SLSA CORNER POST
Fall 2009
Volume XXX - Number 3

100 years
1910-2010

A New Century ...

saskatchewan land surveyors association

A New Identity

Quarterly Newsletter of the Saskatchewan Land Surveyors Association

saskatchewan land surveyors association

100 years 1910-2010

#230 - 408 Broad Street, Regina SK S4R 1X3 Canada
Ph: (306) 352-8999 • Fax: (306) 352-8366
E-mail: info@slsa.sk.ca • www.slsa.sk.ca

September 24, 2009

John Doe,
1234 Street North
Aplace, Saskatchwan S0J 0N0

Centennial Lapel Pin

Dear Mr.

Dolor sit
dolore ma
ullamcorp
dolor in h
facilisis a
delenit au

Lorem ips
tincidunt

Lorem ips
tincidunt
hendrerit
vero eros
duis dolo

Lorem ips
tincidunt
nostrud e

Lorem ipsum dolor sit amet, consectetuer adipisci
tincidunt ut laoreet dolore magna aliquam erat volu
hendrerit in vulputate velit esse molestie consequa
vero eros et accumsan et iusto odio dignissim qui
duis dolore te feugait nulla facilisi.

Sincerely,

Mr. Smythe

saskatchewan land surveyors association

#230 - 408 Broad Street
Regina SK S4R 1X3
Canada

100 years 1910-2010

A.Carl Shiels, M.Sc., P.Eng.
Executive Director & Registrar

saskatchewan land surveyors association

100 years 1910-2010

#230 - 408 Broad Street, Regina SK S4R 1X3 Canada
Ph: (306) 352-8999 • Fax: (306) 352-8366
execdir@slsa.sk.ca • www.slsa.sk.ca

SLSA Corner Post
Fall 2009
Volume XXX, Number 3

SLSA Corner Post is published by the Saskatchewan Land Surveyors Association for circulation to its members.

Deadlines for articles are the last Friday in December, March, June and September.

Address all correspondence to:

Doug Bouck, SLS (Ret.) - Editor
408 Broad Street #230
Regina, Saskatchewan S4R 1X3
Phone: 306-352-8999
Fax: 306-352-8366
e-mail: slsa@sasktel.net
web site: www.slsa.sk.ca

In this Issue

In This Issue

Regular Features

Cover Story

At the 2009 annual general meeting, members directed the SLSA council to look at "re-branding" the association as part of the 2010 centennial anniversary celebrations. Immediately following the AGM, council assigned the task to the Executive Committee who promptly contacted two consultants who had experience working with the survey community. Although both were eminently capable, the contract was awarded to D. Black Communications of Saskatoon. After only three iterations, the executive committee was able to narrow the suggestions down to the design that appears on the cover. It was subsequently endorsed by the SLSA council.

The symbology of the design includes the green of northern forests, the yellow of ripened grain in the south, the familiar 6 x 6 township grid and an area that has been subdivided into smaller parcels. The upper and lower areas are separated by three ribbons of blue representing the three major waterways that traverse the province, as well as the natural boundaries created by the numerous water bodies scattered throughout Saskatchewan.

A "100 years" tag has been added for use in the lead up to, and all during, the centennial year. SLSA members are encouraged to use the logo and the 100 years tag on their corporate stationary. Appropriate art work will be available for down-load from the Members Only area of our web site. As suggested at the AGM, the SLSA website is also being updated to reflect the new SLSA image. This too is being carried out by D. Black Communications.

President's Message

Dave L. Gurnsey
SLS, P. Surv., CLS
President

Upcoming Events

Sep. 9 - 11	AMLS AGM Winnipeg, MB
Sep. 25 - 27	OAGQ AGM Mont-Tremblant, PQ
Oct. 21 - 22	CIG AGM Montreal, PQ
Oct. 22 - 24	ANSLS AGM Digby, NS
Jan. 21 - 22	ANBLS AGM
Feb. 17 - 19	AOLS AGM Huntsville, ON
Mar. 26 - 27	SLSA 100th Annual AGM, Regina, SK
Apr. 22 - 24	ALSA AGM Jasper, AB

Where are they now? That is a question that you often hear concerning people from your past. In my mind right now, it has two meanings. The first meaning relates to former members of our Association. There are a number of former Saskatchewan Land Surveyors with whom we have lost contact over the years. We would like to make sure that all living Saskatchewan Land Surveyors know of our one hundredth anniversary and invite them to return home next March. If you have contact information for any former members, please pass that on to the Association office.

The second meaning of the question relates to the Cemeteries regulations. As directed by the membership at the annual meeting, we have reviewed the requirements of the regulations with the government agency responsible. Through that meeting, we have gained an understanding of how cemeteries are created and recorded in Saskatchewan. Almost all burial sites are in larger municipal or privately owned cemeteries. These are well recorded and separately titled. There are also many church-owned cemeteries. These are recorded and normally separately titled, usually as part of the church site. Some of these cemeteries are starting to become lost as rural churches close and the denominations holding title become inactive.

In all, there are about 3,600 recorded cemeteries in Saskatchewan. The largest number of these are small, one or two site cemeteries where family members are buried on privately owned land. These types of cemeteries also make up the majority of the approximately ten new cemeteries created each year. The registrar of cemeteries requires a plan for all cemeteries, including these single site cemeteries. However, for these types, he has been accepting a hand drawn plan by the owner of the land, with dimensions to the quarter section boundaries. He has been advising applicants to keep the locations away from the property lines. In our meeting, he was unaware that rural property lines are often difficult to ascertain in the field. The registrar is reluctant to attempt to enforce any requirements for survey that would be seen as expensive as he feels that this would result in these types of cemeteries not being registered at all. He feels that it is likely that many do not get registered even now.

This gets back to my question of "Where are they now?" What happens when, after a generation or two, the land is sold and the location of, or even existence of the burial site becomes forgotten as the family ties disappear? The land may become a site for development for resources or even subdivision. No family member or developer wants to have a burial site discovered by a bulldozer.

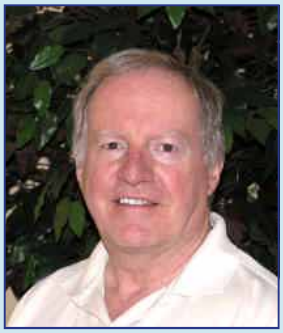
The Saskatchewan Genealogical Society has a database of approximately 2,500 cemeteries, the majority of which are small private cemeteries. The registrar of cemeteries has records as well. Unfortunately, these systems both share two major shortcomings, location and accessibility. The land buying public does not look at either of these resources when purchasing. They rely on what is recorded on the title. The Saskatchewan Genealogical Society site records quarter section location only. As mentioned, the registrar's records contain sketches based on poor quality measurements from poorly defined boundaries.

I would like to propose that our Association, as a centennial project, develop a program to record the location of any new, private, one or two site cemeteries on a pro bono or nominal cost basis.

I would like to propose that our Association, as a centennial project, develop a program to record the location of any new, private, one or two site cemeteries on a pro bono or nominal cost basis. I see a communication between our Association and the registrar of cemeteries and a subsequent listing on a page in our website of new cemeteries. Our members, as they practice throughout the province, would then determine the precise location of the burial site, either by ties to survey monuments or more practically by a UTM coordinate referenced to known control. There would also have to be an interest type developed by ISC that would record the existence of the cemetery and these positions as determined by surveyors.

In order for this to work, we would need the long term participation of all of our practising members. I think that this is an opportunity for our Association to serve the public of Saskatchewan and receive some very positive public relations at the same time. Let me know what you think.

Council Highlights



Carl Shiels, M. Sc., P. Eng.
Executive Director

2009/2010 - Meeting #2
September 16, 2009

Committee Workshop

- A two-hour workshop prior to the meeting provided an opportunity for Council and standing committee chairpersons to review the work plans for the coming year. Much of the time was spent reviewing plans for the 2010 centennial celebrations and annual meeting.

AMLS AGM

- The president reported on his attendance at the AMLS AGM, highlights of which included:
  - Many associations reported declines in activity-related revenue such as the sale of survey pins and stickers.
  - Fair access to the profession by foreign trained professionals has become a major issue across the country.
  - Representatives were present from the Minnesota and North Dakota land survey associations.
  - The new AMLS president is John S. Kulchycki, M.L.S., C.L.S.

Cemetery Locations

- President Gurnsey reported on a meeting with the registrar of cemeteries and outlined the issues associated with having the location of small, private cemeteries registered on a searchable database. Additional discussion and study of the issue is planned.

Surveyors Educational Crate

- Council received an update on the development of the crate. Contact has been made with the ABCLS, ANBLS and ACLS leading to an informal agreement to collaborate on the production of various components of the kit.

New SLSA Logo and Webpage Design

- Designs for a new SLSA logo and website were reviewed and approved. Further development will be required to adapt the basic detailed design of the logo for use in a number of other formats (e.g. black & white, reverse, centennial pin etc.)

New Members

- A land surveyor in training agreement between Steven Michael Drew and D. J. Quirk, SLS was approved.
- A land surveyor in training agreement between Dan Codling and R. J. Morrison, SLS was approved. Mr. Codling had been registered as a Student Land Surveyor since April of 2008.
- A land surveyor in training agreement between Blake Wahl and G. D. Craig, SLS was approved.

CBEPS

- An opportunity was provided to comment on the development of the new core syllabus and electives in the CBEPS curriculum. SLSA representatives to CBEPS recommended endorsing the work that has been carried out so far.
- Murray Radoux was appointed SLSA reprsentative to CBEPS replacing Ed Desnoyers.
- Funds were approved to allow Murray Radoux to accompany Murray Marien to the next CBEPS meeting.

Labour Mobility

- The Board of Examiners have developed the syllabus for the new labour mobility exam and the syllabus and application procedures have been posted on the SLSA web site.
- A number of unique exams are being developed and there has been one application to write the exam so far.

Amendment to LSPS Act

- An omnibus bill is being prepared that would amend the LSPS Act, along with a number of other acts, to fully implement the labour mobility plans of the provincial government. Concerns about the proposed wording of the amendment had been conveyed to the Department of Justice.

Government Liaison Committee

- The majority of issues currently being referred to the Practice Committee relate to government legislation and policy. Council agreed to re-establish a Government Relations Committee. M. L. Waschuk had indicated that he would be prepared to step down from the Practice Committee and chair the committee.

But what about the ´ ?

By A. Carl Shiels, Executive Director

At first glance, it may not be obvious but there is something missing from the new SLSA logo. It is, of course, the humble apostrophe which has for years established the plural possessive form of the association's name. As with so many things that merrily go along year after year without being questioned, there had been an assumption that it was supposed to be there. But the need for a reality check occurred at the council meeting and committee workshop in Saskatoon on September 16.

By shear chance, the consultant who prepared our new logo inadvertently prepared two versions for presentation at the meeting; one with the apostrophe, the other without. This immediately prompted the question; "What about the apostrophe?" That was soon followed, in my mind, by "Where did it come from and should it even be there?"

Grammatically speaking, the association is not a possession of the members. The association was established, and continues to exist, to provide a body through which the land survey profession can be regulated. The plural possessive form of the name is not accurate from that perspective. But even more compelling is the absence of the apostrophe in legislation. A review of current and past land surveyors acts revealed that the name originally adopted and registered by the founding fathers in 1910 was ***"the Association of Saskatchewan Land Surveyors."*** Then, on December 19, 1913, the "Land Surveyors Act" was proclaimed. Section three of that act transformed the name into ***"The Saskatchewan Land Surveyors Association .... a body politic and corporate with perpetual succession and a common seal."*** Since then, there has never been an apostrophe in the association's corporate name.

So where did the plural possessive form come from? Digging through various association documents from the past century suggests that it first started to appear, but not consistently, during the 1930's. At some point, however, it was incorporated into the association's title in the bylaws. The bylaws even went so far as to refer to the *"Saskatchewan Land Surveyors' Act"* even though no such Act ever existed. Clearly some overly enthusiastic word-smith had decided it should be there and from that point on, the plural possessive form came into common usage and showed up almost everywhere - except in the act.

What better time to finally put the overzealous apostrophe to rest than as the association moves into its second century? Unfortunately it may take some time to purge the little guy from all current documents. It certainly won't happen over night. In fact it will probably be more like the smile on the face of the Cheshire cat in *"Alice in Wonderland"* and just slowly fade away - much like it probably started to appear in the first place.

setyourboundaries.ca

Setyourboundaries.ca is a new website designed by the CCLS as a one-stop information centre for students interested in careers in surveying. Survey associations and individual companies are being encouraged to create links to the site. Not only will this provided more links to the site but search engines such as Google will elevate the prominence of the site because of the number of links to it.

Councillor's Corner

Jack Redding
SLS, P. Surv.,
Councillor, Year 2

"How Much to Survey a Line?"

How much to survey a line?

The above question was the first statement after "hello" from the individual on the phone.

The response was per normal, i.e. What line? Where? Does it already exist or are you creating a new line or boundary?

Her response was that they wished to know the area occupied by the Regional Park between the north shore of Sturgeon Lake and the north limit of the N.W.¼ of Section 24-51-2-W3rd. The parcel number being 164539479, and the line in question being the Bank.

Per the township plan, one notes that only two small areas of land exist in the quarter; one of 0.3 acres, the second 0.1 acres.

Parcel 164539479 occupies approximately the east third of the 0.3 acre portion. No title exists for the 0.1 acre area and a separate title exists for the remaining 2/3 of the 0.3 acre portion (164539480) which is tie-coded to a portion of the adjoining road allowance and the S.W.¼ of Section 25 (145998196). These titles are in the name of the estate for the former deceased owner while Parcel 164539479 is still in the same deceased owner's name without any reference to his estate.

The Park or Crown own the easterly 518 feet of the road allowance, a similar width of the S.W.¼ of Section 25 north of the Road Allowance and south of the adjacent highway plus a portion of road allowance adjacent the S.E.¼ of Section 25 all tie-coded.

The Park has been in existence for years and I have driven past it numerous times; however, I didn't know how accessible the Bank will be in order to locate it.

As I was going to the same area later in the week for another project, I advised her that I would look over the site and get back to her on cost.

The Bank in question is generally open with the odd large tree or pine; however, the site is occupied by eight large developed residences with numerous improvements.

The lots slope steeply from north to south with heavy tree cover away from the Lake so it is difficult to have any line of sight.

A marker exists for what I assume is the north east corner of the quarter, however, the adjoining cabin owner didn't appear to want me as a visitor at the time.

Although the Bank appears similar to the township plan, the above marker is a long distance from the water. Without running the section line one doesn't know if any improvements fall within the untitled 0.1 acre portion of the quarter, however, I am willing to bet that they do.

If so, the project suddenly becomes a subdivision.

One now has to include the following:

(a) Plan of proposed subdivision and application to Community Planning.

(b) Locate of improvements, utilities and contours.

(c) Possible environmental reserve as Sask Water Corporation has determined in the past that at least 1.5 metres above the water should be reserved.

(d) Dealing with the Dept. of Agriculture for the 0.1 acre portion plus any additional lands that may have become attached to the adjoining land since the township survey.

If one is doing all the above then why not consolidate the adjoining lands for the Park at the same time. One will probably have to run the blind line and north south quarter in Section 25 in any case in order to issue the west limit of Parcel 164539479.

