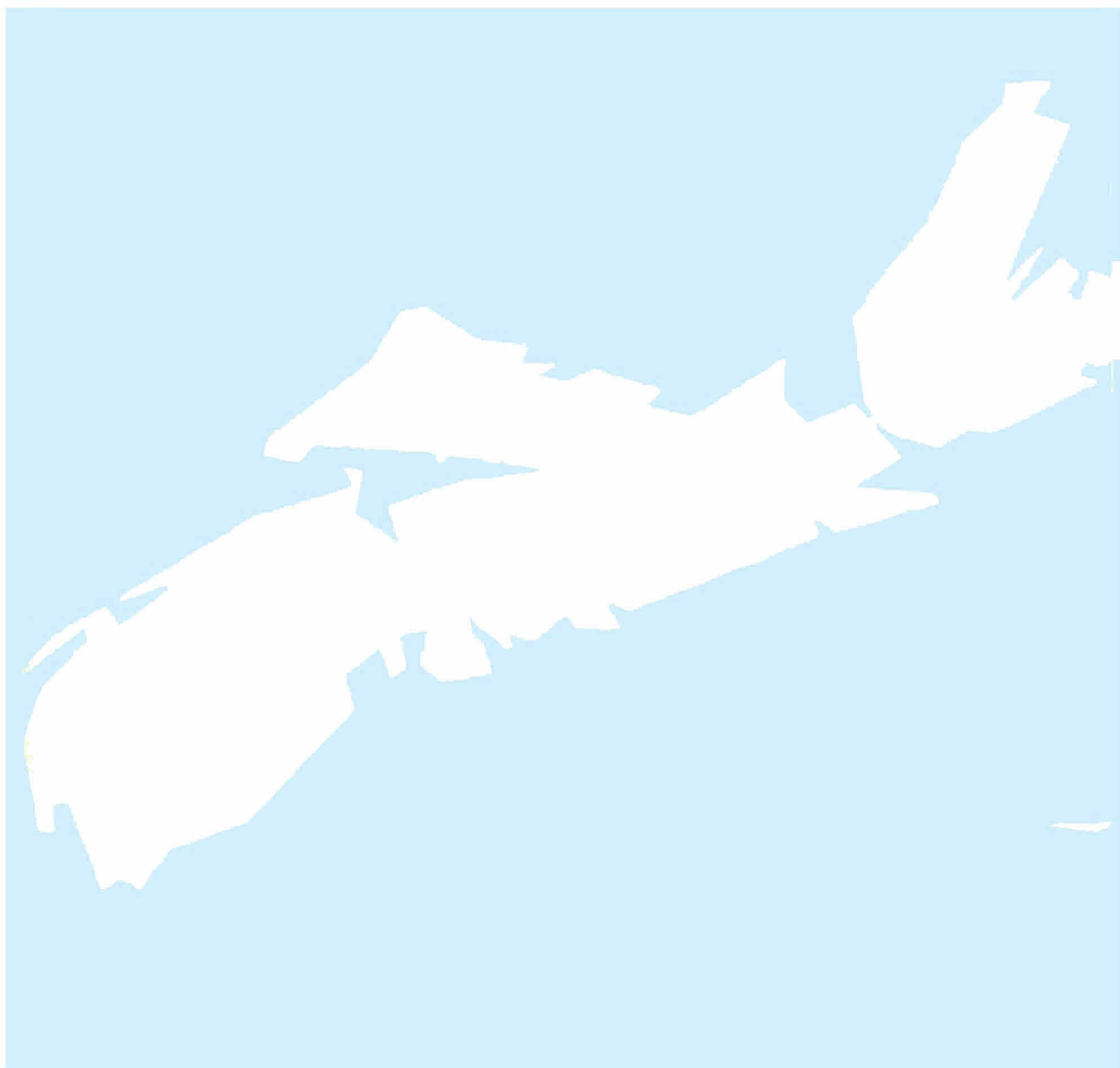


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**OCTOBER 1977**

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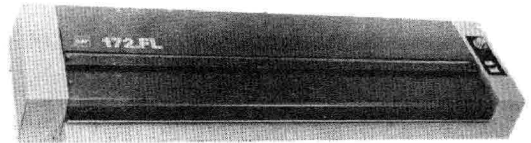
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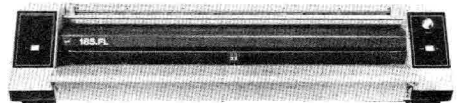
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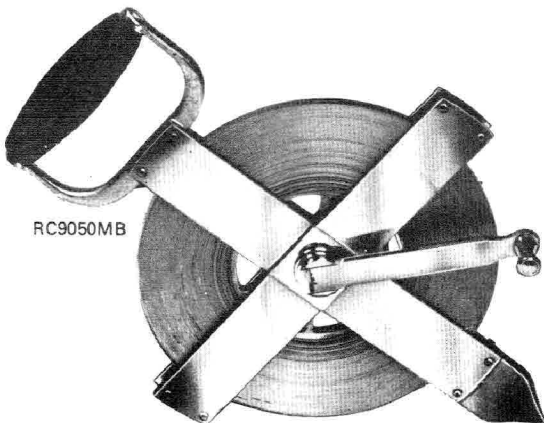
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# THE NOVA SCOTIAN SURVEYOR

Published four times a year by

**THE ASSOCIATION OF NOVA SCOTIA  
LAND SURVEYORS INCORPORATED**

Keith P. AuCoin  
President

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Executive-Secretary

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Telephone No. (902) 423-2058

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Founded 1951

Incorporated 1955

**Vol. 36**

**October '77**

**No. 88**

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**\*\* C O N T E N T S \*\***

*Views, expressed in articles appearing in this publication, are those of the authors and not necessarily those of the Association.*

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# CONVENTION '77

Association of Nova Scotia Land Surveyors

Annual Meeting  
November 3, 4, & 5, 1977

Holiday Inn  
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Halifax, N.S.

**S**eminar on Legal Aspects of Surveying

**U**nwind with Opening Night Social

**R**egular Business of Friday & Saturday

**V**iew the Exhibits

**E**ntertaining Ladies Program

**Y**our Annual Dinner & Dance

\*\* PRESIDENT'S PEN \*\*

With the summer behind us and our Annual Meeting just around the corner, this will be the last opportunity I'll have to address you through courtesy of the President's Pen. Sitting in the President's chair for the last eleven months has been a tremendous experience and has given me the opportunity to view the Association from a select vantage point. As a result of my observations, I would like to take advantage of this remaining space and share some of my thoughts with you.

Reflecting back to the start of my term in office, one of my priorities was to help identify and initiate an interesting and informative continuing education program for the Association. It was felt that this would assist the membership in raising its level of professional competence and serve to provide an improved surveying service to members of the general public. The regular business of the Association was of such a nature this year, however, that time has only recently permitted us the opportunity to direct our thoughts to this very important item. During the past year, my convictions relating to this matter have become even stronger and I'm pleased to advise that a planned continuing education program will be presented to the membership during our upcoming Annual Meeting. The program proposes to approach continuing education in the broadest of terms, while ensuring that a sufficient depth of subject material is presented with each proposed topic. We sincerely hope that the membership will acknowledge the efforts of the Continuing Education Committee by attending future sessions of their proposed program on a regular basis.

Throughout the year, I attended several Regional Meetings in various areas of the Province. At a time when so many important recommendations and changes are being made regarding the surveying profession, I must admit that I was surprised and a bit disappointed at the poor level of attendance at most of the Regional Meetings. These meetings provide an excellent opportunity for individuals to advise or question Councillors and Executive Committee members on their particular areas of concern. I would strongly suggest that all members, especially those who have been inactive in surveying in recent years, take advantage of their Regional Meetings to keep themselves abreast of recent developments and proposed changes within the surveying community.

On several occasions I was surprised to find that many members of our Association were still quite unfamiliar with the new Nova Scotia Land Surveyors Act. Various changes have been made and some sections that were not in the old Act have now been placed in the new Act. For those members who are actively involved in legal surveying, you might be well advised to read the new Act very carefully as a new approach to Professional Liability, Discipline and the operations of Companies has been introduced with this new Legislative Bill.

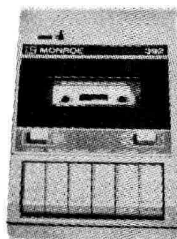
New Regulations and By-laws will soon be forthcoming and a thorough knowledge of the new Act will enable us to properly assess and vote upon these new proposals.

Quite often we hear various members making reference to "the Association doing this" or "the Association not doing that". The inference, of course, is that "the Association" is the Council and its selected Committee Members. Perhaps we should be reminded that the elected officers of Council serve in the temporary capacity of administrators and can only serve the Association well, if every member accepts his individual responsibility and takes an active interest in the parent organization. The administration of Association affairs under the new Act will be a demanding task for our future Executives and I urge all members to show their individual and collective cooperation by taking an active part in all Association affairs.

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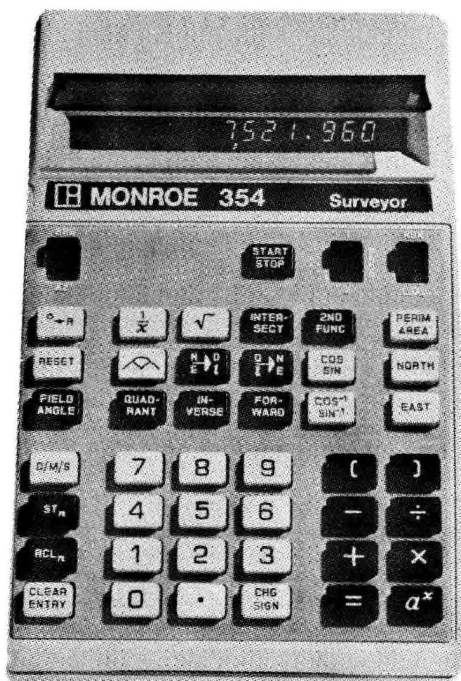


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\*\* COMBINES! \*\*

A few weeks ago in a mailing to members, President AuCoin referred, in a "Notice to Members" of the effect of a section of the Combines Investigation Act. I read his circular with interest and began to think about it, with some amusement.

In recent years great concern has been shown and demonstrated about the necessity of a minimum fee schedule. Even more concern has been evident in some areas by the "need" to raise the educational standards to a level where a bachelor's degree or equivalent will be required. It has also been said there are too many people getting into the Association.

I'll try to develop a relationship, as I see it, with the above facts, inferences or statements.

The above demonstrates a fear, perhaps an unreasoning fear that one's comfortable living may be in jeopardy. We have been conditioned to the idea that once the licence is in hand we have it made; we are on easy street; the world owes us a living; the yachts are at last within sight. All our training, the experiences while articling, TV ads, glossy magazines all suggest we need not, will not and should not want for any part of the good life.

Naturally any suggestion that the happy status quo may not be forthcoming or may not be maintained is a forbidden (at least forbidding) thought.

Naturally we wish to restrict competition; naturally we turn first to the Association and pass a law, by-law or regulation that thou shalt not charge more (or less) than your neighbour, we use that, along with the Code of Ethics (no bidding on jobs) as a cloak when the client asks the all important question, at least the important question to him.

