN END OF A SMALL ISLAND IN RAINY LAKE, 0.25 MILE NORTH OF EIGHTMILE ISLAND, 18.0 FEET ABOVE THE LAKE LEVEL, 72.2 FEET FROM THE SOUTH SHORE, 147.6 FEET FROM THE WEST AND EAST SHORES, 0.4 FOOT FROM STATION R L 28.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.116 12B = -102.073 09 = -101.981 03 = -102.001

BOUNDARY REF MON 274

Mn/DOT Name: BOUNDARY REF MON 274

NGS Name: BOUNDARY REF MON 274

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483742.31	931056.82		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093124/
USGS Quad: ISLAND VIEW OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1925	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1925)

Stamping:

ON THE WEST END OF A SMALL ISLAND IN RAINY LAKE IN BETWEEN RED SUCKER ISLAND AND RED PINE ISLAND , 3.3 FEET ABOVE THE LAKE LEVEL, 16.4 FEET FROM THE SOUTH SHORE, 26.2 FEET FROM THE WEST SHORE AND 39.4 FEET FROM THE NORTH SHORE, 39.4 FEET SOUTH OF A BLAZED PINE TREE MARKED 91245, IN A ROCK LEDGE, 0.3 FOOT FROM STATION R L 34.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.168 12B = -102.122 09 = -102.027 03 = -102.050

BOUNDARY REF MON 275

Mn/DOT Name: BOUNDARY REF MON 275

NGS Name: BOUNDARY REF MON 275

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483736.17	931050.84		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093124/
USGS Quad: ISLAND VIEW OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1913)

Stamping:

ON THE SOUTHWESTERN POINT OF RED PINE ISLAND IN RAINY LAKE, 3.3 FEET ABOVE THE LAKE LEVEL, 26.2 FEET FROM THE SOUTH SHORE, 6.6 FEET FROM THE NORTH SHORE, 16.4 FEET FROM THE WEST SHORE, 0.4 FOOT FROM STATION R L 36.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.168 12B = -102.122 09 = -102.027 03 = -102.054

BOUNDARY REF MON 277

Mn/DOT Name: BOUNDARY REF MON 277 **NGS Name:** BOUNDARY REF MON 277

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483749.64	930522.76		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093121/
USGS Quad: CRANBERRY BAY OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1925	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	NGS

Description: (1925) **Stamping:**

ON A SMALL ISLAND IN RAINY LAKE, 0.5 MILE NORTH OF POWDER (LOBSTICK) ISLAND, 0.5 MILE EAST OF THE BUILDINGS ON THE SOUTH SHORE OF SANDPOINT ISLAND, THE ISLAND IS 164.0 FEET LONG AND 39.4 FEET WIDE, ON THE HIGHEST POINT OF THE ISLAND, 0.2 FOOT FROM STATION R L 27.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.670 12B = -102.611 09 = -102.516 03 = -102.569

BOUNDARY REF MON 280

Mn/DOT Name: BOUNDARY REF MON 280

NGS Name: BOUNDARY REF MON 280

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483731.82	925930.76		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092443/
USGS Quad: SOLDIER POINT OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	NGS

Description: (1913)

Stamping:

ON A SMALL ISLAND IN RAINY LAKE, 16.3 MILES EAST OF RANIER, ON THE HIGHEST POINT OF THE ISLAND, 11.5 FEET ABOVE THE LAKE LEVEL, MIDWAY BETWEEN THE EAST AND WEST ENDS OF THE ISLAND, 26.2 FEET FROM THE NORTH SHORE, 1.0 FOOT FROM STATION R L 47.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.107 12B = -103.031 09 = -102.953 03 = -103.048

BOUNDARY REF MON 283

Mn/DOT Name: BOUNDARY REF MON 283
NGS Name: BOUNDARY REF MON 283
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483812.06	925704.17		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092443/
USGS Quad: SOLDIER POINT OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1913)

Stamping:

ON BALD ISLAND IN RAINY LAKE, 18.2 MILES EAST OF RANIER, NEAR THE HIGHEST POINT OF THE ISLAND, NEAR THE CENTER OF THE ISLAND AND 59.0 FEET ABOVE THE LAKE LEVEL, 1.4 FEET FROM STATION BALDY, IN A ROCK LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.336 12B = -103.261 09 = -103.179 03 = -103.290

BOUNDARY REF MON 284

Mn/DOT Name: BOUNDARY REF MON 284

NGS Name: BOUNDARY REF MON 284

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483805.89	925605.03		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092443/
USGS Quad: SOLDIER POINT OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1913)

Stamping:

ON THE SOUTHWEST POINT OF A SMALL ISLAND IN RAINY LAKE, 19.0 MILES EAST OF RANIER, 1.75 MILES NORTH OF MACKENZIE ISLAND, 0.75 MILE EAST OF BALD ISLAND, 8.2 FEET ABOVE THE LAKE LEVEL, 29.5 FEET FROM THE WEST SHORE, 29.5 FEET FROM THE SOUTH SHORE, 124.6 FEET FROM THE SOUTHWEST TIP OF THE ISLAND, 1.5 FEET FROM STATION R L 48, IN A ROCK LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.402 12B = -103.327 09 = -103.245 03 = -103.366

BOUNDARY REF MON 286

Mn/DOT Name: BOUNDARY REF MON 286

NGS Name: BOUNDARY REF MON 286

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483634.37	925622.00		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092433/
USGS Quad: SOLDIER POINT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1925	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1925)

Stamping:

ON THE SOUTH END OF A LARGE ISLAND IN RAINY LAKE, 18.7 MILES EAST OF RANIER, JUST WEST OF MACKENZIE ISLAND, ON THE HIGHEST PART OF THE ISLAND, 26.2 FEET ABOVE THE LAKE LEVEL, 29.5 FEET FROM THE EAST SHORE, 177.1 FEET FROM THE SOUTH SHORE, 492.0 FEET FROM THE WEST SHORE, 1.3 FEET FROM STATION R L 50.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.294 12B = -103.218 09 = -103.140 03 = -103.238

BOUNDARY REF MON 287

Mn/DOT Name: BOUNDARY REF MON 287

NGS Name: BOUNDARY REF MON 287

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483632.29	925549.08		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092433/
USGS Quad: SOLDIER POINT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1913)

Stamping:

19.1 MILES EAST OF RANIER, ON THE SOUTHERN POINT OF MACKENZIE ISLAND IN RAINY LAKE, ON THE NORTH SIDE OF BRULE NARROWS, 3.3 FEET ABOVE THE LAKE LEVEL, 49.2 FEET FROM THE END OF THE POINT, 1.0 FOOT FROM STATION R L 54.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.336 12B = -103.261 09 = -103.182 03 = -103.281

BOUNDARY REF MON 289

Mn/DOT Name: BOUNDARY REF MON 289

NGS Name: BOUNDARY REF MON 289

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483600.23	925433.94		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092433/
USGS Quad: SOLDIER POINT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1913)

Stamping:

20.1 MILES EAST OF RANIER, ON THE WEST END OF THE LARGE ISLAND AT THE NORTH SIDE OF THE EAST ENTRANCE TO BRULE NARROWS IN RAINY LAKE, ON A HIGH POINT OF THE ISLAND, 14.8 FEET ABOVE THE LAKE LEVEL, 164.0 FEET SOUTHEAST OF THE HEAD OF A SMALL BAY, 164.0 FEET EAST OF SEVERAL TALL NORWAY PINE TREES, 98.4 FEET WEST OF A SWAMP, 0.9 FOOT FROM STATION R L 61.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.415 12B = -103.336 09 = -103.261 03 = -103.350

BOUNDARY REF MON 292

Mn/DOT Name: BOUNDARY REF MON 292

NGS Name: BOUNDARY REF MON 292

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483552.41	925331.66		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092433/
USGS Quad: SOLDIER POINT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1925	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1925)

Stamping:

20.9 MILES EAST OF RANIER, ON A SMALL TIMBERED ISLAND IN RAINY LAKE, ON THE NORTH SIDE OF THE EAST ENTRANCE TO BRULE NARROWS, ON THE HIGHEST POINT OF THE ISLAND, 9.8 FEET ABOVE THE LAKE LEVEL, 1.2 FEET FROM STATION R L 66.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.494 12B = -103.418 09 = -103.343 03 = -103.425

BOUNDARY REF MON 294

Mn/DOT Name: BOUNDARY REF MON 294
NGS Name: BOUNDARY REF MON 294=R L 68
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483438.39	924858.71		

NGS ACRN: TB1125 Get Map
NGS Quad / Sta Num : 48092432/
USGS Quad: KEMPTON BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1967	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	SEE DESCRIPTION	NGS

Description: (1967) **Stamping:**

IN A ROCK IN RAINY LAKE, 5.0 MILES EAST-SOUTHEAST OF BURLE NARROWS, 2.0 MILES NORTH-NORTHEAST OF CAPE RUDOLPH, 0.3 MILE SOUTH OF ANCHOR ISLAND, 39.00 FEET SOUTH OF MANITOU (TB1119).

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1115.483	.262		1012.075	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -103.786 12B = -103.720 09 = -103.645 03 = -103.694

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 34 38.39090	92 48 58.70905			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 34 38.38445	92 48 58.73615			.131	3	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 34 38.71000	92 48 58.12000			.100	3	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1684868.702	17652483.297	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1684866.882	17652482.639	.131	3	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	3	CLASSICAL SURVEY	1982	17020

BOUNDARY REF MON 294 CD US

Mn/DOT Name: BOUNDARY REF MON 294 CD US

NGS Name: BOUNDARY REF MON 294 CD US

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483439.10	924858.07		

NGS ACRN: CJ2671 Get Map
NGS Quad / Sta Num : 48092432/
USGS Quad: KEMPTON BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	2010	UNKNOWN	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description:

LOCATED IN ANCHOR ISLAND OF RAINY RIVER DISTRICT.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.786 12B = -103.724 09 = -103.645 03 = -103.697

BOUNDARY REF MON 295

Mn/DOT Name: BOUNDARY REF MON 295

NGS Name: BOUNDARY REF MON 295

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483235.82	924345.08		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092423/
USGS Quad: KETTLE FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1914)

Stamping:

28.7 MILES EAST OF RANIER, ON THE SOUTH END OF A SMALL ISLAND IN RAINY LAKE, 8.5 MILES EAST OF THE EAST ENTRANCE TO BRULE NARROWS, 0.75 MILE NORTH OF MINNITAKI ISLAND (GOWDY ISLAND), 11.5 FEET ABOVE THE LAKE LEVEL, 29.5 FEET FROM THE SOUTH SHORE, 59.0 FEET FROM THE WEST SHORE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.976 12B = -103.927 09 = -103.871 03 = -103.907

BOUNDARY REF MON 298=R L 75

Mn/DOT Name: BOUNDARY REF MON 298=R L 75 **NGS Name:** BDY REF MON 298=R L 75

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB1117 Get Map
NGS Quad / Sta Num : 48092423/
USGS Quad: KETTLE FALLS

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	19	70 N	18 W	483255.57	924131.74		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
OBJECT DRIVEN INTO THE GROUND	METAL ROD	IBWC

Description: (1914) **Stamping:**

32.8 MILES EAST OF INTERNATIONAL FALLS, ON A SMALL LOW ISLAND IN RAINY LAKE, 10.0 MILES SOUTHEAST OF THE EAST ENTRANCE OF BRULE NARROWS, 4.0 MILES NORTHWEST OF KETTLE FALLS, NEAR THE CENTER OF THE ISLAND ON THE HIGHEST POINT, 6.6 FEET ABOVE THE LAKE LEVEL.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1128.607	.262		1024.808	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -104.166 12B = -104.117 09 = -104.065 03 = -104.098

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 32 55.57410	92 41 31.73500			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 32 55.57236	92 41 31.77433			.131	3	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 32 55.91000	92 41 31.18000			.100	3	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1714956.264	17642164.419	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1714953.619	17642164.232	.131	3	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	3	CLASSICAL SURVEY	1982	17020

BOUNDARY REF MON 300

Mn/DOT Name: BOUNDARY REF MON 300 **NGS Name:** BOUNDARY REF MON 300

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483331.61	923854.72		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092423/
USGS Quad: KETTLE FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1914) **Stamping:**

3.9 MILES NORTH OF KETTLE FALLS, ON VAGUE POINT IN RAINY LAKE, IN BURNT JACK PINE TIMBER, 0.2 MILE EAST OF THE SOUTHWEST END OF THE POINT, 9.8 FEET ABOVE THE LAKE LEVEL, 147.6 FEET NORTH OF THE SOUTH SHORE OF THE POINT, 1.0 FOOT FROM STATION VAGUE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.399 12B = -104.353 09 = -104.311 03 = -104.331

BOUNDARY REF MON 302

Mn/DOT Name: BOUNDARY REF MON 302

NGS Name: BOUNDARY REF MON 302

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483241.59	923754.20		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092423/
USGS Quad: KETTLE FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1914)

Stamping:

2.9 MILES NORTHEAST OF KETTLE FALLS, ON THE SOUTH END OF BREEZY ISLAND IN RAINY LAKE, ON THE HIGHEST POINT OF THE SOUTHERN END OF THE ISLAND, 42.6 FEET ABOVE THE LAKE LEVEL, ON A BARE LEDGE, 328.0 FEET SOUTHWEST OF THE NARROWEST PART OF THE ISLAND.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.386 12B = -104.344 09 = -104.294 03 = -104.321

BOUNDARY REF MON 304

Mn/DOT Name: BOUNDARY REF MON 304

NGS Name: BOUNDARY REF MON 304

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483119.08	923732.72		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092423/
USGS Quad: KETTLE FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1914)

Stamping:

1.5 MILES NORTHEAST OF KETTLE FALLS, ON A SMALL ISLAND OFF THE NORTHWEST SHORE OF OAK POINT ISLAND, ON THE HIGHEST PART OF THE WEST SIDE OF THE ISLAND, 23.0 FEET ABOVE THE LAKE LEVEL, 82.0 FEET FROM THE SOUTH SHORE, 229.6 FEET FROM THE SOUTHWEST POINT OF THE ISLAND.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.265 12B = -104.229 09 = -104.183 03 = -104.216

BOUNDARY REF MON 306

Mn/DOT Name: BOUNDARY REF MON 306 **NGS Name:** BOUNDARY REF MON 306

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483107.49	923721.47		

NGS ACRN: Get Map
NGS Quad / Sta Num : /
Quad Name: N R Canada - 52C/10

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1914) **Stamping:**

1.3 MILES NORTHEAST OF KETTLE FALLS, ON THE NORTHWEST POINT OF OAK POINT ISLAND IN RAINY LAKE, ON A HIGH BARE ROCK, 45.9 FEET ABOVE THE LAKE LEVEL, 360.8 FEET FROM THE NORTH SHORE OF THE POINT, 262.4 FEET FROM THE LITTLE BAY ACROSS FROM SURVEYOR ISLAND, FIVE LINES OF SIGHT HAVE BEEN CUT IN THE TIMBER TO OTHER STATIONS.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.258 12B = -104.222 09 = -104.176 03 = -104.209

BOUNDARY REF MON 308

Mn/DOT Name: BOUNDARY REF MON 308

NGS Name: BOUNDARY REF MON 308

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483051.15	923731.54		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092423/
USGS Quad: KETTLE FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1914)

Stamping:

1.0 MILE NORTHEAST OF KETTLE FALLS, ON THE FIRST PROMINENT POINT OF OAK POINT ISLAND AFTER ENTERING THE KETTLE RIVER, DURING HIGH WATER THE PART OF THE POINT WILL BECOME AN ISLAND, ON THE HIGHEST POINT OF A BARE ROCK, 6.6 FEET FROM THE WEST SIDE OF THE ROCK, 6.6 FEET ABOVE THE LAKE LEVEL.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.219 12B = -104.186 09 = -104.137 03 = -104.170

BOUNDARY REF MON 310

Mn/DOT Name: BOUNDARY REF MON 310 **NGS Name:** BOUNDARY REF MON 310

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483044.23	923728.62		

NGS ACRN: Get Map
NGS Quad / Sta Num : /
Quad Name: N R Canada - 52C/10

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1914) **Stamping:**

0.9 MILE NORTHEAST OF KETTLE FALLS, ON THE WEST SHORE OF OAK POINT ISLAND IN THE KETTLE RIVER, AT THE POINT OF THE FIRST BEND IN THE RIVER, 29.5 FEET ABOVE THE RIVER, AND 98.4 FEET FROM THE SHORE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.209 12B = -104.176 09 = -104.130 03 = -104.163

BOUNDARY REF MON 312

Mn/DOT Name: BOUNDARY REF MON 312

NGS Name: BOUNDARY REF MON 312

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483037.30	923740.97		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092423/
USGS Quad: KETTLE FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1914)

Stamping:

0.7 MILE NORTHEAST OF KETTLE FALLS, ON OAK POINT ISLAND IN THE KETTLE RIVER, AT THE FIRST NARROW PLACE OF THE RIVER ABOVE ITS MOUTH, 26.2 FEET ABOVE THE RIVER, 82.0 FEET FROM THE SHORE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.186 12B = -104.153 09 = -104.104 03 = -104.140

BOUNDARY REF MON 313

Mn/DOT Name: BOUNDARY REF MON 313

NGS Name: BOUNDARY REF MON 313

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483029.71	923750.70		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092423/
USGS Quad: KETTLE FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1914)

Stamping:

0.6 MILE NORTHEAST OF KETTLE FALLS, ON OAK POINT ISLAND IN THE KETTLE RIVER, ON A LOW POINT AT THE SECOND NARROW PLACE IN THE RIVER ABOVE ITS MOUTH, 9.8 FEET ABOVE THE RIVER, 19.7 FEET FROM THE END OF THE POINT, 6.6 FEET FROM THE WEST SHORE, 13.1 FEET FROM THE EAST SHORE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.163 12B = -104.130 09 = -104.081 03 = -104. 114

BOUNDARY REF MON 317

Mn/DOT Name: BOUNDARY REF MON 317

NGS Name: BOUNDARY REF MON 317

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483022.24	923744.17		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092423/
USGS Quad: KETTLE FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1914)

Stamping:

0.6 MILE NORTHEAST OF KETTLE FALLS, ON AN ISLAND IN THE KETTLE RIVER, THE ISLAND IS 328.0 FEET LONG, NEAR THE CENTER AND ON THE HIGHEST POINT OF THE ISLAND, 8.2 FEET ABOVE THE RIVER, ON A BARE ROCK, 19.7 FEET FROM THE NORTHWEST SIDE OF THE ISLAND, 42.6 FEET FROM THE SOUTHEAST SIDE OF THE ISLAND.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.160 12B = -104.127 09 = -104.075 03 = -104.111

BOUNDARY REF MON 318

Mn/DOT Name: BOUNDARY REF MON 318

NGS Name: BOUNDARY REF MON 318

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483021.08	923732.93		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092423/
USGS Quad: KETTLE FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1914)

Stamping:

0.7 MILE EAST OF KETTLE FALLS, ON OAK POINT ISLAND IN THE KETTLE RIVER, ON THE HILLSIDE ON A BARE WHITE ROCK, 26.2 FEET ABOVE THE RIVER, 164.0 FEET FROM THE SHORE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.170 12B = -104.137 09 = -104.088 03 = -104.121

BOUNDARY REF MON 320

Mn/DOT Name: BOUNDARY REF MON 320 **NGS Name:** BOUNDARY REF MON 320

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483010.93	923731.68		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092423/
USGS Quad: KETTLE FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1914) **Stamping:**

0.7 MILE EAST OF KETTLE FALLS, ON OAK POINT ISLAND IN THE KETTLE RIVER, ON A HIGH BARE ROCK, 13.1 FEET ABOVE THE RIVER, 32.8 FEET FROM THE NORTH SHORE OF THE POINT, 59.0 FEET FROM THE SOUTH SHORE, 147.6 FEET FROM THE END OF THE POINT.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.153 12B = -104.121 09 = -104.071 03 = -104.107

BOUNDARY REF MON 321

Mn/DOT Name: BOUNDARY REF MON 321

NGS Name: BOUNDARY REF MON 321

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483001.90	923747.66		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092423/
USGS Quad: KETTLE FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1914)

Stamping:

0.5 MILE SOUTHEAST OF KETTLE FALLS, ON THE MOST NORTHERN POINT OF AN ISLAND IN THE KETTLE RIVER, ON THE HIGHEST BARE ROCK OF THE POINT, 16.4 FEET ABOVE THE RIVER, 114.8 FEET FROM THE WEST SHORE OF THE POINT, 65.6 FEET FROM THE NORTH SHORE OF THE POINT, 82.0 FEET FROM THE EAST SHORE OF THE POINT.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.121 12B = -104.091 09 = -104.039 03 = -104.075

BOUNDARY REF MON 324

Mn/DOT Name: BOUNDARY REF MON 324

NGS Name: BOUNDARY REF MON 324

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482958.16	923806.64		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092314/
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1914)

Stamping:

0.3 MILE SOUTH OF KETTLE FALLS, ON THE WESTERN POINT OF AN ISLAND IN THE KETTLE RIVER, ON THE HIGHEST BARE ROCK OF THE POINT, 16.4 FEET ABOVE THE RIVER, 39.4 FEET FROM THE END OF THE POINT, 32.8 FEET FROM THE NORTHWEST SHORE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.094 12B = -104.061 09 = -104.009 03 = -104.045

BOUNDARY REF MON 326

Mn/DOT Name: BOUNDARY REF MON 326

NGS Name: BOUNDARY REF MON 326

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482957.69	923818.93		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092314/
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1914)

Stamping:

0.3 MILE SOUTH OF KETTLE FALLS, ON KETTLE ISLAND IN THE KETTLE RIVER, ON THE HILLSIDE, 88.6 FEET DOWNSTREAM FROM THE SOUTH END OF THE DAM, ON A BARE ROCK, 29.5 FEET ABOVE THE RIVER BELOW THE FALLS, 49.2 FEET FROM SHORE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.078 12B = -104.048 09 = -103.993 03 = -104.032

BOUNDARY REF MON 328

Mn/DOT Name: BOUNDARY REF MON 328

NGS Name: BOUNDARY REF MON 328

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482958.20	923824.47		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092314/
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1914)

Stamping:

0.3 MILE SOUTH OF KETTLE FALLS, ON KETTLE ISLAND ON NAMAKAN LAKE, ON THE STEEP ROCKY HILLSIDE, 328.0 FEET UPSTREAM FROM THE SOUTH END OF THE DAM, 23.0 FEET FROM THE SHORE, AND 19.7 FEET ABOVE THE LAKE LEVEL.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.075 12B = -104.042 09 = -103.989 03 = -104.025

BOUNDARY REF MON 329

Mn/DOT Name: BOUNDARY REF MON 329

NGS Name: BOUNDARY REF MON 329

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482958.11	923849.45		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092314/
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1925	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1925)

Stamping:

0.3 MILE SOUTH OF KETTLE FALLS, ON KETTLE ISLAND ON NAMAKAN LAKE, 0.5 MILE WEST OF THE DAM, ON A KNOLL, AT THE ENTRANCE TO THE NARROWS, 164.0 FEET FROM THE SHORE, 32.8 FEET ABOVE THE HIGH-WATER MARK, IN A DRILL HOLE IN A ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.045 12B = -104.012 09 = -103.960 03 = -103.996

BOUNDARY REF MON 331

Mn/DOT Name: BOUNDARY REF MON 331

NGS Name: BOUNDARY REF MON 331

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483003.52	923913.98		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092423/
USGS Quad: KETTLE FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1925	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1925)

Stamping:

0.6 MILE SOUTHWEST OF KETTLE FALLS, ON THE NORTHSIDE OF AN ISLAND IN NAMAKAN LAKE, 65.6 FEET ABOVE THE HIGH-WATER MARK, IN A DRILL HOLE IN ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.025 12B = -103.993 09 = -103.940 03 = -103.973

BOUNDARY REF MON 333

Mn/DOT Name: BOUNDARY REF MON 333
NGS Name: BOUNDARY REF MON 333 CD US
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482944.00	923942.00		

NGS ACRN: CJ2672 Get Map
NGS Quad / Sta Num : 48092314/
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1925	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	NGS

Description: (1925)

Stamping:

1.1 MILES SOUTHWEST OF KETTLE FALLS, ON THE SOUTH SHORE OF NAMAKAN LAKE, IN SQUIRREL NARROWS, 65.6 FEET FROM THE SHORE, 49.2 FEET ABOVE THE HIGH-WATER MARK, 44.1 FEET WEST OF STATION DORAN.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.956 12B = -103.930 09 = -103.874 03 = -103.911

BOUNDARY REF MON 335

Mn/DOT Name: BOUNDARY REF MON 335 **NGS Name:** BOUNDARY REF MON 335

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482946.16	924108.88		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092314/
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915) **Stamping:**

2.2 MILES WEST OF KETTLE FALLS, ON NAMAKAN LAKE, MIDWAY BETWEEN SQUIRREL NARROWS AND SQUAW NARROWS, CLOSE TO THE SHORE, 65.6 FEET ABOVE THE HIGH-WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.861 12B = -103.825 09 = -103.783 03 = -103.812

BOUNDARY REF MON 337

Mn/DOT Name: BOUNDARY REF MON 337

NGS Name: BOUNDARY REF MON 337

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482933.17	924150.59		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092314/
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1925	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1925)

Stamping:

2.7 MILES WEST OF KETTLE FALLS, ON NAMAKAN LAKE, ON THE WEST END OF THE ROCK RIDGE, 5.0 FEET ABOVE THE HIGH-WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.789 12B = -103.756 09 = -103.710 03 = -103.740

BOUNDARY REF MON 339

Mn/DOT Name: BOUNDARY REF MON 339 **NGS Name:** BOUNDARY REF MON 339

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482904.60	924152.82		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092314/
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921) **Stamping:**

3.0 MILES SOUTHWEST OF KETTLE FALLS, ON NAMAKAN LAKE, ON THE POINT AT THE NORTHEAST END OF SQUAW NARROWS, CLOSE TO THE SHORE, 20.0 FEET ABOVE THE HIGH-WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.740 12B = -103.707 09 = -103.661 03 = -103.691

BOUNDARY REF MON 341

Mn/DOT Name: BOUNDARY REF MON 341

NGS Name: BOUNDARY REF MON 341

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482823.06	924221.12		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092314/
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

3.7 MILES SOUTHWEST OF KETTLE FALLS, ON THE NORTHWEST POINT OF MOOSE ISLAND IN NAMAKAN LAKE, 100.0 FEET FROM THE SHORE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.635 12B = -103.609 09 = -103.556 03 = -103.589

BOUNDARY REF MON 343

Mn/DOT Name: BOUNDARY REF MON 343

NGS Name: BOUNDARY REF MON 343

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482800.43	924231.08		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092314/
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

4.0 MILES SOUTHWEST OF KETTLE FALLS, ON THE SOUTHWEST POINT OF MOOSE ISLAND IN NAMAKAN LAKE, CLOSE TO THE SHORE, NEAR THE HIGH - WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.586 12B = -103.560 09 = -103.507 03 = -103.540

BOUNDARY REF MON 345

Mn/DOT Name: BOUNDARY REF MON 345 **NGS Name:** BOUNDARY REF MON 345

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482739.87	924231.01		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092314/
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915) **Stamping:**

4.3 MILES SOUTHWEST OF KETTLE FALLS, ON THE EAST END OF A SMALL ROCKY ISLAND IN NAMAKAN LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.550 12B = -103.527 09 = -103.471 03 = -103.504

BOUNDARY REF MON 347

Mn/DOT Name: BOUNDARY REF MON 347 **NGS Name:** BOUNDARY REF MON 347

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482638.25	924051.03		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092314/
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915) **Stamping:**

4.5 MILES SOUTHWEST OF KETTLE FALLS, ON THE NORTHEASTERN END OF A LOW ISLAND IN NAMAKAN LAKE, 500.0 FEET SOUTH OF BLUE ISLAND.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.566 12B = -103.546 09 = -103.487 03 = -103.520

BOUNDARY REF MON 349

Mn/DOT Name: BOUNDARY REF MON 349 **NGS Name:** BOUNDARY REF MON 349

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482625.20	923930.61		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092314/
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921) **Stamping:**

4.4 MILES SOUTH OF KETTLE FALLS, ON THE WEST SIDE OF RANDOLPH ISLAND IN NAMAKAN LAKE, CLOSE TO THE SHORE LINE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.638 12B = -103.622 09 = -103.563 03 = -103.592

BOUNDARY REF MON 351

Mn/DOT Name: BOUNDARY REF MON 351 **NGS Name:** BOUNDARY REF MON 351

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482613.43	923913.78		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092314/1013
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1925	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1925) **Stamping:**

4.6 MILES SOUTH OF KETTLE FALLS, ON THE SOUTHWEST POINT OF RANDOLPH ISLAND IN NAMAKAN LAKE, CLOSE TO THE SHORE LINE, 275.2 FEET SOUTHEAST OF STATION DEER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.638 12B = -103.622 09 = -103.560 03 = -103.589

BOUNDARY REF MON 353

Mn/DOT Name: BOUNDARY REF MON 353
NGS Name: BOUNDARY REF MON 353 CD US
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: CJ2669 Get Map
NGS Quad / Sta Num : 48092311/
USGS Quad: HALE BAY

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482631.00	923703.00		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1925	UNKNOWN	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
OBJECT DRIVEN INTO THE GROUND	METAL ROD	IBWC

Description: (1925)

Stamping:

4.3 MILES SOUTH OF KETTLE FALLS, AT THE EXTREME SOUTH END OF BLACKSTONE ISLAND IN NAMAKAN LAKE, 47.5 FEET SOUTHEAST OF NAMAKAN WEST BASE.

Station Notes

MAY EITHER BE NORTHEAST OR SOUTHEAST OF NAMAKAN WEST BASE, THERE ARE CONFLICTING DESCRIPTIONS.

*** No Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.815 12B = -103.799 09 = -103.747 03 = -103.773

Lat/Lon and County Coordinates (Feet)

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 26 31.00000	92 37 03.00000			.033	1	ADJUSTMENT	1986	17289

State Plane and UTM Coordinates (Feet)

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1733225.565	17603288.509	.033	1	ADJUSTMENT	1986	17289

BOUNDARY REF MON 355

Mn/DOT Name: BOUNDARY REF MON 355 **NGS Name:** BOUNDARY REF MON 355

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482649.44	923417.25		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092311/
USGS Quad: HALE BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915) **Stamping:**

5.0 MILES SOUTHEAST OF KETTLE FALLS, ON THE HIGHEST POINT OF GULL ISLAND IN NAMAKAN LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.022 12B = -103.999 09 = -103.953 03 = -103.986

BOUNDARY REF MON 357

Mn/DOT Name: BOUNDARY REF MON 357

NGS Name: BOUNDARY REF MON 357

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482742.33	923156.94		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092311/
USGS Quad: HALE BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

5.7 MILES SOUTHEAST OF KETTLE FALLS, ON A LOW SOLITARY ISLAND IN NAMAKAN LAKE, 500.0 FEET FROM THE CANADIAN SHORE, 2.0 MILES NORTHEAST OF GULL ISLAND.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.235 12B = -104.209 09 = -104.166 03 = -104.209

BOUNDARY REF MON 359

Mn/DOT Name: BOUNDARY REF MON 359 **NGS Name:** BOUNDARY REF MON 359

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482657.20	923049.05		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092311/
USGS Quad: HALE BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915) **Stamping:**

6.9 MILES SOUTHEAST OF KETTLE FALLS, AT THE WEST END OF AN ISLAND IN NAMAKAN LAKE, CLOSE TO THE SHORE AND THE HIGH - WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.222 12B = -104.196 09 = -104.157 03 = -104.206

BOUNDARY REF MON 361

Mn/DOT Name: BOUNDARY REF MON 361 **NGS Name:** BOUNDARY REF MON 361

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482657.42	923015.23		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092311/
USGS Quad: HALE BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915) **Stamping:**

7.2 MILES SOUTHEAST OF KETTLE FALLS, AT THE WEST END OF AN ISLAND IN NAMAKAN LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.252 12B = -104.226 09 = -104.186 03 = -104.235

BOUNDARY REF MON 363

Mn/DOT Name: BOUNDARY REF MON 363 **NGS Name:** BOUNDARY REF MON 363

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482610.47	922934.08		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092244/
USGS Quad: REDHORSE BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921) **Stamping:**

8.2 MILES SOUTHEAST OF KETTLE FALLS, ON THE EAST SHORE OF NAMAKAN NARROWS, ON A KNOLL, 20.0 FEET ABOVE THE HIGH-WATER MARK, 200.0 FEET NORTH OF AN ISLAND, CLOSE TO THE SHORE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.212 12B = -104.183 09 = -104.147 03 = -104.203

BOUNDARY REF MON 365

Mn/DOT Name: BOUNDARY REF MON 365 **NGS Name:** BOUNDARY REF MON 365

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482544.66	922857.70		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092244/
USGS Quad: REDHORSE BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921) **Stamping:**

8.8 MILES SOUTHEAST OF KETTLE FALLS, ON THE EAST SHORE OF NAMAKAN NARROWS ON A POINT, CLOSE TO THE SHORE AND THE HIGH-WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.199 12B = -104.176 09 = -104.140 03 = -104.196

BOUNDARY REF MON 367

Mn/DOT Name: BOUNDARY REF MON 367

NGS Name: BOUNDARY REF MON 367

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482540.43	922851.07		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092244/
USGS Quad: REDHORSE BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

8.9 MILES SOUTHEAST OF KETTLE FALLS, ON THE EAST SHORE OF NAMAKAN NARROWS ON A POINT, 150.0 FEET FROM THE SHORE, AND 45.0 FEET ABOVE THE HIGH - WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.199 12B = -104.173 09 = -104.140 03 = -104.193

BOUNDARY REF MON 369

Mn/DOT Name: BOUNDARY REF MON 369 **NGS Name:** BOUNDARY REF MON 369

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482535.38	922848.30		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092244/
USGS Quad: REDHORSE BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921) **Stamping:**

9.0 MILES SOUTHEAST OF KETTLE FALLS, ON THE EAST SHORE OF NAMAKAN NARROWS ON A POINT, ON THE TOP OF A RIDGE, 75.0 FEET FROM THE SHORE, AND 25.0 FEET ABOVE THE HIGH - WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.196 12B = -104.170 09 = -104.137 03 = -104.189

BOUNDARY REF MON 371

Mn/DOT Name: BOUNDARY REF MON 371

NGS Name: BOUNDARY REF MON 371

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482526.20	922839.26		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092244/
USGS Quad: REDHORSE BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

9.2 MILES SOUTHEAST OF KETTLE FALLS, ON THE NORTH SHORE OF SAND POINT LAKE, NEAR THE MIDDLE AND TOP OF A RIDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.189 12B = -104.163 09 = -104.130 03 = -104.183

BOUNDARY REF MON 373

Mn/DOT Name: BOUNDARY REF MON 373 **NGS Name:** BOUNDARY REF MON 373

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482512.68	922830.47		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092244/
USGS Quad: REDHORSE BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915) **Stamping:**

9.5 MILES SOUTHEAST OF KETTLE FALLS, ON THE NORTHWEST END OF AN ISLAND IN SAND POINT LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.176 12B = -104.150 09 = -104.117 03 = -104.170

BOUNDARY REF MON 375

Mn/DOT Name: BOUNDARY REF MON 375 **NGS Name:** BOUNDARY REF MON 375

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482456.83	922718.62		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092244/
USGS Quad: REDHORSE BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915) **Stamping:**

10.4 MILES SOUTHEAST OF KETTLE FALLS, ON THE SOUTH SIDE OF AN ISLAND IN SAND POINT LAKE, 200.0 FEET FROM THE CANADIAN MAINLAND.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.216 12B = -104.186 09 = -104.160 03 = -104.212

BOUNDARY REF MON 376

Mn/DOT Name: BOUNDARY REF MON 376
NGS Name: BOUNDARY REF MON 376
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482427.21	922705.08		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092244/
USGS Quad: REDHORSE BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

10.9 MILES SOUTHEAST OF KETTLE FALLS, ON THE NORTHWEST END OF AN ISLAND IN SAND POINT LAKE, CLOSE TO THE SHORE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.183 12B = -104.157 09 = -104.130 03 = -104.176

BOUNDARY REF MON 377

Mn/DOT Name: BOUNDARY REF MON 377 **NGS Name:** BOUNDARY REF MON 377

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482401.23	922713.01		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092244/
USGS Quad: REDHORSE BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915) **Stamping:**

11.1 MILES SOUTHEAST OF KETTLE FALLS, ON THE WEST SIDE OF AN ISLAND IN SAND POINT LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.134 12B = -104.107 09 = -104.081 03 = -104.124

BOUNDARY REF MON 379

Mn/DOT Name: BOUNDARY REF MON 379 **NGS Name:** BOUNDARY REF MON 379

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482217.73	922823.46		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915) **Stamping:**

11.9 MILES SOUTHEAST OF KETTLE FALLS, A SMALL ROCKY ISLAND IN SAND POINT LAKE, OFF THE LONG SANDY POINT OF THE CANADIAN MAINLAND.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.904 12B = -103.888 09 = -103.845 03 = -103.884

BOUNDARY REF MON 381

Mn/DOT Name: BOUNDARY REF MON 381

NGS Name: BOUNDARY REF MON 381

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482156.13	922815.41		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

12.3 MILES SOUTHEAST OF KETTLE FALLS, ON THE EAST SHORE SAND POINT LAKE, JUST NORTH OF THE ENTRANCE TO CLEARWATER LAKE, ON THE MOST WESTERN KNOB OF THE RIDGE, 300.0 FEET FROM SHORE, 50.0 FEET ABOVE THE HIGH-WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.878 12B = -103.861 09 = -103.819 03 = -103.855

BOUNDARY REF MON 383

Mn/DOT Name: BOUNDARY REF MON 383 **NGS Name:** BOUNDARY REF MON 383

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482108.44	922806.91		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915) **Stamping:**

13.0 MILES SOUTHEAST OF KETTLE FALLS, ON THE EAST SHORE OF HARRISON NARROWS IN SAND POINT LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.802 12B = -103.792 09 = -103.747 03 = -103.783

BOUNDARY REF MON 385

Mn/DOT Name: BOUNDARY REF MON 385

NGS Name: BOUNDARY REF MON 385

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481942.56	922704.10		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

14.9 MILES SOUTHEAST OF KETTLE FALLS, ON THE EAST SHORE OF LITTLE VERMILION NARROWS, NEAR THE EDGE OF A CLIFF, 30.0 FEET ABOVE THE HIGH-WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.717 12B = -103.707 09 = -103.668 03 = -103.691

BOUNDARY REF MON 387

Mn/DOT Name: BOUNDARY REF MON 387

NGS Name: BOUNDARY REF MON 387

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481858.67	922625.17		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

4.2 MILES NORTHEAST OF CRANE LAKE, ON THE EAST SHORE OF LITTLE VERMILION NARROWS, AT THE NOSE OF THE RIDGE, 70.0 FEET ABOVE THE HIGH - WATER MARK, AND 300.0 FEET FROM THE END OF THE NOSE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.674 12B = -103.661 09 = -103.628 03 = -103.651

BOUNDARY REF MON 389

Mn/DOT Name: BOUNDARY REF MON 389

NGS Name: BOUNDARY REF MON 389

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481853.70	922620.08		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

4.2 MILES NORTHEAST OF CRANE LAKE, ON THE EAST SHORE OF LITTLE VERMILION NARROWS, 500.0 FEET FROM THE NORTH END OF THE RIDGE, 200.0 FEET FROM THE SHORE, 50.0 OR 60.0 FEET ABOVE THE HIGH-WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.671 12B = -103.658 09 = -103.625 03 = -103.645

BOUNDARY REF MON 391

Mn/DOT Name: BOUNDARY REF MON 391

NGS Name: BOUNDARY REF MON 391

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481847.10	922616.05		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

4.1 MILES NORTHEAST OF CRANE LAKE, ON THE EAST SHORE OF LITTLE VERMILION NARROWS, 55.0 ABOVE THE HIGH-WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.664 12B = -103.651 09 = -103.615 03 = -103.638

BOUNDARY REF MON 393

Mn/DOT Name: BOUNDARY REF MON 393

NGS Name: BOUNDARY REF MON 393

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481835.09	922608.09		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

3.9 MILES NORTHEAST OF CRANE LAKE, ON THE EAST SHORE OF LITTLE VERMILION NARROWS, ON THE NORTH SIDE OF A DEPRESSION IN THE HILLSIDE, 100.0 FEET FROM THE SHORE LINE, 30.0 FEET ABOVE THE HIGH-WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.651 12B = -103.638 09 = -103.602 03 = -103.625

BOUNDARY REF MON 395

Mn/DOT Name: BOUNDARY REF MON 395

NGS Name: BOUNDARY REF MON 395

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481823.27	922556.87		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

3.9 MILES NORTHEAST OF CRANE LAKE, ON THE EAST SHORE OF LITTLE VERMILION NARROWS, ON A POINT WHERE THE CHANNEL MAKES A RIGHT ANGLED TURN, CLOSE TO THE SHORE LINE, ON THE WEST SIDE OF THE POINT, A LITTLE ABOVE THE HIGH-WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.642 12B = -103.632 09 = -103.592 03 = -103.615

BOUNDARY REF MON 397

Mn/DOT Name: BOUNDARY REF MON 397

NGS Name: BOUNDARY REF MON 397

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481821.97	922537.24		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

4.0 MILES NORTHEAST OF CRANE LAKE, ON THE EAST SHORE OF LITTLE VERMILION NARROWS, 500.0 FEET WEST OF A SMALL ISLAND, CLOSE TO THE SHORE AND THE HIGH-WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.661 12B = -103.648 09 = -103.609 03 = -103.632

BOUNDARY REF MON 399

Mn/DOT Name: BOUNDARY REF MON 399

NGS Name: BOUNDARY REF MON 399

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481811.25	922521.55		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

4.0 MILES NORTHEAST OF CRANE LAKE, ON THE WEST SIDE OF AN ISLAND IN LITTLE VERMILION LAKE, 0.2 MILE FROM THE NORTH END OF THE ISLAND, 100.0 FEET FROM THE SHORE, 30.0 OR 40.0 FEET ABOVE THE HIGH-WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.658 12B = -103.645 09 = -103.605 03 = -103.625

BOUNDARY REF MON 401

Mn/DOT Name: BOUNDARY REF MON 401

NGS Name: BOUNDARY REF MON 401

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	9	67 N	16 W	481747.88	922440.38		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

4.2 MILES NORTHEAST OF CRANE LAKE, ON THE EAST SHORE OF LITTLE VERMILION LAKE, AT THE NORTHERN END OF A RIDGE, 0.2 MILE NORTH OF THE MOUTH OF A CREEK, 100.0 FEET FROM SHORE, 40.0 OR 50.0 FEET ABOVE THE LAKE LEVEL.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.655 12B = -103.642 09 = -103.599 03 = -103.622

BOUNDARY REF MON 403

Mn/DOT Name: BOUNDARY REF MON 403

NGS Name: BOUNDARY REF MON 403

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	16	67 N	16 W	481653.95	922413.20		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

4.1 MILES EAST OF CRANE LAKE, ON THE EAST SHORE OF LITTLE VERMILION LAKE, CLOSE TO THE SHORE AND HIGH-WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.586 12B = -103.576 09 = -103.520 03 = -103.556

BOUNDARY REF MON 405

Mn/DOT Name: BOUNDARY REF MON 405

NGS Name: BOUNDARY REF MON 405

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	21	66 N	16 W	481619.66	922358.47		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

4.2 MILES EAST OF CRANE LAKE, ON THE EAST SHORE OF LITTLE VERMILION LAKE, 1.0 MILE NORTH OF THE SOUTH END OF THE LAKE, 0.3 MILE SOUTH OF AN ISLAND, CLOSE TO THE SHORE AND HIGH - WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.540 12B = -103.530 09 = -103.474 03 = -103.510

BOUNDARY REF MON 407

Mn/DOT Name: BOUNDARY REF MON 407

NGS Name: BOUNDARY REF MON 407

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	28	67 N	16 W	481538.73	922328.27		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

4.5 MILES EAST OF CRANE LAKE, ON THE EAST SHORE OF THE SOUTH END OF LITTLE VERMILION LAKE, AT THE MOUTH OF THE LOON RIVER, ON A ROCK SHOULDER PROJECTING FROM THE SIDE OF A HILL, 500.0 FEET FROM THE SHORE, 130.0 FEET ABOVE THE HIGH-WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.491 12B = -103.484 09 = -103.425 03 = -103.464

BOUNDARY REF MON 409

Mn/DOT Name: BOUNDARY REF MON 409

NGS Name: BOUNDARY REF MON 409

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	28	67 N	16 W	481532.46	922331.29		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

4.4 MILES EAST OF CRANE LAKE, ON THE EAST SHORE OF LOON RIVER, CLOSE TO THE SHORE AND THE HIGH-WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.477 12B = -103.471 09 = -103.409 03 = -103.451

BOUNDARY REF MON 411

Mn/DOT Name: BOUNDARY REF MON 411

NGS Name: BOUNDARY REF MON 411

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	27	67 N	16 W	481507.58	922308.22		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

4.9 MILES EAST OF CRANE LAKE, ON THE EAST SHORE OF THE LOON RIVER, ON THE TOP OF A LARGE, DETACHED ROCK ABOUT 15.0 FEET HIGH, 50.0 FEET FROM THE SHORE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.455 12B = -103.448 09 = -103.386 03 = -103.428

BOUNDARY REF MON 413

Mn/DOT Name: BOUNDARY REF MON 413

NGS Name: BOUNDARY REF MON 413

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	34	67 N	16 W	481459.00	922303.44		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092234/
USGS Quad: ECHO LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

4.9 MILES SOUTHEAST OF CRANE LAKE, ON THE EAST SHORE OF THE LOON RIVER, 30.0 FEET FROM THE SHORE, 10.0 FEET ABOVE THE HIGH-WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.445 12B = -103.441 09 = -103.372 03 = -103.418

BOUNDARY REF MON 415

Mn/DOT Name: BOUNDARY REF MON 415

NGS Name: BOUNDARY REF MON 415

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481453.91	922255.09		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092234/
USGS Quad: ECHO LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

5.1 MILES SOUTHEAST OF CRANE LAKE, ON THE EAST SHORE OF THE LOON RIVER, NEAR THE EDGE OF A HIGH CLIFF, 300.0 FEET FROM THE SHORE, 180.0 FEET ABOVE THE HIGH - WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.441 12B = -103.438 09 = -103.372 03 = -103.415

BOUNDARY REF MON 419

Mn/DOT Name: BOUNDARY REF MON 419

NGS Name: BOUNDARY REF MON 419

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481421.47	922257.50		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092234/
USGS Quad: ECHO LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (2020)

Stamping:

5.2 MILES SOUTHEAST OF CRANE LAKE, ON THE EAST SHORE OF THE LOON RIVER, 200.0 FEET NORTH OF THE MOUTH OF A SMALL CREEK, CLOSE TO THE SHORE AND THE HIGH - WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.389 12B = -103.386 09 = -103.310 03 = -103.359

BOUNDARY REF MON 421

Mn/DOT Name: BOUNDARY REF MON 421

NGS Name: BOUNDARY REF MON 421

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481411.04	922246.21		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092234/
USGS Quad: ECHO LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

5.4 MILES SOUTHEAST OF CRANE LAKE, ON THE EAST SHORE OF THE LOON RIVER, 200.0 FEET AROUND THE BEND WHICH IS 1000.0 FEET SOUTH OF THE SMALL CREEK, 20.0 FEET FROM THE SHORE, 5.0 OR 10.0 FEET ABOVE THE HIGH-WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.382 12B = -103.379 09 = -103.300 03 = -103.350

BOUNDARY REF MON 423

Mn/DOT Name: BOUNDARY REF MON 423

NGS Name: BOUNDARY REF MON 423

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481407.61	922241.11		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092234/
USGS Quad: ECHO LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

5.5 MILES SOUTHEAST OF CRANE LAKE, ON THE EAST SHORE OF THE LOON RIVER, 300.0 FEET NORTH OF A LOW POINT ON THE CANADIAN SHORE, CLOSE TO THE SHORE AND THE HIGH - WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.379 12B = -103.379 09 = -103.300 03 = -103.350

BOUNDARY REF MON 425

Mn/DOT Name: BOUNDARY REF MON 425

NGS Name: BOUNDARY REF MON 425

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481356.63	922237.69		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092234/
USGS Quad: ECHO LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

5.6 MILES SOUTHEAST OF CRANE LAKE, ON THE EAST SHORE OF LOON RIVER, OPPOSITE AND 400.0 FEET FROM THE MOUTH OF A LARGE CREEK ON THE UNITED STATES SIDE, CLOSE TO THE SHORE LINE AND THE HIGH-WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.366 12B = -103.363 09 = -103.281 03 = -103.333

BOUNDARY REF MON 427

Mn/DOT Name: BOUNDARY REF MON 427

NGS Name: BOUNDARY REF MON 427

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481344.63	922234.45		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092234/
USGS Quad: ECHO LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

5.8 MILES SOUTHEAST OF CRANE LAKE, ON THE EAST SHORE OF THE LOON RIVER, MIDWAY BETWEEN TWO CREEKS ON THE UNITED STATES SIDE, 1200.0 FEET SOUTH OF THE LARGE CREEK, CLOSE TO THE SHORE, 10.0 FEET ABOVE THE HIGH-WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.350 12B = -103.346 09 = -103.264 03 = -103.317

BOUNDARY REF MON 429

Mn/DOT Name: BOUNDARY REF MON 429

NGS Name: BOUNDARY REF MON 429

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481333.74	922227.64		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

5.9 MILES SOUTHEAST OF CRANE LAKE, ON THE EAST SHORE OF THE LOON RIVER, ON THE STEEP BANK, OPPOSITE A STEEP BLUFF ON THE UNITED STATES SIDE, 1000.0 FEET NORTH OF A RIGHT ANGLE BEND OF THE RIVER, CLOSE TO THE SHORE, 10.0 FEET ABOVE THE HIGH-WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.340 12B = -103.336 09 = -103.248 03 = -103.304

BOUNDARY REF MON 431

Mn/DOT Name: BOUNDARY REF MON 431

NGS Name: BOUNDARY REF MON 431

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	3	66 N	16 W	481329.42	922221.62		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

6.0 MILES SOUTHEAST OF CRANE LAKE, ON THE EAST SHORE OF THE LOON RIVER, 300.0 FEET NORTH FROM WHERE THE RIVER TAKES A RIGHT ANGLE BEND, 100.0 FEET FROM THE SHORE, 10.0 FEET ABOVE THE HIGH - WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.336 12B = -103.336 09 = -103.248 03 = -103.300

BOUNDARY REF MON 433

Mn/DOT Name: BOUNDARY REF MON 433

NGS Name: BOUNDARY REF MON 433

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	3	66 N	15 W	481326.45	922220.42		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

6.1 MILES SOUTHEAST OF CRANE LAKE, ON THE EAST SHORE OF THE LOON RIVER, ON THE HIGH BANK, AT THE POINT WHERE THE RIVER TAKES A RIGHT ANGLE TURN, 30.0 FEET FROM THE SHORE, 20.0 FEET ABOVE THE HIGH-WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.333 12B = -103.330 09 = -103.241 03 = -103.297

BOUNDARY REF MON 435

Mn/DOT Name: BOUNDARY REF MON 435

NGS Name: BOUNDARY REF MON 435

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	3	66 N	16 W	481323.99	922212.02		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

6.2 MILES SOUTHEAST OF CRANE LAKE, ON THE EAST SHORE OF THE LOON RIVER, 300.0 FEET SOUTH OF THE RIGHT ANGLE BEND OF THE RIVER, 500.0 FEET NORTH OF THE CREEK ON THE UNITED STATES SIDE, 90.0 FEET FROM THE SHORE, AND 10.0 FEET ABOVE THE HIGH - WATER MARK.

Station Notes

A MANGANESE-BRONZE POST, 8.0 INCHES HIGH.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.336 12B = -103.333 09 = -103.245 03 = -103.297

BOUNDARY REF MON 437

Mn/DOT Name: BOUNDARY REF MON 437

NGS Name: BOUNDARY REF MON 437

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	3	66 N	16 W	481324.33	922207.66		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

6.2 MILES SOUTHEAST OF CRANE LAKE, ON THE WEST SHORE OF THE LOON RIVER, OPPOSITE A POINT ON THE LEFT SHORE WHERE THE RIVER TAKES AN ACUTE ANGLE BEND, 800.0 FEET NORTH OF THE MOUTH OF A CREEK ON THE LEFT SHORE AT THE ANGLE OF A RIGHT ANGLE BEND, 30.0 FEET FROM THE SHORE, 10.0 FEET ABOVE THE HIGH-WATER MARK.

Station Notes

A MANGANESE-BRONZE POST, 8.0 INCHES HIGH.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.340 12B = -103.340 09 = -103.248 03 = -103.304

BOUNDARY REF MON 439

Mn/DOT Name: BOUNDARY REF MON 439

NGS Name: BOUNDARY REF MON 439

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	3	66 N	16 W	481327.78	922202.60		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

6.3 MILES SOUTHEAST OF CRANE LAKE, ON THE NORTH SHORE OF THE LOON RIVER, 200.0 FEET EAST OF A LOW POINT ON THE OPPOSITE SHORE WHERE THE RIVER TAKES AN ACUTE ANGLE BEND, CLOSE TO THE SHORE, A LITTLE ABOVE THE HIGH-WATER MARK.

Station Notes

A MANGANESE-BRONZE POST, 8.0 INCHES HIGH.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.350 12B = -103.346 09 = -103.258 03 = -103.313

BOUNDARY REF MON 441

Mn/DOT Name: BOUNDARY REF MON 441

NGS Name: BOUNDARY REF MON 441

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	3	66 N	16 W	481326.33	922142.08		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

6.5 MILES SOUTHEAST OF CRANE LAKE, ON THE NORTH SHORE OF THE LOON RIVER, 400.0 FEET UPSTREAM FROM THE LOW SWAMPY POINT, AT THE EAST EDGE OF THE SWAMP, 30.0 FEET FROM THE SHORE LINE, CLOSE TO THE HIGH-WATER MARK.

Station Notes

A MANGANESE-BRONZE POST, 8.0 INCHES HIGH.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.363 12B = -103.359 09 = -103.274 03 = -103.327

BOUNDARY REF MON 442

Mn/DOT Name: BOUNDARY REF MON 442

NGS Name: BOUNDARY REF MON 442

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	2	66 N	16 W	481331.23	922138.83		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

6.5 MILES SOUTHEAST OF CRANE LAKE, ON THE NORTH SHORE OF THE LOON RIVER, 1000.0 FEET ABOVE THE SWAMPY POINT ON THE CANADIAN SHORE, CLOSE TO THE SHORE AND THE HIGH - WATER MARK.

Station Notes

A MANGANESE-BRONZE POST, 8.0 INCHES HIGH.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.372 12B = -103.369 09 = -103.284 03 = -103.336

BOUNDARY REF MON 443

Mn/DOT Name: BOUNDARY REF MON 443

NGS Name: BOUNDARY REF MON 443

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	2	66 N	16 W	481347.89	922113.53		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type
ROCK (1 TO 3 METERS)

Disk Type
METAL ROD

Mon. Agency
IBWC

Description: (1921)

Stamping:

6.7 MILES SOUTHEAST OF CRANE LAKE, ON THE NORTH SHORE OF THE LOON RIVER, 0.75 MILE DOWNSTREAM FROM THE SMALL RAPIDS, ON A ROCK SLOPE, AT A TURN IN THE RIVER, JUST BELOW A WELL-DEFINED GULLY AND CREEK ON THE CANADIAN SIDE, 15.0 FEET FROM THE SHORE, 5.0 FEET ABOVE THE HIGH-WATER MARK.

Station Notes
A MANGANESE-BRONZE POST, 8.0 INCHES HIGH.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.418 12B = -103.418 09 = -103.336 03 = -103.386

BOUNDARY REF MON 445

Mn/DOT Name: BOUNDARY REF MON 445

NGS Name: BOUNDARY REF MON 445

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	2	66 N	16 W	481353.94	922055.17		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

6.9 MILES SOUTHEAST OF CRANE LAKE, ON THE NORTH SHORE OF THE LOON RIVER, 0.5 MILE DOWNSTREAM FROM THE SMALL RAPIDS, BESIDE THE RIFFLE, CLOSE TO THE SHORE AND HIGH - WATER MARK.

Station Notes

A MANGANESE-BRONZE POST, 8.0 INCHES HIGH.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.445 12B = -103.441 09 = -103.366 03 = -103.412

BOUNDARY REF MON 447

Mn/DOT Name: BOUNDARY REF MON 447

NGS Name: BOUNDARY REF MON 447

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	1	66 N	16 W	481355.75	922042.11		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

7.0 MILES SOUTHEAST OF CRANE LAKE, ON THE NORTH SHORE OF THE LOON RIVER, 0.3 MILE DOWNSTREAM FROM THE SMALL RAPIDS, 800.0 FEET UPSTREAM FROM THE RIFFLE, CLOSE TO THE SHORE AND THE HIGH - WATER MARK.

Station Notes

A MANGANESE-BRONZE POST, 8.0 INCHES HIGH.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.461 12B = -103.458 09 = -103.379 03 = -103.425

BOUNDARY REF MON 449

Mn/DOT Name: BOUNDARY REF MON 449

NGS Name: BOUNDARY REF MON 449

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	1	66 N	16 W	481402.81	922026.93		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

7.2 MILES SOUTHEAST OF CRANE LAKE, ON THE NORTH SHORE OF THE LOON RIVER, 200.0 FEET DOWNSTREAM FROM THE SMALL RAPIDS AT THE NARROW NECK OF THE RIVER, CLOSE TO THE SHORE AND THE HIGH - WATER MARK.

Station Notes

A MANGANESE-BRONZE POST, 8.0 INCHES HIGH.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.484 12B = -103.481 09 = -103.405 03 = -103.448

BOUNDARY REF MON 451

Mn/DOT Name: BOUNDARY REF MON 451

NGS Name: BOUNDARY REF MON 451

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481405.12	922021.62		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

ON THE RIGHT BANK OF THE LOON RIVER BESIDE THE SMALL RAPIDS ABOUT 5.25 MILES UPSTREAM FROM THE NARROWS BETWEEN LITTLE. VERMILION LAKE AND THE LOON RIVER AND 0.5 MILE DOWNSTREAM FROM THE PORTAGE TO LOON LAKE; CLOSE TO THE SHORE.

Stamping:

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.494 12B = -103.491 09 = -103.415 03 = -103.458

BOUNDARY REF MON 453

Mn/DOT Name: BOUNDARY REF MON 453

NGS Name: BOUNDARY REF MON 453

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481406.59	922017.04		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

ON THE RIGHT BANK OF THE LOON RIVER, 300.0 FEET UPSTREAM FROM THE SMALL RAPIDS AND 0.5 MILE DOWNSTREAM FROM THE PORTAGE TO LOON LAKE; AT THE SHORE LINE.

Stamping:

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.500 12B = -103.497 09 = -103.422 03 = -103.461

BOUNDARY REF MON 455

Mn/DOT Name: BOUNDARY REF MON 455

NGS Name: BOUNDARY REF MON 455

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481406.72	922013.73		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE RIGHT BANK OF LOON RIVER AT A BEND 500.0 FEET UPSTREAM FROM THE SMALL RAPIDS AND ABOUT 0.5 MILE BELOW THE PORTAGE TO LOON LAKE; CLOSE TO THE SHORE.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.504 12B = -103.497 09 = -103.422 03 = -103.464

BOUNDARY REF MON 457

Mn/DOT Name: BOUNDARY REF MON 457 **NGS Name:** BOUNDARY REF MON 457

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481405.53	922012.55		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=YES Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921) **Stamping:**

ON THE RIGHT BANK OF THE LOON RIVER, ABOUT 0.5 MILE DOWNSTREAM FROM THE PORTAGE TO LOON LAKE; 150.0 FEET UPSTREAM FROM REFERENCE MONUMENT 455 AND OPPOSITE A LOW MARSHY POINT ON THE OPPOSITE SHORE; AT THE SHORE.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.500 12B = -103.497 09 = -103.422 03 = -103.464

BOUNDARY REF MON 458

Mn/DOT Name: BOUNDARY REF MON 458

NGS Name: BOUNDARY REF MON 458

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481404.70	922002.00		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=YES Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE RIGHT BANK OF THE LOON RIVER, OPPOSITE THE MOUTH OF A LARGE CREEK ON THE UNITED STATES SIDE; 0.33 MILE DOWNSTREAM FROM THE PORTAGE TO THE LOON RIVER; ABOUT 150.0 FEET FROM THE SHORE AND 10.0 FEET ABOVE THE HIGH-WATER MARK.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.507 12B = -103.504 09 = -103.428 03 = -103.471

BOUNDARY REF MON 459

Mn/DOT Name: BOUNDARY REF MON 459

NGS Name: BOUNDARY REF MON 459

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481406.88	921950.27		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE RIGHT BANK OF THE LOON RIVER, 600.0 FEET DOWNSTREAM FROM THE PORTAGE TO LOON LAKE; ABOUT 100.0 FEET FROM THE SHORE AND 5.0 FEET ABOVE THE HIGH-WATER MARK.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.517 12B = -103.514 09 = -103.441 03 = -103.484

BOUNDARY REF MON 461

Mn/DOT Name: BOUNDARY REF MON 461

NGS Name: BOUNDARY REF MON 461

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481409.29	921943.13		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=YES Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE RIGHT BANK OF THE LOON RIVER AT THE FOOT OF THE RAPIDS BETWEEN LOON LAKE AND THE LOON RIVER.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.527 12B = -103.523 09 = -103.455 03 = -103.494

BOUNDARY REF MON 463

Mn/DOT Name: BOUNDARY REF MON 463

NGS Name: BOUNDARY REF MON 463

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481411.28	921939.90		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE RIGHT BANK OF THE RAPIDS BETWEEN LOON LAKE AND THE LOON RIVER, 300.0 FEET ABOVE THE FOOT OF THE RAPIDS; CLOSE TO THE SHORE.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.533 12B = -103.527 09 = -103.458 03 = -103.497

BOUNDARY REF MON 465

Mn/DOT Name: BOUNDARY REF MON 465

NGS Name: BOUNDARY REF MON 465

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481412.74	921934.07		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE RIGHT BANK OF THE RAPIDS BETWEEN LOON LAKE AND THE LOON RIVER, 350.0 FEET BELOW THE DAM AT THE HEAD OF THE RAPIDS; CLOSE TO THE SHORE.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.537 12B = -103.533 09 = -103.468 03 = -103.504

BOUNDARY REF MON 469

Mn/DOT Name: BOUNDARY REF MON 469

NGS Name: BOUNDARY REF MON 469

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481425.27	921900.62		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE NORTH SHORE OF LOON LAKE, NEARLY 0.5 MILE FROM THE EAST END OF THE PORTAGE TO THE LOON RIVER, ON THE WEST SIDE OF A SMALL BAY, CLOSE TO THE SHORE AND THE HIGH-WATER MARK.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.579 12B = -103.576 09 = -103.517 03 = -103.553

BOUNDARY REF MON 471

Mn/DOT Name: BOUNDARY REF MON 471

NGS Name: BOUNDARY REF MON 471

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481432.58	921856.02		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

ON THE NORTH SHORE OF THE WEST ARM OF LOON LAKE, ABOUT 0.5 MILE FROM THE PORTAGE TO THE LOON RIVER;
ON THE WEST SIDE OF A SMALL BAY, 800.0 FEET NORTH OF BOUNDARY REF MON 469.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.596 12B = -103.589 09 = -103.533 03 = -103.569

BOUNDARY REF MON 473

Mn/DOT Name: BOUNDARY REF MON 473

NGS Name: BOUNDARY REF MON 473

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481432.11	921828.43		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

ON THE NORTH SIDE OF THE WEST ARM OF LOON LAKE, NEARLY A MILE FROM THE PORTAGE TO THE LOON RIVER, ON A KNOLL ABOUT 30.0 FEET ABOVE THE HIGH-WATER MARK AND 100.0 FEET FROM THE SHORE.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.615 12B = -103.609 09 = -103.553 03 = -103.586

BOUNDARY REF MON 475

Mn/DOT Name: BOUNDARY REF MON 475

NGS Name: BOUNDARY REF MON 475

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481437.63	921744.98		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

ON THE NORTH SHORE OF THE WEST ARM OF LOON LAKE, NEARLY 1.5 MILES FROM THE PORTAGE TO THE LOON RIVER, 800.0 FEET NORTH OF A PROMINENT POINT ON THE OPPOSITE SHORE.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.658 12B = -103.651 09 = -103.596 03 = -103.628

BOUNDARY REF MON 477

Mn/DOT Name: BOUNDARY REF MON 477 **NGS Name:** BOUNDARY REF MON 477

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481458.76	921629.23		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915) **Stamping:**

ON THE TOP OF THE HILL ON THE PROMINENT POINT ON THE CANADIAN SIDE OF LOON LAKE, WHERE THE CHANNEL TAKES A RIGHT-ANGLE BEND. THE POINT IS EAST OF THE LARGE BAY ON THE NORTH SIDE OF THE CHANNEL AND IS 2.0 MILES SOUTH OF THE PORTAGE TO LAC LA CROIX AND 2.5 MILES EAST OF THE PORTAGE TO THE LOON RIVER.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.753 12B = -103.740 09 = -103.691 03 = -103.717

BOUNDARY REF MON 481

Mn/DOT Name: BOUNDARY REF MON 481

NGS Name: BOUNDARY REF MON 481

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	28	67 N	15 W	481518.02	921636.73		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092242/
USGS Quad: SNOW BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

ON THE WEST SIDE OF THE NORTH ARM OF LOON LAKE, ABOUT 3.5 MILES NORTHEAST OF THE PORTAGE TO THE LOON RIVER, AND 1.75 MILES SOUTH OF THE PORTAGE TO LAC LA CROIX. THE MONUMENT IS ABOUT 100.0 FEET FROM THE SHORE AND 20.0 FEET ABOVE THE HIGH-WATER MARK AND ABOUT HALFWAY UP THE SIDE OF THE HILL.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.776 12B = -103.763 09 = -103.720 03 = -103.747

BOUNDARY REF MON 483

Mn/DOT Name: BOUNDARY REF MON 483 **NGS Name:** BOUNDARY REF MON 483

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	29	67 N	15 W	481535.44	921656.95		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092242/
USGS Quad: SNOW BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON A POINT OF THE WEST SHORE OF THE NORTH ARM OF LOON LAKE, ABOUT 3.0 MILES NORTHEAST OF THE PORTAGE TO THE LOON RIVER AND 1.25 MILES SOUTH OF THE PORTAGE TO LAC LA CROIX, 800.0 FEET SOUTHWEST OF THE LARGE ISLAND IN THE MIDDLE OF THE CHANNEL, ON A SMALL KNOLL CLOSE TO THE SHORE.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.789 12B = -103.776 09 = -103.733 03 = -103.763

BOUNDARY REF MON 485

Mn/DOT Name: BOUNDARY REF MON 485

NGS Name: BOUNDARY REF MON 485

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	29	67 N	15 W	481550.97	921731.17		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092242/
USGS Quad: SNOW BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE WEST SIDE OF THE NORTH ARM OF LOON LAKE, WHERE THE LAKE IS ABOUT 800.0 FEET WIDE, 3.0 MILES NORTHEAST OF THE PORTAGE TO THE LOON RIVER AND 0.75 MILE SOUTH OF THE PORTAGE TO LAC LA CROIX, 0.5 MILE NORTHWE8T OF BOUNDARY REF MON 482, 100.0 FEET FROM THE SHORE AND 10.0 OR 20.0 FEET ABOVE THE HIGH-WATER MARK. NEAR THE SOUTH END OF A LONG RIDGE

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.786 12B = -103.773 09 = -103.737 03 = -103.766

BOUNDARY REF MON 487

Mn/DOT Name: BOUNDARY REF MON 487

NGS Name: BOUNDARY REF MON 487

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	20	67 N	15 W	481612.23	921747.93		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092242/
USGS Quad: SNOW BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE WEST SIDE OF THE NORTH ARM OF LOON LAKE ABOUT 0.5 MILE SOUTH OF THE PORTAGE TO LAC LA CROIX ON A ROCK OUTCROP ON THE SIDE OF THE HILL, ABOUT 200.0 FEET FROM THE SHORE AND 100.0 FEET ABOVE THE HIGH WATERMARK

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.809 12B = -103.792 09 = -103.763 03 = -103.789

BOUNDARY REF MON 489

Mn/DOT Name: BOUNDARY REF MON 489

NGS Name: BOUNDARY REF MON 489

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	20	67 N	15 W	481635.02	921739.08		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092242/
USGS Quad: SNOW BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE SOUTH SHORE OF THE MOST NORTHERN TIP OF THE NORTH ARM OF LOON LAKE, ABOUT 100.0 FEET FROM THE RAPIDS FROM LAC LA CROIX.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.848 12B = -103.832 09 = -103.809 03 = -103.835

BOUNDARY REF MON 491

Mn/DOT Name: BOUNDARY REF MON 491 **NGS Name:** BOUNDARY REF MON 491

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481634.09	921742.45		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092242/
USGS Quad: SNOW BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921) **Stamping:**

NEAR THE PORTAGE BETWEEN LOON LAKE AND LAC LA CROIX, ON THE RIGHT BANK OF THE WEST STREAM ABOUT 150.0 FEET FROM THE END OF LOON LAKE, ABOUT 10.0 FEET ABOVE THE LEVEL OF LOON LAKE.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.845 12B = -103.829 09 = -103.806 03 = -103.832

BOUNDARY REF MON 493

Mn/DOT Name: BOUNDARY REF MON 493

NGS Name: BOUNDARY REF MON 493

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481637.08	921444.69		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092213/
USGS Quad: TAKUCMICH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

NEAR THE PORTAGE BETWEEN LOON LAKE AND LAC LA CROIX, ON THE RIGHT BANK OF THE WEST STREAM ABOUT 250.0 FEET FROM LAC LA CROIX AND 100.0 FEET SOUTH OF THE JUNCTION WITH THE EAST STREAM, JUST ABOVE A SHARP DROP OF THE STREAM, ABOUT 10.0 FEET BELOW THE LEVEL OF LAC LA CROIX.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.963 12B = -103.943 09 = -103.930 03 = -103.943

BOUNDARY REF MON 495

Mn/DOT Name: BOUNDARY REF MON 495

NGS Name: BOUNDARY REF MON 495

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481550.97	921731.17		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092242/
USGS Quad: SNOW BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

NEAR THE PORTAGE BETWEEN LOON LAKE AND LAC LA CROIX, ON THE RIGHT SIDE OF THE STREAM; CLOSE TO THE SHORE.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.786 12B = -103.773 09 = -103.737 03 = -103.766

BOUNDARY REF MON 497

Mn/DOT Name: BOUNDARY REF MON 497 **NGS Name:** BOUNDARY REF MON 497

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481641.37	921753.41		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092242/
USGS Quad: SNOW BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON THE WEST SIDE OF LAC LA CROIX, 600.0 FEET WEST OF THE STREAM AT THE PORTAGE TO LOON LAKE, ON THE NORTHERN PART OF THE TOP OF A HILL AND 300.0 FEET FROM A POINT ON THE SHORE WHERE THERE IS A BOULDER ABOUT 15.0 FEET HIGH. THE MONUMENT IS 60.0 FEET ABOVE THE LEVEL OF THE LAKE.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.851 12B = -103.832 09 = -103.812 03 = -103.835

BOUNDARY REF MON 498

Mn/DOT Name: BOUNDARY REF MON 498

NGS Name: BOUNDARY REF MON 498

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481701.33	921808.28		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092242/
USGS Quad: SNOW BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=YES Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE WEST SHORE OF LAC LA CROIX, 0.5 MILE NORTH OF THE PORTAGE TO LOON LAKE, 500.0 FEET FROM THE END OF A LONG POINT, OPPOSITE BOUNDARY REF MON 500.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.874 12B = -103.855 09 = -103.835 03 = -103.861

BOUNDARY REF MON 499

Mn/DOT Name: BOUNDARY REF MON 499 **NGS Name:** BOUNDARY REF MON 499

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481728.14	921819.99		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092242/
USGS Quad: SNOW BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=YES Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON THE WEST SHORE OF LAC LA CROIX, 1.0 MILE NORTH OF THE PORTAGE TO LOON LAKE, ON THE SHORE LINE BELOW THE CLIFF.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.911 12B = -103.891 09 = -103.874 03 = -103.901

BOUNDARY REF MON 501

Mn/DOT Name: BOUNDARY REF MON 501 **NGS Name:** BOUNDARY REF MON 501

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481827.06	921757.96		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092242/
USGS Quad: SNOW BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON AN ISLAND IN LAC LA CROIX ABOUT 1000.0 FEET IN DIAMETER, THE MOST SOUTHERN OF THE GROUP, 2.0 MILES NORTH OF THE PORTAGE TO LOON LAKE, AT THE ENTRANCE TO A LARGE BAY TO THE WEST, ON A KNOLL AT THE SOUTHEAST END OF THE ISLAND.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.029 12B = -104.006 09 = -103.986 03 = -104.022

BOUNDARY REF MON 503

Mn/DOT Name: BOUNDARY REF MON 503 **NGS Name:** BOUNDARY REF MON 503

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481839.52	921809.18		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092242/
USGS Quad: SNOW BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=YES Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON A SMALL NARROW ISLAND IN LAC LA CROIX, 2.5 MILES NORTH OF THE PORTAGE TO LOON LAKE, AT THE ENTRANCE TO A LARGE BAY TO THE WEST. THE MONUMENT IS MIDWAY BETWEEN THE ISLANDS WHICH ARE THE SITES OF BOUNDARY REF MON 501 AND 504.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.042 12B = -104.019 09 = -103.999 03 = -104.035

BOUNDARY REF MON 505

Mn/DOT Name: BOUNDARY REF MON 505 **NGS Name:** BOUNDARY REF MON 505

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481856.81	921828.48		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092242/
USGS Quad: SNOW BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921) **Stamping:**

ON AN ISLAND, ABOUT 1000.0 FEET LONG BY 500.0 FEET WIDE, IN LAC LA CROIX, NEARLY 3.0 MILES NORTH OF THE PORTAGE TO LOON LAKE, 0.5 MILE NORTHWEST OF THE MOST SOUTHERN ISLAND OF THE GROUP, AT THE ENTRANCE TO A LARGE BAY TO THE WEST, ON THE MOST EASTERN PART OF THE ISLAND, CLOSE TO THE SHORE AND THE HIGH-WATER MARK.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.058 12B = -104.032 09 = -104.016 03 = -104.052

BOUNDARY REF MON 507

Mn/DOT Name: BOUNDARY REF MON 507 **NGS Name:** BOUNDARY REF MON 507

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481915.24	921837.78		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092242/
USGS Quad: SNOW BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921) **Stamping:**

ON AN ISLAND ABOUT 700.0 FEET LONG IN LAC LA CROIX, 3.0 MILES NORTH OF THE PORTAGE TO LOON LAKE, NEAR THE MIDDLE OF THE ENTRANCE TO THE LARGE BAY TO THE WEST, 0.33 MILE WEST OF THE NORTH END OF THE LARGE ISLAND, WHICH IS THE SITE OF BOUNDARY REF MON 504, ON A SMALL KNOLL AT THE NORTH END OF THE ISLAND.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.084 12B = -104.055 09 = -104.039 03 = -104.075

BOUNDARY REF MON 509

Mn/DOT Name: BOUNDARY REF MON 509 **NGS Name:** BOUNDARY REF MON 509

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481932.04	921754.83		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092242/
USGS Quad: SNOW BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON THE CANADIAN SHORE OF LAC LA CROIX, ON THE POINT AT THE NORTH SIDE OF THE ENTRANCE TO WILKINS BAY, THE LARGE BAY TO THE WEST, THE MONUMENT IS 3.5 MILES NORTH OF THE PORTAGE TO LOON LAKE, ON TOP OF THE KNOLL AT THE SOUTHEASTERN END OF THE POINT, ABOUT 30.0 FEET ABOVE THE HIGH-WATER MARK AND 150.0 FEET FROM THE SHORE.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.137 12B = -104.107 09 = -104.094 03 = -104.137

BOUNDARY REF MON 511

Mn/DOT Name: BOUNDARY REF MON 511 **NGS Name:** BOUNDARY REF MON 511

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482005.97	921739.04		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092242/
USGS Quad: SNOW BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON A PROMINENT POINT ON THE WEST SHORE OF LAC LA CROIX, 4.5 MILES NORTH OF THE PORTAGE TO LOON LAKE, OPPOSITE THE SOUTH SIDE OF THE ENTRANCE TO SNOW BAY, THE LARGE BAY TO THE EAST, THE MONUMENT IS CLOSE TO THE SHORE AND THE HIGH-WATER MARK.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.199 12B = -104.170 09 = -104.160 03 = -104.206

BOUNDARY REF MON 512

Mn/DOT Name: BOUNDARY REF MON 512 **NGS Name:** BOUNDARY REF MON 512

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482006.70	921720.31		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092242/
USGS Quad: SNOW BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON A SMALL ISLAND IN LAC LA CROIX, 4.5 MILES NORTH OF THE PORTAGE TO LOON LAKE, 300.0 FEET WEST OF THE POINT AT THE SOUTH SIDE OF THE ENTRANCE TO SNOW BAY, THE LARGE BAY TO THE EAST, THE MONUMENT IS ON THE HIGHEST PART OF THE ISLAND.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.216 12B = -104.186 09 = -104.173 03 = -104.222

BOUNDARY REF MON 513

Mn/DOT Name: BOUNDARY REF MON 513 **NGS Name:** BOUNDARY REF MON 513

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482035.67	921731.37		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092242/
USGS Quad: SNOW BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON A PROMINENT POINT ON THE WEST SHORE OF LAC LA CROIX, 5.0 MILES NORTH OF THE PORTAGE TO LOON LAKE; OPPOSITE THE LARGE ISLAND AT THE NORTH SIDE OF SNOW BAY, THE LARGE BAY TO THE EAST, 0.75 MILE SOUTHWEST OF THE DOME-SHAPED ISLAND AT THE WEST BEND OF THE LAKE, CLOSE TO THE SHORE AND THE HIGH-WATER MARK.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.252 12B = -104.219 09 = -104.216 03 = -104.262

BOUNDARY REF MON 515

Mn/DOT Name: BOUNDARY REF MON 515 **NGS Name:** BOUNDARY REF MON 515

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482123.25	921611.12		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092242/
USGS Quad: SNOW BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON THE MOST EASTERN OF A SMALL GROUP OF ISLANDS 0.5 MILE NORTHEAST OF THE DOME-SHAPED ISLAND AT THE WEST BEND OF LAC LA CROIX, 6.0 MILES NORTH OF THE PORTAGE TO LOON LAKE, THE MONUMENT IS AT THE EAST END OF THE ISLAND.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.380 12B = -104.344 09 = -104.344 03 = -104.399

BOUNDARY REF MON 517

Mn/DOT Name: BOUNDARY REF MON 517

NGS Name: BOUNDARY REF MON 517

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482123.99	921523.98		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092242/
USGS Quad: SNOW BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON A PROMINENT POINT ON THE NORTH SHORE OF LAC LA CROIX, ABOUT 1.25 MILES EAST OF THE WEST BEND OF THE LAKE, THERE IS A DEEP NARROW BAY TO THE NORTHWEST OF THE POINT AND A MUCH LONGER ONE TO THE EAST .

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.409 12B = -104.376 09 = -104.373 03 = -104.435

BOUNDARY REF MON 519

Mn/DOT Name: BOUNDARY REF MON 519

NGS Name: BOUNDARY REF MON 519

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482118.36	921351.60		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092213/
USGS Quad: TAKUCMICH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE NORTH SHORE OF LAC LA CROIX, 0.33 MILE EAST OF THE DOME-SHAPED ISLAND THAT IS 2.0 MILES EAST OF THE WEST BEND OF THE LAKE, THE MONUMENT IS 300.0 FEET WEST OF A SMALL BAY.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.468 12B = -104.432 09 = -104.419 03 = -104.491

BOUNDARY REF MON 521

Mn/DOT Name: BOUNDARY REF MON 521 **NGS Name:** BOUNDARY REF MON 521

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482057.94	921316.42		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092213/
USGS Quad: TAKUCMICH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON ONE OF THE ISLANDS AT THE EAST END OF THE LARGE GROUP, 2.75 MILES EAST OF THE WEST BEND OF LAC LA CROIX, 0.75 MILE SOUTHEAST OF A DOME-SHAPED ISLAND IN THE MIDDLE OF THE CHANNEL, THE MONUMENT IS ON A SLIGHT EMINENCE AT THE WEST END OF THE ISLAND AND IS 1500.0 FEET EAST OF BOUNDARY REF MON 520.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.462 12B = -104.426 09 = -104.409 03 = -104.478

BOUNDARY REF MON 523

Mn/DOT Name: BOUNDARY REF MON 523

NGS Name: BOUNDARY REF MON 523

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482046.49	921304.23		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092213/
USGS Quad: TAKUCMICH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON A SLIGHT EMINENCE ON THE WEST END OF THE ISLAND JUST EAST OF THE NARROWS BETWEEN TWO ISLANDS, 150.0 FEET EAST OF THE MOST WESTERN ISLAND OF THE LARGE GROUP IN LAC LA CROIX, 3.0 MILES EAST, OF THE WEST BEND OF THE LAKE. THE CHANNEL TO THE WEST IS SHALLOW AND ABOUT 75.0 FEET WIDE AND THAT TO THE NORTH IS DEEPER AND ABOUT 200.0 FEET WIDE, BOUNDARY REF MON 524 IS ABOUT 150.0 FEET TO THE WEST.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.452 12B = -104.416 09 = -104.399 03 = -104.465

BOUNDARY REF MON 525

Mn/DOT Name: BOUNDARY REF MON 525
NGS Name: BOUNDARY REF MON 525
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482044.15	921301.49		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092213/
USGS Quad: TAKUCMICH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE SOUTHWEST SIDE OF THE ISLAND JUST EAST OF THE NARROWS BETWEEN TWO ISLANDS, 150.0 FEET EAST OF THE MOST WESTERN ISLAND OF THE LARGE GROUP IN LAC LA CROIX, 3.0 MILES EAST OF THE WEST BEND OF THE LAKE, THE MONUMENT IS ON THE SAME ISLAND AS BOUNDARY REF MON 523, 300.0 FEET SOUTHEAST FROM REFERENCE MONUMENT 523, AND CLOSE TO THE SHORE.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.449 12B = -104.416 09 = -104.399 03 = -104.465

BOUNDARY REF MON 527

Mn/DOT Name: BOUNDARY REF MON 527 **NGS Name:** BOUNDARY REF MON 527

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482051.96	921234.82		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092213/
USGS Quad: TAKUCMICH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

NEAR THE SOUTHEAST POINT OF FORTY-FIVE ISLAND, ONE OF THE MOST WESTERN ISLANDS OF, THE LARGE GROUP IN LAC LA CROIX, 3.25 MILES EAST OF THE WEST BEND OF THE LAKE, 1.3 MILES SOUTHEAST OF THE DOME-SHAPED ISLAND IN THE MIDDLE OF THE CHANNEL, ON THE SOUTH SIDE OF AND 200.0 FEET FROM THE END OF THE POINT, THE MONUMENT IS ON THE SAME ISLAND AS, BOUNDARY REF MON 521 AND 531, AND 500.0 FEET SOUTHWEST OF THE LATTER.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.478 12B = -104.445 09 = -104.426 03 = -104.498

BOUNDARY REF MON 53

Mn/DOT Name: BOUNDARY REF MON 53

NGS Name: BOUNDARY REF MON 53

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1127 Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				485005.31	944112.54		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1917	1937	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	NGS

Description: (1917)

Stamping:

IN THE WILD LANDS RESERVE, SECTION 8, ON THE EAST SIDE OF THE RAINY RIVER, 10.5 MILES NORTHWEST OF BAUDETTE AND RAINY RIVER, 0.3 MILE SOUTHEAST OF WHEELERS POINT, 1000.0 FEET SOUTHWEST OF A SMALL INLET ON THE CANADIAN SIDE OF THE RIVER, A WROUGHT IRON POST, ABOUT 12.0 INCH DIAMETER HIGH AND 2.0 INCH DIAMETER SQUARE, SET IN A SQUARE CONCRETE BASE.

Station Notes

FOUND IN WATER AND MOVED IN 1937 BY IBC.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.046 12B = -96.060 09 = -95.935 03 = -95.882

BOUNDARY REF MON 53 RESET

Mn/DOT Name: BOUNDARY REF MON 53 RESET
NGS Name: BOUNDARY REF MON 53 RESET
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1128 Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				485005.25	944112.30		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1937	1968	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	IBWC

Description: (2007)

Stamping:

9.8 MILES NORTHWEST OF BAUDETTE, 11.6 MILES NORTHWEST ALONG TRUNK HIGHWAY 172 FROM THE JUNCTION OF TRUNK HIGHWAY 172 AND TRUNK HIGHWAY 11 IN BAUDETTE, THEN 0.2 MILE SOUTHEAST ACROSS THE RAINY RIVER TO THE CANADIAN SIDE OF THE RAINY RIVER, EAST OF RAINY RIVER.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1089.237	.262		993.673	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -96.046 12B = -96.060 09 = -95.935 03 = -95.882

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 50 05.24792	94 41 12.29629			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 50 05.22511	94 41 12.27550			.131	3	ADJUSTMENT	1989	17085

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1234320.887	17750825.225	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1234322.226	17750822.883	.131	3	ADJUSTMENT	1989	17085

BOUNDARY REF MON 531

Mn/DOT Name: BOUNDARY REF MON 531

NGS Name: BOUNDARY REF MON 531

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482051.96	921234.82		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092213/
USGS Quad: TAKUCMICH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=YES Vert=?	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

NEAR THE SOUTHEAST POINT OF FORTY-FIVE ISLAND, ONE OF THE MOST WESTERN ISLANDS OF, THE LARGE GROUP IN LAC LA CROIX, 3.25 MILES EAST OF THE WEST BEND OF THE LAKE, 1.3 MILES SOUTHEAST OF THE DOME-SHAPED ISLAND IN THE MIDDLE OF THE CHANNEL, ON THE SOUTH SIDE OF AND 200.0 FEET FROM THE END OF THE POINT, THE MONUMENT IS ON THE SAME ISLAND AS, REFERENCE MONUMENTS 521 AND 527, AND 500.0 FEET NORTHEAST OF THE LATTER.

Stamping:

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

No Geoid Separations Available

BOUNDARY REF MON 551

Mn/DOT Name: BOUNDARY REF MON 551

NGS Name: BOUNDARY REF MON 551

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482147.82	920602.69		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092212/
USGS Quad: COLEMAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=?	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

BOUNDARY REF MON 551 IS0.66 MILE SOUTHEAST OF TWENTYFOUR ISLAND.

Stamping:

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

No Geoid Separations Available

BOUNDARY REF MON 552

Mn/DOT Name: BOUNDARY REF MON 552

NGS Name: BOUNDARY REF MON 552

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482106.24	920611.80		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092212/
USGS Quad: COLEMAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=?	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

ON AN ISLAND, A LARGE LOW ISLAND IN LAC LA CROIX, 3.0 MILES EAST OF THE ENTRANCE TO NAMAKAN RIVER AND EAST OF THE BIG STRETCH OF OPEN WATER, 0.5 MILE SOUTHWEST OF THE ISLAND THAT BOUNDARY REF MON 553 IS SITUATED ON.

Stamping:

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

No Geoid Separations Available

BOUNDARY REF MON 553

Mn/DOT Name: BOUNDARY REF MON 553

NGS Name: BOUNDARY REF MON 553

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482123.59	920517.99		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092212/
USGS Quad: COLEMAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON TWENTY-FOUR ISLAND, A LARGE LOW ISLAND IN LAC LA CROIX, THE MOST NORTHERN OF THE GROUP 3.0 MILES EAST OF THE ENTRANCE TO NAMAKAN RIVER AND EAST OF THE BIG STRETCH OF OPEN WATER, 0.5 MILE NORTHEAST OF THE ISLAND THAT BOUNDARY REF MON 552 IS SITUATED ON. THE MONUMENT IS ON THE SHORE, NORTH OF THE BAY AT THE SOUTHWEST END OF THE ISLAND. BOUNDARY REF MON 555 AND 557 ARE ON THE SAME ISLAND, AND BOUNDARY REF MON 551 IS 0.66 MILE TO THE NORTHWEST.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.852 12B = -104.819 09 = -104.787 03 = -104.875

BOUNDARY REF MON 555

Mn/DOT Name: BOUNDARY REF MON 555

NGS Name: BOUNDARY REF MON 555

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	24	68 N	14 W	482119.15	920504.00		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092212/
USGS Quad: COLEMAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON TWENTY FIVE ISLAND, THE NEXT ISLAND EAST OF THE ISLAND THAT REFERENCE MONUMENT 552 IS SITUATED ON. THE MONUMENT IS ON THE POINT ON WHICH THERE IS A SMALL KNOLL, ON THE NORTHWEST CORNER OF THE ISLAND. BOUNDARY REF MON 552 IS NEARLY 0.5 MILE WEST AND BOUNDARY REF MON 553 ABOUT 0.33 MILE NORTHEAST.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.855 12B = -104.823 09 = -104.790 03 = -104.878

BOUNDARY REF MON 557

Mn/DOT Name: BOUNDARY REF MON 557

NGS Name: BOUNDARY REF MON 557

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482140.15	920451.60		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092212/
USGS Quad: COLEMAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON TWENTY FOUR ISLAND, A LARGE LOW ISLAND IN LAC LA CROIX, THE MOST NORTHERN OF THE GROUP 3.0 MILES EAST OF THE ENTRANCE TO NAMAKAN RIVER, JUST EAST OF THE BIG STRETCH OF OPEN WATER AND 0.5 MILE SOUTHWEST OF A SWAMPY POINT OF THE NORTH SHORE. THE MONUMENT IS ON THE NORTHEAST POINT OF THE ISLAND. BOUNDARY REF MON 553 AND 555 ARE ON THE SOUTH END OF THE SAME ISLAND.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.898 12B = -104.862 09 = -104.832 03 = -104.924

BOUNDARY REF MON 559

Mn/DOT Name: BOUNDARY REF MON 559

NGS Name: BOUNDARY REF MON 559

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482136.27	920404.20		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092212/
USGS Quad: COLEMAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON A SMALL ISLAND 300.0 FEET NORTH OF THE LARGE ISLAND NORTH OF COLEMAN ISLAND, AT THE EAST BEND OF LAC LA CROIX AND ABOUT 1000.0 FEET SOUTH OF THE LOW SWAMPY POINT OF THE NORTH SHORE. THE MONUMENT IS AT THE NORTH END OF THE ISLAND AND BOUNDARY REF MON 560 IS ABOUT 600.0 FEET SOUTHEAST.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.921 12B = -104.888 09 = -104.859 03 = -104.951

BOUNDARY REF MON 55=DOG

Mn/DOT Name: BOUNDARY REF MON 55=DOG
NGS Name: BOUNDARY REF MON 55=DOG
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0595 Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	25	162 N	32 W	484927.51	944200.02		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1968	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1913)

Stamping:

IN THE WILD LANDS RESERVE, ON RIGHT SIDE OF RAINY RIVER, ONTARIO, 9.5 MILES NORTHWEST OF BAUDETTE, MINNESOTA, AND RAINY RIVER, 1.0 MILE ABOVE THE LONG POINT, NEAR THE MOUTH OF THE RIVER, SOUTH OF A SAWMILL.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1066.271	.131		970.841	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -95.902 12B = -95.909 09 = -95.790 03 = -95.745

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 49 27.50506	94 42 00.02493			.033	1	ADJUSTMENT	1999	17648

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1231043.652	17747072.882	.033	1	ADJUSTMENT	1999	17648

BOUNDARY REF MON 561

Mn/DOT Name: BOUNDARY REF MON 561
NGS Name: BOUNDARY REF MON 561
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482150.07	920307.40		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092212/
USGS Quad: COLEMAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE NORTH SHORE OF LAC LA CROIX, 0.66 MILE EAST OF THE LOW SWAMPY POINT AT THE EAST BEND OF THE LAKE AND NORTH OF COLEMAN ISLAND. THE MONUMENT IS CLOSE TO THE SHORE AT THE SOUTHWEST BASE OF THE HILL ON THE SHOULDER OF THE POINT. THERE IS A SMALL ISLAND 0.25 MILE TO THE EASTWARD, AND THE NARROWS AT THE MOUTH OF MALIGNE RIVER ARE ABOUT A MILE TO THE EASTWARD. BOUNDARY REF MON 560 IS 0.75 MILE SOUTHWEST.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.977 12B = -104.947 09 = -104.918 03 = -105.013

BOUNDARY REF MON 563

Mn/DOT Name: BOUNDARY REF MON 563 **NGS Name:** BOUNDARY REF MON 563

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482052.99	920237.81		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092212/
USGS Quad: COLEMAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921) **Stamping:**

ON A SMALL L-SHAPED ISLAND IN LAC LA CROIX 0.5 MILE EAST OF THE NORTH END OF COLEMAN ISLAND AND 0.75 MILE SOUTHEAST OF BOUNDARY REF MON 562. THE MONUMENT IS CLOSE TO THE SHORE AND 200.0 FEET NORTH OF THE SOUTHWEST END OF THE ISLAND. BOUNDARY REF MON 564 IS 1000.0 FEET TO THE WEST.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.914 12B = -104.882 09 = -104.852 03 = -104.931

BOUNDARY REF MON 565

Mn/DOT Name: BOUNDARY REF MON 565 **NGS Name:** BOUNDARY REF MON 565

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482029.76	920237.42		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092212/
USGS Quad: COLEMAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921) **Stamping:**

ON A SMALL ISLAND IN LAC LA CROIX 0.5 MILE SOUTHEAST OF THE NORTH POINT OF COLEMAN ISLAND AND ABOUT 0.5 MILE SOUTH OF REFERENCE MONUMENT 563. THE MONUMENT IS ON TOP OF THE BANK ON THE NORTH SIDE OF THE ISLAND.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.878 12B = -104.846 09 = -104.816 03 = -104.888

BOUNDARY REF MON 567

Mn/DOT Name: BOUNDARY REF MON 567

NGS Name: BOUNDARY REF MON 567

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482007.90	920230.01		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092212/
USGS Quad: COLEMAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON A SMALL ISLAND IN LAC LA CROIX EAST OF COLEMAN ISLAND, 1000.0 FEET NORTH OF THE PENINSULA THAT IS A MILE SOUTHEAST OF THE NORTH END OF COLEMAN ISLAND. THERE IS A LONG NARROW PRECIPITOUS ISLAND ABOUT 1000.0 FEET TO THE EASTWARD.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.849 12B = -104.816 09 = -104.790 03 = -104.855

BOUNDARY REF MON 569

Mn/DOT Name: BOUNDARY REF MON 569

NGS Name: BOUNDARY REF MON 569

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482001.77	920210.84		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092212/
USGS Quad: COLEMAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON A VERY SMALL ISLAND IN LAC LA CROIX ABOUT A MILE SOUTHEAST OF THE NORTH END OF COLEMAN ISLAND ; JUST SOUTH OF A SMALL ISLAND ABOUT 200.0 FEET LONG AND 1000.0 FEET SOUTH OF THE MIDDLE PART OF A LONG NARROW PRECIPITOUS ISLAND. REFERENCE MONUMENT 567 IS ABOUT 0.25 MILE TO THE NORTHWESTWARD.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.852 12B = -104.823 09 = -104.793 03 = -104.859

BOUNDARY REF MON 571

Mn/DOT Name: BOUNDARY REF MON 571

NGS Name: BOUNDARY REF MON 571

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481954.58	920207.61		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092212/
USGS Quad: COLEMAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON AN ISLAND ABOUT 0.5 MILE LONG IN LAC LA CROIX, 500.0 FEET EAST OF THE PENINSULA A MILE SOUTHEAST OF THE NORTH END OF COLEMAN ISLAND. THE MONUMENT IS ON A SMALL CLIFF SOUTH OF A BAY. BOUNDARY REF MON 572 IS 500.0 FEET TO THE WESTWARD.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.842 12B = -104.813 09 = -104.783 03 = -104.849

BOUNDARY REF MON 573

Mn/DOT Name: BOUNDARY REF MON 573 **NGS Name:** BOUNDARY REF MON 573

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481947.96	920159.92		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092212/
USGS Quad: COLEMAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921) **Stamping:**

ON A SMALL ISLAND IN LAC LA CROIX AT THE SOUTH END OF THE NARROWS OFF THE PENINSULA ON THE EAST SIDE OF AND A MILE SOUTHEAST OF THE NORTH END OF COLEMAN ISLAND. THE ISLAND IS NEAR A BAY AT THE SOUTHWEST END OF THE LARGE ISLAND AND IS ABOUT 500.0 FEET EAST OF A GROUP OF SMALL ISLANDS.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.836 12B = -104.806 09 = -104.780 03 = -104.842

BOUNDARY REF MON 575

Mn/DOT Name: BOUNDARY REF MON 575 **NGS Name:** BOUNDARY REF MON 575

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481943.92	920151.54		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092212/
USGS Quad: COLEMAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON THE SOUTH END OF THE ISLAND ABOUT 0.25 MILE LONG, EAST OF THE PENINSULA A MILE SOUTHEAST OF THE NORTH END OF COLEMAN ISLAND; IN LAC LA CROIX; 400.0 FEET WEST OF THE POINT AT THE SOUTHEAST END OF THE ISLAND.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.832 12B = -104.806 09 = -104.780 03 = -104.839

BOUNDARY REF MON 577

Mn/DOT Name: BOUNDARY REF MON 577 **NGS Name:** BOUNDARY REF MON 577

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481937.87	920112.58		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092212/
USGS Quad: COLEMAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON THE MOST SOUTHERN ISLAND OF A GROUP SOUTH OF THE PROMINENT POINT ON THE EAST SHORE OF LAC LA CROIX, 1.5 MILES SOUTHEAST OF THE NORTH END OF COLEMAN ISLAND AND 0.33 MILE SOUTHEAST OF A LONG NARROW PRECIPITOUS ISLAND. THE MONUMENT IS ON THE SOUTH SIDE OF THE ISLAND. BOUNDARY REF MON 575 IS 0.5 MILE TO THE WESTWARD.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.849 12B = -104.819 09 = -104.796 03 = -104.852

BOUNDARY REF MON 579

Mn/DOT Name: BOUNDARY REF MON 579 **NGS Name:** BOUNDARY REF MON 579

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481926.72	920041.24		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092212/
USGS Quad: COLEMAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921) **Stamping:**

ON THE LARGE ISLAND IN THE NARROWS BETWEEN THE EAST SHORE OF LAC LA CROIX AND COLEMAN ISLAND 2.5 MILES SOUTHEAST OF THE NORTH END OF COLEMAN ISLAND. THE MONUMENT IS ON THE SOUTHWEST SLOPE OF THE ISLAND, ABOUT 200.0 FEET FROM THE SHORE AND 20.0 OR 30.0 FEET ABOVE THE HIGH-WATER MARK.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.849 12B = -104.823 09 = -104.796 03 = -104.849

BOUNDARY REF MON 57=CAN

Mn/DOT Name: BOUNDARY REF MON 57=CAN
NGS Name: BOUNDARY REF MON 57=CAN
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1407 Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	25	162 N	32 W	484901.12	944145.63		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1969	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SEE DESCRIPTION	IBWC

Description: (1917)

Stamping:

8.5 MILES NORTHWEST OF BAUDETTE, 0.5 MILE NORTHEAST ALONG TRUNK HIGHWAY 72 (INTERNATIONAL DRIVE) FROM THE JUNCTION OF TRUNK HIGHWAY 72 (INTERNATIONAL DRIVE) AND TRUNK HIGHWAY 11 (MAIN STREET EAST) IN BAUDETTE, TO THE CANADIAN BORDER, THEN 1.2 MILES NORTH ON CANADIAN HIGHWAY 600, THEN 7.0 MILES WEST AND NORTH ON RIVER ROAD, THEN 0.9 MILE EAST AND NORTHEAST ON OAK GROVE ROAD, 2600.0 FEET NORTHWEST OF MOUTH OF WILSON CREEK, 382.0 FEET SOUTHEAST OF OAK GROVE ROAD, EAST OF RAINY RIVER, IN THE WILD LANDS RESERVE, 0.5 MILE BELOW WILSON CREEK, JUST ABOVE THE BANK, NORTH OF LITTLE INLET.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1066.271	.262		970.884	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -95.850 12B = -95.856 09 = -95.741 03 = -95.702

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 49 01.11829	94 41 45.63070			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 49 01.09128	94 41 45.61221			.131	3	ADJUSTMENT	1989	17085

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 49 01.17000	94 41 44.82000			.100	3	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1231946.886	17744378.404	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1231948.062	17744375.640	.131	3	ADJUSTMENT	1989	17085

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	3	CLASSICAL SURVEY	1982	17020

BOUNDARY REF MON 581

Mn/DOT Name: BOUNDARY REF MON 581 **NGS Name:** BOUNDARY REF MON 581

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481928.66	920000.24		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092212/
USGS Quad: COLEMAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE NORTH SHORE OF LAC LA CROIX AT THE EAST END OF THE NARROWS NEARLY 3.0 MILES SOUTHEAST OF THE NORTH END OF COLEMAN ISLAND. THE MONUMENT IS CLOSE TO THE SHORE AT A RIGHT ANGLE OF THE SHORE LINE, THE SIDES OF WHICH GO NORTH AND EAST FROM THE MONUMENT. THERE IS A LONG LOW POINT 600.0 FEET EAST OF THE MONUMENT.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.878 12B = -104.852 09 = -104.829 03 = -104.875

BOUNDARY REF MON 583

Mn/DOT Name: BOUNDARY REF MON 583

NGS Name: BOUNDARY REF MON 583

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481910.40	915952.72		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091343/
USGS Quad: IRON LAKE OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON AN ISLAND ABOUT 200.0 FEET LONG, IN LAC LA CROIX, 0.5 MILE SOUTHEAST OF THE NARROWS THAT ARE 2.5 MILES SOUTHEAST OF THE NORTH END OF LAC LA CROIX. THERE ARE TWO LARGER ISLANDS ABOUT 1000.0 FEET DISTANT, ONE TO THE EAST AND THE OTHER TO THE NORTHEAST.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.852 12B = -104.829 09 = -104.803 03 = -104.846

BOUNDARY REF MON 585

Mn/DOT Name: BOUNDARY REF MON 585 **NGS Name:** BOUNDARY REF MON 585

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481849.60	920006.40		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092212/
USGS Quad: COLEMAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON AN ISLAND ABOUT 700.0 FEET IN DIAMETER, IN LAC LA CROIX, 0.66 MILE SOUTH OF THE NARROWS THAT ARE 2.5 MILES SOUTHEAST OF THE NORTH END OF COLEMAN ISLAND. THE MONUMENT IS ON THE WEST SIDE OF THE ISLAND, WHICH IS THE MOST WESTERN OF A GROUP. BOUNDARY REF MON 584 IS ABOUT 0.33 MILE TO THE NORTHWARD.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.806 12B = -104.783 09 = -104.754 03 = -104.796

BOUNDARY REF MON 587

Mn/DOT Name: BOUNDARY REF MON 587

NGS Name: BOUNDARY REF MON 587

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481849.64	920031.90		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092212/
USGS Quad: COLEMAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON A SMALL ISLAND IN LAC LA CROIX 300.0 FEET FROM THE EAST SHORE OF THE LAKE AND ABOUT A MILE DUE EAST OF THE NARROWS AT THE SOUTH END OF COLEMAN ISLAND. BOUNDARY REF MON 586 IS 1.25 MILES DUE NORTH.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.790 12B = -104.764 09 = -104.741 03 = -104.783

BOUNDARY REF MON 59

Mn/DOT Name: BOUNDARY REF MON 59

NGS Name: BOUNDARY REF MON 59

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1133 Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484839.64	944127.07		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1968	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	NGS

Description: (1913)

Stamping:

IN THE WILD LANDS RESERVE, SECTION 16, ON THE RIGHT SIDE OF THE RAINY RIVER, 8.5 MILES NORTHWEST OF BAUDETTE AND RAINY RIVER, ON THE NORTH SIDE OF THE MOUTH OF WILSON CREEK, THE MONUMENT IS JUST ABOVE THE BANK NEAR A LOG HOUSE, A WROUGHT IRON POST, ABOUT 12.0 INCH DIAMETER HIGH AND 2.0 INCH DIAMETER SQUARE, SET IN A SQUARE CONCRETE BASE.