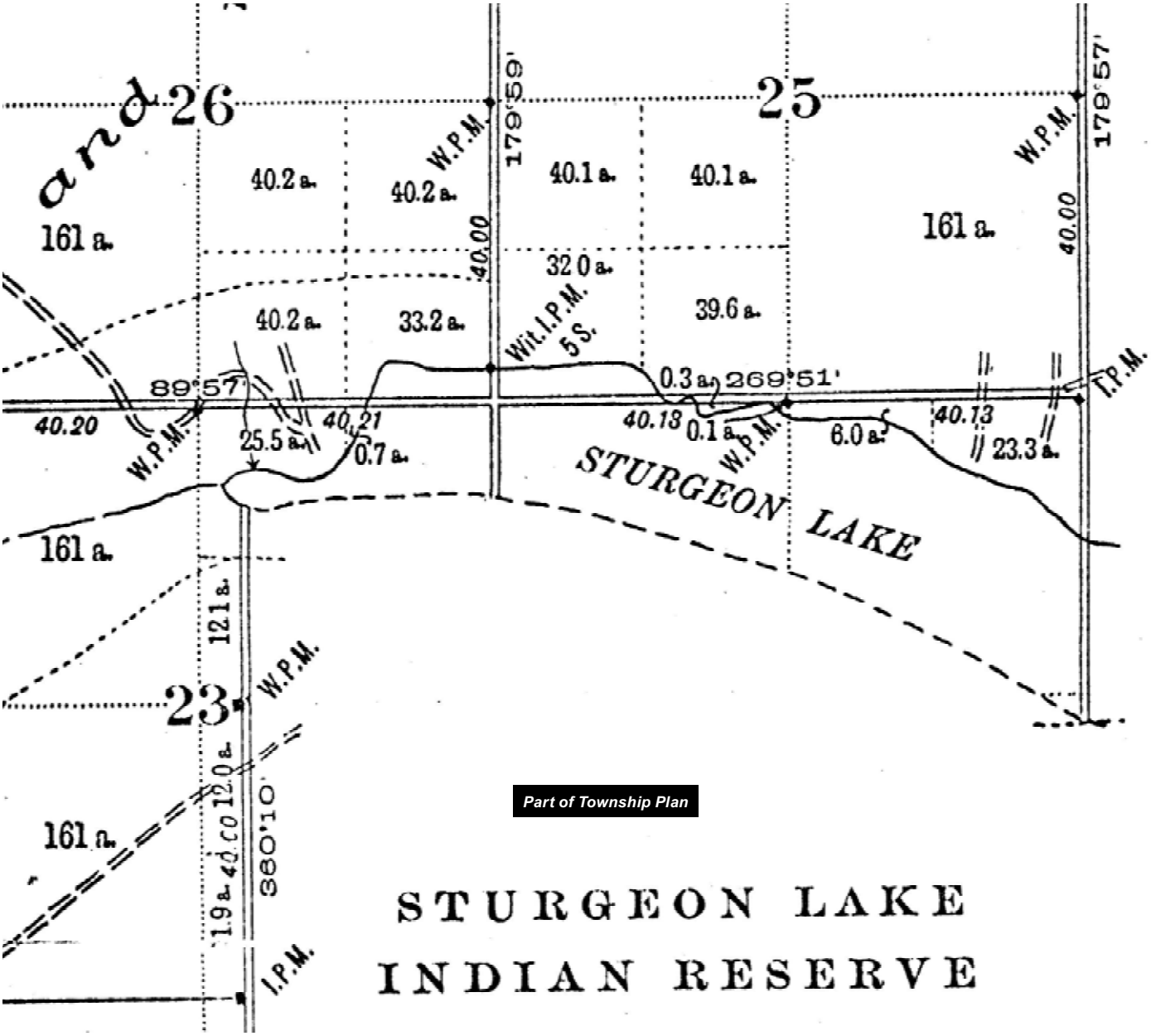
Oh, the description for Parcel 164539479 doesn't appear to be available. Maybe it relates to the Easterly 518 feet of Section 24.

As the remainder of Section 24 is occupied by Lake or Indian Reserve one may have to give some thought on how this is to be done.

To date, I have not finalized costs; however, the Crown knows that it will be above their limit where they require three quotes.

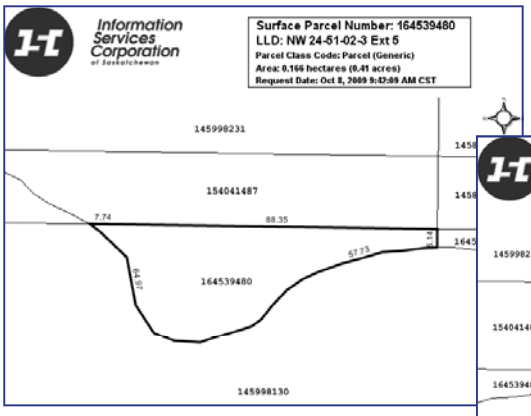
Apparently they are already correcting the ownership issue.

Does anyone want a good project for their land surveyor in training?

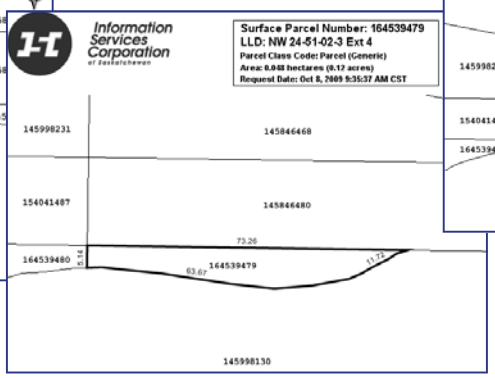


Part of Township Plan

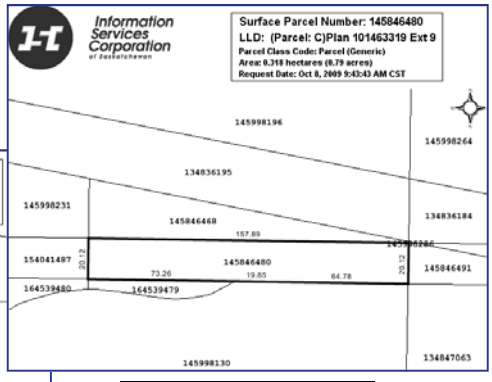
STURGEON LAKE
INDIAN RESERVE



Parcel Picture 164539480



Parcel Picture 164539479



Parcel Picture 145846480

Historical Stories

By J. H. Webb, SLS (Life Member), ALS, MLS, CLS

William Frederick King, D.L.S., D.T.S.

(1854 - 1916)

There are many stories about land surveying. Some can be fact and others just myth. Reading some of the old Federal Government Survey Branch "Session Reports" one gets a true feeling of the old days of surveying and the hard lives survey crews must have endured.

In Session Report, Department of Interior Number 23, Volume 16 number 10, dated February 1883, we read about one episode in the early days. W. F. King, D.L.S., D.T.S., Inspector of Surveys wrote the report. Mr. King eventually became Commissioner for the Alaska Boundary Commission and the International Boundary Commission. Prior to these accomplishments he became the "Chief Astronomer of the Department of the Interior" in 1904.

Dr. W. F. King
(Photo from *"Men & Meridians"* Volume 2, pg. 261)

Mr. King talks about leaving Ottawa on April 1st 1882, as Inspector of Surveys, proceeding to Winnipeg and meeting the land surveyors who would be doing township surveys in the West. Mr. King was to issue the various articles that each survey party would need, viz,: horses, carts, tents, covers, harness, steel band chains and instruments along with iron bars for marking corners and food supplies. The surveyors usually depended on shooting deer and other wild life to supplement their bannock and beans. Due to the heavy spring flooding of the rivers in Minnesota it caused great floods along the St. Paul, Minneapolis and Manitoba Railroad line. This meant a delay in getting the surveyors equipment to Winnipeg and thus great additional expense for the surveyors. It also delayed their field time.

Even west of Winnipeg there were many washouts along the Canadian Pacific Railway that caused further delays.

> *"This prevented even those surveyors who had outfits already at the wintering depot from starting out, and caused considerable mortality among the horses at the depot on account of the impossibility of forwarding hay and oats to them while they were in a starving condition from the backward spring and consequently scarcity of grass on the prairies."*

Mr. King writes that a carload of equipment left Ottawa on March 23rd, 1882 and arrived in Winnipeg on May 11th, 1882. The car that had the iron bars left Ottawa March 17th and arrived in Winnipeg on May 23rd 1882.

After the various survey parties had left Winnipeg for the prairies, Mr. King purchased a large quantity of supplies for the surveyors who were going to winter in North Saskatchewan country (North West Territories). The supplies were shipped on the Saskatchewan Steamers to go to Carlton and various other areas. However due to the now low water level in the Saskatchewan River, the steamers did not deliver the vital supplies as contracted. To Mr. King's knowledge, at the time of his report (1883) the supplies were still held at Cumberland House and would not be moved until the summer of 1883. Luckily, the two survey parties who did not receive their supplies were able to purchase winter supplies at Qu'Appelle and had the material taken up to Carlton.

At this time Mr. King, as Inspector of Surveys, was able to have his headquarters at Red Deer Forks, at the junction of the Red Deer River and the South Saskatchewan River. An important element for surveyors is mail. The summer mail of '82 was not to be.

> *"The mail service between Qu'Appelle and Red Deer Forks was performed by two couriers with buckboards to carry the bulk of the mail between the central points and two mounted couriers who were instructed to visit the different survey camps. The former of these two, Mr. Farrell did the work entrusted to him honestly, but the other courier proved completely useless and I had to discharge him."*

The mail couriers going west of the Forks delivered material to the survey parties at the northern part of the area. One of these couriers proved unreliable and as a result some of the survey parties went all summer without mail.

> *"A heavy snowstorm occurred the 30th of September and the 1st of October which caused some of the surveyors to quit work and leave the field. Those, however, who were*

better acquainted with the climate remained and enjoyed the weather during the greater part of October."

"The total amount of mileage completed by the block and outline surveyors, during the summer of 1882 was not as great as had been anticipated, owing to various causes. The principle of which were – the great delay in Winnipeg in the spring; the great number of crossings which had to be made on the Saskatchewan, Bow and Red Deer Rivers; and the unfavourable country, much of it having burned out last summer"

You're obedient servant.
W. F. King . Inspector of Surveys

More About W. F. King

The relationship between land surveying and astronomy goes back several centuries. The ancient astrolabe used the position of the sun and stars to help determine one's position on earth. David Thompson's night-long observations of the stars and the moons of Jupiter, as a reliable way to determine time and his position on the earth, have become legendary. But nowhere is the fit between astronomy and land surveying more evident than in the case of Dr. William Frederick King, CMG, DLS, DTS, Chief Astronomer for Canada.

King was born in Stowmarket, Suffolk, England on February 19, 1854. At the age of eight, he immigrated to Canada with his father William King and mother Ellen (née Archer), also of Suffolk and the family settled in Port Hope, Ontario. After completing his schooling primary and high school education in Port Hope, he attended the University of Toronto in 1869. Upon completion of his third year - at age eighteen, he was appointed to the staff H.B.M. North American Boundary Commission - Lake of the Woods to Rocky Mountains. In December of 1974 he returned to the university where he completed his B. A. degree with high honours and a gold medal in mathematics.

His passion for mathematics - and particularly the theory of numbers - continued to the end of his life but usually as a means to a specific end.

In 1876 he obtained his DLS and was the first to receive the designation of DTS (Dominion Topographic Surveyor). In June of 1904, his accomplishments were recognized with an honourary degree (LL. D.) from the University of Toronto. In 1906 he was elected honourary president of the Royal Astronomical Society of Canada, a position he held until his death in 1916. In 1908 he was elected to Fellowship in the Royal Society of Canada and advanced to its presidency in 1911, thus achieving the highest scientific honour in Canada that could be bestowed at that time.

On September 1, 1872 he entered the service of the Canadian government and, except for a period of six months in 1875 when he received his degree, he remained a faithful civil servant until his retirement.

In 1875 - 1876, he was Astronomical Assistant on the Special Survey in the northwest territories. Between 1877 and 1881, he was in charge of the astronomical section of that survey. On June 13, 1881 he was appointed Inspector of Surveys, Interior Department (see adjacent article). This was followed by an appointment to the position of Chief Inspector in 1886.

Back home in Ontario, he was appointed Director of the Dominion Observatory in 1905 and Superintendent of the Geodetic Survey of Canada in 1909.

His contribution to the successful resolution of boundary questions between Canada and the US were numerous. In that capacity he was appointed H. M. Commissioner for various sections of the International Boundary in 1892, 1899, 1901, 1902, 1904, 1906 and 1908. He was also appointed to the International Waterways Commission on which he served from 1903 to 1907. In 1908, he represented Canada in the negotiation of the use of international waters for irrigation. It is believed to have been his contribution in these latter areas the he was awarded the CMG (Companion of The Most Distinguished Order of St. Michael & St. George) medal on June 26, 1908.

It was in no small part due to King's urging that construction of the Dominion Observatory began in 1903 and became staffed and operational in 1905.

Dominion Observatory and Sun Dial, 1904
(Source: NA, PA12892)

Lorraine Petzold, O.L.S. (Honorary)

Receives an Honorary Doctorate of Laws

By Anne Cole, O.L.S., C.L.S., O.L.I.P.

Reprinted from "Ontario Professional Surveyor" Volume 52, #3 - Summer, 2009

Laurentian University in Sudbury conferred a Doctor of Laws (honoris causa) upon Lorraine Petzold, O.L.S. (Honorary) on Wednesday June 3, 2009 at the spring convocation ceremony conferring degrees in Science, Computer Science, Mathematics, Biology and Engineering. The author had the honour of accompanying Lorraine on the stage and introducing her to the university community.

Lorraine Petzold (left) & Anne Cole
(photo credit: Mary-Catherine Taylor)

Lorraine Petzold was the first woman in Canada to become a professional land surveyor. To put this milestone in context; the first woman in Canada to become a lawyer was called to the Ontario bar in 1897. In 1921 the first woman was elected to our Canadian parliament. The first woman to become a professional engineer in Ontario graduated in electrical engineering in 1927. Over forty years later, in May of 1969 Lorraine entered one of the last "men-only" doors. In Ontario, she was the only woman for almost ten years, with Maureen Mountjoy entering the profession in 1978 and the author being the third woman to join in 1982. It has taken the forty years since she crossed the threshold for women to make up just 6% of land surveyors in the province. But Lorraine did not become a land surveyor to make history; she became a land surveyor to earn a living.

Once she was in the "boys group" she turned her considerable brain power and talent to initiatives that transformed the profession. After spending her initial years working in private practice she became the Executive Director of the Association of Ontario Land Surveyors in 1976. She introduced a series of sweeping reforms, but all the while proceeding with caution and a reasoned and principled analysis at each step, honouring past traditions and earning the respect and admiration of her colleagues. These reforms included a fair but tough-minded approach to professional standards and conduct. She believed that professional development and public protection had to proceed in tandem. She was dedicated to the integrity of the profession and insisted that the Association earn and prove its right to self regulate in the public interest. She became well known amongst the real estate lawyers in the Ontario legal community as an expert on boundary law and a fierce proponent of the use of surveys for the orderly transfer of property. She was tireless in promoting education and professionalism for land surveyors across Canada, the United States, and internationally.

When she retired her professional licence in 1992, she was recognized with the Association's highest professional recognition award and was made an honorary lifetime

member. She continues to earn a living providing expert witness opinion on the practice of land surveying. She continues to be a role model not only for women but also for all surveyors striving for excellence.

Lorraine was born and raised in Sudbury. She graduated from Copper Cliff High School in 1951. Her role as a trailblazer demonstrates her traits of self-reliance and commitment to excellence through hard work. Laurentian University's decision to confer her with an honorary doctorate not only brings deserved attention to her achievements as a professional land surveyor, but it is an excellent opportunity to celebrate a Sudbury woman who made history.

After receiving her honorary degree, Lorraine addressed the graduates, their teachers, friends and families. She said that it was an undisputable certainty that we do not know what lies ahead and that uncertainty is the exciting challenge that faces every one of us, every day, and for our whole lives. She quoted the Dalai Lama. "Remember that not getting what you want is sometimes a wonderful stroke of luck."

She spoke of her roots in Copper Cliff, her father a 42-year INCO employee and her mother from French Canadian stock. She spoke of the many outstanding teachers she had in Copper Cliff. She was the valedictorian at her high school commencement but could only dream of going to university. She spoke about the early surveyors who forged ahead of settlement to survey the wilderness of Canada and noted that John Ladell aptly titled his book, which was published to celebrate the Association's centennial, "They Left Their Mark". She advised the graduates to find the niche in life that allows you to greet each morning with a smile and look forward to your day. She told the students that she planned to continue to learn, to teach, and to enjoy the next interesting book, the next great film, dinner with her daughters and grandchildren and time with her friends. She encouraged the graduates to continue learning, to teach and to enjoy life. She closed by saying that she hoped each graduate would "leave their mark" on society.

The convocation ceremony was followed by a reception at the university attended by her daughter Mary Ann Setterington, friends, and seven Ontario Land Surveyors including Jim Statham, Executive Director of the Association of Ontario Land Surveyors and Cathy Nadjiwon from Sudbury who serves on the Board of Governors of Laurentian University.

Women in the SLSA

This is the time of year when we travel to high school career fairs around the province talking to students about careers in surveying. But I have found that, if we don't actively approach them, most students will simply walk on by, perhaps glancing briefly at the images and plans on our display. For the most part, they have little or no concept of what surveying is all about.

When we do interrupt their seemingly aimless wandering—they usually travel in groups of two to six—we must first give them a brief overview of what the survey industry and profession is all about. With luck we begin to see a slight glimmer of understanding in their eyes. Occasionally, but not often, that glimmer of understanding becomes a spark of interest that may even build into an ember of genuine enthusiasm.

Unfortunately, creating that spark of interest seems much more difficult with the girls. The fact that (so far) we only portray men in the photos in the display probably advances the stereotype that its "a guy thing"; a problem we obviously need to fix. But even when we explain that there are women in the industry and the profession, the reaction is often "Ya, but I'm really terrible at math." While aptitudes will differ, I suspect that some of these girls are victims of their own stereotype - the lingering sense that they won't feel comfortable in the world of math and science.

