

**Saugeen Indian Reserve No. 29:
North-east corner**

Final Report

**Robert Ratcliffe
Counsel
Crown Law Office - Civil Law
Ontario Ministry of the Attorney-General**

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**Dr. Brian Ballantyne
Challenger Geomatics Ltd.**

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Executive Summary

The question:

Does Saugeen Indian Reserve No. 29 ("IR") extend north of Lot 25 ("Lot 25") to Lot 31 ("Lot 31"), both in Concession D, Amabel Township, according to the Treaty 72 description?

The IR description:

... all that block of land bounded on the west by a straight line running due north from the River Saugeen, at the spot where it is entered by a ravine ... to the shore of Lake Huron; on the south by the aforesaid northern limit of the lately surrendered strip; on the east by a line drawn from a spot upon the coast at a distance of about (9 ½) nine miles and a half from the western boundary aforesaid, and running parallel thereto until it touches the aforementioned northern limits of the recently surrendered strip.

The answer:

No. The north-east corner of the IR is located in Lot 25, a distance of 115 chains (7,590 ft) south of any post established by Charles Rankin, PLS in Lot 31.

The reasons:

1. The survey of the east boundary of the IR intersected the water's edge in Lot 25.

When traveling south from the post in Lot 31, Rankin:

- Crossed the beach towards the water a distance of 14 ch,
- Continued along the "edge of" Lake Huron a distance of 101 ch,
- Re-crossed the beach away from the water a distance of 13 ch,
- Continued south through sand hills, marshes and trees.

The first 128 ch of the survey, therefore, was either along the sandy beach or along the edge of the lake. He left the edge of the lake 115 ch south of the Lot 31 post, meaning that he left the water's edge somewhere within Lot 25, for Rankin consistently equated "water's edge" with "edge of" lake. Thus, the east boundary of the IR first intersected the water's edge within Lot 25.

2. The survey of the Concession D side roads did not intersect the east boundary of the IR north of Lot 25.

No side roads north of Lots 20/21 intersected the east boundary of the IR. On the other hand, all the side-roads south of Lots 20/21 inclusive intersected the east boundary of the IR. Such intersections were consistently recorded in Rankin's field notes. The absence of any record of the Lots 25/26 and 30/31 side roads intersecting the IR boundary suggests that there was nothing to intersect. Indeed, the side roads north of Lot 25 extended to Lake Huron. The explicit reference to intersections in the south excludes such intersections in the north (in the absence of anything in the field notes).

3. All plans of Amabel Township show the north-east corner of the IR in the vicinity of Lots 25/26.

There are many plans of Amabel Township that include the Saugeen IR, all of which show the east boundary of the IR intersecting with Lake Huron in the vicinity of Lots 25/26; none of which show an intersection in Lot 31. Only one of the Township plans was signed by Charles Rankin, PLS (Plan 862); it shows the north-east corner of the IR in Lot 25 and shows no post in Lot 31 (see Figure 1).

4. The ambiguity in the IR description means that most effect should be given to the intersection of the east boundary of the IR with the water's edge in Lot 25.

There is latent ambiguity in the description of the IR between "the shore of Lake Huron" and "a spot upon the coast," on the one hand, and a distance along the shore of "about 9 ½ miles," on the other hand. The distance along the shore is only to be "about" 9 ½ miles, which recognized that the east boundary of the IR was to run northward until it first intersected Lake Huron, and no further. Thus, most weight should be given to Lake Huron as a natural feature, which is first encountered within Lot 25 some 8.1 miles along the shore and not at a Lot 31 post some 9.5 miles along the shore. There is no reference in the IR description to a post in Lot 31.

Part I – Introduction

1. Methodology

I was retained in June 2005 to ascertain whether Saugeen Indian Reserve No. 29 (“IR”) extends north of Lot 25 (“Lot 25”) to Lot 31 (“Lot 31”), both in Concession D, Amabel Township, by examining the following three related issues:

1. The process whereby Amabel Township and the IR were surveyed between 1854 and 1856, such analysis to include:
 - the survey instructions,
 - any discussions between the surveyors and the Saugeen band,
 - the chronology of how the IR was surveyed,
 - any variations between the terms of Treaty 72, the survey instructions, and any discussions with the Saugeen band,
 - the confirmation of the IR survey by the Crown Lands Department and the Indian Affairs Department, and
 - any subsequent complaints about the boundaries of the IR.
2. The process whereby Lots 15 - 31, Concession D, Amabel Township were patented, such analysis to include:
 - the policies applied by the Crown,
 - the presence of road or shore road allowances in the Crown patents,
 - any consultation between the Crown and the Saugeen band about the patenting, and
 - any subsequent complaints by the Saugeen band about the patenting.
3. The history of activity in the general vicinity of the north-east corner of the Saugeen IR between 1855 and 1927, such analysis to include:
 - any use of Lots 26 - 31, Concession D, Amabel Township by the Saugeen band,
 - surveys that re-established the east boundary of the IR, and
 - surveys that subdivided parts of Lots 25 - 31, Concession D, Amabel Township.

My analysis has focused on the documents that inform the issues, such as correspondence, survey instructions, field-notes, diaries, reports, plans, and corrections. Most of the documents were collected from archival sources by Public History Inc. (PHI), some as part of their extensive database and some according to my instructions.¹ Some of the primary documents I collected myself, from sources such as the Bruce County Archives in Southampton and the Baldwin Room of the Toronto Reference Library. My analysis assumes that each document is an accurate copy of the original.

¹ Any reference in the footnotes to “Doc” means that the document has been collected by PHI and supplied in either PDF or TIF format.

I also reviewed secondary sources, such as reports, theses, articles and books that pertained to the issues being reviewed. The interpretation of Rankin's field notes is critical to understanding how the east boundary of the IR was surveyed, so I have used his work in other townships during that era (Arran in 1851, Minto in 1852, and Muskoka in 1857) to inform what he did in Amabel Township.

On July 25 & 26, 2005 I visited the site. In particular I visited the west, north-west and east boundaries of the IR, and focused on the north-east corner of the IR at Lot 25 and on the beach between Lots 24 and 31, Concession D, Amabel Township. I walked the latter stretch twice (see Figures 2 & 3). I did not conduct a boundary re-establishment survey.

I follow the principle of Justice Lamer that all the documents to which I will refer, whether my attention was drawn to them by the Crown Law Office, by PHI or through my own research, "are documents of a historical nature which I am entitled to rely on pursuant to the concept of judicial knowledge."² I use the deductive method, by forming an opinion that best fits the accepted facts. This has required that I refer to legal principles relating to the re-establishment of boundaries. I was guided in my analysis by discussions with members of the Ontario Crown Law Office, but only to the extent that issues were refined and further research questions suggested.

This report presents my findings as of February 2006, and is structured in four parts: Part I contains the methodology and the assumptions which inform my analysis. Part II provides the context, by setting out a glossary and chronologies of the relevant events in creating the IR and of the specific activities on the day the north-east corner was established. Part III provides the analysis, by setting out the four reasons for my answer and the evidence in support of those reasons. Part IV corroborates my findings, by examining three types of subsequent activity that are compatible with my answer.

The appendices contain discussion of those issues that do not directly go to answering the question, such as the effect of the shift in the west boundary of the IR (Appendix 1) and the absence of a shore road allowance (Appendix 2). The other appendices support the analysis throughout the report, and are referred to as appropriate.

² *Sioui v Quebec (A-G)* [1990] 1 SCR 1025 at 1050, quoted in *R v. Nikal*, [1996] 5 WWR 316 (SCC). I also follow the principle of parsimony, which suggests choosing the simplest model, when confronted with a range of otherwise equivalent models. Known as Occam's razor, this principle is attributed to the medieval philosopher William of Occam.

2. Assumptions

1. The IR was bounded along its north-west side by the water's edge of Lake Huron when it was created in 1854 and when it was surveyed over the period 1854 to 1856. The description of the IR in Treaty 72 referred to "the shore of Lake Huron" and to "a spot upon the coast" both of which suggest that the IR was a riparian parcel bounded by the water. Thus, the north-east corner of the IR is at the location where its east boundary (running north) first intersected Lake Huron.
2. It is Rankin's survey, and there is no distinction to be made between the work of Rankin and the work of Gould. Rankin employed a host of people, including four assistant surveyors. George Gould assisted Rankin with those parts of Amabel Township relevant to the north-east corner of the IR. Rankin joined Gould's party on September 4, 1855, as they traveled south from the Lot 31 post. Rankin also traversed along Lake Huron in October 1854. Although Gould surveyed the Concession D side roads without Rankin being present, he was instructed and supervised by Rankin and Rankin took full responsibility for Gould's work in compiling field notes and plotting plans.
3. The purpose of Rankin's shore traverse of Lake Huron in October 1854 was to generally locate the outline of Amabel Township and of the IR. The traverse did not accurately survey the water's edge, and generally stayed away from the water along the sand beach or stone shore. The traverse allowed Rankin to plot a line on the Amabel Township plans that represented the back of the beach, and not the edge of Lake Huron.
4. A post was established in Lot 31, which served as the starting point for Rankin as he traveled south along the beach and along the edge of Lake Huron on September 4, 1855. A post was noted in the field notes when surveying the Lots 30/31 side road on September 27, 1855, and was shown on the November 1856 plan of the hydrographic survey of the mouth of the Sauble River. However, the purpose of the post cannot be assumed; it must be deduced.
5. The concrete monument established at the north-west corner of Lot 25 by Archibald OLS in June 1927, as shown on Plan 354, was placed on the northerly projection of the east boundary of the IR. No subsequent surveys have disputed that the monument, replaced by a spike by Kliaman OLS in 1990, represented the best available evidence of the line along which Rankin traveled southward on September 4, 1855 (Appendix 3).

Part II – Context

1. Glossary

The following words are used throughout this report. Their meaning is derived either from Rankin himself, or from the accepted meaning at the time (Appendix 4).

Beach (noun) – As used by Rankin, an area of land corresponding to the **sandy** part of the strip of land lying along Lake Huron, between the water on the west and the clay banks and sand hills to the east.

Bearing (noun) – A direction measured relative to either true (astronomic) north or to magnetic north. Generally expressed according to a quadrant, such as north 45 degrees, 30 minutes east (N 45 - 30 E).

Chain (noun, abbreviated as “ch”) – A device for measuring distances. It was 66 feet in length and consisted of 100 interlocking steel links (abbreviated as “lk”). Thus, a distance recorded as 1 ch - 72 lk (or 1.72 ch) equates to 113.52 feet.

Chainage (noun) – A measured distance.

CLSR (noun) – Acronym for Canada Lands Survey Records.

Compass (noun) – A device for measuring directions. It consisted of a pair of sights, a magnetic needle and a graduated circle, and could be set up on a stump, rock, or pole.

Concession (noun) – A row of Lots. Thus, Concession D, Amabel Township abuts the IR to the east, and consists of 49 Lots that run from south to north.

Gould – George Gould. He worked as an axe-man for Rankin on the survey of Arran Township in 1851, and as an assistant surveyor (in charge of a party of chain-men and axe-men) under Rankin's direct supervision on the survey of Amabel Township, from May 1855 to February 1856.

Lot (noun) – A parcel of land, generally surveyed in Amabel Township to be about 20 ch in width and 50 ch in depth, thus having a nominal area of 100 acres.

Monument (noun) – Established (placed) in the ground by Rankin to mark the direction of a line, a bend in a line, or the corner of a Lot. Rankin used wooden posts 4” to 6” in diameter, pursuant to his Instructions, into which he cut “the numbers of the Lots, Concessions, &c, with a proper marking tool.”³

³ Doc 497. General instructions from Bury, Superintendent General of Indian Affairs to Rankin. April 26, 1855.

PLS – Provincial Land Surveyor, a designation pursuant to the *Act to Repeal Certain Acts Therein mentioned, and to Make Better Provision for the Admission of Land Surveyors, and the Survey of Lands in this Province*, 12 Vict., c.35 (1849).

Rankin – Charles Rankin, PLS. He was instructed to survey the south half of the Bruce Peninsula, including Amabel Township and the IR (Appendix 5).

Shore (noun) –

- a) Commonly used by Rankin to denote an area of land corresponding to the stony part of the strip of land lying along Lake Huron, between the water on the west and the clay banks and sand hills to the east. Thus, Rankin walked along, and camped on, the shore.
- b) Infrequently used by Rankin to denote a linear feature, such as the edge of Lake Huron.

Side road (noun) – The roads that were surveyed across Concessions, generally between every fifth concession. Side roads were surveyed east to west across Concessions C & D, Amabel Township, to the east boundary of the IR (Lots 20/21 and south) or to Lake Huron (Lots 26 and north).

Survey (noun) – The process of assisting the Crown in establishing the boundaries of the IR and of the Lots and roads in Amabel Township, between 1854 and 1856. The process included the Crown issuing general and specific instructions to Rankin, Rankin and his assistants doing fieldwork, Rankin submitting plans, reports, diaries, field-notes and invoices, and the Crown accepting the corrections that it required.

Survey (verb) – The act of marking a boundary on the ground, by setting up on a marked point (such as a post), by looking through a compass (to allow a straight line in a particular direction to be set out), by traveling along that line with a chain (to allow distances to be measured), and by establishing monuments along that line.

Traverse (verb) – The act of traveling along a series of lines that parallel a natural feature (such as Lake Huron) for mapping purposes. Thus, Rankin traversed along the beach and shore of Lake Huron between the Saugeen and Sauble Rivers in October 1854 by setting out 61 connected lines, for each of which he measured a direction and a distance.