Station Notes

REPORTED BY A LOCAL RESIDENT TO HAVE BEEN REMOVED BY A BULLDOZER 1968 (IBC).

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.817 12B = -95.823 09 = -95.712 03 = -95.672

BOUNDARY REF MON 59 A

Mn/DOT Name: BOUNDARY REF MON 59 A

NGS Name: BOUNDARY REF MON 59 A

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1134 Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484839.80	944126.81		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1957	1957	GOOD	Horz=? Vert=YES	NO		PROJECTS 5 IN.	SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	NGS

Description: (1957)

Stamping:

8.5 MILES NORTHWEST OF BAUDETTE AND THE RAINY RIVER BRIDGE, ON THE NORTH SIDE OF THE MOUTH OF WILSON CREEK, 25.0 FEET NORTH OF THE TOP OF THE CREEK BANK, 50.0 FEET EAST OF THE RIVER BANK, A TRIANGULATION TABLET SET IN THE TOP OF A CYLINDER OF CONCRETE 5.0 INCH DIAMETER AND 2.0 FEET LONG, SET VERTICALLY IN THE GROUND AND PROJECTING 5.0 INCHES ABOVE THE SURFACE IN OPEN GRASS GROUND.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.820 12B = -95.823 09 = -95.712 03 = -95.672

BOUNDARY REF MON 590

Mn/DOT Name: BOUNDARY REF MON 590

NGS Name: BOUNDARY REF MON 590

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481723.28	920049.88		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092212/
USGS Quad: COLEMAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=?	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

ON A POINT OF THE EAST SHORE OF LAC LA CROIX IN THE NARROWS ABOUT A MILE SOUTH OF THE SOUTH END OF COLEMAN ISLAND, AND 3.0 MILES NORTH OF THE MOUTH OF BOTTLE RIVER. REFERENCE MONUMENT 591 IS ABOUT 800.0 FEET DISTANT ON THE OPPOSITE POINT.

Stamping:

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

No Geoid Separations Available

BOUNDARY REF MON 591

Mn/DOT Name: BOUNDARY REF MON 591 **NGS Name:** BOUNDARY REF MON 591

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481720.33	920038.69		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092212/
USGS Quad: COLEMAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (2019) **Stamping:**

ON A POINT OF THE EAST SHORE OF LAC LA CROIX IN THE NARROWS ABOUT A MILE SOUTH OF THE SOUTH END OF COLEMAN ISLAND, AND 3.0 MILES NORTH OF THE MOUTH OF BOTTLE RIVER. BOUNDARY REF MON 590 IS ABOUT 800.0 FEET DISTANT ON THE OPPOSITE POINT.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.613 12B = -104.593 09 = -104.560 03 = -104.590

BOUNDARY REF MON 593

Mn/DOT Name: BOUNDARY REF MON 593 **NGS Name:** BOUNDARY REF MON 593

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481651.31	920014.43		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092212/
USGS Quad: COLEMAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE EAST SHORE OF LAC LA CROIX, 0.5 MILE SOUTH OF THE NARROWS SOUTH OF COLEMAN ISLAND, AND NEARLY 3.0 MILES NORTH OF THE MOUTH OF BOTTLE RIVER. ABOUT 1000.0 FEET TO THE NORTH IS A CLIFF AT THE SHORE LINE ON WHICH ARE SOME INDIAN PAINTINGS. BETWEEN THE CLIFF AND THE MONUMENT IS A DEEP BAY. BOUNDARY REF MON 592 IS ABOUT 0.33 MILE TO THE WESTWARD.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.567 12B = -104.550 09 = -104.514 03 = -104.537

BOUNDARY REF MON 595

Mn/DOT Name: BOUNDARY REF MON 595

NGS Name: BOUNDARY REF MON 595

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481615.74	920009.85		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092212/
USGS Quad: COLEMAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE EAST SHORE OF LAC LA CROIX, AT A RIGHT ANGLE OF THE SHORE LINE, WHERE THE SHORE GOES NORTH AND EAST FROM THE MONUMENT, 1.33 MILES SOUTH OF THE NARROWS SOUTH OF COLEMAN ISLAND, AND 2.0 MILES NORTH OF THE MOUTH BOTTLE RIVER. THERE IS A PROMINENT POINT ON THE SAME SHORE, 1000.0 FEET TO THE NORTH AND A SMALL ISLAND ABOUT THE SAME DISTANCE TO THE SOUTH. BOUNDARY REF MON 594 IS ABOUT 0.5 MILE TO THE SOUTHWEST.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.498 12B = -104.485 09 = -104.442 03 = -104.462

BOUNDARY REF MON 597

Mn/DOT Name: BOUNDARY REF MON 597

NGS Name: BOUNDARY REF MON 597

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481553.52	920000.39		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092212/
USGS Quad: COLEMAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON A VERY SMALL ISLAND IN LAC LA CROIX, 1.75 MILES SOUTH OF THE NARROWS SOUTH OF COLEMAN ISLAND, AND 1.5 MILES NORTH OF THE MOUTH OF BOTTLE RIVER, WHICH IS AT THE SOUTHEAST END OF THE LAKE. THERE ARE SMALL ISLANDS ABOUT 1000.0 FEET NORTH AND A LARGE ONE ABOUT THE SAME DISTANCE SOUTH. BOUNDARY REF MON 596 IS ABOUT 0.33 MILE TO THE SOUTHEAST.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.458 12B = -104.445 09 = -104.403 03 = -104.416

BOUNDARY REF MON 599

Mn/DOT Name: BOUNDARY REF MON 599 **NGS Name:** BOUNDARY REF MON 599

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481539.77	915916.77		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091343/
USGS Quad: IRON LAKE OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE SOUTHEAST END OF THE PENINSULA ON THE CANADIAN SHORE, ABOUT 2.5 MILES SOUTHEAST OF THE NARROWS THAT ARE SOUTH OF COLEMAN ISLAND, AND A MILE NORTHWEST OF THE MOUTH OF BOTTLE RIVER, WHICH IS AT THE SOUTHEAST END OF THE LAKE. THERE IS A SMALL ISLAND ABOUT 1000.0 FEET TO THE SOUTHEAST AND BOUNDARY REF MON 598 IS 1000.0 FEET SOUTHWEST.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.449 12B = -104.439 09 = -104.396 03 = -104.403

BOUNDARY REF MON 601

Mn/DOT Name: BOUNDARY REF MON 601

NGS Name: BOUNDARY REF MON 601

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481452.58	915847.59		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091343/
USGS Quad: IRON LAKE OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE SOUTHWEST POINT OF THE LARGE ISLAND AT THE MOUTH OF BOTTLE RIVER AT THE SOUTHEAST END OF LAC LA CROIX; ABOUT 400.0 FEET EAST OF BOUNDARY REF MON 600.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.363 12B = -104.353 09 = -104.308 03 = -104.301

BOUNDARY REF MON 603

Mn/DOT Name: BOUNDARY REF MON 603

NGS Name: BOUNDARY REF MON 603

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481450.14	915837.58		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091343/
USGS Quad: IRON LAKE OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE SOUTHEAST END OF THE LARGE ISLAND AT THE MOUTH OF BOTTLE RIVER, ON A SMALL RISE JUST ABOVE THE HIGH-WATER MARK AND CLOSE TO THE SHORE. BOUNDARY REF MON 602 IS ABOUT 270.0 FEET TO THE SOUTH.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.360 12B = -104.353 09 = -104.304 03 = -104.298

BOUNDARY REF MON 605

Mn/DOT Name: BOUNDARY REF MON 605 **NGS Name:** BOUNDARY REF MON 605

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481448.42	915832.92		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091343/
USGS Quad: IRON LAKE OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON THE SHORE AT THE SOUTHEAST END OF LAC LA CROIX JUST EAST OF THE MOUTH OF BOTTLE RIVER, AND 300.0 FEET FROM THE SOUTHEAST END OF THE LARGE ISLAND AT THE MOUTH OF BOTTLE RIVER; 30.0 FEET FROM THE SHORE LINE AND CLOSE TO THE HIGH-WATER MARK. BOUNDARY REF MON 602 IS ABOUT 340.0 FEET TO THE WESTWARD.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.357 12B = -104.350 09 = -104.304 03 = -104.294

BOUNDARY REF MON 607

Mn/DOT Name: BOUNDARY REF MON 607 **NGS Name:** BOUNDARY REF MON 607

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481445.44	915837.42		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091334/
USGS Quad: IRON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921) **Stamping:**

ON THE RIGHT BANK OF THE BOTTLE RIVER, 300.0 FEET FROM THE MOUTH OF THE RIVER; ABOUT 30.0 FEET EAST OF THE STONY BED OF THE RIVER AND CLOSE TO THE HIGH-WATER MARK TO THE SOUTH. BOUNDARY REF MON 604 IS ABOUT 150.0 FEET TO THE NORTHEAST.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.350 12B = -104.344 09 = -104.294 03 = -104.285

BOUNDARY REF MON 609

Mn/DOT Name: BOUNDARY REF MON 609 **NGS Name:** BOUNDARY REF MON 609

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481444.51	915838.33		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091334/
USGS Quad: IRON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921) **Stamping:**

ON THE RIGHT BANK OF THE BOTTLE RIVER, 400.0 FEET FROM THE MOUTH OF THE RIVER, JUST ABOVE THE HIGH-WATER MARK AT THE EDGE OF THE STONY BED OF THE RIVER. THE HIGH-WATER MARK TURNS HERE FROM A WESTERLY TO A NORTHERLY DIRECTION. BOUNDARY REF MON 606 IS ABOUT 100.0 FEET TO THE WESTWARD.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.347 12B = -104.340 09 = -104.291 03 = -104.285

BOUNDARY REF MON 61

Mn/DOT Name: BOUNDARY REF MON 61 **NGS Name:** BOUNDARY REF MON 61

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484800.88	944133.60		

NGS ACRN: TC1137 Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1937	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	NGS

Description: (1913) **Stamping:**

IN THE WILD LANDS RESERVE, SECTION 24, ON THE RIGHT SIDE OF THE RAINY RIVER, 7.5 MILES NORTHWEST OF BAUDETTE AND RAINY RIVER, 0.7 MILE SOUTH OF WILSON CREEK, WELL ABOVE THE BANK IN A SMALL CLEARING, EAST AND A LITTLE NORTH OF BOUNDARY REF MON 62, A WROUGHT IRON POST, ABOUT 12.0 INCH DIAMETER HIGH AND 2.0 INCH DIAMETER SQUARE, SET IN A SQUARE CONCRETE BASE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.718 12B = -95.715 09 = -95.613 03 = -95.581

BOUNDARY REF MON 61 1937

Mn/DOT Name: BOUNDARY REF MON 61 1937 **NGS Name:** REF MON 61 37

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1138 Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484800.85	944133.55		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1937	1968	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	NGS

Description:

IN THE WILD LANDS RESERVE, SECTION 24, ON THE RIGHT SIDE OF THE RAINY RIVER, 7.5 MILES NORTHWEST OF BAUDETTE AND RAINY RIVER, 0.7 MILE SOUTH OF WILSON CREEK.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.718 12B = -95.715 09 = -95.613 03 = -95.581

BOUNDARY REF MON 611

Mn/DOT Name: BOUNDARY REF MON 611

NGS Name: BOUNDARY REF MON 611

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481443.03	915831.60		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091334/
USGS Quad: IRON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE RIGHT SIDE OF THE BOTTLE RIVER, 200.0 FEET NORTH OF THE ANGLE OF THE SHORE LINE IN THE MOST SOUTHERN EXPANSION OF THE RIVER; 15.0 OR 20.0 FEET ABOVE THE HIGH-WATER MARK. BOUNDARY REF MON 610 IS ABOUT 400.0 FEET TO THE SOUTHEAST AND BOUNDARY REF MON 608 ABOUT 430.0 FEET TO THE WESTWARD.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.347 12B = -104.340 09 = -104.291 03 = -104.281

BOUNDARY REF MON 613

Mn/DOT Name: BOUNDARY REF MON 613

NGS Name: BOUNDARY REF MON 613

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481446.83	915827.17		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091334/
USGS Quad: IRON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE RIGHT BANK OF THE BOTTLE RIVER, AT THE NORTH END OF THE NARROW STONY PART BETWEEN THE TWO EXPANSIONS OF THE RIVER. BOUNDARY REF MON 612 IS ABOUT 170.0 FEET EAST AND REFERENCE MONUMENT 605 ABOUT 420.0 FEET NORTHWEST.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.357 12B = -104.350 09 = -104.304 03 = -104.291

BOUNDARY REF MON 615

Mn/DOT Name: BOUNDARY REF MON 615

NGS Name: BOUNDARY REF MON 615

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481459.96	915818.13		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091334/
USGS Quad: IRON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE RIGHT BANK OF THE BOTTLE RIVER AT A RIGHT-ANGLE TURN OF THE HIGH-WATER MARK 0.25 MILE SOUTH OF THE HEAD OF THE RIVER AND 500.0 FEET NORTHWEST OF THE NORTHERN EXPANSION OF THE RIVER. BOUNDARY REF MON 614 IS 800.0 FEET TO THE SOUTHEAST.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.386 12B = -104.380 09 = -104.337 03 = -104.327

BOUNDARY REF MON 617

Mn/DOT Name: BOUNDARY REF MON 617

NGS Name: BOUNDARY REF MON 617

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481502.51	915823.05		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091343/
USGS Quad: IRON LAKE OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE RIGHT SIDE OF THE BOTTLE RIVER, ON A SMALL CLIFF AT A BEND OF THE RIVER ABOUT 1000.0 FEET SOUTH OF THE HEAD OF THE RIVER. THE MONUMENT IS ABOUT 100.0 FEET FROM THE SHORE AND 20.0 FEET ABOVE THE LEVEL OF THE RIVER. BOUNDARY REF MON 616 IS ABOUT 300.0 FEET TO THE EASTWARD.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.393 12B = -104.383 09 = -104.340 03 = -104.331

BOUNDARY REF MON 619

Mn/DOT Name: BOUNDARY REF MON 619

NGS Name: BOUNDARY REF MON 619

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481510.02	915820.70		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091343/
USGS Quad: IRON LAKE OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE RIGHT SIDE OF THE BOTTLE RIVER, 400.0 FEET SOUTHWEST OF THE HEAD OF THE RIVER, ON THE HILLSIDE 100.0 FEET FROM AND 30.0 FEET ABOVE THE RIVER. BOUNDARY REF MON 618 IS ABOUT 400.0 FEET EAST.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.409 12B = -104.399 09 = -104.357 03 = -104.350

BOUNDARY REF MON 621

Mn/DOT Name: BOUNDARY REF MON 621 **NGS Name:** BOUNDARY REF MON 621

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481511.15	915817.66		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091343/
USGS Quad: IRON LAKE OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921) **Stamping:**

ON THE RIGHT BANK OF THE BOTTLE RIVER, 200.0 FEET FROM THE HEAD OF THE RIVER, A LITTLE BELOW THE LEVEL OF IRON LAKE. BOUNDARY REF MON 618 IS ABOUT 200.0 FEET EAST.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.413 12B = -104.403 09 = -104.363 03 = -104.353

BOUNDARY REF MON 622

Mn/DOT Name: BOUNDARY REF MON 622

NGS Name: BOUNDARY REF MON 622

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481516.80	915808.81		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091343/
USGS Quad: IRON LAKE OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE NORTH SHORE OF THE NORTHWEST ARM OF IRON LAKE, ON TOP OF THE CLIFF OPPOSITE THE ENTRANCE TO BOTTLE RIVER, ABOUT 100.0 FEET FROM AND 35.0 FEET ABOVE THE LAKE; ABOUT 500.0 FEET EAST OF BOTTLE PORTAGE. BOUNDARY REF MON 620 IS ABOUT 500.0 FEET SOUTH.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.426 12B = -104.416 09 = -104.380 03 = -104.370

BOUNDARY REF MON 623

Mn/DOT Name: BOUNDARY REF MON 623 **NGS Name:** BOUNDARY REF MON 623

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481517.10	915733.55		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091343/
USGS Quad: IRON LAKE OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON THE NORTH SHORE OF THE NORTHWEST ARM OF IRON LAKE AND 0.5 MILE EAST OF BOTTLE PORTAGE AND BOTTLE RIVER. THE MONUMENT IS ON TOP OF A VERY LARGE BOULDER. REFERENCE MONUMENT 622 IS ABOUT 0.5 MILE DUE WEST.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.435 12B = -104.429 09 = -104.396 03 = -104.380

BOUNDARY REF MON 625

Mn/DOT Name: BOUNDARY REF MON 625

NGS Name: BOUNDARY REF MON 625

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481508.95	915723.04		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091343/
USGS Quad: IRON LAKE OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE NORTH SHORE OF THE NORTHWEST ARM OF IRON LAKE, ON THE POINT 0.66 MILE EAST OF BOTTLE PORTAGE AND 600.0 FEET WEST OF THE SHALLOW ROCKY NARROWS BETWEEN THE NORTHWEST ARM AND THE MAIN BODY OF THE LAKE. THE ROCK ON WHICH THE MONUMENT IS SITUATED IS CUT OFF FROM THE SHORE AT HIGH WATER. BOUNDARY REF MON 624 IS 600.0 FEET TO THE WESTWARD.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.422 12B = -104.413 09 = -104.383 03 = -104.363

BOUNDARY REF MON 627

Mn/DOT Name: BOUNDARY REF MON 627

NGS Name: BOUNDARY REF MON 627

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481505.85	915723.04		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091343/
USGS Quad: IRON LAKE OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE EAST SIDE OF THE SHALLOW ROCKY NARROWS BETWEEN THE NORTHWEST ARM AND THE MAIN BODY OF IRON LAKE, ABOUT 0.75 MILE EAST OF BOTTLE PORTAGE; CLOSE TO THE SHORE AND THE HIGH-WATER MARK. REFERENCE MONUMENT 625 IS 700.0 FEET TO THE WESTWARD.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.416 12B = -104.406 09 = -104.376 03 = -104.353

BOUNDARY REF MON 629

Mn/DOT Name: BOUNDARY REF MON 629

NGS Name: BOUNDARY REF MON 629

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481457.31	915708.80		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091334/
USGS Quad: IRON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE NORTH SHORE OF IRON LAKE, 1000.0 FEET SOUTH OF THE SHALLOW ROCKY NARROWS THAT CONNECT THE NORTHWEST ARM WITH THE MAIN BODY OF THE LAKE; ABOUT 50.0 FEET FROM THE SHORE AND 10.0 FEET ABOVE THE HIGH-WATER MARK.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.399 12B = -104.393 09 = -104.363 03 = -104.340

BOUNDARY REF MON 63

Mn/DOT Name: BOUNDARY REF MON 63

NGS Name: BOUNDARY REF MON 63

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1140 Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484730.48	944132.76		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1937	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	NGS

Description: (1913)

Stamping:

IN THE WILD LANDS RESERVE, SECTION 32, ON THE RIGHT SIDE OF THE RAINY RIVER, 7.0 MILES NORTHWEST OF BAUDETTE AND RAINY RIVER, 0.25 MILE NORTH OF A SMALL CREEK, THE MONUMENT IS CLOSE TO THE SHORE AND ABOVE THE BANK, A WROUGHT IRON POST, ABOUT 12.0 INCH DIAMETER HIGH AND 2.0 INCH DIAMETER SQUARE, SET IN A SQUARE CONCRETE BASE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.646 12B = -95.640 09 = -95.544 03 = -95.518

BOUNDARY REF MON 631

Mn/DOT Name: BOUNDARY REF MON 631

NGS Name: BOUNDARY REF MON 631

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481448.30	915650.50		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091334/
USGS Quad: IRON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE NORTH SHORE OR THE BAY IN IRON LAKE, 0.5 MILE SOUTHEAST OF THE SHALLOW ROCKY NARROWS THAT CONNECT THE NORTHWEST ARM WITH THE MAIN BODY OF THE LAKE; 500.0 FEET EAST AND A LITTLE NORTH OF THE EAST END OF THE ISLAND ON WHICH BOUNDARY REF MON 632 IS SITUATED. THE MONUMENT IS CLOSE TO THE SHORE AND THE HIGH-WATER MARK.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.386 12B = -104.383 09 = -104.350 03 = -104.324

BOUNDARY REF MON 633

Mn/DOT Name: BOUNDARY REF MON 633

NGS Name: BOUNDARY REF MON 633

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481441.35	915649.02		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091334/
USGS Quad: IRON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON A POINT OF THE SOUTH SHORE OF THE BAY ON THE EAST SIDE OF IRON LAKE 0.5 MILE SOUTHEAST OF THE SHALLOW ROCKY NARROWS THAT CONNECT THE NORTHWEST ARM WITH THE MAIN BODY OF THE LAKE. BOUNDARY REF MON 632 IS ABOUT 1000.0 FEET WEST AND A LITTLE NORTH.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.373 12B = -104.367 09 = -104.334 03 = -104.308

BOUNDARY REF MON 635

Mn/DOT Name: BOUNDARY REF MON 635 **NGS Name:** BOUNDARY REF MON 635

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481432.82	915724.14		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091334/
USGS Quad: IRON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON AN ISLAND IN IRON LAKE ABOUT 0.75 MILE SOUTH OF THE SHALLOW ROCKY NARROWS THAT CONNECT THE NORTHWEST ARM WITH THE MAIN BODY OF THE LAKE, AND 300.0 FEET WEST OF A CLIFF ON THE POINT ON THE NORTHEAST SHORE. THE MONUMENT IS ON A KNOLL ON THE WEST END OF THE ISLAND. BOUNDARY REF MON 632 IS ABOUT 2000.0 FEET TO THE NORTHEAST.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.347 12B = -104.340 09 = -104.301 03 = -104.278

BOUNDARY REF MON 637

Mn/DOT Name: BOUNDARY REF MON 637

NGS Name: BOUNDARY REF MON 637

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481411.03	915725.74		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091334/
USGS Quad: IRON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON A SMALL ISLAND IN IRON LAKE, A MILE SOUTH OF THE SHALLOW ROCKY NARROWS THAT CONNECT THE NORTHWEST ARM WITH THE MAIN BODY OF THE LAKE, AND 500.0 FEET WEST OF THE WEST END OF FOUR ISLAND, THE MILE-LONG ISLAND SOUTHWEST OF REBECCA FALLS. BOUNDARY REF MON 635 IS NEARLY 0.5 MILE NORTH AND BOUNDARY REF MON 636 IS ABOUT 1000.0 FEET NORTHWEST.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.301 12B = -104.298 09 = -104.248 03 = -104.226

BOUNDARY REF MON 639

Mn/DOT Name: BOUNDARY REF MON 639
NGS Name: BOUNDARY REF MON 639
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481359.96	915709.54		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091334/
USGS Quad: IRON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON A SMALL ISLAND IN IRON LAKE 1.33 MILES SOUTH OF THE SHALLOW ROCKY NARROWS THAT CONNECT THE NORTHWEST ARM WITH THE MAIN BODY OF THE LAKE. THE ISLAND IS CLOSE TO A LARGER ONE WHICH EXTENDS ABOUT 2000.0 FEET SOUTH AND IS CONNECTED TO IT AT EXTREME LOW WATER. THE MONUMENT IS 1500.0 FEET SOUTH OF THE WEST END OF FOUR ISLAND, THE MILE-LONG ISLAND SOUTHWEST OF REBECCA FALLS. BOUNDARY REF MON 640 IS ABOUT 200.0 FEET SOUTH AND BOUNDARY REF MON 637 IS 1500.0 FEET NORTHWEST.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.281 12B = -104.278 09 = -104.229 03 = -104.206

BOUNDARY REF MON 647

Mn/DOT Name: BOUNDARY REF MON 647

NGS Name: BOUNDARY REF MON 647

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	6	66 N	12 W	481415.28	915519.57		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091334/
USGS Quad: IRON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON AN ISLAND ABOUT 300.0 FEET LONG IN IRON LAKE, 400.0 FEET EAST OF THE POINT ON WHICH BOUNDARY REF MON 645 IS LOCATED, AT THE MOUTH OF CURTAIN RIVER, 0.75 MILE DUE WEST OF CURTAIN FALLS, BOUNDARY REF MON 646 IS ABOUT 800.0 FEET SOUTHEAST.

Station Notes

A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.344 12B = -104.340 09 = -104.304 03 = -104.268

BOUNDARY REF MON 649

Mn/DOT Name: BOUNDARY REF MON 649

NGS Name: BOUNDARY REF MON 649

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	6	66 N	12 W	481450.61	915451.08		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091334/
USGS Quad: IRON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE NORTH SIDE OF THE CURTAIN RIVER, 0.5 MILE WEST OF CURTAIN FALLS, ABOUT 400.0 FEET WEST OF THE ENTRANCE TO A BAY THAT IS ABOUT 1000.0 FEET DEEP, BOUNDARY REF MON 648 IS ABOUT 350.0 FEET TO THE SOUTH.

Station Notes

A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.426 12B = -104.416 09 = -104.399 03 = -104.357

BOUNDARY REF MON 651

Mn/DOT Name: BOUNDARY REF MON 651

NGS Name: BOUNDARY REF MON 651

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	6	66 N	12 W	481419.04	915445.05		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091334/
USGS Quad: IRON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type
ROCK (1 TO 3 METERS)

Disk Type
METAL ROD

Mon. Agency
IBWC

Description: (1921)

Stamping:

ON A BOULDER ABOUT 1.0 - 5.0 FEET HIGH, CLOSE TO THE POINT NORTH OF THE RAPIDS, JUST CAST OF THE ISLAND, 200.0 FEET IN DIAMETER, IN CURTAIN RIVER, 0.33 MILE WEST OF CURTAIN FANS AND SOUTH OF THE BAY ON THE NORTH SHORE BOUNDARY REF MON 650 IS ABOUT 300.0 FEET SOUTHWEST.

Station Notes

A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.360 12B = -104.357 09 = -104.327 03 = -104.281

BOUNDARY REF MON 653

Mn/DOT Name: BOUNDARY REF MON 653

NGS Name: BOUNDARY REF MON 653

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	6	66 N	12 W	481419.93	915434.51		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091334/
USGS Quad: IRON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE NORTH SIDE OF THE CURTAIN RIVER, ABOUT 1000.0 FEET WEST OF CURTAIN FALLS, NEAR THE EAST END OF THE PORTAGE FROM THE SMOOTH STRETCH OF THE RIVER TO THE STILL WATER SOUTH OF THE BAY ; ABOUT 75.0 FEET FROM THE SHORE AND 20.0 FEET ABOVE THE HIGH-WATER MARK, REFERENCE MONUMENT 651 IS ABOUT 700.0 FEET WEST, NEAR THE WEST END OF THE PORTAGE.

Station Notes

A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.367 12B = -104.360 09 = -104.331 03 = -104.288

BOUNDARY REF MON 655

Mn/DOT Name: BOUNDARY REF MON 655

NGS Name: BOUNDARY REF MON 655

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	5	66 N	12 W	481417.65	915422.36		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091334/
USGS Quad: IRON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE NORTH SHORE OF THE CURTAIN RIVER, ABOUT 250.0 FEET NORTHWEST OF CURTAIN FALLS, ON A KNOLL BETWEEN THE MAIN RIDGE AND THE RIVER, 125.0 FEET FROM THE SHORE AND 25.0 FEET ABOVE THE HIGH-WATER MARK. REFERENCE MONUMENT 653 IS ABOUT 850.0 FEET TO THE WESTWARD.

Station Notes

A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.367 12B = -104.360 09 = -104.331 03 = -104.285

BOUNDARY REF MON 657

Mn/DOT Name: BOUNDARY REF MON 657

NGS Name: BOUNDARY REF MON 657

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	5	66 N	12 W	481417.97	915418.39		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091334/
USGS Quad: IRON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

AT THE WEST END OF CROOKED LAKE ABOUT 328.1 FEET NORTHEAST OF THE HEAD OF CURTAIN FALLS. STATION BOUNDARY REF MON 657 IS ON THE TOP OF A ROCKY POINT ABOUT 49.2 FEET BACK FROM THE WATER.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.367 12B = -104.360 09 = -104.334 03 = -104.285

BOUNDARY REF MON 659

Mn/DOT Name: BOUNDARY REF MON 659

NGS Name: BOUNDARY REF MON 659

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	5	66 N	12 W	481416.77	915410.58		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091334/
USGS Quad: IRON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE WEST SHORE OF CROOKED LAKE, ABOUT 0.2 MILE EAST OF CURTAIN FALLS. STATION BOUNDARY REF MON 659 IS ON A GRANITE POINT ABOUT 13.1 FEET ABOVE THE LAKE.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.367 12B = -104.360 09 = -104.334 03 = -104.285

BOUNDARY REF MON 661

Mn/DOT Name: BOUNDARY REF MON 661 **NGS Name:** BOUNDARY REF MON 661

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	5	66 N	12 W	481422.36	915314.04		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091334/
USGS Quad: IRON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE NORTH SHORE OF CROOKED LAKE, ABOUT 0.88 MILE EAST OF CURTAIN FALLS, STATION BOUNDARY REF MON 661 IS ON THE HIGH GRANITE POINT JUST SOUTH OF THE MOUTH OF SARAH RIVER, THE STREAM THROUGH WHICH ROLAND LAKE DISCHARGES INTO CROOKED LAKE, IT IS ON A SHOULDER OF THE POINT ABOUT 328.1 FEET BACK FROM THE SHORE LINE ON THE WEST AND ABOUT 98.4 FEET ABOVE THE LAKE LEVEL.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.396 12B = -104.386 09 = -104.367 03 = -104.311

BOUNDARY REF MON 663

Mn/DOT Name: BOUNDARY REF MON 663

NGS Name: BOUNDARY REF MON 663

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	5	66 N	12 W	481341.93	915259.74		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091334/
USGS Quad: IRON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON CROOKED LAKE, ABOUT 1.25 MILES SOUTHEAST OF CURTAIN FALLS, STATION BOUNDARY REF MON 663 IS ON THE SOUTHWEST POINT OF THE LARGE ISLAND IN THE MIDDLE OF THE LARGE OPEN NORTHWEST PART OF THE LAKE, THIS POINT OF THE ISLAND IS ALMOST AN ISLAND ITSELF, BEING CONNECTED TO THE MAIN ISLAND BY ONLY A LOW REEF OF ROCKS, STATION BOUNDARY REF MON 663 IS IN THE SOLID LEDGE ABOUT 9.8 FEET BACK FROM THE WATER.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.308 12B = -104.301 09 = -104.268 03 = -104.212

BOUNDARY REF MON 666

Mn/DOT Name: BOUNDARY REF MON 666 **NGS Name:** BOUNDARY REF MON 666

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	9	66 N	12 W	481313.90	915159.37		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091331/
USGS Quad: FRIDAY BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON CROOKED LAKE, ABOUT 2.25 MILES SOUTHEAST OF CURTAIN FALLS, THERE ARE THREE SMALL ISLANDS LYING IN A NORTH AND SOUTH ROW JUST OFF THE CANADIAN SHORE, THE LENGTH OF THE ROW IS ABOUT 0.37 MILE, STATION BOUNDARY REF MON 666 IS ON THE MIDDLE ONE OF THIS ROW OF ISLANDS, THERE IS A LARGE AND VERY IRREGULARLY SHAPED ISLAND ABOUT 0.22 MILE SOUTHWEST OF STATION BOUNDARY REF MON 666, THE ISLAND ON WHICH STATION BOUNDARY REF MON 666 IS SITUATED LIES NOT MORE THAN 164.0 FEET OFFSHORE FROM A RUGGED AND SHARP POINT OF THE MAINLAND, STATION BOUNDARY REF MON 666 IS ON THE WEST POINT OF THE ISLAND, ON A LARGE FIAT-TOPPED ROCK, PARTIALLY IN THE WATER, WHOSE DIMENSIONS ARE ABOUT 9.8 BY 9.8 FEET IN CROSS SECTION AND 9.8 FEET HIGH.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.248 12B = -104.245 09 = -104.216 03 = -104.147

BOUNDARY REF MON 668

Mn/DOT Name: BOUNDARY REF MON 668 **NGS Name:** BOUNDARY REF MON 668

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	15	66 N	12 W	481239.02	915050.51		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091331/
USGS Quad: FRIDAY BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON CROOKED LAKE, ABOUT 3.25 MILES SOUTHEAST OF CURTAIP FALLS, STATION BOUNDARY REF MON 668 IS ON A SMALL ISLAND LYING ABOUT 164.0 FEET SOUTH OF THE CANADIAN SHORE AND ABOUT 164.0 FEET NORTH OF THE EAST END OF A VERY LARGE, LONG ISLAND. THERE IS ANOTHER SMALL ISLAND, ABOUT THE SIZE OF THE ISLAND STATION BOUNDARY REF MON 668 IS ON, HALFWAY BETWEEN STATION BOUNDARY REF MON 668 AND THE LARGE ISLAND THE SHORE OF THE MAINLAND NORTH OF STATION BOUNDARY REF MON 668 IS VERY REGULAR AND HAS AN EAST AND WEST DIRECTION FOR MORE THAN A HALF MILE IN EITHER DIRECTION, STATION BOUNDARY REF MON 668 IS ON A LARGE LONE BOULDER ON THE HIGHEST PART OF THE ISLAND.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN: THE BOULDER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.173 12B = -104.170 09 = -104.143 03 = -104.058

BOUNDARY REF MON 67

Mn/DOT Name: BOUNDARY REF MON 67

NGS Name: BOUNDARY REF MON 67

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	17	161 N	31 W	484618.17	944020.24		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1922	1922	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1922)

Stamping:

5.5 MILES NORTHWEST OF BAUDETTE, IN THE WILD LANDS RESERVE, SECTION 41, ON THE EAST BANK OF THE RAINY RIVER, 1.0 MILE SOUTHEAST OF THE MOUTH OF WABANICA CREEK, BETWEEN THE ROAD AND THE RIVER BANK, IN FRONT OF THE FARMHOUSE OF FRANK REID, 400.0 FEET SOUTH OF THE BEND IN THE ROAD, 18.0 FEET FROM THE BANK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.551 12B = -95.531 09 = -95.446 03 = -95.436

BOUNDARY REF MON 672

Mn/DOT Name: BOUNDARY REF MON 672 **NGS Name:** BOUNDARY REF MON 672

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	14	66 N	12 W	481241.08	914935.87		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091331/
USGS Quad: FRIDAY BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921) **Stamping:**

ON CROOKED LAKE, ABOUT 4.75 MILES EAST ALONG THE BOUNDARY CHANNEL FROM CURTAIN FALLS, STATION BOUNDARY REF MON 672 IS ON A LARGE L-SHAPED ISLAND LYING ABOUT 0.3 MILE SOUTH OF A NARROW WEDGE-SHAPED BAY THAT INDENTS THE NORTH SHORE OF THIS PART OF THE LAKE, IT IS ON THE SOUTH LEDGE OF THE EAST PART OF THE ISLAND, ON THE HIGH, LEVEL TOP, ABOUT 29.5 FEET ABOVE THE WATER.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.193 12B = -104.189 09 = -104.170 03 = -104.075

BOUNDARY REF MON 673

Mn/DOT Name: BOUNDARY REF MON 673 **NGS Name:** BOUNDARY REF MON 673

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	14	66 N	12 W	481245.45	914919.41		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091331/
USGS Quad: FRIDAY BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON CROOKED LAKE, ABOUT 5.0 MILES EAST ALONG THE BOUNDARY CHANNEL FROM CURTAIN FALLS, STATION BOUNDARY REF MON 673 IS ON A SMALL ISLAND ABOUT 0.4 MILE WEST OF THE LARGEST ISLAND IN THIS PART OF THE LAKE, AND ABOUT 0.1 MILE EAST OF THE NEXT LARGE ISLAND TO THE WEST OF THE LARGEST ONE BEFORE MENTIONED, IT IS ON THE HIGH PART OF THE SOUTH END OF THE LITTLE ISLAND.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.209 12B = -104.206 09 = -104.186 03 = -104.088

BOUNDARY REF MON 674

Mn/DOT Name: BOUNDARY REF MON 674

NGS Name: BOUNDARY REF MON 674

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	13	66 N	12 W	481241.89	914850.14		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091331/
USGS Quad: FRIDAY BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON CROOKED LAKE, ABOUT 5.5 MILES EAST OF CURTAIN FALLS, STATION BOUNDARY REF MON 674 IS ON THE NORTHWEST POINT OF A LARGE ISLAND LYING BETWEEN A LARGE NORTHERN BAY AND A LARGE , SOUTHERN BAY OF THE LAKE, IT IS ON A LEDGE ABOUT 4.9 FEET ABOVE THE WATER AND NEAR THE SHORE LINE.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.206 12B = -104.206 09 = -104.186 03 = -104.084

BOUNDARY REF MON 676

Mn/DOT Name: BOUNDARY REF MON 676

NGS Name: BOUNDARY REF MON 676

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	13	66 N	12 W	481229.12	914843.84		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091331/
USGS Quad: FRIDAY BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type
ROCK (1 TO 3 METERS)

Disk Type
METAL ROD

Mon. Agency
IBWC

Description: (1921)

Stamping:

ON CROOKED LAKE, ABOUT 5.0 MILES ALONG THE BOUNDARY CHANNEL EAST OF CURTAIN FALLS, STATION BOUNDARY REF MON 676 IS ON THE SOUTHWESTERN POINT OF THE LARGEST ISLAND IN THIS PART OF THE LAKE, THE NARROW BOUNDARY CHANNEL PASSES TO THE SOUTH AND WEST OF THE ISLAND.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN A ROUND ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.176 12B = -104.176 09 = -104.150 03 = -104.048

BOUNDARY REF MON 677

Mn/DOT Name: BOUNDARY REF MON 677 **NGS Name:** BOUNDARY REF MON 677

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	13	66 N	12 W	481226.04	914833.81		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091331/
USGS Quad: FRIDAY BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

NEAR THE MIDDLE OF CROOKED LAKE, ABOUT 5.0 MILES EAST OF CURTAIN FALLS, STATION BOUNDARY REF MON 677 IS ON THE MOST SOUTHERN PROJECTING POINT OF A LARGE ISLAND LYING AT THE EAST ENTRANCE TO A RATHER NARROW EAST AND WEST PASSAGE OR CHANNEL OF THE LAKE, IT IS ABOUT 4.9 FEET ABOVE THE WATER.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE BARE ROCK OF THE POINT.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.170 12B = -104.173 09 = -104.147 03 = -104.039

BOUNDARY REF MON 680

Mn/DOT Name: BOUNDARY REF MON 680 **NGS Name:** BOUNDARY REF MON 680

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	18	66 N	11 W	481212.29	914747.04		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091331/
USGS Quad: FRIDAY BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

NEAR THE MIDDLE OF CROOKED LAKE. STATION BOUNDARY REF MON 680 IS ON THE NORTHERN AND SMALLER OF THE TWO LARGE ISLANDS THAT LIE IN THE CENTER OF THE LAKE AND NORTH OF THE WIDE ENTRANCE TO THE SECOND FROM THE EAST OF THE FOUR LARGE SOUTHERN BAYS OF THE LAKE. IT IS ON A LARGE ROCK OFF THE WEST POINT OF THE ISLAND, ABOUT 6.6 FEET ABOVE THE WATER LEVEL.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.143 12B = -104.147 09 = -104.121 03 = -104.006

BOUNDARY REF MON 681

Mn/DOT Name: BOUNDARY REF MON 681 **NGS Name:** BOUNDARY REF MON 681

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	18	66 N	11 W	481231.03	914657.53		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091331/
USGS Quad: FRIDAY BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE NORTH SIDE OF CROOKED LAKE, ABOUT 6.0 MILES BY AIR LINE, OR ABOUT 7.0 MILES BY THE LAKE CHANNEL, EAST OF CURTAIN FALLS, STATION BOUNDARY REF MON 681 IS ON ONE OF THE VERY LARGE NORTHERN PENINSULAS WHICH EXTEND IN A LARGE IRREGULAR MASS IN A SOUTHEAST DIRECTION FROM A LOW NARROW ISTHMUS. IT IS ON THE HIGHEST HILL ON THE SOUTHERN PART OF THIS PENINSULA, THERE IS A SMALL LAKE IN A HOLLOW OF THE HILLS JUST NORTH OF STATION BOUNDARY REF MON 681 AND A LONG NARROW LAGOON HEADS AT THE FOOT OF THE STEEP HILL JUST SOUTH OF STATION BOUNDARY REF MON 681 AND CONNECTS WITH THE LAKE ABOUT 1.0 MILE TO THE EAST, THERE IS ONLY A SLIGHT BARRIER BETWEEN THE HEAD OF THE LAGOON AND THE OPEN WATER OF THE LAKE, STATION BOUNDARY REF MON 681 IS ON THE BARE SUMMIT OF THE HILL ABOUT 147.63 FEET ABOVE THE LAKE LEVEL AND ABOUT 984.3 FEET NORTH FROM THE OPEN WATER OF THE MAIN CHANNEL OF THE LAKE.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.203 12B = -104.203 09 = -104.186 03 = -104.068

BOUNDARY REF MON 682

Mn/DOT Name: BOUNDARY REF MON 682 **NGS Name:** BOUNDARY REF MON 682

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	18	66 N	11 W	481150.09	914715.14		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091331/
USGS Quad: FRIDAY BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON CROOKED LAKE, ABOUT 2.13 MILES WEST OF THE EAST ENTRANCE TO THE LARGE IRREGULAR MAIN BODY OF THE LAKE, STATION BOUNDARY REF MON 682 IS ON THE EXTREME SOUTHERN TIP OF THE LARGE HIGH TIMBERED ISLAND THAT LIES AT THE WEST END OF THE MAIN EAST AND WEST CHANNEL OF THE LAKE, THIS IS THE THIRD ISLAND IN THE CHANNEL AS APPROACHED FROM THE EAST, THE BOUNDARY PASSING AROUND ITS SOUTH END.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.094 12B = -104.098 09 = -104.068 03 = -103.947

BOUNDARY REF MON 686

Mn/DOT Name: BOUNDARY REF MON 686 **NGS Name:** BOUNDARY REF MON 686

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	17	66 N	11 W	481206.93	914552.68		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091331/
USGS Quad: FRIDAY BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE NORTH SHORE OF CROOKED LAKE. STATION BOUNDARY REF MON 686 IS ON THE NORTH SIDE OF THE MAIN CHANNEL THROUGH THE LAKE, ABOUT 1.0 MILE WEST OF THE NARROWS AND RAPIDS AT THE EAST ENTRANCE TO THE LOWER LEVEL OF THE LAKE. IT IS ON THE END OF A FINGERLIKE PROJECTION OF THE SHORE LINE THAT TERMINATES IN A PROMINENT KNOLL. THERE ARE DEEP INDENTATIONS OF THE SHORE LINE ON BOTH SIDES OF THE POINT. THE DOUBLE POINT AT THE NORTH END OF THE LONG NARROW PENINSULA THAT REACHES UP FROM THE SOUTH LIES JUST ACROSS THE CHANNEL TO THE EAST FROM THE STATION. STATION BOUNDARY REF MON 686 IS ON THE GRANITE LEDGE ON THE SUMMIT OF THE KNOLL.

Station Notes

A STANDARD 8.0 INCH MANGANESE-BRONZE .REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.157 12B = -104.166 09 = -104.137 03 = -104.009

BOUNDARY REF MON 688

Mn/DOT Name: BOUNDARY REF MON 688 **NGS Name:** BOUNDARY REF MON 688

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	17	66 N	11 W	481221.27	914542.49		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091331/
USGS Quad: FRIDAY BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

NEAR THE MIDDLE OF THE EASTERN PART OF CROOKED LAKE. STATION BOUNDARY REF MON 688 IS ON THE POINT ON THE WEST SIDE OF THE ENTRANCE TO THE LARGE NORTHEAST ARM OF THE LAKE. THE POINT ENDS IN A KNOB AND BLUFF ABOUT 39.4 FEET HIGH. STATION BOUNDARY REF MON 688 IS ON THE BLUFF OVERLOOKING THE WATER AND IS ON THE SOUTH SIDE OF THE GRANITE LEDGE.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.199 12B = -104.209 09 = -104.180 03 = -104.055

BOUNDARY REF MON 69

Mn/DOT Name: BOUNDARY REF MON 69 **NGS Name:** BOUNDARY REF MON 69

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484601.23	943950.81		

NGS ACRN: TC1149 Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1957	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	NGS

Description: (1913) **Stamping:**

IN THE WILD LANDS RESERVE, SECTION 41, ON THE RIGHT SIDE OF RAINY RIVER, 5.0 MILES NORTHWEST OF BAUDETTE AND RAINY RIVER, ON THE NORTHEAST SIDE OF A ROAD, 500.0 FEET NORTHWEST OF THE SCHOOLHOUSE NEAR THE FARM BUILDINGS OF OSCAR NELSON, 60.0 FEET FROM THE BANK, JUST NORTH OF IT IS AN INLET 100.0 FEET WIDE EXTENDING 800.0 FEET INLAND, A WROUGHT IRON POST, ABOUT 12.0 INCH DIAMETER HIGH AND 2.0 INCH DIAMETER SQUARE, SET IN A SQUARE CONCRETE BASE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.544 12B = -95.518 09 = -95.433 03 = -95.430

BOUNDARY REF MON 69 ECC

Mn/DOT Name: BOUNDARY REF MON 69 ECC
NGS Name: REF MON 69 ECC
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1150 Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484600.93	943951.61		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1913	UNKNOWN	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	UNMONUMENTED	NGS

Description:

IN THE WILD LANDS RESERVE, SECTION 41, ON THE RIGHT SIDE OF THE RAINY RIVER, 5.0 MILES NORTHWEST OF BAUDETTE AND RAINY RIVER, ON THE NORTHEAST SIDE OF A ROAD, 61.7 FEET SOUTHWEST OF BOUNDARY REF MON 69 (TC1149).

Stamping:

Station Notes

THE MARK WAS ADDED TO MATCH THE NATIONAL GEODETIC SURVEY (NGS) DATABASE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.541 12B = -95.515 09 = -95.433 03 = -95.426

BOUNDARY REF MON 69 RESET

Mn/DOT Name: BOUNDARY REF MON 69 RESET

NGS Name: BOUNDARY REF MON 69 RESET

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1151 Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484600.99	943950.56		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1957	1968	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	NGS

Description: (1957)

Stamping:

5.0 MILES NORTHWEST OF BAUDETTE AND THE RAINY RIVER BRIDGE, ON THE NORTHEAST SIDE OF A ROAD, 60.0 FEET FROM THE RIVER BANK, 100.0 FEET DOWNSTREAM FROM THE BRIDGE OVER AN INLET, IT WAS RESET BETWEEN TWO TREES INLAND FROM A ROAD.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.544 12B = -95.518 09 = -95.433 03 = -95.430

BOUNDARY REF MON 690

Mn/DOT Name: BOUNDARY REF MON 690

NGS Name: BOUNDARY REF MON 690

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	16	66 N	11 W	481230.06	914519.36		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091331/
USGS Quad: FRIDAY BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE EAST SHORE OF CROOKED LAKE. STATION BOUNDARY REF MON 690 IS ON THE ROUNDED POINT ON THE EAST SIDE OF AN ENTRANCE TO THE LARGE NORTHEAST ARM OF THE LAKE. IT IS ABOUT 0.3 MILE NORTH AND ACROSS THE MAIN CHANNEL OF THE LAKE FROM THE DOUBLE POINT OF THE LONG NARROW PENINSULA THAT FORMS THE WEST SIDE OF THE MOST EASTERN OF THE LARGE SOUTHERN BAYS OF THE LAKE. IT IS ON A LEDGE ON A BOWLDER-STREWN BEACH, ABOUT 6.56 FEET FROM THE SHORE LINE AND A LITTLE ABOVE THE WATER LEVEL.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.226 12B = -104.235 09 = -104.209 03 = -104.084

BOUNDARY REF MON 693

Mn/DOT Name: BOUNDARY REF MON 693 **NGS Name:** BOUNDARY REF MON 693

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	16	66 N	11 W	481205.37	914505.94		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091331/
USGS Quad: FRIDAY BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON THE SHORE LINE OF CROOKED LAKE, ABOUT 0.43 MILE ALONG THE NORTH SHORE WEST FROM THE SOUTH END OF THE NARROWS THAT PASS AROUND THE NORTH AND WEST SIDES OF THE LARGE ISLAND LYING IN THE EAST ENTRANCE TO THE LARGE IRREGULAR MAIN BODY OF THE LOWER LEVEL OF THE LAKE. STATION BOUNDARY REF MON 693 IS NEAR THE TURN OF THE SHORE TO THE NORTH, ON A LARGE FIAT ROCK PARTLY IN THE WATER.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.166 12B = -104.176 09 = -104.147 03 = -104.012

BOUNDARY REF MON 696

Mn/DOT Name: BOUNDARY REF MON 696

NGS Name: BOUNDARY REF MON 696

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	16	66 N	11 W	481159.60	914438.42		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE NORTH SHORE OF CROOKED LAKE, NEAR ITS EASTERN END. ABOUT 1.25 MILES WEST OF WHERE THE LAKE FINALLY TURNS TO THE WEST INTO ITS LARGE IRREGULAR EAST AND WEST PART. THERE IS A NARROW RIGHT-ANGLE PASSAGE. AROUND THE NORTH AND WEST SIDES OF A LARGE ISLAND. THERE ARE RAPIDS IN THIS PASSAGE, AND THE INTERNATIONAL BOUNDARY FOLLOWS IT. STATION BOUNDARY REF MON 696 IS ON THE POINT ABOUT 328.1 FEET WEST OF THE SOUTH END OF THIS PASSAGE, ON A PROMINENT BARE ROCK ABOUT 9.8 FEET ABOVE THE WATER.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.157 12B = -104.170 09 = -104.137 03 = -104.002

BOUNDARY REF MON 697

Mn/DOT Name: BOUNDARY REF MON 697 **NGS Name:** BOUNDARY REF MON 697

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	16	66 N	11 W	481200.36	914433.71		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE NORTH SHORE OF CROOKED LAKE, ABOUT 6.5 MILES NORTHWEST OF LOWER BASSWOOD FALLS. STATION BOUNDARY REF MON 697 IS ON THE SOUTHEAST POINT OF A PENINSULA ON THE EAST SIDE OF A VERY LARGE OPEN EXPANSE OF THE LAKE. A LARGE ISLAND LIES JUST EAST OF THE PENINSULA, AND THE NARROW BOUNDARY CHANNEL PASSES AROUND THE NORTH AND WEST SIDES OF THE ISLAND, SEPARATING IT FROM THE PENINSULA.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.160 12B = -104.173 09 = -104.143 03 = -104.006

BOUNDARY REF MON 699

Mn/DOT Name: BOUNDARY REF MON 699 **NGS Name:** BOUNDARY REF MON 699

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	16	66 N	11 W	481213.39	914435.25		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON THE NORTH SHORE OF THE EASTERN PART OF CROOKED LAKE. STATION BOUNDARY REF MON 699 IS ON THE WEST SHORE OF THE NARROW AND RAPID CHANNEL THAT PASSES AROUND THE NORTH AND WEST SIDES OF THE LARGE ISLAND LYING IN THE EAST ENTRANCE TO THE LARGE IRREGULAR MAIN PART OF THE LAKE. IT IS ON A LITTLE ROUND KNOB JUST SOUTH OF THE NORTHWEST ANGLE OF THE CHANNEL, ABOUT 1,414.0 FEET ABOVE THE LAKE LEVEL.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.196 12B = -104.206 09 = -104.180 03 = -104.042

BOUNDARY REF MON 700

Mn/DOT Name: BOUNDARY REF MON 700

NGS Name: BOUNDARY REF MON 700

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	16	66 N	11 W	481217.68	914430.23		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE NORTH SHORE OF CROOKED LAKE, NEAR ITS EAST END. STATION BOUNDARY REF MON 700 IS ON THE SOUTH SHORE OF THE NARROW AND RAPID CHANNEL THAT PASSES AROUND THE NORTH AND WEST SIDES OF THE LARGE ISLAND LYING IN THE EAST ENTRANCE TO THE LARGE IRREGULAR MAIN BODY OF THE LAKE. IT IS JUST AT THE FOOT OF THE SMALL RAPIDS IN THE CHANNEL, AND NEAR THE WEST END OF THE EAST AND WEST COURSE OF THE CHANNEL. IT IS ON A FIXED ROCK AT THE WATER'S EDGE.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.206 12B = -104.216 09 = -104.193 03 = -104.055

BOUNDARY REF MON 701

Mn/DOT Name: BOUNDARY REF MON 701

NGS Name: BOUNDARY REF MON 701

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	16	66 N	11 W	481216.10	914416.38		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE NORTH SHORE OF CROOKED LAKE, NEAR ITS EAST END. STATION BOUNDARY REF MON 701 IS ON THE NORTH SHORE OF THE NARROW AND RAPID CHANNEL THAT PASSES AROUND THE NORTH AND WEST SIDES OF THE LARGE ISLAND LYING IN THE EAST ENTRANCE TO THE LARGE IRREGULAR LOWER PART OF THE LAKE. IT IS OPPOSITE THE MIDDLE POINT OF THE ISLAND, ON A ROCK SHELF, ABOUT 6.6 FEET FROM THE SHORE, AND ABOUT 6.6 FEET ABOVE THE WATER LEVEL.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.206 12B = -104.216 09 = -104.193 03 = -104.055

BOUNDARY REF MON 704

Mn/DOT Name: BOUNDARY REF MON 704 **NGS Name:** BOUNDARY REF MON 704

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	16	66 N	11 W	481208.48	914330.79		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE EASTERN PART OF CROOKED LAKE. STATION BOUNDARY REF MON 704 IS ON THE SOUTH POINT OF A LARGE ISLAND LYING IN A BIGHT OF THE NORTH SHORE JUST AFTER TURNING WEST FROM THE LONG NARROW NORTH-AND-SOUTH EASTERN REACH OF THE LAKE TOWARD AN ENTRANCE TO THE LARGE IRREGULAR MAIN BODY OF THE LAKE. IT IS ON THE TOP OF THE GRANITE LEDGE ABOUT 49.2 FEET BACK FROM THE SHORE LINE AND ABOUT 23.0 FEET ABOVE THE LAKE LEVEL.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.199 12B = -104.212 09 = -104.186 03 = -104.042

BOUNDARY REF MON 706

Mn/DOT Name: BOUNDARY REF MON 706 **NGS Name:** BOUNDARY REF MON 706

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	15	66 N	11 W	481201.87	914253.90		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON THE NORTH SHORE OF CROOKED LAKE, AT THE BEND OF THE LAKE WHERE THE LONG NARROW NORTH-AND-SOUTH STRETCH OF THE LAKE TURNS TO THE WEST TOWARD THE MAIN BODY OF THE LAKE. STATION BOUNDARY REF MON 706 IS ON THE POINT AT THE WEST SIDE OF THE ENTRANCE TO THE LARGE BAY THAT HERE EXTENDS TO THE NORTH. THE ROCK POINT EXTENDS OUT BEYOND THE TIMBER LINE ABOUT 65.6 FEET STATION BOUNDARY REF MON 706 IS ON THE HIGHEST PART OF THE LEDGE ABOUT 39.4 FEET FROM THE EXTREME POINT.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.193 12B = -104.206 09 = -104.180 03 = -104.032

BOUNDARY REF MON 708

Mn/DOT Name: BOUNDARY REF MON 708 **NGS Name:** BOUNDARY REF MON 708

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	15	66 N	11 W	481154.85	914240.67		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON THE EASTERN PART OF CROOKED LAKE, IN THE TURN OF THE LAKE WHERE THE LONG NARROW NORTH-AND-SOUTH STRETCH OF THE LAKE TURNS TO THE WEST TOWARD THE MAIN BODY OF THE LAKE. STATION BOUNDARY REF MON 708 IS ON THE SOUTH POINT OF THE ISLAND THAT LIES IN THE MOUTH OF THE BAY THAT EXTENDS TO THE NORTH. IT IS ABOUT 39.4 FEET BACK FROM THE EXTREME POINT AND ABOUT 14.8 FEET ABOVE THE LAKE LEVEL.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.176 12B = -104.189 09 = -104.163 03 = -104.012

BOUNDARY REF MON 709

Mn/DOT Name: BOUNDARY REF MON 709 **NGS Name:** BOUNDARY REF MON 709

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	22	66 N	11 W	481134.09	914229.88		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

ON THE EAST SHORE OF CROOKED LAKE, ABOUT 5.63 MILES NORTH OF LOWER BASSWOOD FALLS. STATION BOUNDARY REF MON 709 IS ON THE POINT EAST OF AND OPPOSITE THE LARGEST ISLAND IN THE NORTH END OF THE LONG NARROW NORTH-AND-SOUTH PART OF THE LAKE. IT IS ON A GRANITE LEDGE AMONG THE DEAD TREES ON THE HIGHEST PART OF THE BLUFF, ABOUT 164.0 FEET EAST OF THE SHORE LINE AND ABOUT 820.2 FEET SOUTH OF THE NORTH, END, OR TIP OF THE POINT.

Stamping:

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.124 12B = -104.137 09 = -104.111 03 = -103.953

BOUNDARY REF MON 71

Mn/DOT Name: BOUNDARY REF MON 71

NGS Name: BOUNDARY REF MON 71

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	17	161 N	31 W	484544.42	943931.53		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1922	1922	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1922)

Stamping:

4.5 MILES NORTHWEST OF BAUDETTE, IN THE WILD LANDS RESERVE, SECTION 48, ON THE EAST BANK OF RAINY RIVER, ON THE LOW POINT ON THE NORTH SIDE OF SMALL CREEK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.521 12B = -95.495 09 = -95.413 03 = -95.410

BOUNDARY REF MON 711

Mn/DOT Name: BOUNDARY REF MON 711

NGS Name: BOUNDARY REF MON 711

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	22	66 N	11 W	481115.76	914237.67		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE EAST SIDE OF CROOKED LAKE, ABOUT 5.5 MILES NORTH OF LOWER BASSWOOD FALLS. STATION BOUNDARY REF MON 711 IS ON THE BLUFF AT THE SOUTH END OF THE NARROWS OPPOSITE THE SOUTH END OF THE LARGEST ISLAND IN THE NORTH END OF THE LONG NARROW NORTH-AND-SOUTH REACH OF THE EASTERN PART OF THE LAKE. IT IS ABOUT 328.1 FEET BACK FROM THE SHORE LINE ON THE SMOOTH GRANITE LEDGE ON THE SUMMIT OF THE BLUFF.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.068 12B = -104.084 09 = -104.055 03 = -103.897

BOUNDARY REF MON 714

Mn/DOT Name: BOUNDARY REF MON 714 **NGS Name:** BOUNDARY REF MON 714

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	27	66 N	11 W	481044.03	914316.30		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON CROOKED LAKE, ABOUT 4.75 MILES NORTH OF LOWER BASSWOOD FALLS. STATION BOUNDARY REF MON 714 IS ON THE MOST NORTHERN OF SEVERAL BARE GRANITE ISLETS LYING NEAR THE CANADIAN SHORE, ABOUT 0.3 MILE NORTH OF THE NARROWS AT THE SOUTH END OF THE SECOND AND LAST LONG NARROW NORTH REACH OF THE EASTERN PART OF THE LAKE.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.970 12B = -103.986 09 = -103.953 03 = -103.792

BOUNDARY REF MON 717

Mn/DOT Name: BOUNDARY REF MON 717 **NGS Name:** BOUNDARY REF MON 717

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	27	66 N	11 W	481024.00	914320.91		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE EAST SHORE OF CROOKED LAKE, ABOUT 4.5 MILES NORTH OF LOWER BASSWOOD FALLS. STATION BOUNDARY REF MON 717 IS ON THE HIGH ROCK BLUFF OVERLOOKING THE VERY NARROW PASSAGE NEAR THE SOUTH END OF THE SECOND AND LAST LONG NARROW NORTH REACH OF THE LAKE.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.911 12B = -103.927 09 = -103.897 03 = -103.727

BOUNDARY REF MON 719

Mn/DOT Name: BOUNDARY REF MON 719 **NGS Name:** BOUNDARY REF MON 719

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	27	66 N	11 W	481013.13	914322.54		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE NORTH SHORE OF CROOKED LAKE ABOUT 4.25 MILES NORTH OF LOWER BASSWOOD FALLS. STATION BOUNDARY REF MON 719 IS ON THE NARROW TIP OF THE LONG PENINSULA AROUND WHICH THE LAKE TURNS INTO THE SECOND AND LAST NARROW NORTH REACH. IT IS ABOUT 13.1 FEET FROM THE WATER AND ABOUT 6.6 FEET ABOVE THE LAKE LEVEL.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.881 12B = -103.897 09 = -103.865 03 = -103.694

BOUNDARY REF MON 720

Mn/DOT Name: BOUNDARY REF MON 720

NGS Name: BOUNDARY REF MON 720

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	27	66 N	11 W	481020.66	914311.52		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE NORTH SHORE OF CROOKED LAKE, ABOUT 4.25 MILES NORTH OF LOWER BASSWOOD FALLS. STATION BOUNDARY REF MON 720 IS ON THE ROCKY POINT ON THE EAST SIDE OF THE PENINSULA AROUND WHICH THE LAKE TURNS FROM THE WEST TO THE NORTH INTO THE SECOND NORTHERN REACH OF THE LAKE. IT IS ON THE SLOPING GRANITE LEDGE ABOUT 24.6 FEET BACK FROM THE WATER'S EDGE AND ABOUT 14.8 FEET ABOVE THE LAKE LEVEL.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.907 12B = -103.920 09 = -103.891 03 = -103.720

BOUNDARY REF MON 722

Mn/DOT Name: BOUNDARY REF MON 722 **NGS Name:** BOUNDARY REF MON 722

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	27	66 N	11 W	481016.52	914249.88		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE NORTH SHORE OF CROOKED LAKE, ABOUT 4.25 MILES NORTH OF LOWER BASSWOOD FALLS. STATION BOUNDARY REF MON 722 IS ON THE ROCKY POINT ON THE EAST SIDE OF THE PENINSULA AROUND WHICH THE LAKE TURNS FROM THE WEST TO THE NORTH INTO THE SECOND NORTHERN REACH OF THE LAKE. IT IS ON THE SLOPING GRANITE LEDGE ABOUT 24.6 FEET BACK FROM THE WATER'S EDGE AND ABOUT 14.8 FEET ABOVE THE LAKE LEVEL.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.901 12B = -103.917 09 = -103.884 03 = -103.710

BOUNDARY REF MON 724

Mn/DOT Name: BOUNDARY REF MON 724

NGS Name: BOUNDARY REF MON 724

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	27	66 N	11 W	481025.75	914233.65		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE NORTH SHORE OF CROOKED LAKE, ABOUT 4.25 MILES NORTH OF LOWER BASSWOOD FALLS. STATION BOUNDARY REF MON 724 IS ON THE POINT AT THE NARROWS WHERE THE LAKE MAKES THE FIRST TURN OF ANY GREAT LENGTH TOWARD THE WEST. IT IS DIRECTLY OPPOSITE BOUNDARY REF MON 723. IT IS ON A SMOOTH SURFACE OF AN EXPOSED ROCK A LITTLE ABOVE THE LAKE LEVEL AND ABOUT 19.7 FEET BACK FROM THE EDGE OF THE WATER.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.930 12B = -103.947 09 = -103.914 03 = -103.743

BOUNDARY REF MON 725

Mn/DOT Name: BOUNDARY REF MON 725 **NGS Name:** BOUNDARY REF MON 725

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	26	66 N	11 W	481018.61	914234.01		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON CROOKED LAKE, ABOUT 4.0 MILES NORTH OF LOWER BASSWOOD FALLS. STATION BOUNDARY REF MON 725 IS ON THE HIGHEST POINT OF A SMALL, BARE, ROCKY ISLET IN THE WIDE EXPANSE OF THE LAKE ABOUT 0.4 MILE NORTH OF THE NARROWS WHICH ARE AT THE SOUTH ENTRANCE TO THE WIDE PART. THE ISLET IS ABOUT 328.1 FEET FROM THE EAST SHORE.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.911 12B = -103.927 09 = -103.894 03 = -103.720

BOUNDARY REF MON 726

Mn/DOT Name: BOUNDARY REF MON 726 **NGS Name:** BOUNDARY REF MON 726

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	35	66 N	11 W	480952.04	914214.54		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON CROOKED LAKE, ABOUT 3.75 MILES NORTH OF LOWER BASSWOOD FANS. STATION BOUNDARY REF MON 726 IS ON THE WEST END OF AN ISLAND LYING JUST NORTH AND EAST OF THE NARROWS WHERE THE LAKE WIDENS INTO AN OPEN EXPANSE ABOUT 1.0 MILE LONG AND 0.5 MILE WIDE. IT IS ON A SHEER ROCK BLUFF ABOUT 11.5 FEET ABOVE THE WATER.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.838 12B = -103.858 09 = -103.825 03 = -103.642

BOUNDARY REF MON 728

Mn/DOT Name: BOUNDARY REF MON 728

NGS Name: BOUNDARY REF MON 728

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	35	66 N	11 W	480939.74	914216.10		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE EAST SHORE OF CROOKED LAKE, ABOUT 3.5 MILES NORTH OF LOWER BASSWOOD FALLS. STATION BOUNDARY REF MON 728 IS ON THE HIGH ROCK BLUFF POINT NEAR THE NORTH END OF THE NARROWS, NORTH OF WHICH THE LAKE WIDENS INTO AN OPEN EXPANSE ABOUT 1.0 MILE LONG AND0.5 MILE WIDE. IT IS ON THE LEVEL TOP OF THE HIGHEST PART OF THE BLUFF JUST EAST OF A WIDE CLEFT IN THE LEDGE.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.806 12B = -103.822 09 = -103.789 03 = -103.602

BOUNDARY REF MON 73

Mn/DOT Name: BOUNDARY REF MON 73 **NGS Name:** BOUNDARY REF MON 73

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484524.87	943859.82		

NGS ACRN: TC1157 Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1947	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	NGS

Description: (1913) **Stamping:**

IN THE WILD LANDS RESERVE, SECTION 49, ON THE RIGHT SIDE OF THE RAINY RIVER, 4.0 MILES NORTHWEST OF THE BRIDGE BETWEEN BAUDETTE AND RAINY RIVER, ABOVE THE BANK ABOUT 200.0 FEET SOUTH OF THE MOUTH OF A CREEK ON THE CANADIAN SIDE, A LITTLE UPSTREAM FROM THE MOUTH OF WINTER ROAD RIVER, A WROUGHT IRON POST, ABOUT 12.0 INCH DIAMETER HIGH AND 2.0 INCH DIAMETER SQUARE, SET IN A SQUARE CONCRETE BASE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.505 12B = -95.476 09 = -95.397 03 = -95.397

BOUNDARY REF MON 73 1947

Mn/DOT Name: BOUNDARY REF MON 73 1947 **NGS Name:** REF MON 73 47

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1159 Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484524.89	943859.36		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1947	1968	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	NGS

Description: (1947) **Stamping:**

IN THE WILD LANDS RESERVE, SECTION 49, ON THE RIGHT SIDE OF THE RAINY RIVER, 4.0 MILES NORTHWEST OF THE BRIDGE BETWEEN BAUDETTE AND RAINY RIVER, ABOVE THE BANK ABOUT 200.0 FEET SOUTH OF THE MOUTH OF THE CREEK ON THE CANADIAN SIDE, A LITTLE UPSTREAM FROM THE MOUTH OF WINTER ROAD RIVER, 35.0 FEET INSHORE FROM THE TOP OF A HIGH BANK, AT THE TIP OF A SMALL POINT, 10.0 FEET ABOVE HIGH WATER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.508 12B = -95.476 09 = -95.397 03 = -95.397

BOUNDARY REF MON 730

Mn/DOT Name: BOUNDARY REF MON 730 **NGS Name:** BOUNDARY REF MON 730

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	35	66 N	11 W	480929.65	914216.45		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE EAST SHORE OF CROOKED LAKE, ABOUT 3.34 MILES NORTH OF LOWER BASSWOOD FALLS. THE STATION IS ON THE HIGH ROCK BLUFF AT THE SOUTH ENTRANCE TO THE NARROWS, WHICH ARE ABOUT 0.37 MILE LONG AND NORTH OF WHICH THE LAKE WIDENS INTO AN OPEN EXPANSE ABOUT 1.0 MILE LONG AND 0.5 MILE WIDE. IT IS ON A LARGE, FIXED BOULDER ON TOP OF THE BLUFF.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.776 12B = -103.796 09 = -103.760 03 = -103.569

BOUNDARY REF MON 732

Mn/DOT Name: BOUNDARY REF MON 732

NGS Name: BOUNDARY REF MON 732

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	35	66 N	11 W	480912.90	914222.46		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type
ROCK (1 TO 3 METERS)

Disk Type
METAL ROD

Mon. Agency
IBWC

Description: (1921)

Stamping:

ON THE EAST SHORE OF CROOKED LAKE, ABOUT 2.8 MILES NORTH OF LOWER BASSWOOD FALLS. STATION BOUNDARY REF MON 732 IS ON A POINT AT A VERY NARROW PLACE IN THE LAKE ABOUT 328.1 FEET NORTHEAST OF A SMALL, WOODED ISLAND. IT IS ON A LARGE, FIXED ROCK ON TOP OF THE POINT.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.727 12B = -103.747 09 = -103.714 03 = -103.517

BOUNDARY REF MON 735

Mn/DOT Name: BOUNDARY REF MON 735 **NGS Name:** BOUNDARY REF MON 735

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480903.57	914222.92		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE EAST SHORE OF CROOKED LAKE, ABOUT 2.75 MILES NORTH OF LOWER BASSWOOD FALLS, STATION BOUNDARY REF MON 735 IS ON A ROCKY POINT AT A VERY NARROW CHANNEL OF THE LAKE, IT IS ON THE HIGHEST PART OF THE POINT ON A LARGE, FIXED ROCK IN THE WOODS, THERE IS A SMALL ISLAND IN THE LAKE ABOUT 656.16 FEET NORTH OF STATION BOUNDARY REF MON 735.

Station Notes

STATION MARK: A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.701 12B = -103.720 09 = -103.687 03 = -103.484

BOUNDARY REF MON 736

Mn/DOT Name: BOUNDARY REF MON 736 **NGS Name:** BOUNDARY REF MON 736

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480850.60	914213.23		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON THE EAST SHORE OF CROOKED LAKE, ABOUT 2.5 MILES NORTH OF LOWER BASSWOOD FALLS, STATION BOUNDARY REF MON 736 IS ON THE FIRST ROCKY POINT NORTH OF WHERE THE LAKE TURNS TO THE NORTH JUST WEST OF THE ENTRANCE TO MOOSE BAY, IT IS ON A FIXED ROCK ABOUT 8.20 FEET EAST OF A MUCH LARGER FIXED ROCK WHICH IS PARTLY IN THE WATER.

Station Notes

STATION BOUNDARY REF MON 736 IS A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.664 12B = -103.684 09 = -103.651 03 = -103.445

BOUNDARY REF MON 739

Mn/DOT Name: BOUNDARY REF MON 739 **NGS Name:** BOUNDARY REF MON 739

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480843.92	914209.90		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON THE EAST SHORE OF CROOKED LAKE, ABOUT 2.25 MILES NORTH OF LOWER BASSWOOD FALLS, STATION BOUNDARY REF MON 739 IS ON THE POINT AROUND WHICH THE LAKE TURNS FROM THE WEST TO THE NORTH JUST WEST OF THE ENTRANCE TO MOOSE BAY, IT IS ON A LARGE, FIXED ROCK ABOUT 14.8 FEET BACK FROM THE SHORE LINE.

Station Notes

STATION MARK: A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.645 12B = -103.668 09 = -103.632 03 = -103.422

BOUNDARY REF MON 742

Mn/DOT Name: BOUNDARY REF MON 742 **NGS Name:** BOUNDARY REF MON 742

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480838.15	914147.04		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921) **Stamping:**

ON CROOKED LAKE, ABOUT 2.25 MILES NORTH OF LOWER BASSWOOD FALLS, STATION BOUNDARY REF MON 742 IS ON THE SOUTH END OF THE HIGH, WOODED, ROCKY ISLAND THAT LIES NEAREST THE CANADIAN SHORE IN THE ENTRANCE TO MOOSE BAY, IT IS ON A SMOOTH GRANITE LEDGE ABOUT 14.8 FEET BACK FROM THE SHORELINE AND ABOUT 9.8 FEET ABOVE THE LAKE LEVEL.

Station Notes

STATION MARK: A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.635 12B = -103.655 09 = -103.622 03 = -103.405

BOUNDARY REF MON 744

Mn/DOT Name: BOUNDARY REF MON 744 **NGS Name:** BOUNDARY REF MON 744

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480828.05	914148.56		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON THE EAST SHORE OF CROOKED LAKE, ABOUT 2.0 MILES NORTH OF LOWER BASSWOOD FALLS, STATION BOUNDARY REF MON 744 IS AT THE SOUTH END OF A HIGH BLUFF JUST NORTH OF THE NARROWS AND WHERE THE LAKE BEGINS TO WIDEN AND TURN TOWARD THE WEST, IT IS ABOUT 4.9 FEET FROM THE WATER'S EDGE AND ABOUT 2.0 FEET ABOVE THE LAKE LEVEL.

Station Notes

STATION MARK: A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.605 12B = -103.625 09 = -103.592 03 = -103.372

BOUNDARY REF MON 745

Mn/DOT Name: BOUNDARY REF MON 745 **NGS Name:** BOUNDARY REF MON 745

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480815.51	914155.61		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON THE EAST SHORE OF CROOKED LAKE, ABOUT 1.75 MILES NORTH OF LOWER BASSWOOD FALLS, STATION BOUNDARY REF MON 745 IS ON A ROCKY BLUFF POINT IN THE SECOND NARROW PLACE NORTH OF THE FALLS, IT IS ON TOP OF THE ROCK LEDGE, ON A LEVEL SHOULDER ABOUT 19.7 FEET FROM THE WATER'S EDGE.

Station Notes

STATION MARK: A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.569 12B = -103.589 09 = -103.556 03 = -103.330

BOUNDARY REF MON 748

Mn/DOT Name: BOUNDARY REF MON 748 **NGS Name:** BOUNDARY REF MON 748

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480753.48	914153.64		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON THE EAST SHORE OF CROOKED LAKE, ABOUT 1.63 MILES NORTH OF LOWER BASSWOOD FALLS, STATION BOUNDARY REF MON 748 IS ON THE HIGHEST PART OF A ROCKY POINT JUST NORTH OF THE FIRST NARROWS IN THE LAKE AND IS OPPOSITE THE NORTH END OF THE SMOOTH CLIFF KNOWN AS INDIAN ROCK, WHICH HAS INDIAN DRAWINGS ON ITS FACE.

Station Notes

STATION MARK: A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.507 12B = -103.527 09 = -103.491 03 = -103.258

BOUNDARY REF MON 749

Mn/DOT Name: BOUNDARY REF MON 749 **NGS Name:** BOUNDARY REF MON 749

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480750.37	914200.10		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON THE EAST SHORE OF CROOKED LAKE, ABOUT 1.25 MILES NORTH OF LOWER BASSWOOD FALLS, STATION BOUNDARY REF MON 749 IS ON THE ROCKY POINT AT THE NORTH END OF A NARROW PLACE IN THE LAKE, IT IS ON A LOW SLOPING LEDGE AT THE FOOT OF THE CLIFF, ABOUT 8.2 FEET FROM THE WATER'S EDGE AND ABOUT 2.0 FEET ABOVE THE LAKE LEVEL, JUST OPPOSITE THE STATION IS A SMOOTH VERTICAL CLIFF RISING ABOUT 65.6 FEET FROM THE WATER AND KNOWN AS INDIAN ROCK, UPON WHICH ARE DRAWINGS OF BIRDS AND ANIMALS ASCRIBED TO THE INDIANS OF SOME PAST GENERATION.

Station Notes

STATION MARK: A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.497 12B = -103.517 09 = -103.481 03 = -103.248

BOUNDARY REF MON 75

Mn/DOT Name: BOUNDARY REF MON 75 **NGS Name:** REF MON 75

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1163 Get Map
NGS Quad / Sta Num : 48094424/
USGS Quad: PITT

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484441.88	943834.14		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1968	UNKNOWN	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	NGS

Description: (1922) **Stamping:**

3.8 MILES NORTHWEST OF RAINY RIVER, ON EAST BANK OF THE RAINY RIVER, IN THE WILD LANDS RESERVE, SECTION 51, OPPOSITE A CREEK ON THE UNITED STATES SIDE, 1.0 MILE UPSTREAM OF WINTER ROAD RIVER, ON A LOW POINT WHICH IS BLOCKED BY DEADHEADS AND TREE LIMBS.

Station Notes

BEST REACHED BY LANDING BY BOUNDARY REF MON 77.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.430 12B = -95.394 09 = -95.321 03 = -95.331

BOUNDARY REF MON 752

Mn/DOT Name: BOUNDARY REF MON 752

NGS Name: BOUNDARY REF MON 752

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480740.65	914203.61		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE EAST SHORE OF CROOKED LAKE, ABOUT 1.0 MILE NORTH OF LOWER BASSWOOD FALLS, THE STATION IS ON THE NORTH END OF A ROCKY BLUFF, AFTER ENTERING THE NARROW PART OF THE LAKE FROM THE SOUTH, IT IS ON A SHOULDER OF THE ROCK ABOUT 14.8 FEET ABOVE THE LAKE LEVEL, THE BLUFF RISES SHARPLY BACK OF STATION BOUNDARY REF MON 752.

Station Notes

STATION MARK: A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.468 12B = -103.487 09 = -103.455 03 = -103.215

BOUNDARY REF MON 754

Mn/DOT Name: BOUNDARY REF MON 754

NGS Name: BOUNDARY REF MON 754

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480726.32	914211.77		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE EAST SHORE OF CROOKED LAKE, ABOUT 0.75 MILE BELOW LOWER BASSWOOD FALLS, STATION BOUNDARY REF MON 754 IS ON A GRANITE LEDGE ON A PROMINENT POINT OF THE SHORE THAT IS MUCH USED AS A CAMP GROUND, AND IT IS ABOUT 9.8 FEET FROM THE WATER'S EDGE AND ABOUT 8.2 FEET ABOVE THE LAKE LEVEL.

Station Notes

STATION MARK: A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.428 12B = -103.448 09 = -103.409 03 = -103.169

BOUNDARY REF MON 756

Mn/DOT Name: BOUNDARY REF MON 756

NGS Name: BOUNDARY REF MON 756

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480718.16	914223.28		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE CAST SHORE NEAR THE SOUTH END OF CROOKED LAKE, STATION BOUNDARY REF MON 756 IS ON THE NORTHERN PART OF A CLEFT ROCKY POINT ABOUT 0.6 MILE NORTH OF LOWER BASSWOOD FALLS, IT IS ON A ROUGH LEDGE ABOUT 6.56 FEET FROM THE WATER'S EDGE AND 1.64 FEET ABOVE THE LAKE LEVEL.

Station Notes

STATION MARK: A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.402 12B = -103.425 09 = -103.382 03 = -103.140

BOUNDARY REF MON 757

Mn/DOT Name: BOUNDARY REF MON 757 **NGS Name:** BOUNDARY REF MON 757

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480708.70	914230.40		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON THE EAST SHORE NEAR THE SOUTH END OF CROOKED LAKE, THE STATION IS ON THE SLOPING GRANITE LEDGE ON THE ROCKY POINT ABOUT 0.4 MILE NORTH OF LOWER BASSWOOD FALLS, IT IS OPPOSITE THE WOODED ISLAND ON WHICH REFERENCE MONUMENT 758 IS SITUATED, THERE IS A LITTLE BAY AND ANOTHER PROMINENT POINT JUST NORTH OF STATION BOUNDARY REF MON 757, STATION BOUNDARY REF MON 757 IS ABOUT 9.84 FEET FROM THE WATER'S EDGE AND ABOUT 6.56 FEET ABOVE THE LAKE LEVEL.

Station Notes

STATION MARK: A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.376 12B = -103.395 09 = -103.356 03 = -103.107

BOUNDARY REF MON 758

Mn/DOT Name: BOUNDARY REF MON 758

NGS Name: BOUNDARY REF MON 758

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	14	65 N	11 W	480710.76	914230.59		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

IN THE SOUTH END OF CROOKED LAKE, ON A PROMINENT WOODED ISLAND ABOUT 0.4 MILE NORTH OF LOWER BASSWOOD FALLS, STATION BOUNDARY REF MON 758 IS ON THE ROCKY POINT ON THE EASTERN END OF THE ISLAND, ABOUT 9.8 FEET FROM THE SHORE LINE, AND ABOUT 8.2 FEET ABOVE THE LAKE LEVEL.

Station Notes

STATION MARK: A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.382 12B = -103.402 09 = -103.359 03 = -103. 113

BOUNDARY REF MON 762

Mn/DOT Name: BOUNDARY REF MON 762 **NGS Name:** BOUNDARY REF MON 762

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				460656.16	914234.46		

NGS ACRN: Get Map
NGS Quad / Sta Num : 46091323/
USGS Quad: STANBERRY WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921) **Stamping:**

AT THE HEART OF CROOKED LAKE, ON THE POINT JUST NORTH OF LOWER BASSWOOD FALLS, STATION BOUNDARY REF MON 762 IS BACK IN THE WOODS, ABOUT 328.1 FEET NORTH OF THE FALLS AND ABOUT THE SAME DISTANCE EAST OF THE SHORE LINE OF THE LAKE, IT IS ABOUT 49.2 FEET ABOVE THE LAKE LEVEL.

Station Notes

STATION MARK: A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -90.026 12B = -90.020 09 = -89.974 03 = -89.882

BOUNDARY REF MON 764

Mn/DOT Name: BOUNDARY REF MON 764 **NGS Name:** BOUNDARY REF MON 764

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480653.49	914215.75		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON THE NORTH SHORE OF THE BASSWOOD RIVER, ABOUT 0.25 MILE UPSTREAM FROM LOWER BASSWOOD FALLS, STATION BOUNDARY REF MON 764 IS ON A LARGE, DETACHED ROCK, SURROUNDED BY TIMBER, BACK ABOUT 29.5 FEET FROM THE WATER.

Station Notes

STATION MARK: A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.333 12B = -103.356 09 = -103.310 03 = -103.058

BOUNDARY REF MON 767

Mn/DOT Name: BOUNDARY REF MON 767 **NGS Name:** BOUNDARY REF MON 767

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480659.11	914148.38		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921) **Stamping:**

ON THE NORTH SHORE OF THE BASSWOOD RIVER, AT THE PLACE WHERE THE RIVER WIDENS OUT ABOUT 0.62 MILE ABOVE LOWER BASSWOOD FALLS, STATION BOUNDARY REF MON 767 IS ON A SLOPING ROCK LEDGE ABOUT 32.8 FEET FROM THE SHORE LINE.

Station Notes

STATION MARK: A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.350 12B = -103.372 09 = -103.330 03 = -103.074

BOUNDARY REF MON 768

Mn/DOT Name: BOUNDARY REF MON 768 **NGS Name:** BOUNDARY REF MON 768

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480706.69	914130.91		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921) **Stamping:**

ON THE NORTH SHORE OF THE BASSWOOD RIVER, ABOUT 0.93 MILE ABOVE LOWER BASSWOOD FALLS ON THE POINT OUTSIDE OF WHEELBARROW PORTAGE AROUND NORTH FALLS, STATION BOUNDARY REF MON 768 IS ON A FLAT ROCK JUST ABOVE THE FALLS.

Station Notes

STATION MARK: A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.376 12B = -103.395 09 = -103.353 03 = -103.100

BOUNDARY REF MON 77

Mn/DOT Name: BOUNDARY REF MON 77 **NGS Name:** REF MON 77

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484434.58	943822.44		

NGS ACRN: TC1165 Get Map
NGS Quad / Sta Num : 48094424/
USGS Quad: PITT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1968	UNKNOWN	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	NGS

Description: (1917) **Stamping:**

IN THE WILD LANDS RESERVE, SECTION 51, 3.7 MILES NORTHWEST OF RAINY RIVER, ON THE NORTH BANK OF THE RAINY RIVER, CLOSE TO THE SHORE AND THE HIGHWATER MARK AT THE SOUTH END OF AN ACCUMULATION OF DEADHEADS AND WASHED-UP TREE LIMBS, 900.0 FEET WEST OF A SMALL CREEK, 1000.0 FEET SOUTHEAST OF BOUNDARY REF MON 75.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.426 12B = -95.387 09 = -95.315 03 = -95.325

BOUNDARY REF MON 772

Mn/DOT Name: BOUNDARY REF MON 772

NGS Name: BOUNDARY REF MON 772

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480713.31	914131.98		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE NORTH SHORE OF THE BASSWOOD RIVER, ABOUT 1.12 MILES ABOVE LOWER BASSWOOD FALLS AND ABOUT 656.2 FEET ABOVE WHEELBARROW FALLS, STATION BOUNDARY REF MON 772 IS ON A SLOPING LEDGE NEAR THE SHORE LINE.

Station Notes

STATION MARK: A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.395 12B = -103.415 09 = -103.372 03 = -103.123

BOUNDARY REF MON 774

Mn/DOT Name: BOUNDARY REF MON 774 **NGS Name:** BOUNDARY REF MON 774

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480723.97	914049.36		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921) **Stamping:**

ON THE NORTH SHORE OF THE BASSWOOD RIVER, ABOUT 1.5 MILES ABOVE LOWER BASSWOOD FALLS, STATION BOUNDARY REF MON 774 IS ON THE POINT ON THE EAST SIDE OF A SMALL BAY THAT EXTENDS NORTH FROM THE WIDE EXPANSE OF THE RIVER AT THIS PLACE, IT IS ON A LARGE FLAT ROCK ABOUT 49.2 FEET BACK FROM THE SHORE LINE.

Station Notes

STATION MARK: A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.425 12B = -103.448 09 = -103.409 03 = -103.159

BOUNDARY REF MON 776

Mn/DOT Name: BOUNDARY REF MON 776 **NGS Name:** BOUNDARY REF MON 776

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480704.43	914055.22		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921) **Stamping:**

ON THE NORTH SHORE OF THE BASSWOOD RIVER; ABOUT 1.3 MILES EAST OF LOWER BASSWOOD FALLS, STATION BOUNDARY REF MON 776 IS ON THE BROW OF A STEEP HILL AT A PLACE WHERE THE RIVER, WHICH HAS BEEN FLOWING NORTHEAST FOR ABOUT 0.4 MILE, SUDDENLY WIDENS OUT INTO A BROAD BAY, IT IS ABOUT 164.0 FEET BACK FROM THE SHORE LINE, ABOUT 49.2 FEET ABOVE THE RIVER, ON A FLAT ROCK ABOUT 3.93 FEET ABOVE THE GROUND LEVEL.

Station Notes

STATION MARK: A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.369 12B = -103.392 09 = -103.350 03 = -103.090

BOUNDARY REF MON 779

Mn/DOT Name: BOUNDARY REF MON 779 **NGS Name:** BOUNDARY REF MON 779

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480633.77	914043.11		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON THE NORTH BANK OF THE BASSWOOD RIVER, ABOUT 2.25 MILES UPSTREAM FROM LOWER BASSWOOD FALLS, STATION BOUNDARY REF MON 779 IS ON THE EAST SIDE OF A LITTLE BAY ON THE NORTH SIDE OF A LARGE TRIANGULAR EXPANSION OF THE RIVER, IT IS ON A FLAT ROCK OVERLOOKING THE BAY, A LARGER AND HIGHER ROCK SHOWS NEAR STATION BOUNDARY REF MON 779.

Station Notes

STATION MARK: A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.274 12B = -103.297 09 = -103.251 03 = -102.982

BOUNDARY REF MON 780

Mn/DOT Name: BOUNDARY REF MON 780 **NGS Name:** BOUNDARY REF MON 780

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480632.46	914037.30		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON THE NORTH SIDE OF THE BASSWOOD RIVER, ABOUT MIDWAY BETWEEN BASSWOOD AND LOWER BASSWOOD FALLS, STATION BOUNDARY REF MON 780 IS ON A FLAT, BRUSHY, TABLELAND, ABOUT 328.1 FEET NORTH OF THE RIVER AT THE LOWER RAPIDS AND ABOUT 65.6 FEET ABOVE THE WATER.

Station Notes

STATION MARK: A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN A FLAT ROCK OUTCROP.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.271 12B = -103.294 09 = -103.248 03 = -102.976

BOUNDARY REF MON 782

Mn/DOT Name: BOUNDARY REF MON 782

NGS Name: BOUNDARY REF MON 782

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480637.48	914017.72		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE NORTH SIDE OF THE BASSWOOD RIVER, ABOUT MIDWAY BETWEEN BASSWOOD FALLS AND LOWER BASSWOOD FALLS, STATION BOUNDARY REF MON 782 IS ON THE TOP OF A BRUSHY HILL BETWEEN THE RIVER AND A SMALL LAKE, BOUT 0.1 MILE NORTH OF THE RIVER AND ABOUT 98.4 FEET ABOVE THE WATER LEVEL.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN A FLAT-TOPPED BOULDER ABOUT 8.0 FEET SQUARE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.284 12B = -103.310 09 = -103.264 03 = -102.992

BOUNDARY REF MON 784

Mn/DOT Name: BOUNDARY REF MON 784 **NGS Name:** BOUNDARY REF MON 784

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480636.03	913951.91		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921) **Stamping:**

ON THE NORTH SIDE OF THE BASSWOOD RIVER, ABOUT 1.25 MILES DOWNSTREAM FROM BASSWOOD FALLS, STATION BOUNDARY REF MON 784 IS ON THE ROCKY SUMMIT OF A HILL THAT PROJECTS SOUTHWARD FROM THE RANGE OF HILLS INTO A LOOP OR BEND OF THE RIVER, IT IS ABOUT 328.1 FEET FROM THE RIVER AT ITS NEAREST POINT ON THE EAST OF STATION BOUNDARY REF MON 784 AND ABOUT 98.4 FEET ABOVE THE LEVEL OF THE WATER.

Station Notes

STATION MARK: A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.277 12B = -103.307 09 = -103.258 03 = -102.982

BOUNDARY REF MON 789

Mn/DOT Name: BOUNDARY REF MON 789 **NGS Name:** BOUNDARY REF MON 789

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480644.54	913945.57		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091322/
USGS Quad: BASSWOOD LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921) **Stamping:**

ON THE NORTH SIDE OF THE BASSWOOD RIVER, ABOUT 1.25 MILES DOWNSTREAM FROM BASSWOOD FALLS, STATION BOUNDARY REF MON 789 IS ON A ROCK CLIFF AT A BEND WHERE THE RIVER TURNS TO THE SOUTH, AND IT IS ABOUT 98.4 FEET FROM THE RIVER AND ABOUT 82.0 FEET ABOVE THE WATER.

Station Notes

STATION MARK: A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.304 12B = -103.333 09 = -103.284 03 = -103.015

BOUNDARY REF MON 79

Mn/DOT Name: BOUNDARY REF MON 79 **NGS Name:** BOUNDARY REF MON 79

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484426.18	943744.97		

NGS ACRN: TC1168 Get Map
NGS Quad / Sta Num : 48094424/
USGS Quad: PITT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1937	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	NGS

Description: (1913) **Stamping:**

IN THE WILD LANDS RESERVE, SECTION 52, ON THE RIGHT BANK OF THE RAINY RIVER, 2.5 MILES NORTHWEST OF THE BRIDGE BETWEEN BAUDETTE AND RAINY RIVER, ON THE WEST SIDE OF THE MOUTH OF A SMALL CREEK DUE NORTH OF A LARGE CREEK ON THE UNITED STATES SIDE, CLOSE TO THE SHORE, ABOVE THE BANK, A WROUGHT IRON POST, ABOUT 12.0 INCH DIAMETER HIGH AND 2.0 INCH DIAMETER SQUARE, SET IN A SQUARE CONCRETE BASE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.439 12B = -95.397 09 = -95.325 03 = -95.338

BOUNDARY REF MON 79 A

Mn/DOT Name: BOUNDARY REF MON 79 A
NGS Name: BOUNDARY REF MON 79 A
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1170 Get Map
NGS Quad / Sta Num : 48094424/
USGS Quad: PITT

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484426.66	943744.88		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1957	1957	GOOD	Horz=? Vert=YES	NO		PROJECTS 4 IN.	SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	NGS

Description: (1957)

Stamping:

2.5 MILES NORTHWEST OF THE BAUDETTE - RAINY RIVER BRIDGE, TO THE WEST SIDE OF A SMALL CREEK DUE NORTH OF A LARGE CREEK ON THE UNITED STATES SIDE, 30.0 FEET INLAND FROM THE NEAREST POINT OF THE TOP OF THE HIGH BANK OF THE RIVER, 4.0 FEET EASTERLY OF THE NEAREST ROAD TRACK, 5.0 FEET WEST OF THE FENCE PERPENDICULAR TO THE RIVER, A TRIANGULATION TABLET SET IN THE TOP OF A CYLINDER OF CONCRETE 5.0 INCH DIAMETER AND 2.0 FEET LONG, SET VERTICALLY IN THE GROUND AND PROJECTING 4.0 INCH DIAMETER ABOVE IT, IN OPEN GROUND.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.439 12B = -95.400 09 = -95.325 03 = -95.341

BOUNDARY REF MON 79 RESET

Mn/DOT Name: BOUNDARY REF MON 79 RESET

NGS Name: BOUNDARY REF MON 79 RESET

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1169 Get Map
NGS Quad / Sta Num : 48094424/
USGS Quad: PITT

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484426.30	943744.89		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1937	1968	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	NGS

Description: (1937)

Stamping:

IN THE WILD LANDS RESERVE, SECTION 52, ON THE RIGHT BANK OF THE RAINY RIVER, 2.5 MILES NORTHWEST OF THE BRIDGE BETWEEN BAUDETTE AND RAINY RIVER, ON THE WEST SIDE OF THE MOUTH OF A SMALL CREEK DUE NORTH OF A LARGE CREEK ON THE UNITED STATES SIDE, CLOSE TO THE SHORE, ABOVE THE BANK, 25.0 FEET EAST OF CENTERLINE OF THE ROAD RUNNING NORTH FROM RAINY RIVER, 18.0 FEET BACK FROM TOP OF BANK, A WROUGHT IRON POST, ABOUT 12.0 INCH DIAMETER HIGH AND 2.0 INCH DIAMETER SQUARE, SET IN A SQUARE CONCRETE BASE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.439 12B = -95.400 09 = -95.325 03 = -95.338

BOUNDARY REF MON 791

Mn/DOT Name: BOUNDARY REF MON 791 **NGS Name:** BOUNDARY REF MON 791

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480650.32	913930.61		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091322/
USGS Quad: BASSWOOD LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON THE NORTH SIDE OF THE BASSWOOD RIVER, ABOUT 1.0 MILE DOWNSTREAM FROM BASSWOOD FALLS, STATION BOUNDARY REF MON 791 IS ON A ROCK BLUFF ABOUT EQUALLY DISTANT FROM TWO RAPIDS IN THE STREAM, AND IT IS ABOUT 114.8 FEET FROM THE RIVER AND ABOUT 78.7 FEET ABOVE THE WATER.