When I received my degree in engineering from the U. of S. in 1968, there was one female graduate that year and she was only the second woman ever to graduate from the college of engineering at the U. of S. By contrast, when I attended the law and ethics seminar held for engineers preparing to write their professional exams this October, I was intrigued to discover that one out of five of the candidates were women. The science-based professions have obviously come a long way in the last 40 years. But we will only be able to claim full success when girls at career fairs reject the idea of a career in the sciences only after reaching an informed decision based on their true interests and aptitudes, and not on preconceived notions of what they should or can be.

I predict that, as Jill Burridge SLS, Lana Bily, SLSIT and Heather Maloney, Student LS become increasingly involved in the activities of this association, their contributions to this cause will be huge.

Carl Shiels

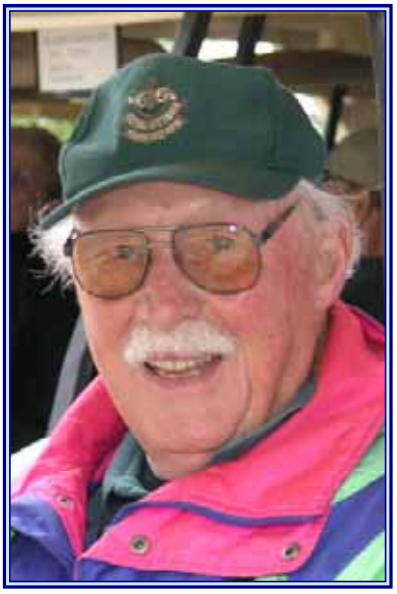
Saskatchewan Land Surveyors Lose a Loyal Friend

Patrick Joseph "Paddy" Brennan, Hon. Member

By A. Carl Shiels, Executive Director

It has often been suggested that few Saskatchewan Land Surveyors have attended as many SLSA annual meetings as Paddy Brennan. That is probably true of currently licensed members, due in part to the fact that there have been fifty new commissions granted since Paddy started attending our meeting. Moreover, Paddy had only missed one SLSA AGM – the one in Regina in 1989 - before failing health prevented him from attending the meeting in June of this year.

When asked why he attended so regularly, Paddy would usually explain in his gracious way that he had been welcomed so warmly, and made so many good friends the first time he came, he just had to keep coming back.



"Paddy" Brennan, BCLS, SLSA Hon. Member 1923 - 2009

That first SLSA annual meeting was twenty six years ago - in June of 1983 – when Paddy accompanied CBCLS President Al McWilliam as representatives of the Corporation of British Columbia Land Surveyors. Wayne Stockton was president that year and the meeting was held in Regina.

Paddy's love of good whiskey – preferable Irish or Scotch – was often paired with tales of his life adventures, the telling of which would promptly attract an enthralled audience. Few lives were filled with as much geographic and occupational diversity as Paddy's. One can only hope that a complete biography of his life will be written one day.

Patrick Joseph "Paddy" Brennan was born on April 15, 1923 in the tiny village of Patrickswell, in the county of Limerick, Ireland. Patrickswell (historically referred to as Toberpatrick) is about 10 km southwest of the City of Limerick where the Shannon River becomes the Shannon Estuary and flows west to the North Atlantic Ocean. At the height of World War II, nineteen year old Paddy joined the British Army and became, appropriately, a member of the Irish Guards. As a tank operator, he had a "front row seat" during the liberation of Holland.

After the war, Paddy's search for adventure took him first to Palestine where he spent two years with the British Colonial Police Force. It was during his time in the Middle East that the first seeds of current conflicts were sown with the creation of the state of Israel. However, at the time, that venue must not have offered enough challenge for he soon headed further east to spend two years with the Malayan Police Force where he lead what would now be referred to as "anti-terrorist" patrols into the jungle.

On September 15, 1951, Paddy married Alice in the port town of Goole, East Yorkshire and the couple promptly moved to Northern Rhodesia (since renamed Zimbabwe) where he worked for a time at the Roan Antelope Copper mine in Luanshya.

In 1954, Paddy and Alice immigrated to Canada where they took up residence on the west coast. After a brief stint with a Crown Zellerbach paper mill in the rain-soaked coastal village of Ocean Falls, they moved to Victoria where Paddy began working on topographic surveys with the Surveys and Mapping Branch of the British Columbia Government. Here Paddy found his true calling and by 1957 he had obtained BCLS Commission #396. He remained with the BC Surveys and Mapping Branch until his retirement thirty years later, just four years after his first visit to an SLSA annual meeting.

Although Paddy enjoyed all of his visits to SLSA annual meetings, his sixteenth was particularly memorable. In that year – 1999 in Saskatoon – Paddy was elected honourary member of the SLSA, a recognition that touched him deeply.

On July 23, 2009 Paddy died at the age of 86. Left to cherish his memory and life were his wife Alice, daughter Kate and her husband William, daughter Jude and her husband Steve, son Pat and his wife Anne, grandsons Adam and Evan, and all of his numerous friends in the survey community across Canada.

Paddy was granted Honourary membership in the SLSA in 1999. President Bob Webster made the presentation while Donna Jamieson and Jan Webster shared the moment.

Paddy Brennan Remembers

Reprinted from "The Link" July 1995

"Paddy Brennan Remembers" appeared in the December 1995 edition of SLSA Newsletter. It has been reprinted again as a tribute to Paddy and his adventures. It is also an example of the stories that many SLSA members have to tell but never seem to get around to putting them down on paper. Perhaps Paddy's efforts will be an inspiration. None of us ever knows when it will be too late to leave this type of legacy.

Well, I just finished my baking for today. Of course there are still two meals to prepare and wash up etc. One may wonder what the blazes is a Land Surveyor doing baking bread and talking about meal preparation. Let me tell you the story.

Way back in July (it seems years ago now) we had an extra job given to us to go up the Kechika River Valley[1] and do land surveys for some settlers there. On completion of our regular summer job we organized this one and hired a boat to take us up river.

On August 17th, we made our departure from civilization at seven thirty a.m. We drove to the landing on the bank of the Liard[2] and there had our first sight of the boat. About 25 ft. long with a cabin amidships and open at both ends.

The crew was busy getting the ship gassed up for the trip. When we saw the crew we had our first shock. Why, the owner-skipper is none other than that bum we passed many times in the road. Name is Willard Frier.

Actually though he is dressed in patched clothes and wears a three-day stubble of beard - I don't know how he manages that as it is always a three day stubble - he holds himself very well and walks with a light spring to his step.

His pilot is Buck, a native North American for sure - also dressed in bush style; i.e. ass out of his pants and patches galore. To think that we are trusting enough to put our lives in their hands! Anyway, we loaded our gear aboard and then we got aboard to sit wherever we could among our impedimenta.

We pulled out into the very fast waters of the Liard and I thought "this is terrible". "This boat cannot stay afloat in this water." However, I was wrong. After a short while we pulled into the bank of the Liard again and unloaded half of our gear. I was foolish enough to ask why and was told that ahead were some very bad rapids. Oh dear - and I thought we had come through the rapids! It turned out that we had come through the quiet part of the water. Imagine my feelings when Buck said that the worst rapids were just around the corner.

Well we set off for these rapids. This was where the Kechika River flowed into the Liard. I paled at the sight of this water. Great swirling masses of it flowing very fast and some very rugged rocks sprinkled throughout.

We turned into the Kechika and the boat was just about making headway. Looking at the bank it was very hard to discern movement on our part but inch by slow inch we were going upstream. Buck was at the wheel. A half smoked cigarette dangling from his lip. Eyes glued to the water ahead with quick glances over his shoulder astern.

One moment the boat would appear to be headed for the boiling mass near the bank and inevitable destruction and then seemingly just before we were caught in this mass, Buck would put all his weight on the wheel and the bow would very, very slowly veer towards the better water. This continued all day.

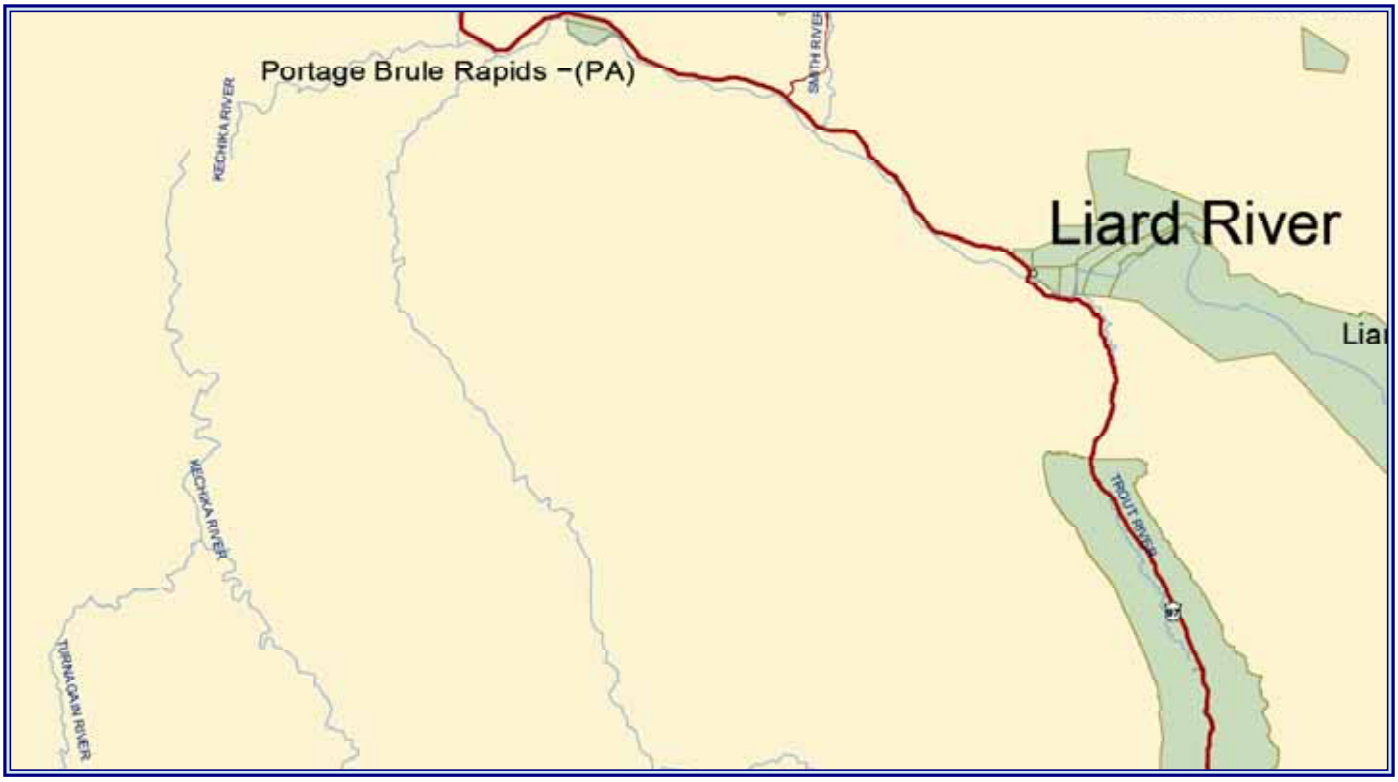
There were some quiet parts of course, but just as we all got relaxed and started to enjoy this trip again, we would see white water and again the battle would commence.

After three hours we came to really rough rapids. There was a narrow part of river between two outcrops of rock and the water just boiled through. With superb skill and the nonchalance of a captain of mighty line, Buck guided us safely through this stretch. "That is the last bad one" he said when we got through and shortly thereafter we came to the bank and unloaded.

Now we had to go back for the other half. By this time I was thoroughly enjoying the trip. These ragamuffins really knew how to handle that boat and our confidence in them soared.

1 ***In northern BC***

2 ***The Liard River flows from the Yukon, south easterly through northern BC and back north into the Northwest Territories, eventually draining into the MacKenzie River.***



The Liard, Ketchika and Turnagain Rivers - setting for Paddy's adventure

Going back down was quite fun as we just shot through the rapids. Now no painful inching along but going in great leaps and bounds, or so it seemed, from wave to wave in the rapids. It took about an hour to get down. Again we had the long hard battle up river and about 7:30 pm pulled into our cache and decided to call it a day.

We camped the night and were off again at 8:00 a.m. next morning. All this day the river was just a fast flowing one with no rapids to contend with and we spent the day reading and watching the scenery unfold. It was bitterly cold. The open cabin helped to make it so.

It was now apparent that it would take yet another day to reach our destination. On the third day we called in to say hello to a geological survey party camped at the junction of the Kechika and Turnagain Rivers. Late that afternoon, we approached journey's end - Willard's Ranch.

Going through a shallow stretch, the cable controlling the rudder snapped and we had some anxious moments until we got to the bank. The cable was spliced and again we started. On getting out in the stream the boat seemed to go crazy. We went in absolutely the wrong direction. What had happened this time? Oh, yes, when they were resetting the cable they wound it on the wheel backwards and the rudder was doing the reverse of what it should do. With no more excitement, we got to Willard's and disembarked.

Actually doing the survey was very tame after our time on the river. From there to Dowsett's Section - again an uneventful trip by boat - and surveyed that. Now we had a chance to write home as Willard was taking the geological party down river to the highway while we went on the completion of our job - surveying Skook's Ranch[3]. We boated up to Skooks' place and packed our bedding, some food and personal gear to his cabin. Willard said we could use the cabin for cooking and two of us found beds which we occupied.

Skook came in two days later. I had heard a lot about him on my way in and expected to meet a character. I sure did. He is about 6' tall, aged 75 or thereabouts, and has lived up here 120 miles from nowhere since 1939. He runs a big game hunting outfit and from reports, it is one of the best in North America. The brother of the Shah of Iran is at the present moment on a hunt under his care.

The great day came on September 12th when we set the last corner post and dug the last reference pit. Willard was due in that day with the boat. All the crew that evening were counting off the days, and estimates were made of our time arriving in Victoria. Between the 22nd and 25th were the favoured days and I thought how lovely it is going to be to see the family again in ten days or so.
But then fate turned against us. Willard did not arrive. Nor on the 14th. We didn't get worried until the 16th. Then it was decided that we had better walk out - 120 miles to the nearest settlement. Luckily along a trail but still a hell of a long walk. Let's give him till the night of the 17th and then we will walk out.

---

3 Skook's Diamond J Ranch was owned by John Ogilvie "Skoo-kum" Davidson (1892 - 1972), land surveyor, pioneer packer, guide and rancher in the upper Kechika area. Mount Skook Davidson (58°40'54" north, 127°19'57" west) was named after him. (Ref. BCGNIS Place Name Details)

It was then decided that two of us should stay behind in case any planes came looking for us. So far there have been none. Tommy Forbes and I are staying behind. That is how I happen to have been baking bread this morning.

How did the baking turn out you may ask? Well, I baked some bannock - we call them scones back home - and they were very good. In fact I'm sure most people would have thought them good.

Now our big worry is, what has happened to Willard and his boat? There were two very bad and dangerous stretches of water on that river. Anything could have happened to him in them. I sure hope he himself got away but it doesn't look as if he did. He would be but two days walk from civilization if he were OK and undoubtedly would have sent a plane in for us by now.

I don't suppose any of you have ever been in a position where you hope to hear an engine which is coming for you. You would be surprised how many times you can hear that engine. All of us have "heard" it but it has never materialized. Now we just spend our days hoping some plane may fly over or somebody will hear our calls on our radio which I fear has too short a range to be any good to us.

Strangely enough a helicopter came over five days ago and we all went out to wave to him. He turned to us and flew over us and we all thought he was just looking over the place preparatory to landing but he just flew away again. With him went our chance of contact with civilization. Pity wasn't it. Now we watch the skies in the hopes that someone will come along - the chance is a very slim one.

The boys will be out I hope in about seven days time. They will send a plane in for us. If all goes well the earliest we will see Victoria and home in that case will be October 7th or so. And to think that as a result of my last letter home Kate or Judy may now be asking Alice "When is Daddy coming home, Mom?" and the reply, "Well if you are good, maybe he will be here tonight or tomorrow". That's the part that gets me the most.

September 21st

This morning at 10:30 a.m. a plane flew over. Pity the darned thing was so high. I could hardly believe my ears when I heard it. We went outside and waved our white rags and I even stripped to my T-shirt to show white but as I said he was way too high and held a steady course south.

Now what do I do? I still have half a case of tobacco. Tried toilet paper but it is no good. Then I tried paper towelling. Can roll cigarettes pretty good but how am I to stick it down at the end? Then inspiration came and I made some paste with flour. It works pretty good. I at least can smoke but I would much prefer Players. As the nearest store is 120 miles away through bush I guess I'll have to put up with these ones while they last.