2. Chronology of relevant events

October 13, 1854 - Treaty 72 was signed. It surrendered the Saugeen Peninsula to the Crown, and reserved to the Indians a few parcels of land, including:

... all that block of land bounded on the west by a straight line running due north from the River Saugeen, at the spot where it is entered by a ravine ... to the shore of Lake Huron; on the south by the aforesaid northern limit of the lately surrendered strip; on the east by a line drawn from a spot upon the coast at a distance of about (9 ½) nine miles and a half from the western boundary aforesaid, and running parallel thereto until it touches the aforementioned northern limits of the recently surrendered strip.⁴

October 20-27, 1854 - Rankin traversed along Lake Huron between the Saugeen and Sauble Rivers.

November 1-3, 1854 - Rankin surveyed the west boundary of the IR.

April 26, 1855 - Rankin was instructed to survey the south half of the Saugeen Peninsula into townships and to survey the "outlines of the several reservations made under the Treaty."⁵

May 8, 1855 - Rankin (assisted by Gould) began surveying the Southampton town plot to the west of the IR.

May 28, 1855 - Gould was forced to suspend surveying owing to the Indians disputing the location of the west boundary of the IR.

June 15, 1855 - Gould finished surveying the area west of the IR and shifted his efforts to the area east of the IR.

June 22 - July 9, 1855 - Rankin finished surveying to the west of the IR.

June 30 & July 5, 1855 - Rankin observed the North star so as to calculate magnetic deviation.

July 19, 1855 - Rankin participated in the Allenford pow-wow at Floodwood Crossing to resolve the dispute over the west boundary of the IR.

⁴ Doc 1328. Surrender of the Saugeen Peninsula. October 13, 1854. Rankin was a witness.

⁵ Doc 497. Specific instructions from Bury, Superintendent General of Indian Affairs to Rankin, accompanied by general instructions. April 26, 1855.

August 11, 1855 - Rankin reported that the Indians desired that the west boundary of the IR be the Copway Road and recommended such a change.

September 4, 1855 - Rankin and Gould began surveying the east boundary of the IR.

September 5-7, 1855 - Gould continued surveying the east boundary of the IR.

September 21, 1855 - Gould surveyed the side road at Lots 20/21, Concession D, Amabel Township.

September 27, 1855 - Gould surveyed the side road at Lots 30/31, Concession D, Amabel Township.

September 27, 1855 - An Order-in-Council set the west boundary of the IR as Copway Road, which "change will give the Saugeen Indians a small increase of frontage on Lake Huron ..."

May 22, 1856 - Rankin reported to the Indian Affairs Department on the completion of his surveys; his report was accompanied by his diaries, field-notes and plans.

May 29, 1856 - The Indian Affairs Department inquired as to the legal informalities in Rankin's work that had been alluded to by the Crown Lands Department.

June 20, 1856 - Rankin identified the folly of establishing a 1 ch shore allowance: "it would be liable by the flowing of the waves, in rough weather, to be washed away." Instead he recommended that a reservation be included in the patents of riparian parcels "to allow all boating people access to the beach."⁶

August 13, 1856 - The Saugeen Indians requested that the IR have an east-west width of six miles, and asked of the Crown that it "do us the favour of extending the south boundary line."⁷

⁶ Doc 1566. Letter from Rankin to Pennefather, Superintendent General of Indian Affairs. June 20, 1856.

⁷ Doc 1502. Letter from Chiefs of Saugeen IR to Governor General. August 13, 1856

3. Survey of the east boundary

On September 1, 1855 Rankin set off to join his assistant Gould, "to commence with him the running of the Eastern boundary of the Saugeen Indian Reserve – in accordance with the treaty." On the night of September 3, Rankin camped "3 miles below the [Sauble] river on the beach." On September 4 he "commenced and ran down 3 miles on boundary of Saugeen Indian Reserve ..."⁸

Gould confirms that on August 31 they "removed camp to the Shore of Lake Huron" from Lot 20, Concession C, Amabel Township. On September 4, they "Continued the traverse from the mouth of the Au Sable to the cont. of the Ind Boundary & cont. the Boundary."⁹

The only piece of evidence that suggests that Rankin began traveling south from a post in Lot 31 is found elsewhere in the field notes. When the Lots 30/31 side road was surveyed on September 27, 1855, posts were established "10c 66 S. of post of Ind Reserve."¹⁰

The Lot 31 post was probably established on the morning of September 4, 1855:

- If a post had been established in Lot 31 before that date, then there would have been no need for Rankin to travel from the camp (three miles south of the Sauble River) north to the River, and then to traverse 0.75 miles south to the post. Such a journey would have entailed 1.5 miles of unnecessary travel.
- Before September 1855, Rankin traveled up this part of the Lake Huron shore only twice (October 1854 and June 1855), and he established no post at those times. The first time he would have been unable to calculate the required distance;¹¹ the second time he was offshore in a boat. This contrasts with Rankin's explicit reference to having "planted a post as the S.E. Angle of the Chief's Point Reserve" (just north of the Sauble River) on October 28, 1854.¹² This reference suggests that, in the absence of any other reference, the Lot 31 post was not established at this time.

The Lot 31 post was probably set about 1.5 to 2.0 ch (99 to 132 feet) east from the edge of the water, towards the back of the beach, so that it would not easily be eroded by the action of the water. My deduction is supported by the following:

- Rankin began traveling south from a point "on the sandy beach." During his traverse north along Lake Huron from the Saugeen River to the Sauble River in

⁸ Doc 1201. Rankin journal. Field book 322, CLSR.

⁹ Doc 1200. Gould journal. Field book 325, CLSR.

¹⁰ Doc 1202. Amabel Township field notes. A128. Field book 2983, CLSR. p.137. 1856.

¹¹ See Appendix 6 for the calculation of the distance south from the Sauble River.

¹² Doc 1201. Rankin journal. Field book 322, CLSR.

October 1854, Rankin consistently defined beach as the strip of land lying east of the water (Appendix 6).

- When Gould established the last set of posts along the side roads at Lots 25/26 and 30/31, he placed them 1.56 and 1.72 ch from Lake Huron, respectively, probably to avoid being eroded by the water.
- Such a location allowed Rankin to travel south along the hard sand beach, which made for easier walking than through the soft sand dunes further east.
- The 1856 hydrographic plan of the mouth of the Sauble River shows a post in Lot 31 as being about 115 feet (as scaled) from Lake Huron.¹³
- Rankin thought it folly to establish posts within 1 ch of the water.¹⁴

There is little to suggest that the phrase "NE angle of Saugeen Reserve according to Treaty Boundary running south," as shown on the 1856 hydrographic plan, was carved into the Lot 31 post, for three reasons. First, posts were seldom large enough to accommodate such a phrase.

Second, it was not the practice in 1855 to mark posts with such an elaborate phrase. The custom was to use simple annotations, such as the numbers of the Lots and Concessions, "IR" (for Indian reserve), "CL" (for Crown lands) and "R" (for road) on the appropriate sides of squared posts:

- In his 1848 surveys of Mining Locations along the north shore of Lake Huron, Vidal PLS placed a series of monuments in accordance with his instructions. Near the water, he placed "a squared post of cedar on which ["Clarke" and "Elliott"] are cut at full length on their respective sides ..."
- Inland a distance of 5 ch, Vidal established "another squared post of cedar and stone, both inscribed with the initial letters of the names."¹⁵
- During the 1852 survey of the Garden River IR on the St Mary's River, Dennis PLS located the south-west corner near Partridge Point by blazing a tree and planting a post, both of which were marked merely with "N" (north) and "S" (south) on opposing sides, and with "I" and "R" on opposing sides (Indian Reserve).
- At the south-east corner of the Garden River IR at Masquinonge Bay, Dennis marked a pine tree merely with "CL" (Crown lands) and "IR" (Indian Reserve) on opposing sides.¹⁶

¹³ Doc 1528. Plan shewing the mouth of the river Au Sable and adjoining coast. Ridout & Schreiber, Engineers. November 1856.

¹⁴ Doc 1502. Letter from Chiefs of Saugeen IR to Governor General. August 13, 1856

¹⁵ Field notes of the survey of the Mining Locations - Lake Huron. Field book 365. MNR Survey Records, Peterborough. Vidal report. p.2. 1848.

¹⁶ Report, diary & field notes: Survey of the Indian Reserves on Lake Huron. v.2. Field book 828. Dennis' diary. pp.45-48. August 12 & 16, 1852.

Third, there is no record in Rankin's field-notes, diaries and reports to suggest that a post containing such an elaborate phrase was established. Nor is there any evidence that the hydrographic engineers who prepared the 1856 plan actually searched for and found such a post, or that they tied it in to any features. Indeed, their survey did not require a traverse south across four Lots from the Sauble River to the Lots 30/31 side road. The better explanation is that the hydrographic plan merely copied the location of the post from an unidentified source, the same source that allowed road allowances and lot boundaries to be plotted with such precision on the 1856 plan.

After establishing the Lot 31 post, Rankin proceeded south (see Figure 4):

On the sandy beach, at 14 ch to 115 ch Lake edge of, at 128 ch ascend the little sandy bank from the beach, then low sand hills...¹⁷

¹⁷ Doc 1202. Amabel Township field notes. A128. Field book 2983, CLSR. p.143. 1856.

Surveyed by P. G. LAURIE, THE TIMES OFFICE, Ower Street, London

Indian Boundary West side of Con. Co. 1843

ASTRONOMICAL COURSE AND VARIATION.	CONGEN.	DISTANCE.		TIMBER, SOIL, AND REMARKS.
		CHAINS.	LINKS.	
<i>South Var 2 W</i>				<p><i>On the sandy beach, at 14° to 115° Lake edge of, at 128° ascend the little sandy bank from the beach, then low sand hills at 160 to 162° cross a narrow marsh lying N. E. S. 104° then low sand hills as before covered with thicket of stunted cedar, Balsam poplar &c at 171° 75° cross a 3" strip of marsh at 191° 60 to 194° 38 a 3" De this cedar swamp & thicket with some small pines & thicket at 210° 50 to 213° cross little level edge then cedar flat at 217° 40 then ridge then wet swab at 230 to 231 50 ascend angularly a bank then sand hills rolling & sandy at 250° somewhat stony</i></p>

FIGURE 4 - EAST BOUNDARY OF I. R.

Part II – Analysis

1. Interpreting “Lake edge of”

The survey of the east boundary of the IR intersected the water's edge in Lot 2:

When traveling south from the post in Lot 31, Rankin:

- Crossed the beach towards the water a distance of 14 ch,
- Continued along the “edge of” Lake Huron a distance of 101 ch,
- Re-crossed the beach away from the water a distance of 13 ch,
- Continued through sand hills, marshes and trees.

The first 128 ch of the survey, therefore, was either along the sandy beach or along the edge of the lake. He left the edge of the lake 115 ch south of the Lot 31 post, meaning that he left the water's edge somewhere within Lot 25, for Rankin consistently equated “water's edge” with “edge of” lake. Thus, the east boundary of the IR first intersected the water's edge within Lot 25

Evidence:

My deduction is supported by an analysis of “Lake edge of” in the context of Rankin's work during his 1854 traverse along Lake Huron, his work elsewhere in Amabel Township in 1855, and his work in other townships during the same era. Rankin was consistent in interpreting “edge” as a linear feature (a line between two distinct areas). He commonly applied “edge” to the line between water and upland; infrequently, he applied it to the line between other areas, such as marsh and woods. Rankin was also consistent in interpreting “lake” as a body of water lying below the water's edge.

Traverse along Lake Huron in 1854

Rankin referred to edge only twice in the 61 lines between the Saugeen and Sauble Rivers. At Station 15, Rankin traveled for 17 ch “in edge of water.” At Station 19, Rankin traveled for less than 4 ch “in edge of water.”¹⁸ Thus, all references to “edge” refer to water.

Elsewhere in Amabel Township

Rankin was consistent when using “edge” to refer to water; that is, to a line representing the interface between water on the one side and dry land on the other:

¹⁸ Doc 1234. Amabel Township traverse notes. Field book 387, CLSR. p.3.

- Concessions 1 / 2 line at Lot 17 at 4.66 ch: the "water's edge;" at 20 ch. he established posts "on the edge of the Lake [Chesley]."¹⁹
- Concessions 5/6 line at Lot 19 at 10.15 ch: the "west edge of the lake."²⁰
- Side road at Lots 20/21, Concession D, after encountering the lake border and before entering the water: "line runs along edge" for a distance of 3.43 ch.²¹
- Side road at Lots 20/21, Concession B: came "at 47.75 ch to water edge;" later, again came to "the water's edge."²²
- Concession 21/22 line at Lot 19: "commencing on W edge of Boat Lake."²³

These references in the field notes are echoed in Rankin's correspondence. When his plans and field notes were being examined in 1856 he argued the folly of establishing a post within 1 ch "from the edge of the water."²⁴

Survey of Arran Township in 1851:

Rankin was consistent in using "edge" to refer to a linear feature, usually the wet-dry interface, but always to a line between two abutting areas along which he traveled or with which he intersected:

- Concessions 10/11 line at Lot 26 at 20 ch: "post edge of the weedy border of the River Ausable."²⁵
- Concessions 12/13 line at Lot 5 at 19.40 ch: the "edge of the Lake."²⁶
- During his traverse of the Saugeen River, at Station 8 Rankin was "on the flat - near the edge of the river."²⁷

During his traverse²⁸ of the River Ausable, Rankin frequently traveled to or along the edge of the river:

Station 3 - "to edge of river"

Station 6 - "along the edge of the bank"

Station 18 - "along edge of river"

Station 23 - "along edge of river"

Station 26 - "along near the edge of the bank"

Station 24 - "on edge of the river, ... at 10.80 ch being 50 lks inland."

