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THE NOVA SCOTIAN SURVEYOR

Fall 1993 No. 144

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NOVEMBER 4-6, 1993

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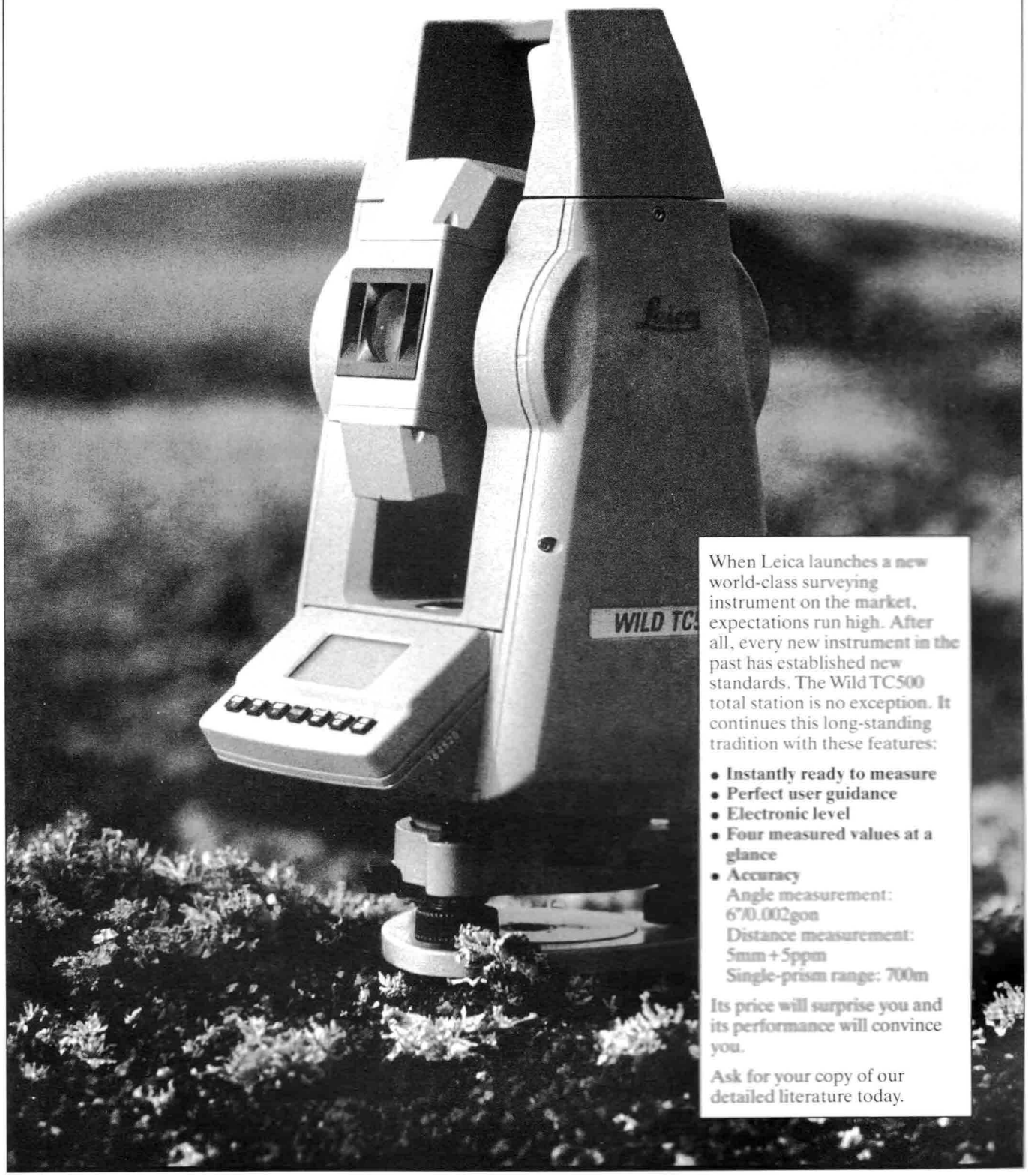

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THE
NOVA SCOTIAN
SURVEYOR

FALL 1993 No. 144

CONTENTS PAGE

THE NOVA SCOTIAN SURVEYOR

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Association Affairs: James Gunn
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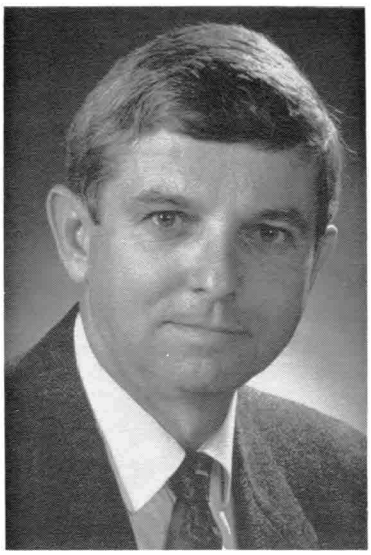
Cover Photo: Compliments of the late James F. Kelly. NSTC Land Surveying Class of 1915.
Front Row: H.H. Miller, Capt. T. Conner, R.S. Winton.
Middle Row: A.H. Thompson, E.E. Dauphinee, J.F. Kelly, H.W.L. Doane, (Instructor), J.A. McLennan, D. McAskill.
Back Row: F.A. Grant, R.K. DeLong, Bert Grantmyer.

The Nova Scotian Surveyor is published twice a year. Address all enquiries to: Association of Nova Scotia Land Surveyors, 159 Portland Street, Suite 301, Dartmouth, Nova Scotia, B2Y 1H9.

PRESIDENT'S REPORT

Robert A. Daniels, NSLS, CLS



A year as President of the Association of Nova Scotia Land Surveyors passes so quickly you wonder where the time has gone. Over the last number of months, Mary and I have represented our Association at several other provincial annual meetings.

The meetings we attended included Ontario, Massachusetts, Alberta, Newfoundland, Quebec, CIG and Prince Edward Island. Throughout these travels, I was able to determine that we share many common problems. Limited financial resources restricting member service, intense competition between members, lack of professional ethics and the inability or lack of will for many members to embrace the new technologies and to diversify into geomatics.

At each annual meeting, I requested and received an opportunity to address the membership. My comments identified the situations mentioned above and I encouraged all members of our profession to expand and become true professionals. The host President was then presented with a Nova Scotia Tartan tie as a gift from our Association.

Throughout the year, I have had the opportunity to observe the extraordinary efforts put forth by our Association administrative staff on behalf of our membership. Jim Gunn, Shelley Lane and Kathy Alcorn should be commended for their tireless efforts on behalf of the Association.

I have attended several zone meetings throughout the province, and hopefully, I will have an opportunity to attend at least one meeting in each zone before November, 1993. At each of these zone meetings, members are continually offering suggestions for improvement of our Association or identifying various concerns which should be addressed, not only at the provincial level, but also the national level. In order to move the Association forward, it will take a larger staff than we presently have in place and additional funding. This situation is presently being considered by Council, and options will be available for discussions at the annual meeting held in November.

A request to the Bureau of Competition Policy concerning a suggested minimum fee schedule resulted in an in-depth discussion between Jim Gunn and representatives of the Bureau. As a result, it has been noted that we can carry out a fee study to identify the current fee structure. However, we cannot recommend or suggest fees. The Bureau also requested a copy of our Act, Regulations, By-Laws and Code of Ethics and made several comments with respect to sections which may restrict competition. As a result, we are considering making changes to our Regulations and Code of Ethics.

The Association of Nova Scotia Land Surveyors hosted the first meeting of the four Atlantic Provinces' provincial Presidents and their administrative officers in conjunction with the Prince Edward Island Land Surveyors' Association annual meeting.

The Canadian Council of Land Surveyors are in a state of temporary uncertainty following the withdrawal of Quebec and the apparent limited involvement of Ontario. For further information, see the CCLS Report and the CCLS Bulletin.

Plans have been finalized for our 43rd Annual Meeting to be held in Halifax on November 4, 5 and 6, 1993. This includes a seminar on Thursday, November 4, featuring a Loss Prevention Seminar, Information Session on the Task Force on Control Surveys in the Maritime Provinces and presentations on Case Law and Water Courses and Environment Acts affecting surveyors.

Joe Ghiz, former Premier of Prince Edward Island, will be the guest speaker at the Members' Luncheon on Friday. Mr. Steve Blasco, Chief Scientist on the dive to the Titanic, will be the guest speaker at the President's Luncheon on Saturday.