Now I'm sure you wonder what we do all day. Well, we get up about 8:30 a.m., make coffee (we have lots of it thank heaven). Then we wash our clothes if necessary and do any baking that is required. Then a game of horseshoes. One pitches horseshoes to a peg and the nearest scores a point. I think we must be the highest paid horseshoe pitchers in BC these days. Then lunch and lay about until supper time. After supper we play cribbage. That helps to pass the long evenings away.

It was very cold and windy today. There is a side hill just in front of the cabin here. Today there was a very big flock of wild Rocky Mountain sheep on it. They come there very often to a natural salt lick. Today's flock was the biggest I have ever seen. There must have been 50 or 60 of them. Skook does not allow anybody to shoot in this area near his cabin. He looks on it as a natural reserve for wild animals.

Talking of animals we have Skook's cat here with us. I am on Skook's bed so the cat sleeps there too. Sleeps on my legs at night. We are great friends by now of course. Every night he goes hunting for a while and deposits under the bed his catch - rabbits, birds and the odd mouse.

The boys have been gone for days now. With any luck they should be halfway there. Maybe in four or five days we will be out of here.

September 22nd

A very quiet morning. At about 1 p.m. I thought I heard a plane. Very nearly fell over on going outside to see a beautiful Beaver pretty low and heading straight for us. We both grabbed dish towels and ran around waving them. I wonder if he has seen us? By golly he has. He is circling over us now. Thank God we will be out of here soon. He circled us three times. It was a Mountie plane. For sure he has come looking for us. After his third circle, he heads toward the river. We are wating to see if he does land. But no, he is gaining altitude and heading south. Off he goes and we watch him 'till he is out of sight.

Dejectedly we return to the cabin. Maybe he is going down just a short ways and will be back. Tommy goes to the river - it's over a mile away and I stay here to wave again when he returns. But alas he did not come back. It is now six o'clock and a bit late for him as it will be dark in a couple of hours.

By experimenting today, I find that carbon paper sealed with paste makes the most successful cigarette so-far. In fact, it is hard to tell it from the real thing. Looks very posh too, smoking black cigarettes. I call them Brennanoff Specials.

September 23rd

Well things did happen. That Mountie on his Beaver radioed to his colleagues in Watson Lake asking who were the people in the woods waving frantically at him. Strangely enough, Willard happened to be in Watson yesterday and they contacted him. He came in today with a BC/Yukon Air Services Beaver. They had to go to Skook's camp but said they would be in that morning to take us out. We were here in the cabin not knowing anything of this and were very surprised to see a Beaver land on the river at 12:30 p.m. today. Tommy ran down whilst I cleaned up the cabin. Imagine my surprise when I saw Willard walk in the door an hour later. He said that Buck (his pilot) seemed to go haywire on their way down the river and ran onto a rock and damaged the boat. However, they were able to get down OK but hit more rocks and the boat will take too long to repair. Pity Willard waited so long to get the plane in to us. However, I hope that tomorrow sees us on the way home at last.

October 3rd

Well here I am back home In Victoria. Things sure did happen. We waited by the river on September 24th but the weather was lousy. Clouds sitting right down on the hills. Weather can sure aggravate one at times. However, we built a big fire and drank coffee all day. As Willard brought in some cigarette papers with him we were able to smoke half decent cigarettes again. Went back to the cabin at 4 p.m. and made a meal. Call it what you like but it was the only meal I had that day.

On the 25th the weather was beautiful, sunshine and blue sky with a very light wind blowing downstream. The plane came in at 10 a.m. and out we went. We followed the trail but saw no sign of the boys. Arrived in Watson Lake, Yukon at 11:15 a.m. I rang the Mounties to report that we were safe. Art had called in an hour earlier to say he had safely walked out. However two of his boys had foot trouble and were left camping on the bank of the Kechika. The plane went back in and fetched them. So once again we were all together as a crew.

The following day was spent in preparation for the trip home. On Thursday, September 27th we set off on a trip of about 1,500 miles to Victoria. It was a very good trip with no trouble. We took the new ferry from Vancouver to Victoria which is very comfortable and a very pleasant boat ride. The ferry's route takes it through all the islands in the Straits of Juan de Fuca. I arrived home at 10 a.m. October 1st. Was the family glad to see me back? So far I haven't been able to move without some of them hanging on to me.

So there we are. This covers about two weeks or so of some of the problems that face us when we go out in the summer. It can be good fun at times though. I forgot to mention that an air search had been organized and planes were standing by to take off and search for us. However, my reporting in to the Mounties cancelled that.

What Motivates Volunteers?

Reprinted from "Association Magazine" August/September 2009

Understanding what motivates volunteers is helpful when recruiting. Volunteers may be interested in giving something back to an organization or to society, want to do something that they see as adding value or that is worthwhile, may want to develop some new skills, expand their professional networks, or be part of an important cause. A volunteer who feels that their experience has been a rewarding one will be one of the most valuable assets the association has in marketing volunteer opportunities. They will encourage colleagues to participate and take on the challenges of leadership positions. Every volunteer is different but there are some simple things that you can do to make the experience rewarding:

- Clearly define the limits of the task or position and the value it adds to the organization
- Make sure the terms of reference and job descriptions are clear and understandable
- Outline the time requirements, number of meetings and additional work anticipated, and stick to that timeline
- Provide opportunities for recognition of the individual and their contribution
- Build in some time for social interaction and networking
- Leave time to have some fun

The above is an excerpt from Canadian Association Management, the definitive source of information on leadership, latest developments and best practices in the not-for-profit sector. 'Chapter Four: Board and Volunteer Orientation and Training' by author, Signe Hostein. CAE.

ProMark 500

THE WINNING COMBINATION

GEMINI POSITIONING SYSTEMS LTD.

Competitive Advantage:

- **BLADE™ GNSS technology**
- **Enhanced RTK accuracy**
- **Wide range of communications**
- **Cable-free lightweight design**
- **Rugged base & rover solution**
- **Multi-application field terminal**

For more information:

Gemini Positioning Systems Ltd.
611 71st Avenue SE
Calgary, AB T2H 0S7
1-800-361-0978

Talon Survey Solutions
1255 38th Avenue NE
Calgary, AB T2E 6M2
1-866-608-2566

ProMark™ 500

Multi-constellation RTK Surveying by Magellan

The new ProMark™ 500 offers GPS+GLONASS+20 years of field-proven Magellan technologies. Designed by our GNSS experts, this powerful survey solution delivers state-of-the art RTK features in a light, cable-free rover that gives you maximum mobility and flexibility in the field. Its unique GNSS engine insures fast initialization, long-range accuracy, robust signal tracking, and secures future constellation evolutions.

Offering extensive equipment interoperability via the new FAST Survey™ field software, ProMark 500 is also the only survey equipment featuring a handheld GPS as field terminal ready for navigation and GIS data collection.

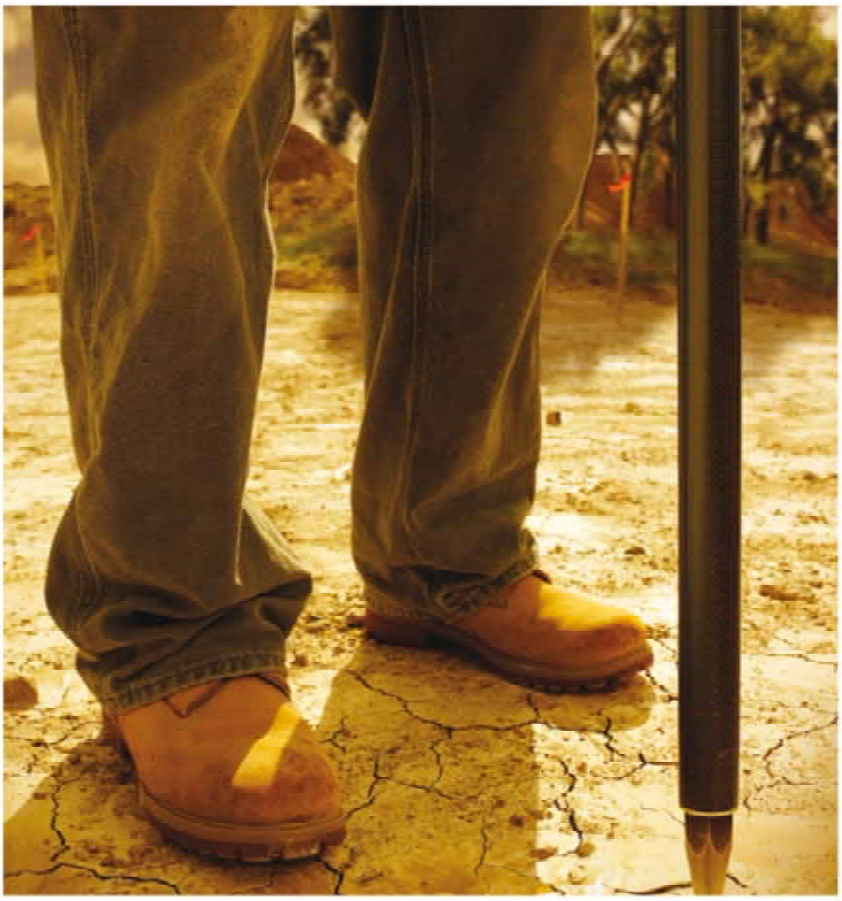
ProMark 500 encompasses all the RTK features that land surveyors expect for productive and reliable positioning and concentrates the best Magellan technologies for the survey market.

To learn more about the ProMark 500 winning combination, visit www.pro.magellanGPS.com today

MAGELLAN® PROFESSIONAL

TRIMBLE R8 GNSS +
TRIMBLE ACCESS

You don't get ahead by thinking about features.



You think about efficiency.

As a stand-alone instrument the new Trimble® R8 GNSS saves time and money. Its unmatched ability to acquire signals and transmit data means your teams are hard at work even near canopy or in urban environments where traditional receivers can't get the job done.

Partner it with Trimble Access™ software, and you'll see it's also a system that enables your teams to send, receive, and confirm data immediately. So your office has everything it needs in one place, the first time. Every time.

Sharing real-time information leads directly to your bottom line. That's why this efficient system is the latest step in our commitment to do more for your business than ever before.

See this powerful system at work:
www.trimble.com/Access

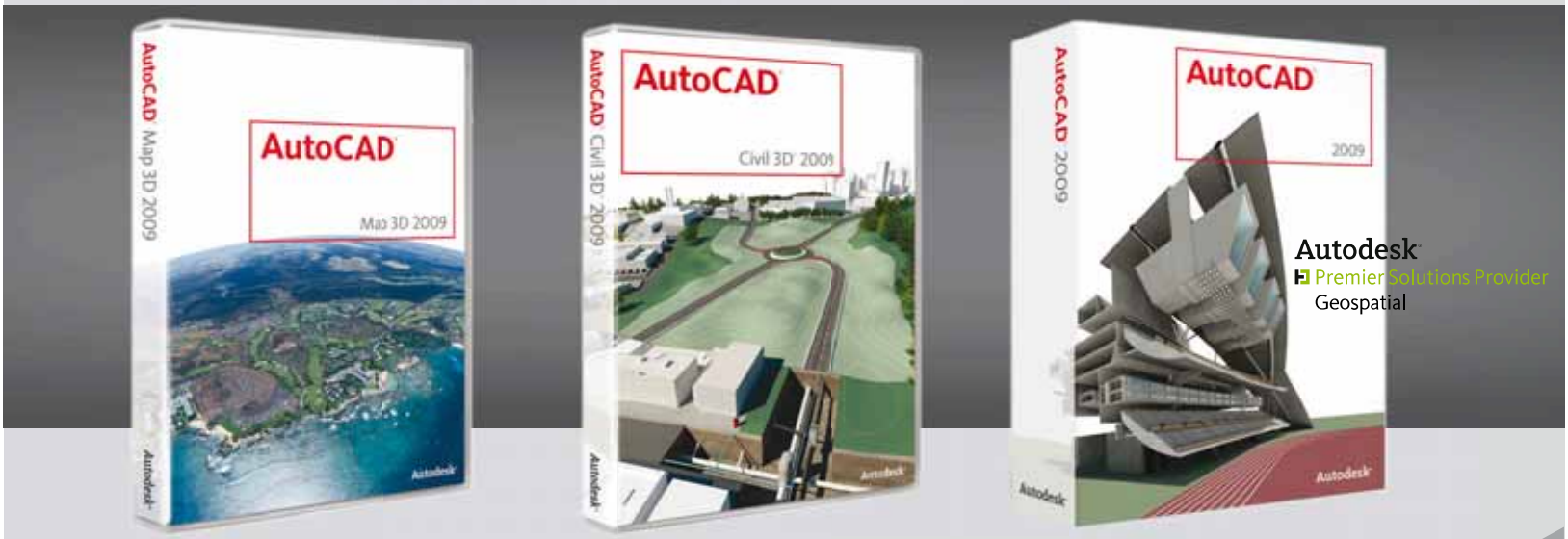
Trimble.

TRIMBLE NAVIGATION LTD.
Tel: 1.800.563.7184 Fax: 1.416.252.8635 Email: info_trimble_canada@trimble.com

Improving Field Crew Productivity

Cansel

Introducing AutoCAD AutoDesk®, AutoCAD Map 3D® and AutoCAD Civil 3D®



Part of the exciting new product line-up from Cansel

New Product Solutions

GCS
Global CADD Systems

Cansel is pleased to announce the acquisition of Global CADD Systems (GCS), a leading Canadian Autodesk® Premier Solutions Provider that has been implementing technology-based solutions since 1998. This new partnership allow us to offer Autodesk® software for the Geospatial and Civil Engineering industries and Autodesk® authorized training. Another way Cansel is working to help improve your productivity.

www.can-net.ca **1-888-222-6735**

SALES • SERVICE • RENTALS • TECHNICAL SUPPORT **www.cansel.ca**

Vancouver • Edmonton • Calgary • Winnipeg • Toronto • Ottawa • Montreal • Quebec • Halifax

-- COMPLETE LINE OF SUPPLIES & ACCESSORIES --
-- ON-SITE WARRANTY SERVICE FACILITY --

TOPCON

GPT-3000W Series
Reflectorless Total Station

- up to 1200 Meter Reflectorless range
- Bluetooth® Communications
- Precise measurements
- Dual Laser optics
- Visible laser pointer

Starting from
$ 7,799

Heavy-Duty Quick Clamp
Wood/Fiberglass
Tripod **$185**

DUTCH HILL 1200 TRIPODS **$295**

SECO Aluminum Prism Pole
w/TwistLoc

The SECO TwistLoc and TwistLoc with Vial (TLV) are wear resistant for long life. The soft rubber knob is easy to tighten or loosen, even wearing gloves.

150-0413 8.5' foot (2.5m) TLV **$149**
150-0836 12' foot (3.65m) TLV **$209**
150-0835 15.5' foot (4.7m) TLV **$225**

CST Optima Prism

- 0/-30mm offset
- 2-1/2" (62.5mm) polycarbonate prism
- Aluminum holder, target and yoke
- 5/8" x 11 bayonet adapter
- Lifetime warranty

150-0065 ..... **$189**

Surveyor's
Cruiser Vest

Available in S,M,L,XL, XXL
Starting at
$99.95

TOPCON WORLD'S FIRST Technology

LMS LAND MEASUREMENT SYSTEMS INC.

1.877.291.7503
www.lmssurvey.com

LMS WINNIPEG
1420 Clarence Avenue
Winnipeg, MB R3T 1T6

CALL: (204) 231-0613
FAX: (204) 231-0618
EMAIL: wpg@lmssurvey.com

READY or NOT

WHAT WILL YOU DO IF YOUR WORKPLACE IS HIT BY A PANDEMIC?

Reprinted from "Worker's Voice" - Volume 4, Number 8 - Fall 2009

Are you ready? If H1N1 or any similar outbreak reaches your workplace are you comfortable in knowing that there's a plan in place to deal with it? It's a question that has become all too real in the wake of SARS and H1N1.

There is no health and safety legislation specific to pandemics, but it's difficult to imagine how any employment organization wouldn't have developed a plan.

Due diligence is commonly addressed in the health and safety legislation under the "general duty clause," which places a duty on employers to take all reasonable precautions to prevent injuries or accidents in the workplace. The general duty clause also applies to all situations that are not addressed elsewhere in the occupational health and safety legislation.