¹⁹ Doc 1202. Amabel Township field notes. A128. Field book 2983, CLSR. p.12. 1856.
²⁰ Doc 1202. Amabel Township field notes. A128. Field book 2983, CLSR. p.21. 1856.
²¹ Doc 1202. Amabel Township field notes. A128. Field book 2983, CLSR. p.134. 1856.
²² Doc 1202. Amabel Township field notes. A128. Field book 2983, CLSR. p.104. 1856.
²³ Doc 1202. Amabel Township field notes. A128. Field book 2983, CLSR. p.156. 1856.
²⁴ Doc 1566. Letter from Rankin to Pennefather, Indian Affairs Department. June 20, 1856.
²⁵ Arran Township field notes. A33. MNR Survey Records, Peterborough. p.24. 1851.
²⁶ Arran Township field notes. A33. MNR Survey Records, Peterborough. p.3. 1851
²⁷ Arran Township field notes. A33. MNR Survey Records, Peterborough. p.132. 1851
²⁸ Arran Township field notes. A33. MNR Survey Records, Peterborough. pp.153-164. 1851

During his traverse²⁹ of Arran Lake, Rankin frequently noted "edge" as a linear feature demarcating two distinct areas:

Station 3 - "edge of marsh"

Station 5 - "along the edge between swampy wood and open marsh"

Station 7 - "edge of wood and marsh"

Station 12 - "along in edge of lake"

Station 4 - "along edge between marsh & wood"

Station 5 - "along edge between wood & marsh"

Station 13 - "along the edge of open lake"

Station 14 - "along edge of lake"

Station 15 - "along the edge of wood ... at 22 ch being on marsh, the wood is 1 ½ ch to right and lake 1 ½ ch to left."

Survey of Minto Township in 1852:

In the survey of the line north of Concession 14 at Lot 10, Rankin measured the width of a "Lake" to be 11.50 ch from edge to edge.³⁰

Survey of Muskoka Township in 1857:

Rankin used edge to refer to a linear feature, which he either traveled along or measured to in his traverses of the watercourses:

- Along the Muskoka River, at Station 22: "offsets taken to the edge of marsh from the 20th to the 24th Course."³¹
- For Muskoka Lake at Station 1 he traveled "along the edge of a narrow marsh"³²

When Rankin encountered Lake Muskoka he equated lake with the water's edge:

- South boundary at Lot 17: "waters of the Lake"³³
- Concessions 10/11 line at Lot 14: "at 8.18 Muskoka Lake"³⁴
- Concessions 6/7 line, Lot 23: "Surface rocky and broken to Muskoka lake"³⁵
- Concessions 2/3 line, Lot 17: "at 7.00 ch strike Gull Lake."³⁶
- Lots 10/11 side road at 2.70 ch: "Water - Muskoka Lake"³⁷

²⁹ Arran Township field notes. A33. MNR Survey Records, Peterborough. pp.135-152. 1851.

³⁰ Minto Township field notes. M58. MNR Survey Records, Peterborough. p.9. 1852.

³¹ Muskoka Township field notes. M72. MNR Survey Records, Peterborough. p.47. 1857.

³² Muskoka Township field notes. M72. MNR Survey Records, Peterborough. p.43. 1857.

³³ Muskoka Township field notes. M72. MNR Survey Records, Peterborough. p.26. 1857.

³⁴ Muskoka Township field notes. M72. MNR Survey Records, Peterborough. p.6. 1857.

³⁵ Muskoka Township field notes. M72. MNR Survey Records, Peterborough. p.17. 1857.

³⁶ Muskoka Township field notes. M72. MNR Survey Records, Peterborough. p.22. 1857.

³⁷ Muskoka Township field notes. M72. MNR Survey Records, Peterborough. p.31. 1857.

2. Survey of the side roads

The survey of the Concession D side roads did not intersect the east boundary of the IR north of Lot 25:

No side roads north of Lots 20/21 intersected the east boundary of the IR. On the other hand, all the side-roads south of Lots 20/21 inclusive intersected the east boundary of the IR. Such intersections were consistently recorded in Rankin's field notes. The absence of any record of the Lots 25/26 and 30/31 side roads intersecting the IR boundary suggests that there was nothing to intersect. Indeed, the side roads north of Lot 25 extended to Lake Huron. The explicit reference to intersections in the south excludes such intersections in the north (in the absence of anything in the field notes).

Evidence:

Where the side roads across Concession D intersected the east boundary of the IR, then such intersections were explicitly recorded in Rankin's field-notes:

- The line between Concessions A and B was surveyed 27.74 ch "to the Indian Boundary" and a post was established;³⁸
- The side road at Lots 5/6 was surveyed 82.76 ch to the "Indian Boundary" and a post was established;³⁹
- The side road at Lots 10/11 was surveyed 78.63 ch to the "I. Boundary" and a post was established;⁴⁰
- The side road at Lots 15/16 was surveyed 75.08 ch to the "Indian Boundary" and a post was established;⁴¹
- The side road at Lots 20/21 was surveyed 70.92 ch to "the Indian Boundary" and a post was established.⁴²

However, there is no reference to the IR boundary in the survey of the side roads at Lots 25/26 and Lots 30/31 (see Figures 5 & 6). This distinction between side roads that intersect the IR boundary and those that do not is echoed in Gould's diary⁴³ for 1855:

- September 10: Continued the line between Concessions A & B west "to the I. B."
- September 8: Continued the line between Lots 5/6 "to the I. B."
- September 21: Continued the line between Lots 20/21 "to the Indian boundary."
- September 27: Continued the line between Lots 30/31 "to Lake Huron."

³⁸ Doc 1202. Amabel Township field notes. A128. Field book 2983, CLSR. p.6. 1856.

³⁹ Doc 1202. Amabel Township field notes. A128. Field book 2983, CLSR. p.131. 1856.

⁴⁰ Doc 1202. Amabel Township field notes. A128. Field book 2983, CLSR. p.132. 1856.

⁴¹ Doc 1202. Amabel Township field notes. A128. Field book 2983, CLSR. p.133. 1856.

⁴² Doc 1202. Amabel Township field notes. A128. Field book 2983, CLSR. p.135. 1856.

⁴³ Doc 1200. Gould diary. Field book 325, CLSR.

136 Side Road Between 25 & 26 Com. Co. 29

ASTRONOMICAL COURSE AND VARIATION.	CONCES.	DISTANCE.		TIMBER, SOIL, AND REMARKS.
		CHAINS.	LINKS.	
S 41° W V 2-2° W	C	59	25	Hard wood, soil light 28° 50° Swamp at 35° flat 40° Swamp at 54° 25° pits
	D	67	50	Swamp at 8° humlock ridge at 10° Swamp at 14° 50° hard wood broken and sandy at 44° 48° Swamp & little ridge 46° 80° thick with yellow pine at 60° a pond at 61° 74° Sandy ridge at 64° Mark at 65° 68° low hills at 67° 50° pits - 1506 from lake Huron

FIGURE 5 - SIDE ROAD AT LOTS 25/26

Printed by P. G. LAURIE, Tax & Title Office, Owen Sound.

Side Road between 30 & 31 Con C & D 137

ASTRONOMICAL COURSE AND VARIATION.	CONCES. No.	DISTANCE.		TIMBER, SOIL, AND REMARKS.
		CHAINS.	LINKS.	
S 88° W V 2 2 1/2 W				
	61	39	35	Swamp at 28° 5' end of a creek runs N at 3° 38' creek runs South side and center of road allowance utility at 67° 6' the road runs S 1/2 runs N 1/2 sandy bottom deep & flow 1' 60" wide then flats cross at 12° 32' subject runs N. Swamp to 22° 50' hardwood sandy at 24° 10' ascending steep ridge at 27° 70' the slope then high & valley at 33° 30' road
	62	54		Sandy ridge at 33° Swamp at 54° 30' by the ridge yellow pine at 62° 54' part 1/2 from S. Swamp to 11° 15' S. of part of line runs

FIGURE 6 - SIDE ROAD AT LOTS 30/31

Gould's diary only has entries for those four side roads. Three of the side roads – those south of Lot 25 – are surveyed to the intersection of the east boundary of the IR. The only remaining entry – for the Lots 30/31 side road, north of Lot 25 – does not intersect with the east boundary. Rather, the latter is surveyed to Lake Huron.

At the Lots 25/26 side road Rankin established a post 1.56 ch “from Lake Huron” (thus, 2.02 ch west of the beginning of the sand hills).⁴⁴ Similarly, he established a post 1.72 ch “from L Huron” (thus, 8.34 ch west of the beginning of the sandy ridges) at the Lots 30/31 side road.⁴⁵ This suggests that the posts were established on the beach, between the sand dunes and the water, and provided direction for the side roads as they ran to Lake Huron but had no relationship to the IR boundary.

Indeed, when his work was questioned in June 1856, Rankin described the folly of placing posts close to the water, and implied that the side road posts marked direction:

In like manner I purposely omitted putting up a post within a chain of the shore of the main Lake at the termination of side or concession roads, ... but in many cases were a post put up at that distance from the edge of the water it would be liable by the flowing of the waves in rough weather to be washed away.⁴⁶

Rankin elaborated upon such folly in August 1856: “Planting post round the shores of the Lakes is – from the character of those shores – impracticable ... they would in many cases be floated away at the breaking up of the ice and flooding of the shores.”⁴⁷

It was the practice to establish posts that marked direction but not corners. In resolving a boundary in Tiny Township, which had been surveyed in 1822, the Court accepted that: “... it was the practice to set a post where a ... road ran to the water's edge so that settlers could find the direction of the concession line. This post on line would be close to the water but safe from destruction by the elements.”⁴⁸ In resolving title at Grand Bend on Lake Huron, the Court accepted: “that the posts set by the surveyor [during a 1872 survey] controlled the direction of the line but did not limit their extent toward the lake.”⁴⁹ In resolving a dispute over title to a beach on Lake Erie, the Court accepted that the monument [from the late 1700's] “... was only intended to ... reference the direction of a line and not to witness or reference a corner ... the difficulty is resolved if the posts in question are treated as ... reference posts marking the line only ...”⁵⁰

⁴⁴ Doc 1202. Amabel Township field notes. A128. Field book 2983, CLSR. p.136. 1856.

⁴⁵ Doc 1202. Doc 1202. Amabel Township field notes. A128. Field book 2983, CLSR. p.137. 1856.

⁴⁶ Doc 1566. Letter from Rankin to Pennefather, Indian Affairs Department. June 20, 1856.

⁴⁷ Doc 516. Letter from Rankin to Pennefather, Indian Affairs Department. August 12, 1856.

⁴⁸ *Ontario v. Rowntree Beach Association* (1994), 17 OR (3d) 174 (Ont Ct Jus).

⁴⁹ *Gibbs et al v. Village of Grand Bend et al* (1990), 64 DLR (4th) 28 (Ont CA).

⁵⁰ *Ontario v. Walker* (1971), 14 DLR (3d) 643, at 667 7 669; affirmed (1972), 26 DLR(3d) 162 (CA); affirmed (1974) 42 DLR (3d) 629 (SCC).

3. Plans of Amabel Township

All plans of Amabel Township show the north-east corner of the IR in the vicinity of Lots 25/26:

There are many plans of Amabel Township that include the Saugeen IR, all of which show the east boundary of the IR intersecting with Lake Huron in the vicinity of Lots 25/26; none show an intersection in Lot 31 (Appendix 7). The only signed Township plan shows the north-east corner of the IR in Lot 25 and shows no post in Lot 31.

Evidence:

Only one of the township plans is signed by Charles Rankin, PLS (Plan 862)⁵¹; it shows the north-east corner of the IR as being in Lot 25 and shows no post in Lot 31. Plan 862 was traced twice. One tracing (Plan T26)⁵² accurately reflects the original. The other tracing (Plan 1237)⁵³ added three annotations from the field-notes: "post", "115" and "128." The latter two numbers correspond to the chainage distances where Rankin left the "edge of" the "lake" and where he left the "beach," respectively, as he traveled south. None of the annotations are shown on Plan 862.

The Indian Department Plan of August 1856⁵⁴ shows no post in Lot 31, nor does a Crown Lands Department Plan of December 1856.⁵⁵ Both plans show the north-east corner of the IR as being in the vicinity of Lots 25/26.

The 1855 unsigned township plan which contains a "NE < Ind Res" annotation, found in the Baldwin Room of the Toronto Reference Library,⁵⁶ is likely one of Rankin's working copies, for the following three reasons:

- The Rankin Collection at the Baldwin Room is replete with his rough notes, sketches and calculations and not with finished products,⁵⁷
- The collection contains another undated, unsigned township plan that shows no such post and that indicates that the north-east corner of the IR is in the vicinity of Lot 25 (see Figure 7⁵⁸), and
- The annotated plan was labeled "Plan of Keppel" originally, with Keppel crossed out and Amabel inserted.

⁵¹ Doc 1523.

⁵² Doc 1245.

⁵³ Doc 1260.

⁵⁴ Doc 1481.

⁵⁵ Doc 1578.

⁵⁶ Doc 1616.

⁵⁷ As confirmed during my visit on July 27, 2005.

⁵⁸ Plan of Amabel. 1856. Source: Toronto Reference Library, Baldwin Room. Indexed as: "Amabel, A75 1856. C. Rankin. B80; Indian paths and reserves, town plots, mill lot, marsh, copy; FN 2893." On July 27, 2005 I viewed the original and acquired a copy.

The 1855 working copy plan appears to be the exception to all the other plans, for it shows a line extending north of Lot 25 to Lot 31, west of the Lake Huron shoreline. The other plans and Rankin's May 1856 sketch show no such line; they all show the boundary ending at Lot 25. Any line projected north of Lot 25 - whether explicitly shown on the 1855 working copy plan or superimposed on the other plans and sketches - lies significantly to the west of the Lake Huron line.