In closing, I would like to thank the Executive, members of Council, committee members and membership at large for the opportunity to serve as President of the Association of Nova Scotia Land Surveyors. It has given me an opportunity to meet a wide variety of people and to thoroughly understand how much work can be done and has to be done for the improvement of our profession. I would encourage every member to actively participate in our Association and seize every opportunity to promote the profession. ◉

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EXECUTIVE DIRECTOR'S REPORT

James D. Gunn, NSLS

This has been a very busy and productive year for the association office. Our finances are well under control and our future looks bright. This year's annual business meeting promises to be very interesting. The members will be asked to decide on future staffing here at the association office (I will be leaving next June in case you haven't heard). You will be asked whether we should return to two executive positions, stay with one, or settle on something in between. We will see a motion to restructure the zones and downsize council. We will have another run at standards for surveyors real property reports as well as a motion to regionalize our magazine. There will be a life membership nomination, a building fund levy and much more. You do not want to miss this meeting. ◙

If, indeed, the world ever does beat a path to your door, it will do so only after it first discovers who you are and where you can be reached. You must supply the world with this information.

Anonymous ◙

RESURVEYING A BOUNDARY

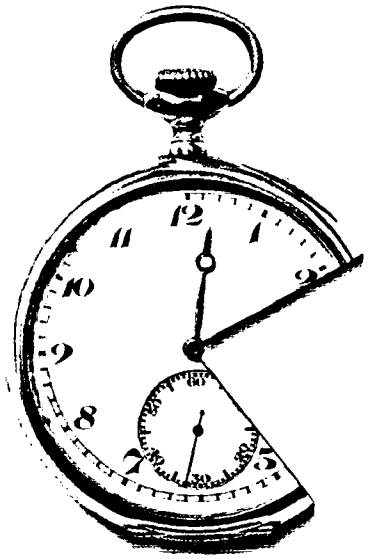
by James Gunn

While preparing for a seminar recently, I had occasion to transcribe from video cassettes, a talk given to members of the Alberta Land Surveyors Association by James Doig. Not surprisingly, my seminar took on a great similarity to Jim's presentation. In some circles this may be considered a form of plagiarism, but not so when dealing with legal subject matter. Jim's presentation was, in itself, a skilfully assembled selection of quotations and court decisions with just a sprinkling of personal comment. This is typical of all legal presentations.

Here in the survey review department, we always attempt to search out an authority for any advice we dish out. The better the authority - the better the advice. Perhaps if we quote other people long enough, someone may quote us someday.

At one point in Jim's talk he quoted from a passage in the Surveyor General's Manual of Instructions for the Survey of Canada Lands. This bears repeating here in the pages of our magazine. It is his summary of instructions for resurveying a boundary.

(a) the boundary is not simply the limit of the property being surveyed, but is the division line between it and one or more other properties;
(b) the rights of all parties to a boundary must be considered;
(c) neither the surveyor's opinion nor his survey can be conclusive upon all parties concerned unless they consent in some way to the survey;
(d) courts and juries may be required to follow after the surveyor over the same ground and to judge his work;
(e) it is extremely desirable that the surveyor govern his actions by the same rules that would obtain in any subsequent judicial process. In this regard, numerous court judgments have been handed down to support the following order of importance of evidence in redefining boundaries:
    (i) evidence of natural boundaries;
    (ii) evidence of original monuments;
    (iii) evidence of possession that can reasonably be related back to the time of the original survey;
    (iv) measurements quoted by the original surveyor on his plan or in his field notes. ◙



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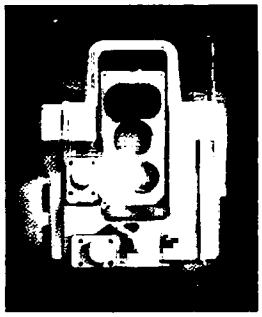

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CANDIDATE FOR PRESIDENT
GORDON ISAACS

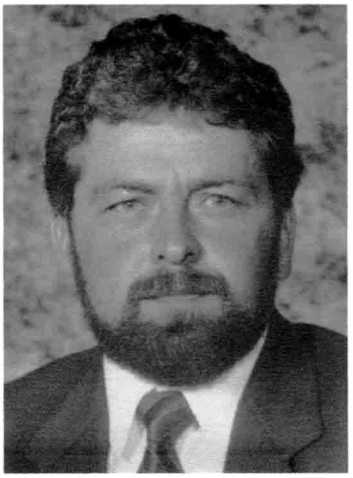
Gordon P. Isaacs, CLS, NSLS, NBLS, graduated from the Cabot Institute of Technology in Newfoundland in 1970. From 1970 to 1975 he worked at mining surveys for Alcan Canada, legal surveys with the firm of K.P. Mcdonald and legal and engineering surveys for the Town of New Glasgow Engineering Department.

In 1975, Gordon started work with the Department of Energy, Mines & Resources in Ottawa, where he worked in Survey Regulations for the Surveyor General's office. In 1979, he was transferred to Amherst, Nova Scotia as the manager of Survey Regulations for the Atlantic Region. From April, 1991 to the present, Gordon has been acting Regional Surveyor Atlantic responsible for surveys on Canada Lands in the Atlantic region.

Gordon is commissioned as a Canada Lands Surveyor, a Nova Scotia Land Surveyor and a New Brunswick Land Surveyor.

He has served the Association as Chairman of the Survey Standards Committee and the Public Relations Committee, as Zone representative on the Long Range Planning Committee, on the Convention Committee and is currently and member of the Manual of Good Practice Committee. Gordon has also served two terms as Councillor for Zone 3 and has been the Association's Vice-President since November 1992.

Gordon currently resides in Amherst with his wife, Linda and children, Jennifer and Jordan. ◙



CANDIDATE FOR VICE-PRESIDENT
CLIVE S. MACKEEN

Clive S. MacKeen, NSLS, was born in Oshawa, Ontario in 1954. He moved to Nova Scotia and attended school in Guysborough County. He graduated from St. Mary's Rural High in 1973. Clive attended the Nova Scotia Land Survey Institute and received a Diploma in Land Surveying in 1976.

Clive was employed with C.J. MacLellan and Associates from 1976 - 1979, and upon receiving his commission in 1979, has been a partner in the firm of Taylor and MacKeen Surveys Limited.

He has served on Council from 1990 - 1992 and as Chairman of the Surveyors' Real Property Committee since January 1993.

Clive, his wife Margo and children Tania, Trent, Tyson and Tyler reside in Aspen, Guysborough County. ◙

No Picture
Available

CANDIDATE FOR COUNCILLOR
ZONE 2
ERIC MORSE

Eric J. Morse, P. Eng, NSLS, graduated from the Nova Scotia Land Survey Institute in 1984 with a Diploma in Surveying. He then attended the University of New Brunswick and graduated in 1988 with a Bachelor of Science in Surveying Engineering.

He received his commission as a Nova Scotia Land Surveyor in January, 1993.

Eric was employed with McElhanney Associates from 1988 to 1990 in northern British Columbia. He spent a year working for H. Kirk Hicks, NSLS, and has been employed with Derik DeWolfe, NSLS since 1991.

Eric and his wife, Claire, reside in South Berwick, Nova Scotia. ◙

CANDIDATE FOR COUNCILLOR
ZONE 3
JERRY BORDEN

Jerry Borden, NSLS, was born in Kentville, Nova Scotia in 1960. He graduated from Cornwallis District High School in 1978. Jerry graduated from the Nova Scotia Land Survey Institute in 1980, and received his commission as a Nova Scotia Land Surveyor in 1985.

During the period 1980 - 1981, he was employed by Midwest Surveys in Alberta. From 1981 to present Jerry has been employed with Rayworth and Roberts Surveys Ltd. in Amherst.

Jerry, his wife Eleanor and their son, Trevor live in West Amherst, Nova Scotia. ◙

CANDIDATE FOR COUNCILLOR
ZONE 6
KENNETH W. ROBB

Ken graduated from the Lawrencetown Institute of Surveying in 1956, and with the exception of a 5 month period after graduation, he has been in private practice for the past 35 years. Ken has always been involved in community matters and has served both as a member and chairman of School Trustees, the Dartmouth/Cole Harbour Chamber of Commerce, minor hockey, Kinsmen Club and the director of several companies in Nova Scotia.

Ken has served on Council in the past and has been active on various Association committees. He has served on the committee that the put the present Act in place. He has served on the Political Action Committee, is currently Chairman of the Errors & Omissions and Land Court Committees and is a member of the Surveyors Real Property Certificate Committee.