For example, to reduce the effects of a pandemic, an employer may practice due diligence by;

- Encouraging good hygiene, including hand washing and providing hand sanitation stations
- Ensuring cleanliness of surfaces where the virus may reside (door handles, elevator buttons, shared telephones, etc.)
- Maintaining good ventilation
- Having up-to-date sick or leave policies. Communicate the leave policies that will apply during a flu pandemic.
- Encouraging employees to stay home when they are sick, or when they think they MIGHT be.
- Allowing employees to work at home, or create staggered shifts.
- Having a policy where people with flu symptoms are not allowed access to the workplace.

Can employees take time off? Employment Standards Acts often state various ways in which an employee can take time off from work. In some provinces, these leaves include family care options that are typically for three to five days off of work. Whether this leave is paid or unpaid will depend on the collective agreements or contract terms for your workplace. Other options for longer terms are also explained. It is important to be aware of the various options that may apply, but it is also important to know these rules can be different depending on where you live. For example in Ontario, in a declared emergency, employees are entitled to leave (without pay);

- If an emergency has been declared under the Emergency Management and Civil Protection Act
- If an order to that person has been made under the Health Protection and Promotion Act
- Because he or she is needed to provide care or assistance to a close family member
- Because of such other reasons as made by the act and regulations

Leaves may also be possible through regular sick leave benefits, or through employment insurance.

It is very important that employers plan for a pandemic situation and let their staff know how absences from work will be managed.

Can employees refuse to work? Employees have the right to refuse work if they have a specific reason and believe performing the work is dangerous to their or their coworkers, health and safety. This belief must be on reasonable grounds, and the employer is expected to attempt to resolve the situation.

It is unclear how this right will apply during a pandemic. An employee can exercise their right to refuse work. This refusal would trigger a resolution process and prevention measures should be implemented. Exactly how the refusal will be resolved legally will depend on the requirements and policies of the Occupational Health and Safety Acts and regulations of the responsible Canadian jurisdictions.

More information is available at:

http://www.elaws.gov.on.ca

Surveying: A Job or a Calling

By: Larry Lachowsky, PS

Reprinted from "*Point of Intersection*" - Volume 08.2 - December 2008

There has been a lot of debate within the surveying profession about licensure requirements, specifically about whether or not some type of formal surveying education should be a prerequisite to the Fundamentals of Surveying exam. As you know, education and experience requirements vary significantly from state to state, ranging from mandated "bachelor's degree in surveying—plus experience" to "experience only." There are cogent arguments on each side of the debate. These arguments usually center around either 1) a concern about professional stature coming from those who believe that educational requirements should be mandatory, or 2) worries about the real shortage of licensed professionals from those who believe that some period of supervised experience along with self-education should be sufficient. Personally, I think that more stringent requirements are necessary if land surveying is to be recognized as a bona fide profession, and that the shortage of licensed surveyors is due to our (the profession's) inability to attract recruits. We in the profession need to ask ourselves why these young people find surveying to be so unappealing, and then we need to address that issue rather than keeping the standard low in order to attract people who are unable, for whatever reason, to meet higher professional requirements.

But this article is not about whether or not there ought to be an education requirement: it is about something that concerns me more as an educator of potential professional surveyors, and also concerns you as members of the profession and as employers of the graduates of the state's surveying schools. I want to discuss the type of education that surveying students who attend the University of Arkansas Community College at Morrilton (UACCM) receive, i.e., the coursework in the degree program. I want to discuss the types of courses taught and the kind of information contained in those courses. As an instructor at UACCM, I have a duty to my students, to prospective employers, to the profession, and to the community at large, to provide the best possible instruction that I can within the limited time that I have with students seeking a two-year associate's degree. I believe that course content has a great deal to do with attracting, keeping and inspiring young surveyors.

About two years ago. I had a most enlightening conversation with my friend Tom Webb[1], a conversation that I have been thinking about ever since. Tom told me that he believed that too few surveying professionals had a "calling" to the profession. Now I can't speak for Tom, but I do believe that I understand what he meant by "calling," and I must say that, if I am interpreting him correctly, I agree with him wholeheartedly. The idea of a "calling" to a profession is well articulated in a book by Mike W. Martin entitled, *"Meaningful Work: Rethinking Professional Ethics"*. I hope that Tom won't mind if I use the Martin definition as my bench-mark for this discussion.

> "By definition, vocations have a moral dimension in linking one's identity to social practices and communities."

Martin begins by distinguishing between three conceptions of work — work as a job, as a career, and as a calling (or vocation). He defines a "job" as something that one does to earn money in order to pursue meaningful activities and other goods outside of work, during one's leisure time. He says that a "career" is life work used as "a pathway to achievement, power and social recognition." Finally, he says that, viewed as a "vocation" - for Martin, vocation is synonymous with calling - "... work is a value-laden activity directed toward public goods, those shared by members of the community. By definition, vocations have a moral dimension in linking one's identity to social practices and communities."

Martin credits Robert Bellah and his colleagues as being the first to distinguish between these three conceptions of work. They describe a "calling" this way:

> *In the strongest sense of a "calling," work constitutes a practical ideal of activity and character that makes a person's work morally inseparable from his or her life. It subsumes the self into a community of disciplined practice and sound judgment whose activity has meaning and value in itself, not just in the output or profit that results from it. But the calling not only links a person to his or her fellow workers. A calling links a person to the larger community, a whole in which the calling of each is a contribution to the good of all.*

Marlin does not use "calling" in the same sense as "religious calling" or, as he puts it, "a summons from God to pursue a specific task," saying that "calling", used in this way, is generally - but not always - too strong a sense of the word. It is for this reason that he prefers to use the term "vocation" rather than "calling" when talking about the professions. "Vocations are forms of work that are well suited to individuals' talents and interests and that are inherently valuable because of the contribution they make to communities. In this sense, there might

1 SLSA Corner Post Editorial note – we checked, this was not 'our' Tom Webb.

be alternative callings for each of us." Obviously, this does not diminish the moral significance of in our case surveying, as a calling. What it means is that a person may well begin by deciding to try surveying as a job. Then, perhaps, that person may decide that surveying is a good, rewarding, and meaningful job, and that it is worthy of being considered as a career. Once the career choice is made and the person learns more about the importance and value of the career, that person may begin to view surveying as a calling. When this happens to the surveyor: when the surveyor begins to see the work as a calling, and makes a moral commitment to it, then the work ceases to be merely a means to some other end—money, power, prestige and becomes an end-in-itself. And work that is so valued that it is done for its own sake, so valued that it becomes an end-in-itself, is the best kind of work that anyone can hope to do. To derive real value, meaning and pleasure from work in a way that is more than self-serving, transcends harmful "I'm-only-in-it-for-the-money" attitudes. A genuine feeling that one's work in surveying is a calling creates a sense of value, service to the profession, and service to the community at large, that is the essence of what a profession is supposed to be.

All of this begs the question, "What has this talk of a 'calling' to do with the education of surveyors?" Of course I, for one, think that it has a great deal to do with the education of professional surveyors, or I wouldn't he writing this article.

> "A calling links a person to the larger community, a whole in which the calling of each is a contribution to the good of all."
>
> ***Robert Bellah***

It seems to me that it is possible to build a surveying curriculum that is not only rich in technical courses and mathematics, but also provides students with the kind of historical and ethical coursework that may speed the process toward their viewing surveying as a calling rather than merely a job, or even a career. I have tried to take a step in that direction by building a new course that will be offered as an elective for survey majors in the upcoming spring, 2009 semester. This course, entitled Professionalism and Ethics for Surveyors, will be divided into three somewhat distinct but overlapping parts. First, it will cover the history of the professions in America from the sixteenth century to the present. The major source of the course material for this history will be a book that I would highly recommend as a must-read for all professionals, entitled The "True Professional Ideal" in America: A History, by Bruce A. Kimball. Kimball's book is, among other things, and etymology of the word "profession" which will lead to a tentative modern definition of the term. Sociologists of the professions are at odds over exactly what traits should he included in a definition of profession. The first part of the class will end with a discussion of the possible defining traits, with an eye toward arriving at an ideal definition of profession.

The second part of Professionalism and Ethics for Surveyors will be a brief study of the history of ethical theory. In this part of the class we will take a pluralistic approach to ethics in an attempt to discover what is good about the various theories. For example, we will discuss the moral theories of divine command, utilitarianism (consequential ethics), duty, justice and virtue, among others. My goal here will be to help students learn how to think about morality, not what moral theory to ultimately choose as their ethical ground.

The final part of the course will cover applied ethics and professional stature. This "capstone" of the class will primarily be about codes of conduct including: the Arkansas Rules of Professional Conduct; the NCEES Model Rules: the NSPS Model Standards of Practice and Surveyor's Creed and Cannons: and the FIG Statement of Ethical Principles and Model Code of Professional Conduct. We will also cover the information found in the links on the Board of Registration website. And last but certainly not least, each student will be given a digital copy of all of the ASPS (AARLS) newsletters. These documents will be the primary sources for a study of the surveying profession in Arkansas. I can't think of anything that will be more inspirational than a history of our professional society.

The plan is for surveying majors to take Professionalism and Ethics early in their coursework. In this way, surveying students will he able to refer back to the things learned in this introductory class as they progress through the rest of the surveying curriculum. Hopefully, the result will be that students will come away with a more complete understanding of what it means to be a member of a bona fide profession, including the special moral obligations attached to being a professional.

It would be more than presumptuous for me to think that I will be able to inspire every student to feel that they have a "calling" to the surveying profession by the time that they graduate. I do feel, however, that a course like Professionalism and Ethics for Surveyors is a good first step and that it will give students a different perspective with respect to the rest of their coursework. If this course works out, I have plans to build one more non-technical course. It will be a history of surveying and cartography with a special emphasis on a history of the Public Land Survey System. A knowledge of the role that surveyors have played in the mapping of the world and in the creation of the greatest subdivision of land for private sale on the planet, cannot help but be a source of pride for those entering the surveying profession.

If you think that we at UACCM are on the right track, let us know. If you feel that we have missed the train, let us know about that as well. Don't forget that our duty to the profession is just as important as our duty to our students. I would love to hear from all of you. Send comments and suggestions to Larry Lachowsky - lachowsky@uaccm.edu.

Martin, Mike W. (2000). Meaningful Work: Rethinking Professional Ethics. New York: Oxford University Press. p. 28. lbid.

Robert N. Bellah, Richard Madsen, William M Sullivan, Ann Swilder, and Steven M. Tip-ton. (1985). Habits of the Heart: Individualism and Commitment in American Life. Berkley: University of California Press. p. 66. Cited by Martin, p. 28.

Why Does Surveying Exist?

By N.W.J. Hazelton

Reprinted with permission from the ACSM Bulletin No. 238 [April 2009]

As seen in "Ontario Professional Surveyor" Volume 52, #3 - Summer, 2009

It is always sensible to be aware of the reasons for an organization or institution's existence. In "normal times" focusing on the organization's core principles is one of the requirements for a successful transition from good to great (part of the Hedgehog Concept: Collins, 2001[1]). In economically strained times, a focus on the raisons d'être can he critical to survival. So it seems an opportune time to ask: Why does Surveying Exist? What is its purpose?

Let's focus on "Surveying" being the broader profession or discipline, covering a wide range of individuals, organizations, and activities. We can leave the question of why specific professional organizations exist for another time.

We should also think about surveying globally. It is a global profession, so it should be dealing with fundamental social/environmental/physical problems that occur all over the planet. What are these problems, and do they help define the reasons why surveying exists?

Some suggested approaches

One approach that has been suggested is that surveying is the science of spatial measurement, that surveyors are the spatial measurement experts, and because we need measurement data, the role of the surveyor is largely defined by the role of measurement in society.

This argument has problems, because measurement is totally dependent on technology. If you attach "surveying" to "measurement," surveyors become technicians, rather than professionals, and the profession's future is subject to the vagaries of technological development.

In addition, recent advances in technology have removed much of the fine skill and art aspects of measurement, making measurement very much a technical area. GPS, total stations, digital levels, and scanners have made measurement quick, easy, and relatively cheap, as well as widely accessible. Anyone can do measurement today. GIS has done the same thing to cartography, and while anyone can now produce a pretty map, this doesn't mean it's a good map.

Another suggestion is that surveying exists to define property boundaries. If this were the case, we would expect to see property surveyors everywhere that private property exists. In the UK, there is almost no need for boundary surveyors, and they are quite rare, along with boundary surveys. The term "surveyor" in the UK contains much more of the "valuation and appraisal" connotations than "measurement" connotations.

An additional concern in the U.S. expressed by such writers as Lucas (2009), is that many surveyors seem to see themselves only as gatherers of facts (data collectors, measurers) and consider boundary line definition to be the work of the courts. If this is the case, then surveying has nothing to do with defining property boundaries and everything with measurement, and we are back to the first approach. With today's technology, anyone can do measurement, so there is nothing special about surveyors as measurers.

Surveying as an information discipline

It has been suggested that surveying is a service industry or discipline. I would argue that it is an information industry or discipline, and always has been, for the following reasons.

Services are, by definition, transitory: the service doesn't last much beyond the time of service. You buy a meal or a haircut or pay to get your house cleaned, and not long afterwards you have to do it again. In ancient times, the temple priest would consult with the gods to give you advice for your current situation, but different situations needed different advice. Surveying is not like that.

Surveying produces a very definite product, which lasts beyond the time of the service provided. Since the product is primarily information, it may be intangible, but like all information, it lasts. When a surveyor determines the location of a boundary, the information product is not the monuments in the ground, nor even the plat of the survey, but the relationship between the two. This relationship can survive the destruction of the ground marks, and even that of the original plat. Further, this information can be duplicated and disseminated without subtracting from the original—an important characteristic of information. Information is also very difficult to destroy, although its intangible nature makes it easy to overlook.

A map is a similar information product. It is an abstract representation of the real world; measurement data that have been selected, structured, ordered, and presented

1 See also www.jimcollins.com

to deal with a specific problem or need. While selling the map to the client is a service, the product itself is the information in the map.

As an example, the key task of the ancient Egyptian surveyors was to re-establish field boundaries after the annual Nile flood had obliterated them, and so re-create the original relationships of those boundaries, despite the destruction of their tangible representations. The boundary information, the information product, continued to exist; the service was replacing the boundary markers each year.

Surveying is by far the oldest information profession, discipline, or industry.2 We now live in an "information society" and operate in an "information economy." The world has finally caught up. But what do we mean by "information society" and "information economy"?

Essentially, an "information society" and "information economy" operate primarily through the use of "tokens." Rather than deal with real objects, we create "tokens" that are used as representations of whatever it is we want to deal with. In many cases, this is very useful. We don't trade land, we trade deeds and mortgage documents. We don't buy and sell what we need using bullion or produce, we exchange pieces of paper or use electronic tokens via plastic cards. On the downside, we often don't think about individual people but work with social security numbers and statistical aggregates representing the "average person."

When confronted with an actual individual, we often work with tokens of their individual totality: their psychological, behavioral, political, consumerist characteristics. Stereotypes are another form of token.

So the information that surveying produces is a token. That token may be the map or the plat or something similar. Since there is usually some spatial measurement involved in developing this information, and spatial measurement is now available to all, there is the risk of surveying becoming irrelevant in an information environment (which will include the information society and information economy).

So, why does surveying exist?

The conclusion one may have reached from the discussion thus far is that surveying isn't what one thought it was, and that it is under threat from technological advancement. But this is overlooking a critical point in the information environment. Tokens only work while they have a connection to reality.

You can only use your credit card while there is a connection to the reality of a balance less than your credit limit. The connection between money and what it can buy is changed by inflation, the changing reality of the value of money. If a deed does not truly represent the land it purports to, both the token (the deed) and the land are significantly devalued.

Over the last year, we have seen what happens when some very abstract tokens, e.g., mortgage-backed securities, high-level financial derivatives, and even stocks and mutual funds, become disconnected from the reality that they purport to represent. It has been estimated that 40 percent of the world's wealth has evaporated—as measured by the nominal value of these tokens—, amounting to tens of trillions of dollars.

However, in one sense this "evaporated wealth" was a measure of the difference between the tokens and what they represented—in effect a measure of the quality of the connection between token and reality. The global economy as a whole, and many millions of individuals, are in the process of suffering the consequences of the disconnection between these tokens and their reality.

The reason that surveying, as a profession, exists is to guarantee the connection between tokens based on spatial measurement, and the spatial reality that those tokens represent.

These tokens are not just boundary determinations, but any kind of "map." With modem technology, anyone can measure the connection between the reality and the token. But only the surveying profession can guarantee the connection. Part of the guarantee comes from being measurement experts. Part of it comes from a deep understanding of the systems within which the profession operates. And part of it comes from that most important role of a profession (and a professional)—being definitive in its (their) field of expertise.

How well has surveying done?