Station Notes

STATION MARK: A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.320 12B = -103.350 09 = -103.304 03 = -103.031

BOUNDARY REF MON 792

Mn/DOT Name: BOUNDARY REF MON 792 **NGS Name:** BOUNDARY REF MON 792

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480652.60	913915.46		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921) **Stamping:**

ON THE NORTH SIDE OF THE BASSWOOD RIVER, ABOUT 1.0 MILE DOWNSTREAM FROM BASSWOOD FALLS, STATION BOUNDARY REF MON 792 IS ON A ROCK BLUFF ABOUT EQUALLY DISTANT FROM TWO RAPIDS IN THE STREAM, AND IT IS ABOUT 114.8 FEET FROM THE RIVER AND ABOUT 78.7 FEET ABOVE THE WATER.

Station Notes

STATION MARK: A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.327 12B = -103.356 09 = -103.310 03 = -103.038

BOUNDARY REF MON 793

Mn/DOT Name: BOUNDARY REF MON 793 **NGS Name:** BOUNDARY REF MON 793

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480657.76	913911.74		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921) **Stamping:**

ON THE NORTH SHORE OF THE BASSWOOD RIVER, ABOUT 0.75 MILE DOWNSTREAM FROM BASSWOOD FALLS, STATION BOUNDARY REF MON 793 IS AT THE HEAD OF A SMALL BAY JUST ABOVE THE FALLS AT THE TURN OF THE RIVER TOWARD THE WEST, IT IS ON A FLAT ROCK NEARLY LEVEL WITH THE GROUND ABOUT 164.0 FEET BACK FROM THE SHORE LINE.

Station Notes

STATION MARK: A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.343 12B = -103.372 09 = -103.327 03 = -103.058

BOUNDARY REF MON 795

Mn/DOT Name: BOUNDARY REF MON 795 **NGS Name:** BOUNDARY REF MON 795

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480644.61	913902.59		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921) **Stamping:**

ON THE EAST SIDE OF THE BASSWOOD RIVER, ABOUT 0.5 MILE NORTH OF THE HEAD, OF BASSWOOD FALLS, STATION BOUNDARY REF MON 795 IS ON THE TOP OF A ROCKY KNOB ABOUT 131.2 FEET SOUTHEAST OF THE FOOT OF THE RAPIDS IN THE NARROWS AND ABOUT 49.2 FEET ABOVE THE RIVER LEVEL.

Station Notes

STATION MARK: A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.300 12B = -103.330 09 = -103.284 03 = -103.008

BOUNDARY REF MON 796

Mn/DOT Name: BOUNDARY REF MON 796 **NGS Name:** BOUNDARY REF MON 796

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480633.83	913845.33		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON THE NORTH SHORE OF THE BASSWOOD RIVER, ABOUT 0.2 MILE NORTH BY EAST OF THE FIRST RAPIDS AFTER LEAVING BASSWOOD LAKE, STATION BOUNDARY REF MON 796 IS ON THE NORTH SHORE OF THE POND OR SLACK WATER BELOW THE FIRST RAPIDS AND IS EAST OF THE NORTH END OF THE FIRST LARGE ISLAND BELOW THE FIRST RAPIDS, IT IS ABOUT 196.9 FEET WEST OF A BLUFF POINT, ON ONE OF THE LARGE FLAT ROCKS OF WHICH THE SHORE LINE HERE IS COMPOSED, IT IS ABOUT 13.1 FEET BACK FROM THE WATER'S EDGE AND ABOUT 13.1 FEET ABOVE THE WATER LEVEL.

Station Notes

STATION MARK: A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.268 12B = -103.297 09 = -103.245 03 = -102.969

BOUNDARY REF MON 798

Mn/DOT Name: BOUNDARY REF MON 798

NGS Name: BOUNDARY REF MON 798

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480625.10	913852.06		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE BASSWOOD RIVER, ABOUT 0.12 MILE BELOW BASSWOOD LAKE, STATION BOUNDARY REF MON 798 IS ON THE SECOND SMALL ROCKY ISLAND BELOW BASSWOOD FALLS, IT IS ON THE SOUTHWEST AND HIGHEST PART OF AN ISLAND, ABOUT 13.1 FEET BACK FROM THE EDGE OF A CLIFF OR A LEDGE.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.238 12B = -103.271 09 = -103.218 03 = -102.939

BOUNDARY REF MON 801

Mn/DOT Name: BOUNDARY REF MON 801 **NGS Name:** BOUNDARY REF MON 801

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480618.84	913847.16		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921) **Stamping:**

ON THE WEST END OF BASSWOOD LAKE, STATION BOUNDARY REF MON 801 IS ON THE ISLAND LYING AT THE FALLS AT THE HEAD OF THE BASSWOOD RIVER, IT IS ON THE SUMMIT OF THE WESTERN PART OF THE ISLAND, ON THE SMOOTH GRANITE LEDGE ABOUT 246.1 FEET BACK FROM THE SHORE.

Station Notes

STATION MARK: A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.218 12B = -103.251 09 = -103.195 03 = -102.916

BOUNDARY REF MON 803

Mn/DOT Name: BOUNDARY REF MON 803 **NGS Name:** BOUNDARY REF MON 803

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480554.48	913817.08		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON THE SHORE OF BASSWOOD LAKE, ON THE POINT OF THE EAST SIDE OF THE NARROW ENTRANCE TO THE BAY LEADING TO BASSWOOD FALLS AND ABOUT 0.6 MILE SOUTHEAST OF THE FALLS, STATION BOUNDARY REF MON 803 IS ON THE LAKE SIDE OF THE POINT, ABOUT 328.1 FEET NORTH OF THE TIP OF THE POINT, IT IS ON THE HIGHEST PART OF THE FIRST GRANITE KNOLL UP FROM THE SHORE, ABOUT 19.7 FEET FROM AND 13.1 FEET ABOVE THE LAKE. FEET BACK FROM THE SHORE.

Station Notes

STATION MARK: A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE GRANITE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.140 12B = -103.176 09 = -103.113 03 = -102.821

BOUNDARY REF MON 804

Mn/DOT Name: BOUNDARY REF MON 804 **NGS Name:** BOUNDARY REF MON 804

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480619.46	913706.20		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091322/
USGS Quad: BASSWOOD LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON BASSWOOD LAKE ABOUT 1.63 MILES DUE EAST OF BASSWOOD FALLS, STATION BOUNDARY REF MON 804 IS ON AN ISLAND WHICH IS ONE OF THE GROUP OF ISLANDS LYING WEST OF THE NARROWS PASSING AROUND THE NORTH SIDE OF UNITED STATES POINT. THE ISLAND IS IN THE WESTERN TIER OF THE GROUP AND IS THE SECOND ONE OF ANY SIZE FROM THE CANADIAN SHORE, FROM WHICH IT IS ABOUT 1,312.3 FEET DISTANT, STATION BOUNDARY REF MON 804 IS ON A SOLID ROCK, ON THE WEST END AND ON THE HIGHEST PART OF THE ISLAND.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.215 12B = -103.251 09 = -103.192 03 = -102.907

BOUNDARY REF MON 807

Mn/DOT Name: BOUNDARY REF MON 807

NGS Name: BOUNDARY REF MON 807

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480615.34	913523.01		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091322/
USGS Quad: BASSWOOD LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE NORTH SHORE OF BASSWOOD LAKE, ON THE POINT OF THE SHORE AT THE WEST END, AND ON THE NORTH SIDE OF THE NARROW PASSAGE THAT LIES ALONG THE NORTH, SHORE OF UNITED STATES POINT, STATION BOUNDARY REF MON 807 IS ABOUT 196.9 FEET WEST OF THE EXTREME TIP OF THE POINT, ON A ROCK LEDGE ABOUT 9.84 FEET ABOVE THE WATER, AND ABOUT 19.7 FEET BACK FROM THE EDGE OF THE LAKE.

Station Notes

STATION MARK: A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.189 12B = -103.231 09 = -103.172 03 = -102.877

BOUNDARY REF MON 808

Mn/DOT Name: BOUNDARY REF MON 808

NGS Name: BOUNDARY REF MON 808

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480634.15	913431.64		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091322/
USGS Quad: BASSWOOD LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE NORTH SHORE OF BASSWOOD LAKE, ON THE POINT OF THE SHORE OPPOSITE AND NORTHWEST OF THE EAST END OF UNITED STATES POINT, STATION BOUNDARY REF MON 808 IS ON THE SOUTH SIDE OF THE POINT, ABOUT 426.5 FEET WEST OF THE EXTREME EAST END OF THE POINT, IT IS ON THE GRANITE LEDGE THAT RISES FROM THE WATER, ABOUT 9.84 FEET BACK FROM THE SHORE, AND ABOUT 3.28 FEET ABOVE THE LAKE LEVEL.

Station Notes

STATION MARIE A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.251 12B = -103.294 09 = -103.231 03 = -102.946

BOUNDARY REF MON 81

Mn/DOT Name: BOUNDARY REF MON 81 **NGS Name:** REF MON 81

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1173 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484417.82	943701.80		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1922	1922	UNKNOWN	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	IBWC

Description: (1922) **Stamping:**

2.6 MILES NORTHWEST OF RAINY RIVER, ON THE NORTH BANK OF THE RAINY RIVER, 300.0 FEET SOUTHEAST OF THE MOUTH OF A SMALL CREEK, OPPOSITE THE NORTH END OF THE BOOM ON THE UNITED STATES SIDE, 25.0 FEET FROM A BANK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.456 12B = -95.416 09 = -95.338 03 = -95.357

BOUNDARY REF MON 81 1913

Mn/DOT Name: BOUNDARY REF MON 81 1913
NGS Name: BOUNDARY REF MON 81 1913
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484417.00	943701.00		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1922	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	BOUNDARY MONUMENT	NGS

Description: (1913)

Stamping:

2.6 MILES NORTHWEST OF RAINY RIVER, ON THE NORTH BANK OF THE RAINY RIVER, 300.0 FEET SOUTHEAST OF THE MOUTH OF A SMALL CREEK, OPPOSITE THE NORTH END OF THE BOOM ON THE UNITED STATES SIDE, 25.0 FEET FROM A BANK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.456 12B = -95.413 09 = -95.338 03 = -95.357

BOUNDARY REF MON 811

Mn/DOT Name: BOUNDARY REF MON 811 **NGS Name:** BOUNDARY REF MON 811

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480639.43	913352.06		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091322/
USGS Quad: BASSWOOD LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON BASSWOOD LAKE, ON A SMALL ISLAND 0.4 MILE NORTH OF THE EAST END OF UNITED STATES POINT, THE ISLAND IS ABOUT 49.2 FEET IN DIAMETER, IT IS ALMOST OF SOLID ROCK WITH ITS HIGHEST POINT ABOUT 14.8 FEET ABOVE THE LAKE LEVEL, TWO OTHER SMALL, THOUGH SOMEWHAT LARGER ISLANDS LIE ABOUT 328.1 FEET SOUTH OF THE ISLAND ON WHICH STATION BOUNDARY REF MON 811 IS LOCATED, STATION BOUNDARY REF MON 811 IS ON THE HIGHEST POINT OF THE ISLAND ON A SOLID ROCK.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.271 12B = -103.310 09 = -103.248 03 = -102.959

BOUNDARY REF MON 812

Mn/DOT Name: BOUNDARY REF MON 812 **NGS Name:** BOUNDARY REF MON 812

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480613.43	913253.13		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091322/
USGS Quad: BASSWOOD LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON BASSWOOD LAKE ON THE WEST END OF A LONG, NARROW ISLAND LYING OFF THE POINT OF THE EAST SHORE, DIRECTLY EAST OF AND OPPOSITE UNITED STATES POINT, STATION BOUNDARY REF MON 812 IS ON THE SECOND STEP OF THE SOLID LEDGE THAT FORMS THE END OF THE ISLAND, IT IS ON THE HIGHEST POINT OF THE LEDGE, ABOUT 4.9 FEET ABOVE THE LAKE LEVEL.

Station Notes

STATION MARK: A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.172 12B = -103.212 09 = -103.146 03 = -102.848

BOUNDARY REF MON 813

Mn/DOT Name: BOUNDARY REF MON 813 **NGS Name:** BOUNDARY REF MON 813

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480543.19	913322.37		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091322/
USGS Quad: BASSWOOD LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON BASSWOOD LAKE, ON THE POINT OF THE SHORE SOUTHEAST OF AND OPPOSITE THE EXTREME END OF UNITED STATES POINT, STATION BOUNDARY REF MON 813 IS ON THE LEDGE OF A ROCK THAT RISES FROM THE WATER AND EXTENDS BACK INTO THE TIMBER, IT IS ABOUT 6.6 FEET FROM THE WATER'S EDGE AND ABOUT 3.3 FEET ABOVE THE LAKE LEVEL.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.064 12B = -103.107 09 = -103.035 03 = -102.729

BOUNDARY REF MON 816

Mn/DOT Name: BOUNDARY REF MON 816
NGS Name: BOUNDARY REF MON 816
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480401.86	913423.60		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091322/
USGS Quad: BASSWOOD LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON, BASSWOOD LAKE, ON A SMALL ISLAND, IN THE NORTH-AND-SOUTH STRETCH OF THE LAKE, LYING 0.1 MILE OFF THE MOST WESTERN POINT OF CANADIAN POINT, STATION BOUNDARY REF MON 816 IS ON THE WESTERN SIDE OF THE ISLAND, ON THE HIGHEST PART OF A GRANITE LEDGE, ABOUT 26.3 FEET EAST OF A LARGE NORWAY PINE TREE OVERHANGING THE WATER.

Station Notes

STATION MARK: A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.674 12B = -102.720 09 = -102.634 03 = -102.293

BOUNDARY REF MON 817

Mn/DOT Name: BOUNDARY REF MON 817

NGS Name: BOUNDARY REF MON 817

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480256.51	913420.24		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091322/
USGS Quad: BASSWOOD LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON BASSWOOD LAKE, ON THE SMALL LOW DOUBLE ISLAND THAT LIES JUST NORTH OF WHERE THE LAKE MAKES THE GREAT BEND FROM WEST TO NORTH, THIS SMALL ISLAND LIES 328.1 FEET OFF THE WEST SHORE OF THE LARGE ISLAND LYING JUST SOUTH OF CANADIAN POINT, STATION BOUNDARY REF MON 817 IS ON THE WEST END OF THE EASTERN PART OF THE ISLAND.

Station Notes

STATION MARK: A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN ROCK. A DRILL HOLE WITHIN A TRIANGLE CUT IN THE ROCK, MARKING TRIANGULATION STATION "GOAT," BEARS NORTH 39 DEGREES 02 MINUTES WEST, 5.71 FEET FROM THE MONUMENT.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.388 12B = -102.434 09 = -102.346 03 = -101.991

BOUNDARY REF MON 822

Mn/DOT Name: BOUNDARY REF MON 822

NGS Name: BOUNDARY REF MON 822

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480419.87	912921.87		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091233/
USGS Quad: ENSIGN LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

ON THE EASTERN PART OF BASSWOOD LAKE. STATION BOUNDARY REF MON 822 IS IN THE SOUTHWEST PART OF BAYLEY BAY, ON A SMALL LONE ISLAND 0.3 MILE EAST OF THE BIG PENINSULA FORMING THE WEST SIDE OF THE BAY. IT IS ON THE SOLID GRANITE LEDGE ON THE HIGHEST PART OF THE EASTERN END OF THE ISLAND.

Stamping:

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.638 12B = -102.684 09 = -102.598 03 = -102.264

BOUNDARY REF MON 825

Mn/DOT Name: BOUNDARY REF MON 825 **NGS Name:** BOUNDARY REF MON 825

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480408.24	912757.84		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091233/
USGS Quad: ENSIGN LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1915	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1913)

Stamping:

ON THE EASTERN PART OF BASSWOOD LAKE. STATION BOUNDARY REF MON 825 IS ON THE WEST END OF THE LARGE ISLAND THAT LIES JUST WEST OF THE FIRST SHARP TURN OF THE LAKE BELOW PRAIRIE PORTAGE. IT IS ON A LARGE, FIXED ROCK, JUST CLEAR OF THE TIMBER, ON THE EXTREME WEST TIP OF THE ISLAND.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.529 12B = -102.575 09 = -102.490 03 = -102.145

BOUNDARY REF MON 826

Mn/DOT Name: BOUNDARY REF MON 826 **NGS Name:** BOUNDARY REF MON 826

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480413.11	912659.93		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091233/
USGS Quad: ENSIGN LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1915	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

ON THE NORTH SHORE NEAR THE EAST END OF BASSWOOD LAKE. STATION BOUNDARY REF MON 826 IS ON THE POINT ON THE NORTH SIDE OF THE NARROWS ENTERING BAYLEY BAY AND THE MAIN PART OF THE LAKE. IT IS ON A ROCK ABOUT LEVEL WITH THE GROUND.

Stamping:

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.506 12B = -102.552 09 = -102.467 03 = -102. 119

BOUNDARY REF MON 827

Mn/DOT Name: BOUNDARY REF MON 827

NGS Name: BOUNDARY REF MON 827

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	35	65 N	9 W	480407.54	912724.28		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091233/
USGS Quad: ENSIGN LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type
ROCK (1 TO 3 METERS)

Disk Type
REFERENCE MARK DISK

Mon. Agency
IBWC

Description:

NEAR THE EAST END OF BASSWOOD LAKE, ABOUT 1.25 MILES NORTHWEST OF PRAIRIE PORTAGE. STATION BOUNDARY REF MON 827 IS ON THE SUMMIT OF THE HIGH ROCKY KNOLL ON THE POINT AROUND WHICH THE LAKE BENDS FROM NORTH TO WEST. IT IS ON THE SOLID GRANITE LEDGE ON THE EASTERN AND HIGHEST POINT OF THE SUMMIT.

Stamping:

Station Notes
A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.500 12B = -102.546 09 = -102.460 03 = -102. 113

BOUNDARY REF MON 828

Mn/DOT Name: BOUNDARY REF MON 828 **NGS Name:** BOUNDARY REF MON 828

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480406.56	912636.76		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091233/
USGS Quad: ENSIGN LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915) **Stamping:**

ON THE NORTH SHORE OF BASS\YOOD LAKE, ABOUT 1.0 MILE NORTHWEST OF PRAIRIE PORTAGE. STATION BOUNDARY REF MON 828 IS ON THE POINT IN THE ELBOW OF THE CROOKED CHANNEL LEADING INTO BAYLEY BAY AND THE OPEN LAKE. IT IS ON A LARGE ROCK NEAR THE SHORE LINE.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.457 12B = -102.503 09 = -102.414 03 = -102.063

BOUNDARY REF MON 829

Mn/DOT Name: BOUNDARY REF MON 829 **NGS Name:** BOUNDARY REF MON 829

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480348.22	912641.84		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091233/
USGS Quad: ENSIGN LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1913) **Stamping:**

NEAR THE EAST END OF BASSWOOD LAKE. STATION BOUNDARY REF MON 829 IS ON THE POINT ON THE EAST SIDE OF THE NARROWS 1.0 MILE NORTH ACROSS THE BAY FROM PRAIRIE PORTAGE. IT IS ON THE MOST WESTERN PART OF THE POINT, ON A LARGE, FIXED ROCK, ABOUT 9.8 FEET BACK FROM THE SHORE LINE AND ABOUT 1.6 FEET ABOVE THE LAKE LEVEL.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.369 12B = -102.414 09 = -102.326 03 = -101.975

BOUNDARY REF MON 83

Mn/DOT Name: BOUNDARY REF MON 83 **NGS Name:** BOUNDARY REF MON 83

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484358.90	943632.45		

NGS ACRN: TC1176 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1968	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	NGS

Description: (1913) **Stamping:**

IN THE WILD LANDS RESERVE, SECTION 53, ON THE RIGHT SIDE OF THE RAINY RIVER, 1.25 MILES NORTHWEST OF THE BRIDGE BETWEEN BAUDETTE AND RAINY RIVER, ON THE SOUTHEAST SIDE OF THE MOUTH OF A SMALL CREEK OPPOSITE THE SOUTH END OF THE BOOM ON THE UNITED STATES SIDE, A WROUGHT IRON POST, ABOUT 12.0 INCH DIAMETER HIGH AND 2.0 INCH DIAMETER SQUARE, SET IN A SQUARE CONCRETE BASE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.439 12B = -95.394 09 = -95.318 03 = -95.341

BOUNDARY REF MON 830

Mn/DOT Name: BOUNDARY REF MON 830 **NGS Name:** BOUNDARY REF MON 830

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	35	65 N	9 W	480350.96	912641.44		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091233/
USGS Quad: ENSIGN LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1916	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

NEAR THE EAST END OF BASSWOOD LAKE. STATION BOUNDARY REF MON 830 IS ON A SMALL ROCKY KNOLL ON THE WEST SIDE OF THE NARROWS ABOUT 1.0 MILE NORTHWEST ACROSS THE BAY FROM PRAIRIE PORTAGE. IT IS JUST OPPOSITE AND EAST OF THE POINT OF THE PENINSULA THAT IS ACROSS THE NARROWS.

Stamping:

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.382 12B = -102.428 09 = -102.339 03 = -101.988

BOUNDARY REF MON 832

Mn/DOT Name: BOUNDARY REF MON 832

NGS Name: BOUNDARY REF MON 832

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480304.51	912602.72		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091233/
USGS Quad: ENSIGN LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1913)

Stamping:

AT THE EAST END OF BASSWOOD LAKE. STATION BOUNDARY REF MON 832 IS ON THE HIGH ROCKY RIDGE BETWEEN BASSWOOD AND SUCKER LAKES, ABOUT 984.2 FEET EAST OF THE DAM AT PRAIRIE PORTAGE.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE SOLID LEDGE OF THE SUMMIT.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.103 12B = -102.152 09 = -102.057 03 = -101.703

BOUNDARY REF MON 838

Mn/DOT Name: BOUNDARY REF MON 838 **NGS Name:** BOUNDARY REF MON 838

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480301.44	912542.46		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091233/
USGS Quad: ENSIGN LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

ON THE NORTH SIDE OF THE OUTLET OF BIRCH LAKE. STATION BOUNDARY REF MON 838 IS ABOUT 246.1 FEET BACK FROM THE SHORE ON THE TIMBERED RIDGE WHICH IS PARALLEL TO THE STREAM.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE SOLID LEDGE OF THE SUMMIT.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.067 12B = -102.116 09 = -102.021 03 = -101.663

BOUNDARY REF MON 841

Mn/DOT Name: BOUNDARY REF MON 841

NGS Name: BOUNDARY REF MON 841

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	1	64 N	9 W	480304.79	912520.48		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091233/
USGS Quad: ENSIGN LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1913)

Stamping:

ON THE POINT OF THE NORTH SHORE, AT THE HEAD OF THE NARROWS LEADING FROM BIRCH LAKE INTO SUCKER LAKE. STATION BOUNDARY REF MON 841 IS ON THE STEEP HILLSIDE OF THE POINT, ON THE FIRST BENCH, ABOUT 39.4 FEET ABOVE THE LAKE AND ABOUT 39.4 FEET BACK FROM THE WATER'S EDGE.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.063 12B = -102.109 09 = -102.021 03 = -101.660

BOUNDARY REF MON 842

Mn/DOT Name: BOUNDARY REF MON 842

NGS Name: BOUNDARY REF MON 842

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480304.79	912531.57		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091233/
USGS Quad: ENSIGN LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1913)

Stamping:

ON THE POINT OF THE NORTH SHORE, AT THE HEAD OF THE NARROWS LEADING FROM BIRCH LAKE INTO SUCKER LAKE. STATION BOUNDARY REF MON 842 IS ON THE STEEP HILLSIDE OF THE POINT, ON THE FIRST BENCH, ABOUT 39.4 FEET ABOVE THE LAKE AND ABOUT 39.4 FEET BACK FROM THE WATER'S EDGE.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.073 12B = -102.122 09 = -102.031 03 = -101.670

BOUNDARY REF MON 845

Mn/DOT Name: BOUNDARY REF MON 845 **NGS Name:** BOUNDARY REF MON 845

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480321.47	912313.08		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091233/
USGS Quad: ENSIGN LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1916	UNKNOWN	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1913) **Stamping:**

ON THE NORTH SIDE OF BIRCH LAKE, ABOUT 0.2 MILES WEST OF CARP PORTAGE. STATION BOUNDARY REF MON 845 IS ON THE HIGHEST POINT OF A PENINSULA EXTENDING INTO BIRCH LAKE FROM THE NARROW DIVIDE BETWEEN BIRCH LAKE AND A SMALL LAKE TO THE NORTH. IT IS ABOUT 0.4 MILE NORTHEAST OF THE WESTERN POINT OF THE PENINSULA AND IS ABOUT 147.6 FEET ABOVE THE LAKE LEVEL.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.014 12B = -102.063 09 = -101.978 03 = -101.611

BOUNDARY REF MON 848

Mn/DOT Name: BOUNDARY REF MON 848

NGS Name: BOUNDARY REF MON 848

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480417.46	912216.61		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091232/
USGS Quad: ENSIGN LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1916	UNKNOWN	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1913)

Stamping:

ON THE NORTH SIDE OF BIRCH LAKE, ABOUT 0.8 MILE WEST OF CARP PORTAGE. STATION BOUNDARY REF MON 848 IS ON THE SUMMIT OF A HILL ON THE NARROW DIVIDE BETWEEN BIRCH LAKE AND THE SMALL LAKE TO THE NORTH. IT IS ALMOST DUE NORTH OF THE SMALL ISLAND IN THE NARROWS OF BIRCH LAKE. IT IS ABOUT 19.7 FEET WEST OF A SMALL ROCK KNOB. ITS ELEVATION ABOVE THE LAKE IS ABOUT 82.0 FEET.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.250 12B = -102.300 09 = -102.221 03 = -101.840

BOUNDARY REF MON 85

Mn/DOT Name: BOUNDARY REF MON 85 **NGS Name:** REF MON 85

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1178 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484343.68	943552.16		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1968	UNKNOWN	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	IBWC

Description: (1922) **Stamping:**

1.5 MILES NORTHWEST OF RAINY RIVER, ON THE NORTH BANK OF THE RAINY RIVER, IN A PINE GROVE USED AS A PICNIC GROUND, JUST ABOVE A BANK, AT THE END OF A ROAD.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.436 12B = -95.394 09 = -95.315 03 = -95.344

BOUNDARY REF MON 851

Mn/DOT Name: BOUNDARY REF MON 851 **NGS Name:** BOUNDARY REF MON 851

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480417.16	912109.77		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091232/
USGS Quad: ENSIGN LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	DRILL HOLE	IBWC

Description: (1913) **Stamping:**

ON THE SOUTH SIDE OF THE STREAM BETWEEN BIRCH AND CARP LAKES. STATION BOUNDARY REF MON 851 IS ABOUT 98.4 FEET ABOVE THE BIRCH LAKE PIER AT THE MOUTH OF THE STREAM. IT IS BETWEEN THE STREAM AND THE PORTAGE TRAIL ON A ROCK LEDGE ABOUT 13.1 FEET ABOVE THE WATER. LEVEL.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.168 12B = -102.218 09 = -102.142 03 = -101.765

BOUNDARY REF MON 855

Mn/DOT Name: BOUNDARY REF MON 855

NGS Name: BOUNDARY REF MON 855

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480419.76	912101.25		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091232/
USGS Quad: ENSIGN LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE NORTH SIDE AND AT THE HEAD OF THE NARROWS BETWEEN CARP AND BIRCH LAKES. STATION BOUNDARY REF MON 855 IS ON AN OUTCROPPING ROCK ON A LITTLE KNOLL JUST ABOVE AND OVERLOOKING THE DAM. IT IS ABOUT 32.8 FEET FROM THE WATER'S EDGE AND ABOUT 26.2 FEET ABOVE THE WATER LEVEL. A ROCK LEDGE ABOUT 13.1 FEET ABOVE THE WATER LEVEL.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.172 12B = -102.221 09 = -102.145 03 = -101.768

BOUNDARY REF MON 856

Mn/DOT Name: BOUNDARY REF MON 856 **NGS Name:** BOUNDARY REF MON 856

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480420.92	912055.60		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091232/
USGS Quad: ENSIGN LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON THE NORTH SHORE OF THE POINT AT AN ENTRANCE. TO A STREAM FLOWING OUT OF CARP LAKE. STATION BOUNDARY REF MON 856 IS ON AN OUTCROP OF A ROCK ABOUT 32.8 FEET. FROM THE POINT, ABOUT 36.1 FEET FROM THE WATER AND LESS THAN 3.0 FEET ABOVE THE LAKE LEVEL. IT IS ABOUT 410.1 FEET ABOVE THE CARP PORTAGE DAM.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.172 12B = -102.218 09 = -102.145 03 = -101.768

BOUNDARY REF MON 859

Mn/DOT Name: BOUNDARY REF MON 859

NGS Name: BOUNDARY REF MON 859

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	34	65 N	8 W	480429.95	912021.92		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091232/
USGS Quad: ENSIGN LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

ON THE NORTH SHORE OF CARP LAKE, NORTH 68 EAST, 0.5 MILE FROM CARP PORTAGE, AND ABOUT 0.4 MILE NORTHWEST OF THE MOUTH OF THE KNIFE RIVER. STATION BOUNDARY REF MON 859 IS ON THE SOUTHWESTERN POINT OF THE PENINSULA THAT CUTS OFF THE BOUNDARY BAY FROM THE REST OF THE LAKE. IT IS ON THE SOUTH SIDE OF THE LOW POINT, SEVERAL FEET FROM THE WATER'S EDGE, AND ABOUT 3.28 FEET ABOVE THE LAKE LEVEL.

Stamping:

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.175 12B = -102.224 09 = -102.152 03 = -101.781

BOUNDARY REF MON 860

Mn/DOT Name: BOUNDARY REF MON 860

NGS Name: BOUNDARY REF MON 860

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	34	65 N	8 W	480416.13	912007.00		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091232/
USGS Quad: ENSIGN LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type
ROCK (1 TO 3 METERS)

Disk Type
METAL ROD

Mon. Agency
IBWC

Description: (1913)

Stamping:

ON CARP LAKE, ON A VERY SMALL ISLAND ABOUT 0.1 MILE NORTHWEST OF THE OUTLET OF MELON LAKE. STATION BOUNDARY REF MON 860 IS ABOUT 9.84 FEET ABOVE THE LEVEL OF THE LAKE.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.080 12B = -102.126 09 = -102.057 03 = -101.689

BOUNDARY REF MON 863

Mn/DOT Name: BOUNDARY REF MON 863

NGS Name: BOUNDARY REF MON 863

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	35	35 N	8 W	480412.40	912001.05		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091232/
USGS Quad: ENSIGN LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type
ROCK (1 TO 3 METERS)

Disk Type
METAL ROD

Mon. Agency
IBWC

Description:

ON THE SHORE OF CARP LAKE, ABOUT 98.4 FEET NORTH OF THE LOWER END OF THE RAPIDS AT THE OUTLET OF MELON LAKE. STATION BOUNDARY REF MON 863 IS ABOUT 26.3 FEET ABOVE THE WATER, ON THE SUMMIT OF THE BARE ROCK KNOLL.

Stamping:

Station Notes
A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.050 12B = -102.100 09 = -102.027 03 = -101.663

BOUNDARY REF MON 864

Mn/DOT Name: BOUNDARY REF MON 864 **NGS Name:** BOUNDARY REF MON 864

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	35	35 N	8 W	480417.31	912101.05		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091232/
USGS Quad: ENSIGN LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

AT THE HEAD OF CARP LAKE. STATION BOUNDARY REF MON 864 IS ON THE HILL ABOUT 410.1 FEET NORTHEAST OF THE "LIFT" BETWEEN MELON, AND CARP LAKES. IT IS ON A HIGH ROCK CLIFF ABOUT 65.6 FEET ABOVE THE LEVEL OF THE LAKE.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.159 12B = -102.205 09 = -102.132 03 = -101.755

BOUNDARY REF MON 866

Mn/DOT Name: BOUNDARY REF MON 866 **NGS Name:** BOUNDARY REF MON 866

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	35	35 N	8 W	480410.91	911956.86		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091232/
USGS Quad: ENSIGN LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1913) **Stamping:**

(1916) ON THE SOUTH SHORE OF MELON LAKE NEAR THE EAST END. STATION BOUNDARY REF MON 866 IS ABOUT 328.1 FEET SOUTH OF THE RAPIDS AT THE HEAD OF THE LAKE. IT IS ON A ROUGH, UPTURNED LEDGE, ABOUT 19.7 FEET ABOVE THE LAKE AND ABOUT 19.7 FEET BACK FROM THE SHORE LINE.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.037 12B = -102.083 09 = -102.014 03 = -101.650

BOUNDARY REF MON 867

Mn/DOT Name: BOUNDARY REF MON 867 **NGS Name:** BOUNDARY REF MON 867

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	35	65 N	8 W	480418.22	911942.55		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091232/
USGS Quad: ENSIGN LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1913) **Stamping:**

ON THE EAST SHORE OF MELON LAKE, ABOUT 0.25 MILE ABOVE CARP LAKE. STATION BOUNDARY REF MON 867 IS ON THE POINT ABOUT 164.0 FEET BELOW THE "LIFT" 'BETWEEN SEED LAKE AND MELON LAKE. IT IS ON A LEDGE ABOUT 26.2 FEET FROM THE WATER AND 9.8 FEET ABOVE THE WATER LEVEL.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.057 12B = -102.106 09 = -102.037 03 = -101.673

BOUNDARY REF MON 868

Mn/DOT Name: BOUNDARY REF MON 868 **NGS Name:** BOUNDARY REF MON 868

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	35	35 N	8 W	480421.74	911936.84		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091232/
USGS Quad: ENSIGN LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1913) **Stamping:**

ON THE SOUTH SHORE OF MELON LAKE NEAR THE EAST END. STATION BOUNDARY REF MON 868 IS ABOUT 328.1 FEET SOUTH OF THE RAPIDS AT THE HEAD OF THE LAKE. IT IS ON A ROUGH, UPTURNED LEDGE, ABOUT 19.7 FEET ABOVE THE LAKE AND ABOUT 19.7 FEET BACK FROM THE SHORE LINE.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.070 12B = -102.119 09 = -102.047 03 = -101.686

BOUNDARY REF MON 87

Mn/DOT Name: BOUNDARY REF MON 87 **NGS Name:** BOUNDARY REF MON 87

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484313.38	943522.07		

NGS ACRN: TC1180 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1961	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	METAL ROD	NGS

Description: (1914) **Stamping:**

ON THE NORTH BANK OF THE RAINY RIVER OPPOSITE BAUDETTE, THE STATION ON THE RETAINING WALL OF THE NORTHEAST END OF THE CANADIAN NATIONAL RAILWAY BRIDGE CROSSING THE RAINY RIVER, 9.9 FEET SOUTHEAST OF THE SOUTHEAST RAIL OF THE TRACK, A STANDARD 8.0 INCH DIAMETER MANGANESE BRONZE REFERENCE POST SET IN THE WALL, A BRONZE DISK IS SET IN THE RETAINING WALL ON THE OTHER SIDE OF THE TRACK 18.4 FEET DISTANT FROM THE MONUMENT.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.397 12B = -95.351 09 = -95.279 03 = -95.308

BOUNDARY REF MON 870

Mn/DOT Name: BOUNDARY REF MON 870 **NGS Name:** BOUNDARY REF MON 870

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480425.44	911924.43		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091232/
USGS Quad: ENSIGN LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

ON THE NORTH SHORE OF SEED LAKE. STATION BOUNDARY REF MON 870 IS ABOUT 0.7 MILE WEST OF KNIFE LAKE, AND ABOUT 0.3 MILE NORTHEAST OF THE RAPIDS AT THE FOOT OF SEED LAKE. IT IS JUST WEST OF A ROCK KNOB ON THE SUMMIT OF THE HILL, ABOUT 98.4 FEET BACK FROM THE SHORE LINE, AND ABOUT 49.2 FEET ABOVE THE WATER LEVEL.

Stamping:

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.073 12B = -102.122 09 = -102.054 03 = -101.693

BOUNDARY REF MON 871

Mn/DOT Name: BOUNDARY REF MON 871 **NGS Name:** BOUNDARY REF MON 871

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480424.92	911910.45		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091232/
USGS Quad: ENSIGN LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1931	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1913) **Stamping:**

ON THE EAST SIDE OF SEED LAKE NEAR THE CENTER OF THE SMALL ROUND PENINSULA AT AN ENTRANCE TO THE LAKE. STATION BOUNDARY REF MON 871 IS ABOUT 98.4 FEET WEST OF THE LOWER END OF BIG KNIFE PORTAGE AT THE HIGHEST POINT OF THE PENINSULA. IT IS ABOUT 19.7 FEET ABOVE THE LAKE LEVEL.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.050 12B = -102.100 09 = -102.031 03 = -101.673

BOUNDARY REF MON 874

Mn/DOT Name: BOUNDARY REF MON 874 **NGS Name:** BOUNDARY REF MON 874

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480425.46	911858.80		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091232/
USGS Quad: ENSIGN LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1931	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1913) **Stamping:**

ON THE NORTH SIDE OF PORTAGE LAKE NEAR ITS WESTERN END ABOUT 0.4 MILE BELOW KNIFE LAKE. STATION BOUNDARY REF MON 874 IS ON THE NORTH SIDE OF THE BIG KNIFE PORTAGE TRAIL ABOUT 0.1 MILE EAST OF ITS LOWER END, ABOUT 39.4 FEET BACK FROM THE SHORE, AND ABOUT 9.8 FEET ABOVE THE LEVEL OF THE WATER.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.037 12B = -102.086 09 = -102.018 03 = -101.663

BOUNDARY REF MON 875

Mn/DOT Name: BOUNDARY REF MON 875 **NGS Name:** BOUNDARY REF MON 875

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480426.48	911854.43		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091232/
USGS Quad: ENSIGN LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON THE NORTH SHORE OF PORTAGE LAKE AND ABOUT 0.37 MILE BELOW KNIFE LAKE. STATION BOUNDARY REF MON 875 IS ON THE WEST SIDE OF A LITTLE BAY ABOUT 0.11 MILE ABOVE THE "LIFT" BETWEEN PORTAGE LAKE AND SEED LAKE. IT IS ABOUT 49.2 FEET FROM THE WATER AND ABOUT T 4.9 FEET ABOVE IT.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.037 12B = -102.086 09 = -102.018 03 = -101.663

BOUNDARY REF MON 876

Mn/DOT Name: BOUNDARY REF MON 876

NGS Name: BOUNDARY REF MON 876

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480424.63	911844.65		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091232/
USGS Quad: ENSIGN LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1913)

Stamping:

ON THE NORTH SHORE OF PORTAGE LAKE ABOUT 0.25 MILE BELOW KNIFE LAKE. STATION BOUNDARY REF MON 876 IS ON THE KNOLL THAT IS ABOUT 0.12 MILE DOWNSTREAM FROM THE LOWER OR SECOND DAM IN THE FIRST RAPIDS OF THE RIVER. THE PORTAGE TRAIL RUNS TO THE NORTH OF THE KNOLL. STATION BOUNDARY REF MON 876 IS ON THE HIGHEST ROCK POINT OF THE KNOLL, ABOUT 26.2 FEET BACK FROM THE SHORE AND ABOUT 13.1 FEET ABOVE THE WATER.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.014 12B = -102.063 09 = -101.995 03 = -101.640

BOUNDARY REF MON 879

Mn/DOT Name: BOUNDARY REF MON 879 **NGS Name:** BOUNDARY REF MON 879

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480424.71	911838.33		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091232/
USGS Quad: ENSIGN LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON THE. NORTH SIDE OF PORTAGE LAKE ABOUT 0.2 MILE BELOW THE DAM AT THE OUTLET OF KNIFE LAKE. STATION BOUNDARY REF MON 879 IS ON A LEDGE ABOUT 32.8 FEET NORTH OF THE PORTAGE WAGON ROAD AND ABOUT 164.0 FEET ABOVE WHERE THE ROAD FIRST COMES DOWN TO THE RIVER BELOW THE DAM.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.008 12B = -102.054 09 = -101.988 03 = -101.634

BOUNDARY REF MON 880

Mn/DOT Name: BOUNDARY REF MON 880 **NGS Name:** BOUNDARY REF MON 880

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480425.47	911835.49		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091232/
USGS Quad: ENSIGN LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON THE NORTH SIDE OF THE STREAM BETWEEN KNIFE AND PORTAGE LAKES, ABOUT 0.2 MILE BELOW THE DAM AT THE OUTLET OF KNIFE LAKE. STATION BOUNDARY REF MON 880 IS ON A LEDGE ON THE SLOPE ABOUT 131.2 FEET NORTH OF THE WAGON ROAD AND NEARLY OPPOSITE THE "LIFT" AT THE EAST END OF PORTAGE LAKE.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.008 12B = -102.057 09 = -101.988 03 = -101.634

BOUNDARY REF MON 883

Mn/DOT Name: BOUNDARY REF MON 883 **NGS Name:** BOUNDARY REF MON 883

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480424.01	911834.82		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091232/
USGS Quad: ENSIGN LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

AT THE WEST END OF KNIFE LAKE, ON THE NORTH SIDE OF THE STREAM BETWEEN KNIFE LAKE AND PORTAGE LAKE. STATION BOUNDARY REF MON 883 IS ABOUT 147.6 FEET NORTH OF THE SHORE AT A POINT ABOUT 246.1 FEET BELOW THE KNIFE LAKE DAM AND JUST NORTH OF THE FIRST RAPIDS. IT IS ON A LEDGE OF ROCK ABOUT 49.2 FEET ABOVE THE RIVER.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -101.998 12B = -102.047 09 = -101.978 03 = -101.627

BOUNDARY REF MON 884

Mn/DOT Name: BOUNDARY REF MON 884

NGS Name: BOUNDARY REF MON 884

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	36	65 N	8 W	480425.51	911822.80		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091232/
USGS Quad: ENSIGN LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1912	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

AT THE WEST END OF KNIFE LAKE, ABOUT 328.1 FEET NORTH OF THE DAM ACROSS THE OUTLET OF THE LAKE. STATION BOUNDARY REF MON 884 IS ON A GRANITE KNOLL ON THE SUMMIT OF THE RIDGE.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN A LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -101.991 12B = -102.037 09 = -101.972 03 = -101.621

BOUNDARY REF MON 887

Mn/DOT Name: BOUNDARY REF MON 887

NGS Name: BOUNDARY REF MON 887

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	31	65 N	8 W	480431.77	911729.68		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091232/
USGS Quad: ENSIGN LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1912	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE NORTH SHORE OF KNIFE LAKE ABOUT 0.75 MILE ABOVE KNIFE DAM NEAR THE OUTLET OF THE LAKE. STATION BOUNDARY REF MON 887 IS ON THE SHORE LINE ABOUT 0.2 MILE NORTHWEST OF THE WEST END OF THE LONG ANVIL-SHAPED ISLAND IN THIS PART OF THE LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -101.952 12B = -102.001 09 = -101.932 03 = -101.591

BOUNDARY REF MON 888

Mn/DOT Name: BOUNDARY REF MON 888

NGS Name: BOUNDARY REF MON 888

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	31	65 N	7 W	480448.84	911636.90		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091232/
USGS Quad: ENSIGN LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

IN THE WESTERN PART OF KNIFE LAKE, ON THE SOUTH SIDE OF THE SMALL ISLAND LYING AT THE WEST SIDE OF THE OUTSIDE. AN ENTRANCE TO BACK BAY. STATION BOUNDARY REF MON 888 IS ABOUT 328.1 FEET WEST OF THE EXTREME EASTERN END OF THE ISLAND, ON A LARGE, SOLID ROCK ON THE HILLSIDE, ABOUT 52.5 FEET BACK FROM THE WATER'S EDGE.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK. A CROSS WITHIN A TRIANGLE MARKING TRIANGULATION STATION "EDNA" IS SOUTH 21 DEGREES 41 MINUTES EAST, 35.8 FEET FROM THE STATION.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -101.972 12B = -102.021 09 = -101.955 03 = -101.624

BOUNDARY REF MON 891

Mn/DOT Name: BOUNDARY REF MON 891 **NGS Name:** BOUNDARY REF MON 891

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	32	65 N	7 W	480450.10	911605.93		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091232/
USGS Quad: ENSIGN LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE NORTH SHORE OF KNIFE LAKE AND ON THE SOUTH SHORE OF THE LARGE IRREGULAR-SHAPED PENINSULA THAT ENCLOSES BACK BAY. STATION BOUNDARY REF MON 891 IS ABOUT 0.2 MILE EAST OF THE SOUTHWESTERN POINT OF THE PENINSULA AND IS DIRECTLY OPPOSITE A SMALL ISLAND LYING OFF THE SOUTH SHORE OF THE LAKE. IT IS ON A LARGE, FIXED ROCK ABOUT 9.84 FEET FROM THE SHORE LINE.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -101.935 12B = -101.985 09 = -101.919 03 = -101.594

BOUNDARY REF MON 892

Mn/DOT Name: BOUNDARY REF MON 892 **NGS Name:** BOUNDARY REF MON 892

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	28	65 N	7 W	480508.67	911507.75		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091232/
USGS Quad: ENSIGN LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE NORTH SHORE OF KNIFE LAKE, ON THE EASTERN POINT OF THE IRREGULAR-SHAPED PENINSULA THAT ENCLOSES BACK BAY. THE POINT IS GRASSY AND IS USED AS A CAMPING GROUND, AND FROM IT ONE CAN LOOK EASTWARD BETWEEN TWO SMALL ISLANDS STRAIGHT UP THE LONG SOUTHERN ARM OF THE LAKE. STATION BOUNDARY REF MON 892 IS ON THE HIGHEST POINT OF THE LEDGE THAT RISES FROM THE SHORE, 19.7 FEET BACK FROM THE WATER'S EDGE, AND 9.8 FEET ABOVE THE LAKE LEVEL.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -101.962 12B = -102.011 09 = -101.942 03 = -101.630

BOUNDARY REF MON 894

Mn/DOT Name: BOUNDARY REF MON 894 **NGS Name:** BOUNDARY REF MON 894

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	28	65 N	7 W	480542.84	911420.05		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091223/
USGS Quad: KEKEKABIC LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1912) **Stamping:**

ON THE NORTH SHORE OF KNIFE LAKE, ON THE PROMINENT GRANITE POINT OPPOSITE THE ENTRANCE TO THE MOST WESTERN OF THREE LARGE SOUTHERN BAYS OR ARMS OF THE LAKE. STATION BOUNDARY REF MON 894 IS ON THE RISE OF THE GRANITE LEDGE, ABOUT 19.7 FEET FROM THE WATER'S EDGE, AND ABOUT 9.8 FEET ABOVE THE LAKE LEVEL.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.090 12B = -102.136 09 = -102.083 03 = -101.775

BOUNDARY REF MON 896

Mn/DOT Name: BOUNDARY REF MON 896

NGS Name: BOUNDARY REF MON 896

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	22	65 N	7 W	480551.81	911340.43		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091223/
USGS Quad: KEKEKABIC LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1912)

Stamping:

ON THE NORTH SHORE OF KNIFE LAKE, ON A LITTLE POINT OF THE SHORE LINE NORTH OF THE POINT OF THE SOUTH SHORE THAT IS AT THE EAST SIDE OF THE ENTRANCE TO THE WESTERN ONE OF THE LARGE SOUTHERN BAYS OR ARMS . STATION BOUNDARY REF MON 896 IS ON THE SOLID GRANITE LEDGE OF THE POINT, ABOUT 6.6 FEET BACK FROM THE EDGE OF THE WATER, AND ABOUT 6.6 FEET ABOVE THE LAKE LEVEL.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.096 12B = -102.139 09 = -102.083 03 = -101.785

BOUNDARY REF MON 897

Mn/DOT Name: BOUNDARY REF MON 897 **NGS Name:** BOUNDARY REF MON 897

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	22	65 N	7 W	480616.78	911258.12		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091223/
USGS Quad: KEKEKABIC LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1912) **Stamping:**

ON THE NORTH SHORE OF KNIFE LAKE, ON THE SMALL ROCKY PENINSULA OPPOSITE THE WEST SIDE OF THE ENTRANCE TO THE MIDDLE ONE OF THE THREE LARGE BAYS OR ARMS OF THE SOUTH SIDE OF THE MAIN BODY OF THE LAKE. STATION BOUNDARY REF MON 897 IS ON THE HIGHEST POINT OF THE PENINSULA, ON A SOLID GRANITE LEDGE.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.191 12B = -102.227 09 = -102.178 03 = -101.890

BOUNDARY REF MON 90

Mn/DOT Name: BOUNDARY REF MON 90 **NGS Name:** BOUNDARY REF MON 90

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484302.17	943406.58		

NGS ACRN: TC1184 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1937	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	NGS

Description: (1914) **Stamping:**

ON THE NORTH BANK OF THE RAINY RIVER, AT THE FOOT OF FOURTH STREET, IN RAINY RIVER, 19.7 FEET WEST OF THE CENTER OF THE STREET, 68.9 FEET FROM THE SHORE END OF THE PIER, 72.1 FEET FROM THE CORNER OF THE RIVER VIEW HOTEL, 6.0 FEET FROM STATION POUNDER, A STANDARD 8.0 INCH DIAMETER MANGANESE BRONZE REFERENCE POST SET IN A CONCRETE BASE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.430 12B = -95.387 09 = -95.305 03 = -95.344

BOUNDARY REF MON 900

Mn/DOT Name: BOUNDARY REF MON 900 **NGS Name:** BOUNDARY REF MON 900

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	11	65 N	7 W	480739.63	911127.41		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091224/
USGS Quad: DUTTON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON KNIFE LAKE, ON A SMALL ROCKY ISLAND THAT LIES ABOUT 0.4 MILE NORTHWEST OF THE NARROWS THAT SEPARATES THE EASTERN PART KNOWN AS LITTLE KNIFE LAKE, FROM THE MAIN BODY OF THE LAKE. STATION BOUNDARY REF MON 900 IS ON THE CLIFF ON THE SOUTHWEST PART OF THE ISLAND, 9.8 FEET BACK FROM THE EDGE OF THE CLIFF.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.562 12B = -102.592 09 = -102.565 03 = -102.290

BOUNDARY REF MON 901

Mn/DOT Name: BOUNDARY REF MON 901

NGS Name: BOUNDARY REF MON 901

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	12	65 N	7 W	480720.66	911059.31		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091223/
USGS Quad: KEKEKABIC LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE NORTH SHORE OF KNIFE LAKE AT THE NARROWS BETWEEN THE TWO PARTS OF THE LAKE. STATION BOUNDARY REF MON 901 IS JUST ABOVE THE NARROWS, ON A ROCK POINT THAT BECOMES AN ISLAND AT HIGH WATER.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.431 12B = -102.460 09 = -102.424 03 = -102.162

BOUNDARY REF MON 904

Mn/DOT Name: BOUNDARY REF MON 904

NGS Name: BOUNDARY REF MON 904

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	12	65 N	7 W	480727.38	911057.46		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091222/
USGS Quad: OGISHKEMUNCIE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE NORTH SIDE OF KNIFE LAKE, ON THE LONG NARROW POINT THAT FORMS THE NORTH SIDE OF THE NARROWS SEPARATING THE EASTERN PART OF THE LAKE, KNOWN AS LITTLE KNIFE LAKE, FROM THE MAIN BODY OF THE LAKE. STATION BOUNDARY REF MON 904 IS ON A ROCKY KNOLL ON THE SUMMIT OF THE RIDGE, 754.6 FEET EAST OF THE TIP OF THE POINT.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.467 12B = -102.500 09 = -102.464 03 = -102.198

BOUNDARY REF MON 905

Mn/DOT Name: BOUNDARY REF MON 905

NGS Name: BOUNDARY REF MON 905

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	12	65 N	7 W	480738.11	911038.94		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091224/
USGS Quad: DUTTON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE NORTH SHORE OF KNIFE LAKE, NEAR THE WEST END OF THE EASTERN PART OF THE LAKE, SOMETIMES CALLED LITTLE KNIFE LAKE. STATION BOUNDARY REF MON 905 IS ON A LITTLE ROCKY POINT ABOUT 0.5 MILE NORTHEAST OF THE NARROWS THAT DIVIDES THE EASTERN PORTION FROM THE REST OF THE LAKE. STATION BOUNDARY REF MON 905 IS ON THE GRANITE LEDGE THAT RISES FROM THE WATER'S EDGE; ABOUT 7.9 FEET BACK FROM THE SHORE LINE, AND 2.9 FEET ABOVE THE LAKE LEVEL.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.516 12B = -102.546 09 = -102.510 03 = -102.247

BOUNDARY REF MON 908

Mn/DOT Name: BOUNDARY REF MON 908 **NGS Name:** BOUNDARY REF MON 908

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	6	65 N	7 W	480829.01	910931.72		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091224/
USGS Quad: DUTTON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916) **Stamping:**

ON THE NORTH SHORE OF KNIFE LAKE, ON THE ROUNDED POINT BETWEEN TWO RATHER LARGE BAYS NEAR THE MIDDLE OF THE EASTERN SECTION OF THE LAKE, SOMETIMES CALLED LITTLE KNIFE LAKE. STATION BOUNDARY REF MON 908 IS ON THE HIGHEST PART OF THE SMOOTH, ROUNDING LEDGE, ABOUT 19.7 FEET BACK FROM THE WATER'S EDGE, AND 14.8 FEET ABOVE THE LAKE LEVEL.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.752 12B = -102.782 09 = -102.752 03 = -102.490

BOUNDARY REF MON 911

Mn/DOT Name: BOUNDARY REF MON 911

NGS Name: BOUNDARY REF MON 911

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	32	66 N	6 W	480004.17	910825.37		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091223/
USGS Quad: KEKEKABIC LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE WEST SHORE OF THE CONNECTING STREAM BETWEEN CYPRESS AND KNIFE LAKES. THE STATION IS ON THE ELBOW OF THE SHORE OF THE LITTLE POND JUST ABOVE THE NARROWS LEADING INTO KNIFE LAKE. THERE IS A PROJECTING POINT OF THE SHORE OPPOSITE. STATION BOUNDARY REF MON 911 IS ABOUT 164.0 FEET BACK FROM THE SHORE AND ABOUT 49.2 FEET ABOVE THE WATER LEVEL.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN A LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -99.524 12B = -99.540 09 = -99.439 03 = -99.222

BOUNDARY REF MON 913

Mn/DOT Name: BOUNDARY REF MON 913 **NGS Name:** BOUNDARY REF MON 913

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	32	66 N	6 W	480914.25	910833.46		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091224/
USGS Quad: DUTTON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type
ROCK (1 TO 3 METERS)

Disk Type
METAL ROD

Mon. Agency
IBWC

Description: (1921)

Stamping:

ON THE EXTREME WEST END OF CYPRESS LAKE, ON THE WESTERN AND SMALLER OF THE TWO ISLANDS ABOUT 0.3 MILE NORTH OF LITTLE KNIFE PORTAGE. STATION BOUNDARY REF MON 913 IS ON A ROCKY BLUFF, ABOUT 14.8 FEET SOUTH OF THE SHORE LINE, AND ABOUT 19.7 FEET ABOVE THE LEVEL OF THE LAKE.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.976 12B = -103.005 09 = -102.982 03 = -102.716

BOUNDARY REF MON 915

Mn/DOT Name: BOUNDARY REF MON 915 **NGS Name:** BOUNDARY REF MON 915

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	32	66 N	6 W	480919.74	910833.24		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091224/
USGS Quad: DUTTON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE NORTH SHORE OF THE EXTREME WESTERN END OF CYPRESS LAKE, ABOUT 0.1 MILE NORTH OF THE SMALLER AND MORE WESTERN OF THE TWO ISLANDS LYING NORTH OF THE ENTRANCE TO THE BOUNDARY STREAM FLOWING INTO KNIFE LAKE. STATION BOUNDARY REF MON 915 IS ON A ROCK SHELF, ABOUT 8.20 FEET BACK FROM THE SHORE AND ABOUT 9.84 FEET ABOVE THE WATER.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.005 12B = -103.035 09 = -103.012 03 = -102.749

BOUNDARY REF MON 917

Mn/DOT Name: BOUNDARY REF MON 917 **NGS Name:** BOUNDARY REF MON 917

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	32	66 N	6 W	480921.75	910821.20		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091224/
USGS Quad: DUTTON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1917	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1917)

Stamping:

ON THE SOUTH SHORE OF CYPRESS LAKE, ON THE POINT DIRECTLY SOUTH OF THE LARGE ISLAND ABOUT 1.0 MILE NORTHEAST OF LITTLE KNIFE PORTAGE. STATION BOUNDARY REF MON 917 IS ON A BARE LEDGE, ABOUT 19.7 FEET BACK FROM THE SHORE, AND 49.2 FEET ABOVE THE WATER.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK. A DRILL HOLE WITHIN A TRIANGLE CUT IN THE ROCK, MARKING TRIANGULATION STATION "CHAFE," IS NORTH 76 DEGREES EAST, 8.86 FEET FROM THE STATION.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.012 12B = -103.041 09 = -103.018 03 = -102.756

BOUNDARY REF MON 919

Mn/DOT Name: BOUNDARY REF MON 919 **NGS Name:** BOUNDARY REF MON 919

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	32	66 N	6 W	480925.02	910812.51		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091224/
USGS Quad: DUTTON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1917	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1917)

Stamping:

ON THE NORTH SHORE OF THE WEST END OF CYPRESS LAKE, ABOUT 0.1 MILE EAST OF THE MOST WESTERN NARROWS IN THE LAKE. STATION BOUNDARY REF MON 919 IS ABOUT 29.5 FEET BACK FROM THE SHORE AND ABOUT 39.4 FEET ABOVE THE LAKE LEVEL.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK. A DRILL HOLE WITHIN A TRIANGLE CUT IN THE ROCK, MARKING TRIANGULATION STATION "CERE," IS NORTH 60 DEGREES 24 MINUTES EAST, 15.7 FEET FROM THE STATION.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.028 12B = -103.058 09 = -103.035 03 = -102.772

BOUNDARY REF MON 92

Mn/DOT Name: BOUNDARY REF MON 92 **NGS Name:** BOUNDARY REF MON 92

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484302.78	943316.81		

NGS ACRN: TC1187 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1947	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	NGS

Description: (1914) **Stamping:**

ON THE NORTH BANK OF THE RAINY RIVER, 0.6 MILE EAST OF FOURTH STREET IN RAINY RIVER, 9.9 ABOVE AND 16.4 FEET BACK FROM THE RIVER, 121.4 FEET WEST OF THE PUMPING PLANT, 298.5 FEET EAST OF THE OLD WATER TANK, 29.5 FEET SOUTHWEST OF MR. SAGES HOUSE, IN LINE WITH THE WEST LINE OF HIS LOT, A STANDARD 8.0 INCH DIAMETER MANGANESE BRONZE REFERENCE POST SET IN A CONCRETE BASE, THE MONUMENT HAS BEEN COVERED BY A FILL SO THAT THE TOP JUST PROJECTS ABOVE THE SURFACE OF THE GROUND.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.466 12B = -95.430 09 = -95.338 03 = -95.384

BOUNDARY REF MON 92 RESET

Mn/DOT Name: BOUNDARY REF MON 92 RESET
NGS Name: BOUNDARY REF MON 92 RESET
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1188 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	31	161 N	30 W	484302.99	943316.50		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1947	1968	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	IBWC

Description: (2007)

Stamping:

2.0 MILES EAST OF BAUDETTE, 0.6 MILE NORTHEAST ALONG TRUNK HIGHWAY 72 FROM THE WESTERN JUNCTION OF TRUNK HIGHWAY 72 AND TRUNK HIGHWAY 11 IN BAUDETTE TO THE CANADIAN BORDER, THEN 1.5 MILES EAST ON CANADIAN HIGHWAY 11, THEN 0.1 MILE SOUTH ON TOWER ROAD, NORTH OF RAINY RIVER.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1079.394	.262		984.299	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -95.466 12B = -95.430 09 = -95.338 03 = -95.387

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 43 02.99038	94 33 16.50403			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 43 02.97189	94 33 16.50306			.131	3	ADJUSTMENT	1989	17085

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1265266.127	17707372.465	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1265266.154	17707370.591	.131	3	ADJUSTMENT	1989	17085

BOUNDARY REF MON 921

Mn/DOT Name: BOUNDARY REF MON 921 **NGS Name:** BOUNDARY REF MON 921

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	32	66 N	6 W	480931.41	910752.40		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091224/
USGS Quad: DUTTON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1917	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1917)

Stamping:

ON THE NORTH SHORE OF CYPRESS LAKE, ON THE POINT 0.4 MILE EAST OF THE WESTERN NARROWS OF THE LAKE, AND ACROSS THE LAKE NEARLY NORTH FROM THE EASTERN PORTAGE INTO KNIFE LAKE. STATION BOUNDARY REF MON 921 IS ON THE TOP OF A CLIFF, ABOUT 98.4 FEET BACK FROM THE WATER'S EDGE, AND ABOUT 9.84 FEET BACK FROM THE EDGE OF A CLIFF.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE SOLID LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.054 12B = -103.087 09 = -103.061 03 = -102.802

BOUNDARY REF MON 923

Mn/DOT Name: BOUNDARY REF MON 923 **NGS Name:** BOUNDARY REF MON 923

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	32	66 N	6 W	480941.26	910711.79		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091221/
USGS Quad: ESTER LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1917	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

ON CYPRESS LAKE, ABOUT 1.0 MILE NORTHEAST OF LITTLE KNIFE PORTAGE, STATION BOUNDARY REF MON 923 IS ON THE SOUTH SIDE OF A LARGE ISLAND, ABOUT 19.7 FEET BACK FROM THE SHORE, 98.4 FEET FROM THE WEST END OF THE ISLAND, ABOUT 39.4 FEET ABOVE THE WATER, AND ON THE HIGHEST POINT OF THIS PART OF THE ISLAND.

Stamping:

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.100 12B = -103.130 09 = -103.103 03 = -102.851

BOUNDARY REF MON 925

Mn/DOT Name: BOUNDARY REF MON 925

NGS Name: BOUNDARY REF MON 925

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	28	66 N	6 W	480959.91	910656.05		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091221/
USGS Quad: ESTER LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1917	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

ON CYPRESS LAKE, ABOUT 4.9 FEET EAST OF LITTLE KNIFE PORTAGE, STATION BOUNDARY REF MON 925 IS ON THE SMALL ISLAND THAT LIES AT THE BEGINNING OF THE SOUTHERN BEND OF THE LAKE, 26.2 FEET NORTH OF THE POINT OF THE ISLAND, 9.84 FEET EAST OF THE WEST SHORE, AND 6.56 FEET ABOVE THE LAKE LEVEL.

Stamping:

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.212 12B = -103.238 09 = -103.212 03 = -102.962

BOUNDARY REF MON 927

Mn/DOT Name: BOUNDARY REF MON 927 **NGS Name:** BOUNDARY REF MON 927

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	28	66 N	6 W	481009.75	910633.98		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091221/
USGS Quad: ESTER LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1917	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

ON THE NORTH SHORE OF CYPRESS LAKE, ABOUT 5.74 FEET NORTHEAST OF LITTLE KNIFE PORTAGE, AND ABOUT 0.3 MILE NORTHEAST OF A SMALL ISLAND, STATION BOUNDARY REF MON 927 IS ON A ROUGH FLAT ROCK ABOUT 4.26 FEET ABOVE THE WATER.

Stamping:

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.264 12B = -103.290 09 = -103.268 03 = -103.021

BOUNDARY REF MON 929

Mn/DOT Name: BOUNDARY REF MON 929

NGS Name: BOUNDARY REF MON 929

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	28	66 N	6 W	481046.54	910448.71		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091221/
USGS Quad: ESTER LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1917	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

ON THE NORTH SHORE OF CYPRESS LAKE, NEAR THE MIDDLE OF THE LAKE, ABOUT 1.0 MILE WEST OF THE EASTERN NARROWS OF THE LAKE, STATION BOUNDARY REF MON 929 IS ON THE TOP OF THE HIGH CLIFF OPPOSITE A SMALL NARROW TONGUE OF LAND THAT MAKES OUT FROM THE SOUTH SHORE OF THE LAKE, IT IS ON A SOLID LEDGE ABOUT 19.7 FEET BACK FROM THE EDGE OF THE CLIFF AND AT THE EDGE OF THE TIMBER.

Stamping:

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.497 12B = -103.520 09 = -103.491 03 = -103.254

BOUNDARY REF MON 931

Mn/DOT Name: BOUNDARY REF MON 931

NGS Name: BOUNDARY REF MON 931

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	27	66 N	6 W	481028.31	910537.36		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091221/
USGS Quad: ESTER LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1917	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

ON THE NORTH SHORE OF CYPRESS LAKE, ABOUT 0.7 MILE WEST OF THE FIRST NARROWS WEST OF SWAMP PORTAGE, STATION BOUNDARY REF MON 931 IS ON THE TOP OF A HIGH ROCK CLIFF AT THE EAST END OF THE LINE OF A CLIFFS ALONG THIS PART OF THE NORTH SHORE, STATION BOUNDARY REF MON 931 IS ALMOST IN LINE WITH THE FACE OF A VERY PROMINENT CLIFF WHICH IS AT RIGHT ANGLES TO, AND JUST BACK FROM THE SOUTH SHORE OF THE LAKE, IT IS ON A SOLID LEDGE BACK FROM AND ABOVE THE FACE OF A CLIFF.

Stamping:

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.372 12B = -103.399 09 = -103.372 03 = -103.133

BOUNDARY REF MON 933

Mn/DOT Name: BOUNDARY REF MON 933

NGS Name: BOUNDARY REF MON 933

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	22	66 N	6 W	481056.08	910502.68		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091221/
USGS Quad: ESTER LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

ON THE NORTH SHORE OF CYPRESS LAKE, OPPOSITE THE FIRST NARROWS BELOW AND WEST OF SWAMP PORTAGE, STATION BOUNDARY REF MON 933 IS ON A ROCK CLIFF ABOUT 49.2 FEET ABOVE THE WATER LEVEL.

Stamping:

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.556 12B = -103.579 09 = -103.553 03 = -103.313

BOUNDARY REF MON 935

Mn/DOT Name: BOUNDARY REF MON 935

NGS Name: BOUNDARY REF MON 935

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	23	66 N	6 W	481103.23	910404.67		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091221/
USGS Quad: ESTER LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1917	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1917)

Stamping:

ON THE NORTH SIDE OF CYPRESS LAKE, 0.7 MILE WEST OF THE EAST END OF THE LAKE, 570.6 FEET WEST OF THE SHORE OF THE BAY TO THE EAST OF IT, 328.1 FEET DUE NORTH OF THE SHORE OF A LITTLE COVE ON THE OUTSIDE SHORE LINE, STATION BOUNDARY REF MON 935 IS ON THE FIRST BENCH OF THE RUGGED CLIFFS ABOUT 118.1 FEET ABOVE THE LAKE LEVEL.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE SOLID GRANITE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.615 12B = -103.635 09 = -103.602 03 = -103.369

BOUNDARY REF MON 937

Mn/DOT Name: BOUNDARY REF MON 937

NGS Name: BOUNDARY REF MON 937

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	23	66 N	6 W	481115.02	910351.86		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091221/
USGS Quad: ESTER LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1917	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1917)

Stamping:

ON THE EASTERN PART OF CYPRESS LAKE, 0.5 MILE WEST OF SWAMP PORTAGE, STATION BOUNDARY REF MON 937 IS ON THE HIGHEST PART OF A SMALL ISLAND LYING IN THE MOST EASTERN BAY OF THE NORTH SHORE OF THE LAKE.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.694 12B = -103.714 09 = -103.681 03 = -103.448

BOUNDARY REF MON 939

Mn/DOT Name: BOUNDARY REF MON 939 **NGS Name:** BOUNDARY REF MON 939

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	23	66 N	6 W	481118.15	910322.62		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091221/
USGS Quad: ESTER LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1917	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

NEAR THE EAST END OF CYPRESS LAKE ABOUT 0.2 MILE WEST OF SWAMP PORTAGE, STATION BOUNDARY REF MON 939 IS ABOUT 164.0 FEET BACK FROM THE NORTH SHORE LINE OF THE NARROWS, ON A LEDGE THAT SLOPES TOWARD THE LAKE.

Stamping:

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.720 12B = -103.740 09 = -103.707 03 = -103.477

BOUNDARY REF MON 941

Mn/DOT Name: BOUNDARY REF MON 941

NGS Name: BOUNDARY REF MON 941

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	24	66 N	6 W	481122.48	910246.54		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091221/
USGS Quad: ESTER LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

ON THE NORTH SHORE OF THE WEST END OF SWAMP LAKE, ABOUT 0.1 MILE EAST OF THE EXTREME WEST END OF THE LAKE, AND DIRECTLY OPPOSITE THE SMALL ISLAND AT THE END OF THE LAKE, STATION BOUNDARY REF MON 941 IS ABOUT 16.4 FEET BACK FROM THE SHORE AND 29.5 FEET ABOVE THE LEVEL OF THE LAKE.

Stamping:

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.760 12B = -103.776 09 = -103.747 03 = -103.520

BOUNDARY REF MON 943

Mn/DOT Name: BOUNDARY REF MON 943

NGS Name: BOUNDARY REF MON 943

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	24	66 N	6 W	481124.05	910235.20		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091221/
USGS Quad: ESTER LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1917	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

ON THE NORTH SHORE OF SWAMP LAKE, 0.2 MILE EAST OF SWAMP PORTAGE, ON A LITTLE POINT AT THE EAST END OF THE NARROW WESTERN PART OF THE LAKE, STATION BOUNDARY REF MON 943 IS 16.4 FEET FROM THE SHORE LINE AND 9.84 FEET ABOVE THE LAKE LEVEL.

Stamping:

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.776 12B = -103.789 09 = -103.763 03 = -103.533

BOUNDARY REF MON 944

Mn/DOT Name: BOUNDARY REF MON 944

NGS Name: BOUNDARY REF MON 944

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	24	66 N	6 W	481121.37	910203.59		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091221/
USGS Quad: ESTER LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1917	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

ON THE TOP OF THE KNOLL ABOUT 229.7 FEET SOUTH OF THE SHORT PORTAGE ON THE EAST SIDE OF SWAMP LAKE, STATION BOUNDARY REF MON 944 IS ON A SOLID LEDGE ABOUT 59.1 FEET ABOVE THE LAKE LEVEL.

Stamping:

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.773 12B = -103.783 09 = -103.756 03 = -103.530

BOUNDARY REF MON 945

Mn/DOT Name: BOUNDARY REF MON 945

NGS Name: BOUNDARY REF MON 945

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	24	66 N	6 W	481124.13	910208.25		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091221/
USGS Quad: ESTER LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

ON THE EAST SIDE OF SWAMP LAKE, 72.2 FEET NORTH OF AN OUTLET OF THE LAKE INTO SAGANAGA LAKE, STATION BOUNDARY REF MON 945 IS ON THE TOP OF A KNOLL 32.8 FEET EAST OF THE LAKE SHORE.

Stamping:

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.786 12B = -103.799 09 = -103.773 03 = -103.546

BOUNDARY REF MON 947

Mn/DOT Name: BOUNDARY REF MON 947

NGS Name: BOUNDARY REF MON 947

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	24	66 N	6 W	481121.02	910152.17		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091221/
USGS Quad: ESTER LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

NEAR THE WEST END OF SAGANAGA LAKE, ON THE POINT ON THE NORTH SIDE OF THE NARROWS NEXT EAST OF AND 0.21 MILE FROM THE MOUTH OF SWAMP LAKE, STATION BOUNDARY REF MON 947 IS ON THE ROCK POINT ABOUT 8.2 FEET FROM AND 8.2 FEET ABOVE THE LAKE SHORE.

Stamping:

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.773 12B = -103.786 09 = -103.756 03 = -103.533

BOUNDARY REF MON 949

Mn/DOT Name: BOUNDARY REF MON 949

NGS Name: BOUNDARY REF MON 949

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	19	66 N	5 W	481129.72	910127.95		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091221/
USGS Quad: ESTER LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1917	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

AT THE EXTREME WESTERN END OF SAGANAGA LAKE, AT THE WEST END OF THE SECOND NARROWS WEST OF THE MAIN BODY OF THE LAKE, STATION BOUNDARY REF MON 949 IS ON THE SUMMIT OF THE ROUNDED KNOLL ON THE POINT LYING BETWEEN THE NARROWS AND THE BAY TO THE WEST, IT IS ON A ROCK, ABOUT 32.8 FEET ABOVE THE LEVEL OF THE LAKE.

Stamping:

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.845 12B = -103.851 09 = -103.829 03 = -103.605

BOUNDARY REF MON 951

Mn/DOT Name: BOUNDARY REF MON 951 **NGS Name:** BOUNDARY REF MON 951

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	19	66 N	5 W	481133.32	910123.48		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091221/
USGS Quad: ESTER LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1917	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

AT THE EXTREME WEST END OF SAGANAGA LAKE ON THE NORTH SHORE OF THE SECOND NARROWS WEST OF THE MAIN BODY OF THE LAKE, STATION BOUNDARY REF MON 951 IS ON A PROMINENT KNOLL ABOUT MIDWAY BETWEEN THE ENDS OF THE NARROWS AND JUST BACK FROM A SMALL BAY, IT IS ON A ROUGH-TOPPED ROCK.

Stamping:

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.871 12B = -103.878 09 = -103.855 03 = -103.632

BOUNDARY REF MON 953

Mn/DOT Name: BOUNDARY REF MON 953

NGS Name: BOUNDARY REF MON 953

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	18	66 N	5 W	481137.72	910115.09		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091221/
USGS Quad: ESTER LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

AT THE EXTREME WEST END OF SAGANAGA LAKE, AT THE EAST END OF THE SECOND NARROWS WEST OF THE MAIN BODY OF THE LAKE, STATION BOUNDARY REF MON 953 IS ON THE LONG NECK OF LAND THAT FORMS THE CANADIAN SIDE OF THE ENTRANCE TO THE NARROWS, IT IS ABOUT 229.7 FEET NORTH OF THE POINT OF THE NECK, 164.0 FEET FROM THE SHORE ON THE EAST, AND 32.8 FEET FROM THE SHORE ON THE WEST SIDE OF THE NECK, IT IS ABOUT 26.2 FEET ABOVE THE WATER LEVEL ON A SMALL TRIANGULAR ROCK.

Stamping:

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.904 12B = -103.914 09 = -103.888 03 = -103.664

BOUNDARY REF MON 955

Mn/DOT Name: BOUNDARY REF MON 955

NGS Name: BOUNDARY REF MON 955

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	18	66 N	5 W	481148.30	910058.26		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091221/
USGS Quad: ESTER LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1917	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type
ROCK (1 TO 3 METERS)

Disk Type
METAL ROD

Mon. Agency
IBWC

Description:

ON THE NORTH SHORE NEAR THE WEST END OF SAGANAGA LAKE, STATION BOUNDARY REF MON 955 IS ON THE POINT 0.3 MILE NORTHEAST OF THE SECOND NARROWS WEST OF THE ENTRANCE TO CACHE BAY, STATION BOUNDARY REF MON 955 IS ON OUTCROPPING LIMESTONE AND SANDSTONE NEARLY FLUSH WITH THE GROUND, IT IS ABOUT 13.1 FEET BACK FROM A POINT OF THE COBBLESTONE SHORE AND ABOUT 6.58 FEET ABOVE THE LEVEL OF THE LAKE.

Stamping:

Station Notes
A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.986 12B = -103.993 09 = -103.970 03 = -103.743

BOUNDARY REF MON 957

Mn/DOT Name: BOUNDARY REF MON 957 **NGS Name:** BOUNDARY REF MON 957

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	18	66 N	5 W	481202.80	910046.21		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091221/
USGS Quad: ESTER LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1917	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

ON THE NORTH SHORE OF SAGANAGA LAKE NEAR THE WEST END OF THE LAKE, STATION BOUNDARY REF MON 957 IS ON THE PENINSULA 0.4 MILE WEST OF THE FIRST NARROWS WEST OF THE ENTRANCE TO CACHE BAY, IT IS 39.4 FEET BACK FROM THE SOUTH SHORE OF THE PENINSULA AND ABOUT 39.4 FEET ABOVE THE LAKE LEVEL, ON THE SUMMIT OF THE EASTERN ONE OF TWO HIGH POINTS.

Stamping:

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN OUTCROPPING SANDSTONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.091 12B = -104.098 09 = -104.071 03 = -103.848

BOUNDARY REF MON 959

Mn/DOT Name: BOUNDARY REF MON 959

NGS Name: BOUNDARY REF MON 959

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	17	66 N	5 W	481206.93	910021.36		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091221/
USGS Quad: ESTER LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

ON THE NORTH SHORE OF SAGANAGA LAKE NEAR THE WEST END OF THE LAKE, STATION BOUNDARY REF MON 959 IS ON THE NORTH POINT AT THE FIRST NARROWS WEST OF CACHE BAY, IT IS ON THE TOP OF THE BLUFF, ON THE SOLID LEDGE, 45.9 FEET ABOVE THE LEVEL OF THE LAKE.

Stamping:

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.137 12B = -104.140 09 = -104.114 03 = -103.891

BOUNDARY REF MON 961

Mn/DOT Name: BOUNDARY REF MON 961

NGS Name: BOUNDARY REF MON 961

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481341.91	905838.66		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48090334/
USGS Quad: MUNKER ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1917	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1917)

Stamping:

ON THE NORTH SHORE OF SAGANAGA LAKE, ABOUT 1.4 MILE EAST OF THE MOUTH OF CACHE BAY. STATION BOUNDARY REF MON 961 IS ON THE SUMMIT OF A HIGH, BARE, ROCKY KNOLL, ABOUT 164.0 FEET BACK FROM THE LAKE SHORE.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.813 12B = -104.813 09 = -104.796 03 = -104.554

BOUNDARY REF MON 98

Mn/DOT Name: BOUNDARY REF MON 98 **NGS Name:** REF MON 98

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1195 Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484158.09	942957.86		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1969	UNKNOWN	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	NGS

Description: (1918) **Stamping:**

3.0 MILES WEST OF CLEMENTSON, ON THE NORTH BANK OF THE RAINY RIVER, IN A HAYFIELD, 49.2 FEET BACK FROM THE RIVERS' EDGE, 65.6 FEET FROM A 24.0 INCH DIAMETER ELM TREE, 13.1 FEET SOUTH OF A LARGE FLAT ROCK, 0.4 MILE WEST-NORTHWEST OF LUMBER COMPANY'S BOARDING HOUSE ON THE SOUTH SIDE OF THE RIVER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.538 12B = -95.512 09 = -95.410 03 = -95.462

BOUNDARY REF MON 99

Mn/DOT Name: BOUNDARY REF MON 99 **NGS Name:** BOUNDARY REF MON 99

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1196 Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484157.89	942911.36		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1969	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	NGS

Description: (1914) **Stamping:** RM 99 1937

ON THE NORTH BANK OF THE RAINY RIVER, 2.4 MILES WEST OF CLEMENTSON, NEAR THE EDGE OF A HAYFIELD, 3.3 FEET BACK FROM THE RIVER BANK, 410.0 FEET SOUTHEAST OF WALKS HOUSE, A STANDARD 8.0 INCH DIAMETER MANGANESE, BRONZE REFERENCE POST SET IN A CONCRETE BASE, A BALL OF WIRE AND A CROSS ON A STONE (BOTH UNDERGROUND), MARKING TRIANGULATION STATION WALK, ARE 95.0 FEET DISTANT FROM THE MONUMENT IN BEARING 215.0 DEGREES 20.0 MINUTES.

Station Notes

RECOVERY NOTE BY INTERNATIONAL BOUNDARY COMMISSION 1937, REF MON 99--BRONZE POST BROKEN OFF AT SHANK. HOLE WAS DRILLED AND AN INTERNATIONAL BOUNDARY COMMISSION 3.0-INCH BRONZE DISK WAS STAMPED ---RM 99-1937---AND CEMENTED IN HOLE. IT IS 40.0 FEET BACK FROM TOP OF BANK AND 7.0 FEET ABOVE WATER LEVEL.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.587 12B = -95.567 09 = -95.466 03 = -95.515

BOWEN

Mn/DOT Name: BOWEN

NGS Name: BOWEN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483146.56	933409.76		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093422/
USGS Quad: PELLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1926	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	IBWC

Description: (1926)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 2.6 MILES SOUTHWEST OF ISHERWOOD, 492.0 FEET EAST OF THE MOUTH OF A SMALL CREEK, IN THE SOUTHEAST CORNER OF A BOWEN'S FRONT YARD, 65.6 FEET SOUTHEAST OF A HOUSE, 1.8 FEET NORTH OF BOUNDARY REF MON 228.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -99.586 12B = -99.583 09 = -99.498 03 = -99.468

BOX

Mn/DOT Name: BOX

NGS Name: BOX

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482855.15	924202.02		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092314/
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

3.1 MILES SOUTHWEST OF KETTLE FALLS, ON NAMAKAN LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.714 12B = -103.681 09 = -103.635 03 = -103.664

BOY

Mn/DOT Name: BOY

NGS Name: BOY

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483847.67	940759.22		

NGS ACRN: TC0846 Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.4 MILES WEST OF BIRCHDALE LANDING, 0.5 MILE EAST OF A LARGE ISLAND IN THE RIVER, ON AN INDIAN RESERVE 492.0 FEET EAST OF THE SOUTHWEST CORNER, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.847 12B = -96.853 09 = -96.758 03 = -96.722

BRANCH

Mn/DOT Name: BRANCH

NGS Name: BRANCH

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0847 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484216.59	943215.42		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.6 MILES SOUTHEAST OF THE TOWN RAINY RIVER, ON THE EDGE OF A GRAIN FIELD, OPPOSITE AND 98.4 FEET NORTH OF THE SOUTH END OF A LONG, NARROW ISLAND, A 20.0 INCH DIAMETER OAK TREE BEARS WEST- SOUTHWEST 19.7 FEET DISTANT, A TRIPLE OAK TREES BEARS WEST-NORTHWEST FROM STATION BRANCH, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.430 12B = -95.400 09 = -95.305 03 = -95.354

BRIDGE

Mn/DOT Name: BRIDGE

NGS Name: BRIDGE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483630.53	932403.74		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
BRIDGE PILLAR/PIER	SURVEY DISK	IBWC

Description: (1918)

Stamping:

IN FORT FRANCES, ON THE UPSTREAM END OF THE FORT FRANCES-INTERNATIONAL FALLS BRIDGE PIER BETWEEN THE SLUICEWAY AND THE RIVER, SOUTH OF THE RETAINING WALL OF THE SLUICEWAY, 93.8 FEET FROM THE BRIDGE ABUTMENT ON THE CANADIAN SIDE OF THE RIVER, 0.3 FOOT FROM BOUNDARY REF MON 256.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.843 12B = -100.840 09 = -100.758 03 = -100.741

BROAD

Mn/DOT Name: BROAD

NGS Name: BROAD

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484247.48	942336.33		

NGS ACRN: TC0850 Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 2.5 MILES EAST OF CLEMENTSON, 656.0 FEET WEST OF THE MOUTH OF BUNTING CREEK, ON THE SUMMIT OF A RIDGE IN A HAYFIELD ON THE ARMSTRONG PROPERTY, 246.0 FEET WEST OF A ROAD, 180.4 FEET NORTH OF THE EAST-WEST PART OF THE SAME ROAD, A CROSS CUT IN A STONE OVER A BALL OF WIRE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.060 12B = -96.043 09 = -95.938 03 = -960000

BROOKS

Mn/DOT Name: BROOKS

NGS Name: BROOKS

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0851 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484305.63	943427.36		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.3 MILE WEST OF THE CENTER OF THE TOWN OF RAINY RIVER, 246.0 FEET BACK FROM THE RIVERS' EDGE, 88.6 FEET EAST OF AN OLD INCINERATOR, 72.2 FEET NORTH OF A SMALL FRAME BUILDING, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.423 12B = -95.377 09 = -95.298 03 = -95.334

BROWN

Mn/DOT Name: BROWN

NGS Name: BROWN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483535.32	934844.41		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1913)

Stamping:

ON THE EAST BANK OF THE RAINY RIVER, 2.75 MILES SOUTH OF EMO, OPPOSITE THE NORTH END OF CONMEE ISLAND, ON A HILLSIDE, ON THE PROPERTY OF FRANK BROWN, 19.7 FEET ABOVE AND 59.0 FEET BACK FROM THE RIVER'S EDGE.

Station Notes

SUBSURFACE MARK IS A BOTTLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.015 12B = -98.018 09 = -97.930 03 = -97.979

BRULE

Mn/DOT Name: BRULE **NGS Name:** BRULE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB1138 Get Map
NGS Quad / Sta Num : 48092433/
USGS Quad: SOLDIER POINT

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	34	71 N	20 W	483611.57	925310.03		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	IBWC

Description: (1921) **Stamping:**

23.7 MILES EAST OF INTERNATIONAL FALLS, ON AN ISLAND IN RAINY LAKE, 0.75 MILE NORTHEAST OF THE EASTERN ENTRANCE TO BRULE NARROWS, 393.6 FEET NORTH OF THE LAKE SHORE AT THE EAST END OF THE NORTH OR CANOE CHANNEL WHICH PARALLELS BRULE NARROWS, 19.7 FEET ABOVE THE LAKE LEVEL.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1138.449	.131		1035.251	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -103.537 12B = -103.464 09 = -103.389 03 = -103.477

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 36 11.57357	92 53 10.03007			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 36 11.56502	92 53 10.05178			.033	1	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 36 11.88700	92 53 09.43800			.100	1	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1667960.813	17661890.026	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1667959.356	17661889.158	.033	1	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	1	CLASSICAL SURVEY	1982	17020

BUFFY

Mn/DOT Name: BUFFY

NGS Name: BUFFY

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484148.47	942745.79		

NGS ACRN: TC0853 Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1957	NOT FOUND	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.25 MILES WEST OF CLEMENTSON, 39.4 FEET BACK FROM THE RIVERS? EDGE AT A POINT WHERE THE BANK IS IRREGULAR, THERE IS A SMALL SWALE 49.2 FEET WEST OF STATION BUFFY, THE OLD ELY HOUSE IS 328.0 FEET DISTANT, A CROSS CUT IN A STONE OVER A BURIED BALL OF WIRE, 10.9 FEET SOUTHWEST OF BOUNDARY REF MON 101.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.689 12B = -95.659 09 = -95.564 03 = -95.617

Mn/DOT Name: BUMP **NGS Name:** BUMP

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB1048 Get Map
NGS Quad / Sta Num : 48092311/
USGS Quad: HALE BAY

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	21	69 N	17 W	482936.15	923124.67		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SEE DESCRIPTION	IBWC

Description: (2007)

Stamping:

25.7 MILES NORTH OF BUYCK, 11.5 MILES NORTHERLY ALONG CRANE LAKE ROAD (COUNTY ROAD 24) FROM THE JUNCTION OF CRANE LAKE ROAD (COUNTY ROAD 24) AND ORR BUYCK ROAD (COUNTY ROAD 23) IN BUYCK, THEN HIKE AND BOAT 15.7 MILES NORTH THROUGH VOYAGEURS NATIONAL PARK, STATION BUMP IS ON THE CANADIAN SIDE OF RAINY LAKE, EAST OF HALE BAY, 600.0 FEET NORTH OF SALO LAKE, THE MONUMENT AND THE DISK TYPES ARE UNKNOWN.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1125.326	.131		1021.241	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -104.422 12B = -104.390 09 = -104.373 03 = -104.403

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position		St Louis County - North Zone					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 29 36.15233	92 31 24.66717	482171.396	340811.065	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 29 36.15829	92 31 24.71425			.033	1	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 29 36.49200	92 31 24.15100			.100	1	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

MN State Plane - North Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2764451.861	1055696.027	1755912.156	17622172.314	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1755908.982	17622172.898	.033	1	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	1	CLASSICAL SURVEY	1982	17020

BURN

Mn/DOT Name: BURN

NGS Name: BURN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480641.18	913903.84		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE EAST SIDE OF THE BASSWOOD RIVER ON THE SUMMIT OF A ROCK KNOLL NEARLY OPPOSITE THE SECOND RAPIDS NORTH OF BASSWOOD FALLS, STATION BURN IS ABOUT 82.0 FEET FROM THE RIVER AND ABOUT 82.0 FEET ABOVE THE WATER.

Station Notes

STATION MARK: A DRILL HOLE WITHIN A TRIANGLE CUT IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.290 12B = -103.320 09 = -103.271 03 = -102.998

BURNT

Mn/DOT Name: BURNT

NGS Name: BURNT

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482220.92	921528.25		

NGS ACRN: TB1035 Get Map
NGS Quad / Sta Num : 48092242/
USGS Quad: SNOW BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1924	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	SURVEY DISK	NGS

Description: (1924)

Stamping:

ON NORTH SIDE OF LAC LA CROIX, 5.0 MILES WEST OF OUTLET INTO THE NAMAKAN RIVER, 5.0 MILES NORTHWEST OF THE ANDREW WILLIAMS TRADING POST, 0.75 MILE NORTHWEST OF THE NORTHWEST CORNER OF BAY OF LAC LA CROIX, JUST NORTH OF SOLITARY DOME-SHAPED ISLAND IN MIDDLE OF LAKE, ON THE SUMMIT OF A VERY CONSPICUOUS, HIGH, BURNED-OVER RIDGE WHICH IS THICKLY COVERED WITH WHITE-PINE SNAGS, RIDGE EXTENDS SEVERAL MILES ALONG THE NORTHWEST SHORE OF LAC LA CROIX AND IS BETWEEN IT AND THOMPSON LAKE, TO REACH FROM LAC LA CROIX, GO TO THE HEAD OF A BAY IN THE NORTH SHORE WHICH LIES JUST WEST OF NARROWS LEADING EASTWARD THROUGH NUMEROUS ISLANDS TO THE MAIN BODY OF A LAKE, CONTINUE NORTH 0.5 MILE, AND HEAD WEST TO STATION BURNT, MARKED BY STANDARD BRONZE DISK OF INTERNATIONAL BOUNDARY COMMISSION IN A BOULDER, REFERENCE MARK IS STANDARD INTERNATIONAL BOUNDARY COMMISSION REFERENCE DISK IN DRILL HOLE IN SANDSTONE OUTCROP 30.04 FEET FROM STATION BURNT SOUTH 25 DEGREES 29 MINUTES EAST.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.491 12B = -104.458 09 = -104.465 03 = -104.527

BURNT MNDT RM

Mn/DOT Name: BURNT MNDT RM
NGS Name: BURNT RM
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482221.00	921528.00		

NGS ACRN: CJ2301 Get Map
NGS Quad / Sta Num : 48092242/
USGS Quad: SNOW BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1924	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	REFERENCE MARK DISK	MNDT

Description: (1924)

Stamping:

ON THE NORTH SIDE OF LAC LA CROIX, 5.0 MILES WEST OF AN OUTLET INTO THE NAMAKAN RIVER, 5.0 MILES NORTHWEST OF THE ANDREW WILLIAMS TRADING POST, 0.75 MILE NORTHWEST OF THE NORTHWEST CORNER OF THE BAY OF LAC LA CROIX, JUST NORTH OF A SOLITARY DOME-SHAPED ISLAND IN THE MIDDLE OF A LAKE, ON THE SUMMIT OF A VERY CONSPICUOUS, HIGH, BURNED-OVER RIDGE WHICH IS THICKLY COVERED WITH WHITE-PINE SNAGS, RIDGE EXTENDS SEVERAL MILES ALONG NORTHWEST THE SHORE OF LAC LA CROIX AND IS BETWEEN IT AND THOMPSON LAKE, TO REACH FROM LAC LA CROIX, GO TO THE HEAD OF A BAY IN THE NORTH SHORE WHICH LIES JUST WEST OF NARROWS LEADING EASTWARD THROUGH NUMEROUS ISLANDS TO THE MAIN BODY OF A LAKE, CONTINUE NORTH 0.5 MILE, AND HEAD WEST TO THE STATION SITE, REFERENCE MARK IS STANDARD INTERNATIONAL BOUNDARY COMMISSION REFERENCE DISK IN DRILL HOLE IN SANDSTONE OUTCROP, 30.04 FEET OF STATION SOUTH 25 DEGREES 29 MINUTES EAST.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.491 12B = -104.458 09 = -104.465 03 = -104.527

BURTON IBC

Mn/DOT Name: BURTON IBC **NGS Name:** BURTON

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0591 Get Map
NGS Quad / Sta Num : /1023
Quad Name: N R Canada - 52A/15

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				485658.77	943657.50		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	SURVEY DISK	IBWC

Description: (1913) **Stamping:**

ON LAKE OF WOODS, ON BARE ROCK ISLAND WEST OF BURTON ISLAND, 7.5 MILES NORTHEAST OF RAINY RIVER.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -97.244 12B = -97.290 09 = -97.136 03 = -97.044

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 56 58.77487	94 36 57.50054			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 56 58.74304	94 36 57.47354			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 56 58.73900	94 36 56.70900			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1252250.669	17792346.650	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1252252.402	17792343.387	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	Y	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
1635732.930	897133.180			.100		CLASSICAL SURVEY	1950	UNK

BURTON IBC 1913

Mn/DOT Name: BURTON IBC 1913

NGS Name: BURTON IBC 1913

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				485700.22	943556.08		

NGS ACRN: Get Map
NGS Quad / Sta Num : /
Quad Name: N R Canada - 52A/15

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

5.1 MILES NORTH ALONG GOVERNMENT ROAD FROM THE JUNCTION OF GOVERNMENT ROAD AND ATWOOD AVENUE, THEN 4.1 MILES NORTH ON DISTRICT ROAD 600, 7.0 MILES EAST ON DISTRICT ROAD 600, THEN 2.1 MILES NORTHWEST OF DISTRICT ROAD 600.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.313 12B = -97.362 09 = -97.205 03 = -97.116

BUSH

Mn/DOT Name: BUSH **NGS Name:** BUSH

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	6	161 N	31 W	484704.34	944123.94		3

NGS ACRN: TC0856 Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	2007	UNKNOWN	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	IBWC

Description: (2007) **Stamping:**

6.5 MILES NORTHWEST OF BAUDETTE, 0.5 MILE NORTHEAST ALONG TRUNK HIGHWAY 72 (INTERNATIONAL DRIVE) FROM THE JUNCTION OF TRUNK HIGHWAY 72 (INTERNATIONAL DRIVE) AND TRUNK HIGHWAY 11 (MAIN STREET EAST) IN BAUDETTE, TO THE CANADIAN BORDER, THEN 1.2 MILES NORTH ON CANADIAN HIGHWAY 600, THEN 4.8 MILES NORTH-NORTHWEST ON RIVER ROAD, THEN 0.5 MILE WEST ON ARCEE ROAD, THEN 0.2 MILE NORTH ON CURTIS ROAD, EAST OF THE RAINY RIVER, THE MONUMENT AND THE DISK TYPE ARE UNKNOWN, THE SET DATE AND CONDITION ARE UNKNOWN.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1099.079	.262		1003.919	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -95.597 12B = -95.581 09 = -95.492 03 = -95.476

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 47 04.33603	94 41 23.93552			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 47 04.30622	94 41 23.91906			.131	3	ADJUSTMENT	1989	17085

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1233135.624	17732516.037	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1233136.659	17732512.993	.131	3	ADJUSTMENT	1989	17085

Mn/DOT Name: CAD

NGS Name: CAD

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483156.39	933731.24		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093423/
USGS Quad: DEVLIN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1913)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 2.3 MILES NORTHEAST OF BIG FORK, IN A BARNYARD, DIRECTLY SOUTH OF A HOUSE, ON THE PROPERTY OF GEORGE WARD, 6.6 FEET ABOVE AND 32.8 FEET BACK FROM THE RIVER'S EDGE.

Station Notes

SUBSURFACE MARK IS A BOTTLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -99.203 12B = -99.206 09 = -99.114 03 = -99.098

CAIRO

Mn/DOT Name: CAIRO

NGS Name: CAIRO

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	24	66 N	6 W	481125.67	910240.82		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091221/
USGS Quad: ESTER LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1917	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

ON THE SUMMIT OF THE HILL JUST NORTH OF THE WEST END OF SWAMP LAKE, STATION CAIRO IS ABOUT 229.7 FEET BACK FROM THE LAKE SHORE AND ABOUT 0.2 MILE EAST OF SWAMP PORTAGE.

Stamping:

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE SOLID GRANITE LEDGE OF THE SUMMIT.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.783 12B = -103.799 09 = -103.769 03 = -103.543

CAMERON

Mn/DOT Name: CAMERON

NGS Name: CAMERON

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483905.94	941135.25		

NGS ACRN: TC0858 Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1969	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	NGS

Description: (1969) **Stamping:**

ON THE NORTH BANK OF THE RAINY RIVER, 3.3 MILES UPRIVER AND ACROSS FROM THE MOUTH OF WHITEFISH CREEK, IN FRONTIER, 0.3 MILE DOWNRIVER OF THE MOUTH OF CAMERON CREEK IN BOUCHERVILLE, ON A SLOPE OF THE BANK, 16.4 FEET ABOVE AND 16.4 FEET BACK FROM THE RIVERS? EDGE, 6.6 FEET BELOW A PILE OF ROCKS, CAMERONS HOUSE BEARS EAST-NORTHEAST 295.2 FEET FROM STATION CAMERON, 1.0 FOOT BACK OF THE TOP OF A BANK, DPW 50 WAS NEAR STATION CAMERON, A BRONZE DISK SET IN CONCRETE, CAMERON RM 1 IS 8.26 FEET NORTH BY EAST FROM STATION CAMERON, CAMERON RM 2 IS 15.34 FEET NORTHWEST OF STATION CAMERON.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.644 12B = -96.640 09 = -96.558 03 = -96.522

CAMERON RM 1

Mn/DOT Name: CAMERON RM 1

NGS Name: CAMERON RM 1

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483905.94	941135.25		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1969	GOOD	Horz=? Vert=?	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	NGS

Description:

ON THE NORTH BANK OF RAINY RIVER, 3.3 MILES UPRIVER AND ACROSS FROM THE MOUTH OF WHITEFISH CREEK, IN FRONTIER, 0.3 MILE DOWNRIVER OF THE MOUTH OF CAMERON CREEK IN BOUCHERVILLE, ON A SLOPE OF THE BANK, 16.4 FEET ABOVE AND 16.4 FEET BACK FROM THE RIVER'S EDGE, 6.6 FEET BELOW A PILE OF ROCKS, CAMERONS HOUSE BEARS EAST-NORTHEAST 295.2 FEET FROM THE STATION, 1.0 FOOT BACK OF THE TOP OF A BANK, DPW 50 WAS NEAR THIS STATION, A BRONZE DISK SET IN CONCRETE, STATION CAMERSON IS 8.26 FEET SOUTH BY WEST FROM THE STATION CAMERON RM 1.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

No Geoid Separations Available

CAMERON RM 2

Mn/DOT Name: CAMERON RM 2

NGS Name: CAMERON RM 2

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483905.94	941135.25		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1969	GOOD	Horz=? Vert=?	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	NGS

Description:

Stamping:

ON THE NORTH BANK OF RAINY RIVER, 3.3 MILES UPRIVER AND ACROSS FROM THE MOUTH OF WHITEFISH CREEK, IN FRONTIER, 0.3 MILE DOWNRIVER OF THE MOUTH OF CAMERON CREEK IN BOUCHERVILLE, ON A SLOPE OF THE BANK, 16.4 FEET ABOVE AND 16.4 FEET BACK FROM THE RIVER'S EDGE, 6.6 FEET BELOW A PILE OF ROCKS, CAMERONS HOUSE BEARS EAST-NORTHEAST 295.2 FEET FROM THE STATION, 1.0 FOOT BACK OF THE TOP OF A BANK, DPW 50 WAS NEAR THIS STATION, A BRONZE DISK SET IN CONCRETE, STATION CAMERON IS 15.34 FEET SOUTHEAST OF THE STATION CAMERON RM 2.