Ken is interested in working on Council to improve our Act and to promote Statute of Limitations; revisions to our Code of Ethics; set up a committee to deal with the Department of Transportation to have boundary lines established by Nova Scotia Land Surveyors only; changes on competitive bidding; changes in our Regulations regarding research and standards; better liaison with politicians by members of Council; changes to Real Property certificates. ■

MONUMENTS v. MEASUREMENTS A PROFESSIONAL JUDGEMENT

by James D. Gunn, NSLS, CLS

Every once and awhile the Survey Review Department comes across a plan that shows found evidence in close proximity to the boundaries of a property. More often than not, the member has carefully detailed the exact amount that each found marker is "off" the line. In raising this issue with the member we are usually presented with the following argument: Yes, original monuments in their original positions rule..but how do we know they are original and how do we know they are in their original positions? Furthermore, we are reminded that although the old hierarchy of evidence may have applied a hundred years ago, it is most certainly outdated by today's advanced technology.

Well, not so far as the courts are concerned; quite the contrary as a matter of fact. It seems the longer a rule has been around, the more weight the courts are willing to give it. Mr. Justice Cooley of the Michigan Supreme Court has been quoted verbatim for over a hundred years. His message is as clear today as it was in 1879; original monuments in their original position govern the location of a boundary. If the original monuments are gone, then markers or fences that would appear to have been placed as evidence of the original boundary come next. The surveyor's job is to re-establish boundaries as they were originally set, not where they should have been, or would have been if set correctly.

A 1984 case in Alberta, *Huebner v. Wiebe* 1 W.W.R. 272; 25 Man. R.(2d) 70 (Q.B.) clearly demonstrates the court's penchant for precedent, known in legal circles as "stare decisis"; the judgement in this case referenced *Kingston v. Highland,* a case that came before the New Brunswick courts in 1919. In turn, the N.B. case relied heavily on Justice Cooley's paper of some forty years before. Again, the message was clear; when the Surveyor tried to change traditional corners and boundaries, he was told that the primary duty of a Surveyor is to find the probable location of original monumentation based on the best evidence available - Surveyors should resort to actual remeasurement and theoretic calculations only when available evidence is insufficient.

It follows then that plan and deed measurements are subordinate and are simply an attempt to depict on paper what is on the ground.

Continued on page 19

COMMITTEE REPORTS

EDITOR'S REPORT

The Nova Scotian Surveyor is the official publication of The Association of Nova Scotia Land Surveyors.

Once again this year we have limited publication of the "Surveyor" to two issues.

Thanks to the efforts of Jim Gunn and Kathy Alcorn, both issues of the "Surveyor" were produced to a camera-ready stage in-house utilizing our Association's computer and software. This resulted in a very substantial saving in production costs.

As an experiment in regional cooperation, our Spring 1993 edition was entitled "Atlantic Edition" and circulated to surveyors throughout the four Atlantic provinces. Included in each magazine was a response card welcoming comments from our readers. Reaction to the regional magazine was positive with about 90% of the respondents favouring the idea.

Since the printing of the Atlantic edition, Jim Gunn and Bob Daniels have prepared a fact sheet outlining projected publication and mailing costs, etc. of a combined regional magazine. In short, they determined that there are a number of good reasons to change the Nova Scotian Surveyor to a regional magazine:

1) Increase the contributor base

2) Lower the unit cost
   a) through economies of scale
   b) by increasing advertising rates

3) Move to 3-4 issues per year from the current 2

4) We are also negotiating a special publications mailing rate with Canada Post.

I would like to take this opportunity to thank Jim Gunn and Bob Daniels for their efforts in pursuing and promoting the concept of regional cooperation with respect to The Nova Scotian Surveyor as well as other areas.

Thanks also to all those who contributed to the "Surveyor" in the past year. Your continued support ensures a healthy future for The Nova Scotian Surveyor.

Michael Crant, NSLS
Editor

BUILDING COMMITTEE REPORT

This committee was formed by Council following the 1993 Annual Meeting, and consists of Bill Chambers, Marcellin Chiasson and myself. On a motion duly approved by the membership, Council was asked to investigate the possibility of setting up a separate legal entity to be the building committee of the Association with the mandate of owning and managing any association real estate and income associated therewith and make a recommendation to our next Annual Meeting.

Since this past April, the committee has held several meetings and the following topics were discussed:

1) Type of legal entity
2) Location
3) Size of facility
4) Financing
5) Utilization
6) Future considerations
7) Staffing concerns

By June, your committee felt we had many good ideas, however we wanted to get opinions and input from the membership. A questionnaire was prepared by Marcellin Chiasson, approved by the committee and forwarded to the Association office for distribution. At the time of this writing, it is hoped that the results will be available for the Annual Meeting.

This committee is of the opinion that a recommendation will not be forthcoming at the 1994 Annual Meeting, due to the short time interval between the return of the questionnaire and November 4th. If this be the case, your committee is willing to continue on, to recommendation, during our next fiscal year if Council so wishes.

At this time, I wish to thank my committee members for their efforts, time and service during the past year and also to the Association and Council for having given me the opportunity to serve.

Ed Rice, NSLS
Chairman

STATUTES COMMITTEE REPORT

Members: Valerie George
Murray Banks
Mike Tanner
Jim McNeil
Grant McBurney

The Statutes Committee met on 30 April, 1993, at which time the following items were discussed.

1.Binding on Government

The Interpretations Act provides that no statute is binding

on government employees unless that statute specifically states that it is binding. There is no "binding" clause in the Land Surveyors Act, and our committee is of the opinion that there should be.

We recommend that support for our position be sought from other agencies such as the Director of Surveys office, the Department of Housing and APENS so we could present a strong case for incorporating this change into our Act.

2. Definition of Land Surveying

The 1992 AGM directed the Association to re-visit the question of an appropriate definition of land surveying.

Our committee reviewed a number of definitions used by other provinces, and we concluded that we should not pursue a new definition at this time. Some observations made include:

(i) Our present definition stood up well in the recent Robb court cases. We now have the court precedent to support our definition.

(ii) A short, generic definition is probably better than a long, detailed one. When we start listing in detail exactly what we do, others look for items that are not listed and claim we do not have jurisdiction over these. The broader, less specific definition is more inclusive, and subject to a common sense interpretation.

The Statutes Committee will ask Council for further direction on this item.

3. Ultimate Limitation Period

In B.C., a number of professional groups have prepared a joint submission in an effort to reduce the ULP from 30 years to 10 years. Our Committee recommended that the Barristers, Engineers and Architects be contacted to see if they were interested in a similar joint effort in Nova Scotia to get the Limitations Act revised.

The response we received from the N.S. Barristers' Society states that, while they are willing to discuss the issue further with us, their Executive Committee is not yet prepared to support our position, and in fact, is concerned about "implications that might flow from such legislation".

4. Trade Union Act

This Act identifies certain professions that are exempt from union membership (eg. members of architectural, engineering and legal professions). Land surveyors are not on this list.

The proposal is being made that surveyors should be on the exemption list. Gerry Bourbonniere, on behalf of the land surveyors employed by the City of Dartmouth, will provide our committee with a letter on this matter. At that time, we may want to proceed with a submission to the Minister of Labour to have the Trade Union Act revised to include land surveyors on the exemption list.

5. Retired Category

Gerry Bourbonniere addressed our committee on this topic. Can we allow retired surveyors to use the "NSLS" designation without changing the Act? At the last annual meeting, the proposal to use the designation "NSLS Ret'd" was rejected. Relevant sections of our Act include 2(1)(i); 4(4); 4(5); 9(1)-(l); 12(1); 12(2).

Grant McBurney, NSLS
Chairman

MANUAL OF GOOD PRACTICE COMMITTEE REPORT

Members

Robert Ashley, Marcellin Chiasson, Alan Comfort (C), Fred Hutchinson, Gordon Isaacs, Jerome MacEachern.

Background

At the 1990 annual meeting, a resolution was passed instructing Council to investigate the viability of producing a Manual of Good Practice. A committee was formed and made the recommendation that the manual be set up for three main purposes:

1) To create an industry standard for surveys in Nova Scotia.

2) To serve as an educational tool and guide for our members.

3) To change the emphasis of the regulations by removing the technical aspects and making them guidelines in the manual.

At the 1991 annual meeting it was resolved that the committee produce a draft copy for presentation at a future annual meeting.