By all means cut back on the number allowed to enter the ranks by making it harder, by making it take longer; that will only force rates up because those who do struggle through will owe more and be determined to get it back as fast as possible.

(Some of the above is tongue-in-cheek but I'm not sorry I said it!)

Now the other reactions to the potential effect of the Combines Act on professionals. The Code of Ethics restricts the practitioner in most professions from providing exact quotations of anticipated costs for a project or assignment; many professionals have relied on a schedule of minimum fees plus a time estimate to enable a prospective client to do the multiplying and in some cases to make his own "estimate".

The Combines Investigation Act suggests restrictions of the use of minimum fee schedules because the legislators fear the use of such schedules may unduly and unnaturally restrict competition. That is a very real possibility and cases (not necessarily in Nova Scotia) have been publicized where several professionals each stated an identical estimate for a specific assignment.

So we are in quandry - to quote or not to quote and/or what to quote. If one quotes, he may be afoul of the Code of Ethics; if he doesn't quote he may lose the job, if he quotes on the basis of a schedule of fees there is the chance if two or more identical quotes (or estimates) are received by a client that the surveyor may be afoul of the Combines Act.

Legal Counsel advises that the fee schedule is provided for guidance only; no one is bound by it. One must assume that many use the schedule and fear (a) if they exceed it, clients will go elsewhere; (b) if they undercut the schedule they will be damned by their fellows; (c) if they quote or bill by the schedule the people looking after the Combines may look after them too.



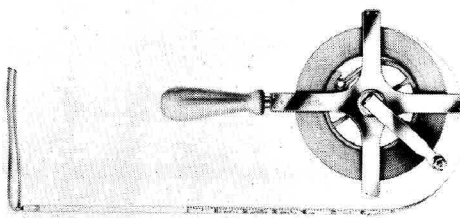
All of the above suggests that this may be another time when I'm not unhappy to be a salaried employee; sure we have problems but not this one.

But really when one takes it all into account, I believe the way to look at this problem is to suggest that the more surveyors there are, the less we need fear loss of income, security or prestige because if we are competent we will be busy, we won't need the artificiality of a protective fee schedule, the public will be well served; the less competent will be forced out, not protected; the profession will be stronger not weaker.

A. F. Chisholm.

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**\*\* IVAN MONCRIEFF \*\***

The Nova Scotia Land Survey Institute is pleased to announce the appointment of Ian Moncrieff as an instructor in the two-year Community Planning Program.

Mr. Moncrieff obtained a diploma in Environmental Planning from Fanshawe College, London, Ontario in 1972 and he subsequently became an instructor for the College, teaching drafting, surveying and planning for the Design School Students.



During this time he was responsible for the collection and mapping of data and report production for the Nanticoke to London 500 kV transmission line environmental study for Ontario Hydro. In addition he was responsible for producing numerous land use maps and conducting surveys for a large number of municipal planning studies in Ontario including the cities of Woodstock, St. Thomas and the town of Strathroy and Aylmer.

In the winter of 1974/1975 Mr. Moncrieff completed his degree in Geography at the University of Western Ontario and proceeded to carry on with MacLaren at the level of Junior Planner. His responsibilities involved working as the land use component on a multi-disciplinary team conducting environmental routing studies in Manitoba, Ontario and New Brunswick for many pipelines and electrical transmission lines. At the same time he was made responsible for cartographic format and in some cases report production.

Mr. Moncrieff was also deeply involved in the formulation of a number of official (municipal) plans in a large number of municipalities in the London area and has had to undertake numerous plan and zoning by-law amendments as a part of the advisory process to local planning boards.

More recently he has become involved in the land development industry through site planning and negotiating proposals for land developers and preparing secondary plans for municipalities outlining the use and conditions for such development.

Mr. Moncrieff is a provisional member of the Canadian Institute of Planners and a member of the Canadian Cartographic Association.

\* \* \* \* \*

\*\* VALENTINE GILIS - RETURN OF SURVEY - 1815 \*\*  
 SURVEY OF THE PROPOSED SHUBENACADIE CANAL

This survey was carried out using "..... a Circumferenter subdivided and a Statute four pole chain". The following are excerpts from microfilm records at the Legislative Library, Province House, Halifax, N. S.

Monday, 13th February 1815

This morning met Mr. Sabatier at Andrews Inn by appointment. I proceeded with him to view the Lakes.

William Fultz and Henry Miller - Chain Men @ 7s./6p. per day each.

Tuesday, 14th February 1815

At end of this (traverse line) sounded but found no bottom with a line 132 feet long, hence called this Deep Lake in the future.

Thursday, 16th February 1815

A snow storm, etc. Obligated us to leave off. This evening walked to Fultz's Tavern as I could not get a bed at Fletchers.

Saturday, 18th February 1815

From this proceeded to Conner's House on side of Lake, having walked 20 miles and being much fatigued, expected the consolation of a good fire and a soft plank to stretch upon but how great our disappointment and surprise on entering the Hut I found the Old Man John Shane who had been left to take care of the place dead. He was frozen to death, I suppose three weeks before that, his face and hands being much eaten by the mice. There was no alternative so I took my abode that night with John and early next morning, Tuesday 21, continued the Survey of Lake Williams.

This afternoon walked through the soft and much thawed snow to Dartmouth where I arrived late and much fatigued. Next morning Wednesday 22 February sent back the men for some of our luggage which we were unable to bring forward last evening, this day spent in regulating books, etc.

Thursday, March the 2nd

. . . to Lower House in Newtown which contains 12 poor houses, one forth of which is public houses or sells spirits, so great is the Itch for Tavern Keeping.

Monday, 13 March

Recommended the Survey from Fletchers Bridge down the Shubenaccadie River. From this turned back. The cold too great to be borne and the Lake open in spots covered over with light snow which made it dangerous to walk on. The great wood fire which happened in the year of \_\_\_\_, after encircling and consuming Fletchers House, Mill and effects and from which he and family narrowly escaped by a Boat on the Shubenaccadie reached to this and destroyed more than Twenty Thousand Acres of Wood, etc.

Wednesday, 15 March 1815

Returned home a messenger having arrived with the news of the death of my dear little Child George.

Monday, 27th March

Began at end of last Station. This morning Covering forebodes snow. (some

21 chains later he records...) As I predicted it so happened. At One O'clock, Storm, Snow and Rain compelled us to return.

Saturday 22 April 6 days Rough drawing this week, etc.	7	0	0
"		"	
"		"	
"		"	
Saturday 17 June 6 do.....do.....do.....	7	0	0
Balance due for in work	63	0	0

Feeling disappointed in not receiving the Balance of my account as above stated, and not being able to remove to any other without it. Also recollecting the willingness of the Honble His Majesty's council at a meeting for the purpose of the intended canal to employ me by the year, on a Survey of the Province, etc. I concluded the wants of a small family, whose sole dependance rested on my endeavours for their support, would not allow me to go unemployed. I therefore resolved to go on with such Surveys as would be useful and trust to the clemency of that Honorable Council for payment.

Monday 26 June 1815

Provisions, etc.

30 lb. Ham @ 1s./4p. -2 and 21 1/2 lb. Ham 1 12s./3p.-----	3	12	3
5 quarts of Gin-----	15	7	1/2
2 lb. Tea-----	13	0	
6 Gals. Rum-----	1	16	0
40 lb. pork-----	1	15	0
37 lb. sugar-----	1	4	8
3 Lines-----	8	7	1/2
Hooks & spears, etc.-----	14	0	
2 Gals. Rum-----	12	0	
1 lb. Tea-----	6	6	
Biscuit-----	15	0	
1 quart Gin-----	3	4	
Mug Tea pot & plates-----	5	0	
Butter-----	10	0	
Bill paid at Fletchers for sundries, carriage goods-----	1	8	0
Butter, potatoes fresh fish etc.-----	1	5	0
Incidental accts. in different places-----	9	2	2
account of Expenses on the Shubenaccadie	25	5	1

Wednesday, 5th July

Began the Survey of the Grand Shubenaccadie from end of Last Station taken by Intersection. This Morning moved our Tent to a Rock under Kentys House. Having established Land Marks around the Lake proceeded as per rough draft taken on the spot.

Thursday, 6 July

Continued the Lake which is truly magnificent beyond my description, clear and smooth as a blue mirror with winding shores - bold and low points of land clad with different shades of low and lofty trees, the gray or blue rocks peeping throu their Foliage.

Friday, July 7th. Continued the same.

This afternoon returning to our habitation on Rock point was met by a large Bear, with a White nose, who seemed to dispute With us the passage but as we had no Arms, and Mr. Bruin looked rather surly I thought it prudent to leave him in quiet possession of his habitation and took a circuitous route to my own from which with my glass I could see him feeding along shore for a long time.

Saturday Morning July 8th

Began at the point on which I saw the Bear, and which I now call Bearpoint, to measure along the shore.

Returning to our encampment, I could perceive along the side of the beech a sort of Wild Celery on which the Bear had been feeding. It was everywhere cropt. By this it seemed to make a great part of their food. I tasted it and think it pleasant and wholesome salted.

Tuesday 11th July 1815

This afternoon renewed the Survey at end of last No. after one of the most dreadful Thunder Storms I ever experienced in my life. The hand of heaven was truly visible in protecting us, the Trees over our head was struck with Lightning. We strongly smelled the sulphur and had we reached the Shore one minute sooner, we must have been struck also as the Lightning entered the ground at our landing place.

This Morning Wednesday 12th July

While at breakfast I could by help of my glass see a large Bear feeding on the opposite shore directly in the track we had to Survey. Got all things ready and row'd directly for him. He never moved till we were within twenty yards of him when he slowly moved into the thick Woods. He had been feeding on the last herb I before mentioned of which they seem exceedingly fond.

Saturday morning early July 15th

Having reason to think our Tent would be plundered and it being too late to remove on Saturday night Returned to the Bridge last mentioned to measure the road to Nine Mile River.

Wednesday, 2nd August

All things ready at Six this morning, proceeded down the River whose lands are rich in Iron and Coal mines, as also Gypsum, Lime Stone and White Marl of a most excellent quality. The land grows better as you proceed, affording delightful situations for building and improvements, beautifully diversified with hill and dale, Wood and Water, and its stream well stocked with the finny tribe. Such as Salmon Bass and Trout. Its a pity this River which could be made so useful is so much neglected. Even those resident on its banks daily deriving benefit from its waters, would not even to serve themselves, bear the trouble to remove its drift wood, which in many parts totally impede its course which, at rise and fall of the Tide, forms a barrier that 40 Men could not remove.

Having arrived at one of those barriers near to Gays river I was obliged to relinquish the idea I had of proceeding farther by boat. I returned to William McHaffey's plantation where we encamp'd.

Saturday 5 August

To the Shubenacadie River the Tide Rises here Nine feet the Banks are often overflow'd by high Tides to the great injury of its Meadows and Pasture. Its Rapidity is sometimes so great as to upset Boats and even ships that has not been carefully attended to. A Tide Gate could be placed down River, which would not only stop its velocity but let just as much water up as would be necessary for its navigation. There are two Rocks placed by nature so favorable for that purpose as to render it durable and of small expense. The Lands on the banks of this River are of the best quality abounding with every material for Improving and enriching the soil.