*** No Horizontal or Vertical Positions in the Database ***

No Geoid Separations Available

CAMP

Mn/DOT Name: CAMP

NGS Name: CAMP

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482556.38	922923.58		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092244/
USGS Quad: REDHORSE BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

8.4 MILES SOUTHEAST OF KETTLE FALLS, ON THE EAST SHORE OF NAMAKAN NARROWS.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.196 12B = -104.170 09 = -104.137 03 = -104.189

CAMP 2

Mn/DOT Name: CAMP 2 **NGS Name:** CAMP 2

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB1028 Get Map
NGS Quad / Sta Num : 48092213/
USGS Quad: TAKUCMICH LAKE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	29	65 N	14 W	482210.96	920805.70		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	2007	UNKNOWN	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SEE DESCRIPTION	IBWC

Description: (2007)

Stamping:

17.8 MILES NORTHEAST OF CRANE LAKE, AT THE NEGUAGUON LAKE INDIAN PRESERVE 25D, AT A PENINSULA EAST OF INDIAN ISLAND ON LAC LA CROIX LAKE.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1184.381	.262		1079.906	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -104.800 12B = -104.764 09 = -104.741 03 = -104.832

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 22 10.95756	92 08 05.70155			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 22 10.97546	92 08 05.75759			.131	3	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 22 11.33000	92 08 05.27000			.100	3	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1850615.047	17577900.747	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1850611.244	17577902.518	.131	3	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	3	CLASSICAL SURVEY	1982	17020

CAMP 3

Mn/DOT Name: CAMP 3 **NGS Name:** CAMP 3

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481926.63	920041.28		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092212/
USGS Quad: COLEMAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE PROMINENT POINT ON THE EAST SHORE OF LAC LA CROIX, 0.66 MILE SOUTHEAST OF A LONG NARROW PRECIPITOUS ISLAND. THE MONUMENT IS ON THE SOUTH SIDE OF THE ISLAND. REFERENCE MONUMENT 575 IS 1.0 MILE TO THE NORTHWESTWARD AND 670.0 FEET WEST OF STATION RANGER.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.849 12B = -104.823 09 = -104.796 03 = -104.849

CAMP RAINY RIVER

Mn/DOT Name: CAMP RAINY RIVER

NGS Name: CAMP RAINY RIVER

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0860 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484241.44	941822.48		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1947	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	NGS

Description: (1914) **Stamping:**

ON THE NORTH BANK OF RAINY RIVER, IN THE WESTERN PART OF PINEWOOD, SOUTH-SOUTHWEST OF THE ROMAN CATHOLIC CHURCH, 3.3 FEET SOUTH OF THE CHURCH LOT FENCE, 75.4 FEET EAST OF THE SOUTHWEST CORNER POST, A BRONZE DISK SET IN CONCRETE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.486 12B = -96.483 09 = -96.384 03 = -96.397

Mn/DOT Name: CAN

NGS Name: CAN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482624.99	923841.65		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092314/
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

4.4 MILES SOUTHWEST OF KETTLE FALLS, ON AN ISLAND IN NAMAKAN LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.697 12B = -103.678 09 = -103.619 03 = -103.648

CANADA

Mn/DOT Name: CANADA **NGS Name:** CANADA

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480548.63	913134.29		1

NGS ACRN: TA0144 Get Map
NGS Quad / Sta Num : 48091322/
USGS Quad: BASSWOOD LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1917	1924	UNKNOWN	Horz=YES Vert=YES	NO		FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
UNKNOWN	BOLT	NGS

Description: (1924) **Stamping:** G.S.C.

ON THE HIGHEST HILL ON CANADIAN POINT, ABOUT 2.0 MILES EAST OF A CHANNEL CONNECTING THE WESTERN AND MIDDLE BODIES OF BASSWOOD LAKE. TO REACH FROM THE WEST, MAKE LANDING IN A SMALL BAY ABOUT 1.0 MILE DUE EAST OF THE EXTREMITY OF UNITED STATES POINT, AND FOLLOW BLAZED TRAIL TO STATION CANADA SITE. TRIANGLE-BLAZED PINE TREE AT THE FOOT OF A TRAIL CAN BE EASILY SEEN FROM A LAKE. CLEARED LINES THROUGH HEAVY TIMBER CONVERGE AT STATION CANADA. MARKED BY COPPER BOLT STAMPED G. S. C. SET FLUSH IN SOLID ROCK. REFERENCE MARKS ARE COPPER BOLTS SET FLUSH IN OUTCROPPING BOULDER. NO. 1 IS 19.90 65.3 FEET FROM STATION SOUTH 13 DEGREES 02 MINUTES EAST. CANADA RM 2, DISTANCE NOT MEASURED AND NOT RECOVERED IN 1924, IS NORTH 80 DEGREES 43 MINUTES WEST FROM STATION. CANADA RM 3 IS 18.09 59.4 FEET FROM STATION NORTH 52 DEGREES 03 MINUTES EAST.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1499.341	.131		1396.634	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -103.051 12B = -103.100 09 = -103.035 03 = -102.720

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 05 48.62979	91 31 34.28970			.033	1	ADJUSTMENT	1999	17648

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		2000429.984	17480655.234	.033	1	ADJUSTMENT	1999	17648

CANADA RM 1

Mn/DOT Name: CANADA RM 1 **NGS Name:** CANADA RM 1

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480549.00	913133.00		

NGS ACRN: CJ2312 Get Map
NGS Quad / Sta Num : 48091322/
USGS Quad: BASSWOOD LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1917	1917	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	BOLT	NGS

Description:

LOCATED WEST OF VALLEY LAKE.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.054 12B = -103.100 09 = -103.035 03 = -102.720

CANADA RM 2

Mn/DOT Name: CANADA RM 2 **NGS Name:** CANADA RM 2

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480549.00	913133.00		

NGS ACRN: CJ2313 Get Map
NGS Quad / Sta Num : 48091322/
USGS Quad: BASSWOOD LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1917	1917	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	BOLT	NGS

Description: (2019)

WEST OF VALLEY LAKE.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.054 12B = -103.100 09 = -103.035 03 = -102.720

CANADA RM 3

Mn/DOT Name: CANADA RM 3 **NGS Name:** CANADA RM 3

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480549.00	913133.00		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091322/
USGS Quad: BASSWOOD LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1917	1917	GOOD	Horz=? Vert=?	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	BOLT	NGS

Description:

LOCATED WEST OF VALLEY LAKE. NO OTHER DESCRIPTIVE TEXT.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

No Geoid Separations Available

CANOE

Mn/DOT Name: CANOE

NGS Name: CANOE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483804.40	935454.99		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093434/
USGS Quad: MANITOU OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1918)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.6 MILE SOUTH OF MANITOU RAPIDS INDIAN RESERVE 11, 0.1 MILE EAST ALONG TRUNK HIGHWAY 11 FROM THE JUNCTION OF TRUNK HIGHWAY 11 AND TRUNK HIGHWAY 71, THEN 0.6 MILE SOUTHWEST OF TRUNK HIGHWAY 11, 0.2 MILE SOUTHEAST OF A BASEBALL FIELD, NEAR THE MIDDLE OF MANITOU RAPIDS, ON A ROCKY FLAT, 2.0 FEET ABOVE THE WATER, 0.3 FOOT FROM REF MON 176 IBC.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.729 12B = -97.739 09 = -97.634 03 = -97.641

CAPTOR

Mn/DOT Name: CAPTOR

NGS Name: CAPTOR

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	24	66 N	6 W	481132.54	910224.18		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091221/
USGS Quad: ESTER LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1917	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

ON THE NORTH SHORE OF SWAMP LAKE, ABOUT 0.4 MILE NORTHEAST OF THE EAST END OF SWAMP PORTAGE, STATION CAPTOR IS ON A LEDGE OUTCROP ABOUT 6.56 FEET BACK FROM THE SHORE LINE AND 4.92 FEET ABOVE THE LEVEL OF THE LAKE.

Stamping:

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.835 12B = -103.848 09 = -103.822 03 = -103.596

CARSON

Mn/DOT Name: CARSON

NGS Name: CARSON

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0862 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484301.59	943351.67		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1947	NOT FOUND	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, IN THE TOWN OF RAINY RIVER, 6.6 FEET WEST OF THE CENTER OF THE NORTH-SOUTH STREET PASSING THE SCHOOL BUILDING, 3.3 FEET ABOVE AND 39.4 FEET BACK FROM THE RIVERS' EDGE, 26.2 FEET SOUTH OF THE PROLONGATION OF THE LINE OF THE SOUTH RAIL OF A BRIDGE, WHICH IS 328.0 FEET WEST OF THE STATION, A BRONZE DISK SET IN CONCRETE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.439 12B = -95.397 09 = -95.311 03 = -95.354

CARSON SUB

Mn/DOT Name: CARSON SUB

NGS Name: CARSON SUB

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0863 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484301.49	943350.67		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1914	UNKNOWN	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	NGS

Description:

STATION CARSON SUB IS IN RAINY RIVER, 0.34 MILES SOUTH ALONG 1ST STREET FROM THE JUNCTION OF 1ST STREET AND PROVINCIAL HIGHWAY 11, 69.0 FEET SOUTHEAST ON RIVER AVENUE, 51.15 FEET SOUTH FROM THE CENTERLINE OF RIVER AVENUE, NEAR THE NORTH EDGE OF THE RAINY RIVER.

Stamping:

Station Notes

THE MARK WAS ADDED TO MATCH THE NATIONAL GEODETIC SURVEY (NGS) DATABASE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.439 12B = -95.400 09 = -95.311 03 = -95.354

CARTOON

Mn/DOT Name: CARTOON

NGS Name: CARTOON

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	24	66 N	6 W	481123.48	910208.55		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091221/
USGS Quad: ESTER LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

ON THE EAST SIDE OF SWAMP LAKE, AND ON THE NORTH SIDE OF THE OUTLET OF THE LAKE INTO SAGANAGA LAKE, STATION CARTOON IS BETWEEN THE SHORT PORTAGE TRAIL AND THE CREEK, CLOSER TO THE CREEK THAN TO THE TRAIL, AND NEAR SWAMP LAKE, IT IS ABOUT 0.7 FEET ABOVE THE WATER.

Stamping:

Station Notes

A BRONZE DISK SET IN ROCK. BOUNDARY REF MON 945 IS NORTH 16 DEGREES 45 MINUTES EAST, 68.89 FEET FROM THE STATION.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.783 12B = -103.796 09 = -103.766 03 = -103.543

CASKET

Mn/DOT Name: CASKET

NGS Name: CASKET

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091221/
USGS Quad: ESTER LAKE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	32	66 N	6 W	481013.51	910611.05		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1917	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

ON THE NORTH SHORE OF CYPRESS LAKE, 2.0 MILES NORTHEAST OF KNIFE PORTAGE, ABOUT 1.24 MILE SOUTHWEST OF THE NARROWS AT THE EASTERN FORKS OF THE LAKE, STATION CASKET IS ON A HARD ROCK LEDGE, ABOUT 8.20 FEET ABOVE THE WATER, ABOUT 1.97 FEET BACK FROM A VERTICAL FACE OF THE LEDGE, 9.84 FEET BACK FROM ANOTHER VERTICAL FACE OF THE LEDGE.

Stamping:

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.281 12B = -103.310 09 = -103.287 03 = -103.041

CAT

Mn/DOT Name: CAT

NGS Name: CAT

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481357.07	922041.53		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

7.0 MILES SOUTHEAST OF CRANE LAKE, ON THE NORTH SHORE OF THE LOON RIVER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.461 12B = -103.461 09 = -103.382 03 = -103.428

CATO

Mn/DOT Name: CATO

NGS Name: CATO

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481724.80	922431.03		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

4.1 MILES NORTHEAST OF CRANE LAKE, ON THE EAST SIDE OF LITTLE VERMILION LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.625 12B = -103.612 09 = -103.563 03 = -103.592

CEDAR

Mn/DOT Name: CEDAR
NGS Name: CEDAR
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB1023 Get Map
NGS Quad / Sta Num : 48092212/
USGS Quad: COLEMAN ISLAND

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482153.90	920417.53		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1924	1924	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	GSC

Description: (1924)
Stamping:

ON A SMALL LOW ISLAND AT THE EAST END OF THE MAIN OPEN BODY OF LAC LA CROIX, NEAR THE MOST WESTERLY EXTREMITY OF AN ISLAND, 50.0 FEET FROM THE SHORE, AN ISLAND LIES 1.25 MILES EAST OF A VERY SMALL ISLAND, LYING IN AN OPEN PART OF A LAKE AND MADE CONSPICUOUS BY ITS LONE BUSHY TOPPED PINE TREE, THE ISLAND ON WHICH STATION CEDAR IS LOCATED IS COVERED WITH TALL NORWAY PINE, WHITE PINE, AND CEDAR TREES.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1181.100	.131		1076.481	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -104.941 12B = -104.905 09 = -104.878 03 = -104.970

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 21 53.89866	92 04 17.52598			.033	1	ADJUSTMENT	1999	17648

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1866036.450	17576352.915	.033	1	ADJUSTMENT	1999	17648

CEDAR RM

Mn/DOT Name: CEDAR RM

NGS Name: CEDAR RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: CJ2327 Get Map
NGS Quad / Sta Num : 48092212/
USGS Quad: COLEMAN ISLAND

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482154.00	920417.00		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1924	1924	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	REFERENCE MARK DISK	GSC

Description:

ON A SMALL LOW ISLAND AT THE EAST END OF THE MAIN OPEN BODY OF LAC LA CROIX, NEAR THE MOST WESTERLY EXTREMITY OF AN ISLAND, 50.0 FEET FROM THE SHORE, AN ISLAND LIES 1.25 MILES EAST OF A VERY SMALL ISLAND, LYING IN AN OPEN PART OF A LAKE AND MADE CONSPICUOUS BY ITS LONE BUSHY TOPPED PINE TREE, THE ISLAND ON WHICH STATION CEDAR RM IS LOCATED IS COVERED WITH TALL NORWAY PINE, WHITE PINE, AND CEDAR TREES.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.941 12B = -104.905 09 = -104.878 03 = -104.974

CENTER

Mn/DOT Name: CENTER

NGS Name: CENTER

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481837.22	922600.17		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

4.0 MILES NORTHEAST OF CRANE LAKE, ON THE EAST SIDE OF THE LITTLE VERMILION NARROWS.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.664 12B = -103.651 09 = -103.615 03 = -103.635

CENTER 1

Mn/DOT Name: CENTER 1

NGS Name: CENTER 1

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482253.65	922437.12		

NGS ACRN: TB1041 Get Map
NGS Quad / Sta Num : 48092244/
USGS Quad: REDHORSE BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNKNOWN	NGS

Description:

0.3 MILE WEST OF DAVID LAKE, 5.4 MILES SOUTHEAST OF BAY (TB1047), IN CANADA.

Stamping:

Station Notes

THE MARK WAS ADDED TO MATCH THE NATIONAL GEODETIC SURVEY (NGS) DATABASE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.157 12B = -104.127 09 = -104.121 03 = -104.147

CENTER IBC

Mn/DOT Name: CENTER IBC

NGS Name: CENTER IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092213/
USGS Quad: TAKUCMICH LAKE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	26	68 N	15 W	482112.09	921420.56		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (1921)

Stamping:

ON THE ISLAND 0.3 MILE SOUTHWEST OF BOUNDARY REF MON 519.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.439 12B = -104.406 09 = -104.393 03 = -104.458

CENTER II IBC

Mn/DOT Name: CENTER II IBC
NGS Name: CENTER II
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482049.27	921823.98		1

NGS ACRN: TB1036 Get Map
NGS Quad / Sta Num : 48092242/1004
USGS Quad: SNOW BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNKNOWN	IBWC

Description: (1915)
Stamping:

ON THE NORTH SIDE OF LAC LA CROIX, 1.0 MILE EAST OF WILKINS BAY, ON A HIGH HILL, 0.75 MILE NORTHWEST OF BOUNDARY REF MON 513.

*** No Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.229 12B = -104.199 09 = -104.203 03 = -104.242

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 20 49.26998	92 18 23.97816			.033	1	ADJUSTMENT	1999	17648

NAD27

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 20 49.63300	92 18 23.50000			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	UTM - Zone 15 Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
		1808959.805	17569201.787	.033	1	ADJUSTMENT	1999	17648

NAD27

MN State Plane - North Zone X	MN State Plane - North Zone Y	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
2192953.330	674724.530			.100		CLASSICAL SURVEY	1950	UNK

CENTER II RM

Mn/DOT Name: CENTER II RM

NGS Name: CENTER II RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: CJ2330 Get Map
NGS Quad / Sta Num : 48092242/
USGS Quad: SNOW BAY

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482049.00	921824.00		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=YES Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	REFERENCE MARK DISK	CGS

Description:

10.0 MILES NORTHEAST OF CRANE LAKE.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.229 12B = -104.196 09 = -104.203 03 = -104.242

CENTER III

Mn/DOT Name: CENTER III

NGS Name: CENTER III

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482956.56	923906.04		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092314/
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1914	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

0.6 MILE SOUTHWEST OF KETTLE FALLS, ON AN ISLAND IN NAMAKAN LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.022 12B = -103.993 09 = -103.937 03 = -103.973

CENTRAL

Mn/DOT Name: CENTRAL

NGS Name: CENTRAL

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091224/
USGS Quad: DUTTON LAKE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	32	66 N	6 W	480937.12	910740.33		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1912	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1912)

Stamping:

ON AN ISLAND IN CYPRESS LAKE, ABOUT 0.75 MILE NORTHEAST OF LITTLE KNIFE PORTAGE. STATION CENTRAL IS ON THE FIRST SMALL ISLAND IN THE BROAD BAY OF THE NORTH SHORE. IT IS ABOUT 26.2 FEET FROM THE EAST END OF THE ISLAND, 9.8 FEET FROM THE SOUTH SIDE OF THE ISLAND, AND 9.8 FEET ABOVE THE LAKE LEVEL.

Station Notes

A BRONZE DISK SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.084 12B = -103.117 09 = -103.090 03 = -102.834

CEPHAS

Mn/DOT Name: CEPHAS **NGS Name:** CEPHAS

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	23	66 N	6 W	481127.94	910316.88		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091221/
USGS Quad: ESTER LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

ON THE NORTH SIDE OF THE EAST END OF CYPRESS LAKE, ON THE HIGH ROCKY HILL WITH A SMOOTH BARE GRANITE LEDGE ON THE SOUTH SIDE, LIES JUST NORTH OF THE SMALL POND LIKE EASTERN END OF THE LAKE, STATION CEPHAS IS ON THE BARE LEDGE OF THE SUMMIT, ABOUT 26.2 FEET SOUTH OF THE HIGHEST POINT.

Stamping:

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.786 12B = -103.802 09 = -103.773 03 = -103.543

CERE

Mn/DOT Name: CERE

NGS Name: CERE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	32	66 N	6 W	480925.10	910812.31		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091224/
USGS Quad: DUTTON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1917	1917	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1917)

Stamping:

ON THE NORTH SHORE OF THE WEST END OF CYPRESS LAKE, ABOUT 0.1 MILE EAST OF THE MOST WESTERN NARROWS IN THE LAKE. STATION CERE IS ABOUT 29.5 FEET BACK FROM THE SHORE AND ABOUT 39.4 FEET ABOVE THE LAKE LEVEL.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.028 12B = -103.058 09 = -103.035 03 = -102.772

CERTES

Mn/DOT Name: CERTES

NGS Name: CERTES

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483128.91	933656.75		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093422/
USGS Quad: PELLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	IBWC

Description: (1913) **Stamping:** U.S. & C.B. SURVEY

ON THE NORTH BANK OF THE RAINY RIVER, 4.7 MILES SOUTHWEST OF ISHERWOOD, ON THE EDGE OF A FIELD, ON THE PROPERTY OF JOHN CERTES, 9.8 FEET ABOVE THE WATER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -99.265 12B = -99.262 09 = -99.176 03 = -99.150

CHAFE

Mn/DOT Name: CHAFE

NGS Name: CHAFE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	32	66 N	6 W	480921.71	910821.07		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091224/
USGS Quad: DUTTON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1917	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1917)

Stamping:

ON THE NORTH SHORE OF THE NARROWS IN THE WEST END OF CYPRESS LAKE. STATION CHAFE IS ON A HIGH CLIFF, 72.1 FEET ABOVE THE WATER, AND 26.2 FEET BACK FROM THE SHORE.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK. A DRILL HOLE WITHIN A TRIANGLE CUT IN THE ROCK, MARKING TRIANGULATION STATION ('BOUNDARY REF MON 417," IS NORTH 256 DEGREES WEST, 8.86 FEET FROM THE STATION.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.012 12B = -103.041 09 = -103.018 03 = -102.756

CHANNEL

Mn/DOT Name: CHANNEL

NGS Name: CHANNEL

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092242/
USGS Quad: SNOW BAY

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	32	68 N	15 W	481929.28	921800.59		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (1921)

Stamping:

ON THE CANADIAN SHORE OF LAC LA CROIX, 500.0 FEET SOUTHWEST OF BOUNDARY REF MON 509.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.127 12B = -104.101 09 = -104.084 03 = -104.127

CHIEF

Mn/DOT Name: CHIEF

NGS Name: CHIEF

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483153.28	933528.79		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093422/
USGS Quad: PELLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1913)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 3.5 MILES SOUTH WEST OF ISHERWOOD, OPPOSITE THE WEST END OF AN ISLAND, 26.2 FEET ABOVE AND 59.0 FEET BACK FROM THE RIVER'S EDGE, 65.6 FEET SOUTHEAST OF SEVERAL INDIAN GRAVES.

Station Notes

SUBSURFACE MARK IS A BOTTLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -99.439 12B = -99.439 09 = -99.353 03 = -99.331

CHIMNEY

Mn/DOT Name: CHIMNEY **NGS Name:** CHIMNEY

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483151.08	933255.90		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093422/
USGS Quad: PELLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1914	GOOD	Horz=? Vert=?	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2009) **Stamping:**

ON THE NORTH BANK OF THE RAINY RIVER, 1.7 MILES SOUTH WEST OF ISHERWOOD.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -99.727 12B = -99.721 09 = -99.636 03 = -99.606

CHOP

Mn/DOT Name: CHOP

NGS Name: CHOP

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092213/
USGS Quad: TAKUCMICH LAKE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	25	68 N	15 W	482101.58	921242.48		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

0.2 MILE NORTHWEST OF REFERENCE MONUMENT 531, NO DESCRIPTIVE TEXT.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.488 12B = -104.455 09 = -104.439 03 = -104.508

CINCH

Mn/DOT Name: CINCH

NGS Name: CINCH

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091221/
USGS Quad: ESTER LAKE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	32	66 N	6 W	480950.81	910722.65		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1917	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1917)

Stamping:

ON THE NORTH SIDE OF CYPRESS LAKE, ON THE HIGH, ROCKY, TIMBERED RIDGE THAT LIES TO THE WEST AND ON THE PROLONGATION OF THE FIRST STRAIGHT STRETCH OF THE LAKE WEST OF THE NARROWS. STATION CINCH IS ON THE HIGHEST PART OF THE RIDGE ON A ROCK KNOLL. IT IS ABOUT 984.3 FEET NORTHWEST OF TILE LARGE ISLAND LYING IN THE BEND OF THE LAKE.

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.159 12B = -103.192 09 = -103.166 03 = -102.913

CIRCUS

Mn/DOT Name: CIRCUS

NGS Name: CIRCUS

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091221/
USGS Quad: ESTER LAKE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	28	66 N	6 W	481018.46	910603.46		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1917	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

ON THE NORTH SIDE OF CYPRESS LAKE, ABOUT MIDWAY BETWEEN THE ENDS OF THE LAKE, 0.6 MILE EAST OF WHERE THE LAKE WIDENS OUT AND MAKES A TURN TO THE SOUTH, STATION CIRCUS IS ON THE SECOND CLIFF EAST OF THE TURN OF THE LAKE TO THE SOUTH, ABOUT 164.0 FEET BACK FROM THE LAKE SHORE ON THE TOP OF A CLIFF, ON A SOLID LEDGE.

Stamping:

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.310 12B = -103.336 09 = -103.317 03 = -103.071

CITA

Mn/DOT Name: CITA

NGS Name: CITA

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: Get Map
NGS Quad / Sta Num : 48090322/
USGS Quad: SOUTH LAKE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	16	65 N	2 W	480717.14	903435.87		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1911	1917	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1917)

Stamping:

ON THE SHORE OF LITTLE NORTH LAKE, ON THE POINT ON THE WEST END OF THE NARROWS FROM NORTH LAKE.
STATION CITA IS ABOUT 49.2 FEET NORTHWEST OF THE EXTREME POINT AND NEAR THE HIGH-WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.461 12B = -103.399 09 = -103.402 03 = -103.054

CLARET

Mn/DOT Name: CLARET **NGS Name:** CLARET

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	32	66 N	6 W	481014.98	910620.00		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091221/
USGS Quad: ESTER LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1917	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	METAL ROD	IBWC

Description: (1912) **Stamping:**

ON THE NORTH SIDE OF CYPRESS LAKE, STATION CLARET IS ON THE SUMMIT OF THE FIRST HIGH, ROCKY, TIMBERED CLIFF EAST OF AND ABOUT 0.37 FEET FROM THE PLACE WHERE THE LAKE WIDENS OUT AND TAKES A TURN TO THE SOUTH.

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE SOLID GRANITE LEDGE OF THE SUMMIT.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.290 12B = -103.320 09 = -103.297 03 = -103.051

CLARK

Mn/DOT Name: CLARK

NGS Name: CLARK

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483102.25	934504.97		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	SURVEY DISK	IBWC

Description: (1918)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 2.6 MILES NORTHEAST OF LOMAN, 131.2 FEET WEST OF THE MOUTH OF THE TURNER CREEK, 11.8 FEET SOUTH OF BOUNDARY REF MON 208.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.353 12B = -98.353 09 = -98.261 03 = -98.238

CLARK IBC

Mn/DOT Name: CLARK IBC

NGS Name: CLARK

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482625.81	922952.42		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092244/
USGS Quad: REDHORSE BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

7.8 MILES SOUTHEAST OF KETTLE FALLS, ON AN ISLAND IN NAMAKAN LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.222 12B = -104.193 09 = -104.157 03 = -104.209

CLASH

Mn/DOT Name: CLASH

NGS Name: CLASH

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091221/
USGS Quad: ESTER LAKE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	24	66 N	6 W	481133.35	910202.53		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1917	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

ON THE SUMMIT OF THE RIDGE ABOUT 328.1 FEET EAST OF SWAMP LAKE AND 0.2 MILE NORTH OF THE SHORT PORTAGE, STATION CLASH IS 98.4 FEET WEST OF THE HIGHEST POINT OF THE SUMMIT, WHERE THERE IS A LARGE BLACK BOULDER.

Stamping:

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE SOLID GRANITE LEDGE OF THE SUMMIT.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.851 12B = -103.861 09 = -103.835 03 = -103.612

CLAYTON

Mn/DOT Name: CLAYTON

NGS Name: CLAYTON

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	6	66 N	6 W	480901.65	910837.41		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091224/
USGS Quad: DUTTON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1912	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1912)

Stamping:

ON THE NORTH SIDE OF THE EAST END OF KNIFE LAKE. STATION CLAYTON IS ON THE SUMMIT OF THE HIGH, TIMBERED HILL THAT RISES FROM AND TO THE WEST OF THE BOUNDARY STREAM BETWEEN CYPRESS AND KNIFE LAKES.

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE SOLID LEDGE OF THE SUMMIT.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.907 12B = -102.933 09 = -102.907 03 = -102.644

CLERK

Mn/DOT Name: CLERK

NGS Name: CLERK

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	6	65 N	6 W	480844.41	910851.90		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091224/
USGS Quad: DUTTON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE NORTH SHORE OF KNIFE LAKE, ON THE FIRST PROMINENT TIMBERED, GRANITE POINT WEST OF AND ABOUT 0.63 MILE DISTANT FROM LITTLE KNIFE PORTAGE. STATION CLERK IS ON A LEDGE ON THE FIRST SMOOTH KNOLL OF THE POINT.

Station Notes

A BRONZE DISK SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.818 12B = -102.844 09 = -102.815 03 = -102.556

CLICK

Mn/DOT Name: CLICK

NGS Name: CLICK

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091221/
USGS Quad: ESTER LAKE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	23	66 N	6 W	481053.13	910419.52		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1917	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

ON THE NORTH SHORE OF CYPRESS LAKE, 0.4 MILE EAST OF THE FIRST NARROWS WEST OF SWAMP PORTAGE, STATION CLICK IS ON A LITTLE SHARP POINT OF THE SHORE LINE WHICH IS OTHERWISE NEARLY STRAIGHT FOR SOME DISTANCE IN EITHER DIRECTION, IT IS ON THE FLAT LEDGE THAT EXTENDS OUT INTO THE LAKE ABOUT 19.7 FEET BEYOND THE TIMBER LINE, ABOUT 3.28 FEET FROM THE WATER'S EDGE, AND 0.98 FEET ABOVE THE LAKE LEVEL.

Stamping:

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.546 12B = -103.569 09 = -103.533 03 = -103.300

CLOUD

Mn/DOT Name: CLOUD

NGS Name: CLOUD

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481415.93	921910.22		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=YES Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (1921)

Stamping:

ON THE NORTH SIDE OF THE WEST ARM OF LOON LAKE ON A ROCK LEDGE ABOUT 0.25 MILE EAST OF THE PORTAGE TO THE LOON RIVER, CLOSE TO THE SHORE AND ABOUT 20.0 FEET ABOVE THE HIGH-WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.556 12B = -103.553 09 = -103.491 03 = -103.527

CLOVER

Mn/DOT Name: CLOVER

NGS Name: CLOVER

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483335.40	932734.33		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1913)

Stamping:

ON THE WEST BANK OF THE RAINY RIVER, 4.7 MILES SOUTHWEST OF FORT FRANCES, 0.2 MILE NORTH OF A SMALL CREEK, 32.8 FEET ABOVE AND 131.2 FEET BACK FROM THE RIVER'S EDGE.

Station Notes

SUBSURFACE MARK IS A BOTTLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.357 12B = -100.357 09 = -100.259 03 = -100.239

COLT

Mn/DOT Name: COLT

NGS Name: COLT

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0879 Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	20	65 N	1 W	483839.38	940252.95		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1918	1968	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	SURVEY DISK	NGS

Description: (1918)

Stamping:

ON THE NORTH SHORE AT THE HEAD OF ROSE LAKE, ON THE POINT FACING RAT PORTAGE, ABOUT 14.8 FEET ACROSS THE BAY FROM THE PORTAGE. STATION COLT IS ON A ROCK LEDGE ABOUT 11.5 FEET BACK FROM AND ABOUT 6.6 FEET ABOVE THE WATER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.241 12B = -97.247 09 = -97.142 03 = -97.109

COLVIN

Mn/DOT Name: COLVIN

NGS Name: COLVIN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484219.49	941952.37		

NGS ACRN: TC0880 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1947	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.25 MILES WEST OF PINEWOOD, ON A BENCH 6.6 FEET ABOVE AND 36.1 FEET BACK FROM THE RIVERS' EDGE, 26.2 FEET EAST OF A FENCE CORNER, 147.6 FEET SOUTH BY EAST FROM COLVIN'S HOUSE, A BRONZE DISK SET IN CONCRETE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.335 12B = -96.332 09 = -96.224 03 = -96.243

Mn/DOT Name: COOK
NGS Name: COOK
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB1007 Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	3	159 N	25 W	483802.20	934420.82		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	2007	UNKNOWN	Horz=? Vert=?	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2007)

Stamping:

4.3 MILES EAST OF EMO ONTARIO, 4.3 MILES EAST ALONG HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY11 AND PROVINCE ROAD 602 IN EMO ONTARIO, AT THE INTERSECTION OF HIGHWAY 11.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1227.032	.131		1128.518	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -98.560 12B = -98.576 09 = -98.497 03 = -98.648

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position		Koochiching County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 38 02.19517	93 44 20.82291	502631.764	387528.087	.033	1	ADJUSTMENT	1999	17648

State Plane and UTM Coordinates (Feet)

NAD83(1996)

MN State Plane - North Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2470117.799	1107096.501	1461756.297	17673940.654	.033	1	ADJUSTMENT	1999	17648

COOK ONTARIO

Mn/DOT Name: COOK ONTARIO
NGS Name: COOK
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484544.04	943932.36		

NGS ACRN: TC0882 Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1912	UNKNOWN	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	UNMONUMENTED	NGS

Description:

STATION COOK ONTARIO IS IN RAINY RIVER DISTRICT OF ONTARIO CANADA, ON THE NORTH BANK OF THE RAINY RIVER.

Stamping:

Station Notes

THE MARK WAS ADDED TO MATCH THE NATIONAL GEODETIC SURVEY (NGS) DATABASE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.521 12B = -95.492 09 = -95.410 03 = -95.410

COURTHOUSE

Mn/DOT Name: COURTHOUSE

NGS Name: COURTHOUSE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483631.05	932342.52		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1914	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2009)

IN FORT FRANCES.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.879 12B = -100.873 09 = -100.790 03 = -100.774

CRAIGEN

Mn/DOT Name: CRAIGEN

NGS Name: CRAIGEN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484133.78	941524.07		

NGS ACRN: TC0883 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1947	NOT FOUND	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE EAST BANK OF THE RAINY RIVER, 1.6 MILES NORTH OF THE FRONTIER SCHOOLHOUSE, BETWEEN TWO FIELDS ON CRAIGENS PROPERTY, NEAR THE SUMMIT OF THE RIDGE BETWEEN THE RIVER AND A CREEK, JUST WEST OF A SMALL GRAVEYARD, A CROSS CUT IN A STONE OVER A BALL OF WIRE, 21.2 FEET NORTHEAST OF BOUNDARY REF MON 122.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.640 12B = -96.640 09 = -96.548 03 = -96.535

CRATE

Mn/DOT Name: CRATE

NGS Name: CRATE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481407.76	921951.04		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=YES Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (1921)

Stamping:

ON THE RIGHT BANK OF THE LOON RIVER, OPPOSITE THE MOUTH OF A LARGE CREEK ON THE UNITED STATES SIDE; 0.33 MILE DOWNSTREAM FROM THE PORTAGE TO THE LOON RIVER; ABOUT 150.0 FEET FROM THE SHORE AND 10.0 FEET ABOVE THE HIGH-WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.520 12B = -103.517 09 = -103.445 03 = -103.484

CRINGE

Mn/DOT Name: CRINGE

NGS Name: CRINGE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481248.56	905936.47		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48090334/
USGS Quad: MUNKER ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1912	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1912)

Stamping:

ON THE NORTH SHORE OF SAGANAGA LAKE, ABOUT 0.2 MILE EAST OF AN ENTRANCE TO CACHE BAY. STATION CRINGE IS ON THE SUMMIT OF A POINT OF A ROCK AT THE SHORE LINE; IT IS ON A HARD PLACE IN THE DISINTEGRATED ROCK, ABOUT 9.84 FEET SOUTH OF A SHARP ROCK POINT.

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.442 12B = -104.439 09 = -104.416 03 = -104.186

CROOK

Mn/DOT Name: CROOK

NGS Name: CROOK

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483726.60	934948.54		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	IBWC

Description: (1918)

Stamping:

ON THE EAST BANK OF THE RAINY RIVER, 0.5 MILE SOUTHEAST OF EMO, NEAR FRED CRUIKSHANK'S FRONT FENCE, 213.2 FEET FROM A HOUSE, 3.7 FEET EAST OF BOUNDARY REF MON 186.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.018 12B = -98.028 09 = -97.930 03 = -97.989

CROOKED

Mn/DOT Name: CROOKED

NGS Name: CROOKED

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482742.41	923157.58		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092311/
USGS Quad: HALE BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

5.7 MILES SOUTHEAST OF KETTLE FALLS, ON A LOW SOLITARY ISLAND IN NAMAKAN LAKE, 500.0 FEET FROM THE CANADIAN SHORE, 2.0 MILES NORTHEAST OF GULL ISLAND.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.235 12B = -104.206 09 = -104.166 03 = -104.209

CROSS IBC

Mn/DOT Name: CROSS IBC

NGS Name: CROSS IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484104.73	940947.14		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

0.4 MILE NORTH OF STRATTON, 0.4 MILE NORTH ALONG HIGHWAY 617 FROM THE JUNCTION OF HIGHWAY 617 AND HIGHWAY 11.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.985 12B = -96.991 09 = -96.903 03 = -96.850

CROW

Mn/DOT Name: CROW

NGS Name: CROW

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484248.24	943236.66		

NGS ACRN: TC0886 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.25 MILES FROM THE FOOT OF FOURTH STREET IN RAINY RIVER, 16.4 FEET ABOVE AND 65.6 FEET BACK FROM THE RIVERS' EDGE, 190.2 FEET EAST OF A FENCE, ON THE WEST SIDE OF A SLOUGH INLET, OPPOSITE THE BOOM CREWS BOARDING HOUSE, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.466 12B = -95.433 09 = -95.341 03 = -95.390

CRUPPER

Mn/DOT Name: CRUPPER

NGS Name: CRUPPER

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	24	66 N	6 W	481054.50	910444.46		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091221/
USGS Quad: ESTER LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1917	1921	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (1917)

Stamping:

ON THE NORTH SHORE OF CYPRESS LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.550 12B = -103.573 09 = -103.543 03 = -103.304

CUDDLE

Mn/DOT Name: CUDDLE

NGS Name: CUDDLE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	23	66 N	6 W	481103.29	910357.13		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091221/
USGS Quad: ESTER LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1917	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description:

ON THE NORTH SIDE OF CYPRESS LAKE, 0.8 MILE WEST OF THE EAST END OF THE LAKE.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.619 12B = -103.638 09 = -103.602 03 = -103.369

CURTAIN

Mn/DOT Name: CURTAIN
NGS Name: CURTAIN
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TA0177 Get Map
NGS Quad / Sta Num : 48091334/
USGS Quad: IRON LAKE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	5	66 N	12 W	481433.86	915409.26		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	2007	UNKNOWN	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2007)

Stamping:

23.0 MILES NORTH OF ELY ON HUNTER ISLAND IN QUETICO PROVINCIAL PARK ONTARIO CANADA, 2.2 MILES EAST ALONG TRUNK HIGHWAY 1 (SHERIDAN AVENUE) FROM THE JUNCTION OF TRUNK HIGHWAY 1 AND CENTRAL AVENUE IN ELY, THEN 2.2 MILES NORTH AND WEST ON COUNTY ROAD 88, THEN 12.5 MILES NORTH ON ECHO TRAIL TO SPRING CREEL, THEN 13.0 MILES NORTH AT SPRING CREEK TO QUETICO PROVINCIAL PARK, ACROSS FROM CURTAIN FALLS IN CROOKED LAKE.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1361.546	.131		1257.465	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -104.406 12B = -104.396 09 = -104.373 03 = -104.327

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position		St Louis County - North Zone					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 14 33.85843	91 54 09.26042	633404.455	249835.477	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 14 33.87322	91 54 09.29913			.033	1	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 14 34.23700	91 54 08.83200			.100	1	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

MN State Plane - North Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2916426.309	966001.921	1907731.909	17532321.516	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1907729.269	17532322.977	.033	1	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	1	CLASSICAL SURVEY	1982	17020

CURTAIN 2

Mn/DOT Name: CURTAIN 2 **NGS Name:** CURTAIN 2

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TA0176 Get Map
NGS Quad / Sta Num : 48091334/
USGS Quad: IRON LAKE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	5	66 N	12 W	481449.87	915400.66		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	2007	UNKNOWN	Horz=YES Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2007)

Stamping:

23.0 MILES NORTH OF ELY ON HUNTER ISLAND IN QUETICO PROVINCIAL PARK ONTARIO CANADA, 2.2 MILES EAST ALONG TRUNK HIGHWAY 1 (SHERIDAN AVENUE) FROM THE JUNCTION OF TRUNK HIGHWAY 1 AND CENTRAL AVENUE IN ELY, THEN 2.2 MILES NORTH AND WEST ON COUNTY ROAD 88, THEN 12.5 MILES NORTH ON ECHO TRAIL TO SPRING CREEL, THEN 13.2 MILES NORTH AT SPRING CREEK TO QUETICO PROVINCIAL PARK, ACROSS FROM CURTAIN FALLS IN CROOKED LAKE.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1420.601	.131		1316.484	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -104.442 12B = -104.432 09 = -104.416 03 = -104.367

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position		St Louis County - North Zone					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 14 49.87446	91 54 00.66296	633974.808	251462.692	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 14 49.88986	91 54 00.70143			.033	1	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 14 50.25700	91 54 00.23300			.100	1	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

MN State Plane - North Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2916982.967	967633.646	1908290.389	17533952.169	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1908287.764	17533953.692	.033	1	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	1	CLASSICAL SURVEY	1982	17020

CUSK

Mn/DOT Name: CUSK **NGS Name:** CUSK

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: Get Map
NGS Quad / Sta Num : 48090322/
USGS Quad: SOUTH LAKE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	16	65 N	2 W	480717.07	903417.44		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1917	1917	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1917) **Stamping:**

ON THE NORTH SHORE OF THE NARROWS. BETWEEN NORTH LAKE AND LITTLE NORTH LAKE, ABOUT 0.3 MILE WEST OF THE OUTLET OF NORTH LAKE. STATION CUSK IS ON A ROCK ABOUT 13.1 FEET BACK FROM THE SHORE LINE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.510 12B = -103.448 09 = -103.445 03 = -103.100

CUT

Mn/DOT Name: CUT

NGS Name: CUT

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483402.64	932733.57		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type
ROCK (0 TO 1 METERS)

Disk Type
CHISELED CROSS

Mon. Agency
IBWC

Description: (1913)

Stamping:

ON THE WEST BANK OF THE RAINY RIVER, 4.3 MILES SOUTHWEST OF FORT FRANCES, 0.2 MILE SOUTH OF A SMALL STREAM, IN THE WOODS, 16.4 FEET ABOVE AND 65.6 FEET BACK FROM THE RIVER'S EDGE.

Station Notes
SUBSURFACE MARK IS A BOTTLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.377 12B = -100.380 09 = -100.279 03 = -100.266

CUT IBC

Mn/DOT Name: CUT IBC

NGS Name: CUT IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480720.09	914108.32		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

ON THE NORTH BANK OF THE BASSWOOD RIVER OPPOSITE THE UPPER END OF THE LARGE ISLAND THAT LIES JUST ABOVE WHEELBARROW FALLS, STATION CUT IBC IS ON A LEDGE ABOUT 98.4 FEET BACK FROM THE SHORE LINE.

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.415 12B = -103.438 09 = -103.395 03 = -103.146

CUTE

Mn/DOT Name: CUTE

NGS Name: CUTE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: Get Map
NGS Quad / Sta Num : 48090322/
USGS Quad: SOUTH LAKE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	16	65 N	2 W	480717.07	903424.25		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1911	1911	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1911)

Stamping:

ON THE NORTH SHORE OF THE NARROWS BETWEEN NORTH LAKE AND LITTLE NORTH LAKE , ABOUT 0.1 MILE NORTHWEST OF THE WEST END OF ISLAND NUMBER 6. STATION CUTE IS ABOUT 3.28 FEET FROM THE WATER'S EDGE, ON A LARGE, FIXED BOULDER, ABOUT 0.98 FEET BELOW THE HIGH-WATER MARK.

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE BOULDER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.491 12B = -103.432 09 = -103.428 03 = -103.084

DAM

Mn/DOT Name: DAM

NGS Name: DAM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481414.14	921932.75		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (1921)

Stamping:

5.8 MILES NORTH OF THE BUYCK POST OFFICE ON COUNTY ROAD 24 THEN 9.0 MILES EAST ON LOON LAKE TRAIL, ON THE RIGHT BANK OF THE LOON RIVER, AT A DAM AT THE FEET OF LOON LAKE, 10.0 FEET NORTH OF THE NORTH END OF DAM, IN THE TOP OF A LARGE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.540 12B = -103.537 09 = -103.471 03 = -103.510

DARBY

Mn/DOT Name: DARBY
NGS Name: DARBY
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484818.07	941103.72		1

NGS ACRN: TC0534 Get Map
NGS Quad / Sta Num : /
Quad Name: N R Canada - 52D/16

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	2022	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	IBWC

Description: (1913)
Stamping:

ON THE NORTH SIDE OF THE RAINY RIVER, STATION DARBY IS ON THE HIGHER OF TWO PROMINENT ROCKS KNOWN AS DARBY ROCKS.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1076.113	.131		978.810	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -97.579 12B = -97.588 09 = -97.477 03 = -97.546

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 48 18.07294	94 11 03.72018			.033	1	ADJUSTMENT	1999	17648

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1355100.975	17737686.189	.033	1	ADJUSTMENT	1999	17648

DARK

Mn/DOT Name: DARK

NGS Name: DARK

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	19	65 N	1 W	480557.02	902936.37		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48090233/
USGS Quad: HUNGRY JACK LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1917	1917	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1917)

Stamping:

AT THE WEST END OF ROSE LAKE, ON THE POINT ABOUT 0.1 MILE EAST OF RAT PORTAGE. STATION DARK IS ON A SOLID ROCK ABOUT 3.94 FEET IN DIAMETER, ABOUT 49.2 FEET BACK FROM THE SHORE AND 'ABOUT 13.1 FEET ABOVE THE WATER LEVEL.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.412 12B = -103.382 09 = -103.336 03 = -103.005

Mn/DOT Name: DAW **NGS Name:** DAW

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB1005 Get Map
NGS Quad / Sta Num : 48093423/
USGS Quad: DEVLIN

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	34	70 N	26 W	483311.80	933958.48		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1921	GOOD	Horz=YES Vert=YES	NO		RECESSED 24 IN.	SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	IBWC

Description: (1921) **Stamping:**

2.19 MILES NORTHEAST OF BIG FORK, 2.14 MILES NORTH ALONG PROVINCIAL ROAD 613 FROM THE JUNCTION OF PROVINCIAL ROAD 613 AND PROVINCIAL ROAD 602 IN BIG FORK, ON A HIGH RIDGE, 0.2 MILE EAST OF PROVINCIAL ROAD 613, EAST OF MR DAW'S HOUSE.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1138.449	.131		1039.693	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -98.914 12B = -98.924 09 = -98.829 03 = -98.868

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position		Koochiching County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 33 11.79850	93 39 58.47630	520287.306	358107.572	.033	1	ADJUSTMENT	1999	17648

State Plane and UTM Coordinates (Feet)

NAD83(1996)

MN State Plane - North Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2487524.002	1077530.505	1479114.818	17644360.864	.033	1	ADJUSTMENT	1999	17648

DEAN

Mn/DOT Name: DEAN

NGS Name: DEAN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484157.80	942932.67		

NGS ACRN: TC0892 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1947	NOT FOUND	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 2.6 MILES WEST OF CLEMENTSON, 45.9 FEET EAST OF ROBINSONS HOUSE, 9.9 FEET ABOVE AND 45.9 FEET BACK FROM THE RIVER'S EDGE, A BRONZE DISK SET IN CONCRETE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.564 12B = -95.541 09 = -95.439 03 = -95.492

DEER

Mn/DOT Name: DEER
NGS Name: DEER
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482614.01	923918.16		

NGS ACRN: TB1062 Get Map
NGS Quad / Sta Num : 48092314/1013
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1925	UNKNOWN	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	SURVEY DISK	NGS

Description: (1923) **Stamping:** DEER 1923

4.6 MILES SOUTH OF KETTLE FALLS, ON THE SOUTHWEST POINT OF RANDOLPH ISLAND IN NAMAKAN LAKE, 275.2 FEET NORTHWEST OF BOUNDARY REF MON 351, 60.8 FEET SOUTHWEST OF STATION DEER RM.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -103.635 12B = -103.619 09 = -103.556 03 = -103.586

Lat/Lon and County Coordinates (Feet)

NAD83(1986)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 26 14.02117	92 39 18.19754			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 26 14.36159	92 39 17.62666			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1986)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1724121.101	17601525.276	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	Y	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
2108050.330	706951.410			.100		CLASSICAL SURVEY	1950	UNK

DEER IBC

Mn/DOT Name: DEER IBC

NGS Name: DEER

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482535.22	922848.10		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092244/
USGS Quad: REDHORSE BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

9.0 MILES SOUTHEAST OF KETTLE FALLS, ON THE EAST SHORE OF NAMAKAN NARROWS.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.196 12B = -104.170 09 = -104.137 03 = -104.189

DEER RAINY RIVER

Mn/DOT Name: DEER RAINY RIVER

NGS Name: DEER

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483801.79	935600.97		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093434/
USGS Quad: MANITOU OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1913	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2009)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 2.6 MILES SOUTHEAST OF BARWICK, 2.4 MILES EAST ALONG HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND MAIN STREET, 0.75 MILE FROM MANITOU RAPIDS, NO DESCRIPTIVE TEXT.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.667 12B = -97.670 09 = -97.565 03 = -97.562

DEER RM

Mn/DOT Name: DEER RM

NGS Name: DEER RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482614.50	923917.70		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092314/1013
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1925	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	REFERENCE MARK DISK	NGS

Description: (1925)

Stamping:

4.6 MILES SOUTH OF KETTLE FALLS, ON THE SOUTHWEST POINT OF RANDOLPH ISLAND IN NAMAKAN LAKE, 60.8 FEET NORTHEAST OF STATION DEER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.635 12B = -103.619 09 = -103.556 03 = -103.586

DEL

Mn/DOT Name: DEL

NGS Name: DEL

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483848.81	940924.79		

NGS ACRN: TC0894 Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1947	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.3 MILE EAST OF THE BOUCHERVILLE POST OFFICE, 229.6 FEET EAST OF DEL VIPONTS LOG CABIN, 13.1 FEET ABOVE AND 16.4 FEET BACK FROM THE RIVERS' EDGE, A CROSS CUT IN A STONE OVER A BALL OF WIRE, 7.2 FEET SOUTH OF BOUNDARY REF MON 138.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.742 12B = -96.748 09 = -96.653 03 = -96.617

Mn/DOT Name: DELF **NGS Name:** DELF

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0543 Get Map
NGS Quad / Sta Num : 48094124/1002
USGS Quad: STRATTON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484123.54	941120.45		2

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1940	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	NGS

Description: (1940) **Stamping:** DELF 1923

1.25 MILES WEST ALONG RAILROAD FROM STRATTON, 2881.0 FEET WEST OF RAILROAD MILEPOST 125, 12.31 FEET NORTH OF THE SOUTH RAIL OF THE RAILROAD TRACKS, 57.6 FEET NORTH OF DEER RM.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1148.292	.197		1051.717	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

NGVD29

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1147.964						DIGITIZED FROM MAP	1923	HORZ

Geoid Separations(ft): GEOID18 = -96.906 12B = -96.906 09 = -96.824 03 = -96.781

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 41 23.54242	94 11 20.44704			.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 41 23.52675	94 11 20.44820			.066	2	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 41 23.65529	94 11 19.78406			.100	2	CLASSICAL SURVEY	1977	15935

USSD

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 41 24.30900	94 11 19.44000				3	CLASSICAL SURVEY		17389-86

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1353326.428	17695710.720	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1353326.325	17695709.133	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - North Zone							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
1736988.581	800641.263			.100	2	CLASSICAL SURVEY	1977	15935

DELF RM

Mn/DOT Name: DELF RM

NGS Name: DELF RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484123.00	941120.00		

NGS ACRN: CO7529 Get Map
NGS Quad / Sta Num : 48094124/1002
USGS Quad: STRATTON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1923	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	REFERENCE MARK DISK	NGS

Description: (1923)

Stamping:

1.25 MILES WEST ALONG A RAILROAD FROM STRATTON, 2881.0 FEET WEST OF RAILROAD MILEPOST 125, 57.6 FEET SOUTH OF DELF MAIN STATION.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.903 12B = -96.906 09 = -96.824 03 = -96.781

DEVLIN

Mn/DOT Name: DEVLIN **NGS Name:** DEVLIN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB1006 Get Map
NGS Quad / Sta Num : 48093423/
USGS Quad: DEVLIN

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	34	70 N	25 W	483714.61	934025.93		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	2007	UNKNOWN	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2007)

Stamping:

12.4 MILES WEST OF INTERNATIONAL FALLS, 13.4 MILES WEST ALONG PROVINCIAL HIGHWAY 11 FROM THE BORDER CROSSING OF INTERNATIONAL FALLS MINNESOTA AND FORT FRANCIS ONTARIO IN THE TOWN OF DEVLIN ONTARIO , AT THE SOUTHWEST QUADRANT OF PROVINCIAL HIGHWAY 11 AND PROVINCIAL ROAD 613.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1181.100	.131		1082.186	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -98.953 12B = -98.983 09 = -98.901 03 = -99.052

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position		Koochiching County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 37 14.60503	93 40 25.92903	518415.798	382713.782	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 37 14.59199	93 40 25.93789			.033	1	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 37 14.89500	93 40 25.24400			.100	1	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

MN State Plane - North Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2485859.774	1102149.890	1477485.547	17668973.707	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1477484.941	17668972.391	.033	1	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	1	CLASSICAL SURVEY	1982	17020

DILKE 1 IBC

Mn/DOT Name: DILKE 1 IBC

NGS Name: DILKE 1 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484322.23	942303.65		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

8.0 MILES EAST OF RAINY RIVER, 8.0 MILES EAST ALONG HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND LITTLE STREET, THEN 328.08 FEET NORTH ON WASHINGTON DILKE NUMBER 7 ROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.138 12B = -96.128 09 = -96.017 03 = -96.092

DITCH ECC IBC

Mn/DOT Name: DITCH ECC IBC

NGS Name: DITCH ECC IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483856.31	940114.11		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

1.6 MILES WEST OF BARWICK, 1.4 MILES WEST OF HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND BARWICK ROAD, THEN 0.2 MILE WEST ON PRISON FARM ROAD, THEN ABOUT 44.0 FEET NORTH OF PRISON FARM ROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.411 12B = -97.415 09 = -97.310 03 = -97.277

DITCH IBC

Mn/DOT Name: DITCH IBC

NGS Name: DITCH IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483856.36	940113.93		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

1.6 MILES WEST OF BARWICK, 1.4 MILES WEST ALONG HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND MAIN STREET, THEN 0.2 MILE WEST ON PRISON FARM ROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.411 12B = -97.415 09 = -97.310 03 = -97.277

DIVE

Mn/DOT Name: DIVE

NGS Name: DIVE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481849.64	920031.90		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092212/
USGS Quad: COLEMAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE WEST SHORE OF THE LAKE AND ABOUT 1000.0 FEET SOUTH OF BOUNDARY REF MON 587.

Station Notes

A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.790 12B = -104.764 09 = -104.741 03 = -104.783

DOCK

Mn/DOT Name: DOCK

NGS Name: DOCK

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0897 Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484801.71	944129.02		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1912	UNKNOWN	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	UNMONUMENTED	NGS

Description:

7.6 MILES NORTHWEST OF BAUDETTE, ON THE EAST BANK OF THE RAINY RIVER, NEAR BOUNDARY REF MON 61.

Stamping:

Station Notes

THE MARK WAS ADDED TO MATCH THE NATIONAL GEODETIC SURVEY (NGS) DATABASE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.725 12B = -95.725 09 = -95.620 03 = -95.587

DOCK 1913

Mn/DOT Name: DOCK 1913 **NGS Name:** DOCK

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483500.15	934824.46		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	CHISELED CROSS	IBWC

Description: (1913) **Stamping:**

ON THE EAST BANK OF THE RAINY RIVER, 3.5 MILES SOUTH OF EMO, 0.25 MILE SOUTH OF THE SOUTH END OF CONMEE ISLAND, BELOW THE HIGHWATER MARK, ON THE PROPERTY OF MR REDDEN.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.031 12B = -98.035 09 = -97.946 03 = -97.989

DOG

Mn/DOT Name: DOG **NGS Name:** DOG

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB1113 Get Map
NGS Quad / Sta Num : 48092423/1003
USGS Quad: KETTLE FALLS

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483037.04	923733.60		2

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1925	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	SURVEY DISK	NGS

Description: (1925) **Stamping:** DOG 1923

0.8 MILE NORTHEAST OF KETTLE FALLS, ON OAK POINT ISLAND IN THE KETTLE RIVER, ON THE HIGHEST POINT OF THE HILL, 393.6 FEET FROM THE SHORE, DUE EAST OF THE FIRST NARROW PLACE IN THE RIVER ABOVE ITS MOUTH, 53.4 FEET NORTHWEST OF R L 90, 20.7 FEET NORTHWEST OF DOG RM.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -104.193 12B = -104.160 09 = -104.111 03 = -104.147

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 30 37.03500	92 37 33.59503			.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 30 37.03715	92 37 33.63080			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 30 37.42494	92 37 33.12082			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	UTM - Zone 15 Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
		1731041.680	17628201.696	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	UTM - Zone 15 Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
		1731039.271	17628201.902	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	MN State Plane - North Zone Y	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
2114933.710	733650.910			.100		CLASSICAL SURVEY	1950	UNK

DOG 1914

Mn/DOT Name: DOG 1914 **NGS Name:** DOG

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483840.89	940316.07		

NGS ACRN: TC0898 Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1947	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914) **Stamping:**

ON THE NORTH BANK OF THE RAINY RIVER, 0.25 MILE EAST OF THE HEAD OF LONG SAULT RAPIDS, 147.6 FEET WEST OF THE MOUTH OF A SMALL CREEK, 9.9 FEET ABOVE THE WATER, A CROSS CUT IN A GRAY GRANITE BOULDER, 24.9 FEET SOUTH OF BOUNDARY REF MON 155.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.211 12B = -97.218 09 = -97.113 03 = -97.083

DOG RM

Mn/DOT Name: DOG RM

NGS Name: DOG RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483037.00	923734.00		

NGS ACRN: CJ2445 Get Map
NGS Quad / Sta Num : 48092423/
USGS Quad: KETTLE FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1925	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	REFERENCE MARK DISK	NGS

Description: (1925)

Stamping:

0.8 MILE NORTHEAST OF KETTLE FALLS, ON OAK POINT ISLAND IN KETTLE RIVER, ON THE HIGHEST POINT OF THE HILL, 393.6 FEET FROM THE SHORE, DUE EAST OF THE FIRST NARROW PLACE IN THE RIVER ABOVE ITS MOUTH, 20.7 FEET SOUTHEAST OF STATION DOG.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.193 12B = -104.160 09 = -104.111 03 = -104.147

DON

Mn/DOT Name: DON

NGS Name: DON

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481504.51	915842.57		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091343/
USGS Quad: IRON LAKE OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

IN RAINY RIVER DISTRICT, ONTARIO, AT LAC LA CROIX, NORTHWEST OF BOTTLE RAPIDS.

Station Notes

STATION MARK: A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.390 12B = -104.380 09 = -104.337 03 = -104.331

DORAN

Mn/DOT Name: DORAN **NGS Name:** DORAN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482944.74	923941.98		2

NGS ACRN: TB1060 Get Map
NGS Quad / Sta Num : 48092314/1021
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1925	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	SURVEY DISK	NGS

Description: (1925) **Stamping:** DORAN 1923

1.1 MILES WEST OF KETTLE FALLS, ON NAMAKAN LAKE, ON THE SOUTH SHORE OF SQUIRREL NARROWS, ON THE NORTHEAST CORNER OF THE POINT BETWEEN TWO BAYS, 44.1 FEET EAST OF BOUNDARY REF MON 333.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -103.960 12B = -103.930 09 = -103.874 03 = -103.911

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 29 44.74439	92 39 41.97906			.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 29 44.74692	92 39 42.01491			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 29 45.11293	92 39 41.48424			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1722423.736	17622864.384	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1722421.321	17622864.630	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	Y	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
2106320.450	728298.770			.100		CLASSICAL SURVEY	1950	UNK

DOROTHY

Mn/DOT Name: DOROTHY
NGS Name: DOROTHY
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TA0129 Get Map
NGS Quad / Sta Num : 48091224/
USGS Quad: DUTTON LAKE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481021.08	910746.89		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1968	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	BOLT	GSC

Description:

ON PROMINENT POINT 98.0 FEET SOUTHWEST OF THE HIGHEST PART OF A HILL NORTH OF AN ISLAND WHICH IS ABOUT 2.0 MILES NORTHEAST OF THE WEST END OF CYPRESS LAKE. MARKED BY COPPER BOLT STAMPED G. S. C. 1916 IN SOLID ROCK. THREE REFERENCE BOLTS ARE AS FOLLOWS--NO. 1 17.4 FEET FROM STATION NORTH 39 DEGREES 36 MINUTES WEST. NO. 2 AND NO. 3 SOUTH 01 DEGREES 29 MINUTES WEST.

Stamping:

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1738.842	.131		1635.840	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -103.340 12B = -103.369 09 = -103.359 03 = -103.100

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 10 21.08133	91 07 46.88720			.033	1	ADJUSTMENT	1999	17648

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		2096610.476	17510355.675	.033	1	ADJUSTMENT	1999	17648

DUB

Mn/DOT Name: DUB

NGS Name: DUB

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	32	66 N	6 W	480915.30	910833.46		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091224/
USGS Quad: DUTTON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

AT THE EXTREME, WESTERN END OF CYPRESS LAKE, ON THE EASTERN AND LARGER OF THE TWO ISLANDS LYING NORTH OF THE ENTRANCE TO THE STREAM FLOWING INTO KNIFE LAKE. STATION DUB IS ON THE ROCKS, 26.2 FEET BACK FROM THE EXTREME WESTERN END OF THE ISLAND AND ABOUT 19.7 FEET ABOVE THE LAKE LEVEL.

Station Notes

A BRONZE DISK SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.982 12B = -103.008 09 = -102.985 03 = -102.723

DUET

Mn/DOT Name: DUET

NGS Name: DUET

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	32	66 N	6 W	480951.57	910710.95		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091221/
USGS Quad: ESTER LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1917	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	METAL ROD	IBWC

Description:

ON THE SOUTH SHORE OF CYPRESS LAKE, ON THE POINT DIRECTLY SOUTH OF THE LARGE ISLAND, ABOUT 1.0 MILE NORTHEAST OF LITTLE KNIFE PORTAGE, STATION DUET IS ON A BARE LEDGE, ABOUT 19.7 FEET BACK FROM THE SHORE AND 49.2 FEET ABOVE THE WATER.

Stamping:

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.163 12B = -103.192 09 = -103.166 03 = -102.913

Mn/DOT Name: DUN

NGS Name: DUN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483120.50	933826.46		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093423/
USGS Quad: DEVLIN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1926)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.5 MILES EAST OF BIG FORK, 0.5 MILE SOUTHWEST OF THE MOUTH OF LA VALLEE RIVER, NEAR THE SOUTH EDGE OF A FIELD, 360.8 FEET SOUTHWEST OF A SMALL STREAM, 45.3 FEET EAST OF A LARGE PINE TREE, 5.0 FEET SOUTH OF BOUNDARY REF MON 217.

Station Notes

SUBSURFACE MARK IS A BOTTLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -99.088 12B = -99.088 09 = -98.999 03 = -98.976

DUNSMOORE

Mn/DOT Name: DUNSMOORE **NGS Name:** DUNSMOORE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB0866 Get Map
NGS Quad / Sta Num : 48093124/
USGS Quad: ISLAND VIEW OE N

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	20	71 N	22 W	483848.52	931102.84		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	IBWC

Description: (1913) **Stamping:**

ON THE HIGHEST POINT OF DUNSMOORE ISLAND IN RAINY LAKE, NEAR THE NORTH END OF THE ISLAND, AT THE SITE OF A RUSTIC OBSERVATION TOWER, 557.6 FEET SOUTH OF A SUMMER COTTAGE, 426.4 FEET FROM THE WEST AND EAST SHORES, 65.6 FEET ABOVE THE LAKE LEVEL.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1171.257	.131		1069.329	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -102.267 12B = -102.218 09 = -102.132 03 = -102.149

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position		Koochiching County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 38 48.52081	93 11 02.84407	636812.297	392727.518	.033	1	ADJUSTMENT	1999	17648

State Plane and UTM Coordinates (Feet)

NAD83(1996)

MN State Plane - North Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2604329.171	1111163.477	1595921.322	17677822.387	.033	1	ADJUSTMENT	1999	17648

Mn/DOT Name: DUX **NGS Name:** DUX

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	16	65 N	2 W	480713.77	903423.25		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48090322/
USGS Quad: SOUTH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1911	1911	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1911) **Stamping:**

ON THE NORTH SHORE OF THE NARROWS BETWEEN NORTH LAKE AND LITTLE NORTH LAKE , ABOUT 0.1 MILE NORTHWEST OF THE WEST END OF ISLAND NUMBER 6. STATION DUX IS ABOUT 3.28 FEET FROM THE WATER'S EDGE, ON A LARGE, FIXED BOULDER, ABOUT 0.98 FEET BELOW THE HIGH-WATER MARK.

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE BOULDER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.461 12B = -103.399 09 = -103.395 03 = -103.054

Mn/DOT Name: EAR

NGS Name: EAR

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	14	65 N	7 W	480653.75	911219.10		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091223/
USGS Quad: KEKEKABIC LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1912)

Stamping:

ON THE NORTH SHORE OF KNIFE LAKE, ON THE LOW ROCKY POINT JUST NORTH OF THE EAST END OF THE ISLAND THAT LIES IN THE MIDDLE OF THE LAKE, ABOUT 1.0 MILE WEST OF THE NARROWS THAT SEPARATES THE EASTERN PART OF THE LAKE, KNOWN AS LITTLE KNIFE LAKE, FROM THE MAIN BODY OF THE LAKE. STATION EAR IS ON THE GRANITE LEDGE, ABOUT 9.8 FEET FROM THE WATER'S EDGE.

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.359 12B = -102.392 09 = -102.352 03 = -102.070

Mn/DOT Name: EARL

NGS Name: EARL

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0899 Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484027.15	941458.66		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE EAST BANK OF THE RAINY RIVER, 0.4 MILE NORTHEAST OF THE FRONTIER SCHOOLHOUSE, ON A LOW BENCH 6.6 FEET ABOVE AND 26.2 FEET BACK FROM THE RIVERS? EDGE, AN OLD LOG CABIN IS SOUTH-SOUTHEAST 131.2 FEET FROM STATION EARL , A LARGE BARN BEARS SOUTHEAST 295.2 FEET DISTANT, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.578 12B = -96.575 09 = -96.486 03 = -96.460

EARLY

Mn/DOT Name: EARLY

NGS Name: EARLY

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091232/
USGS Quad: ENSIGN LAKE EAST

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	31	65 N	7 W	480441.47	911656.21		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1912	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1912)

Stamping:

ON THE NORTH SHORE OF KNIFE LAKE, NEAR THE WESTERN END. STATION EARLY IS ON THE PENINSULA ON THE WEST SIDE OF THE OUTSIDE ENTRANCE TO BACK BAY AND NORTH OF THE LARGE ANVIL-SHAPED ISLAND THAT CUTS THE LAKE DOWN TO THE NARROW CHANNELS. IT IS ON THE HIGHEST POINT OF THE ROCKY PENINSULA, ON A SMOOTH GRANITE LEDGE. PULPIT ROCK IS DIRECTLY OPPOSITE STATION EARLY ON THE ANVIL-SHAPED ISLAND ACROSS THE CHANNEL.

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -101.955 12B = -102.008 09 = -101.939 03 = -101.604

EARN

Mn/DOT Name: EARN

NGS Name: EARN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	12	64 N	10 W	480221.93	913330.73		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091322/
USGS Quad: BASSWOOD LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	UNSPECIFIC DISK TYPE (SEE TEXT)	IBWC

Description: (1912)

Stamping:

ON AN ISLAND IN KNIFE LAKE THAT LIES AT THE ENTRANCE TO A BAY, ABOUT 0.68 MILE DUE WEST OF THE NARROWS SEPARATING THE EASTERN SECTION OF THE LAKE, KNOWN AS LITTLE KNIFE LAKE, FROM THE MAIN BODY OF THE LAKE. STATION EARN IS ON A GRANITE LEDGE THAT EXTENDS INTO THE LAKE ON THE EAST SIDE OF THE ISLAND. IT IS BACK ABOUT 11.5 FEET FROM THE WATER'S EDGE.

Station Notes

A BRONZE DISK SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.208 12B = -102.247 09 = -102.165 03 = -101.804

EARTH

Mn/DOT Name: EARTH

NGS Name: EARTH

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091223/
USGS Quad: KEKEKABIC LAKE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	14	65 N	7 W	480644.17	911223.39		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1912)

Stamping:

ON THE HIGH ROCKY, TIMBERED ISLAND IN KNIFE LAKE ABOUT 0.19 MILE IN LENGTH THAT LIES NEAR THE MIDDLE OF THE LAKE, JUST WEST OF THE EASTERNMOST LARGE BAY IN THE SOUTH SHORE OF THE LAKE. STATION EARTH IS NEAR THE CENTER OF THE ISLAND, ON THE HIGHEST POINT, ON A SMOOTH GRANITE LEDGE.

Station Notes

A BRONZE DISK SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.310 12B = -102.346 09 = -102.300 03 = -102.018

Mn/DOT Name: EASE

NGS Name: EASE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	12	65 N	7 W	480805.48	910958.79		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091224/
USGS Quad: DUTTON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1912	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1912)

Stamping:

NEAR THE NORTH SHORE OF KNIFE LAKE AND ABOUT MIDWAY BETWEEN THE ENDS OF THE EASTERN SECTION OF THE LAKE SOMETIMES CALLED LITTLE KNIFE LAKE. STATION EASE IS ON THE SOLID GRANITE LEDGE ON THE HIGHEST PART OF THE WESTERN OF THE TWO SMALL ISLANDS LYING IN THIS PART OF THE LAKE.

Station Notes

A BRONZE DISK SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.641 12B = -102.670 09 = -102.634 03 = -102.375

EAVE

Mn/DOT Name: EAVE

NGS Name: EAVE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480407.00	912247.56		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091233/
USGS Quad: ENSIGN LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	DRILL HOLE	IBWC

Description: (1916)

Stamping:

ON THE NORTH SHORE OF THE EASTERN NARROWS OF BIRCH LAKE, ABOUT 0.75 MILE BELOW CARP PORTAGE. STATION EAVE IS ON A LEDGE ABOUT 8.2 FEET FROM THE SHORE LINE AND ABOUT 3.3 FEET ABOVE THE LAKE LEVEL.

Station Notes

A DRILL HOLE IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.231 12B = -102.280 09 = -102.198 03 = -101.817

ECHO

Mn/DOT Name: ECHO **NGS Name:** ECHO

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TA0136 Get Map
NGS Quad / Sta Num : 48091233/
USGS Quad: ENSIGN LAKE WEST

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	1	65 N	9 W	480346.68	912502.62		2

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	2007	UNKNOWN	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	BOLT	IBWC

Description: (2007)

Stamping:

IN MARKS TOWNSHIP, 24.8 MILES NORTHEAST OF ELY, 1.3 MILES NORTHEAST OF PRAIRIE PORTAGE ON INLET BAY, ON THE BRANCH OF THE CANADIAN NATIONAL RAILWAY FROM PORT ARTHUR TO NORTH LAKE. STATION ECHO IS IN THE WOODS AND A SMALL TOWER WAS BUILT OVER IT., EAST OF BASSWOOD LAKE AND WEST OF BIRCH LAKE.

Station Notes

A COPPER BOLT STAMPED /LG. S. C. 1913" SET IN SOLID ROCK ABOUT 10.0 INCHES BELOW THE SURFACE, REFERENCED BY THREE COPPER BOLTS.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1574.800	.197		1472.924	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -102.264 12B = -102.313 09 = -102.227 03 = -101.860

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 03 46.67569	91 25 02.62415			.066	2	ADJUSTMENT	1999	17648

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		2027259.279	17468830.279	.066	2	ADJUSTMENT	1999	17648

EDGE

Mn/DOT Name: EDGE

NGS Name: EDGE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483341.66	934813.94		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1913)

Stamping:

ON THE EAST BANK OF THE RAINY RIVER, 1.0 MILE NORTH OF AYLESWORTH, ON THE RIVER'S EDGE, OPPOSITE A ROCK IN THE MIDDLE OF THE RIVER, 393.6 FEET NORTH OF A SECTION LINE.

Station Notes

SUBSURFACE MARK IS A BOTTLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.041 12B = -98.044 09 = -97.949 03 = -97.969

EDNA

Mn/DOT Name: EDNA

NGS Name: EDNA

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	31	65 N	7 W	480448.51	911636.96		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091232/
USGS Quad: ENSIGN LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

IN THE WESTERN PART OF KNIFE LAKE, ON THE SOUTH SIDE OF THE SMALL ISLAND LYING AT THE WEST SIDE OF THE OUTSIDE ENTRANCE TO BACK BAY. STATION EDNA IS ABOUT 328.1 FEET WEST OF THE EXTREME EASTERN END OF THE ISLAND, ON A LARGE, SOLID ROCK ON THE HILLSIDE, ABOUT 52.5 FEET BACK FROM THE WATER'S EDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -101.968 12B = -102.021 09 = -101.952 03 = -101.621

EGG

Mn/DOT Name: EGG

NGS Name: EGG

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	31	65 N	7 W	480438.75	911726.11		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091232/
USGS Quad: ENSIGN LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1912	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1912)

Stamping:

ON THE NORTH SHORE OF KNIFE LAKE, NEAR THE WEST END STATION EGG IS ON THE SUMMIT OF THE FIRST HIGH RIDGE NORTH OF THE MOST WESTERN WIDE PART OF THE LAKE AND ABOUT 0.3 MILE NORTHWEST OF THE WESTERN END OF THE LARGE ANVIL-SHAPED ISLAND THAT CHOKES THE CHANNEL OF THE LAKE AT THIS POINT.

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE SMOOTH GRANITE LEDGE OF THE SUMMIT.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -101.985 12B = -102.037 09 = -101.965 03 = -101.627

ELBOW

Mn/DOT Name: ELBOW

NGS Name: ELBOW

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	32	65 N	7 W	480502.03	911515.46		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091232/
USGS Quad: ENSIGN LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1912	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1912)

Stamping:

ON THE NORTH SHORE OF KNIFE LAKE, ON THE MOST SOUTHEASTERN POINT OF THE IRREGULAR PENINSULA THAT ENCLOSES BACK BAY. THE POINT IS OPPOSITE AND 0.3 MILE WEST FROM A LARGE ISLAND OFF THE SOUTH SHORE. STATION ELBOW IS ON THE EXTREME SOUTHERN END OF THE POINT, ON AN OUTCROPPING LEDGE ABOUT 26.2 FEET BACK FROM THE WATER'S EDGE, AND 26.2 FEET ABOVE THE LAKE LEVEL.

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -101.932 12B = -101.985 09 = -101.916 03 = -101.601

Mn/DOT Name: ELM

NGS Name: ELM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483248.64	932819.58		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1913)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 5.8 MILES SOUTHWEST OF FORT FRANCES, IN A FIELD, ON THE PROPERTY OF MR LOWE, 656.0 FEET WEST OF THE MOUTH OF A STREAM, 19.7 FEET ABOVE AND 131.2 FEET BACK FROM THE RIVER'S EDGE, 121.0 FEET SOUTHWEST OF AN ELM TREE, 113.2 FEET SOUTHWEST OF AN ELM TREE, 101.0 FEET SOUTHEAST OF AN ELM TREE, 101.7 FEET SOUTHEAST OF AN ELM TREE, 262.4 FEET WEST OF STATION TIMOTHY.

Station Notes

SUBSURFACE MARK IS A BOTTLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.246 12B = -100.243 09 = -100.151 03 = -100.128

ELVIN IBC

Mn/DOT Name: ELVIN IBC

NGS Name: ELVIN IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	20	160 N	28 W	483948.99	941507.13		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

0.6 MILE NORTH OF FRONTIER, 0.6 MILE NORTH ALONG HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND COUNTY ROAD 4, FROM THE BORDER, 2.7 MILES ALONG HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND COUNTY ROAD 4.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.512 12B = -96.506 09 = -96.420 03 = -96.391

EMBER

Mn/DOT Name: EMBER

NGS Name: EMBER

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	31	65 N	7 W	480448.43	911616.71		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091232/
USGS Quad: ENSIGN LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1912)

Stamping:

ON THE NORTH SHORE OF KNIFE LAKE, NEAR THE WEST END. STATION EMBER IS ON THE MOST SOUTHWESTERN POINT OF THE LARGE IRREGULAR PENINSULA THAT ENCLOSES BACK BAY. IT IS ON THE GRANITE LEDGE ABOUT 9.8 FEET FROM THE WATER'S EDGE.

Station Notes

A BRONZE DISK SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -101.942 12B = -101.988 09 = -101.922 03 = -101.598

Mn/DOT Name: EMILY **NGS Name:** EMILY

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TA0142 Get Map
NGS Quad / Sta Num : 48091322/
USGS Quad: BASSWOOD LAKE EAST

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480401.22	913032.35		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1924	GOOD	Horz=YES Vert=YES	NO			NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
UNKNOWN	BOLT	NGS

Description: (1924) **Stamping:** G.S.C

ON THE HIGHEST HILL ON CANADIAN POINT, ABOUT 2.0 MILES EAST OF A CHANNEL CONNECTING WESTERN AND MIDDLE BODIES OF BASSWOOD LAKE. TO REACH FROM THE WEST, MAKE LANDING IN A SMALL BAY ABOUT 1.0 MILE DUE EAST OF THE EXTREMITY OF UNITED STATES POINT, AND FOLLOW BLAZED TRAIL TO STATION EMILY SITE. TRIANGLE-BLAZED PINE TREE AT THE FOOT OF A TRAIL CAN BE EASILY SEEN FROM LAKE. CLEARED LINES THROUGH HEAVY TIMBER CONVERGE AT THE STATION. MARKED BY COPPER BOLT STAMPED G. S. C. SET FLUSH IN SOLID ROCK. REFERENCE MARKS ARE COPPER BOLTS SET FLUSH IN AN OUTCROPPING BOULDER. NO. 1 IS 19.90 65.3 FEET FROM STATION SOUTH 13 DEGREES 02 MINUTES EAST NO. 2, DISTANCE NOT MEASURED AND NOT RECOVERED IN 1924, IS NORTH 80 DEGREES 43 MINUTES WEST FROM STATION. NO. 3 IS 18.09 59.4 FEET FROM STATION NORTH 52 DEGREES 03 MINUTES EAST.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1400.916	.131		1298.685	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -102.588 12B = -102.634 09 = -102.549 03 = -102. 211

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 04 01.21999	91 30 32.34612			.033	1	ADJUSTMENT	1999	17648

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		2004843.715	17469856.676	.033	1	ADJUSTMENT	1999	17648

EMO EAST BASE

Mn/DOT Name: EMO EAST BASE

NGS Name: EMO EAST BASE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483744.91	935008.14		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093431/
USGS Quad: LOMAN OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1913) **Stamping:** U.S. & C.B SURVEY

ON THE NORTH BANK OF THE RAINY RIVER, IN EMO, ON THE MAIN STREET, 98.4 FEET FROM THE SOUTHWEST CORNER OF THE POST OFFICE, 71.4 FEET FROM THE SOUTHEAST CORNER OF ADJOINING BUILDING, 65.8 FEET FROM THE SOUTHEAST CORNER OF ADJACENT BUILDING, IN A ROCK NEARLY LEVEL WITH THE GROUND.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.018 12B = -98.025 09 = -97.926 03 = -97.985

EMO WEST BASE

Mn/DOT Name: EMO WEST BASE
NGS Name: EMO WEST BASE
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: CU8362 Get Map
NGS Quad / Sta Num : 48093431/
USGS Quad: LOMAN OE N

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483751.00	935032.00		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1925	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	IBWC

Description: (1925) **Stamping:** U.S. & C.B. SURVEY

IN EMO, ON THE NORTH BANK OF THE RAINY RIVER, 32.8 FEET ABOVE THE WATER, 48.2 FEET FROM THE NORTHWEST CORNER OF THE CANADIAN NATIONAL RAILWAYS PUMP HOUSE, 58.0 FEET FROM THE NORTHEAST CORNER OF A PUMP HOUSE, 60.2 FEET FROM THE SOUTHWEST CORNER OF A PUMP HOUSE, IN ROCK, 4.9 FEET NORTHEAST OF BOUNDARY REF MON 184.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.995 12B = -98.005 09 = -97.903 03 = -97.959

EMPRESS

Mn/DOT Name: EMPRESS

NGS Name: EMPRESS

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484306.40	943500.47		

NGS ACRN: TC0901 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.5 MILE WEST OF THE TOWN RAINY RIVER, 0.3 MILE EAST OF THE CANADIAN NATIONAL RAILWAY BRIDGE, 3.3 FEET ABOVE AND 16.4 FEET BACK FROM THE WATER, 6.6 FEET SOUTH OF THE SOUTH RAIL OF THE RAILROAD, 6.6 FEET EAST OF A SWITCH BLOCK, 262.4 FEET EAST OF THE BARREL - STAVE FACTORY, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.400 12B = -95.354 09 = -95.279 03 = -95.311

ENGLISH

Mn/DOT Name: ENGLISH **NGS Name:** ENGLISH

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	1	64 N	10 W	480351.61	913324.81		1

NGS ACRN: TA0150 Get Map
NGS Quad / Sta Num : 48091322/
USGS Quad: BASSWOOD LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	2007	UNKNOWN	Horz=YES Vert=?	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2007)

Stamping:

18.5 MILES NORTHEAST OF ELY, ON THE SOUTHEAST SHORE OF CANADIAN POINT NORTH OF ENGLISH CHANNEL IN BASSWOOD LAKE.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1400.916	.131		1298.659	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -102.608 12B = -102.657 09 = -102.575 03 = -102.231

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position		Lake County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 03 51.60921	91 33 24.81087	463912.112	463988.795	.033	1	ADJUSTMENT	1999	17648

State Plane and UTM Coordinates (Feet)

NAD83(1996)

MN State Plane - North Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3001942.290	902430.784	1993153.046	17468660.119	.033	1	ADJUSTMENT	1999	17648

ENGLISH 2

Mn/DOT Name: ENGLISH 2 **NGS Name:** ENGLISH

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483537.52	932716.22		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1926) **Stamping:**

ON THE NORTH BANK OF THE RAINY RIVER, 3.1 MILES SOUTHWEST OF FORT FRANCES, 0.25 MILE EAST OF THE MOUTH OF A SMALL STREAM, 30.4 FEET EAST-SOUTHEAST OF BOUNDARY REF MON 247.

Station Notes

SUBSURFACE MARK IS A GLASS JAR.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.482 12B = -100.492 09 = -100.397 03 = -100.387

ENOUGH

Mn/DOT Name: ENOUGH

NGS Name: ENOUGH

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	35	65 N	8 W	480435.22	911923.21		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091232/
USGS Quad: ENSIGN LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1916	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	CHISELED TRIANGLE	IBWC

Description: (1913)

Stamping:

ON THE NORTH SIDE OF SEED LAKE, ABOUT 0.8 MILE WEST OF THE KNIFE LAKE DAM ACROSS THE OUTLET OF KNIFE LAKE, AND ABOUT 820.2 FEET NORTHWEST FROM THE SHORE OF SEED LAKE. STATION ENOUGH IS ON THE SUMMIT OF THE HIGH RIDGE WHICH APPEARS AS A ROUND WHITE LEDGE AS SEEN FROM THE PORTAGE.

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.126 12B = -102.175 09 = -102.106 03 = -101.742

ETHEL IBC

Mn/DOT Name: ETHEL IBC

NGS Name: ETHEL IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483856.02	940714.03		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

2.8 MILES SOUTHEAST OF STRATTON, 2.1 MILES EAST ALONG HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND TRUNK HIGHWAY 617, THEN 1.8 MILES SOUTH ON SHAW ROAD, THEN 0.1 MILE WEST ON RIVER ROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.926 12B = -96.932 09 = -96.837 03 = -96.798

EXIT

Mn/DOT Name: EXIT

NGS Name: EXIT

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	36	65 N	8 W	480428.87	911756.49		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091232/
USGS Quad: ENSIGN LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1912	1912	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1912)

Stamping:

ON THE NORTH SIDE OF KNIFE LAKE, ABOUT 0.4 MILE EAST OF THE DAM AT THE OUTLET OF THE LAKE. STATION EXIT IS ON THE EAST END OF THE RIDGE ABOUT 328.1 FEET BACK FROM THE LAKE SHORE.

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE SOLID GRANITE LEDGE OF THE SUMMIT.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -101.975 12B = -102.021 09 = -101.952 03 = -101.607

Mn/DOT Name: EXTRA

NGS Name: EXTRA

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483655.35	934926.79		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1918)

Stamping:

ON THE EAST BANK OF RAINY RIVER, 1.5 MILES SOUTH OF EMO, NEAR THE SHORE LINE, ON THE PROPERTY OF THOMAS SHORTREDE, 295.2 FEET NORTHWEST OF A HOUSE.

Station Notes

A BOTTLE BURIED IN THE GROUND WITH A ROCK PLACED OVER IT.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.015 12B = -98.021 09 = -97.923 03 = -97.982

EXTRA ECC

Mn/DOT Name: EXTRA ECC

NGS Name: EXTRA ECC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483656.10	934926.86		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type
SEE DESCRIPTIVE TEXT

Disk Type
SEE DESCRIPTION

Mon. Agency
IBWC

Description: (2009)

Stamping:

ON THE EAST BANK OF THE RAINY RIVER, 1.5 MILES SOUTH OF EMO.

Station Notes
NOT THE SAME AS STATION EXTRA.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.015 12B = -98.021 09 = -97.923 03 = -97.982

FALLS

Mn/DOT Name: FALLS

NGS Name: FALLS

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483614.18	932509.54		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1926)

Stamping:

ON AN ISLAND IN THE RAINY RIVER, IN FORT FRANCES, ON THE HIGHEST POINT OF THE ISLAND, ON THE WEST END, 0.4 FOOT FROM BOUNDARY REF MON 251.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.725 12B = -100.728 09 = -100.636 03 = -100.626

FARM

Mn/DOT Name: FARM

NGS Name: FARM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483901.54	941036.57		

NGS ACRN: TC0903 Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.6 MILE WEST OF THE BOUCHERVILLE POST OFFICE, ON A BENCH 6.6 FEET ABOVE AND 16.4 FEET BACK FROM THE RIVER'S EDGE, AN OLD FARM - IMPLEMENT SHED IS 39.4 FEET EAST OF STATION FARM, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.689 12B = -96.693 09 = -96.607 03 = -96.568

Mn/DOT Name: FAT

NGS Name: FAT

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	6	64 N	8 W	480332.11	912432.52		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091233/
USGS Quad: ENSIGN LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	UNSPECIFIC DISK TYPE (SEE TEXT)	IBWC

Description: (1913)

Stamping:

ON THE WEST END OF BIRCH LAKE, ON THE PROMINENT NORTHEAST POINT OF THE PENINSULA THAT SEPARATES SUCKER LAKE FROM BIRCH LAKE. STATION FAT IS ON THE BARE ROCK POINT ABOUT 19.7 FEET WEST OF THE EXTREME POINT.

Station Notes

A BRONZE DISK SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.155 12B = -102.205 09 = -102.119 03 = -101.752

Mn/DOT Name: FEEL

NGS Name: FEEL

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	1	64 N	9 W	480300.62	912534.23		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091233/
USGS Quad: ENSIGN LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1921	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	UNSPECIFIC DISK TYPE (SEE TEXT)	NGS

Description: (1913)

Stamping:

AT THE WEST END OF BIRCH LAKE, ON THE VERY SMALL ISLAND LYING JUST INSIDE THE NARROWS FROM SUCKER LAKE. STATION FEEL IS ON A SMALL ROCK NEAR THE SOUTHWEST SHORE, ABOUT 4.92 FEET WEST FROM A LARGE ROCK AND ABOUT 3.3 FEET ABOVE THE LAKE LEVEL.

Station Notes

A BRONZE DISK SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.054 12B = -102.103 09 = -102.011 03 = -101.650

FENCE

Mn/DOT Name: FENCE

NGS Name: FENCE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483107.54	934301.79		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093423/
USGS Quad: DEVLIN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1926)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 2.1 MILES SOUTHWEST OF THE BIG FORK, OPPOSITE BIG FORK RIVER, NEAR A FENCE LINE, 8.4 FEET SOUTHEAST OF BOUNDARY REF MON 210.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.573 12B = -98.573 09 = -98.487 03 = -98.468

FERN

Mn/DOT Name: FERN

NGS Name: FERN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483818.77	935742.39		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093434/
USGS Quad: MANITOU OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1969	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	CHISELED CROSS	IBWC

Description: (1913)

Stamping:

ON THE NORTH BANK OF RAINY RIVER, 1.3 MILES SOUTHEAST OF BARWICK, 1.0 MILE EAST ALONG HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND MAIN STREET, THEN 0.7 MILE SOUTH ON NIGHSWANDER ROAD, IN THE EDGE OF THE BRUSH, 147.6 FEET SOUTH OF A LOG HOUSE, NEAR HIGH-WATER LEVEL, IN A GRANITE OUTCROP, NEAR A LARGE BLACK ROCK, 129.4 FEET SOUTHWEST OF REF MON 168 IBC.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.592 12B = -97.592 09 = -97.497 03 = -97.477

FERON

Mn/DOT Name: FERON

NGS Name: FERON

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483822.92	935819.79		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093434/
USGS Quad: MANITOU OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1913)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.6 MILE EAST OF BARWICK, ON THE UPPER BANK OF THE RIVER, NEXT TO A FIELD, 23.0 FEET ABOVE THE WATER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.559 12B = -97.559 09 = -97.464 03 = -97.441

Mn/DOT Name: FINE

NGS Name: FINE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480650.49	914106.54		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=YES Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

ON THE EAST BANK OF THE BASSWOOD RIVER, ABOUT 1.0 MILE UPSTREAM FROM WHEELBARROW FALLS, STATION FINE IS ON A ROCK BLUFF ABOUT 19.7 FEET ABOVE THE WATER, ABOUT 0.2 MILE NORTH OF A SHARP TURN IN THE RIVER.

Station Notes

STATION MARK: A DRILL HOLE WITHIN A TRIANGLE CUT IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.327 12B = -103.350 09 = -103.304 03 = -103.041

FIRE

Mn/DOT Name: FIRE

NGS Name: FIRE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482454.05	922651.75		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092244/
USGS Quad: REDHORSE BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

10.7 MILES SOUTHEAST OF KETTLE FALLS, ON AN ISLAND IN SAND POINT LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.235 12B = -104.206 09 = -104.183 03 = -104.232

FISH

Mn/DOT Name: FISH
NGS Name: FISH
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482325.24	922012.02		

NGS ACRN: TB1034 Get Map
NGS Quad / Sta Num : /
Quad Name: N R Canada - 52C/8

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1924	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	SURVEY DISK	NGS

Description: (1924)

Stamping:

4.0 MILES NORTH OF THE EAST HEAD OF CLEAR WATER BAY, 3.5 MILES NORTHWEST OF LAC LA CROIX, 1.0 MILE NORTHWEST OF THOMPSON LAKE, ON A DIVIDE BETWEEN SAND POINT LAKE AND LAC LA CROIX, ON A STEEP BLUFF OVERLOOKING NORTH SHORE OF A SMALL LAKE, TO REACH FROM SAND POINT LAKE, GO VIA JOE LA FRANCES NARROWS INTO CLEAR WATER BAY, PROCEED TO THE HEAD OF CLEAR WATER BAY, TAKE 0.25 MILE PORTAGE INTO WHITEFISH LAKE, PROCEED 1.5 MILES TO THE EASTERN EXTREMITY OF A LAKE AT THE MOUTH OF A CREEK, FOLLOW PORTAGE TRAIL WHICH LEADS UP LEFT BRANCH OF A CREEK FROM AN OUTLET AROUND THE NORTHWEST SHORE OF A LAKE 1.0 MILE, GO UP A SMALL CREEK 0.5 MILE TO A SMALL LAKE AND CONTINUE AROUND THE EAST END OF A LAKE AND UPHILL TO STATION FISH SITE, MARKED BY STANDARD BRONZE DISK OF INTERNATIONAL BOUNDARY COMMISSION IN OUTCROPPING BOULDER, THE REFERENCE MARK IS GEODETIC SURVEY OF CANADA BRONZE DISK IN AN OUTCROPPING LEDGE 37.12 FEET FROM STATION SOUTH 40 DEGREES 02 MINUTES EAST, BOUNDARY REF MON 250 (IBC), MARKED BY STANDARD 8.0-INCH MANGANESE-BRONZE POST OF INTERNATIONAL BOUNDARY COMMISSION, IS 0.26 FOOT FROM STATION NORTH 72 DEGREES 53 MINUTES EAST.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.413 12B = -104.380 09 = -104.380 03 = -104.422

FISH RAINY RIVER

Mn/DOT Name: FISH RAINY RIVER
NGS Name: FISH
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483609.68	932532.69		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1926)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.7 MILES SOUTHWEST OF FORT FRANCES, ON THE PROPERTY OF WILLIAM FAIR, ON A ROCK LEDGE, 16.4 FEET ABOVE AND 65.9 FEET BACK FROM THE RIVER'S EDGE, 0.3 FOOT WEST OF BOUNDARY REF MON 250.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.682 12B = -100.689 09 = -100.597 03 = -100.584

FISH RM

Mn/DOT Name: FISH RM

NGS Name: FISH RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482325.00	922012.00		

NGS ACRN: CJ2509 Get Map
NGS Quad / Sta Num : /
Quad Name: N R Canada - 52C/8

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1924	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	REFERENCE MARK DISK	CGS

Description: (1924)

Stamping:

4.0 MILES NORTH OF THE EAST HEAD OF CLEAR WATER BAY, 3.5 MILES NORTHWEST OF LAC LA CROIX, 1.0 MILE NORTHWEST OF THOMPSON LAKE, ON THE DIVIDE BETWEEN SAND POINT LAKE AND LAC LA CROIX, ON A STEEP BLUFF OVERLOOKING THE NORTH SHORE OF SMALL LAKE, TO REACH FROM SAND POINT LAKE, GO VIA JOE LA FRANCES NARROWS INTO CLEAR WATER BAY, PROCEED TO THE HEAD OF CLEAR WATER BAY, TAKE 0.25 MILE PORTAGE INTO WHITEFISH LAKE, PROCEED 1.5 MILES TO EASTERN EXTREMITY OF A LAKE AT THE MOUTH OF A CREEK, FOLLOW PORTAGE TRAIL WHICH LEADS UP THE LEFT BRANCH OF A CREEK FROM AN OUTLET AROUND THE NORTHWEST SHORE OF A LAKE 1.0 MILE, GO UP A SMALL CREEK 0.5 MILE TO SMALL LAKE AND CONTINUE AROUND THE EAST END OF A LAKE AND UPHILL TO THE STATION SITE, MARKED BY STANDARD BRONZE DISK OF INTERNATIONAL BOUNDARY COMMISSION IN OUTCROPPING BOULDER, THE REFERENCE MARK IS GEODETIC SURVEY OF CANADA BRONZE DISK IN AN OUTCROPPING LEDGE 37.12 FEET FROM STATION SOUTH 40 DEGREES 02 MINUTES EAST.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.413 12B = -104.380 09 = -104.380 03 = -104.422

FIVE ROSES

Mn/DOT Name: FIVE ROSES
NGS Name: FIVE ROSES
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0906 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484209.57	943114.09		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	2007	UNKNOWN	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	UNMONUMENTED	IBWC

Description: (2007)

Stamping:

3.5 MILES EAST-SOUTHEAST OF BAUDETTE, 3.5 MILES EAST ALONG PROVINCIAL HIGHWAY 11 FROM THE BORDER CROSSING IN BAUDETTE, THEN 1.3 MILES SOUTH ON ATWOOD WORTHINGTON 1 ROAD, THEN 0.1 MILE SOUTHWEST TO THE MARK.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1069.552	.262		974.434	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -95.476 12B = -95.449 09 = -95.348 03 = -95.397

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position		Lake of the Woods County - South Zone					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 42 09.56997	94 31 14.08508	587605.580	222997.643	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 42 09.55154	94 31 14.08293			.131	3	ADJUSTMENT	1989	17085

State Plane and UTM Coordinates (Feet)

NAD83(1996)

MN State Plane - North Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2281623.936	1134680.081	1273364.053	17701795.460	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1273364.160	17701793.590	.131	3	ADJUSTMENT	1989	17085

FLAT

Mn/DOT Name: FLAT

NGS Name: FLAT

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483800.56	935339.51		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093434/
USGS Quad: MANITOU OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	CHISELED CROSS	IBWC

Description: (1918)

Stamping:

ON THE NORTH BANK OF RAINY RIVER, 4.5 MILES EAST-NORTHEAST OF MANITOU, 1.0 MILE EAST OF MANITOU RAPIDS, OPPOSITE A LONG NARROW ISLAND NEAR THE AMERICAN SHORE, 84.2 FEET SOUTH OF BOUNDARY REF MON 179.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.802 12B = -97.808 09 = -97.703 03 = -97.723

FOOT

Mn/DOT Name: FOOT

NGS Name: FOOT

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481824.78	922555.10		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

3.9 MILES NORTHEAST OF CRANE LAKE, ON THE EAST SIDE OF THE LITTLE VERMILION NARROWS.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.648 12B = -103.635 09 = -103.596 03 = -103.619

Mn/DOT Name: FORT **NGS Name:** FORT

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB0883 Get Map
NGS Quad / Sta Num : 48093133/1001
USGS Quad: INTERNATIONAL FALLS

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483649.75	932331.17		2

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1923	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	NGS

Description: (1923) **Stamping:** FORT 1923

IN FORT FRANCES, ON THE SOUTH SIDE OF FOURTH STREET, 125.5 FEET FROM THE EAST SIDE OF VICTORIA STREET.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -100.915 12B = -100.909 09 = -100.827 03 = -100.813

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 36 49.74936	93 23 31.16806			.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 36 49.73640	93 23 31.18258			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 36 49.96127	93 23 30.65703			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1545626.183	17665980.085	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1545625.201	17665978.777	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
1929395.660	771184.790			.100		CLASSICAL SURVEY	1950	UNK

FORT FRANCES E BASE

Mn/DOT Name: FORT FRANCES E BASE
NGS Name: FORT FRANCES E BASE
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB0897 Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	34	71 N	24 W	483647.89	932443.21		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1923	UNKNOWN	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	IBWC

Description: (1913)
Stamping:

0.7 MILE WEST OF FORT FRANCIS ONTARIO, 0.5 MILE WEST ALONG HIGHWAY 11 FROM THE JUNCTION OF TRUNK HIGHWAY 11 AND MOWAT AVENUE IN FORT FRANCES, THEN 0.1 MILE WEST ON 3RD STREET WEST, THEN 0.1 MILE NORTH ON LILLIE AVENUE,177.1 FEET SOUTH OF THE SOUTH RAIL OF THE CANADIAN NATIONAL RAILWAY.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1108.922	.131		1008.371	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -100.800 12B = -100.800 09 = -100.715 03 = -100.705

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position		Koochiching County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 36 47.89160	93 24 43.20704	581772.299	380177.361	.033	1	ADJUSTMENT	1999	17648

State Plane and UTM Coordinates (Feet)

NAD83(1996)

MN State Plane - North Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2549188.535	1099079.744	1540786.201	17665817.362	.033	1	ADJUSTMENT	1999	17648

FORT FRANCES NW BELL CGE 54

Mn/DOT Name: FORT FRANCES NW BELL CGE 54 **NGS Name:** FORT FRANCES NW BELL MW CGE 54

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB0889 Get Map
NGS Quad / Sta Num : 48093133/1019
USGS Quad: INTERNATIONAL FALLS

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483557.54	932703.44		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1967	1978	GOOD	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	MICROWAVE MAST	NGS

Description: (1978) **Stamping:**

2.0 MILES SOUTHWEST OF FORT FRANCES, 0.5 MILE SOUTH OF KING HIGHWAYS 11 AND 71.

*** No Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.521 12B = -100.528 09 = -100.436 03 = -100.430

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 35 57.53931	93 27 03.44122			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 35 57.52741	93 27 03.45547			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 35 57.74261	93 27 02.92604			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1531336.250	17660769.783	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1531335.286	17660768.584	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	Y	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
1915107.210	765952.170			.100		CLASSICAL SURVEY	1950	UNK

FORT FRANCES WB

Mn/DOT Name: FORT FRANCES WB
NGS Name: FORT FRANCES W BASE
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483648.75	933116.79		1

NGS ACRN: TB0991 Get Map
NGS Quad / Sta Num : 48093422/1004
USGS Quad: PELLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1967	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	NGS

Description: (1967)

Stamping:

6.0 MILES WEST OF FORT FRANCES, 0.3 MILE NORTHWEST OF THE JUNCTION OF KINGS HIGHWAYS 11 AND 71 AND ONTARIO HIGHWAY 611, NEAR A RAILROAD CROSSING, 176.5 FEET SOUTH OF THE SOUTH RAIL OF THE RAILROAD TRACKS, 142.0 FEET SOUTH-SOUTHWEST OF A TELEPHONE POLE NUMBER 6, 6.2 FEET WEST OF A BLAZED ASPEN TREE, 1.7 FEET NORTH-NORTHEAST OF A WITNESS POST.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -100.082 12B = -100.102 09 = -100.023 03 = -100.062

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 36 48.74832	93 31 16.79075			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 36 48.73603	93 31 16.80472			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 36 48.93793	93 31 16.26396			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	UTM - Zone 15 Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
		1514348.942	17666065.710	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	UTM - Zone 15 Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
		1514347.995	17666064.471	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	MN State Plane - North Zone Y	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
1898106.480	771225.390			.100		CLASSICAL SURVEY	1950	UNK

FORT FRANCES WB ECC

Mn/DOT Name: FORT FRANCES WB ECC
NGS Name: FORT FRANCES W BASE ECC RESET
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483650.75	933116.78		2

NGS ACRN: TB0988 Get Map
NGS Quad / Sta Num : 48093422/1002
USGS Quad: PELLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1967	UNKNOWN	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	BENCH MARK DISK	NGS

Description: (1967) **Stamping:** FORT FRANCES WEST BASE ECC 1923 1967

6.0 MILES WEST OF FORT FRANCES, 0.3 MILE NORTHWEST OF THE JUNCTION OF KINGS HIGHWAYS 11 AND 71 AND ONTARIO HIGHWAY 611, NORTHWEST OF A RAILROAD CROSSING, 97.0 FEET SOUTHWEST OF HIGHWAYS 11 AND 71, 21.3 FEET NORTH OF THE NORTH RAIL OF THE RAILROAD TRACKS, 24.31 FEET SOUTHWEST OF FORT FRANCIS WB EOC RM 2, 97.46 FEET NORTHEAST OF STATION "BENCH MARK 28 E GSC", 203.26 FEET NORTH OF FORT FRANCIS WB, 142.0 FEET SOUTH-SOUTHWEST OF A T-POLE.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -100.082 12B = -100.105 09 = -100.026 03 = -100.065

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 36 50.75408	93 31 16.78324			.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 36 50.74170	93 31 16.79721			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 36 50.94355	93 31 16.25652			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1514350.833	17666268.895	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1514349.887	17666267.647	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	Y	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
1898108.090	771428.640			.100		CLASSICAL SURVEY	1950	UNK

FORT FRANCES WB ECC AZ MK

Mn/DOT Name: FORT FRANCES WB ECC AZ MK

NGS Name: FORT FRANCES W BASE ECC AZ MK

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483704.00	933135.00		

NGS ACRN: CO6841 Get Map
NGS Quad / Sta Num : 48093422/
USGS Quad: PELLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1967	1967	GOOD	Horz=? Vert=?	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	AZIMUTH MARK DISK	NGS

Description:

Stamping: FORT FRANCES WEST BASE ECC. 19

5.6 MILES NORTHWEST OF INTERNATIONAL FALLS, 0.4 MILE NORTH ALONG TRUNK HIGHWAY 53/TRUNK HIGHWAY 71/INTERNATIONAL BRIDGE FROM THE JUNCTION OF TRUNK HIGHWAY 53 (2ND AVENUE) AND TRUNK HIGHWAY 71 (3RD STREET) IN INTERNATIONAL FALLS, THEN 318.0 FEET WEST ALONG CHURCH STREET IN ONTARIO, THEN 0.2 MILE NORTH ALONG TRUNK HIGHWAY 71 (CENTRAL AVENUE), THEN 6.2 MILES WEST ALONG TRUNK HIGHWAY 71 (TRANS-CANADA HIGHWAY).