The committee has collected information from other provinces and professions and is proceeding with a format consisting of four main parts:

Part A: Legislation
Part B: Administrative Requirements
Part C: Standards for Surveys
Part D: Office Directives

A format similar to the Manual for Canada Lands Surveyors is being considered.

Activities (1993)

The committee has had two

meetings this year. Individual members are presently working on draft copies of the various sections. The goal is to have a draft copy of some sections, or parts of some sections, ready for discussion at the zone level this fall. A questionnaire has been distributed to the membership to determine the products and services that could be marketed by surveyors.

Budget

Council has approved a budget of $2000 for the activities the committee hopes to complete this year.

Alan W. Comfort, NSLS
Chairman

LAND COURT COMMITTEE REPORT

On February 27, 1993, on behalf of my Committee, I attended a meeting held at the Glengarry Motel, Truro, NS.

At that time, I informed the members present that, as far as I know, the courts were free to appoint referees and, in my opinion, the Association should commence a training program in liaison with the Barristers' Society to prepare surveyors for this role.

I then recommended that our President, myself and our Executive Director arrange a meeting with the Attorney General's Department to attend to this matter. I have recently discussed this meeting with our President, Bob Daniels, and he informed me he would discuss this matter with an official very shortly. I would recommend that the Association proceed with a training program.

Kenneth W. Robb, NSLS
Chairman

ERRORS & OMISSIONS COMMITTEE REPORT

On February 27, 1993, my Committee attended a workshop held at the Glengarry Motel, Truro, NS.

At this meeting, I pointed out to Stephen Keddy, Chairman of the Regulations Committee, that it had been well over two years since we submitted our report. Mr. Keddy assured me he would arrange a meeting with his Regulations Committee and inform me when his committee proceeds with these new regulations.

At this writing, I have not been informed as to the progress of the Regulations Committee, and therefore ask at this time that Errors and Omissions Committee Report be given a priority. The purpose of the first phase of our Errors and Omissions Report is to produce an avenue whereby land surveyors can file plans of correction or amendments at their local Registry office, in order to correct minor errors and omissions on their plans which are on file at the Registry of Deeds offices.

The Regulations Committee was to draft the regulations in compliance with our submitted report and submit the matter to our Council for discussion and reference to the membership. At the present time, the Errors and Omissions Committee has completed its work on the first phase of the project and cannot proceed until the first portion is put in place.

Kenneth W. Robb, NSLS
Chairman

PUBLIC RELATIONS COMMITTEE REPORT

The Public Relations Committee consists of David Clark, Jim Gunn and Bob Daniels (C). It was the committee's objective to try and obtain more positive exposure for the Association. As a result, the following has been carried out:

1. It was decided by the committee that a full page insert in the Chronicle-Herald and the Mail-Star about the Association and the profession would be a worthwhile venture. This would be paid for by private survey companies placing a business card type advertisement on the lower portion of the page. A notification soliciting participation was circulated in the spring. Sufficient support was received and the article appeared in the September 21, 1993 edition of the Chronicle-Herald/Mail-Star. The article gave details about the Association and the surveying profession.

2. An article on the technology used in land surveying written by David Clark was published in the "Homes" section of the Chronicle-Herald and Mail-Star on August 25, 1993. This article also had a picture of a total station and a survey technologist.

3. As for the past several years, Bob Daniels has presented the "Survey" portion of the Post Licensing for the Nova Scotia Real Estate Board. This occurs about every two months.

4. Jim Gunn continues to teach "Surveying" at TUNS as part of their Engineering program. This is done each fall.

Public Relations is very important in trying to improve and upgrade the image of our Association. Therefore it is imperative that all our members support the initiatives of the Association and seize every opportunity to promote our profession.

Robert A. Daniels, NSLS, CLS
Chairman

REGULATIONS COMMITTEE REPORT

I would like to thank the past chairman of the Regulations Committee, Stephen Keddy, for his work on the committee. Stephen has taken employment in British Columbia and was unable to continue as chairman.

One meeting was held on September 1, 1993 under my chairmanship, and it dealt with the federal "Competition Act". We have found it necessary to recommend changes to our Code of Ethics and Survey Review Department's regulations. The changes will be presented at the annual meeting for the membership to vote on.

The committee members for this year have been Jack Ryan, Ray Pottier and Gerald Pottier.

Frederick C. Hutchinson, NSLS
Chairman

BUILDING COMMITTEE FUND RAISERS REPORT

The committee is pleased to inform the membership that we now have in excess of $11,000 with $10,000 invested in a GIC at the Bank of Montreal.

Our auction last year raised over $4,000 and the raffles raised another $500. I would like to thank the membership for their support during the convention and by the "special levy". There is no levy proposed for the coming year, but we will be making a resolution for the following year.

No auction will be held this year, but it is hoped that we can have one at the 1994 meeting. If you would like to see an auction in '94, please contact me, your councillor or discuss it at a zone meeting.

I would also like to thank those individuals who made donations to the "building fund" over and above the levy fee. Donations were also made in memory of some of our past friends and is an excellent way to remember someone.

Your continued support is appreciated as we reach for our $50,000 goal.

Frederick C. Hutchinson, NSLS
Chairman

COMPLAINTS COMMITTEE REPORT

The Complaints Committee has held regular meetings once a month over the past year.

- Individually, as small groups and as a full committee, we have met at other times with complainants and surveyors.
- Nine new files were opened this past year which formed part of twenty-seven active files.
- Presently there are eight active files.
- None of the complaints have been referred to the Discipline Committee.
- The new complaints were laid by the general public, a land surveyor and the Land Surveyors' Association.
- The complaints laid related to boundary problems, incomplete research, plan preparation and communication.

I would like to thank all the committee members for their dedication, support and time in attending meetings and carrying out the necessary investigations and the preparation of reports and letters.

The Committee for 1992-93 consisted of Carl Hartlen, David Hiltz, Ted Webber, Allan Owen and John MacInnis.

John C. MacInnis, NSLS
Chairman

CCLS DIRECTOR'S REPORT

1993 has been a very turbulent year for the Canadian Council of Land Surveyors. The Strategic Plan was completed late in 1992 and was considered by the provincial directors and provincial associations. At the annual CCLS meeting in Edmonton in June of 1993, the Strategic Plan was discussed and changes were made. It was the intent of this meeting to modify the Strategic Plan to allow CCLS more flexibility in dealing with national issues and to refocus CCLS to ensure only issues of national interest were addressed. At the completion of this annual meeting, it appeared all nine provinces (excluding Quebec) had reached a consensus with respect to the Strategic Plan.

However, since that time, the Association of Ontario Land Surveyors have rescinded their support for the changes to the Strategic Plan and request that the original Strategic Plan, as prepared by the consultant, be endorsed. The executive of CCLS intends to meet with the council of the Association of Ontario Land Surveyors to try and determine why the Association either changed their view of the CCLS Strategic Plan or did not present their stand point at the annual meeting.

To compound the CCLS situation further, the Quebec Provincial Land Surveyors' Association withdrew from CCLS at the end of 1992. This action by Quebec severely reduced the membership from 3,000 to approximately 2,200, which has had a significant financial impact on the proposed 1993 budget. At the present time, due to all of the above, CCLS is not able to proceed in the direction as identified by the membership. The activities of CCLS will remain limited until

such time as the Association of Ontario Land Surveyors situation is resolved and CCLS returns to a stronger financial position in order to carry out the tasks which are necessary for our profession.

Mr. Bob Semper has resigned as Secretary/Treasurer and the position has been filled by Ms. Diane Sims, as the Office Manager. CCLS, along with the Association of Canada Lands Surveyors and Canadian Institute of Geomatics, has moved their shared office space to 162 Cleopatra Drive, Ottawa.

At the present time, the Association of Nova Scotia Land Surveyors has paid one half of their CCLS dues. Before paying the remainder, a letter from the Executive Director will be forwarded to CCLS asking for a statement of accounts indicating what provinces have paid their dues, and a summary of the financial situation of CCLS.

As director for Nova Scotia on the Canadian Council of Land Surveyors, I truly believe it is necessary to have a national body representing the professional land surveyors across Canada. However, it is difficult when individual provinces are more concerned with their own initiatives than trying to work at a national level. As well, other organizations such as CIG, ACLS and GIAC are all vying for the professional surveyors' membership. It feel it is necessary that these organizations restructure and amalgamate to create a stronger, unified national organization for the professional land surveyors and the geomatics industry. I would encourage you to read the latest issue of the CCLS Bulletin for more information.