This place is call'd the Squaw.

Monday 7 August

Began at the Squaw and proceeded to measure up the River. At this overtaken by Dan'l McHaffey a most uncouth and boorish Man who to shew me the lands were his ordered me forthwith off them and also to shew me how much Law he knew threatened me with trespass altho at the same time I was over the Shoe in mud the tide had left at low water. I mention this to shew the Ill and Litigious disposition of many people in this Counrty. Its a pity such should possess property.

Wednesday 9th August

This afternoon much threatened for a Storm Encamped on the Bank of Keys Meadow and being out of Breat, sent to Keys for some but could get neither Bread, flour or potatoes so we contrived to fast.

Thursday 10th August

HAVING completed the Survey of the River Lakes etc. and taken the Elevations Levels and Depressions throughout the whole line I am imbolden'd to say Nature so powerfully assisted the Navigation of the Subinaccadie considering the rocky nature of the Country as to leave comparitavely little for art to accomplish a work of Such utility.

Give consider the fertility of Its banks now generally brought into cultivation abounding with every article that can make a CANAL USEFUL as well as such materials as may most powerfully assist to its own construction.

. . . . material submitted by Lee Johnston, N.S.L.S.

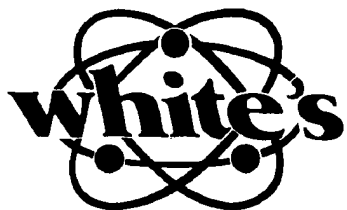
We are fortunate that Mr. Gilis (or Gilles) wasn't bashful about making extraneous notes in his field book. It gives us a glimpse of what a surveyor's life was like a century and half ago. It is hard to comprehend having to walk 20 miles to obtain lodging or going without food in this age of electronic measuring devices, satellite photography and positioning, the ready availability of various means of transportation and all the other modern conveniences which we take for granted.

Although the work the early surveyors turned out was rough and inaccurate in comparison to today's standards, their surveys served the purpose for which they were intended. One must consider the conditions under which these surveys were carried out and respect these pioneers for the things they did accomplish under trying circumstances.

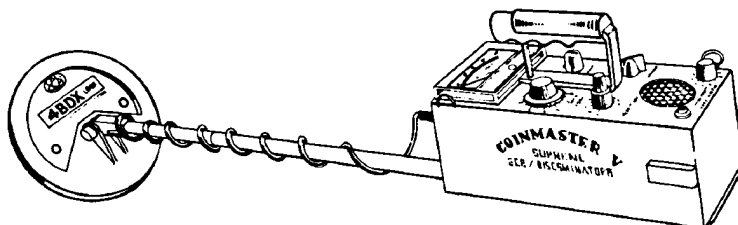
\* \* \* \* \*

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# THE IMPACT OF MODERN CADASTRAL SYSTEMS ON ATLANTIC CANADA

by

*John McLaughlin, N.B.L.S.  
Department of Surveying Engineering  
The University of New Brunswick  
Fredericton, E3B 5A3*

The third in series of articles  
prepared for The Nova Scotian Surveyor

## P R E F A C E

In earlier articles of this series we have reviewed some of the more important social, economic and political issues influencing public policies related to the use and management of our land resources. Within this context, I have attempted to illustrate the significant roll to be played by cadastral surveyors and cadastral systems designers.

In this article we will focus on the registration aspect of the cadastral system. The major methods of registration will be examined and the history of North American registration will be briefly reviewed.

### 1. Registration and the Institution Land Tenure

The institution of property within a society as it relates to the land and certain appurtenances to the land may be usefully conceptualized in terms of the land tenure system. As we have noted earlier in this series, the concept of the land tenure system connotes not so much a well defined social institution as a convenient abstraction for referencing the complex relationships that exist between categories of individuals and groups with respect to the use and enjoyment of the land. The Character and function of these relationships are the product of a host of geographical, economic, biological, technological and socio-cultural factors. Examples of some of these factors could include the nature and history of a society's agricultural development, population size and distribution, climate, systems of marketing, religion and inheritance arrangements.

Some tenure relationships may be legally defined in terms of sets of rights and obligations. In this manner the state sanctions the creation of unique interest to the use and enjoyment of parcels of land. At the same time the state (or "the people collectively"<sup>1</sup>) exercises its sovereign prerogative to control acquisition, exploitation, preservation and transfer of these parcels of land. Other relationships, although not legally recognized, may still be of considerable social or psychological importance. For example, the relationship between a farmer owning a fee simple interest and another individual who is working part of the farm as a tenant-at-will might be legally described as rather precarious. But a familiar bond between the two parties might in fact make the relationship exceptionally strong and long-lasting. Similarly, while restrictive covenants based upon class or racial preferences may be legally void, they may still be socially relevant in a community.

Such relationships are not only fashioned by a host of economic, environmental and technological factors, but they are also modified over a period of time as the level of human activity and communication is extended. Professor Philip, in expanding on Hume's tenet that the only justification for private property is public utility, has argued that the "nature of rights in land which can be owned and prerogatives of ownership will be changed by human evolution since those rights express merely what it is convenient for society to leave to the control of private owners."<sup>2</sup>

Within such a framework we might describe a land registration system as a set of facilities and arrangements whereby those relationships which are legally defined may be entered into some form of public register. As such, a land registration



system provides the state with a vehicle for initially delegating specific interests in parcels of land and for subsequently regulating the character and transfer of these interests. The land registration system may also serve two other significant purposes: it plays a role in resolving the problems of entitlement as they relate to property in land; and it provides an informational basis for the continuous monitoring of all legally defined changes in the tenure framework.

In a general sense legal rights in land (and the reciprocal obligations) may be classified into five familiar areas:

- (1) the right of control, either of a positive or negative nature, over the use of the land;
- (2) the usufructuary right of direct use of the land;
- (3) the indirect right to economic gain from the use of the land;
- (4) the right of transfer;
- (5) various residual rights such as the reversionary right to acquire the use of the land at some future date.

Each of these rights, in turn, may be defined in terms of four attributes:

- (1) the complex of legal criteria to which the exercise of the right is conditioned;
- (2) the population associated with a particular right;
- (3) the effective time dimension of the right;
- (4) the spatial dimensions of the right.

As a matter of convenience the first three of these attributes may be subsumed under the category of interest attributes, while the fourth may be described as the boundary attribute. The registration of property rights may then be thought (but only for analysis purposes) of as two separate and distinct processes: the registration of interests and the registration of bounds.

## 2. The Registration of Interests in Land

The acquisition of rights in a parcel of land may be described in terms of ownership of the land (Roman, *dominium*; Continental, *allodium*) or in terms of ownership of the rights (the English concept of the estate). Under English common law, and its American and Commonwealth derivatives, an estate is the degree, quantity and quality of the rights in a parcel of land held in common ownership. While the distinction between the concepts of land ownership and rights ownership are of some significance, in practice the English fee simple estate is equivalent to continental land ownership. In neither case, however, is this ownership absolute. The "ultimate power of the sovereign reduces to its ability to survive, and no bundle of rights to a person or local government can be so complete and permanent as to challenge sovereign survival."<sup>3</sup> The sovereign powers of taxation, expropriation and escheat are some more common examples of limiting influences on the fee simple estate.

The transfer of an estate in land entails both a contractual and a registration arrangement. The Contractual arrangement is concerned with the intention of the parties to the transfer; the registration affords some means of securing their expectations. Registration may involve the recording of instruments describing the contractual transfer in a public register. The registration may also be effected in some private fashion. Various methods for publicly registering instruments may be used, based upon the criteria described in Figure 1. Public registration may be compulsory (in which case unregistered transactions, regardless of the intent of the involved parties, are not recognized), or noncompulsory. Within a compulsory registration arrangement, provision may be made for the examination of the instrument which effect the transfer and for the subsequent warranting of the transfer.

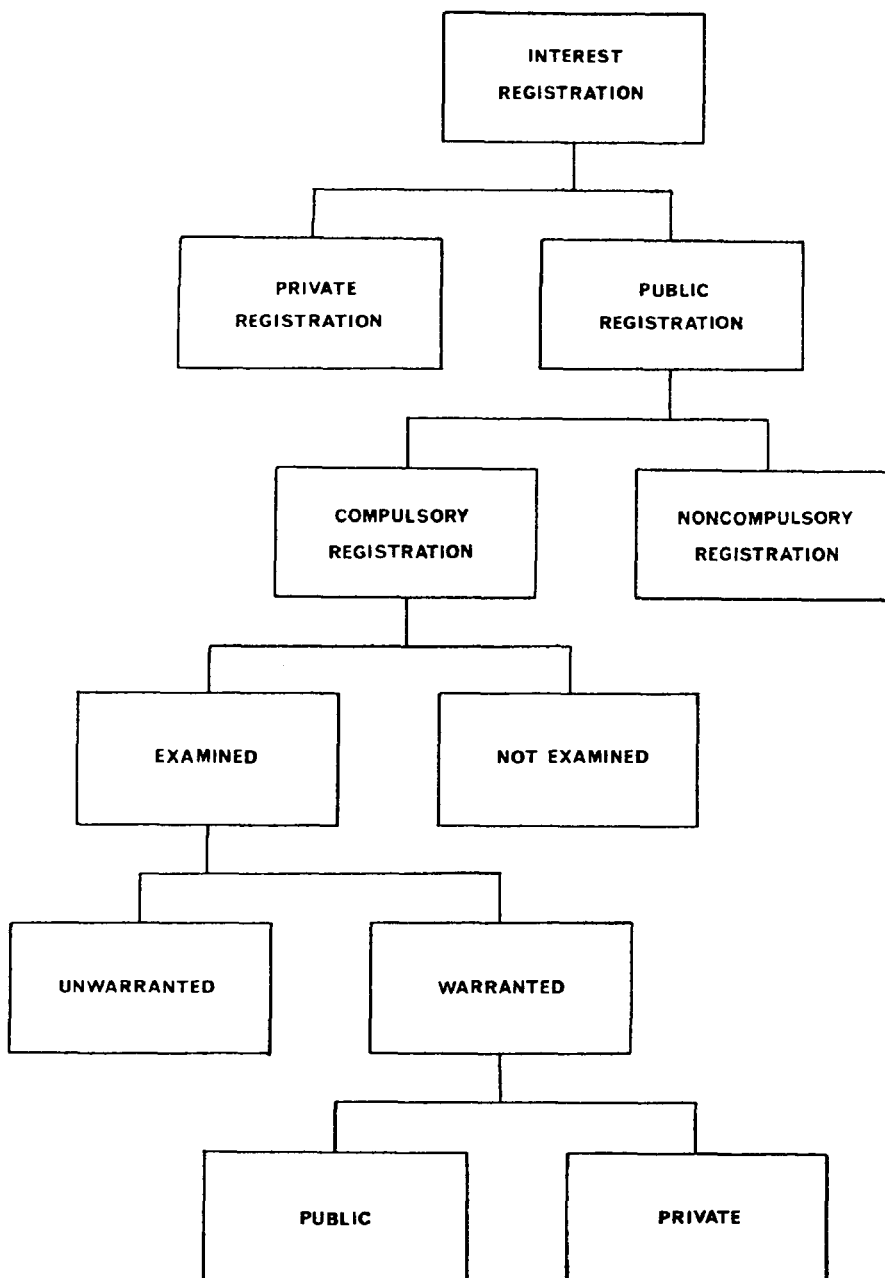


FIGURE 1: INTEREST REGISTRATION TAXONOMY

Public land registration systems are usually classified as either positive or negative systems, although I would argue perhaps that the terms active and passive are more descriptive. Norman has distinguished between these systems in the following manner:

One system, the negative, simply records all transactions which involve a parcel and there is, at least in theory, a continuous record of the rights held and any changes that may occur in them. This record of transactions does not, in the legal sense, provide a title to the property and can only act as a witness in the case of disputes. In contrast, the positive system establishes a title to the parcel, and its rights, which is guaranteed by the state.<sup>4</sup>

The negative system can be thought of as a register of assurances while the positive system is a register of interests.