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.056 12B = -100.079 09 = -100.003 03 = -100.046

FORT FRANCES WB ECC RM

Mn/DOT Name: FORT FRANCES WB ECC RM

NGS Name: FORT FRANCES W BASE ECC RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483650.00	933117.00		

NGS ACRN: CO6842 Get Map
NGS Quad / Sta Num : 48093422/
USGS Quad: PELLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1923	GOOD	Horz=? Vert=?	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description:

5.4 MILES NORTHWEST OF INTERNATIONAL FALLS, 0.4 MILE NORTH ALONG TRUNK HIGHWAY 53/TRUNK HIGHWAY 71/INTERNATIONAL BRIDGE FROM THE JUNCTION OF TRUNK HIGHWAY 53 (2ND AVENUE) AND TRUNK HIGHWAY 71 (3RD STREET) IN INTERNATIONAL FALLS, THEN 318.0 FEET WEST ALONG CHURCH STREET IN ONTARIO, THEN 0.2 MILE NORTH ALONG TRUNK HIGHWAY 71 (CENTRAL AVENUE), THEN 5.9 MILES WEST ALONG TRUNK HIGHWAY 71 (TRANS-CANADA HIGHWAY) TO THE JUNCTION OF TRUNK HIGHWAY 71 AND HILL ROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.082 12B = -100.105 09 = -100.023 03 = -100.062

FORT FRANCES WB ECC RM 2

Mn/DOT Name: FORT FRANCES WB ECC RM 2 **NGS Name:** FORT FRANCES W BASE ECC RM 2

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB0992 Get Map
NGS Quad / Sta Num : 48093422/1003
USGS Quad: PELLAND

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483650.91	933116.50		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1967	1967	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (1967) **Stamping:** FORT FRANCES WEST BASE ECC 1923 NO 2 1967

6.0 MILES WEST OF FORT FRANCES, 0.3 MILE NORTHWEST OF THE JUNCTION OF KINGS HIGHWAYS 11 AND 71 AND ONTARIO HIGHWAY 611, AT THE NORTHWEST CORNER OF A RAILROAD CROSSING, 72.0 FEET SOUTHWEST OF THE HIGHWAY, 36.7 FEET NORTH OF THE NORTH RAIL OF THE RAILROAD TRACKS, 219.48 FEET NORTH OF FORT FRANCES WB, 24.31 FEET NORTHEAST OF FORT FRANCES WB ECC, 97.46 FEET NORTHEAST OF STATION "BENCH MARK 28 E GSC".

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -100.085 12B = -100.105 09 = -100.026 03 = -100.065

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 36 50.90557	93 31 16.50290			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 36 50.89326	93 31 16.51684			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 36 51.09509	93 31 15.97620			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	UTM - Zone 15 Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
		1514369.769	17666284.112	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	UTM - Zone 15 Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
		1514368.824	17666282.872	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	MN State Plane - North Zone Y	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
1898127.010	771443.900			.100		CLASSICAL SURVEY	1950	UNK

FORT RM

Mn/DOT Name: FORT RM

NGS Name: FORT RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483649.00	932330.00		

NGS ACRN: CO6840 Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1925	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (1925)

Stamping:

ON THE EAST SIDE OF CHRISTY STREET, 18.3 FEET FROM A SOUTH FENCE LINE, 23.3 FEET FROM A TELEPHONE POLE, 250.7 FEET SOUTHWEST OF STATION FORT.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.915 12B = -100.912 09 = -100.827 03 = -100.817

FRAME

Mn/DOT Name: FRAME

NGS Name: FRAME

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	32	68 N	15 W	481941.54	921748.79		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092242/
USGS Quad: SNOW BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (1921)

Stamping:

ON THE CANADIAN SHORE OF LAC LA CROIX, ABOUT 1000.0 FEET NORTHEAST OF BOUNDARY REF MON 509.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.157 12B = -104.127 09 = -104.114 03 = -104.157

FRASIER

Mn/DOT Name: FRASIER

NGS Name: FRASIER

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483108.19	933848.01		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093423/
USGS Quad: DEVLIN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1913)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.2 MILES SOUTHEAST OF BIG FORK, 492.0 FEET EAST OF A NORTH-SOUTH SECTION LINE ROAD, IN A FIELD, ON THE PROPERTY OF DUNCAN FRAZIER, 164.0 FEET EAST OF AN OLD WHARF, 3.3 FEET ABOVE AND 32.8 FEET BACK FROM THE RIVER'S EDGE.

Station Notes

SUBSURFACE MARK IS A BOTTLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -99.045 12B = -99.045 09 = -98.956 03 = -98.927

FREIGHT

Mn/DOT Name: FREIGHT

NGS Name: FREIGHT

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482904.57	924152.82		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092314/
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

3.0 MILES SOUTHWEST OF KETTLE FALLS, ON NAMAKAN LAKE, ON THE POINT AT THE NORTHEAST END OF SQUAW NARROWS.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.740 12B = -103.707 09 = -103.661 03 = -103.691

FRITZ

Mn/DOT Name: FRITZ
NGS Name: FRITZ
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0611 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484321.90	943034.34		2

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1969	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	TRIANGULATION STATION DISK	CGS

Description: (1969)

Stamping:

4.0 MILES NORTHEAST OF BAUDETTE, 2.5 MILES EAST OF RAINY RIVER, 3202.0 FEET WEST OF RAILROAD MILEPOST 140, ON A RIGHT-OF-WAY OF THE RAILROAD, TO REACH STATION FRITZ GO EAST ON ONTARIO HIGHWAY 11 2.73 MILES FROM THE RAINY RIVER TO A DRIVE LEADING NORTH TO THE ABANDONED FARM OF MRS. ONEIL, TURN WEST AND GO 192.3 FEET TO THE RAILROAD TRACKS, 15.5 FEET WEST OF AN OLD DRIVE AND 9.25 FEET SOUTH OF THE SOUTH RAIL WHERE A NAIL AND A BOTTLE CAP ARE IN THE NEAREST TIE, FRITZ RM IS 49.5 FEET SOUTH OF THE SOUTH RAIL, 18.5 FEET WEST OF A DRIVE, 12.0 FEET SOUTH OF A DITCH,7.83 FEET FROM A POWER POLE LEADING AWAY FROM THE HIGHWAY.

Station Notes

THE SURFACE MARK WAS TILTED AND REMOVED (1969 CWB), SUBSURFACE MARK WAS RECOVERED IN GOOD CONDITION.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1099.079	.197		1003.807	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -95.620 12B = -95.600 09 = -95.492 03 = -95.564

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 43 21.89609	94 30 34.33789			.066	2	ADJUSTMENT	1999	17648

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1276174.212	17709069.142	.066	2	ADJUSTMENT	1999	17648

FRITZ RM

Mn/DOT Name: FRITZ RM

NGS Name: FRITZ RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484321.00	943034.00		

NGS ACRN: CO6858 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1923	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	CGS

Description: (1923)

Stamping:

4.0 MILES NORTHEAST OF BAUDETTE, 2.5 MILES EAST OF RAINY RIVER, 3202.0 FEET WEST OF RAILROAD MILEPOST 140, ON A RIGHT-OF-WAY OF THE RAILROAD, TO REACH THE STATION GO EAST ON ONTARIO HIGHWAY 11 2.73 MILES FROM THE RAINY RIVER TO A DRIVE LEADING NORTH TO THE ABANDONED FARM OF MRS. ONEIL, TURN WEST AND GO 192.3 FEET TO THE RAILROAD TRACKS, 49.5 FEET SOUTH OF THE SOUTH RAIL.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.617 12B = -95.597 09 = -95.489 03 = -95.561

FROG

Mn/DOT Name: FROG

NGS Name: FROG

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB0898 Get Map
NGS Quad / Sta Num : /
Quad Name: N R Canada - 52C/11

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	27	71 N	24 W	483921.08	932527.68		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	2007	UNKNOWN	Horz=YES Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2007)

Stamping:

3.4 MILES NORTHWEST OF FORT FRANCIS ONTARIO CANADA, 1.4 MILES WEST ALONG TRUNK HIGHWAY 11 FROM THE JUNCTION OF TRUNK HIGHWAY 11 AND MOWAT AVENUE IN FORT FRANCIS, THEN 2.9 MILES NORTH ON MCIRVING ROAD NORTH, THEN 0.5 MILE NORTHEAST TO MARK.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1154.853	.131		1054.171	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -100.899 12B = -100.902 09 = -100.833 03 = -100.840

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position		Koochiching County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 39 21.07918	93 25 27.67881	578717.783	395689.867	.033	1	ADJUSTMENT	1999	17648

State Plane and UTM Coordinates (Feet)

NAD83(1996)

MN State Plane - North Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2546265.247	1114616.512	1537885.197	17681352.056	.033	1	ADJUSTMENT	1999	17648

GAME

Mn/DOT Name: GAME
NGS Name: GAME
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480519.54	912902.65		3

NGS ACRN: TA0137 Get Map
NGS Quad / Sta Num : 48091233/
USGS Quad: ENSIGN LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description:

18.4 MILES NORTHEAST OF WINTON, 15.3 MILES WESTERLY ALONG FERNBERG ROAD FROM THE JUNCTION OF FERNBERG ROAD AND FALL LAKE DRIVE IN WINTON, HIKE AND BOAT 9.2 MILES NORTH THROUGH SUPERIOR NATIONAL FOREST, STATION GAME IS APPROXIMATELY 1.6 MILES NORTHWEST OF GREEN ISLAND AND 0.5 MILE NORTHEAST OF HOBO ISLAND.

Stamping:

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1302.491	.262		1199.981	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -102.887 12B = -102.933 09 = -102.857 03 = -102.523

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 05 19.53600	91 29 02.64553			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 05 19.53655	91 29 02.64970			.131	3	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 05 19.92000	91 29 02.23000			.100	3	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		2010777.425	17477908.179	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		2010777.141	17477908.229	.131	3	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	3	CLASSICAL SURVEY	1982	17020

GAP

Mn/DOT Name: GAP

NGS Name: GAP

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	33	65 N	9 W	480355.92	913016.43		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091322/
USGS Quad: BASSWOOD LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1915	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	CHISELED TRIANGLE	IBWC

Description: (1915)

Stamping:

ON A SMALL LOW ISLAND IN BASSWOOD LAKE 328.1 FEET SOUTH OF THE SOUTH END OF THE LONG PENINSULA BETWEEN MERRIAM AND BAYLEY BAYS. STATION GAP IS ON A LARGE, FIXED ROCK ON THE HIGHEST PART OF THE WEST END OF THE ISLAND.

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.556 12B = -102.602 09 = -102.516 03 = -102.178

GAPE

Mn/DOT Name: GAPE **NGS Name:** GAPE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481348.02	914633.59		1

NGS ACRN: TA0166 Get Map
NGS Quad / Sta Num : 48091331/
USGS Quad: FRIDAY BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2007)

Stamping:

21.1 MILES NORTH OF WINTON, 10.6 MILES NORTHERLY ALONG CEDAR LAKE ROAD FROM THE JUNCTION OF CEDAR LAKE ROAD AND WINTON ROAD IN WINTON, CEDAR LAKE TURNS INTO (CLOQUET LINE), THEN (CLEAR LAKE ROAD), THEN (FOREST ROAD 1036), THEN HIKE AND BOAT 14.3 MILES NORTHERLY THROUGH SUPERIOR NATIONAL FOREST TO HUNTER ISLAND. THE MONUMENT AND THE DISK TYPE ARE UNKNOWN.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1476.375	.131		1372.300	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -104.403 12B = -104.396 09 = -104.403 03 = -104.288

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 13 48.02283	91 46 33.58952			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 13 48.03702	91 46 33.61634			.033	1	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 13 48.41000	91 46 33.16400			.100	1	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1938637.044	17528144.655	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1938635.206	17528146.063	.033	1	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	1	CLASSICAL SURVEY	1982	17020

GARB

Mn/DOT Name: GARB **NGS Name:** GARB

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TA0132 Get Map
NGS Quad / Sta Num : 48091233/
USGS Quad: ENSIGN LAKE WEST

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480433.57	912726.53		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1915	GOOD	Horz=YES Vert=YES	NO			NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	BOUNDARY MARKER DISK	NGS

Description: (2006) **Stamping:** 151

ON THE CANADIAN SIDE OF THE BASSWOOD LAKE, ON THE EAST SHORE OF BAYLEY BAY, 0.33 MILE NORTH OF A WOODED ISLAND, NEAR THE MIDDLE OF A FLAT ROCK ABOUT 10.0 FEET SQUARE THAT PROJECTS INTO A LAKE, AND 1.0 FOOT ABOVE LAKE LEVEL. MARKED BY STANDARD BRONZE DISK OF INTERNATIONAL BOUNDARY COMMISSION IN A ROCK.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1302.491	.131		1200.244	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -102.624 12B = -102.670 09 = -102.588 03 = -102.244

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 04 33.57210	91 27 26.53294			.033	1	ADJUSTMENT	1999	17648

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		2017393.189	17473382.104	.033	1	ADJUSTMENT	1999	17648

GAS

Mn/DOT Name: GAS

NGS Name: GAS

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	32	65 N	9 W	480333.09	913146.42		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091322/
USGS Quad: BASSWOOD LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	UNSPECIFIC DISK TYPE (SEE TEXT)	IBWC

Description: (1913)

Stamping:

ON THE SMALL ISLAND IN THE BASSWOOD LAKE 328.1 FEET SOUTH OF THE EAST END OF THE WESTERN ONE OF THE TWO LARGE ISLANDS IN AN ENTRANCE TO MERRIAM BAY. IT IS ALL THE SOUTHWESTERN PART OF THE ISLAND, ABOUT 29.5 FEET FROM THE WATER'S EDGE AND ABOUT 13.1 FEET ABOVE THE LAKE LEVEL.

Station Notes

A BRONZE DISK SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.493 12B = -102.539 09 = -102.454 03 = -102.109

GATE

Mn/DOT Name: GATE

NGS Name: GATE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	2	64 N	9 W	480321.94	913236.50		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091322/
USGS Quad: BASSWOOD LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type
ROCK (1 TO 3 METERS)

Disk Type
UNSPECIFIC DISK TYPE (SEE TEXT)

Mon. Agency
IBWC

Description: (1913)

Stamping:

ON THE SOUTH SHORE OF THE BASSWOOD LAKE. STATION GATE IS ON A ROCKY POINT 1.38 MILES EAST OF WIND BAY AND DIRECTLY SOUTH OF THE 'WEST ENTRANCE TO MERRIAM BAY. IT IS ON A GRANITE LEDGE ABOUT 26.2 FEET BACK FROM THE POINT. THERE IS ANOTHER POINT OFF THE SHORE, SOMEWHAT LESS PROMINENT, 0.12 MILE TO THE WEST OF STATION GATE.

Station Notes
A BRONZE DISK SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.460 12B = -102.506 09 = -102.424 03 = -102.077

GENUS

Mn/DOT Name: GENUS

NGS Name: GENUS

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	27	66 N	11 W	481029.45	914319.57		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1914)

Stamping:

ON THE EAST SHORE OF CROOKED LAKE, ABOUT 4.5 MILES NORTH OF LOWER BASSWOOD FALLS. STATION GENUS IS ON THE NORTH END OF THE CLIFFS AT THE NARROWS, WHICH ARE JUST NORTH OF WHERE THE LAKE HAS MADE A JOG OF ABOUT A MILE TO THE WEST AND THEN TURNED NORTH AGAIN. IT IS ON THE SMOOTH ROCK SUMMIT OF THE CLIFFS.

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.927 12B = -103.943 09 = -103.914 03 = -103.747

GEORGE

Mn/DOT Name: GEORGE

NGS Name: GEORGE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	27	66 N	11 W	481015.85	914322.09		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1914)

Stamping:

ON THE NORTH SHORE OF CROOKED LAKE, ABOUT 4.25 MILES NORTH OF LOWER BASSWOOD FALLS. STATION GEORGE IS ON THE NARROW PENINSULA LIKE POINT AROUND WHICH THE LAKE TURNS INTO THE SECOND AND LAST NARROW NORTH REACH. IT IS ON THE HIGHEST PART OF THE BLUFF, ABOUT 328.0 FEET NORTH OF THE EXTREME TIP OF THE POINT.

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.888 12B = -103.904 09 = -103.874 03 = -103.704

GERMAN

Mn/DOT Name: GERMAN
NGS Name: GERMAN
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480849.93	913923.93		1

NGS ACRN: TA0164 Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2007)

Stamping:

16.7 MILES NORTHEAST OF WINTON, 7.1 MILES WESTERLY ALONG FERNBERG ROAD (COUNTY ROAD 18) FROM THE JUNCTION OF FERNBERG ROAD AND FALL LAKE DRIVE IN WINTON, THEN HIKE AND BOAT 13.8 MILES NORTH THROUGH SUPERIOR NATION FOREST, STATION GERMAN IS APPROXIMATELY 1.0 MILE SOUTH OF NUB LAKE. THE MONUMENT AND THE DISK TYPE ARE UNKNOWN.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1499.341	.131		1395.981	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -103.674 12B = -103.694 09 = -103.674 03 = -103.441

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 08 49.93315	91 39 23.92988			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 08 49.94041	91 39 23.94569			.033	1	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 08 50.32000	91 39 23.51000			.100	1	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1968243.055	17498436.460	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1968241.971	17498437.177	.033	1	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	1	CLASSICAL SURVEY	1982	17020

GIFT

Mn/DOT Name: GIFT

NGS Name: GIFT

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480657.01	913936.70		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1913)

Stamping:

ON THE NORTH SIDE OF BASSWOOD RIVER, ABOUT 1.0 MILE NORTHWEST OF BASSWOOD LAKE, STATION GIFT IS ON THE HIGH BARE GRANITE RIDGE THAT RISES FROM THE NORTH BANK OF THE RIVER ON THE NORTH SIDE OF THE FIRST BIG LOOP ON THE RIVER BELOW BASSWOOD LAKE, IT IS ON THE HIGHEST AND SECOND BARE POINT EAST OF THE WEST END OF THE RIDGE.

Station Notes

STATION MARK: A DRILL HOLE WITHIN A TRIANGLE CUT IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.343 12B = -103.369 09 = -103.323 03 = -103.058

GILL

Mn/DOT Name: GILL **NGS Name:** GILL

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TA0148 Get Map
NGS Quad / Sta Num : 48091322/
USGS Quad: BASSWOOD LAKE EAST

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480659.77	913727.48		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=YES Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description:

15.5 MILES NORTHEAST OF WINTON, 8.4 MILES WESTERLY ALONG FERNBERG ROAD (COUNTY ROAD 18) FROM THE JUNCTION OF FERNBERG ROAD AND FALL LAKE DRIVE IN WINTON, THEN 10.9 MILES NORTH THROUGH SUPERIOR NATIONAL FOREST, ACROSS BASSWOOD LAKE, THE MONUMENT AND THE DISK TYPE ARE UNKNOWN.

Stamping:

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1499.341	.131		1396.319	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -103.343 12B = -103.372 09 = -103.330 03 = -103.054

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 06 59.77431	91 37 27.47715			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 06 59.77924	91 37 27.49018			.033	1	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 07 00.15800	91 37 27.06300			.100	1	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1976336.511	17487417.892	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1976335.618	17487418.375	.033	1	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	1	CLASSICAL SURVEY	1982	17020

GILLIAN

Mn/DOT Name: GILLIAN

NGS Name: GILLIAN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483536.38	932748.75		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1926)

Stamping:

ON THE NORTH SHORE OF THE RAINY RIVER, 3.6 MILES WEST OF FORT FRANCES, NEAR A GROVE OF TREES, 328.0 FEET SOUTHEAST OF A HOUSE, NEAR THE EDGE OF THE RIVER, 3.3 FEET ABOVE THE WATER.

Station Notes

SUBSURFACE MARK IS A GLASS JAR.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.423 12B = -100.436 09 = -100.341 03 = -100.334

GILSON

Mn/DOT Name: GILSON

NGS Name: GILSON

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0913 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484230.37	941714.18		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.75 MILE EAST OF PINEWOOD, 16.4 FEET ABOVE AND 36.1 FEET BACK FROM THE RIVERS? EDGE, 4.9 FEET FROM THE CORNER OF A FENCE, 39.4 FEET FROM AN OLD SLIDE IN THE BANK, GILSONS HOUSE IS 59.0 FEET EAST OF STATION GILSON, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.571 12B = -96.565 09 = -96.473 03 = -96.479

Mn/DOT Name: GIN

NGS Name: GIN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480610.48	913607.05		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091322/
USGS Quad: BASSWOOD LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1913)

Stamping:

ON THE SOUTH END OF A HIGH, ROCKY, TIMBERED ISLAND IN THE NORTHERN PART OF BASSWOOD LAKE, THE ISLAND LIES IN THE WEST END OF THE NARROW PASSAGE AROUND AND NORTH OF UNITED STATES POINT, CONNECTING THE EASTERN AND WESTERN PARTS OF THE LAKE, THE ISLAND IS THE MOST EASTERN ONE OF THE GROUP OF ISLANDS AT THE WEST END OF THE PASSAGE, STATION GIN IS ON THE SOLID-ROCK POINT OF THE SOUTH END OF THE ISLAND, ABOUT 8.2 FEET BACK FROM THE SHORE LINE AND ABOUT 8.2 FEET ABOVE THE WATER LEVEL.

Station Notes

A BRONZE DISK SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.179 12B = -103.222 09 = -103.159 03 = -102.864

Mn/DOT Name: GIP **NGS Name:** GIP

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484321.87	943154.94		2

NGS ACRN: TC0610 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1969	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	TRIANGULATION STATION DISK	CGS

Description: (1969)

Stamping:

1.5 MILES EAST OF THE TOWN OF RAINY RIVER, ONTARIO, 3.0 MILES NORTHEAST OF BAUDETTE, MINNESOTA, 1.4 MILES NORTH OF THE NORTH BANK OF THE RAINY RIVER, ON A RIGHT-OF-WAY OF THE RAILROAD, TO REACH STATION GIP FROM THE RAILROAD STATION IN RAINY RIVER, GO EAST ON ONTARIO HIGHWAY 11 FOR 1.7 MILES, TURN NORTH ON A DRIVE TO MR. NORMAN MARTINSONS HOUSE, GO 0.02 MILE TO RAILROAD'S TRACKS, WITH STATION GIP AND GIP RM ON THE WEST, STATION GIP IS 267.5 FEET EAST ALONG THE TRACKS.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1099.079	.197		1003.883	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -95.554 12B = -95.528 09 = -95.430 03 = -95.489

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 43 21.86874	94 31 54.93558			.066	2	ADJUSTMENT	1999	17648

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1270772.172	17709174.149	.066	2	ADJUSTMENT	1999	17648

GIP RM

Mn/DOT Name: GIP RM

NGS Name: GIP RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: CO6875 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484321.00	943155.00		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1923	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (1923)

Stamping:

1.5 MILES EAST OF THE TOWN OF RAINY RIVER, ONTARIO, 3.0 MILES NORTHEAST OF BAUDETTE, MINNESOTA, 1.4 MILES NORTH OF THE NORTH BANK OF THE RAINY RIVER, ON A RIGHT-OF-WAY OF THE RAILROAD, TO REACH STATION FROM A RAILROAD STATION IN RAINY RIVER, GO EAST ON ONTARIO HIGHWAY 11 FOR 1.7 MILES, TURN NORTH ON A DRIVE TO MR. NORMAN MARTINSONS HOUSE, GO 0.02 MILE TO THE RAILROAD'S TRACKS, WITH STATION GIP AND THE GIP RM ON THE WEST.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.554 12B = -95.528 09 = -95.426 03 = -95.489

GIRL

Mn/DOT Name: GIRL **NGS Name:** GIRL

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480645.59	914055.42		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1915	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915) **Stamping:**

ON THE NORTH SIDE OF BASSWOOD RIVER, STATION GIRL IS ON THE HIGH HILL THAT LIES IN THE BEND OF THE RIVER BETWEEN THE TWO WIDE EXPANSIONS IN THE LAST AND LOWER NORTH-AND-SOUTH REACH, IT IS ACROSS THE RIVER AND 0.5 MILE NORTH OF THE LOWER END OF THE LONG PORTAGE TRAIL, IT IS ON THE HIGHEST POINT OF THE LEDGE ON THE SUMMIT OF A HILL.

Station Notes

A BRONZE DISK SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.310 12B = -103.333 09 = -103.290 03 = -103.025

Mn/DOT Name: GLIB

NGS Name: GLIB

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480822.56	914151.53		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=YES Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (1914)

Stamping:

ON THE EAST SHORE OF CROOKED LAKE, ABOUT 1.9 MILES NORTH OF LOWER BASSWOOD FALLS, STATION GLIB IS AT THE SOUTH END OF A HIGH BLUFF JUST NORTH OF THE NARROWS AND WHERE THE LAKE BEGINS TO WIDEN AND TURN TOWARD THE WEST, IT IS ABOUT 4.9 FEET FROM THE WATER'S EDGE AND ABOUT 2.0 FEET ABOVE THE LAKE LEVEL.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.589 12B = -103.609 09 = -103.576 03 = -103.356

GLINT

Mn/DOT Name: GLINT
NGS Name: GLINT
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TA0160 Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481204.29	913853.40		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1924	UNKNOWN	Horz=NO Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	NGS

Description: (2006)

Stamping:

ABOUT 0.25 MILE EAST OF ROBINSON LAKE, ON THE SUMMIT OF A HIGH, STEEP, ROCKY HILL. TO REACH FROM CROOKED LAKE, GO TO THE HEAD OF MOOSE BAY, WHICH IS ON THE EAST SIDE AND OPENS IN TO A NARROW PART OF A LAKE ABOUT 2.25 MILES NORTH OF LOWER BASSWOOD FALLS, PROCEED UP A CREEK AT THE HEAD OF MOOSE BAY, MAKE PORTAGE AROUND RAPIDS AND CONTINUE ABOUT 1.0 MILE TO ROBINSON LAKE, THEN PROCEED TO THE EAST SIDE OF A LAKE AT A POINT ABOUT 2.5 MILES NORTH OF AN OUTLET AND DIRECTLY ACROSS NARROW CHANNEL FROM FIRST ISLAND FROM THE SOUTH END OF A LAKE, AND FOLLOW A BLAZED TRAIL FROM THE SHORE TO STATION GLINT SITE ON THE SOUTHWEST END OF A HILL. MARKED BY GEODETIC SURVEY OF CANADA BRONZE DISK IN A SOLID ROCK AND SURROUNDED BY TRIANGLE CUT IN A ROCK. GLINT RM IS A STANDARD REFERENCE DISK IN SOLID ROCK 41.5 FEET FROM STATION NORTH 88 DEGREES 21 MINUTES EAST.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1499.341	.131		1395.414	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -104.258 12B = -104.271 09 = -104.255 03 = -104.081

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 12 04.28677	91 38 53.40146			.033	1	ADJUSTMENT	1999	17648

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1969966.283	17518159.178	.033	1	ADJUSTMENT	1999	17648

GLINT RM

Mn/DOT Name: GLINT RM

NGS Name: GLINT RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481204.00	913852.00		

NGS ACRN: CJ2558 Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	REFERENCE MARK DISK	NGS

Description: (1914)

Stamping:

0.25 MILE EAST OF ROBINSON LAKE, ON THE SUMMIT OF A HIGH, STEEP, ROCKY HILL, FROM CROOKED LAKE, GO TO THE HEAD OF MOOSE BAY, WHICH IS ON THE EAST SIDE AND OPENS IN TO A NARROW PART OF A LAKE ABOUT 2.25 MILES NORTH OF LOWER BASSWOOD FALLS, PROCEED UP A CREEK AT THE HEAD OF MOOSE BAY, MAKE PORTAGE AROUND RAPIDS AND CONTINUE ABOUT 1.0 MILE TO ROBINSON LAKE, PROCEED TO THE EAST SIDE OF A LAKE AT A POINT ABOUT 2.5 MILES NORTH OF AN OUTLET AND DIRECTLY ACROSS A NARROW CHANNEL FROM THE FIRST ISLAND FROM THE SOUTH END OF A LAKE, AND FOLLOW A BLAZED TRAIL FROM THE SHORE TO STATION GLINT RM SITE ON THE SOUTHWEST END OF A HILL, 41.5 FEET NORTHEAST FROM STATION GLINT.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.258 12B = -104.271 09 = -104.255 03 = -104.078

GLOW

Mn/DOT Name: GLOW

NGS Name: GLOW

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480807.79	914154.88		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=YES Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (1914)

Stamping:

ON THE EAST SHORE OF CROOKED LAKE, ABOUT 1.68 MILES NORTH OF LOWER BASSWOOD FALLS, STATION GLOW IS ON A ROCKY BLUFF POINT IN THE SECOND NARROW PLACE NORTH OF THE FALLS, IT IS ON THE TOP OF A ROCK LEDGE, ON A LEVEL SHOULDER ABOUT 19.7 FEET FROM THE WATER'S EDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.546 12B = -103.566 09 = -103.533 03 = -103.307

GLUE

Mn/DOT Name: GLUE

NGS Name: GLUE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480619.01	913529.22		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091322/
USGS Quad: BASSWOOD LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=YES Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1913)

Stamping:

ON THE NORTH SIDE OF BASSWOOD LAKE, ON THE POINT AT THE WEST END AND ON THE NORTH SIDE OF THE NARROW PASSAGE THAT LIES ALONG THE NORTH SIDE OF UNITED STATES POINT, STATION GLUE IS ON THE SUMMIT OF THE GRANITE KNOLL ABOUT 328.1 FEET BACK FROM THE LAKE SHORE AND ABOUT 98.4 FEET ABOVE THE LAKE LEVEL, THERE IS A HIGHER KNOLL ABOUT 492.1 FEET TO THE NORTH.

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.202 12B = -103.245 09 = -103.185 03 = -102.893

GOAL

Mn/DOT Name: GOAL

NGS Name: GOAL

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480843.77	914201.50		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE NORTH SHORE OF CROOKED LAKE, ABOUT 2.25 MILES NORTH OF LOWER BASSWOOD FALLS, STATION GOAL IS ON THE POINT THAT LIES ABOUT 229.7 FEET NORTHWEST OF THE WESTERN ISLAND OFF THE MOUTH OF MOOSE BAY, IT IS ON A LARGE FLAT PLACE ON THE TOP OF A HIGH ROCK ON THE POINT.

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.648 12B = -103.668 09 = -103.635 03 = -103.425

GOAT

Mn/DOT Name: GOAT

NGS Name: GOAT

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480256.55	913420.29		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091322/
USGS Quad: BASSWOOD LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1921	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (1921)

Stamping:

ON BASSWOOD LAKE, ON THE SMALL LOW DOUBLE ISLAND THAT LIES JUST NORTH OF WHERE THE LAKE MAKES THE GREAT BEND FROM WEST TO NORTH, THIS SMALL ISLAND LIES 328.1 FEET OFF THE WEST SHORE OF THE LARGE ISLAND LYING JUST SOUTH OF CANADIAN POINT, STATION GOAT IS ON THE WEST END OF THE EASTERN PART OF THE ISLAND.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.388 12B = -102.434 09 = -102.346 03 = -101.991

GONE

Mn/DOT Name: GONE
NGS Name: GONE
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480503.41	912751.58		1

NGS ACRN: TA0135 Get Map
NGS Quad / Sta Num : 48091233/
USGS Quad: ENSIGN LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	DRILL HOLE	IBWC

Description: (1915)

Stamping:

ON A PROMINENT PENINSULA THAT LIES ON THE WEST SIDE OF THE MOST NORTHEASTERN SMALL BAY OF THE NORTHERN SHORE OF THE BAYLEY BAY, ON THE NORTH SIDE NEAR THE EAST END OF THE BASSWOOD LAKE, ON A FLAT ROCK WELL UP ON THE SOUTHERN POINT OF THE EASTERN RIDGE OF A PENINSULA, THERE IS A SMALL ISLAND LYING 410.0 FEET OFF THE SHORE SOUTH OF STATION GONE.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1302.491	.131		1200.099	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -102.779 12B = -102.825 09 = -102.746 03 = -102.405

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 05 03.41176	91 27 51.57981			.033	1	ADJUSTMENT	1999	17648

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		2015632.727	17476370.559	.033	1	ADJUSTMENT	1999	17648

GONG

Mn/DOT Name: GONG

NGS Name: GONG

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480648.99	914004.46		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

ON THE NORTH SIDE OF THE BASSWOOD RIVER, ABOUT 1.0 MILE BELOW THE BASSWOOD LAKE, STATION GONG IS ON THE SUMMIT OF THE HIGH RIDGE THAT RISES FROM THE NORTH SHORE OF THE RIVER ALONG THE NORTH SIDE OF THE FIRST BIG LOOP IN THE RIVER BELOW THE LAKE. IT IS ON THE BARE GRANITE TOP ON THE WEST END OF A RIDGE.

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.320 12B = -103.346 09 = -103.300 03 = -103.031

GOOD

Mn/DOT Name: GOOD
NGS Name: GOOD
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TA0154 Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480702.85	913849.57		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2007)

Stamping:

15.0 MILES NORTHEAST OF WINTON, 7.6 MILES EASTERLY ALONG FERNBERG ROAD FROM THE JUNCTION OF FERNBERG ROAD AND FALL LAKE DRIVE IN WINTON, HIKE AND BOAT 11.6 MILES NORTH THROUGH THE SUPERIOR NATIONAL FOREST TO HUNTER ISLAND. THE MONUMENT AND THE DISK TYPE ARE UNKNOWN.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1404.197	.262		1301.169	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -103.356 12B = -103.386 09 = -103.340 03 = -103.074

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 07 02.84972	91 38 49.56995			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 07 02.85463	91 38 49.58471			.131	3	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 07 03.24000	91 38 49.15000			.100	3	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1970762.953	17487630.675	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1970761.943	17487631.155	.131	3	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	3	CLASSICAL SURVEY	1982	17020

GOOSE

Mn/DOT Name: GOOSE

NGS Name: GOOSE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482614.50	923916.27		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092314/
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

4.6 MILES SOUTHWEST OF KETTLE FALLS, ON THE SOUTH SHORE OF RANDOLPH ISLAND IN NAMAKAN LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.638 12B = -103.619 09 = -103.560 03 = -103.589

GORE

Mn/DOT Name: GORE

NGS Name: GORE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480333.63	913416.54		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091322/
USGS Quad: BASSWOOD LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON A SMALL ISLAND IN THE SOUTHERN PART OF THE NORTH STRETCH OF BASSWOOD LAKE, ABOUT 0.2 MILE SOUTHWEST OF THE MOST SOUTHWESTERN POINT OF CANADIAN POINT, STATION GORE IS ON A LARGE, FIXED ROCK NEAR THE WEST END OF THE ISLAND, ABOUT 11.5 FEET ABOVE THE LAKE LEVEL.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.549 12B = -102.598 09 = -102.510 03 = -102.162

GORGE

Mn/DOT Name: GORGE
NGS Name: GORGE
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481239.02	914237.08		1

NGS ACRN: TA0162 Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2007)

Stamping:

20.2 MILES NORTHEAST OF WINTON, 4.4 MILES EASTERLY ALONG FERNBERG ROAD FROM THE JUNCTION OF FERNBERG ROAD AND FALL LAKE DRIVE IN WINTON, THEN HIKE AND BOAT 19.3 MILES NORTH THROUGH THE SUPERIOR NATIONAL FOREST, STATION GORGE IS APPROXIMATELY 1.4 MILES SOUTH OF LITTLE NEWT LAKE. THE MONUMENT AND THE DISK TYPE ARE UNKNOWN.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1410.758	.131		1306.792	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -104.294 12B = -104.308 09 = -104.291 03 = -104.143

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
48 12 39.02396	91 42 37.08449			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
48 12 39.03653	91 42 37.10529			.033	1	ADJUSTMENT	1986	17289

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
48 12 39.41300	91 42 36.66500			.100	1	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	UTM - Zone 15 Y	Acc	Order	Determination Method	Project Info	
							Year	Reference
		1954760.453	17521417.462	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	UTM - Zone 15 Y	Acc	Order	Determination Method	Project Info	
							Year	Reference
		1954759.024	17521418.712	.033	1	ADJUSTMENT	1986	17289

NAD27

X	Y	X	Y	Acc	Order	Determination Method	Project Info	
							Year	Reference
				.100	1	CLASSICAL SURVEY	1982	17020

GORGE IBC

Mn/DOT Name: GORGE IBC

NGS Name: GORGE IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481405.98	922021.04		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (1921)

Stamping:

ON THE RIGHT BANK OF THE LOON RIVER BESIDE THE SMALL RAPIDS ABOUT 5.25 MILES UPSTREAM FROM THE NARROWS BETWEEN LITTLE, VERMILION LAKE, AND THE LOON RIVER AND 0.5 MILE DOWNSTREAM FROM THE PORTAGE TO LOON LAKE, CLOSE TO THE SHORE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.494 12B = -103.491 09 = -103.415 03 = -103.458

GOSH

Mn/DOT Name: GOSH **NGS Name:** GOSH

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480947.78	913441.80		1

NGS ACRN: TA0140 Get Map
NGS Quad / Sta Num : /
Quad Name: N R Canada - 52B/4

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1914	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description:

19.4 MILES NORTHEAST OF WINTON, 10.9 MILES EASTERLY ALONG FERNBERG ROAD FROM THE JUNCTION OF FERNBERG ROAD AND FALL LAKE DRIVE IN WINTON. HIKE AND BOAT 14.0 MILES NORTH THROUGH SUPERIOR NATIONAL FOREST, STATION GOSH IS APPROXIMATELY 0.6 MILES NORTH OF MCNOUGHT LAKE. THE MONUMENT AND THE DISK TYPE ARE UNKNOWN.

Stamping:

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1525.587	.131		1422.048	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -103.865 12B = -103.891 09 = -103.874 03 = -103.632

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 09 47.78081	91 34 41.80089			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 09 47.78968	91 34 41.81036			.033	1	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 09 48.17000	91 34 41.38600			.100	1	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1987259.200	17504639.724	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1987258.541	17504640.610	.033	1	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	1	CLASSICAL SURVEY	1982	17020

GOUT

Mn/DOT Name: GOUT

NGS Name: GOUT

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480730.61	914037.82		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1915	GOOD	Horz=YES Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

ON THE NORTH SIDE OF THE BASSWOOD RIVER, ON THE NORTH SIDE OF THE LARGE BAY OR WIDE EXPANSE OF THE RIVER THAT IS AT THE NORTH END OF THE LAST NORTH REACH OF THE RIVER ABOVE LOWER BASSWOOD FALLS, STATION GOUT IS ABOUT 1.75 MILES EAST BY NORTH OF LOWER BASSWOOD FALLS, ON THE SUMMIT OF THE HIGH GRANITE LEDGE, ABOUT 984.25 FEET NORTH FROM THE SHORE OF A RIVER.

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.445 12B = -103.468 09 = -103.428 03 = -103.179

GRAB

Mn/DOT Name: GRAB **NGS Name:** GRAB

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480711.68	914149.58		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (2019) **Stamping:**

ON THE NORTH SIDE OF THE BASSWOOD RIVER, ABOUT 0.75 MILE NORTHEAST OF LOWER BASSWOOD FALLS, STATION GRAB IS ON THE TIMBERED AND ROCKY RIDGE THAT RISES FROM THE RIVER, ABOUT 0.2 MILE NORTHWEST ACROSS THE LITTLE BAY FROM WHEELBARROW PORTAGE, IT IS ON A SOLID GRANITE LEDGE ON THE HIGHEST PART OF THE RIDGE OVERLOOKING THE RIVER.

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.389 12B = -103.409 09 = -103.369 03 = -103.120

GRACE

Mn/DOT Name: GRACE
NGS Name: GRACE
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483910.59	940037.07		2

NGS ACRN: TC0535 Get Map
NGS Quad / Sta Num : 48094121/1003
USGS Quad: BIRCHDALE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1966	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	TRIANGULATION STATION DISK	NGS

Description: (1966) **Stamping:** GRACE 1923

1.5 MILES WEST ALONG A RAILROAD FROM BARWICK, 72.0 FEET WEST OF RAILROAD MILEPOST 117, 10.5 FEET NORTH OF THE SOUTH RAIL OF THE RAILROAD TRACKS, 38.93 FEET SOUTH OF GRACE RM.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -97.487 12B = -97.490 09 = -97.385 03 = -97.349

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 39 10.58898	94 00 37.06728			.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 39 10.57486	94 00 37.07188			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 39 10.71486	94 00 36.43940			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1396299.030	17681620.131	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1396298.703	17681618.705	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	Y	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
1779995.190	786611.160			.100		CLASSICAL SURVEY	1950	UNK

GRACE RM

Mn/DOT Name: GRACE RM

NGS Name: GRACE RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483910.00	940037.00		

NGS ACRN: CO6888 Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1966	UNKNOWN	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SEE DESCRIPTION	NGS

Description: (1966)

Stamping:

1.5 MILES WEST ALONG A RAILROAD FROM BARWICK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.487 12B = -97.487 09 = -97.385 03 = -97.349

GRAVEL 2 IBC

Mn/DOT Name: GRAVEL 2 IBC

NGS Name: GRAVEL 2 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484219.39	942042.40		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

2.5 MILES WEST OF PINEWOOD, 2.1 MILES WEST OF HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND DONALD STREET, THEN 0.6 MILE SOUTH ON A GRAVEL ROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.266 12B = -96.263 09 = -96.151 03 = -96.174

GREEN

Mn/DOT Name: GREEN

NGS Name: GREEN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481653.92	922413.20		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

4.1 MILES EAST OF CRANE LAKE, ON THE EAST SIDE OF LITTLE VERMILION LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.586 12B = -103.576 09 = -103.520 03 = -103.556

GREEN IBC

Mn/DOT Name: GREEN IBC

NGS Name: GREEN IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481405.72	922002.07		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=YES Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (1921)

Stamping:

ON THE RIGHT BANK OF THE LOON RIVER, OPPOSITE THE MOUTH OF A LARGE CREEK ON THE UNITED STATES SIDE; 0.33 MILE DOWNSTREAM FROM THE PORTAGE TO THE LOON RIVER, ABOUT 150.0 FEET FROM THE SHORE AND 10.0 FEET ABOVE THE HIGH-WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.510 12B = -103.504 09 = -103.432 03 = -103.471

GROG

Mn/DOT Name: GROG **NGS Name:** GROG

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	35	66 N	11 W	480943.92	914215.56		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1914)

Stamping:

ON THE EAST SHORE OF CROOKED LAKE, ABOUT 3.5 MILES NORTH OF LOWER BASSWOOD FALLS. STATION GROG IS ON THE CLIFF NEAR THE NORTH END OF THE NARROWS, NORTH OF WHICH THE LAKE WIDENS INTO AN OPEN EXPANSE ABOUT 1.0 MILE LONG AND 0.5 MILE WIDE. IT IS ABOUT 426.5 FEET NORTH OF BOUNDARY REF MON 728 AND ON A CONTINUATION OF THE SAME CLIFF.

Station Notes

A BRONZE DISK SET IN THE ROCK ON THE HIGHEST PART OF A CLIFF.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.815 12B = -103.835 09 = -103.802 03 = -103.615

GROVE

Mn/DOT Name: GROVE

NGS Name: GROVE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483150.36	933321.76		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093422/
USGS Quad: PELLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1926)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 2.0 MILES SOUTH WEST OF ISHERWOOD, 0.2 MILE WEST OF THE MOUTH OF WATSON CREEK, ON THE PROPERTY OF W H CONNER, IN A GROVE OF ELM TREES, 12.0 FEET SOUTHWEST OF BOUNDARY REF MON 229.

Station Notes

SUBSURFACE MARK IS A BOTTLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -99.682 12B = -99.672 09 = -99.590 03 = -99.560

GUESS

Mn/DOT Name: GUESS

NGS Name: GUESS

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	2	64 N	9 W	480319.98	913220.50		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091322/
USGS Quad: BASSWOOD LAKE EAST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type
ROCK (1 TO 3 METERS)

Disk Type
CHISELED TRIANGLE

Mon. Agency
IBWC

Description:

ON THE SOUTHERNMOST OF THE GROUP OF THREE SMALL ISLANDS IN BASSWOOD LAKE LYING JUST SOUTH OF THE VERY LARGE ISLAND AROUND WHICH THE LAKE MAKES THE GREAT BEND FROM WEST TO THE NORTH. STATION GUESS IS ON THE EAST END OF THE ISLAND ON A GRANITE LEDGE JUST SOUTH OF THE HIGHEST POINT.

Stamping:

Station Notes
A DRILL HOLE WITHIN A TRIANGLE CUT IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.447 12B = -102.490 09 = -102.408 03 = -102.060

GUM

Mn/DOT Name: GUM

NGS Name: GUM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481409.92	922228.23		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

5.6 MILES SOUTHEAST OF CRANE LAKE, ON THE EAST SHORE OF THE LOON RIVER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.392 12B = -103.392 09 = -103.313 03 = -103.363

Mn/DOT Name: GUN

NGS Name: GUN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0918 Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483831.90	940151.02		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1947	NOT FOUND	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1913)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.3 MILES EAST OF THE HEAD OF LONG SAULT RAPIDS, NEAR HIGH - WATER MARK ON ONE OF SEVERAL LARGE ROCKS IMBEDDED IN THE SAND, A CROSS CUT IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.313 12B = -97.316 09 = -97.211 03 = -97.185

Mn/DOT Name: HA

NGS Name: HA

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	35	66 N	11 W	480930.48	914221.03		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE EAST SHORE OF CROOKED LAKE, ABOUT 334.0 MILES NORTH OF LOWER BASSWOOD FALLS. STATION HA IS ON THE HIGH ROCK BLUFF AT THE SOUTH ENTRANCE TO THE NARROWS, WHICH ARE ABOUT 0.37 MILE LONG AND NORTH OF WHICH THE LAKE WIDENS INTO AN OPEN EXPANSE ABOUT 1.0 MILE LONG AND 0.5 MILE WIDE. IT IS ON A LARGE, FIXED BOULDER ON TOP OF THE BLUFF.

Station Notes

A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.776 12B = -103.796 09 = -103.763 03 = -103.573

HART

Mn/DOT Name: HART

NGS Name: HART

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0920 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484124.30	941513.85		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE EAST BANK OF THE RAINY RIVER, 1.4 MILES NORTH OF THE FRONTIER SCHOOLHOUSE, IN A PASTURE 49.2 FEET EAST OF THE EDGE OF THE BANK, 19.7 FEET ABOVE AND 78.7 FEET BACK FROM THE RIVERS? EDGE, LOCKHARTS HOUSE IS 574.0 FEET SOUTH OF STATION HART, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.640 12B = -96.640 09 = -96.548 03 = -96.532

HARTLEY

Mn/DOT Name: HARTLEY

NGS Name: HARTLEY

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483835.06	935931.52		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093434/
USGS Quad: MANITOU OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	METAL ROD	IBWC

Description: (1918)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.0 MILE NORTH OF MANITOU, OPPOSITE THE WEST END OF A SANDY ISLAND, 8.8 FEET SOUTH OF STATION BOUNDARY REF MON 164.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.500 12B = -97.500 09 = -97.401 03 = -97.372

HATHWAY

Mn/DOT Name: HATHWAY **NGS Name:** HATHWAY

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483145.14	933455.13		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093422/
USGS Quad: PELLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1913) **Stamping:**

ON THE NORTH BANK OF THE RAINY RIVER, 3.2 MILES SOUTH WEST OF ISHERWOOD, 328.0 FEET EAST OF THE MOUTH OF A SMALL CREEK, 29.5 FEET ABOVE AND 98.4 FEET BACK FROM THE RIVER'S EDGE.

Station Notes

SUBSURFACE MARK IS A BOTTLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -99.501 12B = -99.498 09 = -99.413 03 = -99.386

HAY

Mn/DOT Name: HAY

NGS Name: HAY

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0921 Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483904.82	941226.75		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 2.1 MILES EAST OF THE FRONTIER STORE, JUST EAST OF A SECTION LINE, 26.2 FEET ABOVE AND 78.7 FEET BACK FROM THE RIVERS? EDGE, 16.4 FEET FROM THE TOP OF THE SLOPE, A LARGE OLD BARN IS NEARLY DUE SOUTH, ACROSS THE RIVER FROM STATION HAY, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.591 12B = -96.584 09 = -96.509 03 = -96.476

HAZEL

Mn/DOT Name: HAZEL

NGS Name: HAZEL

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481412.52	921940.36		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SEE DESCRIPTION	IBWC

Description: (1921)

Stamping:

ON THE RIGHT BANK OF THE RAPIDS BETWEEN LOON LAKE AND THE LOON RIVER, 300.0 FEET ABOVE THE FOOT OF THE RAPIDS; CLOSE TO THE SHORE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.533 12B = -103.530 09 = -103.461 03 = -103.500

HENRI

Mn/DOT Name: HENRI
NGS Name: HENRI RESET
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484321.85	942102.57		1

NGS ACRN: TC0545 Get Map
NGS Quad / Sta Num : 48094131/1004
USGS Quad: BORDER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1975	GOOD	Horz=? Vert=YES	NO		FLUSH	SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	TRIANGULATION STATION DISK	NGS

Description: (1975) **Stamping:** HENRI 1923 1967

1.3 MILES WEST ALONG KINGS HIGHWAY 11 FROM THE PINEWOOD RIVER AT PINEWOOD THEN 0.5 MILE NORTH ON LAUZON ROAD TO A RAILROAD CROSSING THEN 0.5 MILE WEST ALONG THE RAILROAD, NEAR THE SOUTHWEST CORNER OF A PASTURE, 59.0 FEET NORTH OF THE NORTH RAIL OF THE RAILROAD TRACKS, 12.0 FEET NORTHEAST OF A FENCE CORNER, 51.5 FEET NORTH OF AN EAST-WEST FENCE, 100.68 FEET SOUTH OF HENRI RM 2, 5.1 FEET EAST-NORTHEAST OF A WITNESS POST, 37.16 FEET NORTHWEST OF HENRI RM.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -96.302 12B = -96.302 09 = -96.181 03 = -96.233

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 43 21.84766	94 21 02.57388			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 43 21.83160	94 21 02.57191			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 43 22.05200	94 21 01.83200			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	UTM - Zone 15 Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
		1314496.269	17708345.223	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	UTM - Zone 15 Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
		1314496.372	17708343.594	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	MN State Plane - North Zone Y	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
1698131.360	813229.780			.100		CLASSICAL SURVEY	1950	UNK

HENRI AZ MK

Mn/DOT Name: HENRI AZ MK
NGS Name: HENRI AZ MK
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0549 Get Map
NGS Quad / Sta Num : 48094131/1004
USGS Quad: BORDER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484333.63	942047.03		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1967	1975	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	AZIMUTH MARK DISK	NGS

Description: (1975) **Stamping:** HENRI 1923 1967

1.3 MILES WEST ON KINGS HIGHWAY 11 FROM THE PINEWOOD RIVER AT PINEWOOD THEN 0.5 MILE NORTH ON LAUZON ROAD TO THE RAILROAD CROSSING THEN WEST 0.3 MILE ON A ROAD ON THE NORTH SIDE OF THE RAILROAD TRACKS THEN NORTH 0.1 MILE TO A FARM THEN WEST 200.0 FEET THROUGH A BARNYARD THEN NORTH 0.2 MILE TO THE NORTHEAST CORNER OF A PASTURE THEN 0.15 MILE WEST-SOUTHWEST TO THE SOUTHWEST CORNER OF A PASTURE, 115.5 FEET WEST OF THE NORTHEAST CORNER OF A PASTURE, 2.0 FEET SOUTH OF A FENCE, 2.0 FEET SOUTHWEST OF A WITNESS POST.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -96.338 12B = -96.338 09 = -96.220 03 = -96.273

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 43 33.63258	94 20 47.03462			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 43 33.61352	94 20 47.03643			3.281		CLASSICAL SURVEY	1991	H1991

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1315558.871	17709520.623	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1315558.716	17709518.694	3.281		CLASSICAL SURVEY	1991	H1991

HENRI RM

Mn/DOT Name: HENRI RM

NGS Name: HENRI RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: CO6964 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484321.00	942102.00		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1975	GOOD	Horz=? Vert=YES	NO		RECESSED 2 IN.	SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	REFERENCE MARK DISK	NGS

Description: (1967) **Stamping:** HENRI 1923

1.3 MILES WEST ALONG KINGS HIGHWAY 11 FROM THE PINEWOOD RIVER AT PINEWOOD THEN 0.5 MILE NORTH ON LAUZON ROAD TO A RAILROAD CROSSING THEN 0.5 MILE WEST ALONG A RAILROAD, NEAR THE SOUTHWEST CORNER OF A PASTURE, 49.0 FEET NORTH OF THE NORTH RAIL OF THE RAILROAD TRACKS, 41.3 FEET EAST OF A WITNESS POST, 40.0 FEET EAST OF THE FENCE CORNER, 1.0 FOOT NORTH OF AN EAST-WEST FENCE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.302 12B = -96.302 09 = -96.181 03 = -96.233

HENRI RM 2

Mn/DOT Name: HENRI RM 2 **NGS Name:** HENRI RM 2

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0548 Get Map
NGS Quad / Sta Num : 48094131/1004
USGS Quad: BORDER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484322.84	942102.59		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1967	1975	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	TRIANGULATION STATION DISK	NGS

Description: (1975) **Stamping:** HENRI 1923 NO 2 1967

1.3 MILES WEST ON KINGS HIGHWAY FROM THE PINEWOOD RIVER AT PINEWOOD THEN 0.5 MILE NORTH ON LAUZON ROAD TO A RAILROAD CROSSING THEN 0.5 MILE WEST ALONG A RAILROAD, 100.68 FEET NORTH OF STATION HENRI, 2.0 FEET SOUTH OF A WITNESS POST, 1.0 FOOT EAST OF A NORTH-SOUTH FENCE.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -96.302 12B = -96.302 09 = -96.184 03 = -96.237

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 43 22.84082	94 21 02.58699			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 43 22.82476	94 21 02.58501			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 43 23.04490	94 21 01.84510			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1314497.173	17708445.847	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1314497.277	17708444.218	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	Y	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
1698132.110	813330.410			.100		CLASSICAL SURVEY	1950	UNK

HENRY

Mn/DOT Name: HENRY

NGS Name: HENRY

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483059.41	934117.57		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093423/
USGS Quad: DEVLIN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	SURVEY DISK	IBWC

Description: (1926) **Stamping:** U.S. & C.B. SURVEY

ON THE NORTH BANK OF THE RAINY RIVER, 0.8 MILE SOUTHWEST OF BIG FORK, ON THE PROPERTY OF ALEX HENRY, 164.0 FEET WEST OF A HOUSE, JUST AN OUTSIDE FIELD FENCE, 26.2 FEET ABOVE AND 65.6 FEET BACK FROM THE RIVER'S EDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.766 12B = -98.763 09 = -98.678 03 = -98.648

HIGH

Mn/DOT Name: HIGH

NGS Name: HIGH

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482520.37	922817.68		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092244/
USGS Quad: REDHORSE BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

9.5 MILES SOUTHEAST OF KETTLE FALLS, ON THE EAST SHORE OF SAND POINT LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.199 12B = -104.173 09 = -104.140 03 = -104.193

HIGH IBC

Mn/DOT Name: HIGH IBC

NGS Name: HIGH

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481355.00	922057.97		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

6.8 MILES SOUTHEAST OF CRANE LAKE, ON THE NORTH SHORE OF THE LOON RIVER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.445 12B = -103.441 09 = -103.363 03 = -103.412

HILL

Mn/DOT Name: HILL

NGS Name: HILL

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484324.70	940330.34		

NGS ACRN: TC0542 Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	SURVEY DISK	NGS

Description: (1913)

Stamping:

ON THE NORTH SIDE OF THE RAINY RIVER, NEAR THE SOUTHWEST CORNER OF THE SOUTHEAST QUARTER OF SECTION 33, SHENSTON TOWNSHIP, ON THE HIGHEST POINT OF A HIGH ROCK ON MRS HILLS PROPERTY, A BRONZE DISK CEMENTED IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.700 12B = -97.703 09 = -97.605 03 = -97.565

HOLE

Mn/DOT Name: HOLE

NGS Name: HOLE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483357.85	932731.64		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1926)

Stamping:

ON THE WEST BANK OF THE RAINY RIVER, 4.4 MILES SOUTHWEST OF FORT FRANCES, 0.2 MILE SOUTH OF THE MOUTH OF A SMALL STREAM, 85.7 FEET EAST-SOUTHEAST OF BOUNDARY REF MON 242.

Station Notes

SUBSURFACE MARK IS A BOTTLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.377 12B = -100.380 09 = -100.279 03 = -100.262

HOLTE IBC

Mn/DOT Name: HOLTE IBC

NGS Name: HOLTE IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484252.46	943241.70		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

0.9 MILE EAST ALONG ATWOOD AVENUE FROM THE JUNCTION OF ATWOOD AVENUE AND RIVER AVENUE EAST , THEN 0.4 MILE SOUTH ON ATWOOD NUMBER 2 ROAD, THEN 0.12 MILE WEST ON RIVER BEND DRIVE.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.472 12B = -95.436 09 = -95.344 03 = -95.394

HORSE

Mn/DOT Name: HORSE

NGS Name: HORSE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0923 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484234.96	942223.67		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 3.4 MILES EAST OF CLEMENTSON, 29.5 FEET ABOVE AND 147.6 FEET BACK FROM THE RIVERS' EDGE, 16.4 FEET SOUTH OF THE SOUTHEAST CORNER OF A SMALL HEWED - LOG SHACK, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.145 12B = -96.132 09 = -96.023 03 = -96.069

HOTEL

Mn/DOT Name: HOTEL
NGS Name: HOTEL
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483107.00	934022.00		

NGS ACRN: CU8361 Get Map
NGS Quad / Sta Num : 48093423/
USGS Quad: DEVLIN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	FLAGPOLE	IBWC

Description: (1913)
Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.2 MILE SOUTH OF BIG FORK, ON THE TOP OF A HOTEL OWNED BY PATRICK O'CONNELL, THE TOP OF A FLAG POLE ON THE ROOF.

*** No Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.871 12B = -98.868 09 = -98.779 03 = -98.753

Lat/Lon and County Coordinates (Feet)

NAD27

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 31 07.06000	93 40 21.63000			.100	3	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD27

X	Y	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
				.100	3	CLASSICAL SURVEY	1982	17020

HUB

Mn/DOT Name: HUB

NGS Name: HUB

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481423.01	922258.44		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092234/
USGS Quad: ECHO LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

5.2 MILES SOUTHEAST OF CRANE LAKE, ON THE EAST SHORE OF THE LOON RIVER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.389 12B = -103.389 09 = -103.313 03 = -103.359

HUB IBC

Mn/DOT Name: HUB IBC

NGS Name: HUB IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484321.64	943508.68		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

1.2 MILES WEST OF RAINY RIVER, 1.2 MILES WEST ALONG ATWOOD AVENUE FROM THE JUNCTION OF ATWOOD AVENUE AND LITTLE STREET, THEN 328.0 FEET NORTH ON DISTRICT ROAD 600, THEN ABOUT 177.0 FEET WEST OF DISTRICT ROAD 600.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.423 12B = -95.380 09 = -95.305 03 = -95.334

HUB X

Mn/DOT Name: HUB X

NGS Name: HUB X

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481346.67	922235.73		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092234/
USGS Quad: ECHO LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

5.7 MILES SOUTHEAST OF CRANE LAKE, ON THE EAST SHORE OF THE LOON RIVER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.353 12B = -103.350 09 = -103.264 03 = -103.317

HUB Y

Mn/DOT Name: HUB Y

NGS Name: HUB Y

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481335.57	922228.79		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

5.9 MILES SOUTHEAST OF CRANE LAKE, ON THE EAST SHORE OF THE LOON RIVER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.340 12B = -103.340 09 = -103.251 03 = -103.304

HUGH

Mn/DOT Name: HUGH

NGS Name: HUGH

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483916.80	941418.34		

NGS ACRN: TC0925 Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.6 MILE EAST OF THE FRONTIER STORE, NEAR THE SOUTH EDGE OF A GRAIN FIELD, 98.4 FEET FROM THE EAST END, 6.6 FEET ABOVE AND 16.4 FEET BACK FROM THE RIVERS' EDGE, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.506 12B = -96.499 09 = -96.427 03 = -96.394

HUMP

Mn/DOT Name: HUMP

NGS Name: HUMP

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480643.21	914105.37		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

ON THE NORTH BANK OF THE BASSWOOD RIVER ABOUT 1.25 MILES UPSTREAM FROM WHEELBARROW FALLS, STATION HUMP IS ABOUT 492.1 FEET UPSTREAM FROM A SHARP TURN OF THE RIVER FROM THE WEST TO THE NORTH, IT IS ON A LARGE FLAT ROCK ABOUT 98.4 FEET FROM THE RIVER AND ABOUT 49.2 FEET ABOVE THE WATER.

Station Notes

STATION MARK: A DRILL HOLE WITHIN A TRIANGLE CUT IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.304 12B = -103.327 09 = -103.281 03 = -103.015

HUNGRY

Mn/DOT Name: HUNGRY
NGS Name: HUNGRY
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				485103.25	944044.75		1

NGS ACRN: TC0600 Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1917	1968	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	IBWC

Description:

10.0 MILES NORTHWEST OF RAINY RIVER, 3.1 MILES NORTH ALONG PROVINCE ROAD 600 FROM THE JUNCTION OF PROVINCE ROAD 600 AND HIGHWAY 11 IN RAINY RIVER, THEN 9.7 MILES WEST AND NORTH ON RIVER ROAD, THEN HIKE APPROXIMATELY 0.4 MILES NORTHWEST AT A ROAD BEND ON RIVER ROAD.

Stamping:

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1066.271	.131		970.543	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -96.227 12B = -96.243 09 = -96.115 03 = -96.040

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 51 03.25407	94 40 44.75124			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 51 03.23128	94 40 44.73001			.033	1	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 51 03.26100	94 40 43.95600			.100	1	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1236292.632	17756660.567	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1236294.001	17756658.227	.033	1	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	1	CLASSICAL SURVEY	1982	17020

HUNGRY 1913

Mn/DOT Name: HUNGRY 1913 **NGS Name:** HUNGRY

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				485102.97	944045.56		1

NGS ACRN: TC0599 Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1913	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	UNMONUMENTED	IBWC

Description:

10.0 MILES NORTHWEST OF RAINY RIVER, 3.1 MILES NORTH ALONG PROVINCE ROAD 600 FROM THE JUNCTION OF PROVINCE ROAD 600 AND TRUNK HIGHWAY 11 IN RAINY RIVER, THEN 9.7 MILES WEST AND NORTH ON RIVER ROAD, STATION HUNGRY 1913 IS APPROXIMATELY 0.4 MILE NORTHWEST OF RIVER ROAD. THE MONUMENT AND DISK TYPES UNKNOWN.

Stamping:

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1066.271	.131		970.543	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -96.224 12B = -96.243 09 = -96.112 03 = -96.040

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 51 02.97483	94 40 45.56170			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 51 02.95076	94 40 45.54241			.033	1	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 51 02.99600	94 40 44.76700			.100	1	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1236237.826	17756633.476	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1236239.062	17756631.009	.033	1	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	1	CLASSICAL SURVEY	1982	17020

HUNGRY 1968 IBC

Mn/DOT Name: HUNGRY 1968 IBC

NGS Name: HUNGRY 1968 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				485103.31	944044.06		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

10.4 MILES NORTHWEST FROM RAINY RIVER, 1.1 MILES WEST ALONG ATWOOD AVENUE FROM THE JUNCTION OF ATWOOD AVENUE AND GOVERNMENT ROAD, THEN 3.0 MILES NORTH ON DISTRICT ROAD 600, THEN 6.8 MILES WEST ON RIVER ROAD, CONTINUE 0.2 MILE NORTHWEST ON RIVER ROAD, THEN CONTINUE 2.7 MILES NORTH ON RIVER ROAD, THEN 1609.0 FEET NORTHWEST OF RIVER ROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.227 12B = -96.243 09 = -96.115 03 = -96.043

HUNT

Mn/DOT Name: HUNT

NGS Name: HUNT

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483803.91	935355.58		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093434/
USGS Quad: MANITOU OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	CHISELED CROSS	IBWC

Description: (1913)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 4.3 MILES EAST-NORTHEAST OF MANITOU, 0.75 MILE EAST OF MANITOU RAPIDS, AT THE RIVER'S EDGE, NEAR THE HIGH-WATER MARK, IN A ROUND-TOPPED ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.789 12B = -97.795 09 = -97.693 03 = -97.710

IBEX

Mn/DOT Name: IBEX **NGS Name:** IBEX

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	27	66 N	11 W	481034.04	914815.73		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091331/
USGS Quad: FRIDAY BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1914)

Stamping:

ON THE EAST SHORE OF CROOKED LAKE, ABOUT 4.75 MILES NORTH OF LOWER BASSWOOD FALLS. STATION IBEX IS ON THE HIGH CLIFF ABOUT 0.2 MILE NORTH OF THE NARROWS THAT ARE JUST, NORTH OF WHERE THE LAKE RUNS WEST FOR ABOUT 1.0 MILE AND THEN AGAIN TURNS TO THE NORTH. IT IS ON THE NORTH END OF THE CLIFF ON THE LOWER ROCK BLUFF THAT RISES SHEER FROM THE WATER.

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.878 12B = -103.888 09 = -103.848 03 = -103.714

ICE

Mn/DOT Name: ICE

NGS Name: ICE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	27	66 N	11 W	481046.53	914810.17		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091331/
USGS Quad: FRIDAY BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1914)

Stamping:

ON THE EAST SHORE OF CROOKED LAKE, ABOUT 4.88 MILES NORTH OF LOWER BASSWOOD FALLS. STATION ICE IS ON THE SOUTH EDGE OF THE CLIFF ON THE PROMINENT POINT ABOUT 0.5 MILE SOUTH OF THE LARGEST ISLAND IN THE NORTH END OF THE LONG NARROW NORTH-AND-SOUTH REACH OF THE EASTERN PART OF THE LAKE. IT IS ON THE BARE LEDGE ON THE SUMMIT OF THE CLIFF.

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE ROCK. A BRONZE DISK SET IN THE ROCK, MARKING TRIANGULATION STATION "GUM," IS ABOUT 164.04 FEET NORTH OF THE STATION.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.914 12B = -103.920 09 = -103.884 03 = -103.753

Mn/DOT Name: IN

NGS Name: IN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	22	66 N	11 W	481102.49	914248.07		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1914)

Stamping:

ON THE EAST SHORE OF CROOKED LAKE, ABOUT 5.0 MILES NORTH OF LOWER BASSWOOD FALLS. THE STATION IS ON A ROCKY AND A WOODED BLUFF, ABOUT 0.2 MILE SOUTH OF THE SOUTH END OF THE LARGEST ISLAND IN THE NORTH END OF THE LONG NARROW NORTH-AND-SOUTH REACH OF THE EASTERN PART OF THE LAKE. IT IS ON A GRANITE POINT AMONG THE PINES, ABOUT 49.2 FEET ABOVE THE LAKE LEVEL AND DIRECTLY OVERLOOKING THE LAKE.

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.029 12B = -104.045 09 = -104.016 03 = -103.855

INDIA

Mn/DOT Name: INDIA

NGS Name: INDIA

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	15	66 N	12 W	481244.70	915122.60		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091331/
USGS Quad: FRIDAY BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1914)

Stamping:

ON THE NORTH SHORE OF CROOKED LAKE, ABOUT 3.0 MILES SOUTHEAST OF CURTAIN FALLS, STATION INDIA IS ON THE FIRST POINT EAST OF THE POINT, AROUND WHICH THE LAKE MAKES THE LAST TURN FROM WEST TO NORTH INTO THE OPEN WATER OF THE WEST END OF THE LAKE, IT IS ON A LITTLEROCK KNOB SURROUNDED BY MUSKEG, ABOUT 820.2 FEET EAST OF THE MOST SOUTHWEST POINT OF THE TURN OF THE SHORE LINE.

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE ROCK. LUCK (MINNESOTA, ST. LOUIS COUNTY; W. B. FAIRFIELD, 1914)

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.183 12B = -104.180 09 = -104.150 03 = -104.071

INDIAN

Mn/DOT Name: INDIAN

NGS Name: INDIAN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483146.45	933546.56		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093422/
USGS Quad: PELLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	IBWC

Description: (1926)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 3.8 MILES SOUTH WEST OF ISHERWOOD, ON A HIGH BANK, 131.2 FEET SOUTHWEST OF A HOUSE, 4.5 FEET SOUTH OF BOUNDARY REF MON 225.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -99.403 12B = -99.403 09 = -99.314 03 = -99.291

INN

Mn/DOT Name: INN

NGS Name: INN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480746.42	914202.34		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1916	GOOD	Horz=YES Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (1916)

Stamping:

ON THE EAST SHORE OF CROOKED LAKE, ABOUT 1.22 MILES NORTH OF LOWER BASSWOOD FALLS, 428.0 FEET SOUTH OF BOUNDARY REF MON 749, STATION INN IS ON THE ROCKY POINT AT THE NORTH END OF A NARROW PLACE IN THE LAKE, IT IS ON A LOW SLOPING LEDGE AT THE FOOT OF THE CLIFF, ABOUT 8.2 FEET FROM THE WATER'S EDGE AND ABOUT 2.0 FEET ABOVE THE LAKE LEVEL, JUST OPPOSITE STATION INN IS A SMOOTH VERTICAL CLIFF RISING ABOUT 65.6 FEET FROM THE WATER AND KNOWN AS INDIAN ROCK, UPON WHICH ARE DRAWINGS OF BIRDS AND ANIMALS ASCRIBED TO THE INDIANS OF SOME PAST GENERATION.

Station Notes

STATION MARK: A STANDARD 8.0-INCH MANGANESE-BRONZE REFERENCE POST SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.484 12B = -103.504 09 = -103.471 03 = -103.235

IPSE

Mn/DOT Name: IPSE

NGS Name: IPSE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	9	66 N	12 W	481338.14	915205.76		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091331/
USGS Quad: FRIDAY BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1914)

Stamping:

ON THE NORTH SHORE OF CROOKED LAKE, ABOUT 2.13 MILES SOUTHEAST OF CURTAIN FALLS, STATION IPSE IS ON THE WESTERN TIP OF THE ROCKY POINT ON THE SOUTH SIDE OF THE NARROW ENTRANCE TO A BAY EXTENDING EASTWARD FROM THE LAKE FOR ABOUT 0.75 MILE, WITH AN EXTREME BREADTH OF ABOUT 0.38 MILE. IT IS ON THE SMOOTH GRANITE LEDGE, ABOUT 59.1 FEET FROM THE TIP OF THE POINT, AND ABOUT 19.7 FEET WEST OF THE HIGHEST PART.

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.308 12B = -104.301 09 = -104.275 03 = -104.209

ISHERWOOD

Mn/DOT Name: ISHERWOOD
NGS Name: ISHERWOOD
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483208.92	933118.94		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093422/
USGS Quad: PELLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1926	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	SURVEY DISK	IBWC

Description: (1926)
Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.6 MILE SOUTH OF ISHERWOOD, ON THE PROPERTY OF MR ISHERWOOD, EAST ACROSS A GULLY FROM A HOUSE, 2.8 FEET EAST OF BOUNDARY REF MON 232.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -99.914 12B = -99.908 09 = -99.819 03 = -99.793

ISLE

Mn/DOT Name: ISLE

NGS Name: ISLE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0926 Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483847.28	940834.08		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON A SANDY PROJECTION ON THE EAST END OF A LARGE ISLAND IN RAINY RIVER, 1.0 MILE EAST OF THE BOUCHERVILLE POST OFFICE, 1.1 FEET ABOVE THE WATER, A CROSS CUT IN A STONE, BOUNDARY REF MON 140 IS 130.5 FEET WEST OF STATION ISLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.801 12B = -96.811 09 = -96.712 03 = -96.676

ISLE 18

Mn/DOT Name: ISLE 18 **NGS Name:** ISLE 18

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482006.50	920218.27		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092212/
USGS Quad: COLEMAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON A VERY SMALL ISLAND IN LAC LA CROIX ABOUT A MILE SOUTHEAST OF THE NORTH END OF COLEMAN ISLAND ; JUST SOUTHEAST OF A LONG NARROW PRECIPITOUS ISLAND. BOUNDARY REF MON 567 IS ABOUT ONE-FOURTH MILE TO THE NORTHWESTWARD.

Station Notes

A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.852 12B = -104.823 09 = -104.796 03 = -104.862

ISLE 26

Mn/DOT Name: ISLE 26 **NGS Name:** ISLE 26

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB1029 Get Map
NGS Quad / Sta Num : 48092213/
USGS Quad: TAKUCMICH LAKE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482139.45	920816.97		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	UNKNOWN	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description:

HIKE AND BOAT 17.5 MILES NORTHEAST OF CRANE LAKE THROUGH THE SUPERIOR NATIONAL FOREST, STATION ISLE 26 IS 5.0 MILES NORTHEAST OF TWENTY SEVEN ISLAND ON TWENTY-SIX ISLAND. THE MONUMENT AND THE DISK TYPE ARE UNKNOWN.

Stamping:

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1190.942	.262		1086.530	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -104.747 12B = -104.711 09 = -104.682 03 = -104.770

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 21 39.44992	92 08 16.96555			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 21 39.46788	92 08 17.02131			.131	3	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 21 39.82000	92 08 16.53000			.100	3	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1849890.683	17574700.551	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1849886.899	17574702.328	.131	3	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	3	CLASSICAL SURVEY	1982	17020

ISLE 4

Mn/DOT Name: ISLE 4 **NGS Name:** ISLE 4

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TA0178 Get Map
NGS Quad / Sta Num : 48091334/
USGS Quad: IRON LAKE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	1	66 N	13 W	481355.14	915636.13		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1917	1917	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2007)

Stamping:

23.1 MILES NORTHWEST OF ELY, 0.1 MILE NORTH ALONG 2ND AVENUE FROM THE JUNCTION OF 2ND AVENUE AND HARVEY STREET IN ELY, THEN 2.0 MILES EASTERLY ON SHERIDAN STREET, THEN 2.3 MILES NORTHERLY ON COUNTY ROAD 88, THEN 13.4 MILES NORTHERLY ON COUNTY ROAD 116 (ECHO TRAIL), THEN HIKE AND BOAT 11.4 MILES NORTHERLY TO FOUR ISLAND.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1223.751	.262		1119.791	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -104.281 12B = -104.278 09 = -104.232 03 = -104.203

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 13 55.14424	91 56 36.13314			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 13 55.15790	91 56 36.17502			.131	3	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 13 55.52000	91 56 35.70000			.100	3	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1897848.274	17528260.625	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1897845.421	17528261.970	.131	3	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	3	CLASSICAL SURVEY	1982	17020

ISLE IBC

Mn/DOT Name: ISLE IBC

NGS Name: ISLE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482506.34	922738.09		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092244/
USGS Quad: REDHORSE BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

10.1 MILES SOUTHEAST OF KETTLE FALLS, ON AN ISLAND IN SAND POINT LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.212 12B = -104.186 09 = -104.157 03 = -104.209

Mn/DOT Name: IVY **NGS Name:** IVY

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0928 Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	17	161 N	31 W	484600.93	943951.74		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1913	UNKNOWN	Horz=? Vert=?	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	UNMONUMENTED	UNK

Description:

4.9 MILES NORTHWEST OF RAINY RIVER, 3.1 MILES NORTH ALONG PROVINCE ROAD 600 FROM THE JUNCTION OF PROVINCE ROAD 600 AND INTERNATIONAL DRIVE IN RAINY RIVER, THEN 3.5 MILES WEST ON RIVER ROAD, STATION IVY IS APPROXIMATELY 0.05 MILE WEST OF THE ROAD. THE MONUMENT AND THE DISK TYPE ARE UNKNOWN.

Stamping:

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1079.394	.262		984.273	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -95.541 12B = -95.515 09 = -95.433 03 = -95.426

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 46 00.93033	94 39 51.74219			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 46 00.90338	94 39 51.72947			.131	3	ADJUSTMENT	1989	17085

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1239166.783	17725957.099	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1239167.575	17725954.350	.131	3	ADJUSTMENT	1989	17085

JACK

Mn/DOT Name: JACK

NGS Name: JACK

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481916.45	922637.79		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

15.4 MILES SOUTHEAST OF KETTLE FALLS, ON AN ISLAND IN THE LITTLE VERMILION NARROWS.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.694 12B = -103.681 09 = -103.648 03 = -103.668

JAPHETH

Mn/DOT Name: JAPHETH
NGS Name: JAPHETH
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	26	68 N	15 W	482040.00	921256.20		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092213/
USGS Quad: TAKUCMICH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (1921)
Stamping:

ON THE SOUTHWEST SIDE OF THE ISLAND JUST EAST OF THE NARROWS BETWEEN TWO ISLANDS, 380.0 FEET SOUTHEAST OF BOUNDARY REF MON 525.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.445 12B = -104.413 09 = -104.396 03 = -104.462

JAY

Mn/DOT Name: JAY

NGS Name: JAY

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481612.20	921747.99		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092242/
USGS Quad: SNOW BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=YES Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (1916)

Stamping:

ON THE WEST SIDE OF THE NORTH ARM OF LOON LAKE ABOUT 0.5 MILE SOUTH OF THE PORTAGE TO LAC LA CROIX ON A ROCK OUTCROP ON THE SIDE OF THE HILL, ABOUT 200.0 FEET FROM THE SHORE AND 100.0 FEET ABOVE THE HIGH WATERMARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.809 12B = -103.792 09 = -103.763 03 = -103.789

JEFF

Mn/DOT Name: JEFF

NGS Name: JEFF

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481437.34	921744.88		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=YES Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (1921)

Stamping:

ON THE NORTH SHORE OF THE WEST ARM OF LOON LAKE, NEARLY 1.5 MILES FROM THE PORTAGE TO LOON RIVER, 800.0 FEET NORTH OF A PROMINENT POINT ON THE OPPOSITE SHORE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.658 12B = -103.651 09 = -103.596 03 = -103.628

JESSE

Mn/DOT Name: JESSE **NGS Name:** JESSE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB1020 Get Map
NGS Quad / Sta Num : 48093434/1006
USGS Quad: MANITOU OE N

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483804.21	935235.99		2

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1923	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	TRIANGULATION STATION DISK	NGS

Description: (1923) **Stamping:** JESSE 1923

1.75 MILES WEST OF EMO, AT A CURVE IN THE RAILROAD, 1414.0 FEET EAST OF RAILROAD MILEPOST 111, 115.0 FEET WEST OF RAILROAD BRIDGE NUMBER 110.72, ON AN EXTENSION OF THE NORTH RAIL EAST, 23.99 FEET SOUTH OF AN EXTENSION OF THE SOUTH RAIL WEST.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -97.874 12B = -97.877 09 = -97.775 03 = -97.808

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 38 04.21095	93 52 35.99353			.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 38 04.19661	93 52 35.99952			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 38 04.35182	93 52 35.38947			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1428510.819	17674496.720	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1428510.400	17674495.272	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	Y	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
1812227.770	779533.610			.100		CLASSICAL SURVEY	1950	UNK

JESSE RM

Mn/DOT Name: JESSE RM

NGS Name: JESSE RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483804.00	935233.00		

NGS ACRN: CO7020 Get Map
NGS Quad / Sta Num : 48093434/
USGS Quad: MANITOU OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1923	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (1923)

Stamping:

1.75 MILES WEST OF EMO, AT A CURVE IN A RAILROAD, 178.3 FEET NORTHEAST OF STATION JESSE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.877 12B = -97.880 09 = -97.779 03 = -97.811

Mn/DOT Name: JOE

NGS Name: JOE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483902.93	941054.04		

NGS ACRN: TC0929 Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.9 MILE WEST OF THE BOUCHERVILLE POST OFFICE, ON A SMALL BENCH 9.9 FEET SQUARE, 9.9 FEET ABOVE AND 13.1 FEET BACK FROM THE RIVERS' EDGE, A CROSS CUT IN A STONE.

Station Notes

A CROSS CUT IN A STONE. SUBSURFACE MARK IS A BALL OF WIRE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.676 12B = -96.676 09 = -96.594 03 = -96.555

JONSTON IBC

Mn/DOT Name: JONSTON IBC

NGS Name: JONSTON IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484158.37	941544.56		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

2.0 MILES SOUTHEAST FROM PINEWOOD, 2.1 MILES EAST ALONG TRUNK HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND DONALD STREET, THEN ABOUT 663.0 FEET SOUTHWEST OF HIGHWAY 11, 5.2 MILES WEST ALONG HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND HIGHWAY 617 FROM STRATTON.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.647 12B = -96.647 09 = -96.555 03 = -96.548

JOY

Mn/DOT Name: JOY **NGS Name:** JOY

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB1112 Get Map
NGS Quad / Sta Num : 48092423/1004
USGS Quad: KETTLE FALLS

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483235.88	923753.65		2

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1925	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	SURVEY DISK	NGS

Description: (1925) **Stamping:** JOY 1923

2.8 MILES NORTHEAST OF KETTLE FALLS, ON THE SOUTHERNMOST POINT OF BREEZY ISLAND IN RAINY LAKE, IN AN OUTCROPPING OF BEDROCK, 21.1 FEET EAST OF JOY RM.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -104.376 12B = -104.334 09 = -104.288 03 = -104.311

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 32 35.87818	92 37 53.65364			.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 32 35.88003	92 37 53.69042			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 32 36.26606	92 37 53.20799			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1729633.555	17640234.078	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1729631.080	17640234.253	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	Y	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
2113508.140	745685.710			.100		CLASSICAL SURVEY	1950	UNK

JOY RM

Mn/DOT Name: JOY RM

NGS Name: JOY RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483236.00	923754.00		

NGS ACRN: CJ3145 Get Map
NGS Quad / Sta Num : 48092423/
USGS Quad: KETTLE FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1925	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	REFERENCE MARK DISK	NGS

Description: (1925)

Stamping:

2.8 MILES NORTHEAST OF KETTLE FALLS, ON THE SOUTHERNMOST POINT OF BREEZY ISLAND IN RAINY LAKE, IN AN OUTCROPPING OF BEDROCK, 21.1 FEET WEST OF STATION JOY.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.376 12B = -104.334 09 = -104.288 03 = -104.311

JUMPY

Mn/DOT Name: JUMPY

NGS Name: JUMPY

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480647.42	914109.06		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

ON THE NORTH BANK OF THE BASSWOOD RIVER, ABOUT 1.0 MILE ABOVE WHEELBARROW FALLS, STATION JUMPY IS ON THE ROCK POINT AT THE TURN OF THE RIVER FROM THE WEST TO THE NORTH, AND IT IS ABOUT 72.2 FEET BACK FROM THE RIVER AND ABOUT 19.7 FEET ABOVE THE WATER LEVEL.

Station Notes

A BRONZE DISK SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.317 12B = -103.340 09 = -103.294 03 = -103.031

KEARNEY

Mn/DOT Name: KEARNEY
NGS Name: KEARNEY
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0932 Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484243.64	942445.70		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1947	NOT FOUND	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.75 MILES NORTHEAST OF CLEMENTSON, 78.7 FEET BACK FROM THE RIVERS' EDGE, 29.5 FEET EAST OF A SWALE, NEAR THE EDGE OF A HAYFIELD, 246.0 FEET WEST OF A NORTH-SOUTH ROAD, A CROSS CUT IN A STONE OVER A BURIED BALL OF WIRE, 55.5 FEET NORTH OF BOUNDARY REF MON 107.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.964 12B = -95.941 09 = -95.843 03 = -95.912

Mn/DOT Name: KEN

NGS Name: KEN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091331/
USGS Quad: FRIDAY BAY

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	16	66 N	11 W	481213.30	914506.35		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1914)

Stamping:

ON THE EAST SHORE OF THE LARGE IRREGULAR MAIN BODY OF CROOKED LAKE AND ABOUT 0.5 MILE NORTHWEST OF THE EAST ENTRANCE. STATION KEN IS ON THE HEADLAND THAT LIES EAST AND OPPOSITE, ABOUT 0.19 MILE DISTANT ACROSS THE CHANNEL, FROM A HIGH DOUBLE POINT OF THE LONG PENINSULA WHICH FORMS THE WEST SIDE OF THE MOST EASTERN OF THE GREAT SOUTHERN BAYS OF THE MAIN BODY OF THE LAKE. THERE IS A SMALL BAY TO THE NORTHEAST OF THE POINT AND A SMALL ISLAND LIES IN AN ENTRANCE TO THE BAY. STATION KEN IS ON THE EXTREME NORTHWEST POINT OF THE HEADLAND ON A FIXED ROCK ABOUT 16.4 FEET BACK FROM THE EDGE OF THE WATER. STATION KEN IS A BRONZE DISK SET IN THE ROCK.

Station Notes

A BRONZE DISK SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.186 12B = -104.196 09 = -104.166 03 = -104.035

KETTLE

Mn/DOT Name: KETTLE

NGS Name: KETTLE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482943.48	923949.72		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092314/
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1914	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

1.2 MILES SOUTHWEST OF KETTLE FALLS, ON NAMAKAN LAKE, ON THE SOUTH SHORE OF SQUIRREL NARROWS.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.947 12B = -103.920 09 = -103.865 03 = -103.901

KEY

Mn/DOT Name: KEY

NGS Name: KEY

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483533.90	932757.80		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1914	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2009)

Stamping:

ON THE NORTH SHORE OF THE RAINY RIVER, 3.7 MILES SOUTHWEST OF FORT FRANCES.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.407 12B = -100.416 09 = -100.321 03 = -100.318

KID

Mn/DOT Name: KID

NGS Name: KID

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	16	66 N	11 W	481227.99	914505.51		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091331/
USGS Quad: FRIDAY BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1914)

Stamping:

ABOUT 0.75 MILE NORTHWEST OF THE EAST ENTRANCE TO THE LARGE IRREGULAR MAIN BODY OF CROOKED LAKE. STATION KID IS ON THE NORTH SHORE OF A LITTLE BAY ON THE EAST SIDE OF AN ENTRANCE TO THE GREAT NORTHERN BAY THAT LEADS UP TO THE PART OF THE LAKE KNOWN AS GARDNER BAY. IT IS BESIDE A LARGE ROUND BOULDER ON THE TOP OF THE CONSPICUOUS WHITE BLUFF OF THE NORTH SHORE OF A BAY, ABOUT 39.4 FEET ABOVE THE WATER.

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.222 12B = -104.232 09 = -104.209 03 = -104.081

KING

Mn/DOT Name: KING **NGS Name:** KIND

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	16	66 N	11 W	481210.07	914507.40		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091331/
USGS Quad: FRIDAY BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1914) **Stamping:**

ON THE EAST SHORE OF THE LARGE IRREGULAR MAIN BODY OF CROOKED LAKE AND ABOUT 0.5 MILE NORTHWEST OF AN EAST ENTRANCE. STATION KING IS ON THE HEADLAND THAT LIES EAST AND OPPOSITE, ABOUT 984.2 FEET DISTANT ACROSS THE CHANNEL, FROM THE HIGH DOUBLE POINT OF THE LONG PENINSULA WHICH FORMS THE WEST SIDE OF THE MOST EASTERN OF THE GREAT SOUTHERN BAYS OF THE MAIN BODY OF THE LAKE. THERE IS A SMALL BAY TO THE NORTHEAST OF THE POINT AND A SMALL ISLAND LIES IN AN ENTRANCE TO A BAY. STATION KING IS ON THE MOST WESTERN PART OF THE HEADLAND ABOUT MIDWAY OF THE LENGTH OF THE CHANNEL IN FRONT OF IT. IT IS ON A FIXED ROCK ABOUT 3.3 FEET FROM THE SHORE LINE.

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.176 12B = -104.189 09 = -104.157 03 = -104.025

KITTY

Mn/DOT Name: KITTY

NGS Name: KITTY

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	16	66 N	11 W	481207.54	914435.05		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1914)

Stamping:

ON THE NORTH SHORE OF CROOKED LAKE, NEAR THE EAST END. STATION KITTY IS ON THE WEST SIDE OF THE NARROW BOUNDARY CHANNEL AROUND THE NORTH AND WEST SIDES OF THE LARGE ISLAND THAT LIES IN AN EAST ENTRANCE TO THE LARGE IRREGULAR MAIN PART OF THE LAKE. IT IS ABOUT 0.25 MILE BELOW THE RAPIDS IN THE CHANNEL AND ABOUT MIDWAY BETWEEN THE ENDS OF THE NORTH-AND-SOUTH SECTION OF THE CHANNEL. IT IS ABOUT 16.4 FEET ABOVE THE WATER, ON A ROCK IN FRONT OF A LARGER ROCK.

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.180 12B = -104.189 09 = -104.163 03 = -104.025

KNIT

Mn/DOT Name: KNIT

NGS Name: KNIT

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091331/
USGS Quad: FRIDAY BAY

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	15	66 N	12 W	481246.79	915134.36		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1914)

Stamping:

ON THE NORTH SHORE OF CROOKED LAKE, ABOUT 2.75 MILES SOUTHEAST OF CURTAIN FALLS, STATION KNIT IS ON THE EXTREME SOUTHWEST POINT OF THE SHORE WHERE THE LAKE TURNS FROM A WESTERLY COURSE TO A NORTHWESTERLY COURSE INTO THE LAST OPEN BODY OF WATER BEFORE REACHING CURTAIN FALLS , IT IS ON A LARGE, FIXED ROCK ON THE SLOPING HILLSIDE, ABOUT 49.1 FEET BACK FROM THE WATER, THERE IS A FOREST RANGER'S CABIN ON THE SLOPE JUST ABOVE STATION KNIT.

Station Notes

A BRONZE DISK SET IN THE ROCK. A DRILL HOLE WITHIN A TRIANGLE CUT IN THE ROCK, MARKING TRIANGULATION STATION" MUTT" IS ABOUT 328.0 FEET NORTHEAST OF THE STATION.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.186 12B = -104.183 09 = -104.153 03 = -104.075

KNOLL

Mn/DOT Name: KNOLL

NGS Name: KNOLL

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091331/
USGS Quad: FRIDAY BAY

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	13	66 N	12 W	481233.63	914803.56		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

ON CROOKED LAKE, ABOUT 6.0 MILES SOUTHEAST ALONG THE MAIN CHANNEL OF THE LAKE FROM CURTAIN FALLS, STATION KNOLL IS ON A SMALL ISLAND THAT LIES ABOUT 328.1 FEET SOUTHEAST OF A VERY LARGE ISLAND JUST EAST OF AN ENTRANCE TO THE MOST WESTERN EAST AND THE WEST CHANNEL OF THE LAKE, THERE IS A VERY LARGE BAY TO THE SOUTH OF THE LARGE ISLAND AND ANOTHER TO THE NORTH OF IT, STATION KNOLL IS ON THE BARE ROCK ON THE SOUTHERN END OF AN ISLAND, ABOUT 13.1 FEET ABOVE THE WATER.

Stamping:

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.196 12B = -104.199 09 = -104.173 03 = -104.065

Mn/DOT Name: KNOX **NGS Name:** KNOX

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB1055 Get Map
NGS Quad / Sta Num : 48092314/1023
USGS Quad: NAMAKAN ISLAND

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482936.21	923804.87		2

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1923	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	TRIANGULATION STATION DISK	NGS

Description: (1923) **Stamping:** KNOX 1923

ON RAINY LAKE, 0.4 MILE EAST OF CANADIAN DAM AT KETTLE FALLS, ON A POINT EAST OF KETTLE ISLAND.

*** No Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.058 12B = -104.029 09 = -103.976 03 = -104.012

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 29 36.21142	92 38 04.87263			.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 29 36.21372	92 38 04.90846			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 29 36.59695	92 38 04.37807			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1728965.847	17622030.057	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1728963.434	17622030.279	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	Y	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
2112866.120	727474.030			.100		CLASSICAL SURVEY	1950	UNK

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/ontario/rainy_river_district/KNOX-TB1055-3W-21SEP2010.jpg	W	Sep 21, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/ontario/rainy_river_district/KNOX-TB1055-2-21SEP2010.jpg		Sep 21, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/ontario/rainy_river_district/KNOX-TB1055-1-21SEP2010.jpg		Sep 21, 2010

** All station images can be viewed at: ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos **

KNOX IBC

Mn/DOT Name: KNOX IBC

NGS Name: KNOX

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482944.14	923745.44		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092314/
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1914) **Stamping:** U.S. & C.B. SURVEY

0.7 MILE SOUTHEAST OF KETTLE FALLS, ON AN ISLAND IN RAINY LAKE, 0.3 MILE NORTHEAST OF RANDOLPH'S HOUSE, ON THE CENTRAL ONE OF THREE PROMINENT LEDGES ON THE HIGHEST GROUND OF THE POINT , 59.0 FEET ABOVE THE LAKE LEVEL.