Robert A. Daniels, NSLS, CLS
Nova Scotia Director - CCLS

INSURANCE COMMITTEE REPORT

The Insurance Committee is a new committee to the ANSLS and is comprised of the following members:

Paul Slaunwhite, P.Eng., NSLS (Chair)
Stewart MacPhee, NSLS
Robert Feetham, NSLS

The first meeting of the Insurance Committee was held at the Truro workshop in February. At that time, discussions produced many ideas that were examined to assist the committee in defining its Terms of Reference. A major goal of the committee was determined to be the investigation of concerns of ANSLS members with respect to the processing of claims through their insurance.

Other objectives included the review of rates set by the insurers to satisfy the members of the ANSLS that they are receiving adequate value for their paid premium dollar.

In association with Jim Gunn, the Insurance Committee has recently been reviewing professional liability insurance claims statistics from the CCLS program. These statistics will be discussed at an upcoming Insurance Committee meeting.

The Insurance Committee has also been asked to investigate a partial self-insurance option by the ANSLS. This is an ongoing agenda item for the committee.

On behalf of the Insurance Committee, I would like to thank Jim Gunn for his assistance and invite the members of the ANSLS to use the Insurance Committee as a resource for their concerns and needs.

Paul Slaunwhite, P.Eng., NSLS
Chairman

BOARD OF EXAMINERS

The Board of Examiners has held 2 meetings, one on November 4, 1992 and one on June 23, 1993.

There are 12 students for whom there are currently active files.

Three new members have been sworn in - Eric Morse, Kevin Fogarty and Mark Macmillan.

At the time of writing, one student is nearing completion of the requirements for licensing.

Members of the Board of Examiners are John MacInnis (C), Jim Chisholm, Forbes Thompson, Chris Masland, Keith AuCoin, David Cushing and Bruce Gillis.

James D. Gunn, NSLS, CLS
Secretary

SURVEY PROFESSION COMMITTEE REPORT

This year the Survey Professions Committee undertook to explore regional cooperation among survey associations in the Atlantic Provinces. A meeting of representatives of all four associations took place in Summerside, PEI. The minutes of this highly successful meeting are published in this issue of the Surveyor. The committee also met to consider future staffing for the association office.

David Clark, Murray Banks, Robert Feetham and Jim Gunn (C) are the members of the Survey Profession Committee.

James D. Gunn, NSLS, CLS
Chairman

TASK FORCE ON CONTROL SURVEYS IN THE MARITIME PROVINCES

EXECUTIVE SUMMARY

Control Surveys

From meetings with most of the direct users and with many of the indirect users of the control survey framework in the Maritime Provinces, the Task Force has established beyond any doubt that the control survey framework has been a sound investment for the Provinces.

From a review of the literature and from discussions with researchers and users of GPS technology, it is clear that GPS is now sufficiently "operational" to be a cost-effective alternative for providing survey control.

The user community recognized that conversion to the new North American Datum 1983 (NAD 83) is inevitable, but it reminded us quite emphatically that conversion to a new reference framework is a costly and time-consuming exercise for them and that whatever is adopted should be designed to serve for many decades. The user community also requested that one definitive set of transformation vectors be prepared so that everyone would be able to make the conversion to the new framework in the same way. At the time of the meetings we agreed that both of these requests were reasonable.

Regrettably, a closer examination of the options for a new reference framework revealed that it is possible to design a new framework that will have a definitive set of transformation vectors or to design a new framework that will last for several decades. It is not possible to do both.

If the provinces opt to upgrade the existing networks with a reasonable number, say 200, of GPS observations, and to do a readjustment and the conversion to the NAD 83 datum, a definitive set of transformation vectors could be derived and the new framework could be ready for adoption in two or three years. As soon as it had been adopted, however, it is predictable that there would be complaints about its accuracy from those who were using GPS for positioning their surveys. These complaints would become more numerous and would continue until a new GPS-based reference framework was established and adopted.

On the other hand, if the provinces establish a GPS-based High Precision Network in the next couple of years, they will have a framework that can be expected to last for several decades but it will be several years before they can prepare a definitive set of transformation vectors for it.

The Task Force unequivocally recommends the latter option. Specifically, it recommends that the provinces make a request to the Geodetic Survey Division of Energy, Mines and Resources Canada, for the establishment of a High Precision Network (HPN) of some 10 to 12 points as soon as possible. A program to establish an additional 20 to 30 regional High Precision points should be initiated either concurrent with the Geodetic Survey Division's program or immediately thereafter.

It is also recommended that the provinces move without delay to develop the expertise to establish and to manage a GPS-based reference framework over the long term; in the short term, it may be feasible for the provinces to contract for ongoing part-time resources as required.

Concurrent with the establishment of the High Precision Network, it is recommended that the provinces develop standards and guidelines for the use of GPS on property surveys. It is suggested that it would be cost-effective for them to collaborate on this development.

The Task Force addressed three other issues:

Map projections in Nova Scotia

The Task Force recommends that maps at the scale of 1:10,000 and smaller be compiled on the Universal Transverse Mercator (UTM) projection and that the UTM grid be the dominant grid but that the Modified Transverse Mercator [MTM] grid be shown as a secondary grid. Maps at 1:5000 and larger scales should be compiled on the MTM grid, and the MTM grid should be the dominant grid with the UTM shown as a secondary grid.

The Saint John Integrated Survey Area [ISA]

The Task Force found that although the ISA had initially added to the costs for both the government and the land surveyors, it had raised standards and improved the integrity of

Continued on page 19

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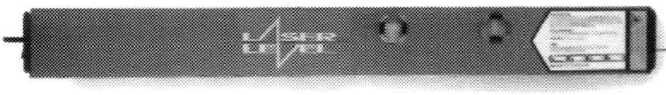

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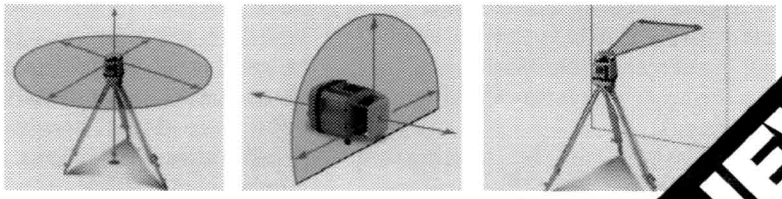

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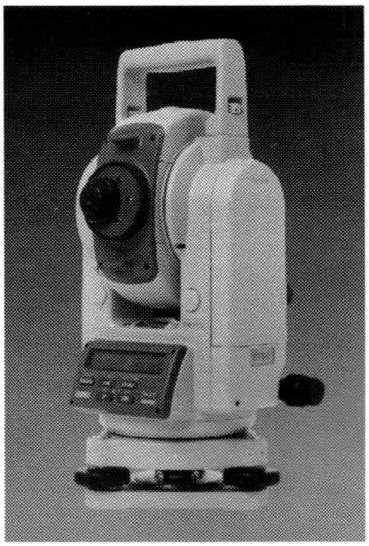

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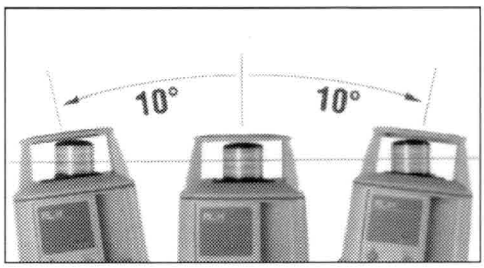

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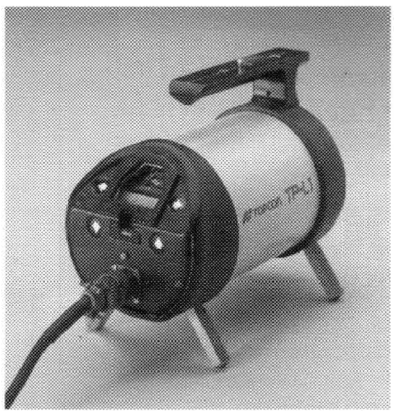

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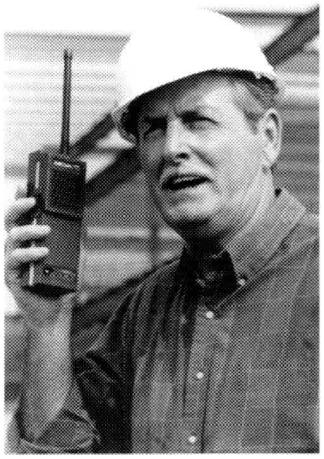