Six broad families of land registration systems have evolved in western societies: private conveyancing; rudimentary deed registration; improved deed registration; Torrens land titles registration; English land titles registration; and Continental land titles registration.

Private conveyancing, or the private investigation of title as it is sometimes called, is probably the oldest and most primitive of publicly sanctioned registration processes. Rights to land are transferred by the signing, sealing and delivery of documents between private individuals with no direct public notice, record or supervision. Usually three parties are involved in the transaction: the owner of an estate or vendor, the purchaser of the estate or vendee, and an intermediary. Ownership is proven through documents held by the vendor and an abstract or history of the title is prepared by the intermediary. Private conveyancing was the accepted method of land transfer in England up until the reform period of 1829-1925. A Royal Commission appointed in 1829 clearly expressed the difficulties associated with private conveyancing:

In all civilized countries the title to land depends in a great measure on written documents, and the purchaser looks and is empowered by the law to look for the proof of the seller's right beyond the fact of his possession. It is obvious that a documentary title cannot be complete unless the party to whom it is produced can be assured that no document which may defeat or alter the effect of those which are shown to him is kept out of sight. It follows that means should be afforded by the law for the manifestation of all the documents necessary against the effect of any documents which, for want of the use of such means, have not been brought to their knowledge; or in other words, that there should be a General Register.<sup>5</sup>

The important role which has come to be played by professional intermediaries, such as that of the legal profession in the Maritimes, is rooted in the private conveyancing concept.

The rudimentary deed registration system is the simplest form of public registration. It provides for the recording of assurances or legal evidence of the transfer of title to land in a public register. However, public registration is not compulsory, and many rights are not registered as a general rule (possessory rights being but one example). The system has three basic elements: the logging of the time of entry of an instrument of transfer; the indexing of the instrument; the formal storage of either the instrument itself or a copy of it. Logging is important because the subsequent priority of rights usually depends on the date of transfer or on the date of recording. Indexing provides a means for retrieving all pertinent instruments to the title history of a parcel of land. The instrument or a copy of it is stored, in lieu of a memorandum of transfer or some other short form notation, and is made available for subsequent investigations. This of course, has been the traditional mode of registration in eastern North America.

Improved deed registration systems are also negative systems inasmuch as they provide only for the recording of assurances. However, they offer certain improvements to the basic system. The most important improvement is mandatory registration,

although invariably there remain overriding exceptions. Improvements may also be made in the format and legal significance of the indexes, and/or in the format and method for sorting the instruments. There may also be improvements entailing some form of assurance examination. Such systems have often been called "Reformed registry systems" and have, for example, been recommended from time to time for the Maritime Provinces.

The Torrens land titles registration system is a positive or active system which provides for the compulsory registration of the title to parcels of land. It was first introduced by Robert Torrens in his South Australian Real Property Act of 1857.<sup>6</sup> The Torrens approach is founded upon three basic principles:

- (1) The mirror principle which involves the proposition that the register of title is a mirror which reflects accurately and completely the current facts that are germane to the title. With certain overriding exceptions (such exceptions seemingly unavoidable), the title to a parcel of land may be considered free from all adverse rights and obligations unless they are specifically mentioned in the register.
- (2) The curtain principle which holds that it is not necessary to review all of the instruments pertaining to the land, but only to the current record.
- (3) The insurance principle which warrants that if the register gives a specious or incomplete reflection of the title, and if a bona fide vendee incurs a loss that cannot otherwise be made good, the State will provide compensation. This is often called a guarantee of title.

There are two other attributes of the Torrens system, the tract index and the fixed boundaries concept, which we will discuss in the next article.

The English land titles registration system is also a positive system, with-in which the public register is at all times the final authority on the current interests in land. The state accepts the responsibility for the validity of the transactions. The English system evolved, apparently coincidentally,<sup>7</sup> at about the same time as Torrens was introducing his legislation. The first English act was passed in 1862. Serious problems developed as a result of this legislation and there was a series of subsequent amendments and modifications which culminated in the passage of new legislation in 1925.<sup>8</sup> This legislation provided for a compulsory system of registration in the metropolitan London area and voluntary registration elsewhere. The English system shares many attributes with the Torrens approach, but as is to be expected from systems which were introduced under very different geographical, economic and social conditions, there are important differences as well. For example, the English system recognizes and provides for possessory rights within a statute of limitation, whereas Torrens does not. Furthermore, the common law tradition of secrecy is preserved, as Dr. West of Cambridge has noted: "the English act preserves the tradition of secrecy established under private conveyancing and, in general, permits, only the registered proprietors and persons authorized by them in writing to inspect the register."<sup>9</sup> The Torrens system, on the other hand, relies upon the attribute of publicity as a means of detecting error and fraud, and as a result any person may examine the register.

The Continental land titles registration systems are also positive systems. They are often called judicial or proprietary cadastres, and may be distinguished from the Torrens and English approaches by the nature of the interests registered and by the exceptions allowed. A major difference lies in the registration and warranting of bounds. Whereas the Torrens and English systems are primarily concerned with registering interests, the cadastre concept, in theory at least, attaches equal weight to the registration of parcel boundaries.

### 3. North American Title Registration

Seventeenth century English land conveyancing practices were dominated by two characteristics:

First the substantive law had reached its technical worst, and second, the structure of institutions and practices employed were still fluid, relatively undeveloped, and in a state of transition and experimentation.<sup>10</sup>

As a result, the land registration systems which were to appear in the New World were a strange mixture of old English private conveyancing practices and some entirely new institutions. Among the English practices adapted were the concept of the conveyancing profession and the abstract of title. These were blended with the uniquely North American institutions, the American recording system and the commercial abstract.

The American recording system and its Canadian cousins are rudimentary deed registration systems. Their form was first described in the early seventeenth century recording statutes of the Plymouth, Massachusetts, Virginia and Nova Scotia colonies. These statutes had four characteristics which still persist today in the registration laws of much of the United States and the Maritime Provinces of Canada:

- (1) the instrument of transfer, before recording, must be acknowledged before a public official;
- (2) the entire instrument must be recorded;
- (3) legal priority is generally assured the grantee by the act of recording; and
- (4) the instrument is operative without record, with the title passing before the instrument is recorded.<sup>11</sup>

Because the act of registration does not transfer title, various methods have evolved to assign priorities of transfer. Under the common law, priorities with respect to rights were a function of the date of transfer such that if A conveyed his estate to B, and subsequently to C, C would not be legally recognized as having received the estate. However, as one of the purposes of the recording statutes was to afford at least some minimal protection to the vendee, the common law priorities have often been modified to require some form of notice to third parties. In some jurisdictions, the act of registration became the only recognized form of notice, with the first person to register having priority. This principle is embodied in the so-called race statutes of a few American states.<sup>12</sup> More commonly, however, the statutes allowed for other forms of notice such as direct communication and adverse possession, and provided that a second vendee of an estate for value could obtain legal title if he did not have notice of a prior transfer. This was the basis for the so-called notice and race-notice statutes.

An important characteristic of the North American rudimentary deed registry systems has been their method of indexing registered instruments. This is done using an alphabetical grantor-grantee index. Under this arrangement, all instruments are referenced to the surname of the person transferring an assurance (the grantor) and to the surname of the person receiving the assurance (the grantee). The instruments are referenced in a daily journal together with the time of registration. Periodically these journals are consolidated into alphabetically arranged indexes.

Another important characteristic of this system has been the philosophy attached to and the methodology employed in the examination and validation of the title registers. Proof of title under the English private conveyancing system apparently only became a recognized legal concept after the decline of the feudal era. During the seventeenth century it became standard practice to draw up an abstract of the title to a parcel of land containing a condensed history of valid transactions going back at least sixty years. The role of preparing this abstract was gradually taken over by the legal profession, and in 1804 the legal profession was given a monopoly on conveyancing work.<sup>13</sup>

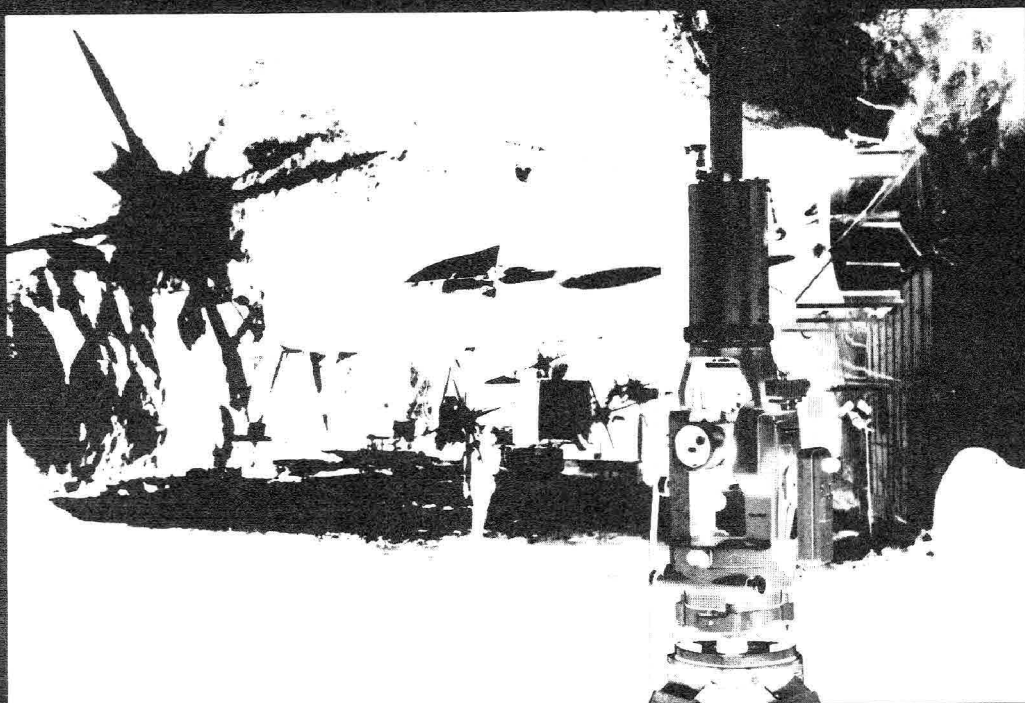
Title examination evolved in a somewhat similar manner in North America. The commercial abstract, containing a summary of all the instruments contained in the public record back to the original grant appeared as the standard title examination