Station Notes

THIS IS NOT THE SAME AS STATION KNOX SET BY THE COAST AND GEODETIC SURVEY(CGS).

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.094 12B = -104.065 09 = -104.012 03 = -104.048

KNOX RM

Mn/DOT Name: KNOX RM

NGS Name: KNOX RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482936.00	923805.00		

NGS ACRN: CJ3182 Get Map
NGS Quad / Sta Num : 48092314/
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1923	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	REFERENCE MARK DISK	NGS

Description: (1923)

Stamping:

ON RAINY LAKE, 0.4 MILE EAST OF CANADIAN DAM AT KETTLE FALLS, ON A POINT EAST OF KETTLE ISLAND.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.058 12B = -104.029 09 = -103.976 03 = -104.012

KOBLE

Mn/DOT Name: KOBLE

NGS Name: KOBLE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	16	66 N	11 W	481216.24	914420.77		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091324/
USGS Quad: JACKFISH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

ON THE NORTH SHORE OF CROOKED LAKE. STATION KOBLE IS ON THE NORTH SHORE OF THE NARROW CHANNEL OF SWIFT WATER THAT PASSES AROUND THE LARGE ISLAND LYING IN THE EAST ENTRANCE TO THE MAIN OR LOWER BODY OF THE LAKE. IT IS UPSTREAM FROM SWIFT WATER AND ABOUT 98.4 FEET UPSTREAM FROM A ROCK AWASH AT HIGH WATER. IT IS ON AN IGNEOUS ROCK, A LITTLE ABOVE A HIGH-WATER MARK.

Stamping:

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.206 12B = -104.216 09 = -104.193 03 = -104.055

LA BELLE

Mn/DOT Name: LA BELLE
NGS Name: LA BELLE
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB1001 Get Map
NGS Quad / Sta Num : 48093423/1007
USGS Quad: DEVLIN

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483705.69	934457.78		2

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1923	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	TRIANGULATION STATION DISK	NGS

Description: (1923) **Stamping:** LA BELLE 1923

5.33 MILES EAST OF EMO, 1785.0 FEET EAST OF RAILROAD MILEPOST 105, 328.0 FEET EAST OF A PRIVATE ROAD CROSSING (LABELLE FARM), 24.43 FEET NORTH OF THE SOUTH RAIL OF THE RAILROAD TRACKS, 70.4 FEET NORTH OF LA BELLE RM.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -98.428 12B = -98.441 09 = -98.366 03 = -98.507

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 37 05.68744	93 44 57.77530			.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 37 05.67377	93 44 57.78268			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 37 05.84236	93 44 57.19334			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	UTM - Zone 15 Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
		1459218.968	17668240.500	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	UTM - Zone 15 Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
		1459218.459	17668239.120	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	MN State Plane - North Zone Y	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
1842955.180	773320.430			.100		CLASSICAL SURVEY	1950	UNK

LA BELLE RM

Mn/DOT Name: LA BELLE RM

NGS Name: LA BELLE RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: CO7061 Get Map
NGS Quad / Sta Num : 48093423/1007
USGS Quad: DEVLIN

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483705.00	934458.00		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1923	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SEE DESCRIPTION	NGS

Description: (2008)

Stamping:

5.33 MILES EAST OF EMO, 70.4 FEET EAST OF STATION LA BELLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.428 12B = -98.441 09 = -98.363 03 = -98.507

LAG

Mn/DOT Name: LAG

NGS Name: LAG

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091331/
USGS Quad: FRIDAY BAY

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	16	66 N	11 W	481207.42	914521.89		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description:

ABOUT 0.75 MILE WEST OF AN EAST ENTRANCE TO THE LARGE IRREGULAR MAIN BODY OF CROOKED LAKE. STATION LAG IS ON THE EAST SIDE OF THE NORTH END OF THE LONG NARROW PENINSULA THAT REACHES UP FROM THE SOUTH. IT IS ON A GRANITE LEDGE ON THE TOP OF A ROCK BLUFF, ABOUT 49.2 FEET ABOVE THE LAKE LEVEL.

Stamping:

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE ROCK. BOUNDARY REF MON 691, AN 8.0 INCH MANGANESE-BRONZE POST, IS ON THE TOP OF A HILL, ABOUT 164.04 FEET WEST OF THE STATION.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.166 12B = -104.176 09 = -104.147 03 = -104.016

LAKE

Mn/DOT Name: LAKE

NGS Name: LAKE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483706.61	932127.61		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093132/
USGS Quad: RANIER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1914	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2009)

Stamping:

ON THE WEST SHORE OF RAINY LAKE, 1.0 MILE NORTHEAST OF FORT FRANCES.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -101.128 12B = -101.109 09 = -101.030 03 = -101.027

LAKE IBC

Mn/DOT Name: LAKE IBC

NGS Name: LAKE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482638.98	922956.67		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092244/
USGS Quad: REDHORSE BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

7.6 MILES SOUTHEAST OF KETTLE FALLS, ON AN ISLAND IN NAMAKAN LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.239 12B = -104.212 09 = -104.173 03 = -104.226

LAMB

Mn/DOT Name: LAMB

NGS Name: LAMB

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483102.94	934527.50		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	CHISELED CROSS	IBWC

Description: (1913)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 2.3 MILES NORTHEAST OF LOMAN, OPPOSITE WATROUS ISLAND, 23.0 FEET ABOVE AND 16.4 FEET BACK FROM THE RIVER'S EDGE, 295.0 FEET WEST OF THE LINE BETWEEN LOTS 15 AND 14 RIVER RANGE, 65.6 FEET SOUTHWEST OF A HOUSE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.313 12B = -98.313 09 = -98.222 03 = -98.199

LAX

Mn/DOT Name: LAX **NGS Name:** LAX

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091331/
USGS Quad: FRIDAY BAY

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	13	66 N	11 W	481147.43	914639.95		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1914)

Stamping:

ON AN ISLAND IN THE EASTERN PART OF THE MAIN BODY OF CROOKED LAKE, ABOUT 1.75 MILES WEST OF THE EAST ENTRANCE THERETO. STATION LAX IS ON THE SUMMIT OF THE HILL ON THE SOUTH TOE OF THE LARGE L-SHAPED ISLAND THAT LIES IN THE MAIN EAST-AND-WEST CHANNEL OF THE LAKE.

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.094 12B = -104.101 09 = -104.071 03 = -103.943

LEE

Mn/DOT Name: LEE

NGS Name: LEE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481602.60	921737.79		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092242/
USGS Quad: SNOW BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=YES Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (1916)

Stamping:

ON THE WEST SIDE OF THE NORTH ARM OF LOON LAKE, WHERE THE LAKE IS ABOUT 800.0 FEET WIDE, 3.2 MILES NORTHEAST OF THE PORTAGE TO THE LOON RIVER AND 0.75 MILE SOUTH OF THE PORTAGE TO LAC LA CROIX, 0.66 MILE NORTHWE8T OF BOUNDARY REF MON 482, 100.0 FEET FROM THE SHORE AND 10.0 OR 20.0 FEET ABOVE THE HIGH-WATER MARK, NEAR THE SOUTH END OF A LONG RIDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.799 12B = -103.786 09 = -103.753 03 = -103.779

LEFT

Mn/DOT Name: LEFT

NGS Name: LEFT

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	18	66 N	11 W	481148.34	914657.46		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091331/
USGS Quad: FRIDAY BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1914)

Stamping:

ON CROOKED LAKE, ABOUT 2.0 MILES WEST OF AN EAST ENTRANCE TO THE LARGE IRREGULAR MAIN BODY OF THE LAKE, STATION LEFT IS ON A SMALL ROUND ISLAND THAT LIES SOUTH OF AND BETWEEN TWO LARGE ISLANDS IN THE MAIN EAST-AND-WEST CHANNEL OF THE LAKE, IT IS ON THE HIGHEST POINT OF AN ISLAND, ABOUT 14.8 FEET ABOVE THE WATER, THE SECOND GREAT SOUTHERN BAY, AS APPROACHED FROM THE EAST, BEGINS JUST WEST OF AN ISLAND.

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.094 12B = -104.098 09 = -104.068 03 = -103.943

LEFTY

Mn/DOT Name: LEFTY

NGS Name: LEFTY

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480717.33	914116.17		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

ON THE NORTH BANK, OF THE BASSWOOD RIVER, ABOUT 0.31 MILE UPSTREAM FROM WHEELBARROW FALLS, STATION LEFTY IS ON A SLOPING LEDGE ABOUT 39.4 FEET BACK FROM THE SHORE LINE AND ABOUT 23.0 FEET ABOVE THE WATER LEVEL.

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.405 12B = -103.428 09 = -103.386 03 = -103.136

LEN

Mn/DOT Name: LEN

NGS Name: LEN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481545.25	915931.76		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091343/
USGS Quad: IRON LAKE OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE SOUTHEAST END OF THE PENINSULA ON THE CANADIAN SHORE, ABOUT 2.5 MILES SOUTHEAST OF THE NARROWS THAT ARE SOUTH OF COLEMAN ISLAND, AND A MILE NORTHWEST OF THE MOUTH OF THE BOTTLE RIVER, WHICH IS AT THE SOUTHEAST END OF THE LAKE. THERE IS A SMALL ISLAND ABOUT 1000.0 FEET TO THE SOUTHEAST AND BOUNDARY REF MON 598 IS 1000.0 FEET SOUTHWEST.

Station Notes

A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.455 12B = -104.442 09 = -104.399 03 = -104.409

LEVEL

Mn/DOT Name: LEVEL

NGS Name: LEVEL

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484211.14	943201.76		

NGS ACRN: TC0939 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1969	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	NGS

Description: (1969)

Stamping:

ON THE NORTH SIDE OF THE RAINY RIVER, 2.0 MILES UPRIVER FROM THE CITY DOCK AND PARK OF THE TOWN OF RAINY RIVER, 157.0 FEET EAST OF A FENCE, 170.0 FEET WEST OF THE EAST END OF A RIDGE BETWEEN A SLOUGH AND THE RIVER, 2.7 FEET SOUTHWEST OF REF MON 95, A STANDARD BRONZE DISK SET IN CONCRETE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.433 12B = -95.403 09 = -95.308 03 = -95.357

Mn/DOT Name: LINN **NGS Name:** LINN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0943 Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	26	160 N	27 W	483840.58	940448.25		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	UNKNOWN	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	UNMONUMENTED	UNK

Description:

1.2 MILES NORTH ALONG COUNTY ROAD 86 FROM THE JUNCTION OF COUNTY ROAD 86 AND TRUNK HIGHWAY 11 IN BIRCHDALE. THE MONUMENT AND THE DISK TYPE ARE UNKNOWN.

Stamping:

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1069.552	.262		972.757	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -97.083 12B = -97.093 09 = -96.991 03 = -96.958

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position		Koochiching County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 38 40.58330	94 04 48.24835	420195.108	391590.197	.131	3	ADJUSTMENT	1999	17648

State Plane and UTM Coordinates (Feet)

NAD83(1996)

MN State Plane - North Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2387723.222	1111850.099	1379397.142	17678811.422	.131	3	ADJUSTMENT	1999	17648

LINQUIST

Mn/DOT Name: LINQUIST

NGS Name: LINQUIST

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483240.16	934831.24		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1918)

Stamping:

ON THE EAST BANK OF THE RAINY RIVER, IN AYLESWORTH, NEAR THE EDGE OF A STEEP BANK, 3.7 FEET SOUTHWEST OF BOUNDARY REF MON 198.

Station Notes

SUBSURFACE MARK IS A BOTTLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.028 12B = -98.021 09 = -97.936 03 = -97.930

LIPKIE

Mn/DOT Name: LIPKIE

NGS Name: LIPKIE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484246.41	942301.95		

NGS ACRN: TC0944 Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1969	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1969)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 2.9 MILES UPRIVER FROM RAPID RIVER BAYS MOUTH AT CLEMENTSON, DIRECTLY IN THE FRONT OF THE OLD LIPKIE HOUSE (ONLY BASEMENT LEFT IN 1969), 3.1 FEET SOUTH (AT A BEARING OF 30.0 DEGREES AND 21.0 MINUTES) OF BOUNDARY REF MON 109, A CROSS CUT IN A STONE, OVER A BURIED COIL OF WIRE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.102 12B = -96.092 09 = -95.984 03 = -96.040

LOCK

Mn/DOT Name: LOCK

NGS Name: LOCK

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0946 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484118.77	941509.62		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1947	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1914)

Stamping:

ON THE EAST BANK OF THE RAINY RIVER, 1.25 MILES NORTH OF THE FRONTIER SCHOOLHOUSE, 0.2 MILE NORTH OF THE MOUTH OF CLEMENT CREEK, IN THE FRONT OF THE LOCKHART'S HOUSE, ABOUT 6.6 FEET SOUTH OF THE LINE OF THE SOUTH SIDE OF A HOUSE, 36.1 FEET FROM THE SOUTHWEST CORNER, 16.4 FEET ABOVE AND 19.7 FEET BACK FROM THE RIVER'S EDGE, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.637 12B = -96.637 09 = -96.545 03 = -96.529

LOCK IBC

Mn/DOT Name: LOCK IBC

NGS Name: LOCK IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481434.78	921757.77		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=YES Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (1921)

Stamping:

ON THE NORTH SHORE OF THE WEST ARM OF LOON LAKE, NEARLY 1.3 MILES FROM THE PORTAGE TO THE LOON RIVER, 1000.0 FEET NORTH OF A PROMINENT POINT ON THE OPPOSITE SHORE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.645 12B = -103.638 09 = -103.582 03 = -103.615

LOCKHART

Mn/DOT Name: LOCKHART
NGS Name: LOCKHART
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484018.47	931506.24		1

NGS ACRN: TB0874 Get Map
NGS Quad / Sta Num : 48093131/
USGS Quad: RANIER OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	IBWC

Description: (1913) **Stamping:** U.S. & C.B. SURVEY

6.2 MILES NORTHEAST OF FORT FRANCES, 6.3 MILES NORTHEAST ALONG HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND SCHOOL ROAD IN FORT FRANCES, THEN 0.8 MILE SOUTHEAST ON ROCKY INLET ROAD, 108.2 FEET ABOVE THE LAKE LEVEL, 852.8 FEET FROM THE SOUTHWEST SHORE LINE, 492.0 FEET FROM THE SOUTHEAST SHORE LINE, IN A ROCK LEDGE, 18.9 FEET NORTHEAST OF AN IRON BOLT, 14.6 FEET NORTHWEST AN IRON BOLT, 17.7 FEET SOUTHWEST OF AN IRON BOLT, 16.5 FEET SOUTHEAST OF AN IRON BOLT.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1220.470	.131		1118.787	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -102.018 12B = -101.981 09 = -101.906 03 = -101.896

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 40 18.47122	93 15 06.23747			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 40 18.45986	93 15 06.25142			.033	1	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 40 18.77600	93 15 05.61400			.100	1	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1579612.899	17686981.326	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1579611.959	17686980.178	.033	1	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	1	CLASSICAL SURVEY	1982	17020

LOG

Mn/DOT Name: LOG

NGS Name: LOG

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480721.81	914058.40		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

ON THE NORTH BANK OF THE BASSWOOD RIVER, STATION LOG IS ON THE POINT ABOUT 0.1 MILE NORTHEAST OF THE NORTHEAST POINT OF THE LARGE ISLAND THAT LIES IMMEDIATELY ABOVE WHEELBARROW FALLS, IT IS ON A LEDGE 11.8 FEET BACK FROM THE SHORE LINE AND 3.28 FEET ABOVE THE WATER.

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.418 12B = -103.441 09 = -103.402 03 = -103.149

LOON WEST BASE

Mn/DOT Name: LOON WEST BASE
NGS Name: LOON WEST BASE
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481335.54	922137.86		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)
Stamping:

6.5 MILES SOUTHEAST OF CRANE LAKE, ON THE NORTH SHORE OF LOON RIVER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.379 12B = -103.379 09 = -103.294 03 = -103.346

LOUIS

Mn/DOT Name: LOUIS
NGS Name: LOUIS
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482722.14	924200.27		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092314/
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)
Stamping:

4.3 MILES SOUTHWEST OF KETTLE FALLS, ON ERICKSON ISLAND IN NAMAKAN LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.556 12B = -103.537 09 = -103.477 03 = -103.514

LOW

Mn/DOT Name: LOW

NGS Name: LOW

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482512.29	922828.73		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092244/
USGS Quad: REDHORSE BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

9.5 MILES SOUTHEAST OF KETTLE FALLS, ON AN ISLAND IN SAND POINT LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.180 12B = -104.150 09 = -104.117 03 = -104.170

LUMBER

Mn/DOT Name: LUMBER
NGS Name: LUMBER
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483102.95	934604.89		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1913)
Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.8 MILES NORTHEAST OF LOMAN, OPPOSITE WATROUS ISLAND, ON LOT 17 RIVER RANGE, AT THE RIVER'S EDGE, BELOW HIGHWATER MARK, ON A FLAT ROCK.

Station Notes

SUBSURFACE MARK IS A BOTTLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.248 12B = -98.254 09 = -98.156 03 = -98.133

LUMBER CAMP

Mn/DOT Name: LUMBER CAMP
NGS Name: LUMBER CAMP
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483900.88	930754.04		1

NGS ACRN: TB0867 Get Map
NGS Quad / Sta Num : 48093124/
USGS Quad: ISLAND VIEW OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	2022	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	IBWC

Description: (1913) **Stamping:** U.S. & C.B. SURVEY

10.3 MILES EAST OF RANIER, ON THE CENTER OF THE NORTHERN PENINSULA OF SAND POINT ISLAND IN RAINY LAKE, 0.5 MILE NORTH OF AN OLD LUMBER CAMP, IN THE TIMBER, 65.6 FEET ABOVE THE LAKE LEVEL, 820.0 FEET FROM THE SOUTH SHORE, 0.25 MILE FROM THE EAST SHORE, 7.6 FEET SOUTHWEST OF AN IRON BOLT SET IN ROCK.

Station Notes
SUBSURFACE MARK IS A SIMILAR DISK SET IN THE ROCK.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1174.538	.131		1072.285	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -102.579 12B = -102.523 09 = -102.460 03 = -102.474

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position		Koochiching County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 39 00.88182	93 07 54.04051	649481.699	394078.120	.033	1	ADJUSTMENT	1999	17648

State Plane and UTM Coordinates (Feet)

NAD83(1996)

MN State Plane - North Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2617008.787	1112406.698	1608597.469	17679048.380	.033	1	ADJUSTMENT	1999	17648

LUNCH

Mn/DOT Name: LUNCH

NGS Name: LUNCH

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482105.85	922755.82		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

13.3 MILES SOUTHEAST OF KETTLE FALLS, ON THE EAST SHORE OF HARRISON NARROWS IN SAND POINT LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.809 12B = -103.796 09 = -103.753 03 = -103.789

LUTTRELL

Mn/DOT Name: LUTTRELL **NGS Name:** LUTTRELL

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483225.52	934832.41		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	SURVEY DISK	IBWC

Description: (1913) **Stamping:** U.S. & C.B. SURVEY

ON THE EAST BANK OF THE RAINY RIVER, IN AYLESWORTH, 328.0 FEET NORTH OF THE MOUTH OF A SMALL STREAM, ON THE EDGE OF A BANK, 23.0 FEET ABOVE AND 131.2 FEET BACK FROM THE RIVER'S EDGE, IN A MEADOW, 295.2 FEET NORTH OF A LARGE JACK PINE TREE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.031 12B = -98.021 09 = -97.939 03 = -97.926

MAIL

Mn/DOT Name: MAIL

NGS Name: MAIL

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482654.03	924119.02		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092314/
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

4.4 MILES SOUTHWEST OF KETTLE FALLS, ON AN ISLAND IN NAMAKAN LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.560 12B = -103.540 09 = -103.481 03 = -103.514

MAMIE

Mn/DOT Name: MAMIE
NGS Name: MAMIE
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482948.07	923920.61		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092314/
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1914	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)
Stamping:

0.8 MILE SOUTHWEST OF KETTLE FALLS, ON SQUIRREL 1 ISLAND IN NAMAKAN LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.989 12B = -103.963 09 = -103.907 03 = -103.943

MANITOU

Mn/DOT Name: MANITOU **NGS Name:** MANITOU

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB1119 Get Map
NGS Quad / Sta Num : 48092432/1005
USGS Quad: KEMPTON BAY

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483438.76	924858.54		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1967	GOOD	Horz=? Vert=YES	NO		FLUSH	SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	TRAVERSE STATION DISK	NGS

Description: (1967) **Stamping:** MANITOU 1923

IN ROCK IN RAINY LAKE, 5.0 MILES EAST-SOUTHEAST OF BURLE NARROWS, 2.0 MILES NORTH-NORTHEAST OF CAPE RUDOLPH, 0.3 MILE SOUTH OF ANCHOR ISLAND, 19.0 FEET WEST OF THE EAST EDGE OF THE WATER LINE, 62.0 FEET SOUTH OF THE NORTH EDGE OF THE WATER LINE, 77.0 FEET EAST OF THE WEST EDGE OF THE WATER, 39.00 FEET NORTH OF BOUNDARY REF MON 294, 48.48 FEET SOUTHEAST OF MANITOU RM 2 (CJ3267).

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -103.786 12B = -103.724 09 = -103.645 03 = -103.697

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 34 38.76085	92 48 58.54186			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 34 38.75416	92 48 58.56882			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 34 39.10166	92 48 58.07477			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	UTM - Zone 15 Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
		1684879.851	17652520.801	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	UTM - Zone 15 Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
		1684878.040	17652520.119	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	MN State Plane - North Zone Y	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
2068722.270	757916.110			.100		CLASSICAL SURVEY	1950	UNK

MANITOU AZ MK

Mn/DOT Name: MANITOU AZ MK

NGS Name: MANITOU AZ MK

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: CJ3265 Get Map
NGS Quad / Sta Num : 48092432/
USGS Quad: KEMPTON BAY

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483454.00	924901.00		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1967	1967	GOOD	Horz=? Vert=YES	NO		FLUSH	SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	AZIMUTH MARK DISK	NGS

Description: (1967)

Stamping: MANITOU 1923 1967

0.3 MILE NORTH OF A SMALL ISLAND WEST OF ANCHOR ISLAND, THE LARGEST OF THE 3 SMALL ISLANDS, 4.5 FEET SOUTHWEST OF A ROCK CAIRN, 28.0 FEET NORTH OF THE SOUTH EDGE OF AN ISLAND, 58.0 FEET EAST OF THE WEST EDGE OF AN ISLAND, 37.0 FEET SOUTHWEST OF A 14.0 INCH DIAMETER PINE TREE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.802 12B = -103.737 09 = -103.661 03 = -103.714

MANITOU RM

Mn/DOT Name: MANITOU RM

NGS Name: MANITOU RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483439.00	924859.00		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092432/
USGS Quad: KEMPTON BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1923	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	REFERENCE MARK DISK	CGS

Description:

IN ROCK IN RAINY LAKE, 5.0 MILES EAST-SOUTHEAST OF BURLE NARROWS, 2.0 MILES NORTH-NORTHEAST OF CAPE RUDOLPH, 0.3 MILE SOUTH OF ANCHOR ISLAND, 39.00 FEET SOUTH OF MANITOU (TB1119).

Stamping:

Station Notes

THIS MARK IS THE SAME AS BOUNDARY REF MON 294=R L 68 (TB1125). THE NATIONAL GEODETIC SURVEY HAS DELETED MANITOU RM (CJ3266) FROM THEIR DATABASE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.786 12B = -103.720 09 = -103.645 03 = -103.697

MANITOU RM 2

Mn/DOT Name: MANITOU RM 2 **NGS Name:** MANITOU RM 2

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: CJ3267 Get Map
NGS Quad / Sta Num : 48092432/
USGS Quad: KEMPTON BAY

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483439.00	924859.00		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1967	1967	GOOD	Horz=YES Vert=YES	NO		FLUSH	SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	REFERENCE MARK DISK	NGS

Description: (1967) **Stamping:** MANITOU NO 2 1923 1967

IN ROCK IN RAINY LAKE, 5.0 MILES EAST-SOUTHEAST OF BURLE NARROWS, 2.0 MILES NORTH-NORTHEAST OF CAPE RUDOLPH, 0.3 MILE SOUTH OF ANCHOR ISLAND, 1.0 FOOT EAST OF A 6.0 FOOT CLIFF, 3.0 FEET SOUTH OF A SMALL ROCK CAIRN, 28.0 FEET EAST OF THE WEST EDGE OF THE ISLAND, 70.0 FEET SOUTH OF THE NORTH EDGE OF THE ISLAND, 48.5 FEET WEST-NORTHWEST OF MANITOU (TB1119).

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.786 12B = -103.720 09 = -103.645 03 = -103.697

MANITOWOC

Mn/DOT Name: MANITOWOC **NGS Name:** MANITOWOC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB1126 Get Map
NGS Quad / Sta Num : 48092432/
USGS Quad: KEMPTON BAY

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483504.85	924901.14		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1925	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	IBWC

Description: (1925)

Stamping:

24.4 MILES EAST OF RANIER, ON AN ISLAND WITH SCATTERED TIMBER IN RAINY LAKE, THE MOST NORTHERN OF A GROUP OF FOUR ISLANDS, 4.0 MILES EAST OF AN EAST ENTRANCE TO BRULE NARROWS, ON THE HIGHEST PART OF THE SOUTHEASTERN PART OF AN ISLAND, 16.5 FEET SOUTH OF AN IRON BOLT, 20.1 FEET EAST OF AN IRON BOLT.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1115.483	.131		1012.042	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -103.812 12B = -103.747 09 = -103.671 03 = -103.727

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 35 04.85010	92 49 01.13570			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 35 04.84296	92 49 01.16283			.033	1	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 35 05.16800	92 49 00.55100			.100	1	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1684699.162	17655163.280	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1684697.341	17655162.552	.033	1	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	1	CLASSICAL SURVEY	1982	17020

Mn/DOT Name: MANN **NGS Name:** MANN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: DN3590 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484312.54	943514.15	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2011	2011	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 25 FT)	FLANGE-ENCASED ROD	MNDT

Description: (2011) **Stamping:** MANN 2011

0.65 MILE NORTHEAST OF BAUDETTE, 0.05 MILE NORTHEAST ALONG CANADA HIGHWAY 11 FROM THE JUNCTION OF CANADA HIGHWAY 11 AND THE INTERNATIONAL BRIDGE OVER THE RAINY RIVER, 80.3 FEET SOUTHEAST OF CANADA HIGHWAY 11, 63.4 FEET WEST OF THE FIRST LIGHT POLE IN A ROW OF FIVE NORTHEAST OF A BRIDGE, 9.7 FEET WEST OF THE END OF A GUARD RAIL, 95.5 FEET SOUTHEAST OF A LIGHT POLE, 93.2 FEET SOUTHEAST OF A FLAG POLE, 97.0 FEET SOUTHEAST OF STATION 79 U 121, 10.7 FEET WEST-SOUTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1075.880	.016	2/1				VERTICAL ADJUSTMENT	2013	00000762
1075.880	.016	2/1				VERTICAL CONTROL SURVEY	2011	VRAINY

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
			980.493	.007	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1075.884	.131		980.566	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2826
1075.884	.131		980.566	.066	2007	GPS - STATIC	2011	HRAINY
1075.884	.131		980.566	.066	1996	GPS - STATIC	2011	HRAINY

Geoid Separations(ft): GEOID18 = -95.400 12B = -95.354 09 = -95.282 03 = -95.311

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 43 12.53790	94 35 14.15031			.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 43 12.53805	94 35 14.15115			.033	C	ADJUSTMENT	2011	GPS2826

NAD83(2007)

Geodetic Position		Lake of the Woods County - South Zone					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 43 12.53805	94 35 14.15115	571476.392	229309.891	.033	C	GPS - STATIC	2011	HRAINY

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 43 12.53795	94 35 14.15102			.033	C	GPS - STATIC	2011	HRAINY

State Plane and UTM Coordinates (Feet)

NAD83(2011)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1257400.338	17708502.145	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1257400.282	17708502.161	.033	C	ADJUSTMENT	2011	GPS2826

NAD83(2007)

MN State Plane - North Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2265645.498	1141363.415	1257400.282	17708502.161	.033	C	GPS - STATIC	2011	HRAINY

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1257400.291	17708502.151	.033	C	GPS - STATIC	2011	HRAINY

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/ontario/rainy_river_district/MANN-DN3590-3SW-15FEB2011.jpg	SW	Feb 15, 2011
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/ontario/rainy_river_district/MANN-DN3590-2-15FEB2011.jpg		Feb 15, 2011
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/ontario/rainy_river_district/MANN-DN3590-1-15FEB2011.jpg		Feb 15, 2011

** All station images can be viewed at: ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos **

MARC IBC

Mn/DOT Name: MARC IBC

NGS Name: MARC IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484016.46	941459.24		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1963	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

4.0 MILES SOUTHWEST FROM STRATTON, 3.2 MILES WEST ALONG TRUNK HIGHWAY 11 FROM THE JUNCTION OF TRUNK HIGHWAY 11 AND TRUNK HIGHWAY 617, THEN 0.7 MILE WEST ON KAVANAGH ROAD, THEN 0.5 MILE SOUTH ON SUNDWALL ROAD, THEN 700.0 FEET WEST OF SUNDWALL ROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.561 12B = -96.558 09 = -96.470 03 = -96.443

MCCUTCHEON

Mn/DOT Name: MCCUTCHEON
NGS Name: MCCUTCHEON
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484239.77	942511.82		

NGS ACRN: TC0953 Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1947	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	NGS

Description: (1914) **Stamping:**

ON THE NORTH BANK OF THE RAINY RIVER, 1.5 MILES NORTHEAST OF CLEMENTSON, ON THE TOP OF A BANK, 29.5 FEET ABOVE AND 49.2 FEET BACK FROM THE RIVER'S EDGE, 13.1 FEET EAST OF AN OLD FENCE, 114.8 FEET EAST OF MCCUTCHEONS HOUSE, A BRONZE DISK SET IN CONCRETE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.928 12B = -95.902 09 = -95.807 03 = -95.873

MCGEE

Mn/DOT Name: MCGEE

NGS Name: MCGEE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0954 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484217.39	942035.69		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.75 MILES WEST OF PINEWOOD, 0.4 MILE WEST-NORTHWEST OF CENTRAL, ON THE SLOPE OF A BANK, 9.9 FEET ABOVE AND 26.2 FEET BACK FROM THE RIVER'S EDGE, 55.8 FEET WEST OF A FENCE, 36.1 FEET SOUTHEAST OF A 24.0 INCH DIAMETER OAK TREE, 36.1 FEET EAST OF THREE 12.0 INCH DIAMETER OAK TREES, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.276 12B = -96.269 09 = -96.158 03 = -96.181

MCLOUD

Mn/DOT Name: MCLOUD

NGS Name: MCLOUD

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483849.95	940821.77		

NGS ACRN: TC0955 Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1947	NOT FOUND	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	NGS

Description: (1914) **Stamping:**

ON THE NORTH BANK OF THE RAINY RIVER, 1.75 MILES WEST OF BIRCHDALE LANDING, 0.25 MILE EAST OF THE EAST END OF A LARGE ISLAND IN THE RIVER, ON A LOW BANK, 6.6 FEET ABOVE AND 6.6 FEET BACK FROM THE RIVER'S EDGE, MCLOUDS HOUSE IS 492.0 FEET NORTHEAST OF STATION MCLOUD, A BRONZE DISK SET IN CONCRETE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.824 12B = -96.831 09 = -96.732 03 = -96.699

MEADOW

Mn/DOT Name: MEADOW

NGS Name: MEADOW

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483907.07	941337.46		

NGS ACRN: TC0956 Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1947	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.25 MILES EAST OF THE FRONTIER STORE, 3.3 FEET ABOVE AND 19.7 FEET BACK FROM THE RIVER'S EDGE, 656.0 FEET EAST OF AN OLD PIER, 131.2 FEET WEST OF A FENCE, A CROSS CUT IN A STONE OVER A BALL OF WIRE, 15.0 FEET SOUTHWEST OF BOUNDARY REF MON 132.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.525 12B = -96.522 09 = -96.450 03 = -96.417

Mn/DOT Name: MID **NGS Name:** MID

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482029.76	920237.37		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092212/
USGS Quad: COLEMAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921) **Stamping:**

ON A SMALL ISLAND IN LAC LA CROIX 0.5 MILE SOUTHEAST OF THE NORTH POINT OF COLEMAN ISLAND AND ABOUT 0.5 MILE SOUTH OF BOUNDARY REF MON 563. THE MONUMENT IS ON THE TOP OF A BANK ON THE NORTH SIDE OF AN ISLAND.

Station Notes

A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN A ROCK IN A PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.878 12B = -104.846 09 = -104.816 03 = -104.888

MILL

Mn/DOT Name: MILL

NGS Name: MILL

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0957 Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484213.22	942543.97		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.9 MILE NORTHEAST OF CLEMENTSON, NEAR THE SECTION LINE, IN THE EDGE OF A FIELD, THE PROPERTY OF GEORGE SLEEMAN, 164.0 FEET EAST OF A SMALL CREEK, 26.2 FEET ABOVE AND 29.5 FEET BACK FROM THE RIVER'S EDGE, A 10.0 INCH DIAMETER OAK TREE IS 16.4 FEET SOUTHEAST OF STATION MILL, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.866 12B = -95.836 09 = -95.745 03 = -95.800

MILL RAINY RIVER

Mn/DOT Name: MILL RAINY RIVER
NGS Name: MILL
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483432.75	934812.07		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1913	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2009)
Stamping:

ON THE EAST BANK OF THE RAINY RIVER, 4.0 MILES SOUTH OF EMO.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.041 12B = -98.048 09 = -97.956 03 = -97.995

MISTAKE

Mn/DOT Name: MISTAKE

NGS Name: MISTAKE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483103.61	934731.73		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1913)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.8 MILE NORTHEAST OF LOMAN, OPPOSITE THE HOISTING PLANT AT LOMAN STATION, 98.4 FEET SOUTHEAST OF AN OLD LOG HOUSE, NEAR A PATH PARALLEL TO THE RIVER, 16.4 FEET ABOVE THE RIVER.

Station Notes

SUBSURFACE MARK IS A BOTTLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.113 12B = -98.117 09 = -98.018 03 = -97.985

MOOSE

Mn/DOT Name: MOOSE

NGS Name: MOOSE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481922.83	922638.47		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

15.3 MILES SOUTHEAST OF KETTLE FALLS, ON THE EAST SHORE OF LITTLE VERMILION NARROWS.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.704 12B = -103.691 09 = -103.658 03 = -103.681

MOUND

Mn/DOT Name: MOUND

NGS Name: MOUND

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483809.29	935450.78		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093434/
USGS Quad: MANITOU OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type
ROCK (0 TO 1 METERS)

Disk Type
CHISELED CROSS

Mon. Agency
IBWC

Description: (1913)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.6 MILE SOUTH OF MANITOU RAPIDS INDIAN RESERVE 11, OVERLOOKING MANITOU RAPIDS AND AN INDIAN VILLAGE, ON THE TOP OF AN OLD INDIAN MOUND.

Station Notes
SUBSURFACE MARK IS A BOTTLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.743 12B = -97.749 09 = -97.644 03 = -97.654

MUD

Mn/DOT Name: MUD **NGS Name:** MUD

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0962 Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	17	161 N	31 W	484617.90	944021.21		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1913	UNKNOWN	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	UNMONUMENTED	UNK

Description:

5.4 MILES NORTHWEST OF RAINY RIVER, 3.1 MILES NORTH ALONG PROVINCE ROAD 600 FROM THE JUNCTION OF PROVINCE ROAD 600 AND TRUNK HIGHWAY 11 IN RAINY RIVER, THEN 4.1 MILES WEST ON RIVER ROAD. THE MONUMENT AND THE DISK TYPE ARE UNKNOWN.

Stamping:

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1079.394	.262		984.263	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -95.551 12B = -95.528 09 = -95.446 03 = -95.436

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 46 17.89606	94 40 21.20671			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 46 17.86816	94 40 21.19282			.131	3	ADJUSTMENT	1989	17085

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1237231.442	17727718.948	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1237232.310	17727716.101	.131	3	ADJUSTMENT	1989	17085

MUIR

Mn/DOT Name: MUIR

NGS Name: MUIR

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483837.31	940059.80		

NGS ACRN: TC0963 Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1913)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 2.0 MILES EAST OF THE HEAD OF LONG SAULT RAPIDS, 1.5 MILES WEST OF BARWICK, 6.6 FEET NORTHEAST OF A FRAME HOUSE OWNED BY WILLIAM MUIR, 19.7 FEET ABOVE THE WATER, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.392 12B = -97.395 09 = -97.293 03 = -97.264

MULDOON

Mn/DOT Name: MULDOON

NGS Name: MULDOON

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483848.06	940915.49		

NGS ACRN: TC0964 Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.5 MILE EAST OF THE BOUCHERVILLE POST OFFICE, 0.25 MILE WEST OF AN ISLAND, AT THE BASE OF A 26.2 FEET BANK, SOUTH OF A SMALL CABIN BELONGING TO MR. MULDOON, 6.6 FEET ABOVE AND 6.6 FEET BACK FROM THE RIVERS' EDGE, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.752 12B = -96.758 09 = -96.663 03 = -96.627

MULLEN

Mn/DOT Name: MULLEN

NGS Name: MULLEN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483858.93	941012.02		

NGS ACRN: TC0965 Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.3 MILE WEST OF THE BOUCHERVILLE POST OFFICE, 3.3 FEET ABOVE AND 6.6 FEET BACK FROM THE RIVERS' EDGE, 19.7 FEET WEST OF A SMALL CREEK, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.709 12B = -96.716 09 = -96.627 03 = -96.588

MUSKRAT

Mn/DOT Name: MUSKRAT **NGS Name:** MUSKRAT

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483659.77	932136.61		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093132/
USGS Quad: RANIER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	IBWC

Description: (1918) **Stamping:**

ON THE NORTH BANK OF THE RAINY RIVER, 0.7 MILE NORTHEAST OF FORT FRANCES, AT THE POINT WHERE THE RAILWAY CROSSES THE WAGON ROAD, 75.4 FEET FROM THE RAILWAY, 3.8 FEET FROM BOUNDARY REF MON 263.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -101.105 12B = -101.089 09 = -101.007 03 = -101.004

MUTT

Mn/DOT Name: MUTT **NGS Name:** MUTT

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481248.98	915132.02		1

NGS ACRN: TA0169 Get Map
NGS Quad / Sta Num : 48091331/
USGS Quad: FRIDAY BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description:

21.0 MILES NORTH OF ELY, 0.7 MILES NORTH ALONG COUNTY ROAD 88 FROM THE JUNCTION OF COUNTY ROAD 88 AND SHERIDAN STREET IN ELY, THEN 1.0 MILE NORTHEAST ON WINTON ROAD, THEN 13.1 MILES EAST AND NORTH ON CEDAR LAKE ROAD, THEN HIKE AND BOAT 11.3 MILES NORTH ACROSS SUNDAY BAY PAST FIRST TWO ISLANDS.

Stamping:

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1259.840	.131		1155.966	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -104.193 12B = -104.186 09 = -104.160 03 = -104.081

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 12 48.97807	91 51 32.02376			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 12 48.99057	91 51 32.05832			.033	1	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 12 49.36000	91 51 31.60000			.100	1	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1918528.534	17521852.845	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1918526.175	17521854.076	.033	1	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	1	CLASSICAL SURVEY	1982	17020

MYRTLE

Mn/DOT Name: MYRTLE
NGS Name: MYRTLE
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0547 Get Map
NGS Quad / Sta Num : 48094131/1005
USGS Quad: BORDER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484217.73	941547.38		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1969	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	NGS

Description: (1966) **Stamping:** MYRTLE 1923

1.75 MILES EAST OF PINEWOOD ALONG A RAILROAD, 860.0 FEET WEST OF RAILROAD MILEPOST 129, 12.74 FEET SOUTH OF THE SOUTH RAIL OF THE RAILROAD TRACKS, 35.5 FEET NORTH-NORTHWEST OF MYRTLE RM.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -96.670 12B = -96.666 09 = -96.578 03 = -96.571

Lat/Lon and County Coordinates (Feet)

NAD83(1986)

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 42 17.71648	94 15 47.38317			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 42 17.84089	94 15 46.70579			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1986)

X	Y	UTM - Zone 15 X	UTM - Zone 15 Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
		1335514.244	17701486.432	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	MN State Plane - North Zone Y	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
1719162.470	806393.030			.100		CLASSICAL SURVEY	1950	UNK

MYRTLE RM

Mn/DOT Name: MYRTLE RM

NGS Name: MYRTLE RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: CO7987 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484217.00	941547.00		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	2001	UNKNOWN	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	NGS

Description:

1.7 MILES EAST OF PINEWOOD ALONG A RAILROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.670 12B = -96.666 09 = -96.575 03 = -96.571

NAMAKAN WEST BASE

Mn/DOT Name: NAMAKAN WEST BASE
NGS Name: NAMAKAN WEST BASE
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB1046 Get Map
NGS Quad / Sta Num : 48092311/1015
USGS Quad: HALE BAY

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482631.63	923703.92		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1925	NOT FOUND	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	SURVEY DISK	NGS

Description: (1925)

Stamping:

4.3 MILES SOUTH OF KETTLE FALLS, AT THE EXTREME SOUTH END OF BLACKSTONE ISLAND IN NAMAKAN LAKE, 47.5 FEET NORTHEAST OF BOUNDARY REF MON 353.

Station Notes

STATION WAS UNDER WATER IN 1925, BOUNDARY REF MON 353 MAY EITHER BE 209 DEGREE 44 MINUTES OR 29 DEGREE 44 MINUTES DUE TO CONFLICTING DESCRIPTIONS.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -103.815 12B = -103.799 09 = -103.747 03 = -103.773

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 26 31.63098	92 37 03.91847			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 26 31.63806	92 37 03.95832			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 26 31.97666	92 37 03.39052			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	UTM - Zone 15 Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
		1733163.342	17603352.117	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	UTM - Zone 15 Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
		1733160.652	17603352.821	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	MN State Plane - North Zone Y	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
2117090.810	708790.720			.100		CLASSICAL SURVEY	1950	UNK

NARROWS

Mn/DOT Name: NARROWS

NGS Name: NARROWS

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481858.71	922625.20		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

4.2 MILES NORTHEAST OF CRANE LAKE, ON THE EAST SIDE OF THE LITTLE VERMILION NARROWS.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.674 12B = -103.661 09 = -103.628 03 = -103.651

NATIONAL

Mn/DOT Name: NATIONAL

NGS Name: NATIONAL

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483618.69	932457.44		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1926)

Stamping:

ON AN ISLAND IN RAINY RIVER, IN FORT FRANCES, ON THE HIGHEST POINT OF THE ISLAND, ON THE SOUTHEAST SIDE, 0.5 FOOT FROM BOUNDARY REF MON 252.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.748 12B = -100.751 09 = -100.663 03 = -100.649

NIGHT

Mn/DOT Name: NIGHT

NGS Name: NIGHT

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481443.69	915834.57		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091334/
USGS Quad: IRON LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE RIGHT BANK OF THE BOTTLE RIVER, 300.0 FEET FROM THE MOUTH OF THE RIVER; ABOUT 30.0 FEET EAST OF THE STONY BED OF THE RIVER AND CLOSE TO THE HIGH-WATER MARK TO THE SOUTH.

Station Notes

A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.347 12B = -104.340 09 = -104.291 03 = -104.281

NITO

Mn/DOT Name: NITO

NGS Name: NITO

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483843.55	940645.31		

NGS ACRN: TC0968 Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1947	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	NGS

Description: (1913)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.5 MILE WEST OF BIRCHDALE LANDING, 229.6 FEET WEST OF THE MOUTH OF A SMALL CREEK, AT THE EDGE OF A CLEARING, 6.6 FEET ABOVE AND 9.9 FEET BACK FROM THE RIVER'S EDGE, A HOUSE OCCUPIED BY AN INDIAN NAMED NITO IS 902.0 FEET DISTANT FROM THE STATION, A BRONZE DISK SET IN CONCRETE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.936 12B = -96.942 09 = -96.847 03 = -96.814

Mn/DOT Name: NIX **NGS Name:** NIX

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB1054 Get Map
NGS Quad / Sta Num : 48092314/1024
USGS Quad: NAMAKAN ISLAND

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482941.34	923833.11		2

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1923	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	TRIANGULATION STATION DISK	NGS

Description: (1923) **Stamping:** NIX 1923

BETWEEN RAINY LAKE AND NAMAKAN LAKE, 29.9 FEET WEST OF THE NORTH END OF SQUIRREL FALLS DAM, IN A CHANNEL ON THE SOUTH SIDE OF KETTLE ISLAND.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -104.035 12B = -104.006 09 = -103.950 03 = -103.989

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 29 41.33863	92 38 33.11445			.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 29 41.34097	92 38 33.15015			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 29 41.71941	92 38 32.62068			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1727061.866	17622540.464	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1727059.462	17622540.690	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	Y	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
2110960.710	727981.760			.100		CLASSICAL SURVEY	1950	UNK

NIX RM

Mn/DOT Name: NIX RM

NGS Name: NIX RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482941.00	923833.00		

NGS ACRN: CJ3399 Get Map
NGS Quad / Sta Num : 48092314/
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1923	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	REFERENCE MARK DISK	NGS

Description:

IN A ROCK, 15.08 FEET SOUTHWEST FROM STATION NIX.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.035 12B = -104.006 09 = -103.950 03 = -103.986

NORLAND

Mn/DOT Name: NORLAND

NGS Name: NORLAND

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484201.69	941601.53		

NGS ACRN: TC0969 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1969	NOT FOUND	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.75 MILES SOUTHEAST OF PINEWOOD, IN A HAYFIELD, 3.3 FEET INSIDE A FENCE, 26.2 FEET NORTH OF THE TOP EDGE OF THE RIVER BANK, 114.8 FEET EAST OF ANOTHER FENCE, A BRONZE DISK SET IN CONCRETE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.630 12B = -96.627 09 = -96.539 03 = -96.532

NOSE

Mn/DOT Name: NOSE

NGS Name: NOSE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483902.16	941253.21		

NGS ACRN: TC0970 Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description:

ON THE NORTH BANK OF THE RAINY RIVER, 1.9 MILES EAST OF THE FRONTIER STORE, ON THE EAST END OF A SMALL RIDGE, 16.4 FEET ABOVE AND 36.1 FEET BACK FROM THE RIVERS? EDGE, A 20.0 INCH DIAMETER OAK TREE IS 26.2 FEET SOUTH OF STATION NOSE, A CROSS CUT IN A STONE.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.558 12B = -96.555 09 = -96.479 03 = -96.447

OAK POINT

Mn/DOT Name: OAK POINT
NGS Name: OAK POINT
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB1110 Get Map
NGS Quad / Sta Num : /
Quad Name: N R Canada - 52C/10

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	31	70 N	18 W	483038.13	923651.58		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1915	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	IBWC

Description: (1914)

Stamping:

1.3 MILES NORTHEAST OF KETTLE FALLS, ON OAK POINT ISLAND IN THE KETTLE RIVER, NEAR THE HIGHEST POINT OF THE ISLAND, 131.2 FEET ABOVE THE LAKE LEVEL, 0.2 MILE WEST OF THE CANADIAN CHANNEL, 7.8 FEET NORTH OF AN IRON BOLT, 10.7 FEET WEST OF AN IRON BOLT.

Station Notes

ALSO CALLED OAK.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1220.470	.262		1116.582	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -104.239 12B = -104.206 09 = -104.163 03 = -104.193

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 30 38.13286	92 36 51.57607			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 30 38.13562	92 36 51.61951			.131	3	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 30 38.47000	92 36 51.03000			.100	3	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1733869.364	17628326.955	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1733866.438	17628327.219	.131	3	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	3	CLASSICAL SURVEY	1982	17020

OGDEN

Mn/DOT Name: OGDEN

NGS Name: OGDEN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483129.02	934821.39		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	IBWC

Description: (1913) **Stamping:** U.S. & C.B. SURVEY

ON THE NORTH BANK OF THE RAINY RIVER, 0.8 MILE NORTH OF LOMAN, 820.0 FEET SOUTHEAST OF A HOUSE, 229.6 FEET WEST OF THE EDGE OF THE WOODS, 26.2 FEET ABOVE AND 49.2 FEET BACK FROM THE RIVER'S EDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.044 12B = -98.041 09 = -97.953 03 = -97.923

Mn/DOT Name: OLD

NGS Name: OLD

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483218.11	933045.50		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093422/
USGS Quad: PELLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1914	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2009)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.4 MILE SOUTH OF ISHERWOOD.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -99.980 12B = -99.974 09 = -99.885 03 = -99.859

ONION

Mn/DOT Name: ONION

NGS Name: ONION

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483636.83	932251.77		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1914	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2009)

Stamping:

IN FORT FRANCES, NORTH OF PROVINCIAL ROAD 11, SOUTH OF 1ST STREET EAST AND WEST OF MINNIE AVENUE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.964 12B = -100.958 09 = -100.869 03 = -100.859

OSCAR

Mn/DOT Name: OSCAR

NGS Name: OSCAR

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482059.11	922801.09		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

13.2 MILES SOUTHEAST OF KETTLE FALLS, ON THE EAST SHORE OF HARRISON NARROWS IN SAND POINT LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.792 12B = -103.783 09 = -103.737 03 = -103.773

OSTER

Mn/DOT Name: OSTER

NGS Name: OSTER

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483846.73	940857.17		

NGS ACRN: TC0977 Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE SOUTH SIDE NEAR THE WEST END OF AN ISLAND IN THE RAINY RIVER, 0.7 MILE EAST OF THE BOUCHERVILLE POST OFFICE, THE 1.1 FEET ABOVE AND 6.6 FEET BACK FROM THE RIVER'S EDGE, BETWEEN A WILLOW AND AN OAK TREE, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.771 12B = -96.778 09 = -96.683 03 = -96.647

OTTER

Mn/DOT Name: OTTER

NGS Name: OTTER

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481424.27	921900.92		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=YES Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (1921)

Stamping:

ON THE NORTH SHORE OF LOON LAKE, NEARLY 0.5 MILE FROM THE EAST END OF THE PORTAGE TO THE LOON RIVER, ON THE WEST SIDE OF A SMALL BAY, CLOSE TO THE SHORE AND THE HIGH-WATER MARK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.579 12B = -103.573 09 = -103.514 03 = -103.550

Mn/DOT Name: OWL **NGS Name:** OWL

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	19	162 N	31 W	485005.33	944112.54		3

NGS ACRN: TC0596 Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	UNKNOWN	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	UNMONUMENTED	IBWC

Description:

LOCATED IN RAINY RIVER DISTRICT, ONTARIO, CANADA; ALONG THE SHORE OF THE RAINY RIVER, 0.7 MILE EAST-SOUTHEAST OF WHEELERS POINT, MN.

Stamping:

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1066.271	.262		970.707	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -96.046 12B = -96.060 09 = -95.935 03 = -95.882

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 50 05.32858	94 41 12.54424			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 50 05.30180	94 41 12.52927			.131	3	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 50 05.36000	94 41 11.73000			.100	3	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1234304.487	17750833.763	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1234305.428	17750831.028	.131	3	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	3	CLASSICAL SURVEY	1982	17020

PADDY

Mn/DOT Name: PADDY **NGS Name:** PADDY

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TA0127 Get Map
NGS Quad / Sta Num : 48091223/
USGS Quad: KEKEKABIC LAKE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480604.20	911430.14		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1917	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	BOLT	NGS

Description: (1917)

Stamping:

ON THE NORTH SIDE OF KNIFE LAKE, OPPOSITE THE MOUTH OF THE BIG SOUTHERN ARM OF A LAKE, ON THE TOP OF A HIGH TIMBERED HILL, AND ABOUT 1312.0 FEET BACK FROM THE SHORE OF A SMALL BAY. MARKED BY COPPER BOLT IN A DRILL HOLE WITHIN A TRIANGLE CUT IN A ROCK.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1699.472	.131		1597.608	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -102.224 12B = -102.267 09 = -102.218 03 = -101.906

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 06 04.19604	91 14 30.14360			.033	1	ADJUSTMENT	1999	17648

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		2069884.160	17483691.087	.033	1	ADJUSTMENT	1999	17648

PARSON

Mn/DOT Name: PARSON

NGS Name: PARSON

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483850.17	940608.80		

NGS ACRN: TC0980 Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1947	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, OPPOSITE BIRCHDALE LANDING, IN THE TIMBER, 6.6 FEET ABOVE AND 32.8 FEET BACK FROM THE RIVER'S EDGE, A CROSS ON A STONE OVER A BURIED BOTTLE, 29.9 FEET SOUTH OF BOUNDARY REF MON 145.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.998 12B = -97.004 09 = -96.909 03 = -96.873

PARTRIDGE IBC

Mn/DOT Name: PARTRIDGE IBC
NGS Name: PARTRIDGE
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0541 Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484319.57	940530.14		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1921	UNKNOWN	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	SURVEY DISK	IBWC

Description: (1921)
Stamping:

ON THE NORTH SIDE OF THE RAINY RIVER, IN THE NORTHWEST QUARTER OF SECTION 29, IN SHENSTON TOWNSHIP, ON THE SOUTHEAST PART OF HIGH ROCK RIDGE.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -97.526 12B = -97.536 09 = -97.444 03 = -97.398

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 43 19.56811	94 05 30.14021			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 43 19.55110	94 05 30.13554			3.281		CLASSICAL SURVEY	1991	H1991

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1376989.466	17707113.069	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1376989.754	17707111.341	3.281		CLASSICAL SURVEY	1991	H1991

PASS

Mn/DOT Name: PASS

NGS Name: PASS

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483145.65	934851.59		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1913)

Stamping:

ON THE EAST BANK OF THE RAINY RIVER, 1.1 MILES NORTH OF LOMAN, OPPOSITE THE LOMAN SCHOOL, 26.2 FEET ABOVE AND 98.4 FEET BACK FROM THE RIVER'S EDGE, ON A HIGH BANK, ON THE PROPERTY OF H J OGDEN.

Station Notes

SUBSURFACE MARK IS A BOTTLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.008 12B = -97.998 09 = -97.916 03 = -97.887

PASTURE

Mn/DOT Name: PASTURE

NGS Name: PASTURE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484137.77	942659.47		

NGS ACRN: TC0981 Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1947	NOT FOUND	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.6 MILE WEST OF CLEMENTSON, 26.2 FEET BACK FROM THE RIVER'S EDGE, 426.4 FEET EAST OF A FENCE, 246.0 FEET SOUTHWEST OF AN OLD HEWED - TIMBER HOUSE, A CROSS CUT IN A STONE OVER A BURIED BALL OF WIRE, 22.3 FEET SOUTHWEST OF BOUNDARY REF MON 103.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.741 12B = -95.708 09 = -95.620 03 = -95.669

Mn/DOT Name: PAT
NGS Name: PAT
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB1016 Get Map
NGS Quad / Sta Num : 48093434/1008
USGS Quad: MANITOU OE N

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483825.80	935442.92		2

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1969	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	TRIANGULATION STATION DISK	NGS

Description: (1969) **Stamping:** PAT 1923

3.75 MILES WEST ON KINGS HIGHWAYS 11 AND 71 FROM THE JUNCTION OF KINGS HIGHWAYS 11 AND 71 AND ONTARIO HIGHWAY 602 AT EMO THEN SOUTH 0.2 MILE ON A GRAVEL ROAD TO A RAILROAD CROSSING THEN EAST 0.5 MILE ON A FIELD ROAD, 9.9 FEET NORTH OF THE NORTH RAIL OF THE RAILROAD TRACKS, 64.0 FEET NORTHEAST OF A TELEPHONE POLE NUMBER 7, 74.63 FEET NORTH OF PAT RM 2, 115.18 FEET NORTHEAST OF PAT RM 3.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -97.775 12B = -97.782 09 = -97.680 03 = -97.690

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 38 25.80439	93 54 42.91807			.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 38 25.79068	93 54 42.92394			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 38 25.94194	93 54 42.30853			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	UTM - Zone 15 Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
		1420014.826	17676784.009	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	UTM - Zone 15 Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
		1420014.415	17676782.624	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	MN State Plane - North Zone Y	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
1803725.630	781809.090			.100		CLASSICAL SURVEY	1950	UNK

PAT AZ MK

Mn/DOT Name: PAT AZ MK

NGS Name: PAT AZ MK

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483812.00	935446.00		

NGS ACRN: CO8066 Get Map
NGS Quad / Sta Num : 48093434/
USGS Quad: MANITOU OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1967	1969	GOOD	Horz=? Vert=YES	NO		PROJECTS 8 IN.	SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	AZIMUTH MARK DISK	NGS

Description: (1967) **Stamping:** PAT 1923 1967

3.25 MILES EAST OF BARWICK, ONTARIO, 61.0 FEET EAST OF A ROAD, 2.7 FEET WEST OF A METAL WITNESS POST.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.752 12B = -97.759 09 = -97.654 03 = -97.664

PAT RM

Mn/DOT Name: PAT RM

NGS Name: PAT RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483825.00	935447.00		

NGS ACRN: CO8067 Get Map
NGS Quad / Sta Num : 48093434/
USGS Quad: MANITOU OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1969	UNKNOWN	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	BENCH MARK DISK	NGS

Description: (1967)

Stamping:

3.75 MILES WEST ON KINGS HIGHWAYS 11 AND 71 FROM THE JUNCTION OF KINGS HIGHWAYS 11 AND 71 AND ONTARIO HIGHWAY 602 AT EMO THEN SOUTH 0.2 MILE ON A GRAVEL ROAD TO A RAILROAD CROSSING THEN EAST 0.5 MILE ON A FIELD ROAD.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.769 12B = -97.779 09 = -97.674 03 = -97.684

PAT RM 2

Mn/DOT Name: PAT RM 2 **NGS Name:** PAT RM 2

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB1021 Get Map
NGS Quad / Sta Num : 48093434/1009
USGS Quad: MANITOU OE N

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483825.10	935443.23		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1967	1967	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (1967) **Stamping:** PAT NO 2 1923 1967

3.75 MILES WEST ON KINGS HIGHWAYS 11 AND 71 FROM THE JUNCTION OF KINGS HIGHWAYS 11 AND 71 AND ONTARIO HIGHWAY 602 AT EMO THEN SOUTH 0.2 MILE ON A GRAVEL ROAD TO A RAILROAD CROSSING THEN EAST ON A FIELD ROAD 0.05 MILE, 59.0 FEET SOUTH OF THE SOUTH RAIL OF THE RAILROAD TRACKS, 29.0 FEET SOUTHEAST OF A TELEPHONE POLE NUMBER 7, 74.63 FEET SOUTH OF STATION PAT, 86.28 FEET EAST OF PAT RM 3, 2.7 FEET WEST OF A WITNESS POST.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -97.772 12B = -97.782 09 = -97.677 03 = -97.687

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 38 25.09815	93 54 43.23282			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 38 25.08439	93 54 43.23872			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 38 25.23571	93 54 42.62327			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1419992.840	17676712.718	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1419992.427	17676711.328	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	Y	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
1803703.740	781737.750			.100		CLASSICAL SURVEY	1950	UNK

PAT RM 3

Mn/DOT Name: PAT RM 3

NGS Name: PAT RM 3

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483825.00	935443.00		

NGS ACRN: CO8068 Get Map
NGS Quad / Sta Num : 48093434/
USGS Quad: MANITOU OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1969	GOOD	Horz=? Vert=YES	NO		PROJECTS 12 IN.	SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (1967) **Stamping:** PAT NO 3 1923 1967

3.75 MILES WEST ON KINGS HIGHWAYS 11 AND 71 FROM THE JUNCTION OF KINGS HIGHWAYS 11 AND 71 AND ONTARIO HIGHWAY 602 IN EMO, THEN 0.2 MILE SOUTH ON A GRAVEL ROAD TO A RAILROAD CROSSING, THEN 0.5 MILE EAST ON A FIELD ROAD, 56.0 FEET SOUTHWEST OF A TELEPHONE POLE NUMBER 7, 46.0 FEET SOUTH OF THE SOUTH RAIL OF THE RAILROAD TRACK, 1.5 FEET SOUTHEAST OF A METAL WITNESS POST.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.772 12B = -97.782 09 = -97.677 03 = -97.687

PEARSON

Mn/DOT Name: PEARSON

NGS Name: PEARSON

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484101.85	941458.10		

NGS ACRN: TC0983 Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1969	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	NGS

Description: (1914)

Stamping:

ON THE EAST BANK OF THE RAINY RIVER, 1.0 MILE NORTH OF THE FRONTIER SCHOOLHOUSE, 492.0 FEET SOUTH OF THE MOUTH OF CLEMENT CREEK. 49.2 FEET NORTHWEST FROM THE NORTHWEST CORNER OF PEARSONS HOUSE, 16.4 FEET ABOVE AND 29.5 FEET BACK FROM THE RIVER'S EDGE, A BRONZE DISK SET IN CONCRETE, 4.3 FEET EAST OF BOUNDARY REF MON 124.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.627 12B = -96.627 09 = -96.535 03 = -96.516

PEBBLE

Mn/DOT Name: PEBBLE

NGS Name: PEBBLE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481627.92	920013.95		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092212/
USGS Quad: COLEMAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE EAST SHORE OF LAC LA CROIX, 2.0 MILES NORTH OF THE MOUTH OF THE BOTTLE RIVER. REFERENCE MONUMENT 595 IS ABOUT 1000.0 FEET TO THE SOUTH AND A SMALL ISLAND ABOUT 2.0 MILES TO THE SOUTH.

Station Notes

A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.521 12B = -104.504 09 = -104.468 03 = -104.488

PENN

Mn/DOT Name: PENN **NGS Name:** PENN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482304.85	922744.39		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092244/
USGS Quad: REDHORSE BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010) **Stamping:**

11.5 MILES SOUTHEAST OF KETTLE FALLS, ON THE EAST SHORE OF SAND POINT LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.012 12B = -103.996 09 = -103.963 03 = -104.002

PENT

Mn/DOT Name: PENT

NGS Name: PENT

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482833.93	924212.96		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092314/
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

3.5 MILES SOUTHWEST OF KETTLE FALLS, ON NAMAKAN LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.664 12B = -103.635 09 = -103.586 03 = -103.619

PETER

Mn/DOT Name: PETER

NGS Name: PETER

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483126.76	933627.60		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093422/
USGS Quad: PELLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1926)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 4.4 MILES SOUTH WEST OF ISHERWOOD, 410.0 FEET EAST OF PETER SPENCE'S HOUSE, 44.7 FEET SOUTH OF BOUNDARY REF MON 223.

Station Notes

SUBSURFACE MARK IS A BOTTLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -99.317 12B = -99.317 09 = -99.232 03 = -99.203

PHONE

Mn/DOT Name: PHONE

NGS Name: PHONE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484257.08	943250.04		

NGS ACRN: TC0984 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SEE DESCRIPTION	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.0 MILE EAST OF FOURTH STREET IN RAINY RIVER, 16.4 FEET ABOVE AND 49.2 FEET BACK FROM THE RIVER'S EDGE, 328.0 FEET EAST OF A LARGE SLOUGH INLET, 39.4 FEET SOUTHEAST OF A SMALL SLOUGH, 13.1 FEET SOUTHEAST OF A TELEPHONE POLE, A STONE, AND A BALL OF WIRE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.472 12B = -95.439 09 = -95.344 03 = -95.397

PICKET

Mn/DOT Name: PICKET

NGS Name: PICKET

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483627.95	932452.81		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1914	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2009)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, IN FORT FRANCES.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.764 12B = -100.768 09 = -100.679 03 = -100.666

PICNIC

Mn/DOT Name: PICNIC

NGS Name: PICNIC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484205.53	943020.70		

NGS ACRN: TC0985 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SEE DESCRIPTION	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF RAINY RIVER, 3.1 MILES EAST OF THE TOWN OF RAINY RIVER, 590.4 FEET EAST OF THE PIER, WHICH IS NEAR THE MOUTH OF A CREEK, ON THE EDGE OF THE BANK, 3.3 FEET ABOVE AND 19.7 FEET BACK FROM THE RIVER'S EDGE, THREE PILES BEAR SOUTHWEST 147.6 FEET FROM STATION PICNIC, A CROSS CUT IN A BURIED GRANITE BOULDER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.521 12B = -95.495 09 = -95.394 03 = -95.446

PIER

Mn/DOT Name: PIER

NGS Name: PIER

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483239.22	932908.46		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1924	GOOD	Horz=? Vert=?	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2009)

Stamping:

ON THE NORTH BANK OF RAINY RIVER, 6.3 MILES SOUTHWEST OF FORT FRANCES.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.161 12B = -100.151 09 = -100.069 03 = -100.042

Mn/DOT Name: PIG
NGS Name: PIG
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB0987 Get Map
NGS Quad / Sta Num : 48093422/1010
USGS Quad: PELLAND

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483650.57	933234.21		2

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1966	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	TRIANGULATION STATION DISK	NGS

Description: (1966) **Stamping:** PIG 1923

7.0 MILES WEST OF FORT FRANCES, 6.0 MILES EAST OF DEVLIN, 0.35 MILE SOUTH ON TRACK ROAD FROM THE JUNCTION OF TRACK ROAD AND KINGS HIGHWAYS 11 AND 71 AT CROZIER THEN 972.0 FEET WEST ALONG THE RAILROAD TRACKS, 160.3 FEET EAST-SOUTHEAST OF A SWITCH AT THE EAST END OF SIDING, 58.7 FEET WEST-NORTHWEST OF A TELEPHONE POLE NUMBER 5, 49.6 FEET SOUTH OF A WHITE SIGN POST, 10.8 FEET SOUTH OF THE SOUTH RAIL OF THE RAILROAD TRACKS, 10.0 FEET POLE PLACED IN A HOLE NEXT TO THE SURFACE MONUMENT LYING ON ITS SIDE, THE UNDERGROUND STATION MONUMENT APPEARS OKAY.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -99.921 12B = -99.947 09 = -99.869 03 = -99.924

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 36 50.56724	93 32 34.21445			.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 36 50.55488	93 32 34.22848			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 36 50.75313	93 32 33.68452			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1509149.569	17666286.207	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1509148.618	17666284.962	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	Y	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
1892904.900	771438.420			.100		CLASSICAL SURVEY	1950	UNK

PIG RM

Mn/DOT Name: PIG RM

NGS Name: PIG RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483650.00	933234.00		

NGS ACRN: CO8095 Get Map
NGS Quad / Sta Num : 48093422/
USGS Quad: PELLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1966	SEE DESCRIPTION	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	REFERENCE MARK DISK	NGS

Description: (1923) **Stamping:** PIG 1923

7.0 MILES WEST OF FORT FRANCES, 6.0 MILES EAST OF DEVLIN, 0.35 MILE SOUTH ON TRACK ROAD FROM THE JUNCTION OF TRACK ROAD AND KINGS HIGHWAYS 11 AND 71, 78.0 FEET NORTHEAST OF STATION PIG.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -99.921 12B = -99.947 09 = -99.869 03 = -99.924

PILE

Mn/DOT Name: PILE

NGS Name: PILE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483142.38	933442.70		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093422/
USGS Quad: PELLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1914	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2009)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 3.0 MILES SOUTH WEST OF ISHERWOOD.

Station Notes

SUBSURFACE MARK IS A BOTTLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -99.524 12B = -99.521 09 = -99.435 03 = -99.406

PINE

Mn/DOT Name: PINE
NGS Name: PINE
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483717.44	934911.34		

NGS ACRN: TB1009 Get Map
NGS Quad / Sta Num : 48093432/1011
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1925	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	NGS

Description: (1925) **Stamping:** PINE 1923

1.0 MILE EAST OF EMO, AT 2ND CURVE ON A RAILROAD EAST OF EMO, 6.0 FEET NORTH OF THE JUNCTION OF THE SOUTH RAIL FROM THE EAST AND THE NORTHEAST RAIL FROM THE NORTHWEST, 46.3 FEET NORTHEAST OF PINE RM.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -98.058 12B = -98.064 09 = -97.969 03 = -98.041

Lat/Lon and County Coordinates (Feet)

NAD83(1986)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 37 17.42714	93 49 11.34287			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 37 17.58651	93 49 10.74168			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1986)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1442200.857	17669604.751	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	Y	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
1825929.860	774661.420			.100		CLASSICAL SURVEY	1950	UNK

PINE 1914

Mn/DOT Name: PINE 1914 **NGS Name:** PINE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0987 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484241.04	941832.97		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1947	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
OBJECT DRIVEN INTO THE GROUND	METAL ROD	NGS

Description: (1914) **Stamping:**

ON THE NORTH BANK OF THE RAINY RIVER, ON THE EAST SIDE OF THE MOUTH OF PINE CREEK, 656.0 FEET WEST OF THE PINEWOOD CATHOLIC CHURCH, 13.1 FEET ABOVE AND ABOUT 19.7 FEET BACK FROM THE RIVER'S EDGE, 88.6 FEET EAST OF A FENCE, A 0.75 INCH DIAMETER IRON ROD, 5.4 FEET SOUTH OF BOUNDARY REF MON 116.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.473 12B = -96.466 09 = -96.368 03 = -96.381

PINE RM

Mn/DOT Name: PINE RM

NGS Name: PINE RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483717.00	934911.00		

NGS ACRN: CO8099 Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1923	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (1923) **Stamping:**

1.0 MILES EAST OF EMO, AT 2ND CURVE ON A RAILROAD EAST OF EMO, 46.3 FEET SOUTHWEST OF STATION PINE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.058 12B = -98.064 09 = -97.969 03 = -98.041

PINEWOOD

Mn/DOT Name: PINEWOOD
NGS Name: PINEWOOD
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484317.10	941852.84		1

NGS ACRN: TC0551 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1947	NOT FOUND	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	SURVEY DISK	IBWC

Description: (1913) **Stamping:**

ON THE NORTH SIDE OF THE RAINY RIVER, ONTARIO, 0.75 MILE NORTHWEST OF PINEWOOD, ONTARIO, ON A ROCK ABOUT 147.64 FEET ABOVE THE SURFACE OF THE RIVER.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1171.257	.131		1075.109	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -96.483 12B = -96.483 09 = -96.374 03 = -96.404

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 43 17.09565	94 18 52.84412			.033	1	ADJUSTMENT	1999	17648

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1323183.075	17707711.816	.033	1	ADJUSTMENT	1999	17648

PIPP

Mn/DOT Name: PIPP **NGS Name:** PIPP

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484001.02	940441.30		2

NGS ACRN: TC0536 Get Map
NGS Quad / Sta Num : 48094121/1006
USGS Quad: BIRCHDALE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1969	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	TRIANGULATION STATION DISK	NGS

Description: (1969) **Stamping:** PIPP 1923

0.05 MILES SOUTH ON A GRAVEL ROAD FROM BARWICK CONSOLIDATED SCHOOL THEN WEST 4.7 MILES ON KINGS HIGHWAY 11, 78.0 FEET NORTHEAST OF A HIGHWAY, 63.0 FEET NORTH OF A TELEPHONE POLE NUMBER 8, 5.2 FEET SOUTH OF THE SOUTH RAIL OF THE RAILROAD TRACKS, 42.56 FEET NORTHEAST OF PIPP RM 1, 95.10 FEET EAST OF PIPP RM 2.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -97.257 12B = -97.267 09 = -97.172 03 = -97.116

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 40 01.02179	94 04 41.29941			.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 40 01.00719	94 04 41.30274			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 40 01.14251	94 04 40.65849			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	UTM - Zone 15 Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
		1379978.748	17686953.349	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	UTM - Zone 15 Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
		1379978.504	17686951.873	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	MN State Plane - North Zone Y	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
1763661.980	791921.600			.100		CLASSICAL SURVEY	1950	UNK

PIPP AZ MK

Mn/DOT Name: PIPP AZ MK

NGS Name: PIPP AZ MK

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483953.00	940408.00		

NGS ACRN: CO8109 Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1969	GOOD	Horz=? Vert=YES	NO		PROJECTS 6 IN.	SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SEE DESCRIPTION	NGS

Description: (1967)

Stamping: PIPP 1923

0.05 MILES SOUTH ON A GRAVEL ROAD FROM BARWICK CONSOLATED SCHOOL THEN WEST 4.7 MILES ON KINGS HIGHWAY 11, 62.0 FEET SOUTH OF THE CENTER OF THE HIGHWAY, 21.0 FEET WEST OF A DRIVEWAY, 2.5 FEET SOUTH OF A POWER POLE NUMBER 827, 2.0 FEET WEST OF A METAL WITNESS POST.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.287 12B = -97.296 09 = -97.195 03 = -97.145

PIPP RM 1

Mn/DOT Name: PIPP RM 1 **NGS Name:** PIPP RM 1

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0539 Get Map
NGS Quad / Sta Num : 48094121/1006
USGS Quad: BIRCHDALE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484000.65	940441.61		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1967	1967	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (1967) **Stamping:** PIPP NO 1 1923

0.05 MILE SOUTH ON A GRAVEL ROAD FROM BARWICK CONSOLIDATED SCHOOL THEN 4.7 MILES WEST ON KINGS HIGHWAY, 37.0 FEET NORTHEAST OF THE HIGHWAY, 42.56 FEET SOUTHWEST OF STATION PIPP, 48.0 FEET EAST OF A TELEPHONE POLE NUMBER 8, 47.1 FEET SOUTHEAST OF THE SOUTH RAIL OF THE RAILROAD TRACKS, 3.4 FEET NORTHWEST OF A WITNESS POST.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -97.257 12B = -97.267 09 = -97.168 03 = -97.116

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 40 00.65416	94 04 41.60578			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 40 00.63916	94 04 41.60945			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 40 00.77488	94 04 40.96482			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	UTM - Zone 15 Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
		1379957.665	17686916.398	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	UTM - Zone 15 Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
		1379957.397	17686914.882	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	MN State Plane - North Zone Y	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
1763640.950	791884.610			.100		CLASSICAL SURVEY	1950	UNK

PIPP RM 2

Mn/DOT Name: PIPP RM 2 **NGS Name:** PIPP RM 2

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484000.00	940441.00		

NGS ACRN: TC1405 Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1969	GOOD	Horz=? Vert=YES	NO		PROJECTS 5 IN.	SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SEE DESCRIPTION	NGS

Description: (1967) **Stamping:** PIPP NO 2 1923

0.05 MILES SOUTH ON A GRAVEL ROAD FROM BARWICK CONSOLIDATED SCHOOL THEN WEST 4.7 MILES ON KINGS HIGHWAY 11, 48.0 FEET NORTHEAST OF THE HIGHWAY, 35.8 FEET SOUTHWEST OF THE SOUTH RAIL OF THE RAILROAD TRACK, 35.0 FEET NORTHWEST OF A TELEPHONE NUMBER 8, 1.7 FEET NORTHEAST OF A METAL WITNESS POST.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.257 12B = -97.264 09 = -97.168 03 = -97.113

PISTOL

Mn/DOT Name: PISTOL

NGS Name: PISTOL

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483832.17	940142.11		

NGS ACRN: TC0988 Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1947	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.5 MILES EAST OF THE HEAD OF LONG SAULT RAPIDS, 0.3 MILE EAST OF THE EASTERN LIMIT OF THE OLD INDIAN RESERVE, 23.0 FEET ABOVE AND 55.8 FEET BACK FROM HIGH - WATER LINE, 19.7 FEET EAST OF AN OLD FENCE, A CROSS CUT IN A STONE OVER A BURIED BOTTLE, 55.0 FEET SOUTH OF REF MON 161.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.326 12B = -97.329 09 = -97.224 03 = -97.195

PLUMB

Mn/DOT Name: PLUMB

NGS Name: PLUMB

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483833.32	940212.21		

NGS ACRN: TC0991 Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1947	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.0 MILE EAST OF THE HEAD OF LONG SAULT RAPIDS, 0.4 MILE EAST OF THE MOUTH OF THE STURGEON RIVER, 246.0 FEET WEST OF THE EAST LINE OF THE INDIAN RESERVATION, NEAR SOME LEANING BIRCH TREES, 13.1 FEET ABOVE THE WATER, A CROSS CUT IN A STONE OVER A BURIED BOTTLE, 38.3 FEET SOUTHWEST FROM BOUNDARY REF MON 159.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.283 12B = -97.290 09 = -97.185 03 = -97.155

Mn/DOT Name: POINT
NGS Name: POINT
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484434.71	943812.31		1

NGS ACRN: TC0624 Get Map
NGS Quad / Sta Num : 48094424/
USGS Quad: PITT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	IBWC

Description: (1914)
Stamping:

IN THE WILD LANDS RESERVE, SECTION 51, ON THE RIGHT SIDE OF THE RAINY RIVER, 2.5 MILES NORTHWEST OF A BRIDGE BETWEEN BAUDETTE AND THE RAINY RIVER, CLOSE TO THE SHORE, WEST OF A SMALL CREEK, 677.3 FEET EAST OF BOUNDARY REF MON 77.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1066.271	.131		971.235	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -95.433 12B = -95.394 09 = -95.321 03 = -95.334

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 44 34.71311	94 38 12.30770			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 44 34.69060	94 38 12.29797			.033	1	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 44 34.86100	94 38 11.51700			.100	1	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1245637.743	17717079.004	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1245638.346	17717076.710	.033	1	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	1	CLASSICAL SURVEY	1982	17020

POINT IBC

Mn/DOT Name: POINT IBC

NGS Name: POINT IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482548.12	922900.98		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092244/
USGS Quad: REDHORSE BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

8.8 MILES SOUTHEAST OF KETTLE FALLS, ON THE EAST SHORE OF NAMAKAN NARROWS.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.203 12B = -104.176 09 = -104.143 03 = -104.196

POINT IBC 2

Mn/DOT Name: POINT IBC 2

NGS Name: POINT IBC 2

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480716.17	914124.10		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1915)

Stamping:

ON THE NORTH BANK OF THE BASSWOOD RIVER, ABOUT 0.1 MILE NORTH OF WHEELBARROW FALLS, STATION POINT IBC 2 IS ON A LEDGE OF A ROCK ABOUT 19.7 FEET BACK FROM AND ABOUT 19.7 FEET ABOVE THE SHORE LINE.

Station Notes

A BRONZE DISK SET IN THE LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.402 12B = -103.425 09 = -103.382 03 = -103.133

POINT LAC LA CROIX

Mn/DOT Name: POINT LAC LA CROIX
NGS Name: POINT LAC LA CROIX
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481750.61	921824.44		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092242/
USGS Quad: SNOW BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=YES Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (1916)
Stamping:

ON THE WEST SHORE OF LAC LA CROIX, 1.4 MILE NORTH OF THE PORTAGE TO LOON LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.947 12B = -103.927 09 = -103.907 03 = -103.937

POINT LOON RIVER

Mn/DOT Name: POINT LOON RIVER

NGS Name: POINT LOON RIVER

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481357.76	922031.74		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

7.1 MILES SOUTHEAST OF CRANE LAKE, ON THE NORTH SHORE OF THE LOON RIVER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.471 12B = -103.468 09 = -103.392 03 = -103.435

POISSON

Mn/DOT Name: POISSON

NGS Name: POISSON

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484233.85	941856.87		

NGS ACRN: TC0993 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.5 MILE WEST OF PINEWOOD, 0.2 MILE WEST OF THE MOUTH OF PINE CREEK, IN A HAYFIELD, 26.2 FEET ABOVE AND 88.6 FEET BACK FROM THE RIVER'S EDGE, 45.9 FEET FROM THE SOUTH SIDE OF THE FIELD AND A SCRUB OAK, 164.0 FEET WEST OF A FENCE, A CROSS CUT IN A ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.430 12B = -96.427 09 = -96.322 03 = -96.338

PONY

Mn/DOT Name: PONY

NGS Name: PONY

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	25	68 N	15 W	482113.41	921251.14		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092213/
USGS Quad: TAKUCMICH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (1921)

Stamping:

1.0 MILE EAST OF BOUNDARY REF MON 519.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.501 12B = -104.465 09 = -104.452 03 = -104.524

Mn/DOT Name: POP

NGS Name: POP

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483546.80	932607.86		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	DRILL HOLE	IBWC

Description: (1913)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 2.3 MILES SOUTHWEST OF FORT FRANCES, 295.2 FEET BELOW THE MOUTH OF A CREEK, 3.3 FEET ABOVE THE WATER, A DRILL HOLE IN A ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.603 12B = -100.610 09 = -100.515 03 = -100.505

POPLAR

Mn/DOT Name: POPLAR **NGS Name:** POPLAR

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484629.70	944051.52		3

NGS ACRN: TC0994 Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	UNKNOWN	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	UNMONUMENTED	IBWC

Description:

LOCATED ON THE SHORE OF THE RAINY RIVER, CANADA.

Stamping:

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1069.552	.262		974.427	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -95.548 12B = -95.528 09 = -95.443 03 = -95.433

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 46 29.70431	94 40 51.52400			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 46 29.67576	94 40 51.50883			.131	3	ADJUSTMENT	1989	17085

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1235227.848	17728959.816	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1235228.800	17728956.901	.131	3	ADJUSTMENT	1989	17085

POPLAR IBC

Mn/DOT Name: POPLAR IBC

NGS Name: POPLAR

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481829.49	922602.27		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

3.9 MILES NORTHEAST OF CRANE LAKE, ON THE EAST SIDE OF THE LITTLE VERMILION NARROWS.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.648 12B = -103.635 09 = -103.599 03 = -103.622

POUNDER

Mn/DOT Name: POUNDER

NGS Name: POUNDER

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484302.20	943406.51		

NGS ACRN: TC0995 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1969	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
OBJECT DRIVEN INTO THE GROUND	METAL ROD	NGS

Description: (1969)

Stamping:

ON THE NORTH SIDE OF THE RAINY RIVER, NEAR FOOT OF FOURTH STREET IN RAINY RIVER, IN THE EDGE OF THE ROAD UNDER THE GRAVEL IN THE CURVE ON THE SOUTHWEST CORNER OF THE INTERSECTION OF FOURTH STREET AND THE STREET ALONG THE WATERFRONT JUST NORTH OF A DOCK, 14.4 FEET EAST-NORTHEAST OF REF MON 90 37, A STANDARD DEPARTMENT OF PUBLIC WORKS MARKER, A 0.75 INCH DIAMETER ROUND IRON ROD, 3.0 FEET LONG, DRIVEN INTO THE GROUND.

Station Notes

THE MARK IS ALSO KNOWN AS DPW H, THE TOP 6.0 INCHES ARE BENT TOWARD THE MONUMENT AND COVERED BY GRAVEL, SO AS NOT TO OBSTRUCT TRAFFIC TURNING THE CORNER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.430 12B = -95.387 09 = -95.305 03 = -95.344

R L 113

Mn/DOT Name: R L 113 **NGS Name:** R L 113

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482958.12	923828.56		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092314/
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1914) **Stamping:** U.S. & C.B. SURVEY

0.3 MILE SOUTH OF KETTLE FALLS, ON KETTLE ISLAND ON NAMAKAN LAKE, ON THE STEEP TIMBER COVERED HILLSIDE, NEAR THE TOP OF THE SLOPE, 590.4 FEET FROM THE SOUTH END OF THE DAM, 49.2 FEET FROM THE SHORE, 32.8 FEET ABOVE THE LAKE LEVEL.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.068 12B = -104.039 09 = -103.983 03 = -104.019

R L 15

Mn/DOT Name: R L 15 **NGS Name:** R L 15

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483750.53	931010.54		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093124/
USGS Quad: ISLAND VIEW OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1913) **Stamping:** U.S. & C.B. SURVEY

ON THE NORTHEAST POINT OF RED PINE ISLAND IN RAINY LAKE, 6.6 FEET ABOVE THE LAKE LEVEL, 19.7 FEET FROM THE NORTH SHORE, 19.7 FEET FROM THE SOUTH SHORE, 19.7 FEET FROM THE EAST SHORE, IN A ROCK LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.257 12B = -102.205 09 = -102.113 03 = -102.139

R L 16

Mn/DOT Name: R L 16 **NGS Name:** R L 16

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: CU8292 Get Map
NGS Quad / Sta Num : 48093124/
USGS Quad: ISLAND VIEW OE N

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483809.00	931012.00		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	IBWC

Description: (1913) **Stamping:** U.S. & C.B. SURVEY

ON THE SOUTH END OF A TIMBERED ISLAND IN RAINY LAKE, 4.9 FEET ABOVE THE LAKE LEVEL, 147.6 FEET FROM THE EAST SHORE, 4.9 FEET FROM THE SOUTH SHORE, 49.2 FEET FROM THE WEST SHORE, IN A ROCK LEDGE.

*** No Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.287 12B = -102.231 09 = -102.142 03 = -102.165

Lat/Lon and County Coordinates (Feet)

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 38 09.62000	93 10 11.50000			.100	3	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	3	CLASSICAL SURVEY	1982	17020

Mn/DOT Name: R L 17 **NGS Name:** R L 17

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483748.74	931002.13		3

NGS ACRN: TB0863 Get Map
NGS Quad / Sta Num : 48093124/
USGS Quad: ISLAND VIEW OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	IBWC

Description: (1913) **Stamping:** U.S. & C.B. SURVEY

ON THE WESTERN TIP OF ANGLING ISLAND IN THE RAINY RIVER, ON A ROCK THAT IS 3.3 FEET BY 3.3 FEET BY 6.6 FEET, 4.9 FEET ABOVE THE WATER LEVEL, 8.2 FEET FROM THE EDGE OF THE WATER.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1108.922	.262		1006.983	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -102.267 12B = -102.214 09 = -102.126 03 = -102.152

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 37 48.73611	93 10 02.13024			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 37 48.72524	93 10 02.14425			.131	3	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 37 49.04000	93 10 01.50000			.100	3	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1599983.644	17671756.625	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1599982.700	17671755.526	.131	3	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	3	CLASSICAL SURVEY	1982	17020

R L 18

Mn/DOT Name: R L 18 **NGS Name:** R L 18

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483740.14	931015.47		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093124/
USGS Quad: ISLAND VIEW OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1913) **Stamping:** U.S. & C.B. SURVEY

ON AN EAST POINT OF RED PINE ISLAND IN RAINY LAKE, 0.2 MILE SOUTH OF THE END OF THE POINT ON WHICH R L 15 IS LOCATED, ON THE FIRST POINT SOUTH OF THE ONE ON WHICH THERE IS AN OLD CABIN, 19.7 FEET FROM THE END OF THE POINT, 8.2 FEET FROM THE SHORE ON EITHER SIDE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.234 12B = -102.182 09 = -102.090 03 = -102. 116

R L 19

Mn/DOT Name: R L 19 **NGS Name:** R L 19

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483740.77	930950.86		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093124/
USGS Quad: ISLAND VIEW OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1913) **Stamping:** U.S. & C.B. SURVEY

ON THE SOUTHERN POINT OF ANGLING ISLAND IN THE RAINY RIVER, 19.7 FEET FROM THE SOUTH SHORE, 4.9 FEET FROM A 10.0 INCH DIAMETER PINE STUMP.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.273 12B = -102.221 09 = -102.129 03 = -102.159

R L 23

Mn/DOT Name: R L 23

NGS Name: R L 23

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483740.34	930746.81		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093124/
USGS Quad: ISLAND VIEW OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1913) **Stamping:** U.S. & C.B. SURVEY

ON A SMALL ROCKY ISLAND IN RAINY LAKE, 0.2 MILE SOUTH OF SAND POINT ISLAND, 0.2 MILE NORTH OF CAPSTAN ROCK, NEAR THE HIGHEST POINT OF THE ISLAND.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.454 12B = -102.401 09 = -102.313 03 = -102.352

R L 25

Mn/DOT Name: R L 25 **NGS Name:** R L 25

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483741.05	930647.47		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093121/
USGS Quad: CRANBERRY BAY OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1913) **Stamping:** U.S. & C.B. SURVEY

ON THE MOST SOUTHERN POINT OF SAND POINT ISLAND IN RAINY LAKE, 1.0 MILE EAST OF CAPSTAN ROCK, IN THE TIMBER, 18.0 FEET ABOVE THE LAKE LEVEL, AND 29.5 FEET FROM THE SHORE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.536 12B = -102.483 09 = -102.392 03 = -102.437

Mn/DOT Name: R L 27 **NGS Name:** R L 27

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: CU8288 Get Map
NGS Quad / Sta Num : 48093121/
USGS Quad: CRANBERRY BAY OE N

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483749.00	930523.00		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1925	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	IBWC

Description: (1925) **Stamping:**

ON A SMALL ISLAND IN RAINY LAKE, 0.5 MILE NORTH OF POWDER (LOBSTICK) ISLAND, 0.5 MILE EAST OF THE BUILDINGS ON THE SOUTH SHORE OF SANDPOINT ISLAND, THE ISLAND IS 164.0 FEET LONG AND 39.4 FEET WIDE, ON THE HIGHEST POINT OF THE ISLAND, 0.2 FOOT FROM BOUNDARY REF MON 277.

*** No Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.670 12B = -102.608 09 = -102.513 03 = -102.565

Lat/Lon and County Coordinates (Feet)

NAD27

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 37 49.64000	93 05 22.76000			.100	3	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD27

X	Y	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
				.100	3	CLASSICAL SURVEY	1982	17020

R L 28

Mn/DOT Name: R L 28 **NGS Name:** R L 28

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483841.16	931226.21		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093124/
USGS Quad: ISLAND VIEW OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1913) **Stamping:**

ON THE SOUTHERN END OF A SMALL ISLAND IN RAINY LAKE, 0.25 MILE NORTH OF EIGHTMILE ISLAND, 18.0 FEET ABOVE THE LAKE LEVEL, 72.2 FEET FROM THE SOUTH SHORE, 147.6 FEET FROM THE WEST AND EAST SHORES, 0.4 FOOT FROM BOUNDARY REF MON 271.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.116 12B = -102.073 09 = -101.981 03 = -102.001

R L 29

Mn/DOT Name: R L 29 **NGS Name:** R L 29

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483840.00	931255.00		

NGS ACRN: CU8293 Get Map
NGS Quad / Sta Num : 48093124/
USGS Quad: ISLAND VIEW OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	IBWC

Description: (1913) **Stamping:** U.S. & C.B SURVEY

ON THE SOUTHERN POINT OF A LARGE ISLAND IN RAINY LAKE, 6.5 MILES EAST OF RANIER, 0.5 MILE NORTHWEST OF EIGHTMILE ISLAND, 1.5 MILES WEST OF DUNSMORE ISLAND, 9.8 FEET ABOVE THE WATER, 19.7 FEET FROM THE EAST SHORE, 49.2 FEET FROM THE SOUTH SHORE, 39.4 FROM THE WEST SHORE, IN A ROCK LEDGE.

*** No Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.067 12B = -102.024 09 = -101.935 03 = -101.952

Lat/Lon and County Coordinates (Feet)

NAD27

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 38 40.19000	93 12 54.76000			.100	3	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD27

X	Y	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
				.100	3	CLASSICAL SURVEY	1982	17020

R L 3

Mn/DOT Name: R L 3 **NGS Name:** R L 3

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483812.20	932116.44		3

NGS ACRN: TB0871 Get Map
NGS Quad / Sta Num : 48093131/
USGS Quad: RANIER OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	IBWC

Description: (1913) **Stamping:**

ON THE NORTH SHORE OF RAINY LAKE, 1.3 MILES NORTH-NORTHEAST OF FORT FRANCIS, ALONG CANADIAN HIGHWAY 11, ON A ROCKY KNOLL, 98.4 FEET FROM AN OLD CHURCH, 196.8 FEET FROM THE SHORE, 0.7 FOOT FROM BOUNDARY REF MON 267.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1115.483	.262		1014.526	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -101.224 12B = -101.204 09 = -101.128 03 = -101.128

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 38 12.20399	93 21 16.44339			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 38 12.19239	93 21 16.45729			.131	3	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 38 12.50000	93 21 15.80000			.100	3	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1554714.636	17674288.732	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1554713.697	17674287.561	.131	3	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	3	CLASSICAL SURVEY	1982	17020

R L 31

Mn/DOT Name: R L 31 **NGS Name:** R L 31

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: CU8294 Get Map
NGS Quad / Sta Num : 48093124/
USGS Quad: ISLAND VIEW OE N

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483859.00	931404.00		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	IBWC

Description: (1913) **Stamping:** U.S. & C.B. SURVEY

ON THE SOUTHERN END OF SCOTT ISLAND IN RAINY LAKE, 6.0 MILES EAST OF RANIER, 8.2 FEET ABOVE THE LAKE LEVEL, 16.4 FEET FROM THE SOUTH SHORE, IN A ROCK LEDGE.