The line that represents Lake Huron on all the township plans was plotted by Rankin from his October 1854 traverse of Lake Huron north from the Saugeen River. The purpose of the traverse was to locate the outline of the townships and the IR; Rankin did not measure to the water and thus it does not represent the water's edge. This line generally, but not always, represents the middle or the back of the beach, for Rankin was keen during his traverse to stay away from the water so as to stay dry. This suggests that any line projected north from Lot 25 (that is, between Lot 31 and Lot 25) was west of the middle or the back of the beach (as represented by Rankin's traverse line), close to or at the water's edge.

Finally, the length of the east boundary of the IR as scaled from the sketch attached to Rankin's 1856 report⁵⁹ is about 600 ch, which accords almost exactly with the field note distance of 594 ch to where the boundary first encountered the edge of Lake Huron.⁶⁰

4. Ambiguity in the IR description:

The ambiguity in the IR description means that most effect should be given to the intersection of the east boundary of the IR with the water's edge in Lot 25:

There is latent ambiguity in the Treaty 72 description of the IR between "the shore of Lake Huron" and "a spot upon the coast," on the one hand, and a distance along the shore of "about 9 ½ miles," on the other hand. The distance along the shore is only to be "about" 9 ½ miles, which recognized that the east boundary of the IR was to run northward until it first intersected Lake Huron, and no further. Thus, most weight should be given to Lake Huron as a natural feature, which is first encountered within Lot 25 some 8.1 miles along the shore, and not at a Lot 31 post some 9.5 miles along the shore. There is no reference in the IR description to a post in Lot 31.

⁵⁹ Doc 509. Report from Rankin to Indian Affairs on survey of southern half of Peninsula. May 22, 1856. Also: Doc 1320. Sketch attached to Report.

⁶⁰ As echoed by some marginalia in the field notes that subtracts the first 115 ch from the total distance south from the Lot 31 post to arrive at 594 ch: Doc 1202. Amabel Township field notes. A128. Field book 2983, CLSR. p.143. 1856.

Evidence:

The IR description of "about 9 ½ miles" corresponds to a second, more northerly intersection of the east boundary in Lot 31. The ambiguity is not apparent (patent) on the face of the description; it is a latent ambiguity that only arose when the Treaty 72 reservation was applied in September 1855 to the land it purported to describe. There are two steps to resolving latent ambiguities when re-establishing boundaries: using extrinsic evidence of the parties' intent to interpret the description, and giving most effect to natural boundaries if referred to in the description.

What did the Saugeen Indians and the Crown intend? The Indians did not intend that the north-west boundary of the IR should have a length of 9.5 miles. Rather, their intention was that the IR should have an east-west width of about six miles, as confirmed from three sources.

First, the width of the IR desired by the Indian can be gleaned from the sketch accompanying Rankin's report to the Superintendent of Indian Affairs on his survey of the southern half of the Bruce Peninsula.⁶¹ His penultimate paragraph set the context for the sketch:

At the request of the Saugeen Indians I herewith enclose a rough trace showing an alteration which they desire to have made in the Eastern boundary of their Reserve, but which, as I think it unreasonable, I cannot recommend.

The sketch has no scale, but the ratio of the width of the IR "according to the Treaty" and the width of the IR to a boundary desired by Alexander is about 0.61. If the width of the IR as surveyed by Rankin was 3.87 miles,⁶² then the Indians (as represented by Alexander) desired an IR width of 5.45 miles.

Second, Rankin recognized that such a width would accommodate "the wild beaver meadow to which they resort to cut grass for their cattle" on Lots 25 - 27, Concession B, Amabel Township.⁶³ Gould attended an Indian Council on September 14, 1855 to discuss "their clearing and meadows."⁶⁴ Indeed, a track from the Saugeen Indian village is shown crossing Lots 24 - 27 of Concession A on most of the plans of Amabel Township. The survey of the line between Concessions A and B, within Lot 27, crossed the "Indian road to their meadows."⁶⁵

⁶¹ Doc 509. Report from Rankin to Indian Affairs on survey of southern half of Peninsula. May 22, 1856. Also: Doc 1320. Sketch attached to Report.

⁶² As scaled from various plans.

⁶³ Doc 509. Report from Rankin to Indian Affairs on survey of southern half of Peninsula. p.10. May 22, 1856.

⁶⁴ Doc 1200. Gould journal. Field book 325, CLSR. September 14, 1855.

⁶⁵ Doc 1202. Amabel Township field notes. A128. Field book 2983, CLSR. p.6. 1856.

Third, the Chiefs of the Saugeen IR appealed to the Governor General in August 1856 for an IR with a width of six miles:

At the time of the surrender of this tract of land which is now ready for sale, our understanding of the agreement which Mr. L. Oliphant, our late superintendent in 1854, when in General Council assembled was that our Tribe reserved six miles on the south Boundary, instead of three and a half. Now we your red children, pray your Excellency our Great Father, to turn your attention to us, and do us the favour of extending the south boundary line of our reserve for the six miles ...⁶⁶

An IR with an east-west width of six miles was erroneously drawn on a sketch attached to the Surrender. The map is rotated 16 degrees clockwise, giving a misleading convention for north; the west and east boundaries of the IR are shown as being perpendicular to its south boundary; the sketch of the IR is not to scale. Given these three errors, the sketch purported to show that the IR had a shoreline along Lake Huron of 9 ½ miles (Appendix 8).

In resolving latent ambiguities that have resulted in boundary disputes, the courts have held since 1868 that most effect should be given to those things, in the description, which people are least likely to be mistaken about, in the following order:

- natural features (such as lakes);
- survey monuments (such as posts and blazes);
- evidence of occupation (such as a fence) that date to the time the IR was created and that are built with reference to survey monuments that were known at that time;
- boundaries of an adjoining parcel;
- directions and distances.⁶⁷

The Ontario Divisional Court recently clarified that the purpose of this evidentiary rule in resolving a disputed boundary is to ascertain the true intent of the parties to the grant.⁶⁸ This rule captures the principle of a hierarchy of evidence, which "is recognized by land surveyors in determining the location of boundaries."⁶⁹ To the extent that the "shore" and the "coast" are visible, physical features on the ground, then their location is more certain than directions, distances, and areas: "The principle is clear that where distances and monuments clash, in the absence of special

⁶⁶ Doc 1502. Letter from Chiefs of Saugeen IR to Governor General, August 13, 1856.

⁶⁷ *McPherson v. Cameron* (1868), 7 NSR 208 (NSCA); *Hawkes Estate v. Silver Campsites Ltd* (1991), 55 BCLR (2d) 145 (BCCA).

⁶⁸ *Richmond Hill Furriers v. Clarissa Developments Inc.* (1996), 31 OR (3d) 529 (Ont Div Ct).

⁶⁹ *Okanagan Radio Ltd. v. Registrar of Land Titles*, 1996 CANLII 2954 (BCSC).

circumstances, the monuments prevail; in such cases the context shows the boundary to be the dominant intent, the distance, the subordinate."⁷⁰

There are two final considerations in interpreting the IR description. First, the IR description contained the qualifier "about" in reference to the length of the Lake Huron shoreline, which recognized that the east boundary of the IR might well intersect with the lake at a location that was either more than 9 ½ miles or less than 9 ½ miles along the shoreline. This is analogous to the qualifier of "a little more or less" which is common in parcel descriptions and that recognizes that distances are less certain than, and thus subservient to, physical, visible features and monuments. Second, there is no reference in the IR description to a post in Lot 31.

⁷⁰ *Humphrey v. Pollock*, [1954] 4 DLR 721, at 74 (SCC).

Part IV – Corroboration

1. Accretion

The waters of Lake Huron have receded significantly since 1854-55, meaning that any line projected north of Lot 25 from the east boundary of the IR will be significantly east of the current water's edge (Appendix 9). The water's edge in 1855:

- at the Lots 30/31 side road was at the centre-line of the existing Lakeshore Boulevard North;
- at the Lots 25/26 side road was at the same location as the monument established at the north-west corner of Lot 25 (shown on Plan 354 in 1927).

The recession is consistent with the IR boundary intersecting the water's edge at Lot 25 in 1855.

Evidence:

The process of reliction of the waters of Lake Huron, and accretion to the beach and dunes through wind- and water-borne deposition intensified with settlement along the Saugeen and Sauble rivers in the late-1800's and early 1900's. The sand plain created during post-glacial times has a full complement of dunes inland of Sauble Beach, and blow-sand has become common since the land was cleared.⁷¹ The Saugeen Indians recognized by 1897 that "there is about 3 ½ miles of sand beach immediately to the south of the mouth of the Sauble which is of such a moving nature that every different wind storm moves the sand base into different shapes ..."⁷²

This is confirmed by survey evidence. Plan 300, surveyed by Low OLS in 1907, showed 200 feet of beach in front of Lots 32 and 33, Concession D, Amabel Township. In an action claiming rights over the beach, the Ontario County Court held in 1951 that:

In front of this subdivision and for a distance of several miles along the shore the waters of Lake Huron are very shallow and attain depth very gradually. Over the years, due to the waters of the lake receding and the sand washing and blowing in, the [beach] has greatly increased until it is now, at the northerly end of the subdivision, 518 feet wide, being slightly less as one proceeds south from that point.⁷³

⁷¹ Chapman & Putnam. *The Physiography of Southern Ontario*. Second edition. pp.102 & 265. University of Toronto Press. 1966.

⁷² Doc 767. Letter from Saugeen Indian Agent to Department of Indian Affairs. January 20, 1898.

⁷³ *Carpenter v. Smith*, [1951] OR 241, at 243 (Cty Ct).

The Court found that there had been some accretion between 1854 and 1907, but that significant recession of the waters and creation of sand dunes along the back of the beach had occurred after 1920. By 1950, the sand dunes were 12 to 18 feet in height and some 36 feet in width. On this issue, Justice Miller concluded that "there is no doubt that the widening of the beach area and the growth of the dunes have been gradual."⁷⁴

In the early 1930's there were many inquiries from owners north of Lot 25 about accreted lands. The Clerk of the Township of Amabel noted in July 1932 that the water had receded from Sauble Beach and "there is now a strip of land or accretion between the traveled road and the water."⁷⁵ He wondered if title to the new upland vested in the patentees, the current owners, the Township or the Crown. In reply, Indian Lands and Timber said that: "As these lots were sold about 25 years ago, and patent issued by the Department, we are now not interested therein. Any normal accretion to these lots would, naturally, go to the purchaser or his assignee."⁷⁶

Similar inquiries were made by the owners of Lots 26,⁷⁷ 29,⁷⁸ 30⁷⁹ and 33,⁸⁰ and the south half of Lot 31,⁸¹ in 1931 and 1932, and similar responses were received from Indian Lands & Timber. The recession of the water was identified by the residents to be about 700 feet in that era,⁸² as confirmed in 1934, by JW Tyrell OLS:

The extreme low water of 1934 – which was seven feet below mean high-water – caused tremendous changes in the shore line – creating in some places new sand beaches over a mile in width, and leaving piers and boat-houses high and dry and long distances from the water-front.⁸³

A review of the various plans and field-notes of surveys for Lots 24 to 32 suggests that the water has receded significantly since Rankin's survey of 1855. Lambden CLS & OLS identified in 1954 that the difference between Rankin's measurements to the water's edge and subsequent measurements was "explained as being accretion at the shore which is apparently noticeable from year to year."⁸⁴ In 1982, Lambden suggested that "the question of shoreline displacement is a probability. Accretion has been

⁷⁴ *Carpenter v. Smith*, at 245.

⁷⁵ Doc 254. Letter from Clerk of Amabel Township to Department of Indian Lands. July 6, 1932.

⁷⁶ Doc 255. Letter from Indian Lands & Timber to Clerk of Amabel Township. July 22, 1932.

⁷⁷ Doc 253, 264, 265, 307.

⁷⁸ Doc 228.

⁷⁹ Doc 236, 242, 267, 270.

⁸⁰ Doc 234.

⁸¹ Doc 262, 263.

⁸² Doc 262. South half of Lot 31. August 11, 1932.

⁸³ Doc 1238. Report from Tyrell to Surveyor General, Ontario. January 19, 1935.

⁸⁴ Doc 928. Report from Lambden to Surveyor General. December 16, 1954.

reported, but perhaps temporary relictions at times of low water are closer to the truth."⁸⁵

2. Crown patents

According to the Amabel Township plans, Lots 25 to 31 in Concession D are bounded on the west by Lake Huron. The plans indicate that the shoreline of the lake forms the westerly boundary of all six parcels; there is no intervening strip consisting of either IR or shore road allowance between the Lots and Lake Huron. All the Crown patents merely refer to a specific Lot number in Concession D, Amabel Township. This is consistent with the north-east corner of the IR being at Lot 25.

Evidence:

Lots 16 to 31, Concession D, Amabel Township (excepting Lot 23⁸⁶) were patented over a 50-year period, between June 15, 1857 (Lot 28) and August 20, 1907 (South half of Lot 31). A review of the patents reveals that:

- All the parcels were described by reference to a specific Lot in Concession D in Amabel Township.
- The location, spatial extent and boundaries of Lots 26 to 30 are gleaned by reference to the township plan and not by any description in the patent.
- None of the parcels have any shore allowance, or road allowance along the shore, reserved or excepted in their respective patents.
- A reservation of "free access to the shore of Lake Huron for all vessels, boats and persons" was included in the Lot 28 patent, probably owing to its date (1857), rather than because other riparian parcels were included in the same patent.
- The patents for Lots 26, 27, 29, 30 and 31, although also shown as bounded on the west by Lake Huron, did not have such a reservation, probably because they were granted after 1857.

Ontario courts have observed that there is a common law right of access from water to land in time of emergency or distress.⁸⁷ The reservation in the patent for Lot 28 reserves to the public this right of access, and does not specify an area of land that is reserved to the Crown for a shore road allowance. The inclusion of such reservations dates to 1821, at which time the Executive Council of the Province of Upper Canada ordered that its interest in ensuring public access from lakes "... may be fully attained by including in the Patent a provision that free access to the Beach may be had by all

⁸⁵ Doc 716. Report from Lambden to EMR Regional Surveyor, Ontario. November 3, 1982.