With the housing market collapsing and various financial crises all around, it's a good time to ask how well the surveying profession is fulfilling its role. Despite the strong connection between the financial crises and land, no one seems to have suggested that there is a problem between the deeds and mortgages and the land that they represent. Similarly, no one has suggested that there are fundamental problems with mapping in general. Those parts of the system seem to be functioning properly. The problem appears to be poor connections between the most abstract tokens and the deeds and mortgages, together with speculation far beyond any reasonable connection to the real value of the various objects and tokens being traded.

So surveying as a profession seems to be doing a reasonable job of guaranteeing the connection between reality and the tokens directly connected to that reality. Is there room for improvement in the profession's

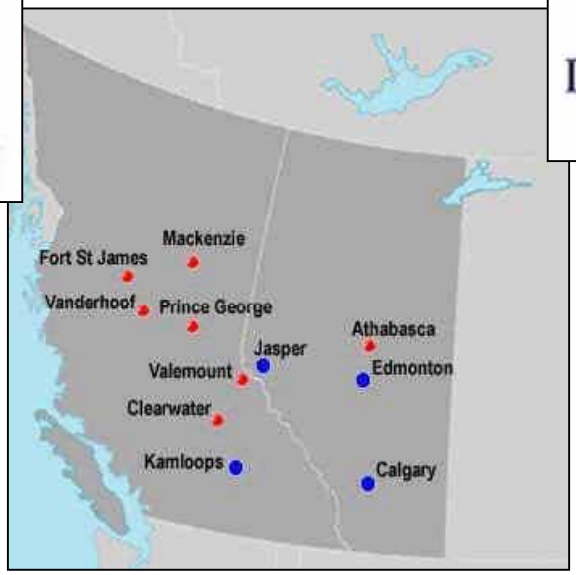
2 By contrast the "oldest profession" is very much a service industry, in every sense of the word.

99

AB & BC MUTUAL PROFESSIONAL DEVELOPMENT

By Minda C. Riley, BCLS and Reid Egger, ALS, CLS, P. Eng.

Reprinted from "ALS News" - June 2009 - Vol. 38-2



In March 2009, the professional Development Committees of the ALSA and ABCLS held a joint teleconference to begin exploring the benefits of working together and sharing knowledge. During the teleconference, it became obvious that both associations have much in common and have been working on similar initiatives over the last few years. Conversely both professional development committees each brought new ideas to the teleconference and look forward to exchanging new and exciting ideas and information as we move forward.

The ABCLS Continuing Professional Development Committee (CPDC) has renewed momentum in the last few years, focusing on the creation of numerous educational opportunities for the membership as well as establishing a voluntary reporting program to assist members in tracking their professional development. At their 2009 AGM, ALSA members voted to support a voluntary reporting of professional development with the intent of shifting to mandatory reporting and then to mandatory professional development.

In 2008, the CPDC began developing "Getting It Right-BC" (GIRBC), a quality control seminar originally developed by the ALSA and generously shared with BC. Although we were given free rein to use the Alberta model it became apparent that there were enough differences between the two provinces to necessitate additional program development. Once GIRBC is up and running smoothly, the BC model may be of interest to the ALSA, and we would be pleased to reciprocate.

One of the outcomes of the recent joint teleconference was mutual interest in working together to create seminars on topics relevant to both provinces. Such topics may include GPS (and other GNSS technology), remote sensing, project management, business management as well as jurisdictional exam preparation seminars. Both provinces will be exploring various platforms for delivery, including e-learning.

The CPDC has organized two very successful student workshops, geared toward the professional entry process, in conjunction with the past two ABCLS AGMs and will be continuing with the program in 2010. The CPDC is also exploring the possibility of developing professional examination preparation seminars, something that the ALSA PDC currently has in place. Now that jurisdictional exams are available, both professional development committees discussed the possibility of creating some form of study group or exam preparation seminar specifically targeting jurisdictional candidates from either province.

By the end of the joint teleconference, it was clear that both the Alberta and BC professional development committees have knowledgeable and passionate members interested in creating educational opportunities for their respective provinces membership. I would like to thank the AIM PDC for their participation in the recent joint teleconference, and I look forward to continued communication and exploration of the numerous professional development possibilities for the benefit of all.

Minda C Riley, BCLS

Minda Riley is an active ABCLS member, chair of the Continuing Professional Development Committee and is in private practice on South Vancouver Island with Michael J. MacIlvaney Land Surveying.

It is becoming a smaller world, even in our profession. There are several factors that are creating the need for surveyors to look past their provincial borders at the bigger picture. From one side is the demographic factor that affects all of our associations. As more experienced land surveyors retire, there are fewer of us left to do the work, including increasingly demanding committee work. Another factor is the push that the provincial and federal governments have had toward labour mobility, first with the Mutual Recognition Agreement (MRA), then TILMA and more lately with the Agreement on Internal Trade (AIT).

The profession has been responding in several ways. The Canadian Board of Examiners for Professional Surveyors

(CBEPS) continues to come closer to becoming a truly national board. The Canadian Institute of Geomatics (CIG) has presented its "vision for the future of the surveying profession in Canada." The Association of Canada Lands Surveyors (ACLS) has recently taken on a lead role in coordinating professional development at the national level, and is looking for the support of the provincial associations. The ALSA took the lead in allowing a licensed surveyor from any other province to write the single jurisdictional exam.

As all these changes are taking place, I think that the concept of scope of practice is becoming more and more important. It is the concept that came to mind when I first heard about the conditions of the TILMA agreement. The ABCLS Code of Ethics refers to this by stating: "A British Columbia Land Surveyor...(7) shall not accept work that is beyond the BCLS's particular sphere of expertise unless, in good faith, the BCLS expects to become competent in that area within a reasonable time frame that would not result in any undue delay or expense to the client."

As our surveying world seems to get smaller, it is more important for surveyors from different jurisdictions to work together. There is enormous benefit to communicating with our sister associations and with individual surveyors across the country.

The ALSA Code of Ethics uses similar wording. This was not a new concept to me when I thought about it. As a P. Eng and a CLS, it doesn't mean that I can go running off to Ontario to design bridges or car engines, or fly out to Halifax to do offshore surveying, or even up to the Yukon to do placer mine claim surveys. I am primarily an oil & gas surveyor in Alberta. I feel competent enough to dabble in small subdivisions and the odd real property report (called building location certificate in BC), but I know my limits. It's part of being a professional, whatever the profession and the jurisdiction.

It is becoming even simpler to get licensed in other jurisdictions. I say simpler—not easier. Anyone who has written the CLS exams since they reduced the number of exams from five to three can attest to the statement that studying the same amount of material for fewer exams is not easier. You still need to know what you are doing, just as much as if you were going to sit in the exam room for eleven or so cumulative hours.

As our surveying world seems to get smaller, it is more important for surveyors from different jurisdictions to work together. There is enormous benefit to communicating with our sister associations and with individual surveyors across the country. The joint professional development teleconference was just one of the first steps. I hope that we can continue with bigger strides and quicker cadence.

Reid Eger ALS, CLS, P.Eng

Reid Egger is an active ALSA member and an ABCLS Land Surveyor Associate in private practice in Edmonton, Alberta with Precision Geomatics, Inc. as well as a member of the ALSA Professional Development Committer, and the ACLS Continuing Professional Development Committee.

97 - " Why Does Surveying Exist?"

performance? Most definitely, but the profession is coming from successful performance of those functions **which define its reason for existence**.

A key issue for the future is: "Will the profession need to adapt what it does to the changing information environment"? Since the rest of the world has finally made it to an information environment, the surveying profession will have to be extremely adaptable in this environment. When the information sector of the economy was small, it was easy to continue along as before. But the profession is now a small fish in a much larger sea, and there are sharks out there.

> *"It is not the strongest of the species that survives, nor the most intelligent that survives. It is the one that is the most adaptable to change."*

Despite many repetitions of this quote, Charles Darwin never actually wrote this, and it isn't really what he meant. Natural selection works as much by luck, in that a species happens to have the characteristics that enhance its survival when change occurs. As the oldest information profession or discipline, surveying should have what it takes to survive a changing information environment, deep in its collective DNA. But you do have to make your own luck.

References

Collins. J., 2001. "Good to Great: why some companies make the leap ... and others don't" New York: HarperCollins Publishers. Inc.

Lucas, J.N., 2009. "Ohio court lays down the law on retracement." P.O.B. Magazine, Vol. 34, No. 5. February, 2009, pp. 42 - 44.

Two more of N.W.J. "Bill" Hazelton's articles can be found in his OPINION column in recent issues of webmagazine at:

http://www.webmazine.org

The titles include "Apple Enters the Surveying Equipment Market" and "If You Think Education Is Expensive, Try Ignorance".

Congratulations to
Chris Sakundiak, SLS
on receiving
BCLS Commission #846
at Fort St. John on May 11, 2009.

Differential GNSS

By Robert Allen, BCLS, CLS, On behalf of the External Relations Committee

Reprinted from "The Link", Volume 32, Number 2 – July 2009

In discussions with a number of Land Surveyors during the course of re-working the proposed Georeferencing Rules, it occurred to me that there may be more than one way that Land Surveyors thought that GNSS receivers could be used to derive bearings.

Rule 2-5(1), as written in part, now says that bearings may be derived from "GPS derived baselines of a minimum length of 150 metres". The proposed Georeferencing Rules eliminate the need for a minimum length baseline but instead require the bearings to be within a certain accuracy in seconds of arc. The minimum baseline and the other subsections 1 to 8 will be rewritten and moved to the Manual of Standard Practice.

If the bearings are to be derived from differential GNSS, it is required to use two receivers collecting data simultaneously so that one point in the survey can he related directly to another point in the survey.

One idea that was suggested to me that could he used to derive bearings is to take one receiver only into the field and set it up at one point and collect data and then set it up on a second point and collect additional data. Then back in the office the data for both points would be referred to an active control point (ACP), coordinates calculated, and an inverse done between the two points to determine a bearing. That is NOT how to derive bearings using differential GNSS, unless of course you can actually back sight the ACP directly from one or both of those points. The problem here arises if the 95% confidence level is 5 cm, for example. One point could be 5 cm one way and the other point could be 5 cm the other way, making a total of 10 cm. On a 150 metre baseline, this could make a difference of over two minutes; certainly not close enough to determine proper grid bearings. Again, two receivers must be used simultaneously to obtain differential GNSS observations on two points within the survey and that data can then be used to compute a bearing between the two points.

On a similar matter, proposed Rule 2-6(1) outlines the methods that can be used to georeference a survey. These include GNSS observations to integrated survey monuments, GNSS observations to active control points, ties to previously georeferenced surveys, or the use of the Precise Point Positioning (PPP) service of Natural Resources Canada. Proposed Rule 2-6(2) states, in part,: "... the horizontal positional accuracy ... of all the georeferenced points within the survey must be 1 metre or less at a 95% confidence level. Land surveyors, where practical considering the scope, location, and equipment used with respect to the survey, should strive to achieve a better accuracy".

My experience has only been with the Promark 3 single frequency GNSS receivers. Other single frequency receivers and dual frequency receivers may give different results and they should be checked to see if similar results are obtained. As I see it, in order to properly georeference a survey using differential GNSS observations, one should first establish a 'fiduciary point'. Ideally this fiduciary point should be located where there is an unobstructed sky in order to obtain the best results. This isn't always possible at an actual survey post so it may mean setting a traverse hub somewhere near the actual survey and tying to it. In theory, the longer you leave a receiver at the fiduciary point, the better the results should be. The actual location of this fiduciary point should then be determined by the observations noted in the paragraph immediately above. All other GNSS observations within the survey would then be related to this now fiduciary or known point.

A second receiver should be used on a second point, preferably at least 150 metres distant from the first point. Ideally, this point should also be located where there is an unobstructed sky. The differential GNSS observations between this point and the fiduciary point should provide a grid bearing and distance by a simple inverse between the two sets of coordinates. Differential GNSS observations on other points within the survey can be done using the same method; so long as one receiver is collecting data at the fiduciary point and the coordinates of that fiduciary point are held when doing the post-processing.

On a recent project on Cariboo Lake, I took some GNSS observations on a number of points. I first referred my fiduciary point observations to the Williams Lake ACP and obtained a set of coordinates. I took the observations on the fiduciary point on two different days for two different epochs. I was able to use one of my traverse hubs for the fiduciary point and it only took a few minutes to set up the receiver and let it 'cook' while I worked on other parts of the survey. I also set up my second receiver and moved it to other points when convenient to me so that it did not take up any significant extra time. In that way, I was able to obtain my bearings off the required length of baseline and to obtain coordinates on a few other points as well, giving me further checks within the survey.

As noted above, for this project I referred my GNSS observations to the Williams Lake ACP to obtain coordinates for my fiduciary point and then I calculated coordinates of my other points based on those fiduciary point coordinates. Table I shows the coordinates I obtained using ties to the Williams Lake ACP, the Penticton ACP, the Nanoose ACP, and the PPP service. Williams Lake is about 80 kms away, Penticton about 400 kms away, and Nanoose about 430 kms away. Penticton is also in a different UTM zone (zone 11) and as my software

Table I

TH DD Spike			
From ACP Station	Time Epoch	Northing	Easting
William Lake	1h – 40m	5847821.286	610007.955
William Lake	4h – 53m	5847821.270	610007.972
Penticton	1h – 40m	5847821.28	610007.85
Penticton	4h – 53m	5847821.24	610007.94
Nanoose	1h – 40m	5847821.18	610007.89
Nanoose	4h – 53m	5847821.09	610007.99
PPP	1h – 40m	5847821.23	610007.87
PPP	4h – 53m	5847821.11	610007.07

requires the input of UTM coordinates, I had to compute zone 10 coordinates for it.

The results from both Nanoose and Penticton are within the range that I would have expected from previous tests that I have done. The results from the PPP service are better than I expected and as you will note, in all instances, the longer time epochs did not necessarily mean better results. In all instances where I have checked the PPP values in the past, they have been within 0.7 metres, well within the requirement of 1 metre as noted in proposed Rule 2-6(2) quoted above.

To recap, in order to use differential GNSS for georeferencing surveys, at least two receivers are needed to be collecting data simultaneously, the UTM coordinates of a fiduciary point must be established using the best method available, and the coordinates of all other points should be established using the fiduciary point as the control point for the survey.

Update on the Alberta-British Columbia Boundary Commission

By Kelly Stofer, BCLS, Victoria, BC

Reprinted from "The Link", Volume 32, Number 2 – July 2009

One of my tasks within the Surveyor General Division is to provide support to the Alberta-British Columbia Boundary Commission. The Commission is comprised of the Surveyor General of British Columbia, the Director of Surveys for Alberta, and the Surveyor General for Canada Lands and is established under the federal Alberta-British Columbia Boundary Act 1974. Section 4 of this Act provides for the duties of the Commission, which are to resurvey the sinuous boundary line, to settle any boundary dispute that is referred to the Commission and to establish, restore, and maintain survey monuments and other physical evidence of the boundary.

Brief history: The eastern boundary of British Columbia was established in 1871 as the watershed of the Rocky Mountains from the international boundary with the United States to the 120th meridian and then the 120th meridian to the 60th parallel of latitude. Between 1913 and 1924, surveys were completed of the major mountain passes and part of the 120th meridian. Then between 1950 and 1953 additional surveys were completed of the 120th meridian. Thus the boundary today is comprised of both the conventional boundary (the surveyed portions) and the sinuous boundary (the unsurveyed watershed portions). It is generally acknowledged that the watershed definition of the sinuous boundary is not as easy to define on the ground as one might think. In areas where the land is flat and rolling or where boundary certainty is required, it is advantageous to substitute a portion of conventional boundary line for a portion of the sinuous boundary line.

On May 6th, 2009, I had the opportunity to attend my first Boundary Commission meeting and have recently become involved in one of the ongoing projects of the Commission which stems from an agreement by the Commissioners to proceed with the formal adoption of two old boundary surveys: Sunshine Village and Deadman Pass.

The Sunshine Village survey came about as a result of the resort development. At a meeting of the Commission in 1978, the Commissioner for Canada requested clarification of the sinuous provincial boundary in the area. (The Sunshine Village ski resort actually straddles the provincial boundary and is located primarily in Banff National Park.) The Commissioners agreed to proceed with a survey to substitute a conventional boundary for the sinuous boundary in this area, which was completed in 1979 by O. DeSantis, CLS, ALS.

At a meeting of the Boundary Commissioners in 1980, it was unanimously agreed to approve the survey and the conventional boundary joining monuments 15C through 53C. At a subsequent meeting of the Commissioners in 1981, the addendum to map sheets 13 and 13A, depicting the Sunshine Village survey was approved.