*** No Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -101.981 12B = -101.945 09 = -101.857 03 = -101.870

Lat/Lon and County Coordinates (Feet)

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 38 59.59000	93 14 03.73000			.100	3	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	3	CLASSICAL SURVEY	1982	17020

R L 32

Mn/DOT Name: R L 32 **NGS Name:** R L 32

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483838.28	931435.58		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093124/
USGS Quad: ISLAND VIEW OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1913) **Stamping:** U.S. & C.B SURVEY

ON THE EASTERN END OF A SMALL LOW TIMBER COVERED ISLAND IN RAINY LAKE, 5.2 MILES EAST OF RAINER, 16.4 FEET FROM THE EAST SHORE, 4.9 FEET FROM THE NORTH SHORE, AND 4.9 FEET FROM THE SOUTH SHORE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -101.896 12B = -101.860 09 = -101.771 03 = -101.788

R L 33

Mn/DOT Name: R L 33 **NGS Name:** R L 33

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483845.41	931430.53		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093124/
USGS Quad: ISLAND VIEW OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1913) **Stamping:** U.S. & C.B SURVEY

ON THE SOUTHERN END OF A SMALL HIGH TIMBER COVERED ISLAND IN RAINY LAKE, 5.5 MILES EAST OF RAINER, 4.9 FEET ABOVE THE LAKE LEVEL, 29.5 FEET FROM THE SOUTH SHORE, ON A ROCK LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -101.916 12B = -101.880 09 = -101.791 03 = -101.808

R L 34

Mn/DOT Name: R L 34 **NGS Name:** R L 34

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483742.31	931056.82		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093124/
USGS Quad: ISLAND VIEW OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1925	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1925) **Stamping:**

ON THE WEST END OF A SMALL ISLAND IN RAINY LAKE IN BETWEEN RED SUCKER ISLAND AND RED PINE ISLAND , 3.3 FEET ABOVE THE LAKE LEVEL, 16.4 FEET FROM THE SOUTH SHORE, 26.2 FEET FROM THE WEST SHORE AND 39.4 FEET FROM THE NORTH SHORE, 39.4 FEET SOUTH OF A BLAZED PINE TREE MARKED 91245, IN A ROCK LEDGE, 0.3 FOOT FROM STATION BOUNDARY REF MON 274.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.168 12B = -102.122 09 = -102.027 03 = -102.050

R L 36

Mn/DOT Name: R L 36 **NGS Name:** R L 36

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483736.17	931050.85		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093124/
USGS Quad: ISLAND VIEW OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1913) **Stamping:**

ON THE SOUTHWESTERN POINT OF RED PINE ISLAND IN RAINY LAKE, 3.3 FEET ABOVE THE LAKE LEVEL, 26.2 FEET FROM THE SOUTH SHORE, 6.6 FEET FROM THE NORTH SHORE, 16.4 FEET FROM THE WEST SHORE, 0.4 FOOT FROM BOUNDARY REF MON 275.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.168 12B = -102.122 09 = -102.027 03 = -102.054

R L 38

Mn/DOT Name: R L 38 **NGS Name:** R L 38

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483730.24	931030.41		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093124/
USGS Quad: ISLAND VIEW OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1913) **Stamping:** U.S. & C.B. SURVEY

ON A SOUTHERN POINT OF RED PINE ISLAND IN RAINY LAKE, IN THE MIDDLE OF THE END OF THE ROCKY POINT WHICH EXTENDS INTO THE LAKE, AT THE EDGE OF SOME PINES, 2.3 FEET ABOVE THE LAKE LEVEL, 29.5 FEET NORTH OF THE SHORE LINE, IN A ROCK LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.195 12B = -102.145 09 = -102.050 03 = -102.077

R L 40

Mn/DOT Name: R L 40 **NGS Name:** R L 40

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483803.48	930324.63		3

NGS ACRN: TB0849 Get Map
NGS Quad / Sta Num : 48093121/
USGS Quad: CRANBERRY BAY OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	IBWC

Description: (1913) **Stamping:**

ON A SMALL ISLAND IN RAINY LAKE, 0.75 MILE SOUTH OF THE EXTREME EASTERN TIP OF SAND POINT ISLAND, 1.0 MILE NORTH OF THE STEAMBOAT CHANNEL, 1.75 MILES NORTHEAST OF POWDER ISLAND, THE ISLAND IS 164.0 FEET WIDE AND 590.4 FEET LONG, 32.8 FEET EAST OF THE HIGHEST POINT OF THE ISLAND, 9.8 FEET ABOVE THE LAKE LEVEL, 39.4 FEET FROM THE NORTH SHORE, 147.6 FEET FROM THE EAST SHORE AND 98.4 FEET FROM THE SOUTH SHORE, IN A ROCK LEDGE.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1108.922	.262		1006.399	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -102.854 12B = -102.785 09 = -102.693 03 = -102.759

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 38 03.48356	93 03 24.63246			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 38 03.47319	93 03 24.64824			.131	3	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 38 03.79000	93 03 24.03000			.100	3	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1626676.715	17673211.413	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1626675.654	17673210.364	.131	3	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	3	CLASSICAL SURVEY	1982	17020

R L 43

Mn/DOT Name: R L 43

NGS Name: R L 43

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483646.44	925631.73		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092433/
USGS Quad: SOLDIER POINT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1913) **Stamping:** U.S. & C.B. SURVEY

ON A BARE FLAT ROCK IN RAINY LAKE, 18.6 MILES EAST OF RANIER, 229.6 FEET WEST OF AN ISLAND, THE ROCK IS 98.4 FEET LONG, ON THE EASTERN END OF THE ROCK, 1.6 FEET ABOVE THE LAKE LEVEL, 9.8 FEET FROM THE EAST END OF THE ROCK, 14.8 FEET FROM THE NORTH AND SOUTH SIDES OF THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.294 12B = -103.215 09 = -103.136 03 = -103.238

R L 46

Mn/DOT Name: R L 46

NGS Name: R L 46

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483752.40	925749.70		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092443/
USGS Quad: SOLDIER POINT OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1913) **Stamping:** U.S. & C.B SURVEY

ON A SMALL TIMBERED ISLAND IN RAINY LAKE, 17.7 MILES EAST OF RANIER, 0.5 MILE SOUTHWEST OF BALD ISLAND, ON THE HIGHEST POINT AND THE SOUTHEASTERN PART OF THE ISLAND, 19.7 FEET ABOVE THE LAKE LEVEL, 98.4 FEET FROM THE EAST SHORE, 49.2 FEET FROM THE SOUTH SHORE, IN A ROCK LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.258 12B = -103.182 09 = -103.103 03 = -103.208

R L 47

Mn/DOT Name: R L 47 **NGS Name:** R L 47

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483731.49	925931.38		3

NGS ACRN: TB1140 Get Map
NGS Quad / Sta Num : 48092443/
USGS Quad: SOLDIER POINT OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	IBWC

Description: (1913) **Stamping:**

ON A SMALL ISLAND IN RAINY LAKE, 16.3 MILES EAST OF RANIER, ON THE HIGHEST POINT OF THE ISLAND, 11.5 FEET ABOVE THE LAKE LEVEL, MIDWAY BETWEEN THE EAST AND WEST ENDS OF THE ISLAND, 26.2 FEET FROM THE NORTH SHORE, 1.0 FOOT FROM BOUNDARY REF MON 280.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1118.764	.262		1015.976	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -103.107 12B = -103.031 09 = -102.953 03 = -103.044

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 37 31.49399	92 59 31.38391			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 37 31.48421	92 59 31.40142			.131	3	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 37 31.81000	92 59 30.78000			.100	3	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1642338.418	17669965.756	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1642337.243	17669964.765	.131	3	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	3	CLASSICAL SURVEY	1982	17020

R L 48

Mn/DOT Name: R L 48

NGS Name: R L 48

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483805.88	925605.05		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092443/
USGS Quad: SOLDIER POINT OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1913)

Stamping:

ON THE SOUTHWEST POINT OF A SMALL ISLAND IN RAINY LAKE, 19.0 MILES EAST OF RANIER, 1.75 MILES NORTH OF MACKENZIE ISLAND, 0.75 MILE EAST OF BALD ISLAND, 8.2 FEET ABOVE THE LAKE LEVEL, 29.5 FEET FROM THE WEST SHORE, 29.5 FEET FROM THE SOUTH SHORE, 124.6 FEET FROM THE SOUTHWEST TIP OF THE ISLAND, 1.5 FEET FROM BOUNDARY REF MON 284, IN A ROCK LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.402 12B = -103.327 09 = -103.245 03 = -103.366

R L 5

Mn/DOT Name: R L 5

NGS Name: R L 5

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: CU8295 Get Map
NGS Quad / Sta Num : 48093131/
USGS Quad: RANIER OE N

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483815.00	931844.00		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SEE DESCRIPTION	IBWC

Description: (1913) **Stamping:** U.S. & C.B SURVEY

ON THE SOUTH SIDE OF THE MOST SOUTHERN OF THE GROUP OF ISLANDS TO THE SOUTHEAST OF SQUALL POINT IN RAINY LAKE, 4.9 FEET ABOVE THE LAKE LEVEL, 9.8 FEET FROM THE LAKE SHORE, IN A ROCK LEDGE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -101.466 12B = -101.437 09 = -101.358 03 = -101.368

R L 50

Mn/DOT Name: R L 50

NGS Name: R L 50

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483634.37	925622.02		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092433/
USGS Quad: SOLDIER POINT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1925	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1925)

Stamping:

ON THE SOUTH END OF A LARGE ISLAND IN RAINY LAKE, 18.7 MILES EAST OF RANIER, JUST WEST OF MACKENZIE ISLAND, ON THE HIGHEST PART OF THE ISLAND, 26.2 FEET ABOVE THE LAKE LEVEL, 29.5 FEET FROM THE EAST SHORE, 177.1 FEET FROM THE SOUTH SHORE, 492.0 FEET FROM THE WEST SHORE, 1.3 FEET FROM BOUNDARY REF MON 286.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.294 12B = -103.218 09 = -103.140 03 = -103.238

R L 54

Mn/DOT Name: R L 54 **NGS Name:** R L 54

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483632.30	925549.08		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092433/
USGS Quad: SOLDIER POINT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1913) **Stamping:**

19.1 MILES EAST OF RANIER, ON THE SOUTHERN POINT OF MACKENZIE ISLAND IN RAINY LAKE, ON THE NORTH SIDE OF BRULE NARROWS, 3.3 FEET ABOVE THE LAKE LEVEL, 49.2 FEET FROM THE END OF THE POINT, 1.0 FOOT FROM BOUNDARY REF MON 287.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.336 12B = -103.261 09 = -103.182 03 = -103.281

R L 55

Mn/DOT Name: R L 55

NGS Name: R L 55

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483617.38	925522.01		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092433/
USGS Quad: SOLDIER POINT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1913) **Stamping:** U.S. & C.B. SURVEY

19.5 MILES EAST OF RANIER, ON AN ISLAND ON THE NORTH SIDE OF BRULE NARROWS IN RAINY LAKE, 0.25 MILE NORTH OF A LONE TREE, ON THE SOUTHWEST SIDE OF AN ISLAND, ON THE HIGHEST POINT OF AN ISLAND, 11.5 FEET ABOVE THE LAKE LEVEL, 147.6 FEET FROM THE NORTH SHORE, 196.8 FEET FROM THE WEST SHORE, 49.2 FEET FROM THE SOUTH SHORE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.363 12B = -103.284 09 = -103.205 03 = -103.300

R L 58

Mn/DOT Name: R L 58 **NGS Name:** R L 58

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483605.18	925501.05		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092433/
USGS Quad: SOLDIER POINT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1913) **Stamping:** U.S. & C.B. SURVEY

19.8 MILES EAST OF RANIER, ON THE WEST END OF A SMALL ISLAND ON THE NORTH SIDE OF BRULE NARROWS IN RAINY LAKE, 0.25 MILE EAST OF A LONE TREE, 6.6 FEET ABOVE THE LAKE LEVEL, 68.9 FEET FROM THE SOUTH SHORE OF AN ISLAND, 118.1 FEET FROM THE WEST SHORE OF AN ISLAND, 19.7 FEET FROM THE NORTH SHORE OF AN ISLAND.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.382 12B = -103.304 09 = -103.225 03 = -103.317

R L 61

Mn/DOT Name: R L 61

NGS Name: R L 61

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483600.23	925433.94		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092433/
USGS Quad: SOLDIER POINT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1913)

Stamping:

20.1 MILES EAST OF RANIER, ON THE WEST END OF THE LARGE ISLAND AT THE NORTH SIDE OF THE EAST ENTRANCE TO BRULE NARROWS IN RAINY LAKE, ON A HIGH POINT OF THE ISLAND, 14.8 FEET ABOVE THE LAKE LEVEL, 164.0 FEET SOUTHEAST OF THE HEAD OF A SMALL BAY, 164.0 FEET EAST OF SEVERAL TALL NORWAY PINE TREES, 98.4 FEET WEST OF A SWAMP, 0.9 FOOT FROM BOUNDARY REF MON 289.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.415 12B = -103.336 09 = -103.261 03 = -103.350

R L 62

Mn/DOT Name: R L 62

NGS Name: R L 62

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483549.06	925428.52		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092433/
USGS Quad: SOLDIER POINT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1913) **Stamping:** U.S. & C.B. SURVEY

20.1 MILES EAST OF RANIER, ON THE SOUTH END OF BRULE ISLAND ON THE NORTH SIDE OF THE EAST ENTRANCE TO BRULE NARROWS IN RAINY LAKE, AT THE END OF A POINT PROJECTING WEST, 0.75 MILE SOUTHEAST OF LONE TREE ISLAND, 3.3 FEET ABOVE THE LAKE LEVEL, 49.2 FEET FROM THE WEST END OF THE POINT.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.412 12B = -103.336 09 = -103.258 03 = -103.343

Mn/DOT Name: R L 63 **NGS Name:** R L 63

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB1130 Get Map
NGS Quad / Sta Num : 48092432/
USGS Quad: KEMPTON BAY

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483601.95	925143.28		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	IBWC

Description: (1913) **Stamping:**

22.3 MILES EAST OF RANIER, ON THE WEST POINT OF A LOW TIMBERED ISLAND NEAR THE NORTH SHORE OF RAINY LAKE, 1.5 MILES EAST OF THE EAST ENTRANCE TO BRULE NARROWS, 1.3 FEET ABOVE THE LAKE LEVEL, NORTHEAST OF TWO JACK PINE STUMPS, NORTHWEST OF A SINGLE STUMP.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1115.483	.262		1012.183	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -103.645 12B = -103.576 09 = -103.504 03 = -103.582

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 36 01.95247	92 51 43.27695			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 36 01.94454	92 51 43.30342			.131	3	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 36 02.26000	92 51 42.67000			.100	3	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1673791.148	17660924.994	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1673789.371	17660924.187	.131	3	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	3	CLASSICAL SURVEY	1982	17020

R L 64

Mn/DOT Name: R L 64 **NGS Name:** R L 64

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483530.07	925221.40		3

NGS ACRN: TB1131 Get Map
NGS Quad / Sta Num : 48092432/
USGS Quad: KEMPTON BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	IBWC

Description: (1913) **Stamping:**

21.8 MILES EAST OF RANIER, ON A SMALL LOW BOULDER COVERED ISLAND IN RAINY LAKE, 1.0 MILE EAST OF THE EAST ENTRANCE TO BRULE NARROWS, 0.2 MILE SOUTHEAST OF PATER NOSTER ISLAND, NEAR THE CENTER OF THE ISLAND, 1.0 FOOT ABOVE THE LAKE LEVEL.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1115.483	.262		1012.268	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -103.573 12B = -103.497 09 = -103.422 03 = -103.494

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 35 30.07436	92 52 21.39864			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 35 30.06599	92 52 21.42041			.131	3	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 35 30.39000	92 52 20.81000			.100	3	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1671235.164	17657691.213	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1671233.702	17657690.363	.131	3	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	3	CLASSICAL SURVEY	1982	17020

R L 66

Mn/DOT Name: R L 66

NGS Name: R L 66

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483552.40	925331.67		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092433/
USGS Quad: SOLDIER POINT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1925	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1925)

Stamping:

20.9 MILES EAST OF RANIER, ON A SMALL TIMBERED ISLAND IN RAINY LAKE, ON THE NORTH SIDE OF THE EAST ENTRANCE TO BRULE NARROWS, ON THE HIGHEST POINT OF THE ISLAND, 9.8 FEET ABOVE THE LAKE LEVEL, 1.2 FEET FROM BOUNDARY REF MON 292.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.494 12B = -103.418 09 = -103.343 03 = -103.425

R L 7

Mn/DOT Name: R L 7 **NGS Name:** R L 7

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483835.93	931651.37		3

NGS ACRN: TB0872 Get Map
NGS Quad / Sta Num : 48093131/
USGS Quad: RANIER OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	IBWC

Description: (1913) **Stamping:** U.S. & C.B SURVEY

ON THE SOUTHWEST POINT OF LOST ISLAND IN RAINY LAKE, 3.5 MILES NORTHEAST OF RANIER, 3.3 FEET ABOVE THE LAKE LEVEL, 3.3 FEET FROM THE LAKE SHORE, IN A ROCK LEDGE.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1108.922	.262		1007.550	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -101.673 12B = -101.640 09 = -101.555 03 = -101.568

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 38 35.92770	93 16 51.37187			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 38 35.91631	93 16 51.38553			.131	3	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 38 36.22000	93 16 50.73000			.100	3	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1572520.699	17676617.939	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1572519.778	17676616.789	.131	3	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	3	CLASSICAL SURVEY	1982	17020

R L 72

Mn/DOT Name: R L 72

NGS Name: R L 72

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483255.29	924431.74		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092423/
USGS Quad: KETTLE FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1914) **Stamping:** U.S. & C.B. SURVEY

28.1 MILES SOUTHEAST OF RANIER, ON THE SOUTH END OF A SMALL ISLAND IN RAINY LAKE, 8.0 MILES SOUTHEAST OF THE EAST ENTRANCE TO BRULE NARROWS, DUE SOUTH OF DEERHORN POINT, THE ISLAND IS COVERED WITH SMALL JACK PINES, 6.6 FEET ABOVE THE LAKE LEVEL, 49.2 FEET FROM THE WEST SHORE, 49.2 FEET FROM THE SOUTH SHORE, 75.4 FEET FROM THE EAST SHORE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.956 12B = -103.904 09 = -103.842 03 = -103.881

R L 73

Mn/DOT Name: R L 73 **NGS Name:** R L 73

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483349.93	924635.52		3

NGS ACRN: TB1122 Get Map
NGS Quad / Sta Num : 48092432/
USGS Quad: KEMPTON BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	IBWC

Description: (1914) **Stamping:**

26.4 MILES EAST OF RANIER, ON A ROCKY ISLAND IN RAINY LAKE, THE SOUTHWEST ISLAND OF A GROUP OF THREE ISLANDS CALLED GULL ROCKS, 6.0 MILES EAST OF THE EAST ENTRANCE TO BRULE NARROWS, 4.9 FEET ABOVE THE LAKE LEVEL, ON THE EASTERN END OF THE ISLAND.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1115.483	.262		1011.960	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -103.894 12B = -103.838 09 = -103.769 03 = -103.812

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 33 49.93084	92 46 35.51680			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 33 49.92638	92 46 35.54802			.131	3	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 33 50.26000	92 46 34.94000			.100	3	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1694508.448	17647599.844	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1694506.350	17647599.386	.131	3	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	3	CLASSICAL SURVEY	1982	17020

R L 77

Mn/DOT Name: R L 77

NGS Name: R L 77

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483241.86	924253.82		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092423/
USGS Quad: KETTLE FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1914) **Stamping:** U.S. & C.B. SURVEY

29.3 MILES SOUTHEAST OF RANIER, ON A SMALL ISLAND IN RAINY LAKE, 9.0 MILES SOUTHEAST OF THE EAST ENTRANCE OF BRULE NARROWS, 5.0 MILES NORTHWEST OF KETTLE FALLS, 0.6 MILE SOUTHWEST OF BLACKPOINT ISLAND, ON THE MOST EASTERN OF A GROUP OF ISLANDS, THE ISLAND IS A WHITE ROCK 98.4 FEET IN DIAMETER WITH ONE TALL WHITE PINE AND A FEW SMALL TREES, ON THE HIGHEST POINT NEAR THE CENTER OF THE ISLAND.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.048 12B = -103.999 09 = -103.943 03 = -103.979

R L 8

Mn/DOT Name: R L 8

NGS Name: R L 8

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483917.00	931526.00		

NGS ACRN: CU8296 Get Map
NGS Quad / Sta Num : 48093131/
USGS Quad: RANIER OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	IBWC

Description: (1913)

Stamping:

ON THE SOUTHERN POINT OF AN ISLAND IN RAINY LAKE, 98.4 FEET FROM THE WEST SHORE, 98.4 FEET FROM THE EAST SHORE, 98.4 FEET FROM THE SOUTH SHORE, IN A ROCK LEDGE, 0.4 FOOT FROM BOUNDARY REF MON 269.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -101.873 12B = -101.844 09 = -101.755 03 = -101.768

R L 82

Mn/DOT Name: R L 82 **NGS Name:** R L 82

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483131.13	923650.45		

NGS ACRN: Get Map
NGS Quad / Sta Num : /
Quad Name: N R Canada - 52C/10

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1914) **Stamping:** U.S. & C.B. SURVEY

1.9 MILES NORTHEAST OF KETTLE FALLS, ON THE NORTH SHORE OF OAK POINT ISLAND IN RAINY LAKE, ON THE MOST PROMINENT POINT ON THIS SIDE OF THE ISLAND, 13.1 FEET ABOVE THE LAKE LEVEL, 49.2 FEET FROM THE END OF THE POINT, 19.7 FEET FROM THE NORTHEAST SHORE, 78.7 FEET FROM THE SOUTHWEST SHORE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.331 12B = -104.294 09 = -104.248 03 = -104.278

R L 90

Mn/DOT Name: R L 90

NGS Name: R L 90

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483037.80	923733.51		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092423/
USGS Quad: KETTLE FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1925	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1925) **Stamping:** U.S. & C.B. SURVEY

0.8 MILE NORTHEAST OF KETTLE FALLS, ON OAK POINT ISLAND IN KETTLE RIVER, ON A HILLSIDE, 65.6 FEET ABOVE THE RIVER, 328.0 FEET FROM THE SHORE, DUE EAST OF THE FIRST NARROW PLACE IN THE RIVER ABOVE THE MOUTH, 53.4 FEET SOUTHEAST OF STATION DOG, 32.8 FEET SOUTHEAST OF DOG RM.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.196 12B = -104.160 09 = -104.114 03 = -104.147

R L 92

Mn/DOT Name: R L 92

NGS Name: R L 92

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483031.41	923740.99		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092423/
USGS Quad: KETTLE FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1914) **Stamping:** U.S. & C.B. SURVEY

0.7 MILE NORTHEAST OF KETTLE FALLS, ON OAK POINT ISLAND IN KETTLE RIVER, ON A HIGH BARE ROCK, AT THE POINT WHERE THE CHANNEL MAKES A BIG BEND TO THE LEFT, 705.2 FEET FROM THE END OF THE POINT, 426.4 FEET FROM THE SOUTH SHORE, 426.4 FEET FROM THE NORTHWEST SHORE, 72.2 FEET ABOVE THE RIVER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.176 12B = -104.143 09 = -104.094 03 = -104.130

R L 98

Mn/DOT Name: R L 98

NGS Name: R L 98

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483026.88	923745.81		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092423/
USGS Quad: KETTLE FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1914) **Stamping:** U.S. & C.B. SURVEY

0.6 MILE NORTHEAST OF KETTLE FALLS, ON OAK POINT ISLAND IN KETTLE RIVER, 0.1 MILE NORTH OF AN ISLAND, ON THE EAST SIDE OF A SMALL POINT, ON THE HIGHEST PART OF THE ROCK, 9.8 FEET ABOVE THE RIVER, 9.8 FEET FROM SHORE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.166 12B = -104.130 09 = -104.081 03 = -104.117

RABBIT

Mn/DOT Name: RABBIT

NGS Name: RABBIT

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481353.64	922106.72		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

6.7 MILES SOUTHEAST OF CRANE LAKE, ON THE NORTH SHORE OF THE LOON RIVER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.435 12B = -103.432 09 = -103.353 03 = -103.402

RACE

Mn/DOT Name: RACE

NGS Name: RACE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	29	68 N	15 W	482105.77	921655.53		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092242/
USGS Quad: SNOW BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (1921)

Stamping:

ON A PROMINENT POINT ON THE WEST SHORE OF LAC LA CROIX, 5.3 MILES NORTH OF THE PORTAGE TO LOON LAKE, 3473.0 FEET NORTH OF BOUNDARY REF MON 514.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.327 12B = -104.291 09 = -104.288 03 = -104.340

RAFT

Mn/DOT Name: RAFT

NGS Name: RAFT

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0996 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484016.38	941501.27		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	NGS

Description: (1914) **Stamping:**

ON THE EAST BANK, 0.25 MILE EAST BY NORTH OF THE FRONTIER SCHOOLHOUSE, ON A BENCH 19.7 FEET ABOVE AND 29.5 FEET BACK FROM THE RIVER'S EDGE, 131.2 FEET NORTH OF AN OLD PIER, A BRONZE DISK SET IN CONCRETE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.558 12B = -96.555 09 = -96.466 03 = -96.440

RAIL

Mn/DOT Name: RAIL

NGS Name: RAIL

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483755.36	935130.58		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093431/
USGS Quad: LOMAN OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1913) **Stamping:** U.S. & C.B. SURVEY

ON THE NORTH BANK OF THE RAINY RIVER, 1.1 MILES NORTHWEST OF INDUS, 0.5 MILE WEST OF THE MOUTH OF RICE'S CREEK, NEAR THE RIVER'S EDGE, 147.6 FEET EAST OF A FENCE LINE, IN A LARGE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.933 12B = -97.939 09 = -97.838 03 = -97.880

RAINY

Mn/DOT Name: RAINY
NGS Name: RAINY
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484402.89	943532.79		1

NGS ACRN: TC0617 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1961	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
OBJECT DRIVEN INTO THE GROUND	SEE DESCRIPTION	NGS

Description: (1913) **Stamping:**

ON THE NORTH SHORE OF THE RAINY RIVER ABOUT 1.12 MILES NORTH OF THE MOUTH OF THE BAUDETTE RIVER, AND 1.25 MILES NORTHWEST OF THE TOWN OF RAINY RIVER, ONTARIO. STATION RAINY IS ON A GRAVEL RIDGE ABOUT 0.3 MILE WEST OF A NORTH - AND - SOUTH ROAD AND 98.4 FEET SOUTH OF AN EAST - AND - WEST ROAD IN SECTION 33, ATWOOD TOWNSHIP. STATION IS--A WOODEN STAKE. SUBSURFACE STATION RAINY IS A BRONZE DISK SET IN CONCRETE 2.0 FEET BELOW THE SURFACE. A 55.0 FOOT TOWER WAS BUILT OVER THE STATION RAINY.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1108.922	.131		1013.820	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -95.492 12B = -95.449 09 = -95.371 03 = -95.397

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 44 02.88844	94 35 32.78875			.033	1	ADJUSTMENT	1999	17648

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1256257.626	17713628.701	.033	1	ADJUSTMENT	1999	17648

RAINY LAKE 14 RANEY

Mn/DOT Name: RAINY LAKE 14 RANEY
NGS Name: RAINY LAKE 14 RANEY
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483756.65	931111.47		2

NGS ACRN: TB0862 Get Map
NGS Quad / Sta Num : 48093124/1003
USGS Quad: ISLAND VIEW OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1967	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	SURVEY DISK	IBWC

Description: (1967) **Stamping:** U.S. & C.B. SURVEY

8.0 MILES EAST OF RANIER, ON RAINY LAKE, AT THE SOUTH END OF A SMALL ISLAND, 1.0 MILE SOUTH OF DUNSMOORE ISLAND, 32.68 FEET SOUTHWEST OF RAINY LAKE 14 RANEY RM, 20.46 FEET SOUTHEAST OF RAINY LAKE 14 RANEY RM 2.

Station Notes
CALLED RAINY LAKE 14 OR USGS RANEY.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -102.168 12B = -102.122 09 = -102.024 03 = -102.047

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 37 56.64572	93 11 11.47466			.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 37 56.63087	93 11 11.49077			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 37 56.88947	93 11 10.99469			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1595329.128	17672568.681	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1595328.043	17672567.179	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	Y	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
1979108.630	777845.890			.100		CLASSICAL SURVEY	1950	UNK

RAINY LAKE 14 RANEY RM

Mn/DOT Name: RAINY LAKE 14 RANEY RM
NGS Name: RAINY LAKE 14 RANEY RM
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483756.00	931111.00		

NGS ACRN: CO8168 Get Map
NGS Quad / Sta Num : 48093124/
USGS Quad: ISLAND VIEW OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1967	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	REFERENCE MARK DISK	IBWC

Description: (1967)

Stamping:

8.0 MILES EAST OF RANIER, ON RAINY LAKE, AT THE SOUTH END OF A SMALL ISLAND, 1.0 MILE SOUTH OF DUNSMOORE ISLAND, 32.68 FEET NORTHEAST OF STATION RAINY LAKE 14 RANEY.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.168 12B = -102.122 09 = -102.024 03 = -102.047

RAINY LAKE 14 RANEY RM 2

Mn/DOT Name: RAINY LAKE 14 RANEY RM 2
NGS Name: RAINY LAKE 14 RANEY RM 2
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: CO8169 Get Map
NGS Quad / Sta Num : 48093124/
USGS Quad: ISLAND VIEW OE N

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483756.00	931111.00		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1967	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SEE DESCRIPTION	IBWC

Description: (1967)
Stamping:

8.0 MILES EAST OF RANIER, ON RAINY LAKE, AT THE SOUTH END OF A SMALL ISLAND, 1.0 MILE SOUTH OF DUNSMOORE ISLAND, 20.46 FEET NORTHWEST OF RAINY LAKE 14 RANEY.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.168 12B = -102.122 09 = -102.024 03 = -102.047

RAINY RIVER WATER TANK

Mn/DOT Name: RAINY RIVER WATER TANK

NGS Name: RAINY RIVER WATER TANK

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484303.60	943320.45		

NGS ACRN: TC0997 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1914	UNKNOWN	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	NGS

Description:

IN RAINY RIVER, 0.2 MILE SOUTH ALONG GOVERNMENT ROAD FROM THE INTERSECTION OF GOVERNMENT ROAD AND HIGHWAY 11, THEN 0.3 MILE EAST ALONG RIVER AVENUE EAST, IN BETWEEN THE NORTH BANK OF THE RIVER AND RIVER AVENUE EAST.

Stamping:

Station Notes

THE MARK WAS ADDED TO MATCH THE NATIONAL GEODETIC SURVEY (NGS) DATABASE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.466 12B = -95.426 09 = -95.334 03 = -95.384

RANGER

Mn/DOT Name: RANGER

NGS Name: RANGER

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481924.79	920031.83		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092212/
USGS Quad: COLEMAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1916)

Stamping:

ON THE PROMINENT POINT ON THE EAST SHORE OF LAC LA CROIX, 0.66 MILE SOUTHEAST OF A LONG NARROW PRECIPITOUS ISLAND. THE MONUMENT IS ON THE SOUTH SIDE OF THE ISLAND. REFERENCE MONUMENT 575 IS 1.0 MILE TO THE NORTHWESTWARD AND 670.0 FEET EAST OF STATION CAMP 3.

Station Notes

A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.852 12B = -104.826 09 = -104.800 03 = -104.852

RAP

Mn/DOT Name: RAP

NGS Name: RAP

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480351.35	912641.44		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091233/
USGS Quad: ENSIGN LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	CHISELED TRIANGLE	IBWC

Description: (1915)

Stamping:

ON THE NORTH SHORE NEAR THE EAST END OF BASSWOOD LAKE. STATION RAP IS ON THE POINT AT AN ENTRANCE TO THE NARROWS 0.88 MILE NORTHWEST OF PRAIRIE PORTAGE.

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.385 12B = -102.431 09 = -102.342 03 = -101.991

RAY

Mn/DOT Name: RAY
NGS Name: RAY
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484322.36	942702.89		

NGS ACRN: TC0553 Get Map
NGS Quad / Sta Num : 48094134/1007
USGS Quad: CLEMENTSON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1969	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	TRIANGULATION STATION DISK	NGS

Description: (1969) **Stamping:** RAY 1923

1.0 MILES WEST ALONG RAILROAD FROM SLEEMAN, 509.0 FEET EAST OF RAILROAD MILEPOST 138, 35.73 FEET NORTH OF THE SOUTH RAIL OF THE RAILROAD TRACKS, 127.7 FEET NORTHEAST OF RAY RM.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -95.836 12B = -95.817 09 = -95.712 03 = -95.794

Lat/Lon and County Coordinates (Feet)

NAD83(1986)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 43 22.34218	94 27 02.88857			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 43 22.45446	94 27 02.17717			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1986)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1290347.298	17708839.118	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	Y	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
1673971.630	813677.100			.100		CLASSICAL SURVEY	1950	UNK

RAY 1914

Mn/DOT Name: RAY 1914

NGS Name: RAY

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0999 Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484153.29	942815.48		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.6 MILES WEST OF CLEMENTSON, IN A HAY FIELD, 9.9 FEET ABOVE AND 49.2 FEET BACK FROM THE RIVERS' EDGE, 124.6 FEET EAST OF AN OLD PIER, 328.0 FEET SOUTH OF A LARGE BARN, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.653 12B = -95.626 09 = -95.528 03 = -95.581

RAY 2 IBC

Mn/DOT Name: RAY 2 IBC

NGS Name: RAY 2 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484322.14	942702.92		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

IN ONTARIO CANADA, 5.0 MILES EAST FROM RAINY RIVER, 5.0 MILES EAST ALONG ATWOOD AVENUE FROM THE JUNCTION OF ATWOOD AVENUE AND LITTLE STREET, THEN 232.94 FEET NORTH ON WORTHINGTON NUMBER 4 ROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.836 12B = -95.817 09 = -95.712 03 = -95.794

RAY RM

Mn/DOT Name: RAY RM

NGS Name: RAY RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484322.00	942703.00		

NGS ACRN: CO8179 Get Map
NGS Quad / Sta Num : 48094134/1007
USGS Quad: CLEMENTSON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1923	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (1923) **Stamping:** RAY 1923

1.0 MILES WEST ALONG THE RAILROAD FROM SLEEMAN, 127.7 FEET SOUTHWEST OF STATION RAY.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.833 12B = -95.817 09 = -95.712 03 = -95.794

REDDY

Mn/DOT Name: REDDY **NGS Name:** REDDY

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0546 Get Map
NGS Quad / Sta Num : 48094131/1001
USGS Quad: BORDER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484306.26	941946.75		2

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	2008	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	NGS

Description: (2008) **Stamping:** REDDY 1923

1.5 MILES WEST OF PINEWOOD ALONG A RAILROAD, 3514.0 FEET WEST OF RAILROAD MILEPOST 133, 24.12 FEET SOUTH OF THE SOUTH RAIL OF THE RAILROAD TRACKS, 53.7 FEET SOUTH OF REDDY RM.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -96.391 12B = -96.391 09 = -96.276 03 = -96.306

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 43 06.26411	94 19 46.74536			.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 43 06.24801	94 19 46.74372			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 43 06.36856	94 19 46.05494			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1319551.120	17706677.233	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1319551.202	17706675.600	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	Y	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
1703186.850	811558.990			.100		CLASSICAL SURVEY	1950	UNK

REDDY 2 IBC

Mn/DOT Name: REDDY 2 IBC

NGS Name: REDDY 2 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484307.09	941948.29		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

1.3 MILES NORTHWEST OF PINEWOOD, 0.6 MILE WEST ALONG TRUNK HIGHWAY 11 FROM THE JUNCTION OF TRUNK HIGHWAY 11 AND AMY STREET, THEN 0.7 MILE NORTH ON GAGNE ROAD, THEN 0.6 MILE WEST ON PAQUETTE ROAD, THEN ABOUT 1091.0 FEET SOUTH OF PAQUETTE ROAD, STATION REDDY 2 IBC IS NEAR BY THE CANADIAN NATIONAL RAILROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.388 12B = -96.388 09 = -96.276 03 = -96.306

REDDY RM

Mn/DOT Name: REDDY RM

NGS Name: REDDY RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484306.00	941947.00		

NGS ACRN: CO8190 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1925	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	REFERENCE MARK DISK	NGS

Description: (1925)

Stamping:

1.5 MILES WEST OF PINEWOOD ALONG A RAILROAD, 3514.0 FEET WEST OF RAILROAD MILEPOST 133, 53.7 FEET NORTH OF STATION REDDY (TC0546).

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.391 12B = -96.391 09 = -96.276 03 = -96.306

REDFORD

Mn/DOT Name: REDFORD
NGS Name: REDFORD
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483319.41	934541.36		1

NGS ACRN: TB1012 Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1913	GOOD	Horz=? Vert=?	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description:

LOCATED IN RAINY RIVER DISTRICT, ONTARIO, CANADA; 3.45 MILES NORTH-NORTHEAST OF LOMAN, MN.

Stamping:

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1174.538	.131		1076.415	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -98.271 12B = -98.277 09 = -98.192 03 = -98.235

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 33 19.40625	93 45 41.36380			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 33 19.39529	93 45 41.36927			.033	1	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 33 19.69200	93 45 40.65500			.100	1	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1456062.851	17645346.903	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1456062.472	17645345.797	.033	1	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	1	CLASSICAL SURVEY	1982	17020

REED

Mn/DOT Name: REED **NGS Name:** REED

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0594 Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	7	161 N	31 W	484640.37	944117.90		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1913	GOOD	Horz=? Vert=?	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	UNMONUMENTED	IBWC

Description:

LOCATED IN RAINY RIVER DISTRICT, ONTARIO, CANADA; ALONG THE SHORE OF THE RAINY RIVER, 2.94 MILES SOUTH-SOUTHEAST OF HACKETT, MN.

Stamping:

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1066.271	.131		971.150	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -95.544 12B = -95.528 09 = -95.443 03 = -95.430

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 46 40.37022	94 41 17.89623			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 46 40.34746	94 41 17.88163			.033	1	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 46 40.47600	94 41 17.07900			.100	1	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1233486.075	17730079.331	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1233487.002	17730077.004	.033	1	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	1	CLASSICAL SURVEY	1982	17020

REF MON 101 69 IBC

Mn/DOT Name: REF MON 101 69 IBC

NGS Name: REF MON 101 69 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484148.66	942743.77		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

4.9 MILES SOUTHEAST OF RAINY RIVER, 4.1 MILES EAST ALONG TRUNK HIGHWAY 11 (ATWOOD AVENUE) FROM THE JUNCTION OF TRUNK HIGHWAY 11 (ATWOOD AVENUE) AND GOVERNMENT ROAD, THEN 1.0 MILE SOUTH ON WORTHINGTON NUMBER 3 ROAD, THEN 0.6 MILE EAST ON COLONIZATION ROAD, THEN ABOUT 4012.0 FEET SOUTH OF COLONIZATION ROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.692 12B = -95.663 09 = -95.567 03 = -95.617

REF MON 103 69 IBC

Mn/DOT Name: REF MON 103 69 IBC

NGS Name: REF MON 103 69 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484138.98	942704.14		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

5.3 MILES SOUTHEAST OF RAINY RIVER DISTRICT, 5.1 MILES EAST ALONG TRUNK HIGHWAY 11 (ATWOOD AVENUE) FROM THE JUNCTION OF TRUNK HIGHWAY 11 (ATWOOD AVENUE) AND GOVERNMENT ROAD, THEN 1.9 MILES SOUTH ON WORTHINGTON NUMBER 4 ROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.735 12B = -95.705 09 = -95.613 03 = -95.663

REF MON 103 72 IBC

Mn/DOT Name: REF MON 103 72 IBC

NGS Name: REF MON 103 72 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484138.29	942703.42		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1972	1972	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

5.3 MILES SOUTHEAST OF RAINY RIVER DISTRICT, THEN 5.1 MILES EAST ALONG TRUNK HIGHWAY 11 (ATWOOD AVENUE) FROM THE JUNCTION OF TRUNK HIGHWAY 11 (ATWOOD AVENUE) AND GOVERNMENT ROAD, THEN 1.9 MILES SOUTH ON WORTHINGTON NUMBER 4 ROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.735 12B = -95.705 09 = -95.617 03 = -95.663

REF MON 105

Mn/DOT Name: REF MON 105 **NGS Name:** REF MON 105

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1010 Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	6	160 N	29 W	484225.21	942529.24		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1969	UNKNOWN	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	IBWC

Description: (1921)

Stamping:

LOCATED IN RAINY RIVER DISTRICT, ONTARIO, CANADA, ALONG THE SHORE OF THE RAINY RIVER, 1.21 MILES NORTH-NORTHEAST OF CLEMENTSON, ON THE NORTH SHORE OF RAINY RIVER, IN A HAYFIELD, 29.5 FEET ABOVE AND 49.2 FEET BACK FROM THE RIVER'S EDGE, 16.4 FEET BACK FROM THE EDGE OF A BANK, 246.0 FEET NORTHEAST OF THE MOUTH OF SLEEMAN CREEK, 26.2 FEET NORTHEAST OF 16.0 INCH DIAMETER ELM TREE.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1069.552	.262		973.981	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -95.892 12B = -95.866 09 = -95.771 03 = -95.833

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 42 25.21061	94 25 29.24177			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 42 25.19153	94 25 29.23254			.131	3	ADJUSTMENT	1989	17085

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1296515.733	17702933.261	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1296516.316	17702931.317	.131	3	ADJUSTMENT	1989	17085

REF MON 107 69 IBC

Mn/DOT Name: REF MON 107 69 IBC

NGS Name: REF MON 107 69 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484243.54	942444.64		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

6.9 MILES SOUTHEAST OF RAINY RIVER, 7.08 MILES EAST ALONG TRUNK HIGHWAY 11 (ATWOOD AVENUE) FROM THE JUNCTION OF TRUNK HIGHWAY 11 (ATWOOD AVENUE) AND GOVERNMENT ROAD, THEN 0.7 MILE SOUTH ON WORTHINGTON NUMBER 6 ROAD, THEN ABOUT 1559.0 FEET WEST OF WORTHINGTON NUMBER 6 ROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.964 12B = -95.941 09 = -95.843 03 = -95.912

REF MON 111 69 IBC

Mn/DOT Name: REF MON 111 69 IBC

NGS Name: REF MON 111 69 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484227.79	942203.63		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

2.9 MILES WEST ALONG TRUNK HIGHWAY 11 FROM THE JUNCTION OF TRUNK HIGHWAY 11 AND AMY STREET , THEN 0.4 MILE SOUTH ON WIERSEMA ROAD, THEN ABOUT 474.0 FEET SOUTHWEST OF WIERSEMA ROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.165 12B = -96.155 09 = -96.043 03 = -96.082

REF MON 112 69 IBC

Mn/DOT Name: REF MON 112 69 IBC

NGS Name: REF MON 112 69 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484224.87	942146.24		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

2.8 MILES SOUTHWEST OF PINEWOOD, 2.7 MILES WEST ALONG HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND AMY STREET, THEN 0.4 MILE SOUTH ON DIMIT ROAD, THEN ABOUT 869.0 FEET SOUTHEAST OF DIMIT ROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.184 12B = -96.178 09 = -96.066 03 = -96.102

REF MON 113 69 IBC

Mn/DOT Name: REF MON 113 69 IBC

NGS Name: REF MON 113 69 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484220.21	942107.79		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

2.3 MILES SOUTHWEST OF PINEWOOD, 2.3 MILES WEST ALONG HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND AMY STREET, THEN 0.6 MILE SOUTH ON SMART ROAD, THEN ABOUT 593.0 FEET SOUTHEAST OF SMART ROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.233 12B = -96.227 09 = -96.115 03 = -96.145

REF MON 116 68 IBC

Mn/DOT Name: REF MON 116 68 IBC

NGS Name: REF MON 116 68 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484241.54	941833.06		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

Stamping:

IN PINEWOOD, 3937.0 FEET SOUTH ALONG DONALD STREET FROM THE JUNCTION OF DONALD STREET AND HIGHWAY 11 , THEN 0.2 MILE WEST ON FRONT STREET, THEN 52.5 FEET NORTH ON CHURCH STREET.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.473 12B = -96.470 09 = -96.368 03 = -96.384

REF MON 118 69 IBC

Mn/DOT Name: REF MON 118 69 IBC

NGS Name: REF MON 118 69 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484224.92	941656.78		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

3.0 MILES SOUTHEAST OF PINEWOOD, 5.2 MILES SOUTHEAST ALONG HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND DONALD STREET.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.588 12B = -96.584 09 = -96.489 03 = -96.493

REF MON 120 68 IBC

Mn/DOT Name: REF MON 120 68 IBC

NGS Name: REF MON 120 68 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484202.50	941616.53		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1968	1968	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

1.6 MILES SOUTHEAST OF PINEWOOD, 1.6 MILES EAST ALONG HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND AMY STREET, THEN 2019.0 FEET SOUTH OF HIGHWAY 11.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.614 12B = -96.607 09 = -96.519 03 = -96.516

REF MON 124 47

Mn/DOT Name: REF MON 124 47 **NGS Name:** REF MON 124 47

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1036 Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	9	160 N	28 W	484101.77	941457.82		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1947	1947	UNKNOWN	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	IBWC

Description: (1947)

Stamping:

LOCATED IN RAINY RIVER DISTRICT, ONTARIO, CANADA; ALONG THE SHORE OF THE RAINY RIVER, 1.95 MILES NORTH-NORTHEAST OF FRONTIER, 24.0 FEET INSHORE FROM THE TOP OF A HIGH BANK, 25.0 FEET SOUTH-SOUTHWEST OF THE FOUNDATION OF AN OLD HOUSE.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1069.552	.262		973.259	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -96.630 12B = -96.627 09 = -96.535 03 = -96.519

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 41 01.77367	94 14 57.82242			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 41 01.75669	94 14 57.81368			.131	3	ADJUSTMENT	1989	17085

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1338711.191	17693738.587	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1338711.749	17693736.857	.131	3	ADJUSTMENT	1989	17085

REF MON 125 69 IBC

Mn/DOT Name: REF MON 125 69 IBC

NGS Name: REF MON 125 69 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484041.83	941454.87		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

3.1 MILES SOUTHEAST OF PINEWOOD, 3.5 MILES EAST ALONG HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND AMY STREET, THEN 0.1 MILE WEST ON SUNDWALL ROAD, THEN CONTINUE 0.4 MILE SOUTH ON SUNDWALL ROAD, THEN 350.0 FEET WEST OF SUNDWALL ROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.604 12B = -96.601 09 = -96.512 03 = -96.489

REF MON 136

Mn/DOT Name: REF MON 136 **NGS Name:** REF MON 136

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1051 Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483906.02	941118.53		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1969	UNKNOWN	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	IBWC

Description: (1918) **Stamping:**

4.32 MILES WEST-NORTHWEST OF BIRCHDALE, ON THE NORTH SHORE OF THE RAINY RIVER, ON THE WEST SIDE OF A SWALE, 492.0 FEET WEST OF THE MOUTH OF CAMERON CREEK AT THE POINT WHERE ROAD TURNS AND LEAVES THE RIVER, 29.5 FEET BACK FROM THE RIVER'S EDGE.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1072.832	.262		976.491	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -96.660 12B = -96.657 09 = -96.575 03 = -96.539

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 39 06.02010	94 11 18.53456			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 39 06.00398	94 11 18.52674			.131	3	ADJUSTMENT	1989	17085

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1353237.667	17681777.564	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1353238.167	17681775.923	.131	3	ADJUSTMENT	1989	17085

REF MON 138 69 IBC

Mn/DOT Name: REF MON 138 69 IBC

NGS Name: REF MON 138 69 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483853.28	940925.53		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

2.1 MILES SOUTH OF STRATTON, 2.1 MILES SOUTH ALONG BOUCHERVILLE ROAD FROM THE JUNCTION OF BOUCHERVILLE ROAD AND HIGHWAY 11, THEN 0.2 MILE EAST ON RIVER ROAD, THEN ABOUT 300.0 FEET SOUTH OF RIVER ROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.752 12B = -96.758 09 = -96.663 03 = -96.627

REF MON 142 69 IBC

Mn/DOT Name: REF MON 142 69 IBC

NGS Name: REF MON 142 69 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483845.15	940731.44		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

2.8 MILES SOUTHEAST OF STRATTON, 2.1 MILES SOUTH ALONG BOUCHERVILLE ROAD FROM THE JUNCTION OF BOUCHERVILLE ROAD AND HIGHWAY 11, CONTINUE 1.4 MILES EAST ON RIVER ROAD, THEN 0.3 MILE SOUTH ON RIVER ROAD, THEN ABOUT 0.1 MILE SOUTHEAST OF RIVER ROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.876 12B = -96.883 09 = -96.791 03 = -96.755

REF MON 145 69 IBC

Mn/DOT Name: REF MON 145 69 IBC

NGS Name: REF MON 145 69 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483850.89	940608.14		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

3.5 MILES SOUTHEAST OF STRATTON, 2.1 MILES EAST ALONG HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND HIGHWAY 617, THEN 1.8 MILES SOUTH ON SHAW ROAD, 0.7 MILE EAST ON RIVER ROAD, THEN ABOUT 0.1 MILE SOUTH OF RIVER ROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.001 12B = -97.008 09 = -96.909 03 = -96.876

REF MON 147

Mn/DOT Name: REF MON 147 **NGS Name:** REF MON 147

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1069 Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	27	160 N	27 W	483841.43	940512.95		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1969	UNKNOWN	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	IBWC

Description: (1918)

Stamping:

ALONG THE NORTH SHORE OF THE RAINY RIVER, 4.2 MILES SOUTHEAST OF STRATTON, 2.1 MILES EAST ALONG HIGHWAY 11 AND HIGHWAY 617, THEN 1.8 MILES SOUTH ON SHAW ROAD, THEN 1.2 MILES EAST ON RIVER ROAD, THEN ABOUT 0.5 MILE SOUTHEAST OF RIVER ROAD, ON A HIGH BANK, 29.5 FEET ABOVE AND 29.5 FEET BACK FROM THE RIVER'S EDGE, IN A FENCE LINE, 98.4 FEET SOUTH OF AN OLD INDIAN HOUSE.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1079.394	.262		982.633	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -97.054 12B = -97.060 09 = -96.962 03 = -96.929

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 38 41.43200	94 05 12.95380			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 38 41.41742	94 05 12.94860			.131	3	ADJUSTMENT	1989	17085

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1377739.906	17678920.940	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1377740.234	17678919.458	.131	3	ADJUSTMENT	1989	17085

REF MON 149

Mn/DOT Name: REF MON 149 **NGS Name:** REF MON 149

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1071 Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	26	160 N	27 W	483841.52	940438.22		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1969	UNKNOWN	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	IBWC

Description: (1918)

Stamping:

ALONG THE NORTH SHORE OF THE RAINY RIVER, 4.6 MILES SOUTHEAST OF STRATTON, 2.1 MILES EAST ALONG HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND HIGHWAY 617, THEN 1.8 MILES SOUTH ON SHAW ROAD, THEN 1.1 MILES EAST ON RIVER ROAD, THEN ABOUT 0.8 MILE SOUTHEAST OF RIVER ROAD, ON A GRASSY POINT, 6.6 FEET ABOVE AND 29.5 FEET BACK FROM THE RIVER'S EDGE, 196.8 FEET EAST OF A SMALL PROMINENT POINT.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1079.394	.262		982.587	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -97.100 12B = -97.106 09 = -97.008 03 = -96.975

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 38 41.52228	94 04 38.22173			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 38 41.50783	94 04 38.21692			.131	3	ADJUSTMENT	1989	17085

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1380071.566	17678897.028	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1380071.868	17678895.560	.131	3	ADJUSTMENT	1989	17085

REF MON 151 69 IBC

Mn/DOT Name: REF MON 151 69 IBC

NGS Name: REF MON 151 69 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483858.78	940358.06		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

4.9 MILES SOUTHEAST OF STRATTON, 2.1 MILES EAST ALONG HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND HIGHWAY 617, THEN 1.8 MILES SOUTH ON SHAW ROAD, THEN ABOUT 2.4 MILES EAST OF SHAW ROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.188 12B = -97.198 09 = -97.096 03 = -97.057

REF MON 155 69 IBC

Mn/DOT Name: REF MON 155 69 IBC

NGS Name: REF MON 155 69 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483841.40	940313.24		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

5.5 MILES SOUTHEAST OF STRATTON, 5.2 MILES SOUTHEAST ALONG HIGHWAY 11 AND HIGHWAY 617, THEN ABOUT 1.1 MILES SOUTH OF HIGHWAY 11.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.214 12B = -97.221 09 = -97.119 03 = -97.086

REF MON 157 59 IBC

Mn/DOT Name: REF MON 157 59 IBC

NGS Name: REF MON 157 59 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483840.14	940251.91		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

5.8 MILES SOUTHEAST OF STRATTON, 5.5 MILES SOUTHEAST ALONG HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND HIGHWAY 617, THEN ABOUT 1.1 MILES SOUTHEAST OF HIGHWAY 11.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.244 12B = -97.250 09 = -97.145 03 = -97.113

REF MON 161

Mn/DOT Name: REF MON 161 **NGS Name:** REF MON 161

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1085 Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	31	160 N	26 W	483832.71	940142.24		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1969	UNKNOWN	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	IBWC

Description: (1918)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 6.6 MILES SOUTHEAST OF STRATTON, 7.1 MILES SOUTHEAST ALONG HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND HIGHWAY 617, THEN 0.6 MILE WEST ON PRISON FARM ROAD, 1.5 MILES EAST OF THE HEAD OF LONG SAULT RAPIDS, 0.3 MILE EAST OF THE EASTERN LIMIT OF AN OLD INDIAN RESERVATION, 23.0 FEET ABOVE AND 55.8 FEET BACK FROM THE HIGH-WATER LINE, 16.4 FEET EAST OF AN OLD FENCE, 55.0 FEET NORTH OF STATION PISTOL.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1069.552	.262		972.514	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -97.326 12B = -97.329 09 = -97.224 03 = -97.198

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 38 32.70721	94 01 42.24370			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 38 32.69350	94 01 42.24072			.131	3	ADJUSTMENT	1989	17085

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1391872.779	17677841.089	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1391872.960	17677839.697	.131	3	ADJUSTMENT	1989	17085

REF MON 162 IBC

Mn/DOT Name: REF MON 162 IBC

NGS Name: REF MON 162 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483840.14	940029.00		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1969	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1918)

Stamping:

1.1 MILES WEST OF BARWICK, 1.1 MILES ALONG HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND MAIN STREET, ON THE NORTH BANK OF THE RAINY RIVER, 328.0 FEET WEST OF THE MOUTH OF A SMALL CREEK, 32.8 FEET ABOVE THE RIVER, ON THE PROPERTY OF D SMITH, 3.3 FEET FROM THE SOUTHWEST CORNER OF SMITH'S FIRST POLE FENCE, 164.0 FEET SOUTHWEST OF A HOUSE, 2.4 FEET SOUTH OF STATION SQUARE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.441 12B = -97.441 09 = -97.339 03 = -97.306

REF MON 164 69 IBC

Mn/DOT Name: REF MON 164 69 IBC

NGS Name: REF MON 164 69 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483835.39	935931.47		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093434/
USGS Quad: MANITOU OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

NORTH OF THE RAINY RIVER, IN BARWICK, 0.4 MILE SOUTH ALONG MAIN STREET FROM THE JUNCTION OF MAIN STREET AND HIGHWAY 11, THEN 328.0 FEET WEST ON ALLEY WAY, THEN 1346.0 FEET WEST OF ALLEY WAY.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.500 12B = -97.500 09 = -97.401 03 = -97.372

REF MON 166 IBC

Mn/DOT Name: REF MON 166 IBC

NGS Name: REF MON 166 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483823.54	935838.11		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093434/
USGS Quad: MANITOU OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1969	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1918)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, IN BARWICK, 0.1 MILE SOUTH ALONG MAIN STREET FROM THE JUNCTION OF MAIN STREET AND HIGHWAY 11, THEN 0.4 MILE SOUTHEAST ON QUEEN STREET, THEN 0.3 MILE EAST ON MILL ROAD, IN THE FRONT OF A FRAME HOUSE, 19.7 FEET ABOVE THE WATER, 3.7 FEET NORTH OF STATION WATTS.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.539 12B = -97.539 09 = -97.444 03 = -97.418

REF MON 168 IBC

Mn/DOT Name: REF MON 168 IBC

NGS Name: REF MON 168 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483819.23	935740.57		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093434/
USGS Quad: MANITOU OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1969	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1918)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.3 MILES SOUTHEAST OF BARWICK, 1.0 MILE EAST ALONG HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND MAIN STREET, THEN 0.7 MILE SOUTH ON NIGH WANDER ROAD, 196.8 FEET EAST OF SECTION LINE ROAD, 131.2 FEET SOUTHEAST OF A LOG BUILDING, NEAR THE SOUTH EDGE OF A ROAD ALONG THE RIVER, 26.2 FEET ABOVE THE WATER, 129.4 FEET NORTHEAST OF STATION FERN.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.595 12B = -97.595 09 = -97.500 03 = -97.480

REF MON 170 IBC

Mn/DOT Name: REF MON 170 IBC

NGS Name: REF MON 170 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483809.02	935708.55		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093434/
USGS Quad: MANITOU OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1969	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1918)

Stamping:

1.7 MILES SOUTHEAST OF BARWICK, 1.0 MILE EAST ALONG HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND MAIN STREET, THEN 0.7 MILE SOUTH ON NIGHSWANDER ROAD, THEN ABOUT 2619.0 FEET SOUTHEAST OF NIGHSWANDER ROAD, ON THE NORTH BANK OF THE RAINY RIVER, 492.0 FEET EAST OF SIMS CREEK, 26.2 FEET ABOVE AND 114.8 FEET BACK FROM THE RIVER'S EDGE, 66.0 FEET NORTH OF STATION BEAVER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.611 12B = -97.615 09 = -97.513 03 = -97.500

REF MON 172 IBC

Mn/DOT Name: REF MON 172 IBC

NGS Name: REF MON 172 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483802.17	935600.68		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093434/
USGS Quad: MANITOU OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1969	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1918)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 2.6 MILES SOUTHEAST OF BARWICK, 2.4 MILES EAST ALONG HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND MAIN STREET, 0.75 MILE FROM MANITOU RAPIDS, 265.2 FEET WEST OF THE WEST END OF A LONG ISLAND, 3.3 FEET ABOVE THE WATER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.667 12B = -97.670 09 = -97.565 03 = -97.562

REF MON 174 IBC

Mn/DOT Name: REF MON 174 IBC

NGS Name: REF MON 174 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483801.53	935510.12		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093434/
USGS Quad: MANITOU OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1969	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1918) **Stamping:**

ON THE NORTH BANK OF THE RAINY RIVER, 0.7 MILE SOUTHWEST FROM MANITOU RAPIDS INDIAN RESERVE 11, 0.1 MILE WEST ALONG HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND HIGHWAY 71, 656.0 FEET BELOW THE LOWER END OF MANITOU RAPIDS, 6.6 FEET ABOVE THE WATER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.713 12B = -97.720 09 = -97.615 03 = -97.618

REF MON 176 IBC

Mn/DOT Name: REF MON 176 IBC

NGS Name: REF MON 176 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483804.41	935454.98		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093434/
USGS Quad: MANITOU OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1969	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1918)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.6 MILE SOUTH OF MANITOU RAPIDS INDIAN RESERVE 11, 0.1 MILE EAST ALONG HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND HIGHWAY 71, THEN 0.6 MILE SOUTHWEST OF HIGHWAY 11, 0.2 MILE SOUTHEAST OF A BASEBALL FIELD, NEAR THE MIDDLE OF MANIOU RAPIDS, ON A ROCKY FLAT, 2.0 FEET ABOVE THE WATER, A PILE OF ROCKS HAS BEEN BUILT AROUND STATION REF MON 176 IBC, 0.3 FOOT FROM STATION CANOE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.729 12B = -97.739 09 = -97.634 03 = -97.641

REF MON 178 IBC

Mn/DOT Name: REF MON 178 IBC

NGS Name: REF MON 178 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483809.91	935425.44		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093434/
USGS Quad: MANITOU OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1969	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	METAL ROD	IBWC

Description: (1918)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.7 MILE SOUTHEAST OF MANITOU RAPIDS INDIAN RESERVE 11, 0.4 MILE EAST ALONG HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND HIGHWAY 72, 0.4 MILE EAST OF THE HEAD OF MANITOU RAPIDS, 147.6 FEET WEST OF THE MOUTH OF BEAR CREEK, IN A HAYFIELD, 19.7 FEET ABOVE THE WATER, JUST INSIDE A FENCE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.769 12B = -97.775 09 = -97.670 03 = -97.684

REF MON 53 68 IBC

Mn/DOT Name: REF MON 53 68 IBC

NGS Name: REF MON 53 68 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				485005.28	944111.48		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1968	1968	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

9.7 MILES NORTHWEST OF RAINY RIVER DISTRICT, 3.0 MILES NORTH ALONG DISTRICT ROAD 600 FROM THE JUNCTION OF DISTRICT ROAD 600 AND TRUNK HIGHWAY 11 (ATWOOD AVENUE), THEN 6.8 MILES EAST ON RIVER ROAD, THEN CONTINUE 2.1 MILES NORTH ON RIVER ROAD, THEN ABOUT 0.5 MILE WEST OF RIVER ROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.046 12B = -96.060 09 = -95.938 03 = -95.882

REF MON 59 68 IBC

Mn/DOT Name: REF MON 59 68 IBC

NGS Name: REF MON 59 68 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484839.85	944125.85		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1968	1968	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

8.6 MILES NORTHWEST OF RAINY RIVER DISTRICT, 3.0 MILES NORTH ALONG DISTRICT ROAD 600 FROM THE JUNCTION OF DISTRICT ROAD 600 AND HIGHWAY 11 (ATWOOD AVENUE), THEN 6.8 MILES WEST ON RIVER ROAD, STAY AND CONTINUE 0.2 MILE WEST ON RIVER ROAD, THEN 0.3 MILE WEST ON WILSON CREEK ROAD, THEN 0.2 MILE NORTHWEST ON OAK GROVE DRIVE.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.820 12B = -95.823 09 = -95.712 03 = -95.672

REF MON 61 68 IBC

Mn/DOT Name: REF MON 61 68 IBC

NGS Name: REF MON 61 68 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484800.98	944132.75		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1968	1968	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

8.1 MILES NORTHWEST OF RAINY RIVER DISTRICT, 3.0 MILES NORTH ALONG DISTRICT ROAD 600 FROM THE JUNCTION OF DISTRICT ROAD 600 AND HIGHWAY 11 (ATWOOD AVENUE), THEN 6.3 MILES WEST ON RIVER ROAD, THEN 0.7 MILE WEST ON JENKINS DRIVE, THEN ABOUT 1109.0 FEET SOUTHWEST OF JENKINS DRIVE.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.718 12B = -95.718 09 = -95.613 03 = -95.581

REF MON 63 37

Mn/DOT Name: REF MON 63 37 **NGS Name:** REF MON 63 37

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1141 Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484730.57	944132.78		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1937	1968	UNKNOWN	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	UNMONUMENTED	IBWC

Description:

LOCATED IN RAINY RIVER DISTRICT, ONTARIO, CANADA; ALONG THE SHORE OF THE RAINY RIVER, 2.02 MILES SOUTH-SOUTHEAST OF HACKETT, MINNESOTA, 15.0 FEET FROM THE POSITION OF BOUNDARY REF MON 63 (TC1140).

Stamping:

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1069.552	.262		974.345	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -95.649 12B = -95.640 09 = -95.544 03 = -95.518

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 47 30.56892	94 41 32.78416			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 47 30.53897	94 41 32.76606			.131	3	ADJUSTMENT	1989	17085

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1232602.354	17735186.587	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1232603.498	17735183.527	.131	3	ADJUSTMENT	1989	17085

REF MON 65

Mn/DOT Name: REF MON 65 **NGS Name:** REF MON 65

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1144 Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	7	161 N	31 W	484638.70	944112.12		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1968	UNKNOWN	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	IBWC

Description: (1917)

Stamping:

6.0 MILES NORTHWEST OF BAUDETTE, IN THE WILD LANDS RESERVE, SECTION 40, ON THE EAST BANK OF THE RAINY RIVER, EAST AND A LITTLE SOUTH OF THE MOUTH OF WABANICA CREEK, 0.5 MILE NORTHWEST OF A SMALLER CREEK ON THE CANADIAN SIDE.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1079.394	.262		984.270	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -95.548 12B = -95.528 09 = -95.446 03 = -95.433

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 46 38.69890	94 41 12.11599			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 46 38.66992	94 41 12.09996			.131	3	ADJUSTMENT	1989	17085

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1233869.313	17729901.451	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1233870.321	17729898.492	.131	3	ADJUSTMENT	1989	17085

REF MON 67

Mn/DOT Name: REF MON 67 **NGS Name:** REF MON 67

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1147 Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	17	161 N	31 W	484618.04	944021.04		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1968	UNKNOWN	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	IBWC

Description:

LOCATED IN RAINY RIVER DISTRICT, ONTARIO, CANADA; ALONG THE SHORE OF THE RAINY RIVER, 3.69 MILES SOUTH-SOUTHEAST OF HACKETT, MINNESOTA.

Stamping:

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1079.394	.262		984.263	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -95.551 12B = -95.528 09 = -95.446 03 = -95.436

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 46 18.04429	94 40 21.04380			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 46 18.01640	94 40 21.02991			.131	3	ADJUSTMENT	1989	17085

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1237242.680	17727733.724	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1237243.548	17727730.878	.131	3	ADJUSTMENT	1989	17085

Geodetic Data Sheet (Feet)
GSID Station # 87214

REF MON 68 37 IBC

04/28/2026
Sheet Help

Mn/DOT Name: REF MON 68 37 IBC
NGS Name: REF MON 68 37 IBC
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484634.10	943949.77		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1968	1968	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

6.0 MILES NORTHWEST OF RAINY RIVER DISTRICT, 3.0 MILES NORTH ALONG DISTRICT ROAD 600 FROM THE JUNCTION OF DISTRICT ROAD 600 AND HIGHWAY 11 (ATWOOD AVENUE), THEN 3.0 MILES WEST ON RIVER ROAD, THEN 1.0 MILE NORTH ON OLSON ROAD, THEN 0.6 MILE WEST ON ACREE ROAD, THEN ABOUT 1743.0 FEET SOUTH OF ACREE ROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.620 12B = -95.600 09 = -95.512 03 = -95.498

REF MON 69 68 IBC

Mn/DOT Name: REF MON 69 68 IBC

NGS Name: REF MON 69 68 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484601.12	943949.77		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1968	1968	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

5.7 MILES NORTHWEST OF RAINY RIVER DISTRICT, 3.0 MILES NORTH ALONG DISTRICT ROAD 600 FROM THE JUNCTION OF DISTRICT ROAD 600 AND HIGHWAY 11 (ATWOOD AVENUE), THEN 3.6 MILES WEST ON RIVER ROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.544 12B = -95.518 09 = -95.436 03 = -95.430

REF MON 71

Mn/DOT Name: REF MON 71 **NGS Name:** REF MON 71

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1154 Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	17	161 N	31 W	484544.28	943932.33		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1968	UNKNOWN	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	IBWC

Description:

LOCATED IN RAINY RIVER DISTRICT, ONTARIO, CANADA; ALONG THE SHORE OF THE RAINY RIVER, 4.59 MILES SOUTH-SOUTHEAST OF HACKETT, MINNESOTA, 5.3 MILES NORTHWEST OF RAINY RIVER DISTRICT, 3.0 MILES NORTH ALONG DISTRICT ROAD 600 FROM THE JUNCTION OF DISTRICT ROAD 600 AND HIGHWAY 11 (ATWOOD AVENUE), THEN 3.0 MILES WEST ON RIVER ROAD, THEN 0.4 MILE SOUTH ON OLSON ROAD, THEN 0.3 MILE WEST ON HAMMOND DRIVE, THEN ABOUT 592.0 FEET WEST OF HAMMOND DRIVE.

Stamping:

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1079.394	.262		984.289	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -95.521 12B = -95.492 09 = -95.413 03 = -95.410

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 45 44.28328	94 39 32.32715			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 45 44.25727	94 39 32.31500			.131	3	ADJUSTMENT	1989	17085

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1240430.176	17724242.389	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1240430.933	17724239.737	.131	3	ADJUSTMENT	1989	17085

REF MON 71 ECC

Mn/DOT Name: REF MON 71 ECC
NGS Name: REF MON 71 ECC
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1155 Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	17	161 N	31 W	484544.05	943932.22		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	UNKNOWN	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	UNMONUMENTED	IBWC

Description:

LOCATED IN RAINY RIVER DISTRICT, ONTARIO, CANADA; ALONG THE SHORE OF THE RAINY RIVER, 4.59 MILES SOUTH-SOUTHEAST OF HACKETT, MINNESOTA.

Stamping:

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1079.394	.262		984.289	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -95.521 12B = -95.492 09 = -95.413 03 = -95.410

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 45 44.05387	94 39 32.21950			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 45 44.02786	94 39 32.20735			.131	3	ADJUSTMENT	1989	17085

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1240436.879	17724218.993	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1240437.636	17724216.341	.131	3	ADJUSTMENT	1989	17085

REF MON 73 ECC

Mn/DOT Name: REF MON 73 ECC
NGS Name: REF MON 73 ECC
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1158 Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	21	161 N	31 W	484524.69	943859.98		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1947	1947	UNKNOWN	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	UNMONUMENTED	IBWC

Description:

LOCATED IN RAINY RIVER DISTRICT, ONTARIO, CANADA; ALONG THE SHORE OF THE RAINY RIVER, 5.13 MILES SOUTH-SOUTHEAST OF HACKETT, MINNESOTA.

Stamping:

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1089.237	.262		994.142	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -95.505 12B = -95.476 09 = -95.397 03 = -95.397

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 45 24.69460	94 38 59.97979			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 45 24.66959	94 38 59.96880			.131	3	ADJUSTMENT	1989	17085

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1242553.526	17722211.004	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1242554.207	17722208.454	.131	3	ADJUSTMENT	1989	17085

REF MON 79 68 IBC

Mn/DOT Name: REF MON 79 68 IBC

NGS Name: REF MON 79 68 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484426.68	943743.84		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094424/
USGS Quad: PITT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1968	1968	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

3.4 MILES NORTHWEST OF RAINY RIVER, 1.2 MILES WEST ALONG HIGHWAY 11 (ATWOOD AVENUE) FROM THE JUNCTION OF HIGHWAY 11 (ATWOOD AVENUE) AND LITTLE STREET, THEN 2.1 MILES NORTH ON DISTRICT ROAD 600, THEN 2.0 MILES WEST ON LANTIER ROAD, THEN 0.7 MILE SOUTH ON LARSON ROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.443 12B = -95.400 09 = -95.325 03 = -95.341

REF MON 83 68 IBC

Mn/DOT Name: REF MON 83 68 IBC

NGS Name: REF MON 83 68 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484359.61	943632.32		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1968	1968	GOOD	Horz=? Vert=?	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

2.4 MILES NORTHWEST OF RAINY RIVER, 1.2 MILES WEST ALONG HIGHWAY 11 (ATWOOD AVENUE) FROM THE JUNCTION OF HIGHWAY 11 (ATWOOD AVENUE) AND LITTLE STREET, THEN 1.1 MILES NORTH ON DISTRICT ROAD 600, THEN 1.0 MILE WEST ON BYRNES ROAD, THEN 0.2 MILE SOUTH ON POCHALIO ROAD, THEN 499.0 FEET SOUTHWEST OF POCHALIO ROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.439 12B = -95.397 09 = -95.321 03 = -95.344

REF MON 87 68 IBC

Mn/DOT Name: REF MON 87 68 IBC

NGS Name: REF MON 87 68 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484313.58	943521.22		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1961	1961	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

1.4 MILES NORTHWEST OF RAINY RIVER, 1.2 MILES WEST ALONG ATWOOD AVENUE FROM THE JUNCTION OF ATWOOD AVENUE AND LITTLE STREET, THEN 255.0 FEET NORTH ON DISTRICT ROAD 600, THEN 0.2 MILE WEST ON MAIN STREET, THEN CONTINUE 0.1 MILE NORTH ON HANSON DRIVE, THEN ABOUT 710.0 FEET NORTHEAST OF HANSON DRIVE.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.397 12B = -95.351 09 = -95.279 03 = -95.308

REF MON 90 37

Mn/DOT Name: REF MON 90 37 **NGS Name:** REF MON 90 37

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1185 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	36	161 N	31 W	484302.15	943406.71		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1937	1969	UNKNOWN	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	UNMONUMENTED	IBWC

Description:

LOCATED IN RAINY RIVER DISTRICT, ONTARIO, CANADA; ALONG THE SHORE OF THE RAINY RIVER, IN THE SOUTHERN VICINITY OF RAINY RIVER CITY, CANADA.

Stamping:

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1069.552	.262		974.503	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -95.430 12B = -95.387 09 = -95.305 03 = -95.344

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 43 02.15317	94 34 06.70560			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 43 02.13472	94 34 06.70324			.131	3	ADJUSTMENT	1989	17085

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1261899.327	17707356.592	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1261899.447	17707354.720	.131	3	ADJUSTMENT	1989	17085

REF MON 92 68 IBC

Mn/DOT Name: REF MON 92 68 IBC

NGS Name: REF MON 92 68 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484303.14	943316.24		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1968	1968	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

IN RAINY RIVER, 0.2 MILE SOUTH ALONG RIVER AVENUE EAST FROM THE JUNCTION OF RIVER AVENUE EAST AND ATWOOD AVENUE, CONTINUE 0.2 MILE EAST ON RIVER AVENUE EAST, THEN CONTINUE 55.0 FEET SOUTH ON RIVER AVENUE EAST, THEN ABOUT 278.0 FEET SOUTHWEST OF RIVER AVENUE.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.466 12B = -95.430 09 = -95.338 03 = -95.387

REF MON 95

Mn/DOT Name: REF MON 95 **NGS Name:** REF MON 95

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1191 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	5	160 N	30 W	484211.17	943201.75		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1969	UNKNOWN	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	IBWC

Description: (1918)

Stamping:

2.0 MILES SOUTHEAST OF RAINY RIVER, ON THE NORTH BANK OF THE RAINY RIVER, IN BETWEEN TWO FENCES, 23.0 FEET FROM ONE FENCE, 45.9 FEET FROM THE OTHER FENCE, 200.1 FEET FROM AN OLD HOUSE, 26.2 FEET BACK FROM A RIVER, 2.7 FEET NORTHEAST OF STATION LEVEL.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1079.394	.262		984.322	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -95.433 12B = -95.403 09 = -95.308 03 = -95.357

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 42 11.17003	94 32 01.74806			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 42 11.15153	94 32 01.74697			.131	3	ADJUSTMENT	1989	17085

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1270171.475	17702021.559	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1270171.511	17702019.683	.131	3	ADJUSTMENT	1989	17085

REF MON 99 69 IBC

Mn/DOT Name: REF MON 99 69 IBC

NGS Name: REF MON 99 69 IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484158.17	942910.57		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

3.7 MILES SOUTHEAST OF RAINY RIVER, 2.9 MILES EAST ALONG HIGHWAY 11 (ATWOOD AVENUE) FROM THE JUNCTION OF HIGHWAY (ATWOOD AVENUE) AND GOVERNMENT ROAD, THEN 1.6 MILES SOUTH ON WORTHINGTON NUMBER 2 ROAD, THEN ABOUT 0.4 MILE EAST OF WORTHINGTON NUMBER 2 ROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.590 12B = -95.567 09 = -95.466 03 = -95.518

RESERVE

Mn/DOT Name: RESERVE

NGS Name: RESERVE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483130.09	933614.33		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093422/
USGS Quad: PELLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1913)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 4.2 MILES SOUTH WEST OF ISHERWOOD, 114.8 FEET SOUTH OF A HOUSE, NEARLY AT WATER'S EDGE.

Station Notes

SUBSURFACE MARK IS A BOTTLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -99.344 12B = -99.344 09 = -99.258 03 = -99.229

RIGHT

Mn/DOT Name: RIGHT

NGS Name: RIGHT

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483838.24	940338.06		

NGS ACRN: TC1197 Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1947	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	SURVEY DISK	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, AT THE HEAD OF LONG SAULT RAPIDS, ON THE TOP OF A PLATEAU, 75.4 FEET ABOVE AND 59.0 FEET BACK FROM THE RIVER'S EDGE, IN A CLEARED GRASSY PLACE, IN WHICH ARE A NUMBER OF OUTCROPPING BOULDERS, A PATH FROM THE RIVER ABOVE THE RAPIDS PASSES NEAR STATION RIGHT, A BRONZE DISK CEMENTED IN AN OUTCROPPING ROCK, 6.7 FEET SOUTH OF BOUNDARY REF MON 153.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.175 12B = -97.182 09 = -97.080 03 = -97.047

RIP

Mn/DOT Name: RIP **NGS Name:** RIP

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB1017 Get Map
NGS Quad / Sta Num : 48093434/1012
USGS Quad: MANITOU OE N

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483824.00	935607.72		2

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1969	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	TRIANGULATION STATION DISK	NGS

Description: (1923) **Stamping:** RIP 1923

4.5 MILES WEST ALONG A RAILROAD FROM EMO, AT A CURVE, 2776.0 FEET WEST OF RAILROAD MILEPOST 113, AT THE JUNCTION OF THE SOUTH RAIL FROM THE EAST AND SOUTH RAIL FROM THE WEST.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -97.693 12B = -97.697 09 = -97.595 03 = -97.588

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 38 24.00457	93 56 07.72247			.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 38 23.99087	93 56 07.72810			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 38 24.13893	93 56 07.10792			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1414319.230	17676670.583	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1414318.835	17676669.199	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	Y	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
1798028.390	781687.060			.100		CLASSICAL SURVEY	1950	UNK

RIP RM

Mn/DOT Name: RIP RM

NGS Name: RIP RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: CO8205 Get Map
NGS Quad / Sta Num : 48093434/
USGS Quad: MANITOU OE N

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483824.00	935608.00		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1923	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SEE DESCRIPTION	NGS

Description: (1923)

Stamping:

4.5 MILES WEST ALONG A RAILROAD FROM EMO, AT A CURVE, 73.8 FEET NORTHEAST OF STATION RIP.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.693 12B = -97.697 09 = -97.595 03 = -97.588

RIVER

Mn/DOT Name: RIVER

NGS Name: RIVER

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481431.46	922240.76		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092234/
USGS Quad: ECHO LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

5.4 MILES SOUTHEAST OF CRANE LAKE, ON THE EAST SHORE OF THE LOON RIVER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.418 12B = -103.415 09 = -103.343 03 = -103.389

RJ IBC

Mn/DOT Name: RJ IBC

NGS Name: RJ IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483848.19	940704.21		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

IN ONTARIO CANADA, 2.8 MILES SOUTHEAST OF STRATTON, 2.1 MILES EAST ALONG HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND HIGHWAY 617, THEN 1.8 MILES SOUTH ON SHAW ROAD AND CONTINUE 0.1 MILE SOUTH ON RIVER ROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.919 12B = -96.926 09 = -96.834 03 = -96.798

Mn/DOT Name: RM 467 **NGS Name:** BOUNDARY REF MON 467

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB0038 Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	31	67 N	15 W	481416.20	921932.00	2	

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	2007	GOOD	Horz=? Vert=YES	YES		FLUSH	SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1935) **Stamping:** 467

5.8 MILES NORTH OF THE BUYCK POST OFFICE ON COUNTY ROAD 24 THEN 9.0 MILES EAST ON LOON LAKE TRAIL, ON THE RIGHT BANK OF THE LOON RIVER, AT A DAM AT THE FEET OF LOON LAKE, 10.0 FEET NORTH OF THE NORTH END OF A DAM, IN THE TOP OF A LARGE ROCK.

Station Notes

A MANGANESE-BRONZE POST, 8.0 INCHES HIGH, SET IN A DRILL HOLE IN ROCK IN PLACE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1169.948	.016	2				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1169.017	.033	3				VERTICAL CONTROL SURVEY	1962	USGS-VERT
1169.017	.007	1				VERTICAL CONTROL SURVEY	1935	L18 MINN

Geoid Separations(ft): GEOID18 = -103.546 12B = -103.540 09 = -103.474 03 = -103.514

*** No Horizontal Positions in the Database ***

Mn/DOT Name: ROB **NGS Name:** ROB

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB0989 Get Map
NGS Quad / Sta Num : 48093422/1013
USGS Quad: PELLAND

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483651.11	933410.56		2

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1923	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	TRIANGULATION STATION DISK	NGS

Description: (1923) **Stamping:** ROB 1923

1.75 MILES WEST ON A RAILROAD FROM CROZIER, 1640.0 FEET WEST OF RAILROAD MILEPOST 96, 31.25 FEET NORTH OF THE SOUTH RAIL OF THE RAILROAD TRACKS, 78.1 FEET NORTH OF ROB RM.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -99.718 12B = -99.747 09 = -99.668 03 = -99.747

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 36 51.10931	93 34 10.56320			.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 36 51.09690	93 34 10.57728			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 36 51.29097	93 34 10.02945			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1502678.135	17666388.260	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1502677.179	17666387.009	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	Y	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
1886430.960	771531.120			.100		CLASSICAL SURVEY	1950	UNK

ROB RM

Mn/DOT Name: ROB RM

NGS Name: ROB RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483651.00	933411.00		

NGS ACRN: CO8213 Get Map
NGS Quad / Sta Num : 48093422/
USGS Quad: PELLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1923	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SEE DESCRIPTION	NGS

Description: (1923) **Stamping:** ROB 1923

1.75 MILES WEST ON A RAILROAD FROM CROZIER, 78.1 FEET NORTH OF STATION ROB.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -99.718 12B = -99.747 09 = -99.668 03 = -99.744

ROCK

Mn/DOT Name: ROCK

NGS Name: ROCK

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481432.38	921855.61		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=YES Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description:

ON THE NORTH SHORE OF THE WEST ARM OF LOON LAKE, ABOUT 1.5 MILE FROM THE PORTAGE TO THE LOON RIVER;
ON THE WEST SIDE OF A SMALL BAY, 800.0 FEET NORTH OF REF MON 460.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.596 12B = -103.589 09 = -103.533 03 = -103.569

ROD

Mn/DOT Name: ROD

NGS Name: ROD

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483841.26	940241.73		

NGS ACRN: TC1200 Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1913)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.75 MILE EAST OF THE HEAD OF LONG SAULT RAPIDS, 196.8 FEET WEST OF THE MOUTH OF THE STURGEON RIVER, A LEANING ASH TREE IS 29.5 FEET EAST OF STATION ROD, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.260 12B = -97.267 09 = -97.162 03 = -97.129

ROLL

Mn/DOT Name: ROLL
NGS Name: ROLL
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB0848 Get Map
NGS Quad / Sta Num : 48093121/1005
USGS Quad: CRANBERRY BAY OE N

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483743.22	930549.21		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1967	GOOD	Horz=? Vert=YES	NO		FLUSH	SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	SURVEY DISK	NGS

Description: (1967) **Stamping:** ROLL 1923

ON RAINY LAKE, 15.0 MILES EAST OF FORT FRANCES, ON THE SOUTHEAST ISLAND OF GROUP OF 5 ISLANDS, 51.0 FEET SOUTHWEST OF THE NORTHEAST POINT OF AN ISLAND, 25.0 FEET SOUTHEAST OF THE NORTH EDGE OF AN ISLAND, 18.3 FEET SOUTHEAST OF A METAL WITNESS POST, 8.0 FEET NORTHWEST OF THE SOUTH EDGE OF AN ISLAND, 37.18 FEET NORTHEAST OF ROLL RM, 20.37 FEET SOUTHEAST OF ROLL RM 2.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -102.621 12B = -102.565 09 = -102.470 03 = -102.523

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 37 43.21899	93 05 49.20576			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 37 43.20731	93 05 49.22615			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 37 43.48642	93 05 48.73936			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	UTM - Zone 15 Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
		1616966.800	17671168.330	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	UTM - Zone 15 Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
		1616965.429	17671167.149	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	MN State Plane - North Zone Y	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
2000756.500	776475.920			.100		CLASSICAL SURVEY	1950	UNK

ROLL AZ MK

Mn/DOT Name: ROLL AZ MK

NGS Name: ROLL AZ MK

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483755.00	930543.00		

NGS ACRN: CO8227 Get Map
NGS Quad / Sta Num : 48093121/
USGS Quad: CRANBERRY BAY OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1967	1967	GOOD	Horz=? Vert=YES	NO		FLUSH	SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	AZIMUTH MARK DISK	NGS

Description: (1967)

Stamping: ROLL 1923 1967

NORTHEAST OF STATION ROLL (TB0848), ON A ROCK POINT THAT IS ON THE SOUTH SIDE OF SAND POINT ISLAND, 150.0 FEET SOUTH OF THE MAIN BODY OF SAND POINT ISLAND, 20.0 FEET SOUTH-SOUTHEAST OF A 5.0 INCH DIAMETER POPLAR TREE, 12.0 FEET NORTH OF THE SOUTH EDGE OF A ROCK POINT, 3.4 FEET SOUTHWEST OF A METAL WITNESS POST.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.651 12B = -102.592 09 = -102.500 03 = -102.549

ROLL RM

Mn/DOT Name: ROLL RM

NGS Name: ROLL RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483743.00	930549.00		

NGS ACRN: CO8228 Get Map
NGS Quad / Sta Num : 48093121/
USGS Quad: CRANBERRY BAY OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1967	GOOD	Horz=? Vert=YES	NO		FLUSH	SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	REFERENCE MARK DISK	NGS

Description: (1967) **Stamping:** ROLL 1923

15.0 MILES WEST-NORTHWEST OF INTERNATIONAL FALLS, ON THE SOUTHEAST ISLAND OF A GROUP OF 5 SMALL ISLANDS SOUTH OF SAND POINT ISLAND, 45.6 FEET SOUTHWEST OF A METAL WITNESS POST, 15.0 FEET NORTHEAST OF AN 8.0 INCH DIAMETER PINE TREE, 3.3 FEET NORTHWEST OF THE SOUTH EDGE OF AN ISLAND, ABOUT 3.0 FEET ABOVE THE WATER LEVEL, 37.2 FEET NORTHEAST OF STATION ROLL (TB0848).

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.621 12B = -102.565 09 = -102.470 03 = -102.519

ROLL RM 2

Mn/DOT Name: ROLL RM 2 **NGS Name:** ROLL RM 2

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483743.00	930549.00		

NGS ACRN: CO8229 Get Map
NGS Quad / Sta Num : 48093121/
USGS Quad: CRANBERRY BAY OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1967	1967	GOOD	Horz=? Vert=YES	NO		FLUSH	SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	REFERENCE MARK DISK	NGS

Description: (1967) **Stamping:** ROLL 1923 NO 2 1967

15.0 MILES WEST-NORTHWEST OF INTERNATIONAL FALLS, ON THE SOUTHEAST ISLAND OF A GROUP OF 5 SMALL ISLANDS SOUTH OF SAND POINT ISLAND, 5.3 FEET WEST OF A METAL WITNESS POST, 5.0 FEET SOUTHEAST OF THE NORTH EDGE OF AN ISLAND, 1.5 FEET ABOVE THE WATER LEVEL, 20.4 FEET NORTHWEST OF STATION ROLL (TB0848).

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.621 12B = -102.565 09 = -102.470 03 = -102.519

ROUGH

Mn/DOT Name: ROUGH **NGS Name:** ROUGH

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483847.20	940414.42		3

NGS ACRN: TC1202 Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1969	UNKNOWN	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	IBWC

Description: (1913) **Stamping:** U.S. & C.B. SURVEY

1.95 MILES NORTHEAST OF BIRCHDALE, ON THE NORTH BANK OF THE RAINY RIVER, 0.5 MILE BELOW THE HEAD OF LONG SAULT RAPIDS, ON A PROJECTING POINT OF A ROCKY BLUFF, 26.2 FEET ABOVE THE WATER.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1069.552	.262		972.701	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -97.142 12B = -97.152 09 = -97.050 03 = -97.014

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 38 47.20119	94 04 14.42041			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 38 47.18677	94 04 14.41588			.131	3	ADJUSTMENT	1989	17085

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1381677.396	17679449.825	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1381677.680	17679448.360	.131	3	ADJUSTMENT	1989	17085

Mn/DOT Name: RUB **NGS Name:** RUB

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB1019 Get Map
NGS Quad / Sta Num : 48093434/1014
USGS Quad: MANITOU OE N

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483811.86	935318.04		2

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1923	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	TRIANGULATION STATION DISK	NGS

Description: (1923) **Stamping:** RUB 1923

2.25 MILES WEST ON A RAILROAD FROM EMO, 1516.0 FEET WEST OF MILEPOST 111, 31.4 FEET NORTH OF THE SOUTH RAIL OF THE RAILROAD TRACKS, 74.9 FEET NORTH-NORTHEAST OF RUB RM.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -97.838 12B = -97.844 09 = -97.743 03 = -97.769

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 38 11.85816	93 53 18.03625			.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 38 11.84400	93 53 18.04235			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 38 11.99803	93 53 17.43041			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1425696.948	17675304.030	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1425696.522	17675302.600	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	Y	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
1809411.780	780337.040			.100		CLASSICAL SURVEY	1950	UNK

RUB RM

Mn/DOT Name: RUB RM

NGS Name: RUB RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483811.00	935318.00		

NGS ACRN: CO8253 Get Map
NGS Quad / Sta Num : 48093434/
USGS Quad: MANITOU OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1923	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (1923)

Stamping:

2.25 MILES WEST ON A RAILROAD FROM EMO, 74.9 FEET NORTHEAST FROM STATION RUB.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.838 12B = -97.844 09 = -97.743 03 = -97.766

RYE

Mn/DOT Name: RYE
NGS Name: RYE
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482735.69	924158.07		2

NGS ACRN: TB1059 Get Map
NGS Quad / Sta Num : 48092314/1026
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1925	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	SURVEY DISK	NGS

Description: (1925) **Stamping:** RYE 1923

4.0 MILES SOUTHWEST OF KETTLE FALLS, ON THE HIGHEST POINT OF A SMALL ROCKY ISLAND IN NAMAKAN LAKE, JUST NORTH OF ERICKSON ISLAND, 20.6 FEET SOUTH OF RYE RM.

Station Notes

RYE RM MAY BE EITHER AT AZIMUTH 11 DEGREE 35 MINUTES, OR 191 DEGREE 35 MINUTES, THERE ARE TWO CONFLICTING DESCRIPTIONS.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -103.582 12B = -103.560 09 = -103.504 03 = -103.540

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 27 35.68634	92 41 58.07453			.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 27 35.69180	92 41 58.11408			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 27 36.03073	92 41 57.54085			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1713312.036	17609752.514	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1713309.370	17609753.057	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	Y	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
2097224.290	715168.350			.100		CLASSICAL SURVEY	1950	UNK

RYE RM

Mn/DOT Name: RYE RM

NGS Name: RYE RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482735.89	924158.01		

NGS ACRN: CJ2718 Get Map
NGS Quad / Sta Num : 48092314/
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1925	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	REFERENCE MARK DISK	NGS

Description: (1925)

Stamping:

4.0 MILES SOUTHWEST OF KETTLE FALLS, ON THE HIGHEST POINT OF A SMALL ROCKY ISLAND IN NAMAKAN LAKE, JUST NORTH OF ERICKSON ISLAND, 20.6 FEET NORTH OF STATION RYE.

Station Notes

RM MAY BE EITHER AT AZIMUTH 11 DEGREES 35 MINUTES, OR 191 DEGREES 35 MINUTES, THERE ARE TWO CONFLICTING DESCRIPTIONS.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.582 12B = -103.560 09 = -103.504 03 = -103.540

RYUS EAST BASE

Mn/DOT Name: RYUS EAST BASE
NGS Name: RYUS EAST BASE
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483648.02	932340.00		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1914	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2009)
Stamping:

IN FORT FRANCES, IN THE SOUTHWEST QUADRANT OF THE JUNCTION OF 4TH STREET EAST AND CHRISTIE AVENUE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.899 12B = -100.895 09 = -100.810 03 = -100.800

SAM

Mn/DOT Name: SAM

NGS Name: SAM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481339.31	922125.32		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

6.6 MILES SOUTHEAST OF CRANE LAKE, ON THE NORTH SHORE OF THE LOON RIVER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.395 12B = -103.392 09 = -103.310 03 = -103.363

SAND POINT

Mn/DOT Name: SAND POINT
NGS Name: SAND POINT
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483807.28	930620.95		1

NGS ACRN: TB0850 Get Map
NGS Quad / Sta Num : 48093121/
USGS Quad: CRANBERRY BAY OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	IBWC

Description: (1913) **Stamping:** U.S. & C.B. SURVEY

ON THE HIGHEST POINT OF SANDPOINT ISLAND IN RAINY RIVER, 0.5 MILE NORTHWEST OF THE SITE OF AN OLD TRADING POST, 0.2 MILE NORTHEAST OF THE HEAD OF A BAY, ON THE TOP OF A CLIFF, 147.6 FEET ABOVE THE LAKE LEVEL.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1213.908	.131		1111.628	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -102.618 12B = -102.562 09 = -102.474 03 = -102.516

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 38 07.28153	93 06 20.95290			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 38 07.27090	93 06 20.96765			.033	1	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 38 07.58600	93 06 20.34200			.100	1	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1614838.295	17673608.772	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1614837.303	17673607.697	.033	1	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	1	CLASSICAL SURVEY	1982	17020

SCOTCH

Mn/DOT Name: SCOTCH

NGS Name: SCOTCH

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484138.93	942713.66		

NGS ACRN: TC1207 Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.75 MILE WEST OF CLEMENTSON, 16.4 FEET SOUTH OF THE EDGE OF A GRAIN FIELD, 6.6 FEET ABOVE AND 68.9 FEET BACK FROM THE RIVER'S EDGE, ON A GENTLE SLOPE, A HOUSE IS NORTHEAST 328.0 FEET, AN OLD PIER IS EAST-SOUTHEAST 262.4 FEET FROM STATION SCOTCH, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.722 12B = -95.692 09 = -95.600 03 = -95.649

Mn/DOT Name: SCOTT
NGS Name: SCOTT
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB1142 Get Map
NGS Quad / Sta Num : 48092443/
USGS Quad: SOLDIER POINT OE N

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483844.20	925447.14		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (1913)
Stamping:

LOCATED ON SCOTT ISLAND, CANADA.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1200.785	.131		1097.563	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -103.527 12B = -103.458 09 = -103.376 03 = -103.510

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 38 44.19903	92 54 47.14191			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 38 44.18892	92 54 47.16225			.033	1	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 38 44.51500	92 54 46.55000			.100	1	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1661418.682	17677342.864	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1661417.318	17677341.839	.033	1	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	1	CLASSICAL SURVEY	1982	17020

Mn/DOT Name: SEA **NGS Name:** SEA

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483632.19	925626.07		1

NGS ACRN: TB1132 Get Map
NGS Quad / Sta Num : 48092433/1006
USGS Quad: SOLDIER POINT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1967	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	SURVEY DISK	NGS

Description: (1967) **Stamping:** SEA 1923

19.0 MILES EAST OF RANIER, ON 1ST ISLAND ON THE CANADIAN SIDE, AT THE WEST ENTRANCE TO BRULE NARROWS,
17.54 FEET SOUTH OF SEA RM, 30.45 FEET NORTHEAST OF SEA RM 2.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -103.287 12B = -103.208 09 = -103.130 03 = -103.228

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 36 32.19155	92 56 26.06792			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 36 32.18399	92 56 26.09152			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 36 32.49668	92 56 25.60889			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	UTM - Zone 15 Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
		1654788.235	17663963.740	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	UTM - Zone 15 Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
		1654786.650	17663962.973	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	MN State Plane - North Zone Y	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
2038602.900	769321.430			.100		CLASSICAL SURVEY	1950	UNK

SEA RM

Mn/DOT Name: SEA RM

NGS Name: SEA RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483632.00	925626.00		

NGS ACRN: CJ2755 Get Map
NGS Quad / Sta Num : 48092433/
USGS Quad: SOLDIER POINT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1967	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	REFERENCE MARK DISK	NGS

Description:

Stamping: SEA 1923

34.0 FEET SOUTHWEST OF A 6.0 INCH DIAMETER CEDAR TREE AND 18.0 FEET WEST OF A 6.0 INCH DIAMETER CEDAR TREE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.287 12B = -103.208 09 = -103.130 03 = -103.228

SEA RM 2

Mn/DOT Name: SEA RM 2

NGS Name: SEA RM 2

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483632.00	925626.00		

NGS ACRN: CJ2756 Get Map
NGS Quad / Sta Num : 48092433/
USGS Quad: SOLDIER POINT

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1967	1967	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	REFERENCE MARK DISK	NGS

Description: (1967) **Stamping:** SEA NO 2 1923 1967

102.0 FEET NORTH OF THE WATER'S EDGE, 20.0 FEET EAST OF AN 8.0-INCH DIAMETER PINE TREE AND 11.0 FEET NORTHEAST OF A 6.0-INCH DIAMETER PINE TREE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.287 12B = -103.208 09 = -103.130 03 = -103.228

SECOND

Mn/DOT Name: SECOND

NGS Name: SECOND

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484149.14	942617.47		

NGS ACRN: TC1208 Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SEE DESCRIPTION	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, OPPOSITE OF THE MOUTH OF THE RAPID RIVER, IN A HAYFIELD, 16.4 FEET INSIDE OF A FENCE, 16.4 FEET NORTHWEST BY WEST FROM A BRACED POST IN A FENCE, 36.1 FEET FROM THE EDGE OF THE TOP OF A BANK, 147.6 FEET EAST OF BILLY SLEEMANS HOUSE, A CROSS CUT IN A STONE OVER A BALL OF WIRE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.807 12B = -95.774 09 = -95.686 03 = -95.735

SEVEN

Mn/DOT Name: SEVEN

NGS Name: SEVEN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481458.76	921629.23		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=YES Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (1921)

Stamping:

ON THE TOP OF A HILL ON A PROMINENT POINT ON THE CANADIAN SIDE OF LOON LAKE, WHERE THE CHANNEL TAKES A RIGHT-ANGLE BEND. THE POINT IS EAST OF THE LARGE BAY ON THE NORTH SIDE OF THE CHANNEL AND IS 2.0 MILES SOUTH OF THE PORTAGE TO LAC LA CROIX AND 2.5 MILES EAST OF THE PORTAGE TO THE LOON RIVER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.753 12B = -103.740 09 = -103.691 03 = -103.717

SHADE

Mn/DOT Name: SHADE

NGS Name: SHADE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1209 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484217.80	942015.13		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.5 MILES WEST OF PINEWOOD, OPPOSITE CENTRAL, 6.6 FEET ABOVE AND 19.7 FEET BACK FROM THE RIVER'S EDGE, 49.2 FEET WEST OF THE MOUTH OF A CREEK, 16.4 FEET WEST OF A FENCE, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.302 12B = -96.299 09 = -96.187 03 = -96.210

SHEEP

Mn/DOT Name: SHEEP

NGS Name: SHEEP

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483157.62	933216.46		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093422/
USGS Quad: PELLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	SURVEY DISK	IBWC

Description: (1913) **Stamping:** U.S. & C.B. SURVEY

ON THE NORTH BANK OF THE RAINY RIVER, 1.2 MILES SOUTH WEST OF ISHERWOOD, 0.4 MILE WEST WILSON CREEK, IN A PASTURE, ON THE PROPERTY OF ALFRED MCPHEE, 26.2 FEET ABOVE AND 65.6 FEET BACK FROM THE RIVER'S EDGE, 202.0 FEET FROM THE SOUTHWEST CORNER OF A HOUSE, 210.2 FEET FROM THE NORTHWEST CORNER, 217.8 FEET FROM THE SOUTHEAST CORNER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -99.806 12B = -99.800 09 = -99.708 03 = -99.682

SHOEMAKER

Mn/DOT Name: SHOEMAKER
NGS Name: SHOEMAKER
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484318.20	943505.29	2	C

NGS ACRN: DN3591 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2011	2011	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 25 FT)	FLANGE-ENCASED ROD	MNDT

Description: (2011) **Stamping:** SHOEMAKER 2011

0.75 MILE NORTHEAST OF BAUDETTE, AT THE JUNCTION OF CANADA HIGHWAY 11 AND CANADA HIGHWAY 600, 0.2 MILE NORTHEAST OF A BRIDGE OVER THE RAINY RIVER, 49.5 FEET NORTH OF CANADA HIGHWAY 11, 79.0 FEET EAST OF CANADA HIGHWAY 600, 175.5 FEET SOUTH OF THE SOUTH RAIL OF THE RAILROAD TRACKS, 26.8 FEET EAST OF THE SOUTH POST OF AN ONTARIO SIGN POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1073.754	.016	2/1				VERTICAL ADJUSTMENT	2013	00000762
1073.754	.016	2/1				VERTICAL CONTROL SURVEY	2011	VRAINY

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
			978.344	.007	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1073.751	.131		978.420	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2826
1073.751	.131		978.420	.066	2007	GPS - STATIC	2011	HRAINY
1073.751	.131		978.420	.066	1996	GPS - STATIC	2011	HRAINY

Geoid Separations(ft): GEOID18 = -95.420 12B = -95.374 09 = -95.298 03 = -95.331

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 43 18.20450	94 35 05.28798			.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 43 18.20468	94 35 05.28885			.033	C	ADJUSTMENT	2011	GPS2826

NAD83(2007)

Geodetic Position		Lake of the Woods County - South Zone					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 43 18.20468	94 35 05.28885	572068.453	229886.517	.033	C	GPS - STATIC	2011	HRAINY

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 43 18.20459	94 35 05.28873			.033	C	GPS - STATIC	2011	HRAINY

SHOEMAKER

State Plane and UTM Coordinates (Feet)

NAD83(2011)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1258006.291	17709063.810	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1258006.233	17709063.829	.033	C	ADJUSTMENT	2011	GPS2826

NAD83(2007)

MN State Plane - North Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2266250.715	1141926.184	1258006.233	17709063.829	.033	C	GPS - STATIC	2011	HRAINY

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1258006.241	17709063.820	.033	C	GPS - STATIC	2011	HRAINY

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/ontario/rainy_river_district/SHOEMAKER-DN3591-3N-15FEB2011.jpg	N	Feb 15, 2011
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/ontario/rainy_river_district/SHOEMAKER-DN3591-2-15FEB2011.jpg		Feb 15, 2011
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/ontario/rainy_river_district/SHOEMAKER-DN3591-1-15FEB2011.jpg		Feb 15, 2011

** All station images can be viewed at: ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos **

SHORE

Mn/DOT Name: SHORE

NGS Name: SHORE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483111.55	934748.46		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1918)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.7 MILE NORTHEAST OF LOMAN, OPPOSITE THE HOUSE OF MACK LOMAN, 16.1 FEET SOUTH OF BOUNDARY REF MON 203.

Station Notes

SUBSURFACE MARK IS A BOTTLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.090 12B = -98.090 09 = -97.995 03 = -97.962

Mn/DOT Name: SHORTISS **NGS Name:** SHORTISS

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TA0181 Get Map
NGS Quad / Sta Num : 48091343/
USGS Quad: IRON LAKE OE N

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481700.60	915629.48		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1924	GOOD	Horz=YES Vert=YES	NO		PROJECTS 6 IN.	SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	SURVEY DISK	NGS

Description:

ABOUT 3.0 MILES NORTHEAST OF BOTTLE PORTAGE, 1.0 MILE NORTHEAST OF BASS LAKE, AND ON THE HIGHEST POINT OF SHORTISS ISLAND WHICH IS IN THE SOUTHEASTERN PART OF LAC LA CROIX. THE ISLAND IS MADE CONSPICUOUS BY A GROVE OF TALL NORWAY PINES ON A SUMMIT OF A HILL. TO REACH FROM BOTTLE PORTAGE, FOLLOW THE EAST SHORE OF LAC LA CROIX NORTH 1.0 MILE TO THE NORTHEAST CORNER OF THE HEAD OF A BAY, MAKE SHORT PORTAGE TO BASS LAKE AND FOLLOW A BLAZED TRAIL WHICH LEADS FROM THE NORTHEASTERLY EXTREMITY OF BASS LAKE (JUST EAST OF HIGH ROCK BLUFF) 1.5 MILES TO THE STATION SHORTISS SITE. MARKED BY STANDARD BRONZE DISK OF INTERNATIONAL BOUNDARY COMMISSION IN SMALL BOULDER FLUSH WITH SURFACE OF GROUND. REFERENCE MARK IS GEODETIC SURVEY OF CANADA BRONZE DISK IN SMALL BOULDER, PROJECTING 6.0 INCHES ABOVE THE GROUND, AND 79.7 FEET FROM STATION S 22 DEGREES 16 MINUTES WEST.

Stamping:

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1476.375	.131		1372.022	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -104.682 12B = -104.668 09 = -104.655 03 = -104.645

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 17 00.59678	91 56 29.48364			.033	1	ADJUSTMENT	1999	17648

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1898039.311	17547052.156	.033	1	ADJUSTMENT	1999	17648

SHORTISS RM

Mn/DOT Name: SHORTISS RM

NGS Name: SHORTISS RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: CJ2768 Get Map
NGS Quad / Sta Num : 48091343/
USGS Quad: IRON LAKE OE N

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481659.87	915629.93		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1924	GOOD	Horz=YES Vert=YES	NO		PROJECTS 6 IN.	SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	REFERENCE MARK DISK	NGS

Description:

79.7 FEET FROM STATION SOUTH 22 DEGREES 16 MINUTES WEST.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.682 12B = -104.665 09 = -104.655 03 = -104.642

SHORTREDE

Mn/DOT Name: SHORTREDE

NGS Name: SHORTREDE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483638.63	934914.30		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1913)

Stamping:

ON THE EAST BANK OF THE RAINY RIVER, 2.5 MILES SOUTH OF EMO, ON THE BANK, BELOW THE HIGH-WATER MARK, ON THE PROPERTY OF THOMAS SHORTREDE.