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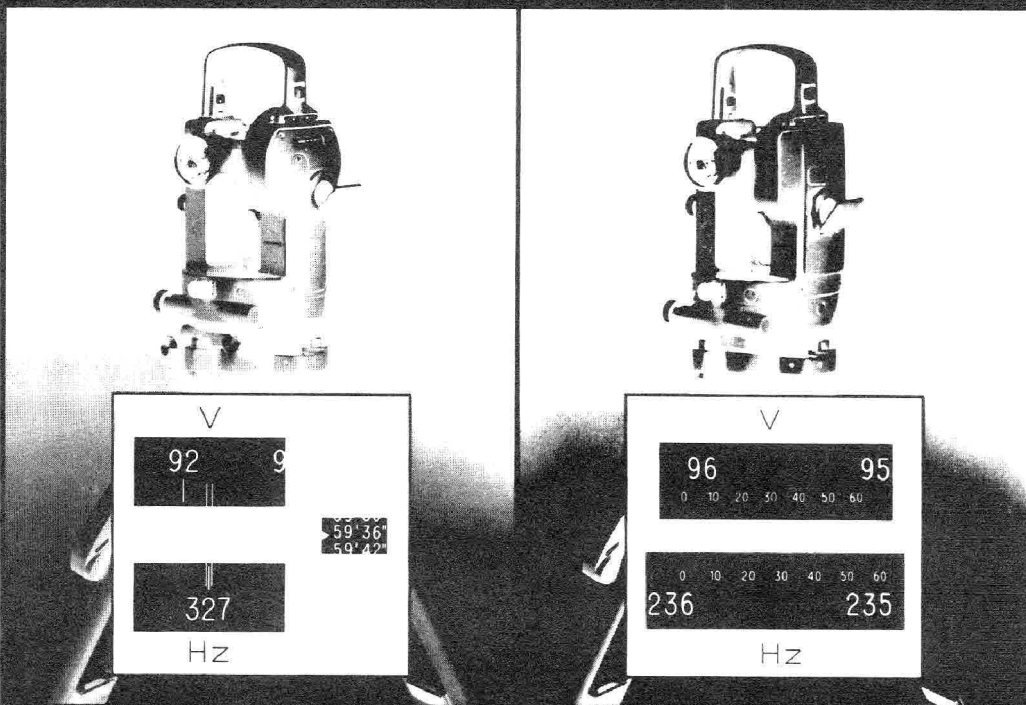
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document. Organized professional groups, such as the lawyers, title examiners and later the title insurance companies, came to assert special and other conflicting privileges with respect to the drafting and warranting of these documents.

The difficulties associated with the rudimentary deed registration approach, such as the high cost of searching titles described earlier in this series, have led to several efforts at reform. In 1961 Vancouver Island adopted the first Torrens System in North America, an approach subsequently adopted in all western provinces (Manitoba still retains vestiges of the registry system as well). Parts of Ontario have a land titles system patterned after the English model.<sup>14</sup> Similar measures were introduced in the United States, although with considerably less success.

Beginning towards the end of the nineteenth century, and continuing for a period of more than fifty years, a series of legislative efforts were made to introduce the Torrens approach into the United States. At the height of the movement, twenty states had adopted some form of land titles legislation, although subsequently nearly half of the states were to appeal it. Payne, in commenting on this period, believes that:

In many respects it is unfortunate that the movement came when it did and centered around this particular reform. "Social Darwinism" was then rising to its ascendancy and in the law, the historical school dominated jurisprudential thought. As a consequence, legislation as a means for meliorating "folkways" was in disrepute. It may also have been significant that an increasingly belligerent nationalism, evidenced by such phenomena as the concept of manifest destiny and the neo-native opposition to foreign immigration was not favourable to the reception of ideas from abroad.<sup>15</sup>

The opposition to the Torrens system was as well organized as it was ferocious. And it was often virulent. J. L. Mack, for example, wrote in 1918 concerning the California land titles legislation that: "We must conclude that the California law which throws no safeguards about the registration decree, upon which all subsequent Torrens certificates are based, is unsound, unsafe, and unAmerican, and will spell loss and disaster and litigation to those who accept and rely wholly on such evidences of title."<sup>16</sup>

Some of the United States land titles acts did survive and meet with a modicum of acceptance, although in a form quite different from the original Torrens concept. Massachusetts, for example, passed a registration act in 1898 which is still in use. This act was apparently intended from the outset to primarily give "relief to those who needed it to secure a good title for one defective or unmarketable."<sup>17</sup> The Massachusetts Act provided for the establishment of a land court, initially one of inferior jurisdiction but later amended to a court of superior jurisdiction, which was given the role of adjudication over all estates being brought under the land titles domain. The initial entry of a parcel of land is made on a voluntary basis, but the subsequent transfer of title functions is in a fashion very similar to Torrens. By providing for a judicial proceeding and by making the initial entry into the system voluntary, the Massachusetts legislation overcame the constitutional issues raised. However, because of the voluntary nature of the act and because the costs are borne directly by the petitioner, less than 15% of the land in Massachusetts has been registered in the last 75 years.<sup>18</sup> Those who have taken advantage of the system have seemingly done so "for clearing titles of defects rendering them unmarketable or uninsurable, for determining boundaries accurately with finality, for large tracts before subdivision, and where the freedom it gives from possibility of prescriptive easements is important."<sup>19</sup>

While a few American jurisdictions have thus sought to improve the public registration system, much of the initiative in this area has been assumed by the private title insurance industry. The title insurance industry is in effect a private land titles registration system in which duplicate records of all public registers are maintained, abstracts are prepared from these records, and the resulting opinions are warranted (although the warranties are often laden with exceptions). Recently, efforts have been made to extend private title insurance activities into Canada. In discussing these private ventures, Payne has written that "it cannot be



reiterated too often that these private systems of records are the result of the deficiencies of the public records, that they have come into existence relatively lately, and that their owners have no vested interest in the existing order." 20

Undoubtedly the most exciting registration concept of current interest is the effort of the Council of Maritime Premiers to build a hybrid torrens - continental cadastral registration system. After reviewing the concept of boundary registration in the next article, we will conclude this series by looking at the proposed Maritime registration system in some detail.

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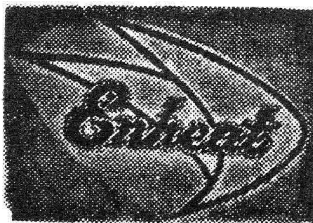
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7.0	ACKNOWLEDGEMENTS .....	

## 1.0 INTRODUCTION

"Land surveying", as defined by the Nova Scotia Land Surveyors Act is "the determination of any point or of the direction or length of any line required in measuring, laying off, or dividing land for the purpose of establishing boundaries or title to land".

In order to carry out "land surveying" in a professional capacity a land surveyor must be knowledgeable in many areas of endeavour. One of the most important of these involves the surveyor's ability to research and interpret the acts, regulations, by-laws, deeds, descriptions, physical and parol evidence, as they may apply to the surveying of legal boundaries. Without a knowledge of the more important sources of research material, if not them all, decisions regarding legal boundaries become, not only very difficult, but often times almost impossible. The surveyor, without exhausting the proper channels of research, leaves himself open to future challenge or criticism with no supportive evidence to substantiate any decisions made during the course of his survey.

The land surveyor has been traditionally accepted as an expert witness whose opinions are based on the evidence he has been able to gather relative to the proper relocation of any property boundary. The key words here are "expert witness". Without a knowledge of where or what to look for, and proper examination of all research material available to him, it would be most difficult for a surveyor to become an expert witness.

In the subsequent sections of this report, I will be discussing many of the areas where research material is available to the surveyor and to some extent the reliability that can be attached to each.

## 2.0 PRIVATE SOURCES

### 2.1 Private Survey Firms

A well established surveying firm with comprehensive records is a valuable source of information, not only to land surveyors, but to lawyers and civic or provincial agencies as well. Portions of the information may have been gathered from files and records of surveyors or survey firms that are no longer in practice. This information, as well as that of the particular firm, may or may not be reliable. The reputation and reliability of the individual or company should be investigated and taken into consideration when using any such research material. Nevertheless, the data is on record and should be considered when making decisions regarding boundaries.

Proper research takes a considerable amount of time and, therefore, can be, at times, a costly procedure. In obtaining information from a private survey firm one should expect to be charged for at least a portion of the expense involved in gathering such material. This may not be the case in all instances but it is an expense that should be considered when giving estimates to clients.

A free flow of information between surveyors would be the ideal situation but unfortunately this is not always the case. Differing personalities may create adverse situations and it is also conceivable, that a one sided flow of information would soon help to sever any established level of communication. A land surveyor representing a new firm has little to offer in the way of an exchange of information and he may encounter some difficulty in dealing with established firms. At this point a surveyor who presents himself in a reasonable, friendly, and professional manner has made the first and most important step towards a cooperative situation, where a free flow of information may exist in the future.

### 2.2 Private Records and Personal Knowledge

Parol evidence, along with documented evidence leading to the discovery of physical evidence, can be very important in the reestablishment of obscure boundaries.

The surveyor's client and the adjoining land owners can be of immense help in clarifying and providing background information. These people should be among the first to be contacted by the surveyor whenever he is engaged to carry out a boundary survey. The information provided is not always reliable or accurate but must be considered accordingly.

The private records of individual landowners may contain valuable information such as plans or descriptions which may not be recorded as public documents. Church records, cemeteries and old family Bibles may also be a source of information. Most individuals are more than willing to discuss their property as well as that of their adjoining owners and by asking the right questions and using a reasonable amount of patience and tact, a great deal of pertinent information may be unearthed by the surveyor.

### 2.3 Law Firms

A lawyer's records may not be an abundant source of research material, however, information concerning title searches, mortgage certificates, unrecorded plans, etc. may be found among his files. Access to a lawyer's files is up to the discretion of the individual lawyer. If it appears that no conflict of interest would arise among lawyer, client and surveyor, then some lawyers may be willing to share information that may form a necessary part of the surveyor's research. The establishment of a good working relationship between Barristers and Surveyors is a definite asset and should be encouraged wherever and whenever possible.

### 2.4 Financial Institutions

Many times a mortgage certificate contains clues as to the location of obscure boundaries and may be of help in making an important decision where all other means fail.

A bank, mortgage company, or solicitor may be a quicker and more convenient source of obtaining a copy of a surveyor's certificate, than trying to trace the whereabouts of the surveyor who did the original work.

Generally, financial institutions are very cooperative in providing information that would enable a surveyor to carry out his day to day routine of re-establishing legal boundaries.

### 2.5 Historical Societies

As might be expected Historical Societies do not have the same aims as a surveyor; however, these Societies which are found in most towns and cities in Nova Scotia, have a good deal of information and material which could prove helpful on occasion.