⁸⁶ I did not examine the Lot 23 Crown patent.

⁸⁷ *Gibbs et al v. Village of Grand Bend et al* (1990), 64 DLR (4th) 28, at 49 (Ont CA).

vessels Boats and Persons.”⁸⁸ The Chief Justice suggested that there was no public objection to having parcels bounded by the water’s edge.

It was the practice at the time, as found by the court in interpreting a Crown patent dated 1836, to grant land by Lot number and Concession number, “thus necessarily incorporating by reference the ... survey laying out those lots.”⁸⁹ Indeed, if a plan is referred to, either expressly or by implication, then the plan is incorporated into the description.⁹⁰ For the parcels lying north of Lot 25, all plans of survey show the broken edge of the Lots as being at Lake Huron.

This finding is reinforced by the Lot 28 patent, for if Lot 28 was not bounded by Lake Huron and thus not riparian, then free access from the water (to a parcel that did not abut the water) could not have been reserved. However, the absence of such a reservation from the patents for Lots 26, 27, 29, 30 and 31 does not mean that the parcels are not riparian. Recourse must be had to the Amabel Township plan.

3. Concerns of Saugeen Indians

The Saugeen Indians were not concerned about the location of the north-east corner of the IR between 1855 and about 1890. They were, however, very concerned with the right to use the beach north of Lot 25 for fishing purposes, and after 1890 they claimed that the IR extended north of Lot 25.

Evidence:

In the 1870's and 1880's the Saugeen Indians were concerned with the right to use Sauble Beach for fishing purposes and with the right to prevent patentees (settlers) from interfering with such use. A Special Fishery Licence issued in 1874 allowed the Indians to fish using seine nets in the following area:

The seine ground extending from Chief's Point on the North Side of River au Sable, on the shore of Lake Huron, down to the division line between Lots 26 & 25 in Concession D of the Township of Amabel, with line to extending five mile into the lake in front of said Fishery Station.⁹¹

In March 1882, the Indian Office in Toronto observed that some of Lots 24 to 34, Concession D, Amabel Township had been “sold for actual settlement,” and that “some of the patentees thereof have interfered with the Indians in their fishery operations.”

⁸⁸ Order of May 9, 1821 - *Ontario v. Rowntree Beach Association* (1994), 17 OR (3d) 174 (Ont Ct Jus).

⁸⁹ *Gibbs et al v. Village of Grand Bend et al* (1990), 64 DLR (4th) 28 (Ont CA).

⁹⁰ *Grasset v. Carter* (1884), 10 SCR 105 (SCC).

⁹¹ Doc 3. Special Fishery Licence issued June 30, 1874.

The report acknowledged that the Indians were unable to carry on their fishing "without trespassing" onto Lots 24 to 34, and asked that a shore reserve be established that would "secure the right to the Indians to land and cure their fish" but that would not prevent settlers from "access to the water."⁹²

Beginning on December 10, 1883, a series of Band Council motions implored the Indian Agent to inquire about the Licence for the Sauble Beach Fishing Station, for the "fishing grounds extending from where the French Bay Road strikes Sauble Beach [at about Lot 17] to the Mouth of the Sauble River, being a distance of about four miles." In 1885 and 1886 there were many Motions: that the Saugeen Indians be granted "all the Sauble Bay for to fish;" asking for the "whole of the Sauble Fishing Ground;" that members of the Band be allowed to fish on the Sauble Beach; and that they "wish to obtain the whole distance from Sable Beach to French Bay being about six miles for fishing purposes."⁹³

In May of 1888, the Indian Agent for the Saugeen Indians forwarded to the Superintendent General of Indian Affairs a report that enclosed a tracing of a subdivision of the IR, and that showed the north-east corner to be at the Lots 25/26 side road.⁹⁴ However, in the 1890s the Saugeen Indians began to assert that the IR extended north of Lot 25, so as to include Sauble Beach.

On November 3, 1890, they endorsed a substantial Motion that referred to the shore between the French Bay road and Chief's Point as being a distance of about nine miles, and asserted that "at the time of the treaty of 1854 ... no part of the beach was included in that surrender but was reserved for the purposes herein mentioned" and that encroachments by settlers "have been permitted to continue until only two miles of our Beach remains unoccupied by white men." The Motion is replete with references to "our Beach," the existence of "quite extensive improvements ... on our property", and inquired as to the authority by which "these persons taken possession of our property."⁹⁵

In October 1892, the Indians endorsed a Motion that complained that "white men are fishing on the Indian fishing grounds at the Sauble and that means be used to prevent the continuance of the same."⁹⁶ In September 1896 the Indians petitioned the Minister of Fisheries: "We reserved a portion of the lake front known as the Sauble Beach for sein fishing which we have always enjoyed until these last few years"⁹⁷

⁹² Doc 107. Letter from Indian Office, Toronto, to the Superintendent General of Indian Affairs. March 2, 1882.

⁹³ Doc 527, Doc 1534, Doc 1536. Saugeen Band Minutes.

⁹⁴ Doc 182. Letter from Indian Agent to the Superintendent General of Indian Affairs. May 10, 1888.

⁹⁵ Doc 548. Saugeen Band Minutes. November 3, 1890.

⁹⁶ Doc 56. Saugeen Band Minutes. October 26, 1892.

⁹⁷ Doc 48. Petition from a group of Saugeen Indians to the Minister of Fisheries. September 1896.

In January 1898, the Indian Agent wrote to the Department of Indian Affairs and observed that the IR has "about 14 miles of lake front." From the west boundary of the IR:

... the reserve waters commence and continue north east without a break 'till within about ½ mile of the mouth of the Sauble River where lot 33 & 34 in the Township of Amabel crosses our Line & breaks our continuous lake front.⁹⁸

⁹⁸ Doc 767. Letter from Saugeen Indian Agent to Department of Indian Affairs. January 20, 1898.

Conclusion

The dispute about the north-east corner of the IR arises only because the Lake Huron shoreline is concave at Lots 25 to 31 (see Figures 8 & 9). The result is that the east boundary of the IR, if extended north from its intersection with Lake Huron at Lot 25, also intersects Lake Huron at Lot 31. Thus, there are two intersections of that line with the water's edge.

However, any application of the IR description to the ground must respect Rankin consistently equating "edge of" the lake with the water's edge, the side roads at Lots 25/26 and 30/31 running to Lake Huron, the evidence from the Amabel Township plans of the east boundary intersecting the lake in the vicinity of Lots 25/26, the lack of demand from the Saugeen Indians at the time of Treaty 72 for 9 ½ miles of shore, and the use of the hierarchy of evidence rule to resolve the latent ambiguity in the description.

My finding that the north-east corner of the IR is not north of Lot 25 is corroborated by three subsequent activities: the 1927 monument at the north-west corner of Lot 25 is on the projection of the boundary given the effects of accretion, the Crown patents north of Lot 25 acknowledge the riparian status of the parcels, and the Saugeen Indians accepted a north-east corner at Lot 25 before 1890.

A boundary plotted in accordance with Rankin's field notes and practices, and taking into account the general trend of the shoreline and of the effects of the water having receded since 1855, is coincident with the physical evidence of Rankin's boundary, with the Lot 25 monument (as shown on Plan 354), and with the attempts since 1975 to project a line north of that monument (see the efforts of Bellach, Lambden, Kliaman and de Rijcke in Appendix 3).

Implications of my answer:

If the north-east corner of the IR is in Lot 25, then any line north of the north-east corner is not a boundary, according to the tenets of geometry and to what was reserved to the Saugeen Indians in Treaty 72. More significantly, the Lot 31 post did not mark the north-east corner of the IR.

Any line that extends north of the intersection of the east boundary with Lake Huron forms the boundary of no parcel. According to the tenets of geometry it is merely a line projecting north of and outside the IR a distance of 115 ch. Geometry required that the IR parcel be a polygon, and such a polygon was formed when the east boundary first encountered Lake Huron. Any line extended north from the intersection to a post is merely a one-dimensional line, lying outside of the polygon.

Any line that extends north of the intersection location in Lot 25 also encloses no upland (dry land lying east of Lake Huron). Given that the line runs along the edge of the water, to the west of such a line are the waters and bed of Lake Huron, which are outside the IR. Upland to the east of such a line is also outside the IR, by virtue of being east of the east boundary of the IR. The IR description suggests that the IR consisted only of upland lying between the west and east boundaries of the IR. There was no upland west of any line projected north of Lot 25.

Finally, the post established in Lot 31 served merely as a starting point for Rankin as he traveled south, so that direction could be established. It did not serve as the terminus of the IR. There is an analogy with the posts set at the west end of the side roads at Lots 25/26 and Lots 30/31 in Concession D, which indicated direction and not distance. The side roads ended at the edge of Lake Huron, west of the posts and not at the posts. Likewise, the east boundary of the IR ended at the edge of Lake Huron, south of the Lot 31 post and not at the post.



Dr. Brian Ballantyne
Challenger Geomatics Ltd.

Calgary
February 16, 2005

Appendices

1. Shifting of west boundary of IR

Changing the location of the west boundary of the IR from a north-south line to the Copway Road increased the shoreline of the IR, but had no effect on the north-east corner of the IR.

Evidence:

The 1854 Surrender set out that the west boundary of the IR was to be:

... a straight line running due north from the River Saugeen, at the spot where it is entered by a ravine, immediately to the west of the village, and over which a bridge has recently been constructed, to the shore of Lake Huron ...

Between November 1 and 3, 1854, Rankin was employed "in running up the East boundary of the tongue", which referred to the west boundary of the IR.⁹⁹ This survey followed immediately upon his traverse of Lake Huron and of the north bank of the Saugeen River, as part of his preliminary survey.

Rankin saw the survey of the area west of the IR to be a priority. On May 8, 1855 he: "... proceeded across with the party, to Saugeen, to let them to work at the continuation of the Southampton Town plot ... it appearing desirable from the terms of the Treaty that that part of the Work should receive first attention."¹⁰⁰ Rankin assigned to Gould the bulk of such surveying.

Gould's re-survey of the west boundary of the IR caused much consternation among the Indians. On May 28 the Gould party "... were obliged to discontinue work on account of the Indians threatening to break the instruments and maltreat me and party."¹⁰¹ Rankin arrived on June 4, 1855:

... to ascertain the State of affairs in relation to the interference with his survey ... and was informed that this interference on their part was as revenge for what they consider an unfavourable reception which they had met with on a late mission to Quebec.

⁹⁹ Doc 1201. Rankin journal. Field book 322, CLSR.

¹⁰⁰ Doc 1201. Rankin journal. Field book 322, CLSR.

¹⁰¹ Doc 1200. Gould journal. Field book 325, CLSR.

On June 5 and 6, Rankin "saw the Indian Chiefs and having settled matters with them determined to have Gould proceed with the survey."¹⁰² There is no indication of how Rankin resolved the dispute.

The sketch attached to Rankin's Report of May 1856, that conveyed the Indian's desire to vary the width of the IR, also showed two options for the west boundary. The line running due north (Craig Street) was annotated "Boundary by treaty"; a line running north-west (Copway Road) was annotated "Boundary desired by Alexander."¹⁰³ Copway Road had existed for some time; it ran in a south-east to north-west direction from the Indian village, and was used by the Indians to get to Lake Huron north of the mouth of the Saugeen River.

Rankin was a key participant in the Allenford pow-wow of July 19, 1855, held mid-way between the Saugeen Village and Owen Sound (at Floodwood Crossing) to resolve the dispute over the west boundary of the IR. In May 1855, the delegation of Indians had traveled to Quebec City to request a change in the west boundary. Their entreaties were unsuccessful. However, Bury, Superintendent General of Indian Affairs attended the pow-wow to meet with the Chiefs of five Indian bands, including the Saugeen band. Chief Alexander complained that:

... one of our reserves was not surveyed as we wished. When Mr. Oliphant was up we told him what we wished reserved, which he marked on a map; and when the surveyor came up, he did not survey it properly; and our object was to have it corrected.¹⁰⁴

Bury responded:

Whatever alterations you may wish, let them be submitted to Mr. Rankin, who will report to me, and I will submit the same to the Governor General ... if the request of the Indians is reasonable, their Great Father and his Council will be very happy to make any alterations which his Red children may require.¹⁰⁵

Rankin duly reported to Bury on August 11, by reference to the Town Plot Plan:

¹⁰² Doc 1201. Rankin journal. Field book 322, CLSR.

¹⁰³ Doc 509. Report from Rankin to Indian Affairs on survey of southern half of Peninsula. May 22, 1856.

¹⁰⁴ *Northern Advance*. Barrie. August 2, 1855. Grand Council Meeting of the Bands of Indians from Saugeen, Newash, and Colpoy's Bay, at the River Sable, on the Sydenham and Saugeen Road [July 19, 1855]. Copy filed at Bruce County Museum and Archives, Southampton. Box 10.

¹⁰⁵ *Northern Advance*. August 2, 1855.

The red narrow line is the place of a line of road formerly cut out for the use of the Indians, ... and then called the Copway road ... They profess to have believed at the time of the treaty that this road was to form the northeastern limit of this portion of the surrender, and still desire to retain all to the north of it. In regard to which I may observe that as it includes their corn field (green bordered) ... there ... would be no harm ... by gratifying them, ... and allowing them the use of it – which of course can be done without either resurrendering it to them, or in any way altering the terms of the treaty.¹⁰⁶

Rankin's advice was respected. By Order-in-Council of September 27, 1855:

The reserve known as the Saugeen Reserve ... be bounded instead by the Indian path called the Copway Road, which takes a north-westerly direction, as shown by the red line in the plan. This change will give the Saugeen Indians a small increase of frontage on Lake Huron ...¹⁰⁷

The revised west boundary had no effect on the east boundary, nor on the north-east corner of the IR. Its effect was to increase the frontage of the IR along Lake Huron by some 1.34 miles.¹⁰⁸ This effect (although not the distance) was explicitly acknowledged by the reference to the “small increase of frontage.” If the 9 ½ miles of frontage was to run from the revised west boundary (that is, from the intersection of Copway Road with Lake Huron), then the frontage would remain unchanged, with no increase in distance.