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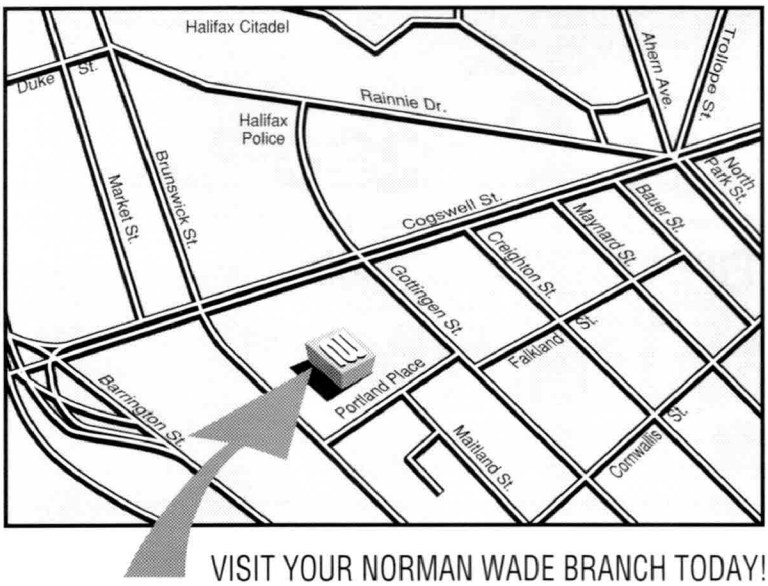

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EXECUTIVE SUMMARY
(continued from page 15)

the survey fabric in Saint John. There is a consensus that it is now cost-effective and that it should be continued. The Task Force concurs with this consensus but, in view of the expected transition to GPS methodology, it does not recommend extending the ISA concept to other areas.

The North American Vertical Datum 1988 [NAVD 88]

The Task Force finds that, although a new NAVD 88 has been derived, no decision has yet been taken about its adoption as the official vertical datum. In any event, the changes are relatively small - in the range -0.3 to -0.5 metre. ◙

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MONUMENTS
(continued from page 8)

A 1981 Ontario decision under the Boundaries Act again demonstrates the stare decisis principle in stating the following: "Further, in regards to occupation often being considered satisfactory evidence of the position of the boundary, it was said in *Bateman v. Pottruff (1955)* O.W.N. 329 (C.A.), quoting from *Diehl v. Zanger (1879)*, 39 Mich. 601

> It was said by the Supreme Court that a resurvey made after the monuments of the original survey have disappeared is for the purpose of determining where they were and not where they ought to have been; and that a long established fence is better evidence of actual boundaries settled by practical location than any survey made after the monuments of the original survey have disappeared."

Knowing these quotations from Justice Cooley is one thing, but applying them to every day surveying in the 1990's is quite another. It is no less difficult today for Surveyors to accept inaccuracies and discrepancies between deeds, plans and found evidence than it was a hundred years ago. Boundaries that were originally represented by a single straight line on a plan will often become a series of smaller lines as markers settle into place and people acquiesce to them. If the original monuments are gone, we have but to look at the remaining evidence for clues to the boundary location. In the often cited case of *Home Bank v. Might Directories Limited (1914)* 31 O.L.R. 340, 20 D.L.R. 977 C.A. we are reminded:

> "... The original posts or monuments not being in existence, and there being no direct evidence as to their position... the best evidence is usually to be found in the practical location of the lines made at a time when the original posts or monuments were presumably in existence and probably well known."

Where we seem to get into so much difficulty these days is in trying to apply coordinate geometry to boundary surveys. The courts have reminded us time and again that boundaries are not inflexible nor are they exact. As a matter of fact, their characteristics are in stark contrast to the rigidity of mathematics in general.

There is no question that mathematics is essential to modern survey practices. It provides a medium through which we transfer information back and forth between the field and plan. It allows us to set out boundaries efficiently and accurately. It also aids in retracement surveys in two ways: firstly, it shows exactly where a boundary should be according to a theoretical configuration and secondly, it allows us to detail exactly where the boundary actually is after we have located it.

If all goes well, there will be no mentionable difference between the theoretical and the actual location of a boundary, but if there is, it makes the surveyor's job more difficult. A difference may indicate any number of things:

i) That the original Surveyor did not set the markers out exactly as he had intended or as he had indicated on his plan. If this is the case, we are told by the courts we must accept the found markers as they are, especially if they have been accepted and acquiesced to by the property owners.

ii) That the marker has been disturbed or tampered with. If this appears to be the case, we are instructed by our own regulations to remove the disturbed marker and reset it.

iii) That through natural processes, the marker has settled into a position other than where it was originally set. This will require a judgement call because on the one hand, the courts tell us we are not to disturb long settled occupation while on other hand, our primary interest is the original monument in its "original position".

We must always be guided by legal principles. After all, this is exactly what sets Surveying apart from engineering. We may use engineering principles to set out boundaries, but we use legal principles to redefine them. The question to ask is not "how do I know these monuments are original? but rather "What overwhelming reason do I have not to accept them?" ◙

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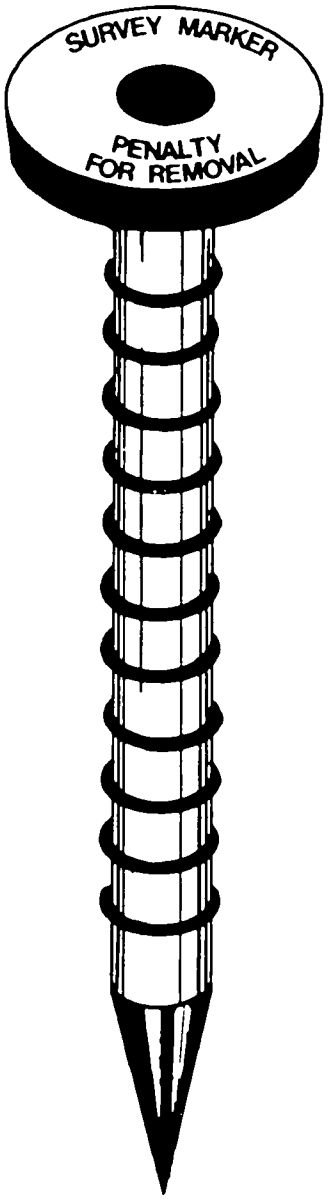

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NEW MINISTER AND DEPUTY MINISTER FOR NATURAL RESOURCES

Mr. Downe was elected MLA for the constituency of Lunenburg West in the May 25, 1993 provincial general election. On June 11, he was appointed to Cabinet and sworn in as Minister of Natural Resources.

A native of Charlottetown, PEI, Mr. Downe began his business career as a minority shareholder in a Ready Mix company in British Columbia during the 1970's. He moved to Nova Scotia in 1974 when he purchased a broiler chicken operation in Wileville, Lunenburg County.

He is a past President of both the Nova Scotia Federation of Agriculture and the Lunenburg County Federation of Agriculture and also served as Vice-President of the Canadian Federation of Agriculture. In 1989, he and his wife, Darlene jointly received a national award as two of Canada's outstanding young farmers.

Don is well known as a successful poultry farmer and is a high profile advocate for the survival of small business and family farming. Keenly interested in community economic development, he is a former executive member of Voluntary Planning and was a member of the core committee that developed the economic strategy for Nova Scotia, **"Creating Our Own Future".**

Mr. Downe also serves as Chairman of the Advisory Council for the Atlantic Veterinary College, is an executive member of the Atlantic Institute of Biotechnology and has served on numerous agriculture industry boards and committees at both the provincial and national level.

Mr. Downe is 41 years old and lives in Wileville, Lunenburg County with is wife, Darlene and their two children, Michelle and Jeremy. ◙

A resident of New Ross, Lunenburg County, Darrell was educated at Dalhousie University and the University of Western Ontario, graduating in public administration.

He is a career civil servant, having been involved in public administration at both the municipal and provincial levels.

He began his career with the Province of Nova Scotia in 1970 and has held senior positions in the Department of Municipal Affairs, Management Board, and the Department of Government Services.

He was appointed Executive Director of Property and Operations in 1987 and in December, 1989, he became Deputy Minister of Government Services. Darrell was appointed Deputy Minister of Housing and Consumer Affairs in June of 1991 and in April, 1993, he became Deputy Minister of the Department of Natural Resources.