Deadman Pass is about 8 kms north of Crowsnest Pass. This survey was initiated in 1968 when C.D. Underhill, BCLS, who was working on lands adjoining the boundary, informed the British Columbia Commissioner of a need to survey the provincial boundary in the area.

At a meeting of the Boundary Commissioners in 1977, it was decided to proceed with a survey to substitute a conventional boundary for the sinuous boundary at Deadman Pass.

The Deadman Pass survey was completed in 1981 by W.G. Robinson, CLS, BCLS and H.C. Engler, CLS, ALS, BCLS, together with the restoration of several other monuments in the Crowsnest Pass area. At a meeting of the Boundary Commissioners in 1983, it was unanimously agreed to approve the Deadman Pass survey and the conventional boundary joining monuments 81-I through 81-6. Later in 1983, the Commissioners approved the addendum to map sheet 4, which depicts the Deadman Pass survey.

What is not so obvious is that, although these surveys (and the addendums to the map books) were approved by the commissioners, neither survey officially represents the boundary between Alberta and British Columbia. To understand why, we need to review the legislation which provides for formally recognizing surveys of the Alberta-British Columbia boundary.

At the provincial level, Alberta is governed by the 1987 *Boundary Surveys Amendment Act*, and British Columbia by the 1996 *Boundary Act*. The *Boundary Act* defines the conventional boundary line as "those portions of the boundary marked on the ground by survey monuments and shown on the map sheets by a series of straight lines connecting the survey monuments". It defines the sinuous boundary line as "those portions of the boundary along the natural line of watershed that are indicated on the map sheets by a series of broken lines". (The noted map sheets are located within the British Columbia Crown Land Registry, and are also on file with the Director of Surveys for Alberta and the Surveyor General for Canada Lands.)

Subject to approval by the Lieutenant Governor in Council, the *Boundary Act* provides for a Boundary Commissioner, who has the power and duty, in cooperation with the Boundary Commissioner appointed by Alberta and the

Boundary Commissioner appointed by Canada, to substitute a conventional boundary line for the sinuous boundary line. The Sunshine Village and Deadman Pass surveys are two such "substitution" surveys.

Section 2 of the *Boundary Act* provides the link to federal legislation. Section 2 tells us that the boundary between Alberta and British Columbia consists of the conventional boundary line and the sinuous boundary line as those lines existed on September 25,1989, and as they are altered from time to time under section 43 of the *Constitution Act, 1982*.

The Constitution Act, 1982, needs no introduction but interestingly, Section 43 provides for the process to recognize an alteration to a boundary between provinces as follows:

43.

An amendment to the Constitution of Canada in relation to any provision that applies to one or more, but not all, provinces, including

(a) any alteration to boundaries between provinces, and

(b) any amendment to any provision that relates to the use of the English or the French language within a province may be made by proclamation issued by the Governor General under the Great Seal of Canada only where so authorized by resolutions of the Senate and House of Commons and of the legislative assembly of each province to which the amendment applies.

Thus, formally recognizing these surveys requires an amendment to the Constitution of Canada.

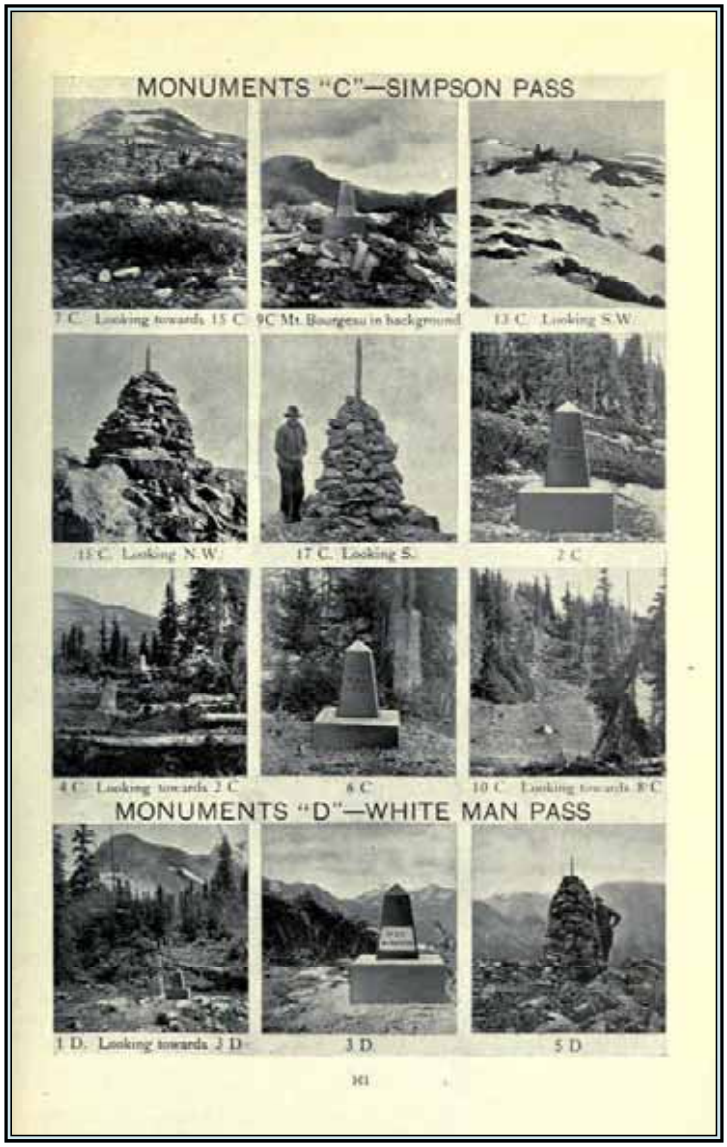
While the Commissioners at the time approved the surveys, their timing could not have been more tenuous, as the process stalled with the "patriating" of the Constitution in 1982. Provincial legislation that would be consistent with the *Constitution Act* was not in force until 1987 in Alberta and 1996 in BC.

Our task now is to work with our Alberta counterparts and our legislative support team to assist in achieving an Order in Council to recognize both surveys under Section 5(I) of the *Boundary Act*, together with the resolutions of the legislative assembly, the House, and the Senate.

References:

(2009). Policy and Procedure Manual for the Alberta-British Columbia Boundary Commission - Draft

MacLeod, A. Alberta-British Columbia Boundary, Boundary Maintenance, 1952 – 2006.



Page 161 from ***"Report of the Commission Appointed to Delimit the Boundary between the provinces of Alberta and British Columbia - Part I - From 1913 - 1916"*** *published by the Surveyor General. It is just one of the many pages that depict monuments and scenes along the Alberta-British Columbia boundary. The entire publication can be found on-line at:*

http://www.archive.org/stream/reportofcommissi01albeiala

The www.archive.org web site has a collection of books available that can be viewed on your computer screen like a conventional book, complete with page turning animation. Interestingly, this particular book was contributed by University of California Libraries and includes a cover tag indicating the original was housed at the University of California, Los Angeles.

Unfortunately, Commission Report - Parts II (1917 - 1921), III a & b (1918 - 1924) and IV (1950 - 1953) are not part of the collection.

Spatial Cloud Computing (SC2)

A New Paradigm for the Enterprise GIS

By Hugh Williams and Darko Pole o, OLIP

Reprinted from "Ontario Professional Surveyor" Volume 52, #3 - Summer, 2009

An "Enterprise GIS" provides GIS capabilities and integrated data across the overall IT IIS framework bringing spatial capabilities to the entire organization, and enabling users to leverage the power inherent in the geography of their data.

Implementing an enterprise GIS can be transformational to the organization. New, improved workflows emerge as people have better access to and understanding of their data. However, the COST and EFFORT of an enterprise GIS can be too prohibitive for many organizations to even consider the benefits downstream.

A A : E G D G

About 120 years ago, factories generated their own electricity. There was no Ontario Hydro or wires on poles along the road to bring power to where it was needed. When the wires came, the electrical grid made it possible for companies to hook up, locate anywhere, and eliminate the expense and overhead of generating their own electricity. That changed the landscape!

In an analogous way, cloud computing gives organizations the option to hook up to the digital grid (the Internet) for their software, hardware and networking services. Services now offered by a new cadre of "digital utilities" are giving organizations dynamically scalable computing resources as a service over the Internet. This means organizations do not have to make the large investments in software applications development and the underlying computing infrastructure. And that translates into cost savings, eliminates "place" as a barrier to corporate information management, and enables innovation and growth without adding internal capacity and complexity.

S C C — N "E GIS"

Spatial Cloud Computing (SC2) adds geography. SC2 provides dynamically scalable geographic information technology, spatial data, and geo-applications as a service. It's on-demand geo-intelligence for corporations: enabling them to access their corporate information resources by leveraging the power of geography without needing to invest in spatial data, specialized skills, and software.

Readers of this magazine already know why "geography" is important, and how "leveraging the power of geography" means that 90% of all business data can now be map-enabled, thereby significantly improving:

- Communications and building understanding.
- Integration of disparate business data, especially data that would otherwise have NO other connection.
- The ability to see spatial patterns and relationships that words and numbers cannot easily describe.

An Enterprise GIS through spatial cloud computing also provides:

C A :

An enterprise GIS can require a large investment in time, people, software, hardware, data, and ongoing maintenance when done in-house. With spatial cloud computing, the upfront and operating costs are significantly reduced.

S D :

For most organizations, the spatial map base is a significant barrier to implementing an enterprise GIS. SC2 provides foundation data like roads, administrative mapping and imagery as part of the core service, and provides the ability for the client to create and add their unique business map layers such as client locations and areas of interest.

P :

An SC2 solution can remove the need for specific in-house GIS capability. For organizations that already have GIS staff they can turn their attention to more complex tasks and services.

T I :

Computing hardware, networking, and GIS software are part of the service reducing or eliminating the need for these technologies in-house.

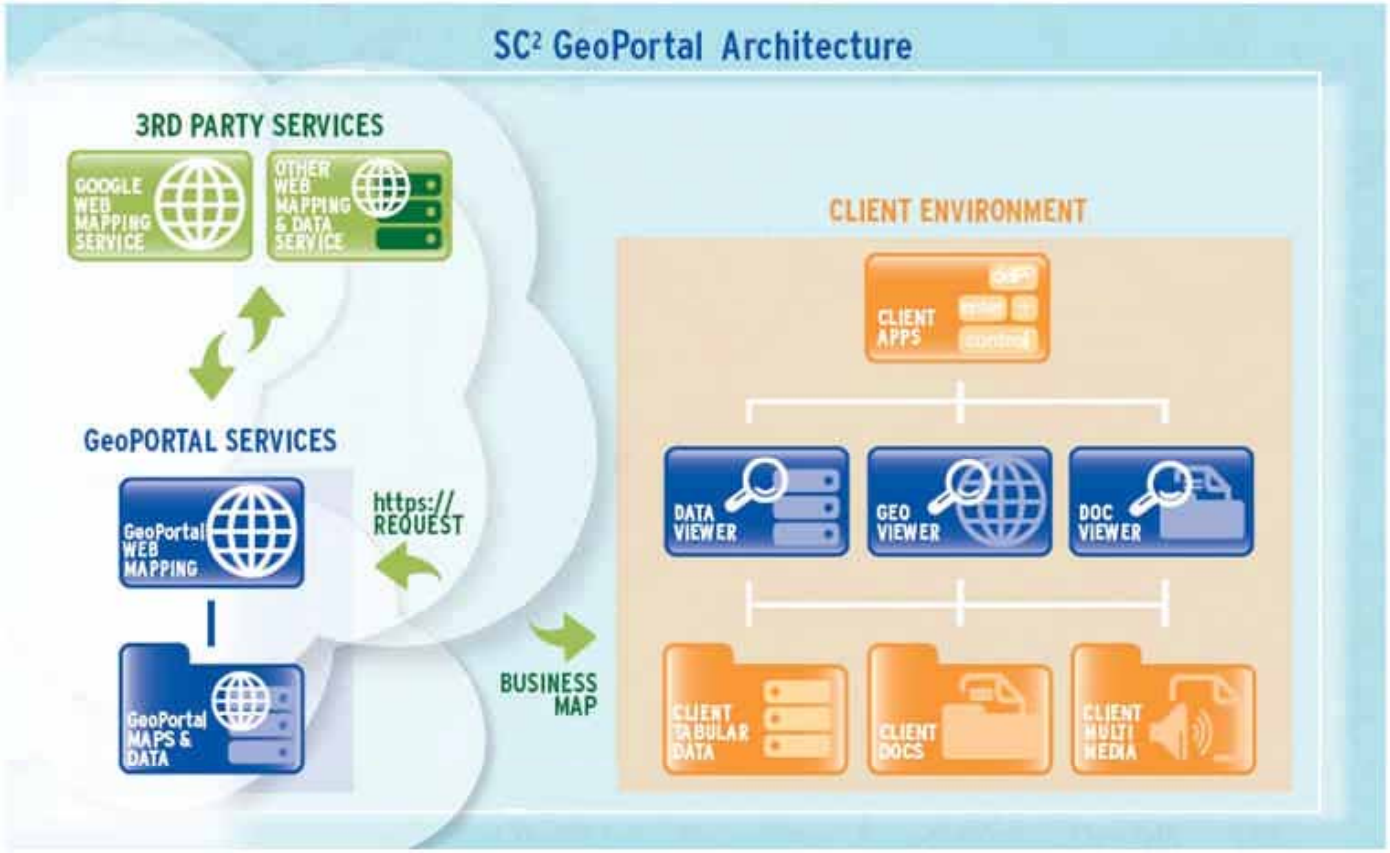
W ' N

Barriers to the implementation of cloud computing solutions remain largely in the understanding of solution availability and trust in their effectiveness and security. Even so, cloud computing is rapidly growing in acceptance and usage. As

a result, we can expect spatial cloud computing will not be far behind in the adoption trend.

Specifically, spatial cloud computing will become more prevalent in the next few years as vendors develop service-based GIS solutions; and, as organizations new to GIS or those with enterprise GIS implementations look for different models of software and data acquisition and deployment.

Our own externally hosted "GeoPortal Service" is available to any organization to geo-enable their business information. It's Enterprise GIS that you "plug into and use". The following diagram shows one architecture configuration in which we host the spatial component while the business information system data remain in the organization's computing environment and dynamically come together through GeoPortal.



For surveyors, this means that there will be an ever-growing use of land-based information products and services; however, the vehicles for their delivery and accessibility will change.

SKE I . S C C

SKE's SC2 solution is called "GeoPortal". GeoPortal is the result of many years working in partnership with key clients like the Ontario Realty Corp. (ORC). The ORC's "Ontario GeoPortal" is providing cost-effective enterprise GIS services to several ministries and agencies in the Ontario provincial government to support their varied business needs including facility management, property management, infrastructure management, environmental management, communications, and aboriginal consultation.

Although we can also host the business data, this configuration is particularly suitable for organizations that prefer to keep their business data managed internally.

Darko Poletto is President of SKE Inc. He has been involved with enterprise GIS implementations for over twenty years both with the Ontario government and for the last 14 years in the private sector. Darko is an Ontario Land Information Professional and member of AOLS. He can be reached by e-mail at dpoletto@skeinc.com.

Hugh Williams is VP of Business Development at SKE Inc. Hugh's varied career and experience over the past twenty-something years both in government and the private sector have focused on the implementation and marketing of information management solutions, and those using GIS in particular. He can be reached by email at hwilliams@skeinc.com.

If you are interested in finding out more, please contact them or join the Spatial Cloud Computing discussion group on the "Linkedln" web site (www.linkedin.com).

Evaluating Survey Evidence

By Bruce Jones, ALS, BCLS

Reprinted from "ALS News" - June 2009 Vol. 38-2

One of the first things that must be realized when evaluating survey evidence, is that cadastral land surveying is a legal profession, not an engineering discipline. Monuments are not opinions and monuments are not governed by coordinates.

> *"Surveyors do not define boundaries. Boundaries are defined by those (individuals, corporations, Crown) who enjoy legal rights in land. However, surveyors do play an integral role in demarcating boundaries on the ground and in delineating boundaries on plans."*
>
> *Dr. Brian Ballantyne*

The orders of reliability of evidence that are definitive of a boundary reflect those things which the courts have found least likely of error, namely, first preference to the natural boundaries of parcels; second preference to original monuments placed or recognized by survey; third preference to features of possessory evidence that can be related in time to the original survey monuments; and fourth preference to measurements. This may then be separated into two categories, primary and secondary evidence.