Station Notes

A BOTTLE BURIED IN THE GROUND WITH A ROCK PLACED OVER IT.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.018 12B = -98.021 09 = -97.926 03 = -97.985

SHUT

Mn/DOT Name: SHUT

NGS Name: SHUT

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483756.60	935210.44		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093431/
USGS Quad: LOMAN OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	CHISELED CROSS	IBWC

Description: (1913)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.5 MILES NORTHWEST OF INDUS, IN THE FRONT OF BENJAMIN WILCOX'S HOUSE, NEAR THE HIGH-WATER MARK, 32.8 FEET FROM A VERY LARGE ROCK, ON A FLAT ROCK NEARLY LEVEL WITH THE GROUND, 100.7 FEET SOUTH OF BOUNDARY REF MON 182.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.890 12B = -97.897 09 = -97.792 03 = -97.828

SLEEMAN

Mn/DOT Name: SLEEMAN
NGS Name: SLEEMAN
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0555 Get Map
NGS Quad / Sta Num : /
Quad Name: N R Canada - 52D/16

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484634.67	942626.76		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	IBWC

Description: (1913)
Stamping:

ON THE NORTH SIDE OF THE RAINY RIVER, 4.0 MILES NORTH AND 0.5 MILE WEST OF SLEEMAN SIDING, ONTARIO, ON A ROCK ABOUT 20.0 FEET HIGH, 70.0 FEET TOWER WAS ERECTED OVER STATION SLEEMAN.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1076.113	.131		980.172	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -96.276 12B = -96.273 09 = -96.155 03 = -96.240

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 46 34.66743	94 26 26.75614			.033	1	ADJUSTMENT	1999	17648

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1293137.458	17728275.935	.033	1	ADJUSTMENT	1999	17648

SLOPE

Mn/DOT Name: SLOPE

NGS Name: SLOPE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483110.77	934411.04		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093423/
USGS Quad: DEVLIN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1913)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 2.9 MILES SOUTHWEST OF BIG FORK, 0.75 MILE WEST OF THE MOUTH OF THE BIG FORK RIVER, HALFWAY UP THE RIVER BANK, 13.1 FEET ABOVE THE WATER, 98.4 FEET WEST OF THE LINE BETWEEN LOTS 7 AND 8 RIVER RANGE, ON THE PROPERTY OF MR AYLESWORTH, IN A REDDISH STONE THE SIZE OF A LOAF OF BREAD.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.448 12B = -98.448 09 = -98.359 03 = -98.340

SLOUGH

Mn/DOT Name: SLOUGH

NGS Name: SLOUGH

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483920.10	941448.45		

NGS ACRN: TC1210 Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE EAST BANK OF THE RAINY RIVER, 0.25 MILE EAST OF THE FRONTIER STORE, ON THE LOW GRASSY BANK, 3.3 FEET ABOVE AND 6.6 FEET BACK FROM THE RIVER'S EDGE, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.483 12B = -96.476 09 = -96.401 03 = -96.368

SMART

Mn/DOT Name: SMART

NGS Name: SMART

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484219.29	942109.56		

NGS ACRN: TC1211 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE SLOPE OF A BANK, 6.0 FEET ABOVE THE RIVER AND 25.0 FEET BACK, SOUTH OF SMARTS HOUSE WHICH IS ABOUT 196.8 FEET DISTANT, PILING OF AN OLD PIER 91.8 FEET WEST, 0.75 MILE SOUTHEAST OF CENTRAL, A STONE AND WIRE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.230 12B = -96.224 09 = -96.112 03 = -96.142

SMOKE

Mn/DOT Name: SMOKE

NGS Name: SMOKE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481619.61	922358.40		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

4.2 MILES EAST OF CRANE LAKE, ON THE EAST SIDE OF LITTLE VERMILION LAKE, 1.0 MILE NORTH OF THE SOUTH END OF THE LAKE, 0.3 MILE SOUTH OF AN ISLAND IN THE MIDDLE OF THE LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.540 12B = -103.530 09 = -103.474 03 = -103.510

Mn/DOT Name: SNOW
NGS Name: SNOW
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482748.40	923852.19		1

NGS ACRN: TB1063 Get Map
NGS Quad / Sta Num : 48092314/
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	IBWC

Description: (1914) **Stamping:** U.S. & C.B. SURVEY

2.8 MILES SOUTH OF KETTLE FALLS, ON NAMAKAN LAKE, 721.6 FEET FROM THE EAST SHORE OF THE POINT, 885.6 FEET FROM THE SOUTH SHORE OF THE POINT, 20.0 FEET WEST OF AN IRON REFERENCE BOLT, 48.0 FEET NORTH OF AN IRON REFERENCE BOLT.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1089.237	.131		985.759	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -103.825 12B = -103.802 09 = -103.753 03 = -103.779

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 27 48.40180	92 38 52.19173			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 27 48.40750	92 38 52.23180			.033	1	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 27 48.74300	92 38 51.63400			.100	1	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1725830.057	17611093.983	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1725827.354	17611094.548	.033	1	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	1	CLASSICAL SURVEY	1982	17020

SPENCER

Mn/DOT Name: SPENCER

NGS Name: SPENCER

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483104.28	933932.35		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093423/
USGS Quad: DEVLIN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1926)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.7 MILE SOUTHEAST OF BIG FORK, ON THE PROPERTY OF ALONZO SPENCER, IN A FIELD NEAR THE HIGH BANK, NEAR SEVERAL POPLAR TREES, 7.2 FEET SOUTH OF BOUNDARY REF MON 215.

Station Notes

SUBSURFACE MARK IS A BOTTLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.963 12B = -98.960 09 = -98.871 03 = -98.842

SPIN

Mn/DOT Name: SPIN

NGS Name: SPIN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480408.25	912757.84		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091233/
USGS Quad: ENSIGN LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1915	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	CHISELED TRIANGLE	IBWC

Description:

ON AN ISLAND AT THE EASTERN END OF BASSWOOD LAKE, ABOUT 3.25 MILES FROM PRAIRIE PORTAGE. STATION SPIN IS ON THE SOUTH POINT OF THE LARGE ISLAND THAT LIES JUST WEST OF THE NARROWS LEADING INTO THE MAIN BODY OF THE LAKE. IT IS ON A ROCK OUTCROP NEAR AN OLD CAMP GROUND. NO OTHER ROCK IS NEAR IT.

Stamping:

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.529 12B = -102.575 09 = -102.490 03 = -102.145

SPRING

Mn/DOT Name: SPRING

NGS Name: SPRING

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483758.51	935303.32		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093434/
USGS Quad: MANITOU OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	IBWC

Description: (1918)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 5.0 MILES EAST-NORTHEAST OF MANITOU, ON A GRASSY BANK, 44.5 FEET SOUTH OF BOUNDARY REF MON 180.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.834 12B = -97.841 09 = -97.739 03 = -97.766

SQUALL POINT

Mn/DOT Name: SQUALL POINT
NGS Name: SQUALL POINT
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483844.40	931920.74		1

NGS ACRN: TB0873 Get Map
NGS Quad / Sta Num : 48093131/
USGS Quad: RANIER OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	IBWC

Description: (1913) **Stamping:** U.S. & C.B. SURVEY

ON THE NORTH SHORE OF RAINY LAKE, 2.5 MILES NORTH OF RAINIER, ON THE TOP OF A SMALL TIMBERED HILL ON SQUALL POINT, 59.0 FEET ABOVE THE LAKE LEVEL, 492.0 FEET FROM THE SOUTH SHORE, 852.8 FEET FROM THE EAST SHORE.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1171.257	.131		1070.090	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -101.447 12B = -101.420 09 = -101.345 03 = -101.352

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 38 44.40477	93 19 20.73654			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 38 44.39330	93 19 20.75032			.033	1	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 38 44.69800	93 19 20.09300			.100	1	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1562497.108	17677516.323	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1562496.178	17677515.165	.033	1	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	1	CLASSICAL SURVEY	1982	17020

SQUARE

Mn/DOT Name: SQUARE

NGS Name: SQUARE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483839.95	940029.58		

NGS ACRN: TC1218 Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	UNKNOWN	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	NGS

Description: (1918)

Stamping:

4.5 MILES NORTHEAST OF BIRCHDALE, ON THE NORTH BANK OF THE RAINY RIVER, 328.0 FEET WEST OF A SMALL CREEK, ON THE PROPERTY OF D SMITH, 2.4 FEET NORTH OF REF MON 162.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.437 12B = -97.441 09 = -97.339 03 = -97.306

SQUAW

Mn/DOT Name: SQUAW **NGS Name:** TC1219

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1219 Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484524.76	943900.08		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1999	UNKNOWN	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	UNMONUMENTED	IBWC

Description:

4.5 MILES NORTHWEST OF RAINY RIVER, 1.0 MILE NORTH ALONG HIGHWAY 600 E FROM THE JUNCTION OF HIGHWAY 600 E AND HIGHWAY 11 W (ATWOOD AVENUE), THEN 1.0 MILE WEST ON BYRNES ROAD, 2.0 MILES NORTH ON POCHALIO ROAD, THEN 2.0 MILES WEST ON RIVER ROAD, 0.5 MILES SOUTH ON OLSON ROAD TO A HOUSE, 911.99 FEET SOUTHEAST FROM THE CENTERLINE OF OLSON ROAD, MONUMENT IS NEAR THE SHORE OF THE RAINY RIVER.

Stamping:

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1079.394	.262		984.299	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -95.505 12B = -95.476 09 = -95.397 03 = -95.397

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 45 24.76138	94 39 00.07789			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 45 24.73637	94 39 00.06697			.131	3	ADJUSTMENT	1989	17085

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1242547.102	17722217.911	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1242547.779	17722215.362	.131	3	ADJUSTMENT	1989	17085

STAKE

Mn/DOT Name: STAKE

NGS Name: STAKE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483542.38	932618.21		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1914	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2009)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 2.4 MILES SOUTHWEST OF FORT FRANCES.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.584 12B = -100.590 09 = -100.495 03 = -100.482

STATES

Mn/DOT Name: STATES **NGS Name:** STATES

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB1003 Get Map
NGS Quad / Sta Num : 48093423/1015
USGS Quad: DEVLIN

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483651.12	933956.38		2

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1966	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	NGS

Description: (1966) **Stamping:** STATES 1923

1804.0 FEET EAST OF THE DEVLIN RAILROAD STATION, ON A CURVE OF A RAILROAD, AT THE INTERSECTION OF TANGENTS OF THE SOUTH RAIL, 38.6 FEET NORTH OF STATES RM, IN 1966 THE STATION WAS SEARCHED FOR, BUT NOT LOCATED-SPUR LINE NOW LOCATED 1.0 FOOT SOUTH OF THE STATION SITE-DITCH AT REFERENCE MONUMENT SITE-FOUND PIECES OF CONCRETE IN AREA BUT NO STATION OR MONUMENT.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -98.993 12B = -99.022 09 = -98.937 03 = -99.081

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 36 51.12024	93 39 56.38110			.066	2	ADJUSTMENT	1999	17648

NAD27

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 36 51.28751	93 39 55.81135			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	UTM - Zone 15 Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
		1479449.306	17666577.243	.066	2	ADJUSTMENT	1999	17648

NAD27

MN State Plane - North Zone X	MN State Plane - North Zone Y	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
1863194.990	771686.330			.100		CLASSICAL SURVEY	1950	UNK

Geodetic Data Sheet (Feet)
GSID Station # 69860

STATES RM

04/28/2026
Sheet Help

Mn/DOT Name: STATES RM
NGS Name: STATES RM
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: CO8351 Get Map
NGS Quad / Sta Num : 48093423/
USGS Quad: DEVLIN

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483651.00	933956.00		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	2001	UNKNOWN	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SEE DESCRIPTION	NGS

Description:

0.57 MILE SOUTHEAST OF DEVLIN, 0.36 MILE SOUTH ALONG PROVINCIAL ROAD 613 FROM THE JUNCTION OF PROVINCIAL ROAD 613 AND PROVINCIAL ROAD 11 (TRANS-CANADA HIGHWAY), THE JUNCTION IS 595.0 FEET SOUTH OF DEVLIN, THEN 1693.0 FEET EAST ALONG THE RAILROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.993 12B = -99.025 09 = -98.937 03 = -99.081

STEER

Mn/DOT Name: STEER

NGS Name: STEER

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483609.28	934900.42		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1913)

Stamping:

ON THE EAST BANK OF THE RAINY RIVER, 3.0 MILES SOUTH OF EMO, 0.75 MILE SOUTH OF SMOOT ISLAND, ON A GRASSY SLOPE, ON THE PROPERTY OF ALEX LUTTRELL, 13.1 FEET ABOVE THE RIVER.

Station Notes

SUBSURFACE MARK IS A BOTTLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.015 12B = -98.018 09 = -97.926 03 = -97.979

STEFFENSON

Mn/DOT Name: STEFFENSON

NGS Name: STEFFENSON

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484245.28	942412.61		

NGS ACRN: TC1221 Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 2.1 MILES EAST OF CLEMENTSON, IN A PASTURE, 262.4 FEET FROM THE RIVER, 328.0 FEET NORTHEAST OF A HOUSE, 75.4 FEET WEST OF A FENCE CORNER, 19.7 FEET SOUTH OF THE TOP OF A RIDGE, A CROSS CUT IN A STONE OVER A BALL OF WIRE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.010 12B = -95.987 09 = -95.889 03 = -95.955

STEFFENSON EAST BASE

Mn/DOT Name: STEFFENSON EAST BASE
NGS Name: STEFFENSON EAST BASE
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1222 Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484246.40	942400.40		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1999	UNKNOWN	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	UNMONUMENTED	IBWC

Description:

9.0 MILES EAST-SOUTHEAST OF BAUDETTE, 0.4 MILE NORTH ALONG MOM'S WAY FROM THE JUNCTION OF MOM'S WAY AND HIGHWAY 11, THEN 0.2 MILE EAST ON INTERNATIONAL DRIVE, THEN 0.2 MILE NORTHEAST ON MOM'S WAY, THEN 0.1 MILE NORTHEAST ON ELLEN STREET, THEN 8.4 MILES NORTHEAST ON HIGHWAY 11, 3330.0 FEET SOUTH OF HIGHWAY 11.

Stamping:

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1079.394	.262		983.686	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -96.027 12B = -96.007 09 = -95.905 03 = -95.971

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 42 46.39915	94 24 00.39518			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 42 46.38035	94 24 00.38593			.131	3	ADJUSTMENT	1989	17085

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1302511.907	17704969.320	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1302512.492	17704967.404	.131	3	ADJUSTMENT	1989	17085

STEWART

Mn/DOT Name: STEWART

NGS Name: STEWART

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1223 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484206.59	943050.86		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 2.75 MILES EAST OF THE TOWN OF RAINY RIVER, 656.0 FEET EAST OF STEWARTS HOUSE, 918.4 FEET WEST OF THE MOUTH OF A CREEK, 6.6 FEET ABOVE AND 19.7 FEET BACK FROM THE RIVER'S EDGE, A 3.0 FEET BOULDER IS WEST-SOUTHWEST 75.4 FEET DISTANT, A LARGE ROCK IS SOUTHWEST 16.4 FEET DISTANT FROM STATION STEWART, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.492 12B = -95.466 09 = -95.364 03 = -95.413

STIMSON

Mn/DOT Name: STIMSON

NGS Name: STIMSON

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483806.17	935656.75		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093434/
USGS Quad: MANITOU OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	IBWC

Description: (1913) **Stamping:** U.S. & C.B. SURVEY

1.8 MILES SOUTHEAST OF BARWICH, ON THE NORTH BANK OF THE RAINY RIVER, 0.3 MILE EAST OF SIMS CREEK, ON THE PROPERTY OF MR STIMSON, 393.6 FEET WEST OF A HOUSE, ON A SLOPE, 3.3 FEET ABOVE THE WATER.

Station Notes

SUBSURFACE MARK IS A BOTTLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.618 12B = -97.621 09 = -97.519 03 = -97.506

STOKES

Mn/DOT Name: STOKES
NGS Name: STOKES
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483149.09	923519.02		3

NGS ACRN: TB1111 Get Map
NGS Quad / Sta Num : /
Quad Name: N R Canada - 52C/10

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1999	UNKNOWN	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	IBWC

Description: (1914) **Stamping:** U.S. & C.B. SURVEY

3.0 MILES NORTHEAST OF KETTLE FALLS, IN THE SECOND BAY SOUTH OF STOKES BAY IN RAINY LAKE, ON THE TOP OF A RIDGE, 65.6 FEET ABOVE THE LAKE LEVEL, 328.0 FEET SOUTHWEST OF THE HEAD OF THE BAY, 17.3 FEET SOUTH OF AN IRON BOLT, 21.4 FEET WEST OF AN IRON BOLT.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1174.538	.262		1070.451	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -104.452 12B = -104.416 09 = -104.376 03 = -104.396

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 31 49.08911	92 35 19.02445			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 31 49.09100	92 35 19.07102			.131	3	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 31 49.43000	92 35 18.49000			.100	3	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1740060.193	17635547.340	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1740057.059	17635547.515	.131	3	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	3	CLASSICAL SURVEY	1982	17020

STONE

Mn/DOT Name: STONE
NGS Name: STONE
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483702.10	934340.87		2

NGS ACRN: TB1002 Get Map
NGS Quad / Sta Num : 48093423/1016
USGS Quad: DEVLIN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1967	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	TRIANGULATION STATION DISK	NGS

Description: (1967) **Stamping:** STONE 1923

2.55 MILES WEST ALONG A RAILROAD FROM A NORTH-SOUTH ROAD CROSSING AT DEVLIN, 0.15 MILE SOUTH ON A GRAVEL ROAD FROM THE JUNCTION OF A GRAVEL ROAD-KINGS HIGHWAY 11 AND 71 AND ONTARIO HIGHWAY 613, THEN 2.1 MILES ON UNIMPROVED ROAD TO A TEE-ROAD SOUTH, THEN SOUTH 0.2 MILE TO A RAILROAD CROSSING, THEN 0.5 MILE WEST ALONG A RAILROAD, 25.5 FEET NORTH OF THE NORTH RAIL OF THE RAILROAD TRACKS, 90.0 FEET NORTHWEST OF A POWER POLE NUMBER 4220, 23.0 FEET SOUTH OF A FENCE LINE, 64.13 FEET EAST OF STONE RM 2, 73.11 FEET NORTH OF STONE RM 1.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -98.566 12B = -98.582 09 = -98.504 03 = -98.655

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 37 02.10328	93 43 40.86678			.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 37 02.08988	93 43 40.87418			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 37 02.26146	93 43 40.28870			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1464381.078	17667827.445	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1464380.568	17667826.093	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	Y	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
1848119.620	772914.860			.100		CLASSICAL SURVEY	1950	UNK

STONE AZ MK

Mn/DOT Name: STONE AZ MK

NGS Name: STONE AZ MK

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483703.00	934420.00		

NGS ACRN: TB1144 Get Map
NGS Quad / Sta Num : 48093423/
USGS Quad: DEVLIN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1967	GOOD	Horz=? Vert=YES	NO		PROJECTS 4 IN.	SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	AZIMUTH MARK DISK	NGS

Description: (1967) **Stamping:** STONE 1923 1967

2.55 MILES WEST ALONG A RAILROAD FROM THE NORTH-SOUTH ROAD CROSSING IN DEVLIN, 0.15 MILE SOUTH ON A GRAVEL ROAD FROM THE JUNCTION OF A GRAVEL ROAD-KINGS HIGHWAYS 11 AND 71 AND ONTARIO HIGHWAY 613, THEN 2.1 MILES ON AN UNIMPROVED ROAD TO A TEE-ROAD SOUTH, THEN SOUTH 0.2 MILE TO A RAILROAD CROSSING, THEN 0.5 MILE WEST ALONG A RAILROAD, 36.6 FEET SOUTH OF THE SOUTH RAIL OF THE RAILROAD TRACK, 1.6 FEET EAST OF A POWER POLE, 1.8 FEET NORTHWEST OF A METAL WITNESS POST.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.494 12B = -98.510 09 = -98.432 03 = -98.579

STONE IBC

Mn/DOT Name: STONE IBC

NGS Name: STONE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482551.73	922911.47		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092244/
USGS Quad: REDHORSE BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

8.6 MILES SOUTHEAST OF KETTLE FALLS, ON THE EAST SHORE OF NAMAKAN NARROWS.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.199 12B = -104.173 09 = -104.140 03 = -104.193

STONE LOON RIVER

Mn/DOT Name: STONE LOON RIVER
NGS Name: STONE
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481347.40	922114.88		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)
Stamping:

6.7 MILES SOUTHEAST OF CRANE LAKE, ON THE NORTH SHORE OF THE LOON RIVER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.418 12B = -103.415 09 = -103.336 03 = -103.386

STONE RAINY RIVER

Mn/DOT Name: STONE RAINY RIVER
NGS Name: STONE
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483545.64	932610.48		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	DRILL HOLE	IBWC

Description: (1913)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 2.3 MILES SOUTHWEST OF FORT FRANCES, 557.6 FEET BELOW THE MOUTH OF A CREEK, 9.8 FEET ABOVE AND 32.8 FEET BACK FROM THE RIVER'S EDGE, OPPOSITE A DUMPING GROUND.

Station Notes

SUBSURFACE MARK IS A BOTTLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.597 12B = -100.603 09 = -100.512 03 = -100.498

STONE RM 1

Mn/DOT Name: STONE RM 1

NGS Name: STONE RM 1

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483702.00	934341.00		

NGS ACRN: TB1145 Get Map
NGS Quad / Sta Num : 48093423/
USGS Quad: DEVLIN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1967	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SEE DESCRIPTION	NGS

Description: (1967)

Stamping: STONE NO 1 1923

2.55 MILES WEST ALONG A RAILROAD FROM THE NORTH-SOUTH ROAD CROSSING AT DEVLIN, 0.15 MILE SOUTH ON A GRAVEL ROAD FROM THE JUNCTION OF A GRAVEL ROAD-KINGS HIGHWAYS 11 AND 71 AND ONTARIO HIGHWAY 613, THEN WEST ON AN UNIMPROVED ROAD 2.1 MILES TO A TEE-ROAD SOUTH, THEN 0.2 MILE SOUTH TO A RAILROAD CROSSING, THEN 0.5 MILE WEST ALONG A RAILROAD, 23.9 FEET SOUTH OF THE SOUTH RAIL OF THE RAILROAD TRACK, 23.8 FEET NORTH OF A FENCE LINE, 17.0 FEET NORTHWEST OF A POWER POLE NUMBER 4220.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.566 12B = -98.582 09 = -98.500 03 = -98.651

STONE RM 2

Mn/DOT Name: STONE RM 2 **NGS Name:** STONE RM 2

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB1004 Get Map
NGS Quad / Sta Num : 48093423/1017
USGS Quad: DEVLIN

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483702.30	934341.77		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1967	1967	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (1967) **Stamping:** STONE NO 2 1923 1967

2.55 MILES WEST ALONG A RAILROAD FROM THE NORTH-SOUTH ROAD CROSSING AT DEVLIN, 0.15 MILE SOUTH ON A GRAVEL ROAD FROM THE JUNCTION OF A GRAVEL ROAD-KINGS HIGHWAYS 11 AND 71 AND ONTARIO HIGHWAY 613, THEN WEST ON AN UNIMPROVED ROAD 2.1 MILES TO A TEE-ROAD SOUTH, THEN 0.2 MILE SOUTH TO A RAILROAD CROSSING, THEN 0.5 MILE WEST ALONG A RAILROAD, 40.6 FEET NORTH OF THE NORTH RAIL OF THE RAILROAD TRACKS, 90.0 FEET NORTHWEST OF A POWER POLE NUMBER 4220, 7.5 FEET SOUTH OF A FENCE LINE, 64.13 FEET WEST OF STATION STONE, 2.4 FEET SOUTH OF A WITNESS POST.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -98.563 12B = -98.579 09 = -98.500 03 = -98.651

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 37 02.30032	93 43 41.77359			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 37 02.28687	93 43 41.78076			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 37 02.45847	93 43 41.19551			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1464320.361	17667847.987	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1464319.866	17667846.629	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	Y	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
1848058.850	772935.320			.100		CLASSICAL SURVEY	1950	UNK

STORM

Mn/DOT Name: STORM

NGS Name: STORM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1225 Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483843.98	940731.41		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1947	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.0 MILE WEST OF BIRCHDALE LANDING, 6.6 FEET ABOVE AND 19.7 FEET BACK FROM THE RIVER'S EDGE, ON A FLAT POINT, A LEANING POPLAR TREE WITH A SMALL NOTCH IS 13.1 FEET SOUTHWEST OF THE STATION, A CROSS CUT IN A STONE OVER A BURIED BOTTLE, 13.8 FEET SOUTH OF BOUNDARY REF MON 142.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.876 12B = -96.883 09 = -96.788 03 = -96.755

STORM IBC

Mn/DOT Name: STORM IBC

NGS Name: STORM IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	26	68 N	15 W	482118.23	921351.52		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092213/
USGS Quad: TAKUCMICH LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (1921)

Stamping:

ON THE NORTH SHORE OF LAC LA CROIX, 40.0 FEET SOUTH OF REFERENCE MONUMENT 519.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.468 12B = -104.432 09 = -104.419 03 = -104.491

STRATTON

Mn/DOT Name: STRATTON
NGS Name: STRATTON
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484206.42	941001.76		1

NGS ACRN: TC0544 Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1969	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	SURVEY DISK	IBWC

Description: (1913)

Stamping:

ON THE NORTH SIDE OF THE RAINY RIVER, 1.25 MILES NORTH OF STRATTON, ONTARIO, 0.25 MILE WEST OF A ROAD, ON THE SUMMIT OF A RIDGE, ON A ROCKY MOUND ON THE SOUTH SIDE OF A LUMBER ROAD RUNNING TO THE NORTHWEST, A 45.0 FEET TOWER WAS ERECTED OVER STATION STRATTON.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1194.223	.131		1097.485	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -97.067 12B = -97.073 09 = -96.988 03 = -96.939

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 42 06.41535	94 10 01.75607			.033	1	ADJUSTMENT	1999	17648

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1358670.620	17699972.291	.033	1	ADJUSTMENT	1999	17648

STRAW

Mn/DOT Name: STRAW

NGS Name: STRAW

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1226 Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484238.89	942234.79		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH SHORE OF THE RAINY RIVER, 3.25 MILES EAST OF CLEMENTSON, 29.5 FEET ABOVE AND 49.2 FEET BACK FROM THE RIVER'S EDGE, ON A SMALL POINT OF A BANK OPPOSITE THE WEST END OF A BOOM, 984.0 FEET EAST OF THE MOUTH OF BUDROW CREEK, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.132 12B = -96.122 09 = -96.014 03 = -96.063

STRAW IBC

Mn/DOT Name: STRAW IBC

NGS Name: STRAW

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481400.79	922028.25		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092231/
USGS Quad: LAKE JEANETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

7.2 MILES SOUTHEAST OF CRANE LAKE, ON THE NORTH SHORE OF THE LOON RIVER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.481 12B = -103.477 09 = -103.399 03 = -103.445

STUMP

Mn/DOT Name: STUMP

NGS Name: STUMP

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483407.01	932736.00		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1914	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2009)

Stamping:

ON THE WEST BANK OF THE RAINY RIVER, 4.3 MILES SOUTHWEST OF FORT FRANCES.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.377 12B = -100.380 09 = -100.279 03 = -100.266

Mn/DOT Name: SUB

NGS Name: SUB

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1228 Get Map
NGS Quad / Sta Num : 48094413/
USGS Quad: WHEELERS POINT

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484546.41	943938.27		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1914	UNKNOWN	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	UNMONUMENTED	NGS

Description:

5.2 MILES NORTH OF THE RAINY RIVER, ON THE NORTHEAST BANK OF THE RAINY RIVER, 470.1 FEET NORTHWEST OF REF MON 71 ECC (TC1155).

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.521 12B = -95.492 09 = -95.410 03 = -95.407

SUNDAY

Mn/DOT Name: SUNDAY
NGS Name: SUNDAY
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TA0138 Get Map
NGS Quad / Sta Num : /
Quad Name: N R Canada - 52B/3

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480842.74	912317.55		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1916	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	BOLT	GSC

Description: (1916) **Stamping:** G.S.C. 1916

ON HILL 2.0 MILES NORTHWEST OF THE NORTHEAST BAY OF SUNDAY LAKE, ON THE SOUTHWEST END OF A HOGBACK HILL WHICH RUNS IN THE NORTHEASTERLY DIRECTION, A TRAIL FROM THE NORTHWEST CORNER OF A BAY LEADS TO STATION SUNDAY SITE. MARKED BY COPPER BOLT STAMPED G. S. C. 1916. THREE REFERENCE BOLTS ARE AS FOLLOWS--NO. 1, 25.4 FEET FROM STATION SOUTH 01 DEGREE 05 MINUTES WEST. NO. 2, 29.3 FEET FROM STATION NORTH 67 DEGREES 25 MINUTES WEST. AND NO. 3, 48.8 FEET FROM STATION N 68 DEGREES 50 MINUTES EAST.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1656.821	.131		1553.701	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -103.517 12B = -103.556 09 = -103.523 03 = -103.176

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 08 42.74008	91 23 17.54834			.033	1	ADJUSTMENT	1999	17648

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		2033765.452	17498966.472	.033	1	ADJUSTMENT	1999	17648

SUTHERLAND

Mn/DOT Name: SUTHERLAND
NGS Name: SUTHERLAND
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484140.78	942636.73		

NGS ACRN: TC1231 Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1969	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.25 MILE WEST OF THE MOUTH OF THE RAPID RIVER ON THE OPPOSITE SIDE, ON THE POINT OF A RIDGE BETWEEN THE RIVER AND A SWALE 19.7 FEET TO THE WEST, 16.4 FEET ABOVE AND 16.4 FEET BACK FROM THE RIVER'S EDGE, A 12.0 INCH DIAMETER BIRCH TREE IS 9.9 FEET NORTH OF STATION SUTHERLAND, A BRONZE DISK SET IN CONCRETE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.774 12B = -95.741 09 = -95.653 03 = -95.702

SWAN

Mn/DOT Name: SWAN

NGS Name: SWAN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483255.99	934835.70		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	SURVEY DISK	IBWC

Description: (1918) **Stamping:**

ON THE EAST BANK OF THE RAINY RIVER, IN AYLESWORTH, 32.7 FEET NORTH-NORTHWEST OF BOUNDARY REF MON 197.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.018 12B = -98.015 09 = -97.926 03 = -97.923

SWEDE

Mn/DOT Name: SWEDE

NGS Name: SWEDE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483448.05	932757.86		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	DRILL HOLE	IBWC

Description: (1926)

Stamping:

ON THE WEST BANK OF THE RAINY RIVER, 4.0 MILES SOUTHWEST OF FORT FRANCES, ON THE PROPERTY OF ALBERT HANEY, 91.5 FEET FROM THE SOUTHEAST CORNER OF A HOUSE, 112.8 FEET FROM THE SOUTHWEST CORNER OF A HOUSE, 39.4 FEET ABOVE AND 131.2 FEET BACK FROM THE RIVER'S EDGE, A DRILL HOLE WITHIN A TRIANGLE CUT IN SOLID ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.371 12B = -100.380 09 = -100.282 03 = -100.272

SWELL

Mn/DOT Name: SWELL
NGS Name: SWELL
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484141.04	925858.68		1

NGS ACRN: TB1143 Get Map
NGS Quad / Sta Num : 48092443/
USGS Quad: SOLDIER POINT OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2019)

Stamping:

FROM THE JUNCTION OF 3RD STREET AND 2ND AVENUE IN INTERNATIONAL FALLS MINNESOTA, GO NORTH ON 2ND AVENUE ACROSS THE MINNESOTA CANADA BORDER FOR 0.2 MILES THEN TURN RIGHT ON CHURCH STREET FOR 0.3 MILES, THEN LEFT ON VICTORIA AVENUE FOR 394.0 FEET, THEN TURN RIGHT ON TRANS-CANADA HIGHWAY/ON-11 E FOR 24.1 MILES. TURN RIGHT ON AN UNNAMED ROAD THEN LEFT. STATION SWELL WILL BE ON THE LEFT ABOUT 304.25 FEET FROM THE CANTER OF THE ROAD.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1220.470	.131		1117.314	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -103.514 12B = -103.438 09 = -103.372 03 = -103.422

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 41 41.04455	92 58 58.67696			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 41 41.03266	92 58 58.69575			.033	1	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 41 41.35500	92 58 58.08400			.100	1	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1644529.254	17695246.492	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1644527.994	17695245.287	.033	1	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	1	CLASSICAL SURVEY	1982	17020

SWIFT

Mn/DOT Name: SWIFT

NGS Name: SWIFT

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482950.96	923932.48		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092314/
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1914	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

1.0 MILE SOUTHWEST OF KETTLE FALLS, ON SQUIRREL 1 ISLAND IN NAMAKAN LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.979 12B = -103.953 09 = -103.897 03 = -103.934

TACK

Mn/DOT Name: TACK

NGS Name: TACK

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482656.88	923031.61		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092311/
USGS Quad: HALE BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

7.1 MILES SOUTHEAST OF KETTLE FALLS, ON AN ISLAND IN NAMAKAN LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.239 12B = -104.209 09 = -104.170 03 = -104.222

TANK

Mn/DOT Name: TANK

NGS Name: TANK

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484237.35	941757.58		

NGS ACRN: TC1232 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1969	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 820.0 FEET EAST OF THE PINEWOOD PIER, 6.6 FEET ABOVE AND 9.9 FEET BACK FROM THE RIVER'S EDGE, 98.4 FEET WEST OF AN OLD PIER, 147.6 FEET SOUTHWEST OF AN OLD CABIN, 246.0 FEET SOUTHWEST OF A BARN, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.519 12B = -96.512 09 = -96.417 03 = -96.427

TAR

Mn/DOT Name: TAR

NGS Name: TAR

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483842.53	940525.12		

NGS ACRN: TC1233 Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1913)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.5 MILE EAST OF BIRCHDALE LANDING, JUST OPPOSITE THE WEST END OF A WOODED ISLAND, 9.9 FEET ABOVE AND 16.4 FEET BACK FROM THE RIVER'S EDGE, 6.6 FEET FROM A FENCE LINE, 196.8 FEET SOUTHWEST OF AN INDIAN HOUSE COVERED WITH TAR PAPER, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.040 12B = -97.047 09 = -96.949 03 = -96.916

TASSEL

Mn/DOT Name: TASSEL

NGS Name: TASSEL

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1234 Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484155.44	942843.55		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 2.0 MILES WEST OF CLEMENTSON, 656.0 FEET EAST OF THE MOUTH OF GORMLEY CREEK, ON VAN TASSELS PLACE, 45.9 FEET EAST OF A FENCE, 6.6 FEET BACK FROM THE TOP OF THE RIVER BANK, 13.1 FEET ABOVE AND 19.7 FEET BACK FROM THE RIVER'S EDGE, A WHITE HOUSE IS DUE SOUTH ON THE UNITED STATES SHORE, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.620 12B = -95.597 09 = -95.495 03 = -95.548

TEA

Mn/DOT Name: TEA

NGS Name: TEA

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482023.32	922720.50		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

14.1 MILES SOUTHEAST OF KETTLE FALLS, ON THE EAST SHORE OF SAND POINT LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.769 12B = -103.760 09 = -103.720 03 = -103.750

TEPEE

Mn/DOT Name: TEPEE

NGS Name: TEPEE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483101.95	934716.43		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1918)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.9 MILE NORTHEAST OF LOMAN, 656.0 FEET UPSTREAM AND ACROSS THE RIVER FROM THE HOISTING PLANT, ON A HIGH BANK, NEAR A PATH PARALLEL TO THE RIVER, 131.2 FEET WEST OF THE MOUTH OF A SMALL STREAM, 13.1 FEET SOUTHWEST OF BOUNDARY REF MON 205.

Station Notes

SUBSURFACE MARK IS A BOTTLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.133 12B = -98.140 09 = -98.041 03 = -98.012

TERRACE

Mn/DOT Name: TERRACE

NGS Name: TERRACE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484216.01	941641.56		

NGS ACRN: TC1236 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.4 MILES EAST OF PINEWOOD, 26.2 FEET ABOVE AND 55.8 FEET BACK FROM THE RIVER, 131.2 FEET WEST OF AN OLD BUILDING, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.598 12B = -96.591 09 = -96.499 03 = -96.502

THIRD

Mn/DOT Name: THIRD

NGS Name: THIRD

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483524.16	932758.56		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1926)

Stamping:

ON AN ISLAND IN THE RAINY RIVER, 3.7 MILES SOUTHWEST OF FORT FRANCES, ON THE HIGHEST POINT OF THE ISLAND, 3.3 FEET ABOVE AND 16.9 FEET NORTH OF THE SOUTH SHORE, 0.5 FOOT NORTH OF BOUNDARY REF MON 245.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.397 12B = -100.410 09 = -100.311 03 = -100.308

Mn/DOT Name: THIS

NGS Name: THIS

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480401.65	914134.13		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091323/
USGS Quad: BASSWOOD LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1921	GOOD	Horz=YES Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	METAL ROD	IBWC

Description: (1921)

Stamping:

ON THE NORTH BANK OF THE BASSWOOD RIVER, ABOUT 164.0 FEET BELOW THE MIDDLE OF WHEELBARROW FALLS, STATION THIS IS ON A LARGE ROCK ABOUT 7.9 FEET ABOVE THE GROUND, ABOUT 72.2 FEET BACK FROM THE RIVER'S EDGE, AND ABOUT 19.7 FEET ABOVE THE WATER.

Station Notes

A BRONZE DISK SET IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.785 12B = -102.805 09 = -102.736 03 = -102.431

THOMPSON

Mn/DOT Name: THOMPSON

NGS Name: THOMPSON

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483754.85	935100.11		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093431/
USGS Quad: LOMAN OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	CHISELED CROSS	IBWC

Description: (1913)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.7 MILE NORTHWEST OF INDUS, 0.6 MILE WEST OF THE HOTEL IN EMO, 0.25 MILE WEST OF SAWMILL OWNED BY W J THOMPSON, NEAR THE RIVER'S EDGE, 393.6 FEET WEST OF THE MOUTH OF RICE CREEK, ON A ROUND-TOPPED ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.969 12B = -97.976 09 = -97.874 03 = -97.926

TILL

Mn/DOT Name: TILL

NGS Name: TILL

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480309.18	912625.17		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48091233/
USGS Quad: ENSIGN LAKE WEST

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	CHISELED TRIANGLE	IBWC

Description: (1915)

Stamping:

AT THE EAST END OF BASSWOOD LAKE ABOUT 0.4 MILE NORTH OF PRAIRIE PORTAGE. STATION TILL IS ON A SMALL ROCKY ISLET JUST OFF THE WEST POINT OF THE LARGE ISLAND IN THE MIDDLE OF THE BAY. IT IS NEAR THE CENTER OF THE ISLET.

Station Notes

A DRILL HOLE WITHIN A TRIANGLE CUT IN THE ROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -102.149 12B = -102.198 09 = -102.103 03 = -101.752

TILLET

Mn/DOT Name: TILLET **NGS Name:** TILLET

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484045.02	935330.45		1

NGS ACRN: TB1022 Get Map
NGS Quad / Sta Num : 48093434/
USGS Quad: MANITOU OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	UNMONUMENTED	IBWC

Description:

23.0 MILES WEST-NORTHWEST OF FORT FRANCES, 20.8 MILES WEST ALONG HIGHWAY 71 FROM THE JUNCTION OF TRUNK HIGHWAY 71 AND MOWAT AVENUE, THEN 2.1 MILES NORTH ON EMO ROAD, THEN 1.1 MILES WEST ON EVERETT ROAD, THEN 1.0 MILE NORTH ON OFF LAKE ROAD, THEN 1.7 MILES EAST ON MCNALLY ROAD, 770.0 FEET WEST-NORTHWEST OF MCNALLY ROAD.

Stamping:

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1269.682	.131		1171.792	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -98.107 12B = -98.113 09 = -98.018 03 = -98.038

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 40 45.02481	93 53 30.45288			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 40 45.00918	93 53 30.45388			.033	1	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 40 45.28300	93 53 29.76000			.100	1	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1425044.621	17690829.844	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1425044.535	17690828.262	.033	1	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	1	CLASSICAL SURVEY	1982	17020

TIMOTHY

Mn/DOT Name: TIMOTHY

NGS Name: TIMOTHY

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483249.30	932815.32		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1913)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 5.8 MILES SOUTHWEST OF FORT FRANCES, IN A FIELD, ON THE PROPERTY OF MR LOWE, 328.0 FEET WEST OF THE MOUTH OF A SMALL STREAM, 19.7 FEET ABOVE AND 164.0 FEET BACK FROM THE RIVER'S EDGE, 144.3 FEET NORTHWEST OF AN ELM TREE, 190.2 FEET NORTHWEST OF AN ELM TREE, 262.4 FEET EAST OF STATION ELM.

Station Notes

SUBSURFACE MARK IS A BOTTLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.256 12B = -100.249 09 = -100.157 03 = -100.134

Mn/DOT Name: TIP

NGS Name: TIP

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483157.30	934859.84		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1918)

Stamping:

ON THE EAST BANK OF THE RAINY RIVER, 1.4 MILES NORTH OF LOMAN, ON THE PROPERTY OF W B OGDEN, 3.9 FEET WEST OF BOUNDARY REF MON 200.

Station Notes

SUBSURFACE MARK IS A BOTTLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.998 12B = -97.985 09 = -97.907 03 = -97.877

TITAN

Mn/DOT Name: TITAN

NGS Name: TITAN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481517.95	921636.73		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092242/
USGS Quad: SNOW BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1915	GOOD	Horz=YES Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (1915)

Stamping:

ON THE WEST SIDE OF THE NORTH ARM OF LOON LAKE, ABOUT 3.5 MILES NORTHEAST OF THE PORTAGE TO THE LOON RIVER, AND 1.75 MILES SOUTH OF THE PORTAGE TO LAC LA CROIX, THE MONUMENT IS ABOUT 100.0 FEET FROM THE SHORE AND 20.0 FEET ABOVE THE HIGH-WATER MARK AND ABOUT HALFWAY UP THE SIDE OF A HILL.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.776 12B = -103.763 09 = -103.720 03 = -103.747

Geodetic Data Sheet (Feet)
GSID Station # 36142

TOAD 1923

04/28/2026
Sheet Help

Mn/DOT Name: TOAD 1923 **NGS Name:** TOAD

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC0609 Get Map
NGS Quad / Sta Num : 48094421/1021
USGS Quad: BAUDETTE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484321.87	943504.29		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	2011	GOOD	Horz=NO Vert=YES	YES		RECESSED 2 IN.	SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	NGS

Description: (1969) **Stamping:** TOAD 1923

0.75 MILE NORTHEAST OF BAUDETTE MINNESOTA, 1.0 MILE WEST OF RAINY RIVER, ON 1ST CURVE OF CANADIAN NATIONAL RAILROAD, 0.15 MILE NORTHEAST OF THE INTERNATIONAL BRIDGE, 0.1 MILE NORTH OF THE JUNCTION OF CANADA HIGHWAY 11 AND CANADA HIGHWAY 600, 118.0 FEET EAST OF CANADA HIGHWAY 600, 94.0 FEET NORTHEAST OF A GUY LINE BRACE POLE, 2.0 FEET NORTHWEST OF A WITNESS POST, 151.32 FEET NORTHEAST OF TOAD RM, 101.62 FEET SOUTHEAST OF TOAD RM 2.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -95.426 12B = -95.384 09 = -95.308 03 = -95.338

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 43 21.87047	94 35 04.28763			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 43 21.85269	94 35 04.28032			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 43 22.03200	94 35 03.51900			.100	3	CLASSICAL SURVEY	1966	USGS-HORZ
48 43 21.95193	94 35 03.54432			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	UTM - Zone 15 Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
		1258081.060	17709433.778	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	UTM - Zone 15 Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
		1258081.512	17709431.966	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	MN State Plane - North Zone Y	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
1641698.712	814226.137			.100	3	CLASSICAL SURVEY	1966	USGS-HORZ
1641696.860	814218.060			.100		CLASSICAL SURVEY	1950	UNK

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/ontario/rainy_river_district/TOAD-TC0609-3E-15FEB2011.jpg	E	Feb 15, 2011
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/ontario/rainy_river_district/TOAD-TC0609-2-15FEB2011.jpg		Feb 15, 2011
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/ontario/rainy_river_district/TOAD-TC0609-1-15FEB2011.jpg		Feb 15, 2011

** All station images can be viewed at: ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos **

TOAD AZ MK

Mn/DOT Name: TOAD AZ MK

NGS Name: TOAD AZ MK

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: CO7576 Get Map
NGS Quad / Sta Num : 48094421/1021
USGS Quad: BAUDETTE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484320.00	943449.00		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1967	1967	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	AZIMUTH MARK DISK	NGS

Description: (1967) **Stamping:** TOAD 1923 1967

0.75 MILE NORTHEAST OF BAUDETTE, MINNESOTA, 1.0 MILE WEST OF RAINY RIVER, ON THE FIRST CURVE OF THE CANADIAN NATIONAL RAILROAD, 0.15 MILE NORTHEAST OF THE INTERNATIONAL BRIDGE, 0.1 MILE NORTH OF THE JUNCTION OF CANADA HIGHWAY 11 AND CANADA HIGHWAY 600.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.436 12B = -95.390 09 = -95.315 03 = -95.348

TOAD RM

Mn/DOT Name: TOAD RM

NGS Name: TOAD RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484321.00	943504.00		

NGS ACRN: CO7577 Get Map
NGS Quad / Sta Num : 48094421/1021
USGS Quad: BAUDETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1923	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (1923) **Stamping:** TOAD 1923

0.75 MILE NORTHEAST OF BAUDETTE MINNESOTA, 1.0 MILE WEST OF RAINY RIVER, ON THE FIRST CURVE OF THE CANADIAN NATIONAL RAILROAD, 0.15 MILE NORTHEAST OF THE INTERNATIONAL BRIDGE, 0.1 MILE NORTH OF THE JUNCTION OF CANADA HIGHWAY 11 AND CANADA HIGHWAY 600, 151.32 FEET SOUTHWEST OF STATION TOAD.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.426 12B = -95.380 09 = -95.305 03 = -95.338

TOAD RM 2

Mn/DOT Name: TOAD RM 2 **NGS Name:** TOAD RM 2

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: CO7578 Get Map
NGS Quad / Sta Num : 48094421/1021
USGS Quad: BAUDETTE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484321.00	943504.00		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1967	2011	GOOD	Horz=NO Vert=YES	YES		PROJECTS 8 IN.	STEEL SPIKE IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (1967) **Stamping:** TOAD 1923 NO 2 1967

0.75 MILE NORTHEAST OF BAUDETTE, MINNESOTA, 1.0 MILE WEST OF RAINY RIVER, ON THE FIRST CURVE OF THE CANADIAN NATIONAL RAILROAD, 0.15 MILE NORTHEAST OF THE INTERNATIONAL BRIDGE, 0.1 MILE NORTH OF THE JUNCTION OF CANADA HIGHWAY 11 AND CANADA HIGHWAY 600, 101.62 FEET NORTHWEST OF STATION TOAD, 68.7 FEET EAST OF CANADA HIGHWAY 600, 2.5 FEET SOUTH-SOUTHWEST OF A WITNESS POST.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.426 12B = -95.380 09 = -95.305 03 = -95.338

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/ontario/rainy_river_district/TOAD_RM_2-CO7578-3E-15FEB2011.jpg	E	Feb 15, 2011
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/ontario/rainy_river_district/TOAD_RM_2-CO7578-2-15FEB2011.jpg		Feb 15, 2011
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/ontario/rainy_river_district/TOAD_RM_2-CO7578-1-15FEB2011.jpg		Feb 15, 2011

** All station images can be viewed at: ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos **

Mn/DOT Name: TOP

NGS Name: TOP

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482540.42	922851.08		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092244/
USGS Quad: REDHORSE BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

8.9 MILES SOUTHEAST OF KETTLE FALLS, ON THE EAST SHORE OF NAMAKAN NARROWS.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.199 12B = -104.173 09 = -104.140 03 = -104.193

TOP IBC

Mn/DOT Name: TOP IBC

NGS Name: TOP IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483856.31	940436.56		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

4.4 MILES SOUTHEAST OF STRATTON, 4.0 MILES EAST ALONG HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND HIGHWAY 617, THEN ABOUT 1.2 MILES SOUTH FROM HIGHWAY 11.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.132 12B = -97.142 09 = -97.040 03 = -97.004

TOWER

Mn/DOT Name: TOWER
NGS Name: TOWER
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482835.34	922938.97		1

NGS ACRN: TB1042 Get Map
NGS Quad / Sta Num : 48092244/
USGS Quad: REDHORSE BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1924	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	IBWC

Description: (1924)
Stamping:

7.0 MILES EAST OF KETTLE FALLS, 0.75 MILE NORTH OF NAMAKAN LAKE, ON A HIGH ROCKY TIMBERED POINT, 29.9 FEET WEST OF AN IRON REFERENCE BOLT, 18.4 FEET NORTH OF AN IRON REFERENCE BOLT, 164.0 FEET SOUTH-SOUTH WEST OF TOWER RESET (TOWER CGS).

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1325.457	.131		1221.369	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -104.419 12B = -104.390 09 = -104.363 03 = -104.406

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 28 35.33862	92 29 38.96533			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 28 35.34594	92 29 39.01324			.033	1	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 28 35.67600	92 29 38.45500			.100	1	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1763069.896	17616057.572	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1763066.664	17616058.292	.033	1	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	1	CLASSICAL SURVEY	1982	17020

TOWER RESET

Mn/DOT Name: TOWER RESET
NGS Name: TOWER RESET
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB1040 Get Map
NGS Quad / Sta Num : 48092244/
USGS Quad: REDHORSE BAY

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482836.78	922937.63		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1948	GOOD	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	TRIANGULATION STATION DISK	CGS

Description: (1948) **Stamping:** TOWER 1923

0.7 MILE NORTH OF THE NORTH SHORE OF NAMAKAN LAKE, 1.0 MILE FROM THE EAST END OF LAKE, 2.75 MILES NORTH OF THE NORTH END OF NAMAKAN NARROWS, 2.25 MILES NORTHEAST OF NEIL BERGERS CAMP AT THE EAST END OF NAMAKAN LAKE, ON THE TOP OF A HIGH ROCKY HILL WHICH IS COVERED WITH MANY DEAD NORWAY PINE TREES, IT IS EASILY RECOGNIZED AT A CONSIDERABLE DISTANCE BY THESE DEAD SNAGS, TO REACH STATION TOWER RESET FROM CRANE LAKE POST OFFICE, GO BY MOTOR BOAT NORTH THROUGH CRANE LAKE AND NARROWS TO SAND POINT LAKE, CONTINUE NORTH THROUGH SAND POINT LAKE TO THE NORTH END OF NAMAKAN NARROWS, GO NORTH ACROSS NAMAKAN LAKE FOR 2.0 MILES TO A SAND BEACH COVE AT AN OLD LOGGING CAMP (NOTHING OF WHICH REMAINS) AND A TRIANGULAR BLAZED ASPEN TREE ON THE SHORE LINE, THIS COVE IS JUST EAST OF MUD BAY WHICH IS NORTH OF A GROUP OF TINY ISLANDS, FROM HERE GO NORTHWEST THROUGH OLD CAMP CLEARING FOR 250.0 FEET TO A TRIANGULAR BLAZED ASPEN TREE AT THE EDGE OF THE WOODS, AT THIS POINT TAKE BLAZED LOGGING ROAD (DIM) NORTH FOR 250.0 FEET TO A FORK AND A TRIANGULAR BLAZED ASPEN TREE, TAKE LEFT FORK OF A DIM, BLAZED LOGGING ROAD, FOLLOW IT IN A GENERALLY NORTHWEST DIRECTION FOR 0.75 MILE TO A TRIANGULAR BLAZED ASPEN TREE ON THE RIGHT, FROM HERE TAKE BLAZED TRAIL TO LEFT FOR 0.12 MILE TO THE TOP OF A HILL AND THE STATION, TOWER RM 1 IS 29.7 FEET NORTH OF THE STATION, TOWER RM 2 IS 44.5 FEET SOUTHEAST OF THE STATION, 171.4 FEET NORTH-NORTHEAST OF STATION TOWER.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1366.992	.131		1262.901	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -104.422 12B = -104.393 09 = -104.367 03 = -104.409

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 28 36.77665	92 29 37.62861			.033	1	ADJUSTMENT	1999	17648

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1763158.965	17616203.839	.033	1	ADJUSTMENT	1999	17648

TOWER RM 1

Mn/DOT Name: TOWER RM 1 **NGS Name:** TOWER RM 1

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482836.00	922938.00		

NGS ACRN: CJ2922 Get Map
NGS Quad / Sta Num : 48092244/
USGS Quad: REDHORSE BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1948	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	REFERENCE MARK DISK	CGS

Description: (1948) **Stamping:** TOWER 1923

0.7 MILE NORTH OF THE NORTH SHORE OF NAMAKAN LAKE, 1.0 MILE FROM THE EAST END OF A LAKE, 2.75 MILES NORTH OF THE NORTH END OF NAMAKAN NARROWS, 2.25 MILES NORTHEAST OF NEIL BERGERS CAMP AT THE EAST END OF NAMAKAN LAKE, ON THE TOP OF A HIGH ROCKY HILL WHICH IS COVERED WITH MANY DEAD NORWAY PINE TREES, IT IS EASILY RECOGNIZED AT A CONSIDERABLE DISTANCE BY THESE DEAD SNAGS, TO REACH STATION TOWER RM 1 FROM THE CRANE LAKE POST OFFICE, GO BY MOTOR BOAT NORTH THROUGH CRANE LAKE AND NARROWS TO SAND POINT LAKE, CONTINUE NORTH THROUGH SAND POINT LAKE TO THE NORTH END OF NAMAKAN NARROWS, GO NORTH ACROSS NAMAKAN LAKE FOR 2.0 MILES TO A SAND BEACH COVE AT AN OLD LOGGING CAMP (NOTHING OF WHICH REMAINS) AND A TRIANGULAR BLAZED ASPEN TREE ON THE SHORE LINE, THIS COVE IS JUST EAST OF MUD BAY WHICH IS NORTH OF A GROUP OF TINY ISLANDS, FROM HERE GO NORTHWEST THROUGH AN OLD CAMP CLEARING FOR 250.0 FEET TO A TRIANGULAR BLAZED ASPEN TREE AT THE EDGE OF THE WOODS, AT THIS POINT TAKE BLAZED LOGGING ROAD (DIM) NORTH FOR 250.0 FEET TO A FORK AND A TRIANGULAR BLAZED ASPEN TREE, TAKE LEFT FORK OF A DIM, BLAZED LOGGING ROAD, FOLLOW IT IN A GENERALLY NORTHWEST DIRECTION FOR 0.75 MILE TO A TRIANGULAR BLAZED ASPEN TREE ON THE RIGHT, FROM HERE TAKE BLAZED TRAIL TO LEFT FOR 0.12 MILE TO THE TOP OF A HILL AND STATION TOWER RM 1, TOWER RM 1 IS 29.7 FEET NORTH OF STATION TOWER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.422 12B = -104.390 09 = -104.367 03 = -104.409

TOWER RM 2

Mn/DOT Name: TOWER RM 2 **NGS Name:** TOWER RM 2

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482836.00	922938.00		

NGS ACRN: CJ2923 Get Map
NGS Quad / Sta Num : 48092244/
USGS Quad: REDHORSE BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1948	1948	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	REFERENCE MARK DISK	IBWC

Description: (1948) **Stamping:** TOWER 1923 NO 2 IBC

0.7 MILE NORTH OF THE NORTH SHORE OF NAMAKAN LAKE, 1.0 MILE FROM THE EAST END OF A LAKE, 2.75 MILES NORTH OF THE NORTH END OF NAMAKAN NARROWS, 2.25 MILES NORTHEAST OF NEIL BERGERS CAMP AT THE EAST END OF NAMAKAN LAKE, ON THE TOP OF A HIGH ROCKY HILL WHICH IS COVERED WITH MANY DEAD NORWAY PINE TREES, IT IS EASILY RECOGNIZED AT A CONSIDERABLE DISTANCE BY THESE DEAD SNAGS, TO REACH STATION TOWER RM 2 FROM THE CRANE LAKE POST OFFICE, GO BY MOTOR BOAT NORTH THROUGH CRANE LAKE AND NARROWS TO SAND POINT LAKE, CONTINUE NORTH THROUGH SAND POINT LAKE TO THE NORTH END OF NAMAKAN NARROWS, GO NORTH ACROSS NAMAKAN LAKE FOR 2.0 MILES TO A SAND BEACH COVE AT AN OLD LOGGING CAMP (NOTHING OF WHICH REMAINS) AND A TRIANGULAR BLAZED ASPEN TREE ON THE SHORE LINE, THIS COVE IS JUST EAST OF MUD BAY WHICH IS NORTH OF A GROUP OF TINY ISLANDS, FROM HERE GO NORTHWEST THROUGH AN OLD CAMP CLEARING FOR 250.0 FEET TO A TRIANGULAR BLAZED ASPEN TREE AT THE EDGE OF THE WOODS, AT THIS POINT TAKE BLAZED LOGGING ROAD (DIM) NORTH FOR 250.0 FEET TO A FORK AND A TRIANGULAR BLAZED ASPEN TREE, TAKE LEFT FORK OF A DIM, BLAZED LOGGING ROAD, FOLLOW IT IN A GENERALLY NORTHWEST DIRECTION FOR 0.75 MILE TO A TRIANGULAR BLAZED ASPEN TREE ON THE RIGHT, FROM HERE TAKE BLAZED TRAIL TO LEFT FOR 0.12 MILE TO THE TOP OF A HILL AND STATION TOWER RM 2, TOWER RM 2 IS 44.5 FEET SOUTHEAST OF THE STATION TOWER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.422 12B = -104.390 09 = -104.367 03 = -104.409

TRAIN

Mn/DOT Name: TRAIN

NGS Name: TRAIN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482923.91	924146.39		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092314/
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1914	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

2.8 MILES SOUTHWEST OF KETTLE FALLS, ON NAMAKAN LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.779 12B = -103.747 09 = -103.701 03 = -103.730

TRANSFORMER

Mn/DOT Name: TRANSFORMER

NGS Name: TRANSFORMER

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483636.30	932210.42		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093132/
USGS Quad: RANIER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	IBWC

Description: (1918)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, IN FORT FRANCES, ON THE SOUTH SIDE AND EAST END OF SCOTT STREET, 12.0 FEET SOUTH OF BOUNDARY REF MON 260.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -101.027 12B = -101.014 09 = -100.932 03 = -100.922

TREAU

Mn/DOT Name: TREAU

NGS Name: TREAU

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1241 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484227.58	941918.10		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 0.9 MILE WEST OF PINEWOOD, ON THE TOP OF A BANK, 16.4 FEET ABOVE AND 26.2 FEET BACK FROM THE RIVER'S EDGE, THERE IS A SWALE 26.2 FEET NORTHEAST OF STATION TREAU, AN OLD STUMP 39.4 FEET WEST, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.394 12B = -96.388 09 = -96.283 03 = -96.299

TREE

Mn/DOT Name: TREE

NGS Name: TREE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483207.02	934856.57		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1913)

Stamping:

ON THE EAST BANK OF THE RAINY RIVER, 0.75 MILE SOUTH OF AYLSWORTH, 6.6 FEET ABOVE THE RIVER, ON THE PROPERTY OF H W OGDEN, SOUTHWEST OF A SMALL HOUSE, CUT IN A FLAT STONE.

Station Notes

SUBSURFACE MARK IS A BOTTLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.002 12B = -97.989 09 = -97.910 03 = -97.887

TROUBLE

Mn/DOT Name: TROUBLE
NGS Name: TROUBLE
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				480957.90	911522.04		1

NGS ACRN: TA0130 Get Map
NGS Quad / Sta Num : /
Quad Name: N R Canada - 52B/3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1968	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	BOLT	GSC

Description:
Stamping: G.S.C. 1916

ON A BURNED-OVER HILL OF LOUISA LAKE. MARKED BY COPPER BOLT STAMPED G. S. C. 1916.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1850.390	.131		1747.283	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -103.458 12B = -103.497 09 = -103.517 03 = -103.182

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 09 57.89864	91 15 22.03664			.033	1	ADJUSTMENT	1999	17648

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		2065826.734	17507282.531	.033	1	ADJUSTMENT	1999	17648

TRUNK

Mn/DOT Name: TRUNK

NGS Name: TRUNK

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092242/
USGS Quad: SNOW BAY

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	21	68 N	15 W	482113.27	921611.11		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1916	1921	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (1921)

Stamping:

ON THE MOST EASTERN OF A SMALL GROUP OF ISLANDS 0.5 MILE NORTHEAST OF THE DOME-SHAPED ISLAND AT THE WEST BEND OF LAC LA CROIX, THE MONUMENT IS AT THE EAST END OF THE ISLAND.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.363 12B = -104.331 09 = -104.327 03 = -104.383

TUNNEL

Mn/DOT Name: TUNNEL

NGS Name: TUNNEL

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484233.53	943226.31		

NGS ACRN: TC1244 Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SEE DESCRIPTION	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.5 MILES SOUTHEAST OF RAINY RIVER, IN A HAY FIELD, 45.9 FEET WEST OF A SECTION LINE FENCE, 239.4 FEET SOUTH OF THE FENCE CORNER, 13.1 FEET ABOVE AND 134.5 FEET BACK FROM THE RIVER'S EDGE, SUBSURFACE STATION TUNNEL IS A STONE AND A BALL OF WIRE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.449 12B = -95.416 09 = -95.325 03 = -95.374

TURN

Mn/DOT Name: TURN

NGS Name: TURN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481822.13	922537.28		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

4.0 MILES NORTHEAST OF CRANE LAKE, ON THE EAST SIDE OF THE LITTLE VERMILION NARROWS.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.661 12B = -103.648 09 = -103.609 03 = -103.632

UNCLE

Mn/DOT Name: UNCLE

NGS Name: UNCLE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483413.70	934807.63		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093432/
USGS Quad: LOMAN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1918)

Stamping:

ON THE EAST BANK OF THE RAINY RIVER, 4.5 MILES SOUTH OF EMO, 656.0 FEET NORTH OF THE MOUTH OF LOCKING CREEK, 83.1 FEET WEST OF STATION BOUNDARY REF MON 194.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.048 12B = -98.054 09 = -97.959 03 = -97.992

UP

Mn/DOT Name: UP

NGS Name: UP

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483759.29	935544.31		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093434/
USGS Quad: MANITOU OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1913	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2009)

Stamping:

ON AN ISLAND IN THE RAINY RIVER, 2.7 MILES SOUTHEAST OF BARWICK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.677 12B = -97.684 09 = -97.579 03 = -97.575

VACANT

Mn/DOT Name: VACANT

NGS Name: VACANT

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1246 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483934.84	941504.17		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE EAST BANK OF THE RAINY RIVER, 0.25 MILE NORTHEAST OF THE FRONTIER STORE, ON THE EDGE OF A HAYFIELD, 26.2 FEET ABOVE AND 39.4 FEET BACK FROM THE RIVER'S EDGE, AN OLD BARN BEARS SOUTH BY EAST 131.2 FEET FROM STATION VACANT, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.493 12B = -96.486 09 = -96.404 03 = -96.374

VAGUE

Mn/DOT Name: VAGUE

NGS Name: VAGUE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483331.62	923854.72		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092423/
USGS Quad: KETTLE FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1914) **Stamping:** U.S. & C.B. SURVEY

3.9 MILES NORTH OF KETTLE FALLS, ON VAGUE POINT IN RAINY LAKE, IN BURNT JACK PINE TIMBER, 0.2 MILE EAST OF THE SOUTHWEST END OF THE POINT, 9.8 FEET ABOVE THE LAKE LEVEL, 147.6 FEET NORTH OF THE SOUTH SHORE OF THE POINT, 1.0 FOOT FROM BOUNDARY REF MON 300, 15.9 FEET SOUTHEAST OF AN IRON BOLT, 18.4 FEET NORTHEAST OF AN IRON BOLT.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.399 12B = -104.353 09 = -104.311 03 = -104.331

Mn/DOT Name: VAN **NGS Name:** VAN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1247 Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484200.29	942839.69		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1999	UNKNOWN	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	UNMONUMENTED	IBWC

Description: (1999)

Stamping:

5.6 MILES EAST-SOUTHEAST OF BAUDETTE, 0.4 MILE NORTH ALONG MOM'S WAY FROM THE JUNCTION OF MOM'S WAY AND HIGHWAY 11, THEN 0.2 MILE EAST ON INTERNATIONAL DRIVE, THEN 0.2 MILE NORTHEAST ON MOM'S WAY, THEN 0.1 MILE NORTHEAST ON ELLEN STREET, THEN 5.1 MILES NORTHEAST ON HIGHWAY 11, THEN 1.5 MILES SOUTH ON WORTHINGTON NUMBER 3 ROAD, 1050.0 FEET WEST OF WORTHINGTON NUMBER 3 ROAD.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1076.113	.262		980.825	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -95.630 12B = -95.607 09 = -95.505 03 = -95.558

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 42 00.28656	94 28 39.69497			.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 42 00.26746	94 28 39.68842			.131	3	ADJUSTMENT	1989	17085

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1283697.815	17700651.509	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1283698.217	17700649.565	.131	3	ADJUSTMENT	1989	17085

VERMILION

Mn/DOT Name: VERMILION
NGS Name: VERMILION
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481852.99	922321.70		

NGS ACRN: TB1039 Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1915	1948	UNKNOWN	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	SURVEY DISK	NGS

Description: (1948)

Stamping:

1.5 MILES EAST OF THE NORTH END OF LITTLE VERMILION LAKE, 1.0 MILE NORTHWEST OF TROUT LAKE, ON A ROCKY TIMBERED HILL WHICH IS THE HIGHEST IN THE VICINITY, A STANDARD INTERNATIONAL BOUNDARY COMMISSION DISK WITH A TRIANGLE, SET IN A BEDROCK, STATION VERMILION IS NOT STAMPED, TO REACH STATION VERMILION FROM THE CRANE LAKE POST OFFICE, TAKE MOTOR BOAT TO THE NORTH END OF CRANE LAKE, THEN NORTH THROUGH NARROWS TO SAND POINT LAKE, TURN RIGHT AROUND POINT AND GO SOUTHEAST THROUGH LITTLE VERMILION NARROWS AND LITTLE VERMILION LAKE TO A LONG BAY LEADING NORTH FROM LITTLE VERMILION LAKE, 2.0 MILES SOUTHEAST OF THE NORTH END OF LAKE, GO NORTH TO THE END OF A BAY, AND AN OLD ABANDONED CAMP WITH THREE CABINS STILL STANDING, FROM HERE TAKE WELL DEFINED TRAIL EAST FOR APPROXIMATELY 0.25 MILE TO TROUT LAKE, BY BOAT, GO NORTHEAST ALONG THE NORTHWEST SHORE OF TROUT LAKE FOR 1.0 MILE TO LAST LARGE BAY ON THE NORTHWEST SHORE, AND A TRIANGULAR BLAZED PINE AT THE ROCK LEDGE SHORE LINE, FROM HERE FOLLOW A WELL BLAZED TRAIL UP HILL IN A NORTHERLY DIRECTION FOR 0.5 MILE TO WHERE THE TIMBER THINS OUT, AND THE BLAZES ARE FARTHER APART, CONTINUE IN A NORTHERLY DIRECTION ALONG ROCKY RIDGE FOR 0.5 MILE TO THE HIGHEST POINT AT THE NORTH EDGE OF RIDGE AND STATION VERMILION, 18.5 FEET NORTH OF VERMILION RM 1 (CJ2971), 32.3 FEET WEST OF VERMILION RM 2 (CJ2972).

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.812 12B = -103.796 09 = -103.789 03 = -103.799

VERMILION AZ MK

Mn/DOT Name: VERMILION AZ MK

NGS Name: VERMILION AZ MK

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481856.00	922235.00		

NGS ACRN: CJ2970 Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1948	1948	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	AZIMUTH MARK DISK	NGS

Description: (1948) **Stamping:** VERMILION 1924

0.6 MILE EAST-SOUTHEAST OF VERMILION (TB1039), BRONZE DISK SET IN BEDROCK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.861 12B = -103.842 09 = -103.835 03 = -103.845

VERMILION RM 1

Mn/DOT Name: VERMILION RM 1 **NGS Name:** VERMILION RM 1

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481853.00	922322.00		

NGS ACRN: CJ2971 Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1924	1948	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	REFERENCE MARK DISK	USFS

Description: (1948) **Stamping:** VERMILLION

1.5 MILES EAST OF THE NORTH END OF LITTLE VERMILION LAKE, 1.0 MILE NORTHWEST OF TROUT LAKE, ON A ROCKY TIMBERED HILL WHICH IS THE HIGHEST IN THE VICINITY, A STANDARD INTERNATIONAL BOUNDARY COMMISSION DISK WITH A TRIANGLE, SET IN A BEDROCK, STATION VERMILION RM 1 IS NOT STAMPED, TO REACH STATION VERMILION RM 1 FROM THE CRANE LAKE POST OFFICE, TAKE MOTOR BOAT TO THE NORTH END OF CRANE LAKE, THEN NORTH THROUGH NARROWS TO SAND POINT LAKE, TURN RIGHT AROUND POINT AND GO SOUTHEAST THROUGH LITTLE VERMILION NARROWS AND LITTLE VERMILION LAKE TO A LONG BAY LEADING NORTH FROM LITTLE VERMILION LAKE, 2.0 MILES SOUTHEAST OF THE NORTH END OF A LAKE, GO NORTH TO THE END OF A BAY, AND AN OLD ABANDONED CAMP WITH THREE CABINS STILL STANDING, FROM HERE TAKE WELL DEFINED TRAIL EAST FOR APPROXIMATELY 0.25 MILE TO TROUT LAKE, BY BOAT, GO NORTHEAST ALONG THE NORTHWEST SHORE OF TROUT LAKE FOR 1.0 MILE TO LAST LARGE BAY ON THE NORTHWEST SHORE, AND A TRIANGULAR BLAZED PINE AT THE ROCK LEDGE SHORE LINE, FROM HERE FOLLOW A WELL BLAZED TRAIL UP HILL IN A NORTHERLY DIRECTION FOR 0.5 MILE TO WHERE THE TIMBER THINS OUT, AND THE BLAZES ARE FARTHER APART, CONTINUE IN A NORTHERLY DIRECTION ALONG ROCKY RIDGE FOR 0.5 MILE TO THE HIGHEST POINT AT THE NORTH EDGE OF A RIDGE AND STATION VERMILION RM 1, 18.5 FEET SOUTH OF STATION VERMILION (TB1039).

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.812 12B = -103.796 09 = -103.789 03 = -103.799

VERMILION RM 2

Mn/DOT Name: VERMILION RM 2 **NGS Name:** VERMILION RM 2

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481853.00	922322.00		

NGS ACRN: CJ2972 Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1948	1948	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK OUTCROP (OVER 3 METERS)	REFERENCE MARK DISK	USFS

Description: (1948) **Stamping:** VERMILLION NO 2 1924 IBC

1.5 MILES EAST OF NORTH END OF LITTLE VERMILION LAKE, 1.0 MILE NORTHWEST OF TROUT LAKE, ON A ROCKY TIMBERED HILL WHICH IS THE HIGHEST IN THE VICINITY, A STANDARD INTERNATIONAL BOUNDARY COMMISSION DISK WITH A TRIANGLE, SET IN BEDROCK, STATION VERMILION RM 2 IS NOT STAMPED, TO REACH STATION VERMILION RM 2 FROM THE CRANE LAKE POST OFFICE, TAKE A MOTOR BOAT TO THE NORTH END OF CRANE LAKE, THEN NORTH THROUGH NARROWS TO SAND POINT LAKE, TURN RIGHT AROUND POINT AND GO SOUTHEAST THROUGH LITTLE VERMILION NARROWS AND LITTLE VERMILION LAKE TO A LONG BAY LEADING NORTH FROM LITTLE VERMILION LAKE, 2.0 MILES SOUTHEAST OF THE NORTH END OF LAKE, GO NORTH TO THE END OF A BAY, AND AN OLD ABANDONED CAMP WITH THREE CABINS STILL STANDING, FROM HERE TAKE WELL DEFINED TRAIL EAST FOR APPROXIMATELY 0.25 MILE TO TROUT LAKE, BY BOAT, GO NORTHEAST ALONG THE NORTHWEST SHORE OF TROUT LAKE FOR 1.0 MILE TO LAST LARGE BAY ON THE NORTHWEST SHORE, AND A TRIANGULAR BLAZED PINE AT THE ROCK LEDGE SHORE LINE, FROM HERE FOLLOW A WELL BLAZED TRAIL UP HILL IN A NORTHERLY DIRECTION FOR 0.5 MILE TO WHERE THE TIMBER THINS OUT, AND THE BLAZES ARE FARTHER APART, CONTINUE IN A NORTHERLY DIRECTION ALONG ROCKY RIDGE FOR 0.5 MILE TO THE HIGHEST POINT AT THE NORTH EDGE OF A RIDGE AND STATION VERMILION RM 2, 32.3 FEET EAST OF STATION VERMILION (TB1039).

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.812 12B = -103.796 09 = -103.789 03 = -103.799

Mn/DOT Name: VIEW

NGS Name: VIEW

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481906.10	922612.19		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

4.4 MILES NORTHEAST OF CRANE LAKE, ON THE EAST SIDE OF THE LITTLE VERMILION NARROWS.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.697 12B = -103.684 09 = -103.655 03 = -103.674

VILLAGE

Mn/DOT Name: VILLAGE
NGS Name: VILLAGE
County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB1031 Get Map
NGS Quad / Sta Num : /
Quad Name: N R Canada - 52C/8

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482238.26	920846.24		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2020)
Stamping:

FROM THE JUNCTION OF C STREET AND A STREET IN LAC LA CROIX, GO SOUTHEAST ON A STREET FOR 0.87 MILES.
STATION VILLAGE WILL BE ON THE LEFT ABOUT 1,8887.09 FEET IN THE WOOD FROM THE CENTER OF THE DIRT ROAD.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1325.457	.131		1220.965	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -104.810 12B = -104.770 09 = -104.757 03 = -104.852

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 22 38.26110	92 08 46.23639			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 22 38.27877	92 08 46.29260			.033	1	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 22 38.62900	92 08 45.79900			.100	1	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1847848.377	17580635.845	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1847844.563	17580637.592	.033	1	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	1	CLASSICAL SURVEY	1982	17020

VINE

Mn/DOT Name: VINE

NGS Name: VINE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483106.81	934202.47		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093423/
USGS Quad: DEVLIN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1926	GOOD	Horz=? Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	SURVEY DISK	IBWC

Description: (1926) **Stamping:** U.S. & C.B. SURVEY

ON THE NORTH BANK OF THE RAINY RIVER, 1.3 MILES SOUTHWEST OF BIG FORK, 0.75 MILE EAST OF THE MOUTH OF THE BIG FORK RIVER, OPPOSITE AND 328.0 FEET UPSTREAM FROM THE DOCK AT LAUREL, 19.7 FEET ABOVE AND 65.6 FEET BACK FROM THE RIVER'S EDGE, 9.8 FEET SOUTH OF A FENCE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.684 12B = -98.678 09 = -98.596 03 = -98.573

VIPONT

Mn/DOT Name: VIPONT

NGS Name: VIPONT

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483852.75	940940.53		

NGS ACRN: TC1248 Get Map
NGS Quad / Sta Num : 48094124/
USGS Quad: STRATTON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1947	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 574.0 FEET EAST OF THE BURCHERVILLE POST OFFICE, WHICH IS VIPONTS HOUSE, ON A BENCH, 9.9 FEET ABOVE AND 16.4 FEET BACK FROM THE RIVER'S EDGE, 26.2 FEET WEST OF A SMALL GULCH, A BRONZE DISK SET IN CONCRETE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.732 12B = -96.739 09 = -96.644 03 = -96. 611

WALK

Mn/DOT Name: WALK

NGS Name: WALK

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484158.65	942910.54		

NGS ACRN: TC1249 Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SEE DESCRIPTION	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 2.4 MILES WEST OF CLEMENTSON, IN A HAYFIELD, 98.4 FEET FROM THE RIVER BANK, 13.1 FEET ABOVE THE WATER, WALKS HOUSE BEARS WEST-NORTHWEST 410.0 FEET FROM STATION WALK, A CROSS ON A STONE, BOUNDARY REF MON 99 IS 95.0 FEET SOUTHWEST OF STATION WALK.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.590 12B = -95.567 09 = -95.466 03 = -95.518

WALT

Mn/DOT Name: WALT **NGS Name:** WALT

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB1008 Get Map
NGS Quad / Sta Num : 48093431/1018
USGS Quad: LOMAN OE N

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483803.33	935140.26		2

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1925	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	NGS

Description: (1923) **Stamping:** WALT 1923

1.0 MILE WEST ON A RAILROAD FROM EMO, 259.0 FEET WEST OF RAILROAD MILEPOST 110, 5.27 FEET NORTH OF THE NORTH RAIL OF THE RAILROAD TRACKS, 48.0 FEET SOUTH-SOUTHEAST OF WALT RM.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -97.933 12B = -97.939 09 = -97.838 03 = -97.880

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 38 03.32926	93 51 40.26078			.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 38 03.31482	93 51 40.26671			3.281		CLASSICAL SURVEY	1991	H1991

NAD27

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 38 03.47121	93 51 39.65966			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1432251.892	17674364.808	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1432251.477	17674363.350	3.281		CLASSICAL SURVEY	1991	H1991

NAD27

MN State Plane - North Zone X	Y	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
1815970.250	779407.140			.100		CLASSICAL SURVEY	1950	UNK

WALT RM

Mn/DOT Name: WALT RM

NGS Name: WALT RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483803.00	935140.00		

NGS ACRN: CO7664 Get Map
NGS Quad / Sta Num : 48093431/
USGS Quad: LOMAN OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1925	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	REFERENCE MARK DISK	NGS

Description: (1925)

Stamping: WALT 1923

1.0 MILES WEST ON A RAILROAD FROM EMO, 48.0 FEET NORTHEAST OF STATION WALT.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.933 12B = -97.939 09 = -97.834 03 = -97.880

WALTON

Mn/DOT Name: WALTON

NGS Name: WALTON

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483151.83	933800.74		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093423/
USGS Quad: DEVLIN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1923	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1913)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.9 MILES NORTHEAST OF BIG FORK, 0.2 MILE NORTH OF THE MOUTH OF THE LA VALLEE RIVER, ON THE PROPERTY OF MR WALTON, AT THE SOUTH EDGE OF THE WOODS, 23.0 FEET ABOVE AND 32.8 FEET BACK FROM THE RIVER'S EDGE.

Station Notes

SUBSURFACE MARK IS A BOTTLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -99.144 12B = -99.147 09 = -99.055 03 = -99.042

WAN

Mn/DOT Name: WAN

NGS Name: WAN

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483133.08	933608.08		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093422/
USGS Quad: PELLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1914	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2009)

Stamping:

ON THE SOUTH BANK OF THE RAINY RIVER, 10.5 MILES SOUTH WEST OF INTERNATIONAL FALLS.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -99.357 12B = -99.357 09 = -99.271 03 = -99.242

WAR

Mn/DOT Name: WAR

NGS Name: WAR

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				481807.33	922513.75		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092243/
USGS Quad: CRANE LAKE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

4.1 MILES NORTHEAST OF CRANE LAKE, ON AN ISLAND IN LITTLE VERMILION LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.658 12B = -103.648 09 = -103.605 03 = -103.625

WARD

Mn/DOT Name: WARD

NGS Name: WARD

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483157.27	933742.58		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093423/
USGS Quad: DEVLIN

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	IBWC

Description: (1926)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 2.1 MILES EAST OF BIG FORK, 0.5 MILE NORTHEAST OF THE MOUTH OF LA VALLEE RIVER, ON THE SOUTH SIDE OF PROVINCIAL HIGHWAY 602, 131.2 FEET WEST OF THE JUNCTION OF PROVINCIAL HIGHWAY 602 AND A NORTH-SOUTH ROAD, 57.1 FEET SOUTH OF BOUNDARY REF MON 219.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -99.180 12B = -99.183 09 = -99.091 03 = -99.078

WARNER

Mn/DOT Name: WARNER

NGS Name: WARNER

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482942.80	924032.90		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092314/
USGS Quad: NAMAKAN ISLAND

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1914	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

1.7 MILES SOUTHWEST OF KETTLE FALLS, ON AN ISLAND IN NAMAKAN LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -103.897 12B = -103.865 09 = -103.815 03 = -103.848

WATTS

Mn/DOT Name: WATTS

NGS Name: WATTS

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483823.49	935838.14		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093434/
USGS Quad: MANITOU OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1918	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (1 TO 3 METERS)	SURVEY DISK	IBWC

Description: (1918)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, IN THE FRONT OF A FRAME HOUSE, 3.7 FEET SOUTH OF REF MON 166 IBC.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.539 12B = -97.539 09 = -97.444 03 = -97.418

WAVE

Mn/DOT Name: WAVE

NGS Name: WAVE

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484001.06	941507.03		

NGS ACRN: TC1251 Get Map
NGS Quad / Sta Num : 48094131/
USGS Quad: BORDER

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE EAST BANK OF RAINY RIVER, 0.4 MILE SOUTHEAST OF THE FRONTIER SCHOOLHOUSE, 131.2 FEET SOUTH OF A SWAMPY LAKE, ON A SLOPE OF THE BANK, 19.7 FEET ABOVE AND 59.0 FEET BACK FROM THE WATER'S EDGE, AN OLD LOG HOUSE 65.6 FEET EAST OF STATION WAVE, A BARN 98.4 FEET TO THE SOUTH, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.529 12B = -96.525 09 = -96.437 03 = -96. 411

WELLS

Mn/DOT Name: WELLS

NGS Name: WELLS

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				482506.15	922758.82		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48092244/
USGS Quad: REDHORSE BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
	1915	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	IBWC

Description: (2010)

Stamping:

9.9 MILES SOUTHEAST OF KETTLE FALLS, ON AN ISLAND IN SAND POINT LAKE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -104.196 12B = -104.166 09 = -104.137 03 = -104.189

WESTOVER

Mn/DOT Name: WESTOVER

NGS Name: WESTOVER

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TC1253 Get Map
NGS Quad / Sta Num : 48094121/
USGS Quad: BIRCHDALE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483839.11	940004.31		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1914	UNKNOWN	Horz=? Vert=YES	NO			NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
UNKNOWN	UNMONUMENTED	NGS

Description: (1913)

Stamping:

4.7 MILES NORTHEAST OF BIRCHDALE, ON THE NORTH BANK OF THE RAINY RIVER, IN A FIELD ON THE FARM OF W J WESTOVER, 459.2 FEET WEST OF A HOUSE, 19.7 FEET ABOVE THE WATER, 6.6 FEET FROM A FIELD FENCE, NEAR A GATE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.470 12B = -97.467 09 = -97.369 03 = -97.339

WHITEWASH

Mn/DOT Name: WHITEWASH **NGS Name:** WHITEWASH

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483359.88	924616.90		1

NGS ACRN: TB1120 Get Map
NGS Quad / Sta Num : 48092432/
USGS Quad: KEMPTON BAY

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1925	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	IBWC

Description: (1925) **Stamping:**

26.6 MILES EAST OF RANIER, ON A ROCKY ISLAND IN RAINY LAKE, THE NORTHEAST ISLAND OF A GROUP OF ISLANDS CALLED GULL ROCKS, 6.0 MILES EAST OF THE EAST ENTRANCE TO BRULE NARROWS, ON THE NORTH SIDE OF THE ISLAND, JUST ABOVE THE LAKE LEVEL, 18.4 FEET NORTH OF AN IRON BOLT, 25.9 FEET EAST OF AN IRON BOLT, 11.1 FEET SOUTH OF AN IRON BOLT, 17.5 FEET WEST OF AN IRON BOLT.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1108.922	.131		1005.362	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -103.934 12B = -103.874 09 = -103.809 03 = -103.848

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 33 59.87596	92 46 16.90231			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 33 59.87115	92 46 16.93433			.033	1	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 34 00.20200	92 46 16.33300			.100	1	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1695757.033	17648611.005	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1695754.882	17648610.511	.033	1	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	1	CLASSICAL SURVEY	1982	17020

WIER IBC

Mn/DOT Name: WIER IBC

NGS Name: WIER IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484230.67	943224.40		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094421/
USGS Quad: BAUDETTE

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

1.3 MILES SOUTHEAST OF RAINY RIVER, 0.9 MILE EAST ALONG HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND LITTLE STREET, THEN 0.8 MILE SOUTH ON ATWOOD NUMBER 2 ROAD, CONTINUE 624.0 FEET SOUTH OF ATWOOD NUMBER 2 ROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.446 12B = -95.413 09 = -95.321 03 = -95.371

WILLOW

Mn/DOT Name: WILLOW
NGS Name: WILLOW
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				485234.99	943757.50		1

NGS ACRN: TC0602 Get Map
NGS Quad / Sta Num : 48094414/
USGS Quad: WHEELERS POINT OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1917	1917	GOOD	Horz=? Vert=?	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	UNMONUMENTED	IBWC

Description: (1917)
Stamping:

11.3 MILES NORTH OF BAUDETTE, 0.27 MILE EAST ALONG HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND COUNTY ROAD 3 IN BAUDETTE, THEN 0.24 MILE NORTH ON 1ST AVENUE NORTHEAST, THEN CONTINUE 0.10 MILE NORTHEAST ON INTERNATIONAL DRIVE, THEN CONTINUE 0.28 MILE NORTHEAST ON INTERNATIONAL DRIVE RAMP, THEN CONTINUE 0.42 MILE NORTHEAST ON PROVINCIAL HIGHWAY 11, THEN 9.80 MILES NORTH-NORTHEAST ON PROVINCIAL HIGHWAY 600, THEN 3.4 MILES WEST ON AN UNNAMED ROAD, THEN 0.92 MILE NORTH ON FRED'S ROAD.

*** No Leveling-Derived Orthometric Heights in the Database ***

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1066.271	.131		970.165	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -96.640 12B = -96.663 09 = -96.522 03 = -96.417

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 52 34.99061	94 37 57.50027			.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 52 34.96431	94 37 57.48002			.033	1	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
48 52 34.97900	94 37 56.72900			.100	1	CLASSICAL SURVEY	1982	17020

State Plane and UTM Coordinates (Feet)

NAD83(1996)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1247673.340	17765710.245	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
		1247674.636	17765707.552	.033	1	ADJUSTMENT	1986	17289

NAD27

							Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
				.100	1	CLASSICAL SURVEY	1982	17020

WILSON

Mn/DOT Name: WILSON

NGS Name: WILSON

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484143.21	942729.74		

NGS ACRN: TC1255 Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1914	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	NGS

Description: (1914)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 1.0 MILE WEST OF CLEMENTSON, 239.4 FEET WEST OF THE MOUTH OF A CREEK, 9.9 FEET ABOVE AND 78.7 FEET BACK FROM THE RIVER'S EDGE, WILSON? S HOUSE IS 49.2 FEET NORTHEAST OF STATION WILSON, A CROSS CUT IN A STONE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -95.705 12B = -95.676 09 = -95.584 03 = -95.630

Geodetic Data Sheet (Feet)
GSID Station # 88210

WILSON RAINY RIVER

04/28/2026
Sheet Help

Mn/DOT Name: WILSON RAINY RIVER
NGS Name: WILSON
County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483322.42	932737.74		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1914	1926	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	SURVEY DISK	IBWC

Description: (1926)
Stamping:

ON THE WEST BANK OF THE RAINY RIVER, 5.0 MILES SOUTHWEST OF FORT FRANCES, 262.4 FEET SOUTH OF THE MOUTH OF A SMALL CREEK, ON THE PROPERTY OF WILLIAM WILSON, 164.0 FEET FROM A HOUSE, 8.2 FEET NORTHEAST OF BOUNDARY REF MON 240.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.341 12B = -100.338 09 = -100.243 03 = -100.223

WOODS

Mn/DOT Name: WOODS

NGS Name: WOODS

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483258.78	932753.18		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093133/
USGS Quad: INTERNATIONAL FALLS

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1913)

Stamping:

ON THE WEST BANK OF THE RAINY RIVER, 5.4 MILES SOUTHWEST OF FORT FRANCES, IN THE NORTHEAST END OF A TIMBER TRACT, ON THE PROPERTY OF ALFRED WILSON, 29.5 FEET ABOVE AND 82.0 FEET BACK FROM THE RIVER'S EDGE.

Station Notes

SUBSURFACE MARK IS A BOTTLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -100.298 12B = -100.295 09 = -100.200 03 = -100.177

WORTH IBC

Mn/DOT Name: WORTH IBC

NGS Name: WORTH IBC

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				484250.40	942304.26		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48094134/
USGS Quad: CLEMENTSON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1969	1969	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

4.2 MILES WEST OF PINEWOOD, 2.9 MILES WEST ALONG HIGHWAY 11 FROM THE JUNCTION OF HIGHWAY 11 AND AMY STREET, THEN 0.9 MILE WEST ON COLONIZATION ROAD, THEN 328.0 FEET SOUTH ON WASHINGTON DILKE NUMBER 7 ROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -96.105 12B = -96.092 09 = -95.984 03 = -96.043

YELLOW

Mn/DOT Name: YELLOW

NGS Name: YELLOW

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483758.42	935251.88		

NGS ACRN: Get Map
NGS Quad / Sta Num : 48093434/
USGS Quad: MANITOU OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1913	1913	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
ROCK (0 TO 1 METERS)	CHISELED CROSS	IBWC

Description: (1913)

Stamping:

ON THE NORTH BANK OF THE RAINY RIVER, 5.1 MILES EAST-NORTHEAST OF MANITOU, 0.1 MILE WEST OF THE SOUTHEAST CORNER OF THE INDIAN RESERVATION, NEAR THE EDGE OF THE WATER.

Station Notes

SUBSURFACE MARK IS A BOTTLE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.848 12B = -97.854 09 = -97.752 03 = -97.779

ZERO

Mn/DOT Name: ZERO **NGS Name:** ZERO

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB0868 Get Map
NGS Quad / Sta Num : 48093131/1006
USGS Quad: RANIER OE N

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483809.78	932128.88		2

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1967	DESTROYED	Horz=NO Vert=NO	NO			STEEL SPIKE ADJ TO MON

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	TRIANGULATION STATION DISK	NGS

Description: (1967) **Stamping:** ZERO 1923

2.0 MILES NORTHEAST OF FORT FRANCES, 3.0 MILES NORTHEASTERLY ALONG TRANS-CANADA HIGHWAY FROM THE JUNCTION OF TRANS-CANADA HIGHWAY AND PORTAGE AVENUE IN FORT FRANCES.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -101.201 12B = -101.181 09 = -101.105 03 = -101.105

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 38 09.78439	93 21 28.87854			.066	2	ADJUSTMENT	1999	17648

NAD27

Geodetic Position Latitude	Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
48 38 10.00162	93 21 28.38018			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	Y	Acc	Order	Determination Method	Project Info Year	Reference
		1553878.576	17674047.516	.066	2	ADJUSTMENT	1999	17648

NAD27

MN State Plane - North Zone X	Y	X	Y	Acc	Order	Determination Method	Project Info Year	Reference
1937639.710	779267.070			.100		CLASSICAL SURVEY	1950	UNK

ZERO 2

Mn/DOT Name: ZERO 2 **NGS Name:** ZERO 2

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB0870 Get Map
NGS Quad / Sta Num : 48093131/1007
USGS Quad: RANIER OE N

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483808.99	932127.46		1

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1967	1967	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	TRIANGULATION STATION DISK	NGS

Description: (1967) **Stamping:** ZERO 2 1967

2.5 MILES EAST OF FORT FRANCES CANADA, 0.25 MILE NORTHWEST OF NORTHWEST SHORE OF RAINY LAKE, 3.4 MILES EAST ALONG KINGS HIGHWAY 11 FROM THE JUNCTION OF KINGS HIGHWAY 11 AND HIGHWAY 71 IN FORT FRANCES, 69.0 FEET SOUTHEAST OF HIGHWAY 11, 51.0 FEET NORTHEAST OF A GRAVEL ROAD, 50.0 FEET NORTH OF A POWER POLE, 2.5 FEET EAST OF A WITNESS POST, 98.92 FEET NORTHWEST OF ZERO RM 2, 87.63 FEET NORTHEAST OF ZERO RM 3, 124.44 FEET SOUTHEAST OF STATION ZERO.

*** No Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -101.201 12B = -101.184 09 = -101.109 03 = -101.109

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 38 08.99328	93 21 27.46180			.033	1	ADJUSTMENT	1999	17648

NAD27

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 38 09.21055	93 21 26.96346			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	UTM - Zone 15 Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
		1553973.323	17673966.929	.033	1	ADJUSTMENT	1999	17648

NAD27

MN State Plane - North Zone X	MN State Plane - North Zone Y	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
1937734.610	779186.590			.100		CLASSICAL SURVEY	1950	UNK

ZERO 2 AZ MK

Mn/DOT Name: ZERO 2 AZ MK

NGS Name: ZERO 2 AZ MK

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: CO7734 Get Map
NGS Quad / Sta Num : 48093131/
USGS Quad: RANIER OE N

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483802.00	932139.00		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1967	1967	GOOD	Horz=? Vert=?	NO		PROJECTS 6 IN.	SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	AZIMUTH MARK DISK	NGS

Description: (1967) **Stamping:** ZERO 2 1967

2.3 MILES EAST OF FORT FRANCES CANADA, 0.2 MILE NORTHWEST OF THE NORTHWEST SHORE OF RAINY LAKE, 3.2 MILES EAST ALONG KINGS HIGHWAY 11 FROM THE JUNCTION OF KINGS HIGHWAY 11 AND HIGHWAY 71 IN FORT FRANCES, 57.0 FEET SOUTHWEST OF A ROAD, 45.0 FEET SOUTHEAST OF HIGHWAY 11, 2.0 FEET EAST OF A POWER POLE, 2.0 FEET WEST OF A METAL WITNESS POST.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -101.174 12B = -101.158 09 = -101.079 03 = -101.079

ZERO 2 RM 2

Mn/DOT Name: ZERO 2 RM 2

NGS Name: ZERO 2 RM 2

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483809.00	932127.00		

NGS ACRN: CO7735 Get Map
NGS Quad / Sta Num : 48093131/
USGS Quad: RANIER OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1967	1967	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	REFERENCE MARK DISK	NGS

Description: (1967)

Stamping: ZERO 2 NO 2 1967

2.5 MILES EAST OF FORT FRANCES CANADA, 0.25 MILE NORTHWEST OF THE NORTHWEST SHORE OF RAINY LAKE, 3.4 MILES EAST ALONG KINGS HIGHWAY 11 FROM THE JUNCTION OF KINGS HIGHWAY 11 AND HIGHWAY 71 IN FORT FRANCES, 14.0 FEET NORTH OF THE CENTER OF A GRAVEL ROAD, 2.3 FEET SOUTH OF A POWER POLE, 1.4 FEET EAST OF A METAL WITNESS POST.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -101.201 12B = -101.184 09 = -101.109 03 = -101.109

ZERO 2 RM 3

Mn/DOT Name: ZERO 2 RM 3

NGS Name: ZERO 2 RM 3

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483809.00	932127.00		

NGS ACRN: TB1146 Get Map
NGS Quad / Sta Num : 48093131/
USGS Quad: RANIER OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1967	1967	GOOD	Horz=? Vert=?	NO		PROJECTS 6 IN.	SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	REFERENCE MARK DISK	NGS

Description: (1967)

Stamping: ZERO 2 NO 3 1967

2.5 MILES EAST OF FORT FRANCES CANADA, 0.25 MILE NORTHWEST OF NORTHWEST SHORE OF RAINY LAKE, 3.4 MILES EAST ALONG KINGS HIGHWAY 11 FROM THE JUNCTION OF KINGS HIGHWAY 11 AND HIGHWAY 71 IN FORT FRANCES, 43.0 FEET SOUTHEAST OF THE CENTER OF HIGHWAY 11, 20.0 FEET SOUTH OF THE CENTER OF THE GRAVEL ROAD, 1.3 FEET EAST OF A METAL WITNESS POST.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -101.201 12B = -101.184 09 = -101.109 03 = -101.109

ZERO RM

Mn/DOT Name: ZERO RM

NGS Name: ZERO RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483810.00	932129.00		

NGS ACRN: CO7733 Get Map
NGS Quad / Sta Num : 48093131/
USGS Quad: RANIER OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1967	UNKNOWN	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
UNKNOWN	REFERENCE MARK DISK	NGS

Description:

2.0 MILES NORTHEAST OF FORT FRANCES, 3.0 MILES NORTHEASTERLY ALONG TRANS-CANADA HIGHWAY FROM THE JUNCTION OF TRANS-CANADA HIGHWAY AND PORTAGE AVENUE IN FORT FRANCES.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -101.201 12B = -101.181 09 = -101.105 03 = -101.105

Mn/DOT Name: ZIP

NGS Name: ZIP

County: RAINY RIVER DISTRICT, ON (Sheet 1)

NGS ACRN: TB1018 Get Map
NGS Quad / Sta Num : 48093434/1001
USGS Quad: MANITOU OE N

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483831.27	935728.70		2

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1966	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	TRIANGULATION STATION DISK	NGS

Description: (1966) **Stamping:** ZIP 1923

9.6 MILES EAST OF STRATTON, 9.6 MILES EASTERLY ALONG MOM'S WAY FROM THE JUNCTION OF MOM'S WAY AND BOUCHERVILLE ROAD IN STRATTON, THEN 0.5 MILE SOUTH ALONG NIGHSWANDER ROAD.

*** No Leveling-Derived Orthometric Heights in the Database ***

Geoid Separations(ft): GEOID18 = -97.628 12B = -97.628 09 = -97.529 03 = -97.513

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 38 31.26829	93 57 28.69798			.066	2	ADJUSTMENT	1999	17648

NAD27

Geodetic Position Latitude	Geodetic Position Longitude	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
48 38 31.39965	93 57 28.07922			.100		CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(1996)

X	Y	UTM - Zone 15 X	UTM - Zone 15 Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
		1408892.107	17677473.837	.066	2	ADJUSTMENT	1999	17648

NAD27

MN State Plane - North Zone X	MN State Plane - North Zone Y	X	Y	Acc	Order	Determination Method	Project Info Year	Project Info Reference
1792598.360	782482.400			.100		CLASSICAL SURVEY	1950	UNK

ZIP RM

Mn/DOT Name: ZIP RM

NGS Name: ZIP RM

County: RAINY RIVER DISTRICT, ON (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
				483831.00	935729.00		

NGS ACRN: CO7737 Get Map
NGS Quad / Sta Num : 48093434/
USGS Quad: MANITOU OE N

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1923	1966	UNKNOWN	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	NGS

Description:

9.6 MILES EAST OF STRATTON, 9.6 MILES EASTERLY ALONG MOM'S WAY FROM THE JUNCTION OF MOM'S WAY AND BOUCHERVILLE ROAD IN STRATTON, THEN 0.5 MILE SOUTH ALONG NIGHSWANDER ROAD.

Stamping:

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -97.624 12B = -97.628 09 = -97.529 03 = -97.510