2. Absence of shore road allowance

Rankin knew how to establish shore road allowances, judging by his actions west of the IR and in other Townships at that time. Given this experience, the absence of any evidence that he did so at Lots 26 – 31 in Concession D means that no road allowances were established.

¹⁰⁶ Doc 500. Letter from Rankin to Bury, Superintendent General of Indian Affairs, forwarding a Plan of the Town Plot at the mouth of the Saugeen River as actually laid out. August 11, 1855.

¹⁰⁷ Doc 323. Report of a Committee of the Honorable the Executive Council, approved by His Excellency the Governor General on the 27th September, 1855.

¹⁰⁸ MNR map. September 6, 2005.

Evidence:

Rankin was instructed (Specific Instructions) to "... leave an allowance for Highway 66 ft. in width all along the Lake Shore throughout your survey ...", and (General Instructions) to "lay out road allowances round those lakes which your road lines intersect."¹⁰⁹ In surveying the north bit of Southampton in May-June 1855, Rankin established a road allowance along Lake Huron. It was identified in his field-notes, posted on the ground, and shown on his plan. Park Lots 1, 13, 14, 22, 23, 25, 26, and 27 are all bounded on the west not by Lake Huron, but by the east boundary of a shore road allowance. Likewise, the parcels established west of Madwayesh Street are bounded by the shore road allowance:

- Huron Street was surveyed west to a "reserve for Street on lake shore."
- Birch Street was surveyed west to a "reserve street on lake Huron."

Likewise Oak, Rankin, Front, Gosford, Edmund, Elm, and Madwayesh Streets were all surveyed not to Lake Huron but to a road allowance along the Lake.¹¹⁰

Elsewhere in Amabel Township, Rankin also noted a shore road allowance:

- In Lot 27, on the line between Concessions 23 and 24 he surveyed 8.75 ch to "the shore of Lake Huron" and then inserted a memo "leave 1c allowance for road, lot then 7c 75."
- On the boundary of the Chiefs Point Indian Reserve: "at 129c 00 Post leaving 1c Allowance for Road on Shore lake Huron."¹¹¹

Similarly, Rankin surveyed Muskoka Township in 1857 and was vigilant in recording where he established shore road allowances and reserves:

- In Lot 10, between Concessions 12 and 13, he surveyed a "reserve 1c inland for road," and established a "post within 1c of rocky shore."
- In Lot 14, between Concessions 10 and 11, he surveyed at Muskoka Lake a "reserve 1c inland for boats (unfit for road) leaves the lot 7c 18lk."
- On the side road between Lots 25 and 26, through Concessions 2 and 3, he established a "post" for a "road along shore of Muskoka Bay."¹¹²

However, the examiner of Rankin's survey of Amabel Township noted in mid-1856 that Rankin had not followed his instructions east of the IR. Rankin, himself, revealed that

¹⁰⁹ Doc 497. Specific instructions from Bury, Superintendent General of Indian Affairs to Rankin, accompanied by general instructions. April 26, 1855.

¹¹⁰ Report and Fieldnotes of the survey of the Townplot of Southampton (North). 1856. MNR Survey Records, Peterborough.

¹¹¹ Doc 1202. Amabel Township field notes. A128. Field book 2983, CLSR. pp. 72 & 146. 1856.

¹¹² Muskoka Township field notes. M72. MNR Survey Records, Peterborough. 1857.

he had not surveyed a shore road allowance in that area: "... I propose a reservation of a chain in breadth, to allow all boating people access to the beach, and such reservation should – as is usual – be mentioned in the patent ..."¹¹³

Others have commented upon the absence of a shore road allowance at Lots 25 - 31. In replying to the Commissioner of Fisheries in 1882, the Department of Indian Affairs observed that: "... the treaties with the Indians do not reserve any part of the lands surrendered thereby for public purposes but, on the contrary, they stipulate that the whole of the territory of lands covered by treaty shall be sold for the benefit of the Indians."¹¹⁴ McLean, of the Department of Indian Affairs, said in 1926 that: "... You will note that a road allowance along the shore of Lake Huron was not actually indicated along the shore line ... In the patents issued for lots 26-33 inclusive, Con D, the exception for road was not specifically mentioned."¹¹⁵

3. Lot 25 monument (Plan 354)

It would appear that Archibald OLS re-established the north-west corner of Lot 25 in 1927 by projecting the east boundary of the IR north from the boundary as re-established by Low OLS in 1888.¹¹⁶ Low, in turn, had re-established from the south the east boundary that had been surveyed by Rankin in 1855, but had surveyed only as far north as Lot 20, Concession D, Amabel Township.¹¹⁷ Thus, Archibald's monument at Lot 25 was on the line traveled by Rankin in September 1854, albeit not on the boundary. The Lot 25 monument has subsequently been accepted by:

Archibald OLS. Plan 355. Subdivision of part of Lot 26, Concession D, Amabel Township. 1927.¹¹⁸

White OLS. Plan T-2570. Lot 21, Concession E, Saugeen IR. 1931.¹¹⁹

Lambden DLS & OLS. Report on preliminary examination of required survey work, Saugeen IR. 1954: "I understand Mr. SW Archibald, OLS, marked the Indian Line at its north end in connection with adjacent subdivision surveys."¹²⁰

¹¹³ Doc 1566. Letter from Rankin to Pennefather, Superintendent General of Indian Affairs. June 20, 1856.

¹¹⁴ Doc 109. Letter from Department of Indian Affairs to Commissioner of Fisheries. October 13, 1882.

¹¹⁵ Doc 1189. Letter from McLean, Assistant Deputy of Indian Affairs to Archibald. April 27, 1926.

¹¹⁶ Plan 354. Plan of Bannister Subdivision, Sauble Beach. Registered in the Registry Office for the County of Bruce, September 19, 1927.

¹¹⁷ Doc 1242. Field notes of the subdivision of part of the Saugeen IR. FB 320, CLSR. 1888.

¹¹⁸ Doc 1250. Field book 30969, CLSR. 1927.

¹¹⁹ Doc 1384. Plan T-2570-A, CLSR. 1931.

¹²⁰ Doc 928. EMR, File SM 8206-06221, Volume 2, p.6. 1954.

Babbage DLS & OLS. Traverses along side road allowances, Concessions C & D, Amabel Township. 1956.¹²¹

Bellach DLS & OLS. Plan 61554. East boundary of IR, lying north of Lot 25. 1975.¹²²

Bellach DLS & OLS. Plan 61588. East boundary of IR, lying south of Lot 26 and north of Lot 15. 1975.¹²³

Lambden CLS & OLS. Report on Saugeen IR – East boundary. 1982: "... the peaceful, long standing occupation and use of the land on either side of a known line, marked from time to time after 1888, is strong evidence of its conformity with the original position by the 1855 survey."¹²⁴

Kliaman CLS & OLS. Plan 78215. East boundary of IR lying north of Lot 25. 1990.¹²⁵

de Rijcke OLS. Plan to accompany Report on the re-establishment of the east boundary of the IR. July 31, 1998: "Given a known and undisputed point ..." and "... the concrete monument planted by [Archibald OLS] in that line at the northwest corner of Lot 25, fits very closely the retraced alignment by OLS White."¹²⁶

4. Land policy and land surveying in Canada West:

By 1855, there was demand from all quarters that the Saugeen Peninsula be surveyed efficiently - there was much trespassing by squatters and loggers; there was interest from immigrants and other settlers; and the Indians who had surrendered the Peninsula pursuant to Treaty 72 were desirous of survey, grants, and settlement. Encouraging settlers allowed for the payment of annuities and for the development of markets, both of benefit to the Indians.

The pressure to settle people on the land was a function of population. The population of Canada West doubled between 1842 and 1852 from 486,000 to 952,000. In a three-year span between 1845 and 1847 the number of immigrants into Canada West more than tripled, from 25,000 to 89,000.¹²⁷ The result was that, between 1841 and 1856, some 5.1 million acres of land in Canada West was surveyed, the bulk of it into farm

¹²¹ Doc 1241. Field notes. FB 1237, CLSR. 1956.

¹²² Doc 1252. Field notes 61554, CLSR. 1975.

¹²³ Doc 1253. Field notes 61588, CLSR. 1975.

¹²⁴ Doc 716. DIAND, File 478/30-123-29, Volume 9, p.2. 1982.

¹²⁵ Doc 1247. Field notes 78215, CLSR. 1990.

¹²⁶ de Rijcke. *Report on the re-establishment of the east boundary, Saugeen IR.* pp.3 & 31. 1998.

¹²⁷ Norman Robertson. *The History of the County of Bruce.* Bruce County Historical Society 1906 (republished 1960).

lots. This excluded surveys performed for the Indian Department directly, rather than for the Crown Lands Department; in 1856, "in addition ... the Indian Department surveyed the Saugeen Indian Reservation, containing 407,546 acres."¹²⁸ This referred to the survey of the entire Saugeen Peninsula. Generally, the area of land surveyed annually over that period varied from 70,000 acres to 560,000 acres.¹²⁹

Land policy in the period leading up to 1855 was imbued with tension between immigrant and established families, between wealthy landowners and destitute settlers, between selling and granting land by the Crown, and between Indian lands and those trespassing on such lands. There was also concern about reducing the flow of emigrants to the United States, and about providing employment. In 1840, the tension was most pronounced between:

- Those wishing to retain the existing system of cash sales of land so as to preserve the market for land enjoyed by the large landholders such as the Canada Company, and,
- Those arguing for a better system – imposing strict settlement duties, making free grants to immigrants, and reducing the price of inferior land in older townships.

The latter group included the Surveyor General (who was also the Commissioner of Crown Lands), who recognized the potential offered by the one million acres of land that had been surveyed but not granted, and the unsurveyed land in the south-west of the province. The unsurveyed land was the recently acquired Sauking (Saugeen) cession, pursuant to the 1836 treaty that set aside the Peninsula as Indian Reserve.¹³⁰

By 1850, the "demand for land in Upper Canada had become pressing."¹³¹ The Crown Lands Department, which in 1845 had assumed full responsibility for the surveys of Crown Land, was criticized for not surveying and granting more land. The Commissioner of Crown Lands reported in 1856 that concerns about land surveys were a recurring theme: "The numerous and very serious errors of past surveys of Public lands in both sections of the Province having been a continually recurring subject of remark ..."¹³²

Owing to such errors, the role of the land surveyor changed in 1849 from being a direct servant of the Crown (as a Deputy Surveyor) to "an independent professional responsible for his own actions" who contracted his services to the Commissioner of

¹²⁸ Joseph Cauchon. *Report of the Commissioner of Crown Lands of Canada for the year 1856*. Presented to both Houses of Parliament. Appendix J. 1857.

¹²⁹ The only exception in that 16-year period was 1844.

¹³⁰ Lillian Gates. *Land policies of Upper Canada*. University of Toronto Press. p.259. 1968.

¹³¹ Gates. p.291. 1968.

¹³² Joseph Cauchon. *Report of the Commissioner of Crown Lands of Canada for the year 1856*. Presented to both Houses of Parliament. p.84. 1857.

Crown Lands.¹³³ In 1849, an Act, ... to make better provision ... for the survey of lands was enacted that established a board of examiners for land surveyors, that set out that boundary monuments were to be placed in the Commissioner's name, that set the rate of pay for surveyors, and that established the designation of Provincial Land Surveyor ("PLS").¹³⁴

Surveys of Crown lands were administered in the following sequence:

- Preliminary inquiries and arrangements were made between the Commissioner of Crown Lands and a Provincial Land Surveyor (PLS),
- Official instructions were issued,
- Correspondence ensued between the two parties,
- The surveyor employed assistants, axe-men and chain-men, and arranged transportation and supplies,
- The field-work was performed,
- The surveyor submitted his survey report, which dealt with topography, soil, water, and settlement possibilities, and his survey diary,
- The surveyor submitted his field notes and plan,
- The surveyor submitted his vouchers and accounts,
- The Crown Lands Department examined the returns (plans, notes, diary and report) and requested clarification or corrections,
- The surveyor complied.

Field practices had not changed significantly from the late 1700's. Although the transit (or theodolite) was used somewhat after about 1835,¹³⁵ the two measuring instruments used by Rankin were a compass for measuring direction, and a 100-link chain (66 feet in length) for measuring distances.¹³⁶ The compass was set up on a stump, flat rock or pole, and a sight was taken along the intended line. Axe-men cut away any obstructions. Chain-men then stretched the chain taught, and a stake was driven in at the correct direction and distance. The party then moved forward.¹³⁷

As of 1818, so as to ensure greater accuracy in township surveys, surveyors were instructed to ascertain the latitude and the variation of the magnetic needle at various points in the survey. Compass variation arose because the magnetic north pole does not correspond to the true north pole, and because of the effects of mineral deposits and the material used to house the compass.¹³⁸

¹³³ John Ladell. *They left their mark: surveyors and their role in the settlement of Ontario*. Association of Ontario Land Surveyors. p.139. 1993.

¹³⁴ *Act to Repeal Certain Acts Therein Mentioned, and to Make Better provision for the Admission of Land Surveyors and the Survey of Lands in this Province*, 12 Vict, c.35, 1849.

¹³⁵ Ladell. p.139. 1993.

¹³⁶ Ladell. p.43. 1993.