A Society's main concern is the gathering and documentation of historical data, of which some of the more pertinent areas are listed below:

- 2.5.1. Maps - A wide variety of originals or copies of old maps are available through this source.
- 2.5.2. Photographs - These may be aerial, terrestrial, or personal photographs and are usually some of the oldest material of this type to be found.
- 2.5.3. Council Notes - There may be information on street lines, changes in street names, real estate under council's jurisdiction, etc., contained within these notes.
- 2.5.4. Historical sites - A good deal of research has been undertaken regarding important landmarks. It may have been carried out as an interest of a particular Society or as an introductory project prior to restoration.
- 2.5.5. Genealogy - An excellent source of old family names and histories.

### 3.0 LOCAL GOVERNMENT SOURCES

#### 3.1 Office of the Registrar of Deeds

The Registry Act states that, "each county of the province is to have a district office for the purpose of registering, indexing and storing documents or instruments". It should be noted that three counties: - Guysborough, Lunenburg and Shelburne are divided into two districts, each of which has its own Registry Office.

Instruments, that are found in the Registry Offices, other than those involving changes in title to land, are judgments, writs of attachments, a lease for terms exceeding three years, and vesting orders. Descriptions and plans are recorded in the manner prescribed by the Registry Act. It should be noted, although an instrument refers to a particular plan, it may not be registered and the surveyor may have to look elsewhere for copies of any such plan. With the adoption of the Planning Act and subsequent establishment of planning and development offices in most municipalities and towns, a major step forward has been taken by these offices to create a policy of mandatory registration of all approved subdivision plans.

With the implementation of the proposed Land Titles System, most problems concerning research will be eliminated, however, until that time, a surveyor must continue to operate under the present system using considerable care, a great deal of patience, and his accumulated experience.

Along with documented evidence to be found at the Registry Office, the personal knowledge of the Registry Office staff, together with their help and guidance, can be of great assistance. This is not a source one should abuse, but under certain circumstances they may be of considerable help to the surveyor. Naturally, the smaller a Registry Office is, the closer the contact the surveyor can maintain with the Registry Office staff.

#### 3.2 District Offices of the Department of Lands and Forests

These offices are generally located one to a county in Nova Scotia and contain information pertinent to their areas of supervision. District Offices may contain all or a portion of the following data:

- 3.2.1. Maps - Crown Land Index Sheets and Crown Land Forestry Series maps are available for viewing and ordering.
- 3.2.2. Aerial Photographs - Photographs are available for viewing by the general public. On occasion photostatic copies may be provided. These photos cover the areas served by the particular district office.
- 3.2.3. Crown Line Boundary Index Book - A list of corner post numbers, bearings and distances between survey monuments is kept at every district office.

Additional information shown on the Index Sheets or Forestry Series maps, other than Crown Land Boundaries, may be the boundaries of private lots exceeding one thousand areas, boundaries of larger pulp and paper companies, forest access roads and topographical features.

All of the above may be viewed at these offices by a member of the general public. The personal knowledge of Lands and Forests personnel could prove to be very helpful. At present there are ten Nova Scotia Land Surveyors employed with the Surveys Division of Lands and Forests who carry out surveys on Crown Land in each of the above referred to districts. They are generally more than willing to discuss any problem that may arise concerning the extent or location of Crown Land boundaries.

#### 3.3 Division Offices of the Department of Highways

There are few surveys carried out that do not require a visit to a local Division Office of the Department of Highways. The most common and perhaps most important information would be the various widths of existing highways. The "Public



Highways Act" states under section 14(1) that, "Every common and public highway shall, until the contrary is shown, be deemed to be at least sixty-six feet in width". Special interest should be shown for the phrase "until the contrary is shown" as there are many instances where extra widths have been taken. Although some highway plans may be found at the Registry Offices, Division Offices generally are a quick and convenient source for this information. Listed below is some of the information available at most of the Division Offices:

- 3.3.1. Highway Plans (rights-of-way) - These plans, usually prepared by instrumentmen, show widths of highways, curve data, adjoining land owners, approximate location of fence lines, tree lines, brooks, bridges, trees, buildings, expropriated lands, and other information that is within the highway boundaries. Unfortunately, very few surveys, if any, have been monumented properly and there is considerable concern over the reliability of some of the information shown on these plans. Presently, there is a move underway to make use of the Nova Scotia Co-ordinate Monument system, however, the outcome of this project is still highly speculative.
- 3.3.2. Subdivision Plans - Approved subdivision plans showing proposed or existing rights-of-way are kept on file at the local Division Offices, with copies forwarded to the Claims Office of the Department of Highways.
- 3.3.3. Engineering Plans - The information found on engineering plans may be of little value as far as boundaries are concerned, however, plans showing structures, water and sewer construction, and profiles of new roads are available upon request.
- 3.3.4. Records of Public Highways - Road listings and classifications are carried out and updated yearly by highway instrumentmen or personnel under their supervision. In many cases, there are no plans on file showing the location or extent of some of the older rights-of-way, however, written descriptions indicating the widths and lengths of such highways are usually available.
- 3.3.5. Field Notes - The Division Office keeps a record of all their field books for a period of seven years, after which they are forwarded to the Department of Highways head office in Halifax.

#### 3.4 Regional Assessment Offices

The assessment roll is the only information freely and readily available to the general public. Other information may be made available to surveyors, if, in the opinion of the Regional Director the release of such information would be beneficial to the persons involved for both assessment and surveying purposes. A property survey would fall within this area. Generally, a surveyor should have few problems in justifying the need for information which may be contained in the files of an Assessment Office.

The assessment roll contains names of the individuals assessed, legal owner or otherwise, and a description of the property.

A record, referred to as a field card, is kept for every assessed property. These cards contain such information as a list of former owners, a brief visual description, book and page if recorded, name, book, and page for adjoining owners if known, and a plan of survey whenever one may be available. Copies of property descriptions are kept on file, which may not be recorded at the Registry Office. Descriptions are often researched or confirmed by the assessment office staff to ensure the proper individual is being assessed and that the field card information is essentially correct. Reliable sources indicate that this has been the practice throughout the province for the past five or six years.

In areas where subdivision regulations and by-laws have been in effect, a copy of every approved subdivision is forwarded to the Assessment Office from the Development Office within the assessment region. Prior to this, it was up to the

discretion of local planning authorities as to whether or not these plans would be forwarded to the Assessment Office. Occasionally an unrecorded plan may be discovered in their files.

Many regions now have or are working on assessment maps. These maps, compiled from their local records and other sources, cover all of their assessment areas and show most of the information contained on the field cards. Obviously these maps are for assessment purposes only and the information shown on each should be considered accordingly.

The personal knowledge of the assessment office staff is considerable and could prove to be very valuable to any interested surveyor.

It appears that much time and effort has been expended to ensure that the assessment records are as accurate and complete as possible and in a good many cases, could provide a surprising amount of useful research material.

### 3.5 Municipal, Town, and City Governments

There are various offices and departments under this heading, a few of which are discussed below:

3.5.1. Development and Planning Offices - All Municipalities, Towns, and Cities have established these offices or are in the process of doing so. Their main concern is the drafting and administering of zoning and subdivision regulations and by-laws. Copies of various by-laws and regulations are available through these offices, as well as engineering drawings, building and construction permits, subdivision plans and property mapping. All approved subdivision plans are available for public viewing. It may be possible to find an unrecorded plan in some of these offices because it was not always the policy to forward approved plans to appropriate Registry Offices. At present, most areas are in various stages of preparing property mapping. These maps will show approximate boundaries, owners names, streets, and roads, and the use of the land. The amount of information may vary from office to office but it is a source worth investigating.

3.5.2. Engineering and Works Department - The main area of interest here may be plans showing surveys of new or existing public works projects, plans or public properties and hopefully, plans or information on street lines, and rights-of-way. Some areas (e.g. City of Halifax) have permanent survey personnel who measure, compute, and record all pertinent survey data and are generally most willing to discuss and provide information concerning surveys which have been performed for the various departments.

### 3.6 Registry or Court of Probate

Probate is the approval of Wills by witness and granting administration of the estate to the executors named in the Will upon their oath to administer same.

Presently, it is required policy to record, at the appropriate Registry Offices all estates which contain real property. In the past it may have been possible that an estate was not recorded due to some irregular administrative procedures of that time.

The records of a Probate Office are open to the public for observation and research in much the manner and procedure as that used in the Registry Offices. A search of Probate records may be helpful in supplying missing links in title that may occur when researching the records of Registry Offices.

### 3.7 Land Registry Information Service

Regional Offices are to be established in various areas throughout the province. To date there have been two Regional Offices established, one located in Halifax

covering Halifax County and one in New Glasgow, covering Pictou, Antigonish and Guys-borough counties. Two or three additional regional offices are in the planning stages, the locations of which have not yet been finalized.

The priorities at present are property mapping, maintaining coordinate monuments and microfilming local Registry Office records.

Information from deeds, plans and other sources, as well as field checks and measurements plotted on orthophoto base maps comprise the property mapping detail. When completed, these maps will be available in scales of 1:1200, 1:2400, 1:4800 and 1:10,000. They should be helpful in showing approximate boundary lines, buildings, streets, property owners, and book and page numbers, property numbers, and all other features basic to an orthophoto map. It should be noted that the property mapping for Halifax-Dartmouth Metropolitan area is nearly completed as of this date.

#### 4.0 PROVINCIAL GOVERNMENT SOURCES

##### 4.1 Department of Lands and Forests

This particular branch of the Provincial Government is more closely associated with land surveying than any other government department. This is due mainly to the fact that Lands and Forests is the body that issues grants and records all the data relating to such grants. In addition to this, the Surveys Division of Lands and Forests maintains a complete record of all field data pertaining to the surveying and maintenance of Crown Land boundaries.

Crown Land, as most people understand it, is land under the administration and control of the Department of Lands and Forests. It comprises land that remains ungranted, land which has been reconveyed to the Crown through a gift or purchase, and land that may have been revested to the Province through an act of escheatment.

The Department of Lands and Forests consists of numerous internal divisions, each having a specialized function. As sources of research material, the following may prove to be very useful to the land surveyor:

- 4.1.1. Crown Lands Record Office - The principle function of this office is the recording and indexing of all available information regarding Crown lands. Contained within the confines of the vault one may find any of the following:
  - a) General Index of Grants issued by the Province.
  - b) Grant Books containing plans and descriptions of each grant.
  - c) Returns of Survey for Grants contain the original petition number, plan and report, and correspondence for all Grants issued.
  - d) Records of all lands reconveyed to the Crown.
  - e) Records of all leases of Crown Land.
  - f) Various old plans and many Township plans.

At present, the Grant Books, original plans, and reports have been reduced to microfilm and microfilm copies of each are readily available upon request.

- 4.1.2. Surveys Division - When a survey of any parcel of Crown Lands is completed, all the information relating to the survey is sent to this office. The survey field books, calculations, and plans are checked, then filed along with any original field plots and pertinent correspondence in the "field plot envelopes". The boundaries are then plotted on both the forty chain Index sheets and Crown Land Forestry Series "C" map sheets, which are presently being used for indexing purposes. Any data concerning a particular survey can be easily identified on the Index sheets and found quite quickly.