Primary evidence is comprised of natural boundaries and monuments in place. "Monuments in place" are monuments of public record. Of the monuments in place, there are two basic types. The monuments placed where consent was required are considered original monuments and govern the boundaries that they purport to define, only within the land where consent was granted, regardless if they are found to agree with the plan dimensions or not. The monuments or the restored position of these monuments govern regardless, but restoration is only valid where the original position is irrefutable. The legal principle, found in the Surveys Act and in many judicial decisions, that original monuments in their original positions are conclusive evidence of boundaries does not, of course, apply to survey monuments which have been set in the course of other surveys, or through any other procedure, unless they have been set or confirmed by judicial order. These other types of monuments are those that were required by legislation but where consent was not required. These are the re-established lost monuments or established statutory corners not previously marked. Before relying on any monument, except an original, the surveyor must satisfy himself as to its reliability. These monuments also govern the boundaries that they purport to define but can he corrected if found to be in error. When such an error is found to have occurred, it can only be corrected with the consent of the parties interested in the lands whose boundary it defines and the procedure by which the correction has to be made is rigidly and elaborately specified by statute (Land Titles Act, RSA 2000, c. 1-4. Sec. 91(1) & sec 92). Until such time as the error may be corrected, the monuments on the ground may govern the position of the boundary and the surveyor must, nevertheless, be guided by it. Simply registering a plan showing the monument as in the wrong position or accepting the position shown on the said plan, may be considered a criminal act under sections 442 and 443 of the Canadian Criminal Code (R.S.,1985,c.C-46)—The unlawful altering of a boundary or boundary mark. The "saving provision" of this Act does not allow land surveyors to alter boundaries or boundary marks; only restore or reference them. The main intent of the Surveys Act is to prevent boundary conflicts and the primary evidence is the methodology used to effect that intent.

Secondary evidence is, by its very nature, circumstantial. A number of pieces of collaborating circumstantial evidence are required to form a proof. Evidence is the information used in the process of proof and proof is the process or operation by which truth or fact is arrived at. The land surveyor's work has, as its object, the establishment of the facts as to the position of boundaries on the ground. The following are some examples of secondary evidence.

Probable Traces of Original Monument

Good Example: A trace of two pits and some other type of evidence to determine which pits they are. This could be a rust hole or a trace of the original wood from the monument, a fence line, bearings and distances, or the obvious reasons for the destruction of the other pits. It should also be noted that copies of the original field notes and documents such as Bulletin 38 are invaluable in the search for the original location.

Poor example: Accepting wood that is assumed to be the remnants of an original monument, in an area where it could not be differentiated from the remnants of a fence post.

Lines of Occupation

Good example: A fence that was established in the same location as the monuments and was lived up to as the boundary. Because it is known that farmers and ranchers generally renew their fences on a continuing basis, replacing posts as they decay and keeping the same location, it is inferred (subject to any conflicting evidence) that the fence, as an object, is the same, though its component parts have been renewed. Similarly, fences or fence corners may be accepted as evidence where there is no certainty as to the date of first construction, if there is a pattern of fences and other evidence which are mutually supportive.

Poor Example: A fence constructed on a crop line or a fence in cultivated land, even being very old, may only be evidence of the position of the crop line at a previous date. Simply accepting

108

DAVID THOMPSON - The Right Stuff

by Robert Thirsk

Reprinted from www.cbeen.org – the website of the Columbia Basin Environmental Education Network - (as seen in "ALS News" June 2009)

It is part of the human soul to want to go where no one has gone before.

Canadian astronaut Robert Thirsk successfully launched to a rendezvous with the International Space Station on May 27, 2009. He expects to be at the station for 6 months. This will be, by far, the longest stay for a Canadian at the station.

On September 12, if goes well, he will broadcast a downlink from the International Space Station to the Panda Theater in Sandpoint, Idaho, as part of the bicentennial commemoration of David Thompson's arrival in the Pend Oreille country in September of 1809. This program will be streamed to schools throughout Canada, and hopefully, to many in the U.S. as well.

Bob wrote the following article on the influence of David Thompson on his career as an astronaut for the February 2007 newsletter of Thompson Bicentennial (www.davidthompson200.org).

Ross, MacDonald

(Ross MacDonald is a senior communicator based in Kootenay National Park)

During this past Christmas season, I read "*Sources of the River – Tracking David Thompson Across Western North America*." This book, written by Jack Nisbet, provides an interesting account of David Thompson's travels and accomplishments.

Having been born and raised in British Columbia, I was already familiar with David Thompson's accomplishments as a fur trader, explorer, surveyor, cartographer and writer. Today I am an astronaut. Astronaut's heroes certainly include the daring men and women who flew the first space missions decades ago when spaceflight operations were basic. But contemporary space missions have become more complex, longer in duration and broader in scope. Consequently, we now look back to early explorers such as Cook, Franklin, Amundsen, Peary, Scott, Shackleton, MacKenzie, and Lewis and Clark for inspiration and guidance. Expeditionary issues that are relevant to today's astronauts (isolation, stowage, resupply, maintenance, health care, crew morale) were also important to these early explorers. Their experiences parallel the kinds of experiences we expect to encounter during our long duration flights aboard the International Space Station or eventually to the planet Mars.

David Thompson is a member of this esteemed group of early explorers. The bicentennial of his Columbia River explorations are upon us and I now look at him from a different perspective than when I was a child. I am particularly intrigued by who he was as a person. Nesbit's book does a good job describing what made Thompson tick. David Thompson was certainly knowledgeable of New World geography and possessed an amazing set of wilderness skills. But many other explorers possessed these same knowledge and skills. What made Thompson different from the rest?

Thompson also possessed a unique spectrum of personal attributes that characterize a quintessential leader: vision, insight, cultural sensitivity, attention to details, decisiveness, and refusal to accept failure. These kinds of attitudes were required to perform his job as a leading explorer under arduous conditions and to achieve his expedition goals. These are the same attributes to which I aspire as an astronaut.

Looking to the Stars

Explorers and exploration have been an intrinsic and vital part of North American history. Why did the early explorers battle the continent's rugged terrain and endure its difficult climatic conditions to explore this New World? What was their motivation?

David Thompson was first and foremost a business man; his motivation was commercial. Mapping of the North American landmass and exploration of the Columbia River region were motivated by a search for a trade route. For him, discovery of a practical route to the Pacific Ocean was a way to an end, and that end was corporate benefit to his employer, the North West Company.

The motivation for some explorers was the prospecting of natural resources. For others it was scientific discovery. And for others, exploration was simply an expression of a basic human desire. We, as people, have an instinct for adventure, a remarkable drive to see what is beyond the horizon, on the other side of the mountain, below the ocean's surface, above the clouds and on the next planet. It is part of the human soul to want to go where no one has gone before.

My favourite passage from the Nesbit book is a quote made by a young David Thompson after he had mastered the craft of celestial observations. To many of his contemporaries, this navigational technology was incomprehensible. They didn't understand the new-fangled instruments and strange methods that allowed Thompson to locate his geographical position and to map the new territory. Thompson wrote:

> *"Both Canadians and Indians often inquired of me why I observed the Sun, and sometimes the Moon, in the day time, and passed whole nights with my instruments looking at the Moon and Stars. I told them it was to determine the distance and direction from the place I observed to other places; neither the Canadians nor the Indians believed me for both argued that if what I said was truth, I ought to look to the ground, and over it; and not to the Stars."*

What a great quote! It reminds me of arguments that I sometimes encounter from present-day skeptics. They ask

these fence lines because they appear old is in effect, granting title through adverse possession or acquiescence. Land surveyors do not have this right.

Survey Marks of No Public Record

It is very common in older urban areas for numerous pins, spikes, iron bars, drill holes and other survey marks of no public record to be found. "These may or may not be the only evidence remaining, and should not necessarily be accepted as reliable. A large number of checks may have to be made before any conclusions can be derived. The positions of the original homes in these areas may be far better evidence than these survey marks and cannot be discounted.

Original Field Notes and Methodology Used

Since survey plans are supposed to be representative of the field notes that they were created from, field notes are better evidence of the intent, and the dimensions, than the survey plan. The methodology used to place the original monuments must be considered when evaluating the probable location of the lost monument. Distances measured with a chain will not lose a random amount on one course and gain it back on the next. Directions set out with a transit or theodolite will not change for one course and come back on the next. This may occur with the use of newer technologies but not with the older technologies.

Plans and Intentive Plans

> *"Field notes and plans are simply records of the primary evidence and they are made for the purpose of enabling landowners or other interested parties to locate the primary evidence, and are themselves of value as secondary evidence only when the primary evidence has disappeared."*
>
> *J.H. Holloway. MS (1952)*

There can be no fixed rules as to the acceptance or rejection, by the surveyor, of secondary survey evidence. The decision as to how much checking is necessary before acceptance of evidence is ultimately, the professional responsibility of the surveyor. It is a land surveyor's duty to make clear on every plan, the results of all searches made, whether successful or not, in order that other land surveyors can easily understand the methodology used to re-establish a boundary.

References

Re-establishing Boundaries: Ambiguities and Riparian Rights *by Dr. Brian Ballantyne; www.bclandsurveyors.bc.ca/documents/2008AGM/CPD_Handout_Dr_Brian_Ballantyne-AGM08.*

The Principles of Evidence*, J.H. Holloway, ALS 1952*

www.alsa.ab.ca/uploads/files/PDF/principles_of _evidence.pdf

why exploration-oriented organizations should devote resources to figuratively "look to the stars" when society has so many pressing concerns here on "the ground" that should first be addressed.

I answer that exploration skills and attitudes must be regarded as core competencies even today. It is this spirit of exploration that will nurture a 21st Century mindset based upon innovation, advanced training and lifelong learning. I point out that just as many frontiers exist today as existed two hundred years ago. Of course these frontiers are no longer geographical; and modern day explorers no longer wear buckskins. Rather, today's frontiers are scientific, technological, medical, and spatial; and modern-day explorers wear lab coats, parkas, business suits, wetsuits and pressure suits.

The spirit of exploration that David Thompson personified two hundred years ago must be preserved. This spirit will provide us with a cultural distinctiveness and a competitive edge in the new global economy.

The Right Stuff

In hindsight, it is obvious that the achievements of David Thompson contributed to the accumulation of knowledge about our lands and resources, and eventually led to a robust economy based on exploitation of North America's vast natural resources.

Just as important, the leadership traits that Thompson demonstrated are needed today to address contemporary social problems and to transition us to a knowledge-based economy.

Vision, insight, cultural sensitivity, attention to details, decisiveness, refusal to accept failure: the personal traits that Thompson demonstrated as an expedition leader are identical to those required to succeed today in the executive boardroom or at the cabinet table. These traits must remain part of the North American character that distinguishes us from other world citizens.

I uphold David Thompson as a role model to emulate. He is a source of inspiration to all modern-day explorers who seek to push back the new frontiers. Several years ago Tom Wolfe, the American author, coined the phrase "the right stuff" to describe the combination of unique qualities that exemplified the early elite astronauts. David Thompson had the right stuff. In fact, he would have been a great astronaut if space travel had been possible in his era.

I applaud the David Thompson Bicentennial Partnership for showcasing the achievements and personal attributes of David Thompson. His exploratory spirit will inspire us to go where no one has gone before.

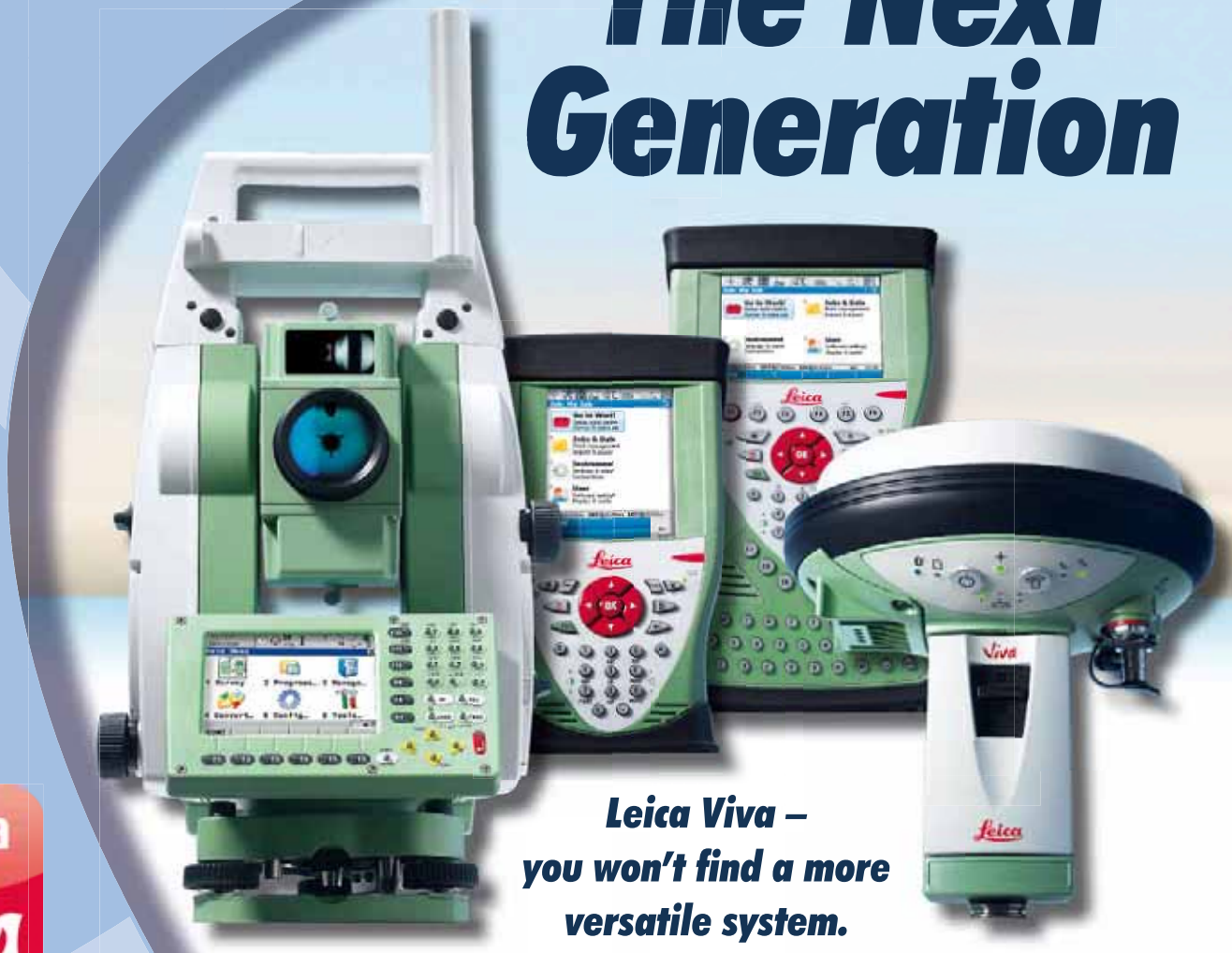
spatial TECHNOLOGIES

www.spatialtechnologies.ca

Calgary:
P: 403.252.0070
F: 403.259.3992
TF: 1.877.252.0070

Edmonton:
P: 780.486.2111
F: 780.486.2155
TF: 1.877.990.7788

The Next Generation



Leica Viva – you won't find a more versatile system.

Leica Viva

Leica Viva combines a wide range of innovative products designed to meet the daily challenges for all positioning tasks.

The powerful and versatile Leica Viva innovations are redefining state-of-the-art technology to deliver maximum performance and productivity.

Leica Viva gives you the inspiration to make your ambitious visions come true.

Visions arise from the interaction of your experience, your knowledge and your creativity. Making your visions become reality is what makes the profession of a modern surveyor so exciting. Unique ideas and solutions result from inspiration and confidence in your abilities. We strive to make you succeed in fulfilling your tasks and targets in the most professional, efficient and creative way. With Leica Viva you have a versatile system that gives you the freedom to make your visions come true. Every vision on every scale becomes reality with ease.

Welcome to Leica Viva – let us inspire you

when it has to be **right**

Leica Geosystems

spatial TECHNOLOGIES

www.spatialtechnologies.ca

The Evolution of Perfection

Calgary:
P: 403.252.0070
F: 403.259.3992
TF: 1.877.252.0070

Edmonton:
P: 780.486.2111
F: 780.486.2155
TF: 1.877.990.7788

NEW..FASTER..MORE PRECISE!

Leica TS30 accuracy - the facts:

Angular accuracy – 0.5"

Pinpoint EDM accuracy

- 0.6 mm + 1 ppm to prism
- 2 mm + 2 ppm to any surface

Automatic Target Recognition (ATR) accuracy – 1"

It all started more than 75 years ago with the Wild T3 precision theodolite that stunned the surveying community with highly accurate measurements. Now, four generations later, Leica Geosystems continues to build on the values of accuracy and quality. The latest generation of Champions, the Leica TS30 total station has reached the pinnacle. Generations of surveyors have trusted accuracy and quality from Leica Geosystems, now it's time to take this trust to the next level.

when it has to be **right**

Leica Geosystems