¹³⁷ Don Thompson. *Men and Meridians: The history of surveying and mapping in Canada*. Volume 1 – prior to 1867. Queen's Printer, Ottawa. p.236. 1966.

¹³⁸ Ladell. p.17. 1993.

In 1829, and with the same goal of ensuring more accurate surveys, the Surveyor-General introduced the first sectional system of survey, by which townships were divided into sections, each containing 10 lots. Amabel Township was surveyed in the 1000 acre sectional system, meaning that:

- each parcel (lot) was a nominal 100 acres,
- each lot measured 20 ch in width (1,320 feet) by 50 ch in depth (3,300 feet),
- there were 10 lots in each section,
- there were two concessions (rows of lots) of five lots each, in each section,
- there were road allowances of one chain width at every second concession,
- there were road allowances of one chain width after every fifth lot.¹³⁹

This is true of Concessions I to XXV, running from the south to the north of Amabel Township. However, Concessions A to D were not surveyed in the 1,000 acre sectional system. Although Concessions C and D consist of 10 lots in each section, the areas and dimensions of the lots differ. Concession D runs from south to north, along the east boundary of the IR, with a road allowance on the east side of the concession (between Concessions C and D) and road allowances generally after every fifth lot. There are 48 lots in the concession; between Lots 2 and 31 they vary in area from 100 acres to 175 acres. Neither the widths nor the depths of the lots are constant.

55 SA. Biographical sketch - Charles Rankin, Provincial Land Surveyor

The details of Charles Rankin's early life are ambiguous. He was born in 1797, either in Ireland¹⁴⁰ or in Upper Canada.¹⁴¹ Rankin was licensed as a Deputy Provincial Surveyor in December 1820 and worked in the south-western part of the province. In 1840 he married Elizabeth Leech and moved to Toronto, and in 1850 he and his family moved to Owen Sound (some accounts have him settling on 200 acres of land west of Thornbury).¹⁴² He lived in the Owen Sound area until the 1870's.

He surveyed extensively in the Counties of Grey and Bruce, surveyed the Garafraxa (Oakville to Owen Sound) Road, the Toronto-Sydenham (Owen Sound) Road, the Severn-Muskoka Road, and various towns (Blandford, Owen Sound, north Southampton, Warton, Woodstock), and more than 20 townships.¹⁴³ His prolific career

¹³⁹ For an excellent description of the 1,000 acre sectional system, see: W.F. Weaver. *Crown Surveys in Ontario*. Ontario Department of Lands and Forests. p.16. 1962, revised 1968.

¹⁴⁰ *Ontario History*. Volume 12: 1891-1900. p.884.

¹⁴¹ Association of Ontario Land Surveyors. *1921 Annual Report*. pp.118-120.

¹⁴² Ontario Archaeological and Historic Sites Board. Charles Rankin plaque. Thornbury Park, Ontario.

¹⁴³ Ladell. p.125. 1993.

spanned at least 47 years; there is evidence of his surveys between 1825 (with a report on vacant lands in the Western District) and 1872 (Eastnor mill-site).¹⁴⁴

Based upon the work that he continued to get from various Commissioners of Crown Lands and Surveyors General, "Rankin seems to have been a capable surveyor and trusted."¹⁴⁵ Above all, Rankin was a practical surveyor, and regarded himself as such.¹⁴⁶ In a February 3, 1855 letter to Bury, Superintendent General of Indian Affairs, Rankin qualified his views on the settlement of the Bruce Peninsula, "considering that I am one of the oldest - if not without exception the oldest - practical surveyors in Upper Canada."¹⁴⁷

Many of the people who would go on to become the leading lights of the Canadian surveying establishment articulated to him, including John Stoughton Dennis (Canada's first Surveyor-General) and Charles Unwin (City of Toronto Surveyor in the early 20th century). Rankin used the same assistants on various surveys. The survey of the Township of Arran (immediately to the south of Amabel Township) employed George Gould as an axe-man and carrier, and Richard Berford as an assistant surveyor.¹⁴⁸ Both men worked as assistant surveyors for Rankin on the survey of Amabel Township

He appears to have been principled and out-spoken. In May 1847, he submitted two letters to the Governor General, with comments on and suggestions for the management of the Crown Lands Department, and the Crown lands themselves. He noted that since 1827, the Crown Lands Department had been infused with a spirit of idleness and carelessness, and suggested that it was time to make changes both in how the Department was managed and in how Crown Lands were disposed of, "as I believe the gentleman now at the head proposes of his own accord to retire, leaving the office open ..."¹⁴⁹ He concluded: "In offering the foregoing observations, I do so from a conscientious belief in their correctness ..." In 1876, he recommended abolishing 7/8 of the governments (municipal, regional, provincial) then existing in Canada, and noted that: "Taxation in many of the counties ... is extravagant, amounting to a little rent on the prosperity, and is felt very oppressive ..."¹⁵⁰

Rankin was an industrious, reliable, experienced and public-spirited land surveyor. His survey of Amabel Township and of the boundaries of the Saugeen IR was bedeviled by "the torment of the flies," by the need to staff three field crews simultaneously, by "interference" from Indians, by "very stormy weather," and by the absence of

¹⁴⁴ Toronto Reference Library, Baldwin Room. Manuscript Collection. pp.69-70. 1954.

¹⁴⁵ Ontario Department of Public Records and Archives. Preliminary inventory of the Charles Rankin papers. May 9, 1952 (now located in the Baldwin Room, Toronto Reference Library).

¹⁴⁶ *Dictionary of Canadian Biography*. Volume 8: 1851-1860.

¹⁴⁷ Letter from Rankin to Bury, Superintendent General of Indian Affairs. February 3, 1855.

¹⁴⁸ Rankin's Personal Papers S-16. Baldwin Room, Toronto Reference Library.

¹⁴⁹ Two letters from Rankin to the Governor General. May 20 & 25, 1847. Bibliotheque, Le Seminaire de Quebec.

¹⁵⁰ Charles Rankin. *Notes of the Dominion of Canada*. J. Rutherford. Owen Sound. p.5. 1876.

snowshoes.¹⁵¹ Despite such obstacles, Rankin's survey techniques met the standard of the times and reflected his extensive experience in, and knowledge of that part of the land.

There is some suggestion that the surveys of the Bruce Peninsula (including Rankin's survey of Amabel Township and the IR) were done "under very great pressure" and that "it was necessary to act furiously fast in order to prepare the lands for settlement."¹⁵² However, there is little to suggest that the survey of the east boundary of the IR was affected by Rankin being significantly more rushed or under any greater pressure than in his other surveys. Although the Crown Lands Department reported in June 1856 that Rankin's work contained a "very unusual number of errors," the more surprising because his surveys were "formerly remarkable for their accuracy,"¹⁵³ none of the errors pertained to the survey of the east boundary nor to the north-east corner of the IR.

The Commissioner of Crown Lands cautioned in 1856 that only the most efficient surveyors were to be employed by his Department, "in order to protect the public, as far as possible, against the recurrence of the evils arising from the incompetence of Surveyors." Rankin continued to be so employed. Indeed, between 1857 and 1872, Rankin was employed to do at least 11 surveys of townships, roads, towns, water lots, mill sites, and Indian Reserves, despite being over 60 years of age.

6. Traverse of Lake Huron:

As part of his preliminary survey of the south part of the Bruce Peninsula, Rankin traversed the Lake Huron shore from the mouth of the Saugeen River to the mouth of the Sauble River between October 20 and October 27, 1854.¹⁵⁴ He used 61 courses (or straight line segments), over some 13 miles. There is no evidence that he planted any posts along that stretch of land.

For most of the courses - 54 of the 61 - he indicated that he was on the beach or on the shore. The two terms were used to refer to the strip of land lying between the clay banks and sand hills to the east (the landward side), and the water of Lake Huron to the west. Rankin made a distinction between the composition of the strip. If the strip was sandy then 89% of his references were to "beach"; if the strip was stony then 83% of his references were to "shore." Put another way, 94% of the references to stone or stony as adjectives have "shore" as the noun.¹⁵⁵

¹⁵¹ Doc 1201. Rankin journal. Field book 322, CLSR. Entries on pp. 10, 13, 10, 40 & 38.

¹⁵² Thompson. p.248. 1966.

¹⁵³ Doc 1549. Letter from Cauchon, Commissioner of Crown Lands to Pennefather, Superintendent General of Indian Affairs. June 10, 1856.

¹⁵⁴ Doc 1201. Rankin journal. Field book 322, CLSR. Entries for October 20-27, 1854.

¹⁵⁵ See, for example, courses 15-18 (all "stony shore"), and 55-60 (all "broad sand beach").

This descriptor of an area feature and not a linear feature is borne out by the context of his observations. Rankin's journal entry for June 7, 1855, after he placated the Saugeen Indians and traveled by boat past the same stretch of land, shows that he "encamped on the shore about 4 miles from Saugeen."¹⁵⁶ He camped on an area of land (probably the back of the beach away from the lapping of the waves), not on a mere line having no width.

Rankin knew when he was at the edge of the lake. He made a bold distinction between shore/beach and water's edge, for on only two occasions (courses 13 and 19) does he refer to traversing "in edge of water."¹⁵⁷ This refers to a linear feature, along which Rankin is sighting direction, measuring distances, and walking northward, so that his left foot is wet and his right foot is dry. Owing to the absence of any other references to "edge" and "edge of water," he likely spent most of the time not at the edge, but along the back (upland side) of the beach, so as to avoid the ordeal of wet people, equipment and sighting pickets.

The benefit of the traverse was that it allowed Rankin to plot the Lake Huron shoreline; indeed, by eliminating one blunder, the traverse plot fits the plan shoreline very well.¹⁵⁸ Of more use in surveying the IR, it allowed him to calculate the distance south from the mouth of the Sauble River he needed to subsequently travel (in September 1855) in order to establish "a spot upon the coast at a distance of about (9 ½) nine miles and a half from the western boundary." Such a calculation was feasible because he had three known values:

- distance from Saugeen to Sauble Rivers = 13.02 miles (1041.9 ch from traverse)
- distance from Saugeen River to west boundary of IR = 2.84 miles (probably measured from a plot of the polygon formed by Lake Huron, the Saugeen River, and the west boundary)
- distance from west boundary to spot = 9.5 miles (Surrender)

The distance from Sauble River to spot was the unknown.

The equation took the form:

$$\begin{aligned} D(\text{to spot}) &= D(\text{total}) - D(\text{Saugeen to West boundary}) - D(\text{Surrender}) \\ &= 0.68 \text{ miles} \end{aligned}$$

The traverse gives some indication of the width of the beach at the north-east corner of the IR in 1854. Over the 61 courses, the sand beach and stone shore is only referred to

¹⁵⁶ Doc 1201. Rankin journal. Field book 322, CLSR. Entry for June 7, 1855

¹⁵⁷ Doc 1234. Amabel Township traverse notes. Courses 13 and 19. Field book 387, CLSR.

¹⁵⁸ In overlaying a plot of the traverse with the 1856 Plan, an error in course 48 is revealed. The field notes have the shoreline veering N19 ½ degrees W; it actually veers N19 ½ degrees E. Correcting for this error, the plan shoreline approximates very well the actual shoreline.

as being "broad" over courses 55-60.¹⁵⁹ This equates to the beach at Lots 17 to 33, Concession D, which is precisely the stretch where the beach now averages over 100 metres in width.¹⁶⁰ This is not to say that the beach has insignificant width south of Lot 17; it merely confirms that the beach width was significant enough north of Lot 17 for Rankin to remark on it in his field notes.

Finally, the traverse indicates that the most easterly part of the shore/beach was at the end of Course 58, which equates to a point in the shore at about Lots 29 to 30, Concession D, Amabel Township. This is some 20 to 30 ch south of the location of the post planted in Lot 31, which indicates that any line drawn south of such a post would lie west of the Traverse Station in the "broad sand beach." That is, the shoreline at Lots 28 to 30 was concave – it lay furthest east. North and south of Lots 28 to 30 the shore curved towards the west.

7. Plans of Amabel Township

Sketch accompanying Rankin Report. May 22, 1856. Source: National Archives of Canada ("NAC"). [Doc 1320](#).

Map of the Township of Amabel. Signed "C. Rankin 1856". B 80. Indian Affairs Survey Records 862. Source: NAC. [Doc 1523](#).

Map of the Township of Amabel. Indian Department. August 1856. Source: de Rijcke Report, Map 13. [Doc 1481](#).

Amabel. Crown Lands Department. Signed "Joseph Cauchon." December 1856. Source: Archives of Ontario ("AO"). [Doc 1578](#).

Map of the Township of Amabel. Source: Canada Lands Survey Records ("CLSR"), Plan 1237 (T26). [Doc 1260](#).

Map of the Township of Amabel. Traced 1897. Certified to be a true copy of Plan 862. Source: Ontario Ministry of Natural Resources, November 20, 1990.

Map of the Township of Amabel. Traced 1897. Source: CLSR, Plan 26. [Doc 1244](#).

Map of the Township of Amabel. Source: CLSR, Plan T26, traced from Plan 862. [Doc 1245](#).

¹⁵⁹ Doc 1234. Amabel Township shore traverse. Courses 55 - 60. Field book 387, CLSR.

¹⁶⁰ As paced at Lots 17, 25, 28 and 31 during my site visit, July 26 2005.

Plan of Amabel. 1856. Source: Toronto Reference Library, Baldwin Room. Indexed as: "Amabel, A75 1856. C. Rankin. B80; Indian paths and reserves, town plots, mill lot, marsh, copy; FN 2893."¹⁶¹

Plan of Amabel. 1855. Source: Toronto Reference Library, Baldwin Room. Doc 1616.

Part of Amabel Township. Crown Lands Department. December 1856. Source: NAC. Doc 299.