As an aid to quick retrieval of the bearings and distances between each pair of Crown Land wooden posts, a special boundary line index book is kept for this purpose.

- 4.1.3. Air Photo Library - An extensive library of aerial photographs covering the entire province is available for public viewing. Copies of the photographs are not sold through this office; however, orders can be placed through this section for prints of any of the negatives that are kept on file at either Maritime Resource Management Service, Amherst, or the National Air Photo Library in Ottawa.

All of the province has been photographed in black and white at a scale of 1:15840. Colour photographs are also available for the entire province with the exception of Annapolis, Kings and Shelburne counties. Various areas throughout the province are also covered in both black and white and colour at scales varying from 1:2400 to 1:63,360. Older photography dating back to 1931 is also available for public viewing.

A handout listing all available photographs may be obtained upon request.

- 4.1.4. Reproduction Unit - There are various types and scales of maps available through this source and their usefulness would depend on specific areas of concern. Following is a list and brief description of those maps that are available from the Reproduction Unit:

a) Crown Land Forestry Series -

"A" - This series covers the entire province and shows forest types, extent of Crown Land, large and small ownership plots and topographic detail. They are available at scales of 1" = 1320', 1" = 2640' and 1" = 5280'.

"C" - Original Grant lines and topographical detail are shown on these maps. Coverage for most of the province is available in this series.

"D" - These are base sheets for series "A" and "C" and show rivers, lakes, roads, trails and place names.

b) Crown Grant Index Sheets -

These show the size and location of the original grants, lands not granted and any grant that has been reconveyed to the Crown. These maps are available at scales of 1" = 2640' and 1" = 5280'.

c) Large Scale Mapping -

There are many areas throughout the province where mapping has been done in scales of 1" = 100', 1" = 200' and 1" = 400'. These maps are usually made from the most recent aerial photography available and as a result, are very accurate in scale and detail. Generally, large scale mapping is available in 2.5 and 5 foot contour intervals, depending on the scale of the photography being used. A list of the scale mapping is available upon request.

d) Orthophoto Maps -

Presently the orthophoto map sheets are being prepared by the Surveys and Mapping Division of L.R.I.S. and are being distributed in Nova Scotia through the Department of Lands and Forests. These map sheets are similar in appearance to photo mosaics, however, with modern orthophoto techniques, the sheets are being produced with no scale distortion whatsoever. The maps show a metre contour and are a scale of 1:10,000 (1" = 833').

Crown land boundary information is available to all land surveyors who may have occasion to use or make reference to any surveyed parcel of Crown Land. Mapping and aerial photographs are quite useful as indicators of boundaries or as a part of the planning process when involved with design and land use projects. There is a great deal of information available through the Department of Lands and Forests and all land surveyors should make themselves familiar with this material.

As a point of observation, it should be noted that Section 9(c) of the Regulations made under the Nova Scotia Land Surveyors Act, indicates that copies of all survey field notes that relate to Crown Land boundaries are to be submitted to the Deputy Minister of Lands and Forests.

#### 4.2 The Department of Highways - Halifax

The provincial highways offices of most interest to a Land Surveyor may be those dealing with claims, expropriations and planning which are discussed separately below:

- 4.2.1. Claims - All right-of-way plans, whether or not on file at local Division offices, are on file at the Claims Office in Halifax. Since December 1969, all Department of Highways right-of-way plans have been recorded at the appropriate Registry Offices throughout the province. Prior to this date, many of these plans were not recorded. Right-of-way plans referred to as "Plan and Receipt" are an example of these unrecorded documents. These documents consist of a right-of-way plan, together with a copy of the description and receipt attached thereto. This procedure was used quite often in the past when the Department acquired property where no expropriation was necessary. Very few of these documents were ever recorded but the Claims Department has a record of all these transactions in their files. All the information pertaining to these documents, with the exception of purchase figures, is available to the general public upon request.
- 4.2.2. Expropriation - Plans of all lands expropriated or conveyed by the province of Nova Scotia, through the Department of Highways, are on file in the Expropriation Office. These plans are generally prepared by Department of Highways instrumentmen and because of the manner in which the field data is usually located and plotted on these plans, caution should be exercised when using most of the information.
- 4.2.3. Planning - Maps showing the one hundred series highways are available at a scale of 1" = 400' and at a cost of one hundred dollars per copy. These maps are produced from selected aerial photographs outlining a particular stretch of highway that is to be newly designed or upgraded. These sheets show all pertinent topographical information as well as the highway right-of-way and five foot contour intervals.

Most of the information from the above mentioned offices can be very important to the surveyor, but, the task of relating this data to the actual field conditions can be most difficult, frustrating and often, very time consuming.

#### 4.3 Nova Scotia Power Corporation

All plans made for and by the Nova Scotia Power Corporation are available for public viewing and are the responsibility of their Lands and Rights Department. Listed below are some of the plans that may be of considerable interest to land surveyors:

- 4.3.1. Transmission Line Right-of-Way Plans - These plans show the transmission centre line, intersected boundaries of adjoining owners, nearby roads, etc. All plans showing transmission lines in excess of 23,000 volts are registered at the Registry Office for the area in which these lines are located. These rights-of-way are also plotted on the Crown Land Forestry Series sheets at the Department of Lands and Forests.

4.3.2. Distribution Line Right-of-Way Plans - Power lines with a capacity of less than 23,000 volts are referred to as distribution lines. Transmission and distribution line plans show essentially the same information, however, it should be noted that distribution line plans were generally not recorded at the Registry Offices. Since most of the plans were prepared a good many years ago, a surveyor may find that the older information shown on these plans could prove very useful.

4.3.3. Property Plans - Boundary plans showing the location and extent of power stations, dams, building sites, etc., are kept on file in the Halifax office of the Nova Scotia Power Corporation.

The "Rural Electrification Act" enables the Nova Scotia Power Corporation to obtain easements without preparing a property plan. Most easements are used primarily for access in the maintenance of power lines and have no designated widths assigned to them.

All of the above mentioned plans and related property documents are presently being microfilmed, after which they will be transferred for storage and retrieval to the Provincial Crown Land Records Centre.

#### 4.4 The Public Archives of Nova Scotia

All public records are recorded at the Public Archives located on the Dalhousie University campus in Halifax. As might be expected there is an enormous amount of information on file of which only a portion may be of use as research material for a surveyor. A complete list of available information is to be found in the "Inventory of Manuscripts in the Public Archives of Nova Scotia". This list may be purchased at the Archives for personal use or one could simply use the published list which is available for inhouse use only. It is not practical to list all the available data, however, the following is a partial account of some of the information on file:

4.4.1. Highways, Roads and Bridges - The records of roads and bridges are contained in 126 volumes dating from 1770 to 1894. They contain warrants for expenditures, account of expenditures, petitions and correspondence related to roads and bridges.

4.4.2. Lands and Forests -

- a) Original township grants of places such as Annapolis, Amherst, Horton, Newport, etc.
- b) Petitions - Survey warrants, survey descriptions, certificates from the Surveyor General of the King's Woods and grants dating from 1775 are available as originals.
- c) Grants issued, only from the year 1738 to 1962.
- d) Escheats - 1760 to 1842 and memorandum from 1857 to 1935.
- e) Cape Breton land papers 1787 to 1865, Crown Lands correspondence, surveyors letters from the mid 19th century, land grants, county papers, etc.
- f) Earlier papers connected with the Lands and Forests (i.e. papers about partition of the Townships of Falmouth, Horton, Yarmouth, Onslow, Londonderry and Newport by writs of partition issued by the Supreme Court.)

4.4.3. Court of Probate - Will books and collections of papers relating to the settlement of estates, which may have inventories of property, are on file along with much of the information contained in the records of local Courts of Probate.

- 4.4.4. Shubenacadie Canal Papers - An idea brought to the Nova Scotia General Assembly in 1797 proposed that a canal be built to connect Dartmouth to the Minas Basin. Volumes of plans, papers, land negotiations, land surveys and descriptions, etc. are on file for this project.
- 4.4.5. Registry of Deeds - Records of registered instruments is not complete. Gaps may be filled by researching local Registry Offices.
- 4.4.6. Railways - There is extensive information on the railway companies formed throughout Nova Scotia including such data as histories, correspondence, surveys, contracts and plans.
- 4.4.7. Papers of Families and Individuals - Most of this information is of a biographical and genealogical interest.
- 4.4.8. Various Old Plans.
- 4.4.9. Articles on various aspects of surveying (i.e. copies of "The Nova Scotian Surveyor").

A majority of the recorded information has been reduced to microfilm and is readily available, providing one has the time and expertise to locate the desired information.

## 5.0 OTHER SOURCES

### 5.1 Canadian National Railway

As in the case of the Department of Highways, the most sought after information would be the right-of-way plans. Another source of valuable information might be the yard plans. A brief description of both is outlined below:

- 5.1.1. Right-of-way Plans - The main railway lines in the province have been surveyed and plans for each have been prepared. These show the railway boundaries, centre line, adjoining property owners, brooks, roads, curve data, etc. Generally the plans are available at a scale of 1" = 400'. Profiles showing tangent bearings, curve data and original ground are also available.
- 5.1.2. Yard Plans - These plans show boundaries, adjoining properties, buildings, streets, utilities and services above and below ground level. It should be noted that while many of these stations no longer exist, having been demolished, very few of the Canadian National properties have ever reverted back to private ownership.

Mileages for all culverts, bridges, road crossings switches, spur lines stations and other structures are also kept on file.

Information on file at the Halifax Office is not for reproduction or distribution. Copies of any information that may be required can be obtained from Canadian National's Real Estate Department in Moncton.

### 5.2 Canadian Pacific and Dominion Atlantic Railways

A similar type of research material is available for these rights-of-way. Unfortunately, all the engineering files for these Railroads are kept in storage at Marathon Realities in Montreal.

### 5.3 Miscellaneous

Additional sources of information that are of a more specific nature and only seldom used, are: Maritime Marshland Rehabilitation Administration (M.M.R.A.), Truro, Maritime Resource Management Service (M.R.M.S.), Amherst, Maritime Telegraph and Telephone (M.T.&T.), Halifax, Nova Scotia Pulp and Paper Companies, all on the provincial level and Department of Energy, Mines and Resources, Legal Survey Branch,

Department of Indian Affairs and Northern Development and Ministry of Transport, all on the federal government level and based in Ottawa.

## 6.0 SUMMARY

The main purpose of this paper was to draw attention to the variety of sources of information available to Nova Scotia Land Surveyors. Some avenues of research are much more important than others and quite often are more frequently used. In the opinion of the author, the land surveyor should have an awareness of the availability of all sources of research material, regardless of their frequency of use.

This paper attempts to give consideration to the availability of research information and not necessarily to its application. It should be noted that the material available and a more detailed account of any such information may be obtained upon request to the various agencies.

If the land surveyor remains conscious of the fact that proper and thorough researching is necessary on all boundary surveys, then future concerns regarding his present day decisions should be kept to a minimum.

## 7.0 ACKNOWLEDGEMENTS

To those who have given freely of their time and expertise in assisting me in researching and compiling the information for this paper, I would like to express a most sincere thank you:

Keith P. AuCoin, N.S.L.S., P. Eng., Windsor

Fred Blenkhorne, Registrar of Deeds, Hants County.