He is married to the former Linda Potter and they have one daughter, Janet. ◙

Darrell D. Hiltz, Deputy Minister of Natural Resources

OBITUARIES

JACQUES PRICE

Jacques Price, NSLS #50, a Life Member of our Association since 1977, passed away at the age of 81 on August 16, 1993. He was born in Lancashire, England, and graduated from the University of Toronto in civil engineering. Jacques was a well known consulting engineer in Halifax and was also a chartered engineer of Great Britain and a member of the British Institution of Civil Engineers. He was involved in many major engineering projects throughout the Atlantic provinces and Quebec. Jacques was also a member of the Rotary Club for almost 50 years and was a longtime member of the Saraguay Club. We extend our sincere sympathies to his family. ■

MELVYN HUGH WADDEN

Melvyn Hugh Wadden, NSLS #218 died suddenly on September 13, 1993. Mr. Wadden has been a member of the Association since 1957. He was employed with the County of Pictou as director of Public Works. He was coordinator for Emergency Measures Organization for the Pictou zone. He operated his own land surveying business for many years. He was a member of Euclid Masonic Lodge, New Glasgow. He was a certified engineer technician. He is survived by his wife the former June Elizabeth Hamilton; daughter, Cynthia (Mrs. Kelly Oikie), Westville; son, Gary Wadden, NSLS, Westville Road, brother, John Wadden, Westville. Our deepest sympathies are extended to his family. ■

ACTIVE CONTROL SYSTEM PRODUCTS ANNOUNCEMENT

Geodetic Survey Division, Canada Centre for Surveying
Surveys, Mapping and Remote Sensing Sector

THE ACTIVE CONTROL SYSTEM

The Geodetic Survey Division of the Surveys, Mapping and Remote Sensing Sector, in partnership with Geological Survey of Canada, is presently testing an Active Control System (ACS) to provide modern precise positioning capability for the Canadian surveying and geophysical community. The system consists of unattended tracking stations, referred to ACP's (Active Control Points), which continuously record carrier phase and pseudorange measurements for all satellites of the Global Positioning System (GPS) in station view. Presently, ACP's are located in Algonquin Park, Ont., Yellowknife, NWT, Penticton, Victoria and Holberg, BC, St. John's, Nfld. and Churchill, Man. Each ACP is equipped with a high precision dual frequency GPS receiver and an atomic frequency standard. Temperature, pressure and humidity data are also collected at selected ACP sites. The data collected at each ACP is retrieved on a daily basis by a central processing facility in Ottawa.

The ACS substantially improves the effectiveness of GPS applications. It has four main objectives: (1) to provide fiducial sites for GPS; (2) to compute precise satellite ephemerides (orbital parameters) for geodetic positioning using data from the Canadian ACP's and selected globally distributed tracking stations; (3) to monitor and verify GPS integrity and performance by analyzing data acquired through continuous tracking; (4) to facilitate differential GPS positioning in the NAD-83 reference frame.

The availability of precise ephemerides and permanent tracking sites data offers significant benefits for Canadian users carrying out geodetic surveys. By using ACS precise ephemerides, all orbit related errors in GPS baseline determinations are reduced to about 0.1 ppm of the baseline length whereas errors due to ephemerides broadcast by the satellites can be as high as 3 ppm. As systematic scale and orientation errors are reduced, the number of control points required for a survey project may be reduced, thus, increasing the efficiency of field operations and data processing. Furthermore, since ACP sites are integrated with the national survey framework, a user with only one GPS receiver can establish a direct tie to the national survey framework by using observations from ACP stations in his data processing. Recent tests, combining ACS data and precise ephemerides, achieved static positioning precision of a few centimetres in each of the tridimensional components for distances up to 600 km. It is therefore possible to position any point in Canada with respect to the national survey framework at few cm level without actually occupying an existing control monument.

The ACS also contributes data and acts as an analysis centre for the International GPS Geodynamics Service (IGS), thus having access to the data from globally distributed fiducial sites used in the computation of precise satellite ephemerides. Through the IGS, the ACS data and products generated by EMR are made available to international organizations such as the International Earth Rotation Service (IERS), the NASA Crustal Dynamics Data Information System (CDDIS), the US National Geodetic Survey (USNGS), the US Naval Observatory (USNO) and other organizations interested in the Earth dynamics. The precise observations of the satellites made from the fiducial stations are used to establish the Earth Orientation Parameters (EOP) and derive inter-station baseline lengths and orientation for regional monitoring stations. Changes in baseline components over time provide quantitative data for studies of geodynamics, natural hazards and global change. ◙

It isn't always clear ...just what we are waiting for, but some of us persist in waiting so chronically that youth slips by, opportunities slip by, and life slips by - finding us still waiting for something that has been going on all the time. ... This is our time, our day, our generation ... not some golden age of the past, not some Utopia of the future ... This is ti ... whether we are thrilled or disappointed, busy or bored. This is life ... and it is passing ... What are we waiting for?

Richard L. Evans ◙

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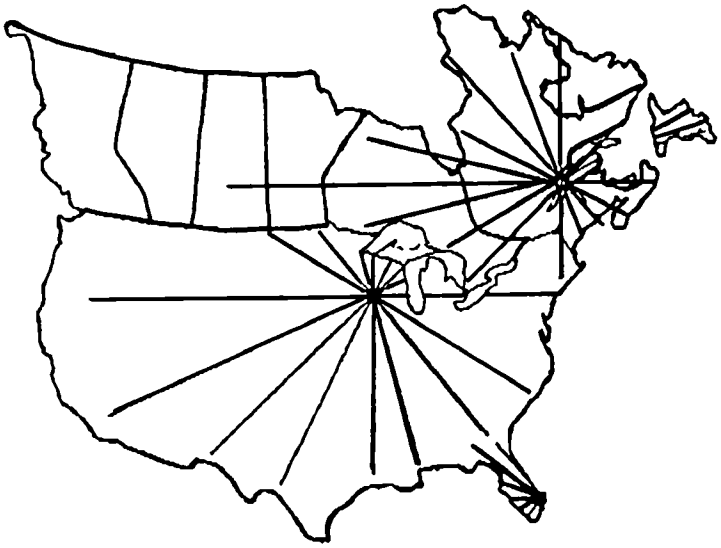

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SUMMERSIDE MEETING on REGIONAL COOPERATION

On June 17, 1993 representatives from the four Atlantic Provincial Survey Associations came together at the Colonial Inn in Summerside to discuss regional cooperation.

Robert Daniels welcomed everyone. This was followed by a round of introductions of those present.

Ian Edwards, President, Assoc. NLS
Robert Daniels, President, Assoc. NSLS
James Gunn, Exec. Dir. Assoc. NSLS
Tom Williston, President, Assoc. NBLS
Ralph Brown, Dir. Prof. Affairs, Assoc. NBLS
Jamie Clow, President, Assoc. PEILS
Kevin Brown, Vice. Pres. Assoc. PEILS
Brian Potter, Sec./Treas. Assoc. PEILS
Norman Stewart, Past Pres. Assoc. PEILS

In a brief presentation, Jim Gunn explained why the Nova Scotia Association felt it appropriate to call this meeting.

There are three basic reasons why the survey associations in the atlantic area should consider cooperating with each other in the delivery of member services.

1) Governments are encouraging the free flow of professional services in the Atlantic Provinces.

The Council of Maritime Premiers has asked our associations to examine ways to eliminate barriers between provinces and provide complete employment mobility. The Council made the same request to most other professions and many are well on their way to achieving this goal. The request is about two years old, and so far, little or nothing has been done on our part.

The only difference between early participation or late participation in this initiative will be our degree of participation.

2) The present fragmentation of small survey associations in Atlantic Canada leaves the profession weak and vulnerable.

The separation of Quebec from CCLS has left the future of the national association in jeopardy. We must be ready to fill the void here in Atlantic Canada if CCLS does not survive. Together, the four associations in Atlantic Canada represent about 30% of the surveyors in Canada not counting Quebec. Together, we have a reasonably strong voice in the survey industry. Individually, we struggle to be heard.

Most new surveyors are members of the engineering profession. At some point in the future these dual professionals will dominate our profession. Since engineers outnumber surveyors more than ten to one, it is not inconceivable that the practice of professional land surveying will become a facet of engineering.

3) Cooperating on the delivery of member services makes good business sense.

Our associations are not immune to the changes taking place in this country. In some ways our associations are reflections of the national scene. Our groups are aging and our numbers are dwindling. If we want our small profession to survive and prosper, we must learn to "maximize the use of our limited resources". This theme is echoed in every boardroom in the country.

Running an association is a business, pure and simple. If the business is run efficiently, the member's dues will be kept to a minimum. If the business is not run efficiently, then the dues will increase accordingly. Individual associations have little recourse but to set the dues to match expenses.