Tracing from the Map of the Township of Amabel showing the Saugeen Indian Reserve. May 10, 1888. Source: NAC. Doc 182.

Map of the County of Bruce shewing the lately surveyed Townships in the Saugeen Indian Peninsula, Canada West. 1857. Source: NAC. Doc 1526.

Map of the Saugeen Indian Peninsula. Source: NAC. Doc 1524.

8. Saugeen Indians concerned with IR width:

The IR was described as having a shoreline along Lake Huron of 9 ½ miles, only because the Saugeen Indians sought an IR width (west-east) of six miles, and because of three errors in the sketch attached to the Surrender. The various IR in the Bruce Peninsula desired by the Indians and allowed for in the Surrender were sketched on a map attached to Oliphant's four-page hand-written Surrender.¹⁶² The map is based on part of Bayfield's 1822 map and hydrographic chart of Lake Huron,¹⁶³ and from which the dimensions of the IR can be scaled.

The ratio of the base of the reserve (in an west-east direction) to the shoreline is about 0.63. Assuming a desired base of 6 miles, such a ratio equates to a shoreline of 9.5 miles. However, the orientation of the sketch, and the perpendicular projection of the side boundaries are responsible for confusing a width of 3.87 miles with a shoreline length of 9.5 miles.

Bayfield oriented his map to astronomic (or true) north. The copy of Bayfield's map used by Oliphant is rotated some 16 degrees clockwise. The effect of rotating the map is to show the Half Mile Strip (the base of the IR) as running almost due east, when its true bearing is 76 degrees (north of east).¹⁶⁴ This means that any lines drawn perpendicular to such a base-line will **appear** to be going north. This illusion is significant, because the Surrender called for the west boundary of the IR to be "a

¹⁶¹ I viewed and copied it in the Baldwin Room, Toronto Reference Library on July 27, 2005.

¹⁶² Doc 1328. Surrender of the Saugeen Peninsula. October 13, 1854.

¹⁶³ Captain H.W. Bayfield. Lake Huron. Sheet III. 1822.

¹⁶⁴ MNR map. September 2005.

straight line running due north from the River Saugeen," and for the east boundary of the IR to be a line "running parallel thereto."

The illusion of an (almost) west-east baseline, and (almost) due north side boundaries was accepted, because Oliphant then sketched in the west and east boundaries of the IR as running perpendicular to the Half Mile Strip until they reached Lake Huron. However, such side boundaries have actual bearings of 346 degrees (west of north). If we assume a baseline of six miles, then such lines strike Lake Huron about 9.5 miles apart.

Unfortunately, even the scale of Oliphant's sketch is inaccurate, because the base of the IR equates to only 5.0 miles, meaning that at a ratio of 0.63, the shore line equates to only 7.8 miles. Had the west and east boundaries been sketched as running truly north, then the east boundary would not have struck Lake Huron on the west side of the Bruce Peninsula; rather, it would have extended some 30 miles north, striking Georgian Bay on the east side of the Bruce Peninsula.

To conclude:

- the Indians desired an IR with a width of five to six miles,
- the Surrender had attached to it a sketch that showed an IR with a width of five miles,
- the sketch was assumed to show an IR with a width of six miles, giving an erroneous scale,
- the map was rotated 16 degrees, giving the illusion that the base of the IR lay (almost) in a west-east direction,
- the illusion allowed perpendicular side boundaries to appear to be running due north,
- the boundaries struck Lake Huron 9.5 miles apart along the shore, using the erroneous scale,
- the Surrender was drafted by referring to the shoreline distance and not to the IR width,
- an IR with a width of six miles and with parallel side boundaries would not form a parcel on the west side of the Bruce Peninsula.

Thus, a scaled distance of 9 ½ miles was the result of three fundamental errors in sketching the shape of the IR: The map is rotated 16 degrees clockwise giving a misleading convention for north; the west and east boundaries of the IR are shown as being perpendicular to its south boundary; the sketch of the IR is not to scale.

9. Water's edge as of September 1855

That the Lot 25 monument is on the line along which Rankin traveled southward from Lot 31 on September 4, 1855 is corroborated by comparing the location of the monument with the water's edge at the time of Rankin's survey. Although Rankin surveyed to Lake Huron along the Lots 25/26 and 30/31 side roads, his measurements were consistently longer than what is recorded in the field notes. This may have been by design (so as to give settlers larger parcels than what they bargained for) or through systemic errors.

Such a surplus was common in that era: "It was the practice of the time to err on the generous side and often, more specifically, to measure and set out to that effect."¹⁶⁵ For instance, the survey of Tiny Township on Georgian Bay in 1822 resulted in consistent surpluses of 5.5% in Lots 9 to 16, Concession 12.¹⁶⁶

Rankin's surplus is calculated by comparing his recorded distances with his actual distances along the Concession C side roads:

<u>Location</u>	<u>Rankin's distances</u>	<u>Actual distances</u>	<u>Difference</u>
Con C side roads ¹⁶⁷			
Lots 15/16	3910'	4012'	2.6%
Lots 20/25	3938'	4003'	1.7%
Lots 25/26	3911'	4032'	3.1%
Lots 30/31	3917'	4020'	2.6%

The east and west boundaries of Concession C were parallel (bearings of North 2 degrees West),¹⁶⁸ meaning that Rankin's distances were very consistent. His average distance across Concession C was 3919 feet, and all measurements were within 0.5% of the average, meaning that he rarely blundered when measuring distances.

¹⁶⁵ Doc 716. Lambden report. DIAND, File 478/30-123-29, Volume 9, p.6. 1982.

¹⁶⁶ *Ontario v. Rowntree Beach Association* (1994), 17 OR (3d) 174 (Ont Ct Jus).

¹⁶⁷ Doc 1241. Babbage field book 1237, CLSR. 1956.

¹⁶⁸ Doc 1202. Amabel Township field notes. A128. Field book 2983. pp. 105 & 121. 1856.

The sample is supplemented by including two distances across Concession D:

<u>Location</u>	<u>Rankin's distances</u>	<u>Actual distances</u>	<u>Difference</u>
Con D side roads			
Lots 5/6 ¹⁶⁹	5462'	5580'	2.1%
Lots 15/16 ¹⁷⁰	4955'	5108'	3.0%
Lots 20/21	4681'	4884'	4.2% ¹⁷¹

Thus, for the sample of six locations, Rankin's distances were consistently longer than what he recorded, by an average of 2.5%. That is, when Rankin recorded that he measured, say, 100 ch, he actually measured 102.5 ch (100 ch + 2.5%) on the ground, as confirmed by subsequent surveys. Moreover, this surplus amount of 2.5% was relatively constant across his measurements.

When this surplus of 2.5% is added to Rankin's field note distances along the Concession D side roads to Lake Huron:

<u>Location</u>	<u>Rankin's distances to Lake Huron</u>		<u>Actual distances</u> ¹⁷²	<u>Diff.</u>
	<u>Recorded</u> ¹⁷³	<u>Increased by 2.5%</u>		
Lots 25/26	4558'	4669'	4649' (to Lot 25 mon)	20'
Lots 30/31	4241'	4347'	4447' (to HWM in 1953)	

There are two conclusions to be drawn from this analysis, relating to the Lot 25 monument and to accretion, respectively. First, the concrete monument established at the north-west corner of Lot 25 in 1927 by Archibald OLS, as shown on Plan 354, is coincident with the water's edge of Lake Huron in 1855. The difference of a mere 20' is explained by:

- A combination of distance measuring errors by Rankin in establishing the Lots 25/26 side road boundary to Lake Huron in 1855, and of direction measuring errors by Low in 1888 and by Archibald in 1927 in re-establishing the east boundary of the IR, and

¹⁶⁹ Doc 893. Bellach. Report of resurvey of east limit of Saugeen IR. p.3. 1975.

¹⁷⁰ Doc 1241. Babbage field book 1237, CLSR. 1956.

¹⁷¹ Discarded as being a blunder, given the significantly greater difference than for the other distances. Echoed by Bellach (p.3, 1975): "... Rankin did make an error in putting down his chainages in the notes here." Also echoed by Lambden (p.7, 1982): "... we should question [it] as perhaps containing blunders of original measurement or a questionable reestablishment of the middle intersection ..."

¹⁷² Doc 1241. Babbage field book 1237, CLSR. p.11. 1956.

¹⁷³ Doc 1202. Amabel Township field notes. A128. Field book 2983, CLSR. pp. 136 & 137. 1856.

- The fact that Rankin traveled south along the edge of Lake Huron on September 4, 1855 when the water was at the location subsequently represented by the Lot 25 monument, but did not survey west along the Lots 25/26 side road until sometime later. At that later time, the edge of Lake Huron either lay 20 feet further to the west or it was obscured by ice.

Second, at the Lots 30/31 side road the location of the water's edge of Lake Huron as of September 27, 1855 can be re-established as being at the centre-line of the present-day Lakeshore Boulevard North.¹⁷⁴ This is some 160 metres east of the present water's edge,¹⁷⁵ as expected owing to the significant recession of the water since Rankin's time and more particularly, since the 1920's.

¹⁷⁴ Doc 1237. Hewett OLS. Municipal survey of Lots 30/31 side road. Plan 31019, CLSR. 1953.

¹⁷⁵ A distance that I paced on July 26, 2005.

DR. BRIAN BALLANTYNE

Lawyer
Challenger Geomatics Ltd, Calgary

bballantyne@chalgeo.com

EDUCATION:

- LLB, University of Calgary, 2002
- PhD in environmental ethics/survey law, University of Otago, New Zealand, 1995
- MASc in survey law, University of Toronto, 1991
- BSc in survey science, University of Toronto, 1989
- BSc in geography, Trent University, 1982

ACADEMIC AFFILIATIONS:

- Adjunct Professor, Geomatics Engineering, Ryerson University
- Honorary Senior Lecturer, School of Surveying, University of Otago
- Instructor, British Columbia Institute of Technology (BCIT)

PROFESSIONAL HISTORY:

Research Lawyer Since 2003
Survey law – boundary law research and opinions, particularly riparian boundary disputes; land registries for First Nations and Aboriginal peoples; informal settlements in developing world; professional development to surveyors and land administrators.

Land tenure analyst 1988-1990; 1997-2003
Retained by the Legal Surveys Division of NRCan, Indian & Northern Affairs Canada, Canadian Council on Geomatics, Vancouver Port Authority, five provincial surveying associations, Challenger Geomatics Ltd, and Grand River Conservation Authority.

City of Calgary Law Department 2002-2003
Involved with negotiating services to IR, land assessment, land law opinions (boundaries, aboriginal title, riparian rights, easements), and Prov. Court prosecutions.

University of Calgary 1997-2001
Western Canada Land Surveyors' Professor of Cadastral Studies
Taught cadastral studies, survey law and land use planning, supervised three MSc students, published extensively on survey law, and was the Registrar of the Western Canadian Board of Examiners for Land Surveyors.

University of Otago 1991-1996
Lecturer
Taught survey law and environmental ethics; supervised four MSurv students, published on land tenure and boundary law; clerked Otago Branch of the NZ Inst. of Surveyors.

City of Burlington

Land surveyor
Policy analyst

1985-1987

1982-1985

PROFESSIONAL AFFILIATIONS:

- Member of the Law Society of Alberta
- Member, Canadian Bar Association (CBA)
- Associate, New Zealand Institute of Surveyors
- Associate, Association of Ontario Land Surveyors
- Member, Canadian Institute of Geomatics
- Examiner in cadastral surveys & land registration, Assoc. Canada Lands Surveyors

RECENT PROJECTS:

Expert witness in *Three Point Creek Developments Ltd. v. Wilma Chalmers*, 2005 -
Client: MacPherson, Leslie & Tyerman LLP, Calgary

Riparian boundary issues pursuant to *First Nations Land Management Act*, 2005
Client: Legal Surveys Division, Natural Resources Canada (NRCan)

Location of west boundary of Garden River Indian Reserve, 2005 -
Client: Ontario Attorney-General, Toronto

Location of north-east corner of Saugeen Indian Reserve, 2005 -
Client: Ontario Attorney-General, Toronto

Flooding of the Pasqua Indian Reserve, Qu'Appelle River, 2004 -
Client: Justice Canada, Saskatoon

Regulatory implications of the Mackenzie Valley gas pipeline application, 2005
Client: Gwich'in Land Use Planning Board, Inuvik

Legal correlates of growth in the informal settlements of Olinda, Brazil, 2004
Client: Canadian International Development Agency (CIDA), Ottawa

Managing New Zealand boundaries after deformation events, 2004
Client: Land Information New Zealand, Wellington

Traditional territories for Indigenous peoples in Russia, 2004
Client: Indian & Northern Affairs Canada (INAC), Yellowknife

Natural boundary advice - Tsawwassen and Kitsilano Indian Reserves, 2004
Client: NRCan, Vancouver

Private rights and the public interest on the riparian frontier, 2003
Client: Association of Ontario Land Surveyors (AOLS), Toronto

Legal Surveys Division as a public good
Client: NRCan, Ottawa

Land assessment training course for visiting Russian land administrators. 2003
Client: LARIS Project, Moscow

Property rights study for Nunavut, 2003
Client: NRCan, Iqaluit

Flexibility and rigour in the Canada Lands Survey system, 2002
Client: NRCan, Ottawa

Yukon First Nation land registry design study, 2002
Client: Challenger Geomatics Ltd., Whitehorse

Social review of the impact of survey and registration on Canada Lands, 2001
Client: Hickling Arthurs Low, Ottawa

Options for land registration and survey systems on Aboriginal lands in Canada, 2000
Client: NRCan, Ottawa

Technical, social & legal implications of using coordinates to define boundaries, 1999
Client: Canadian Council on Geomatics, Ottawa

PUBLICATIONS:

Over 75 refereed journal articles, conference papers, technical reports and seminar presentations.