Garnet E. Bowman, N.S.L.S., Windsor

Peter Boyd, P. Eng., Engineering Division, Department of Highways

Graydon Bushell, Draftsman, Department of Highways

Les Corkum, Supervisor, Forest Resources, Department of Lands and Forests

Roy Dunbrack, N.S.L.S., Servant, Dunbrack, McKenzie and MacDonald

Tom Foster, N.S.L.S., Regional Supervisor L.R.I.S., Halifax

Richard Ginley, Expropriation Division, Department of Highways

Robert Harvey, Development Officer, Municipality of West Hants

Gary Hazel, Instrumentman, Department of Highways, Windsor

Donald MacDonald, Claims Division, Department of Highways

Ray MacNeil, Lands and Rights, Nova Scotia Power Corporation

Rolland Meuse, Registrar of Probate, Hants County

M. L. Rippey, Recorder, Court of Probate, Hants County

Linda Robinson, Air Photo Librarian, Department of Lands and Forests

John Romans, LL.B., McGrath and Romans, Windsor

R. J. Surette, N.S.L.S., Windsor

R. F. Warren, Director of Regional Assessment, Hants County

Staff Members, Department of Highways and Department of Lands and Forests

Staff Members, Public Archives of Nova Scotia.

\* \* \* \* \*



**\*\* SAMUEL GILL GAMBLE \*\***  
(1911-1977)

(Reprinted from the September 1977 issue of The Canadian Surveyor)

A shock wave coursed through the Ottawa area, to be felt across Canada and in many other countries as it became known that Sam Gamble's life, so richly constructive in so many ways, had ended suddenly and without any forewarning at his summer home on the Ottawa River on the evening of July 31st. Dr. Gamble died in his 66th year on the threshold of what promised to be a fruitful, satisfying retirement, a startling, sorrowful reminder for the many who mourn his going, of the relatively brief shadow man casts upon this earth.

In one sense Sam went as he would want to go - active to the last, advancing energetically the best interests of his fellow professionals. In the days leading up to his death he was happily serving as co-director in the organizing of the Inertial Survey System Symposium under the auspices of the Canadian Institute of Surveying. This active interest on his part typified his customary positive response to new technical ideas and concepts in the realm of surveying and mapping, an attitude of mind that has resulted in so many advancements in the Surveys and Mapping Branch of the Department of Energy, Mines and Resources in Ottawa, a "family"

he fathered and guided with such distinction for nearly fifteen years. It is this same spirit that made so natural the announcement that, in lieu of funeral flowers, donations could be made to the Hans Klinkenberg Memorial Scholarship Fund.

Sam advocated and launched the automatic mapping operation in the Branch, a step which established Canada as a pioneer and world leader in this field. Early on as Branch Director he had been impressed by the necessity for greater coordination and more frequent exchange of information between federal and provincial government survey agencies. He invented the Gamble Plotter and supported the introduction in Canada of the Tellurometer and of a similar type of instrument mounted in aircraft and known as Aerodist. This action enabled surveyors to establish the control required to map a wide belt of wilderness of Canada efficiently and expeditiously.

Sam Gamble not only knew important details of his organization, he had always a clear-cut plan on which to base and centre its varied activities. Under his leadership the Branch became a nucleus of expertise in legal, geodetic, topographical, hydrographic and cartographic areas. Under him a Branch spirit blossomed, a Branch point of view superseding the sometimes clashing views of autonomous divisions. A memorable, heart-stirring occasion, known as "Sam's Family Affair" was a tribute extended to Dr. Gamble by a grateful Branch on January 19, 1976 on his official retirement from the Federal Public Service.

In an age when so much attention is being directed to the attractions of outer space, Sam Gamble was a shining example of the greater value of inner resources. He was sure of his basic beliefs. His integrity and reliability were bywords. He had his firm code of ethics and morality, his ideas of service. Sam possessed common sense to an uncommon degree. His was a dedicated intelligence. Doctor Gamble had a special gift, too, for relating to people in an understanding and warmly human way, skillfully defusing flash tempers and turning crises into opportunities. He was also able to do



I have fought a good fight,  
I have finished my course,  
I have kept the faith."

Timothy 4:7

this, sometimes in unconventional ways, because he was genuinely interested in his fellow humans and ever willing to help and encourage them. Sam had a basic serenity of spirit, a calmness which the most trying circumstances could not disrupt, an ability to chuckle quietly over the foibles of human nature. Small wonder, then, that a testimonial document from professional associates declared, "Dr. Gamble...at home and in far-off places, continues to be known with gratitude and affection as 'Sam'".

Sam had a perception ahead of his times of the need for Canadian surveyors and mappers to participate as professionals in the progress of developing nations as a form of Canadian foreign aid. He also pressed for increased Canadian training for survey students from other lands. He also awakened a wider interest within Canada in more precise control surveys and a greater measure of integrated surveys. Improved survey education was a major interest close to his heart and in line with his constant aim of elevating the profession in the eyes of all Canadians.

The singular happiness of his home was a benediction on his private life. His wife, Moyra, a woman of rare insight and of most cheerful disposition, was unfaltering in her understanding support of her husband and in her close companionship with him. Their enjoyment of their children and their travels together were deeply satisfying to them both. And the story of Dr. Gamble's business career would be quite incomplete without mention of his competent, loyal office secretaries, more especially Mrs. S. Campbell and the late Cris Hatton.

One of Sam's last actions was to place in editorial hands a manuscript dealing with the origin of the books titled *Men and Meridians*, a writing project in Canadian history which commanded his unflagging interest from its beginnings and which enlisted his indispensable support and encouragement of its author throughout the period of its production.

Sam did not waste the years. A listing of some of the high offices he held at various stages of his career forms an impressive litany of accomplishment, eloquent of the man's real nature and worth:

Assistant Director of Surveys, First Canadian Army, Second World War,  
 Chief Topographic Engineer, Surveys and Mapping Branch, Department of Mines and Technical Surveys (now The department of Energy, Mines and Resources),  
 Director, Surveys and Mapping Branch, Department of Energy, Mines and Resources,  
 Canadian, National Section (Canada), Pan-American Institute of Geography and History,  
 Chairman, National Advisory Committee on Control Surveys and Mapping,  
 Chairman, Interdepartmental Committee on Air Surveys,  
 Member, Board of Directors, Royal Canadian Geographical Society,  
 Member, Canadian Permanent Committee on Geographical Names,  
 Congress Director, 12th Congress, International Society for Photogrammetry,  
 Ottawa, 1972,  
 President, The Canadian Institute of Surveying,  
 President, International Society for Photogrammetry,  
 President, United Services Institute,  
 Assistant Deputy Minister (Administration Department of Energy, Mines and Resources,  
 Senior Adviser (Surveys), Department of Energy, Mines and Resources,

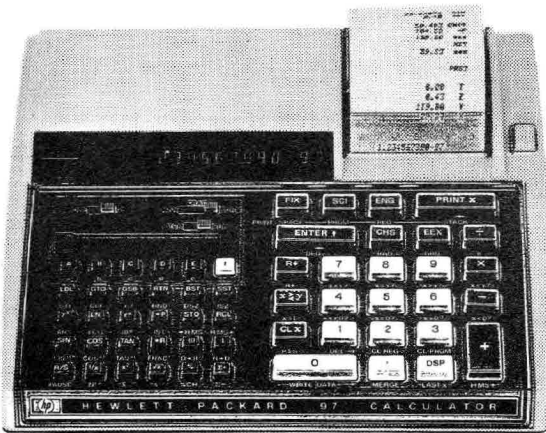
#### AND IN AWARDS:

(Honorary) Doctor of Science, University of New Brunswick,  
 (Honorary) Doctor of Geodetic Science, Laval University,  
 Honorary Member, Ordre des Arpenteurs-Géomètres du Québec,  
 Honorary Member, The Canadian Institute of Surveying.

Engineer, land surveyor, soldier, administrator, scientist, photogrammetrist, educator and leader. . . . The earthly scales on which attempts have been made to weigh Sam Gamble's unusual qualities and achievements are now broken. The years to come will have measures of their own . . . when the real significance of his achievements will appear in clearer perspective. Without doubt, however, his life, to all who had the privilege of knowing Sam, forms a testament to his unswerving high resolve, challenge and inspiration to us all, a stirring call to renewed effort and dedication.

- Dr. Don W. Thompson.

# AUTORANGER



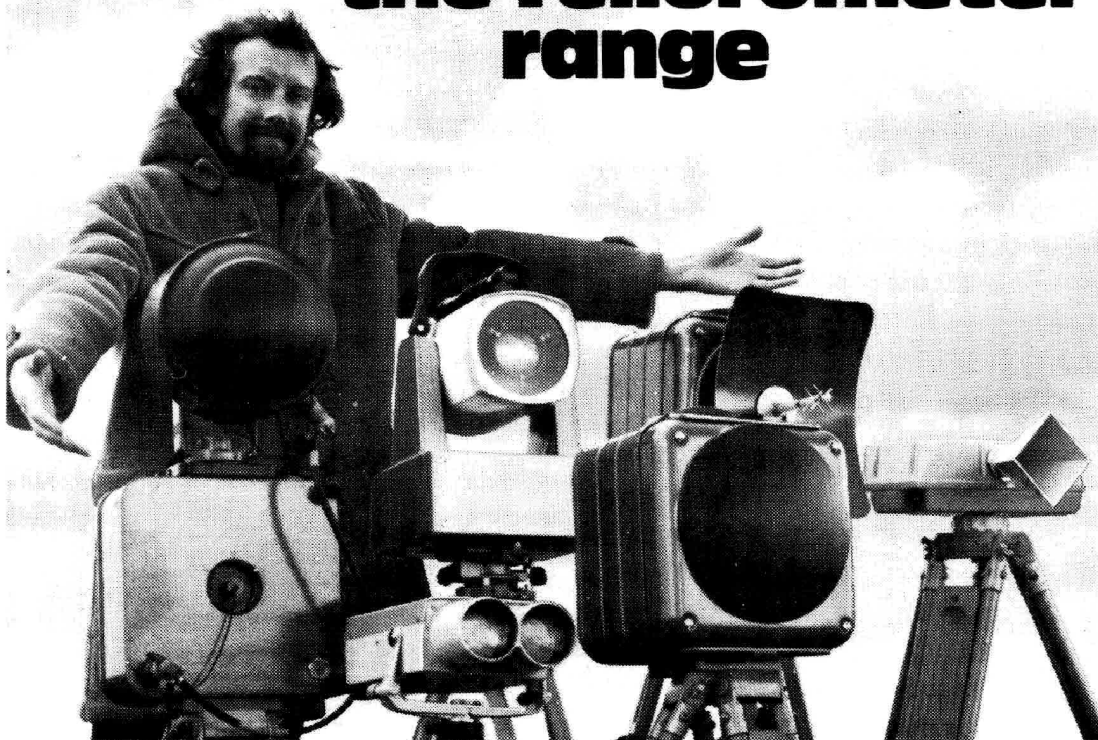
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