It goes without saying that member services could be provided more efficiently if two or more provinces got together to share the administration costs.

Following this presentation, the group engaged in a round table discussion on a number of suggested topics.

REGIONAL MAGAZINE

A regional survey magazine is a good example of a service that would benefit from regional cooperation.

The Nova Scotia Association recently circulated their "Surveyor" throughout the four Atlantic Provinces. Reaction to this magazine was positive. About 90% of the respondents were in favour of making this a regional magazine.

Ian Edwards suggested the Nova Scotia Association breached the normal rules of protocol by polling the Newfoundland members through

the use of a response card included with the magazine. Jim Gunn apologized for not clearing this with the executive of the Newfoundland Association. Tom Williston stated the New Brunswick association would need more information with respect to cost, bilingual policy and provincial responsibility before they could make a decision to support a regional magazine.

Norm Stewart suggested the CCLS newsletter could become part of the regional magazine. This would enhance the magazine and save CCLS duplication costs. There were also suggestions that the provincial associations could retain their identity in the magazine without it being overly structured.

Jim explained the reasons for suggesting a regional magazine.

1) Cost

The cost of producing the magazine has been of great concern to the association in recent years. The unit cost reached a high of $16 a couple of years ago. This resulted in a change from quarterly to semi annual issues.

A number of steps were recently introduced to further reduce the cost and yet retain the quality. A laser printer was purchased and the layout was taken over by the association staff. This, combined with careful planning, reduced the unit cost to about $6.50. Advertising revenue brought the net cost down even further. Jim estimates the extra advertising revenue from a regional magazine would not only absorb the extra cost of production, but could possibly reduce the net cost to near $0.00.

2) Content

A regional magazine would have a larger contributor base. The issues facing surveyors in Atlantic Canada are similar regardless of province. We may learn that we have more similarities than differences here in the Atlantic area.

It was decided that Jim Gunn and R. Daniels would prepare a fact sheet on projected publication costs, mailing costs etc.. This is attached as an appendix to this report.

SURVEY REVIEW - Quality Assurance

Based on the experiences in Nova Scotia, the minimum annual cost of running a small survey review department is about $90,000. This cost is recovered by charging user fees. Essentially, the user fee is determined by the volume of plans. The higher the volume of plans - the lower the user fee and vice versa. When the volume drops too low as it did during the recent recession, the costs become a burden to the members. The present volume of plans in Nova Scotia is about 4500 per year. This does not include location certificates.
Ralph Brown informed the group that New Brunswick has an information data base they call SINET. They process between 10,000 and 12,000 plans and certificates each year. They do not have a quality control process at the present time, however, there are plans to introduce one in the near future. He feels there may be some apprehension from some members that the process would be used as a threat for discipline rather than for education.

Ian Edwards indicated that Newfoundland does not have a survey review department or a quality control process. Plans are only examined by council on request. Council then decides if a letter of warning, reprimand or discipline action is necessary.

Brian Potter mentioned that LRIS had at one time offered a plan inspection process to members of the PEI association. The service was later discontinued because it held up the plan approval process.

It was agreed by all present that a survey review department is the best long term solution to maintaining high standards. Survey review provides practice assistance through education and positive reinforcement. It is an alternative to the complaints and discipline process. It is working very well in Nova Scotia.

SHARED GENERAL ADMINISTRATION

It goes without saying that one administration in the Atlantic Provinces would be more cost efficient than four.

Ian Edwards stressed the point that sharing one administration, or any service for that matter, may contribute to a loss of identity for Newfoundland Land Surveyors. He also doubts if his members would receive the same quality of service from a geographically removed administration on the mainland.

NEW PROFESSIONAL ASSOCIATION

It may be a worthwhile long term goal to create one professional association for Land Surveyors in the Atlantic Provinces however, some feel this is not the time. CCLS is experiencing difficulties and the creation of a new Atlantic Association may be seen as counterproductive to the CCLS cause.

Tom Williston suggested the Presidents of the four Atlantic Associations should meet in

conjunction with each other's annual meetings. He pointed out the four western provinces have such an arrangement. As it is, the four annual meetings are well disbursed throughout the year to provide an excellent opportunity to discuss common issues.

SELF FUNDED LIABILITY INSURANCE

All four Atlantic Associations require their members to carry liability insurance. There are at lease two companies offering this coverage, one of which is endorsed by CCLS.

Ontario has a self funded program whereby the association maintains a pool of money to pay claims up to $300,000. They carry insurance on claims exceeding this amount. The member pays the first $7500 of a claim.

The perceived benefits of a self funded program include:

1) The association would employ their own adjuster. This person would have a suitable background in surveying so that a decision to settle a claim would not be strictly financial.

2) The cost may be less.

It was agreed that self funded liability insurance may be something that could benefit the four Atlantic Associations. Jim Gunn will investigate it further and report his findings to the group.

ACTION PLAN

1) Fact sheet on regional magazine to be prepared and attached hereto.

2) Motion to Nova Scotia 1993 AGM to proceed with a regional magazine assuming the other associations agree.

3) Fact sheet on self funded liability insurance for next meeting.

4) This group agreed to meet again in Moncton, in conjunction with the N.B. AGM in January, 1994. ◙

For now is the only time that we have. It is our only negotiable currency. Yesterday is a cancelled check. Tomorrow is a promissory note. It is only today that we may spend in the noble effort of using all the gifts that God gave us.

Anonymous

CARE AND FEEDING OF RECHARGEABLE BATTERIES

by Marty Crook and Chris Cothrun
Service Technicians, Ingenuity, Inc.

In this installment of The Technical Side, we will be covering proper care of rechargeable batteries. With their wide use with electronic survey instruments the surveyor is faced with some of the problems in keeping batteries operating at their maximum capacity. We will focus on NiCad batteries because they are the most commonly used rechargeable batteries.

We will start off by giving some background information and explaining some of the terms we will be using. All batteries produce electrons from a chemical reaction. Different combinations are used such as carbon-zinc, lead-acid, nickel-cadmium, along with lithium and nickel hydrate. In some of these batteries this reaction can be reversed or the battery charged by applying voltage across the battery. The chemical reaction can occur again, producing more electrons. The amount of electrons produced, or the capacity, depends on the amount of chemicals in the reaction. This capacity is measured in amp hours, the amount of time the battery will provide a given amount of current. For example, a 2.8 amp hour battery should provide one amp of current for 2.8 hours or 2.8 amps for one hour. Some batteries are designed to be discharged at a lower rate and will only give the rated capacity when discharged over a longer period of time.

Our first concern with a NiCad battery is charging it. There are two methods for recharging a battery, constant current and constant voltage. A constant current charger maintains a constant amount of current through the battery for a certain amount of time. The amount of current depends on the battery capacity and the charge time. Generally, these are designed to be a 12 or 16 hour charge so the battery can be charged overnight. The little black box 'wall wart' transformer type chargers are usually constant current. Constant voltage chargers maintain a certain voltage across the battery. This voltage depends on the number of cells in the battery. When a dead battery is first connected to the charger, it draws a large amount of current. As it charges, this current tapers off to finally reach a maintenance current when the charge cycle is done. This cycle is usually complete in two to four hours. These are often referred to as quick chargers because the battery has most of a full charge after an hour or two.

The next thing we do with a NiCad battery is discharge it. This part is easy, we just go use our total station, EDM, data collector, or radio. But what happens when the battery doesn't perform like it was supposed to. Rechargeable batteries are famous for having problems. They get overcharged, undercharged, take memory sets, cells short, blow fuses, and all sorts of other problems. We will address each of these problems and some solutions that are available.

Heat is one of the biggest enemies of batteries. Storing batteries in a warm area greatly reduces the service life of the battery. A battery also loses its charge faster than one stored in cooler temperatures. Charging a battery in high temperatures will cause problems. At temperatures over 100 degrees F, the battery starts drawing more current than it is supposed to. This raises its temperature which causes it to draw even more current. This turns into a cycle called thermal runaway that will at the very least blow the thermal fuse in the battery. If the battery doesn't have thermal protection it will destroy the battery. Heat also affects the capacity of the battery. If the battery is charged in a warm area or used in high temperatures the capacity can be as much as a third lower than it should be. Cold temperatures cause problems too. When using the batteries in low temperatures their capacity is lowered. Batteries do store well at cold temperatures, retaining their charge and keeping their service life. You are probably wondering exactly what we mean by cold and warm temperatures. Well, NiCad batteries happen to like the same temperatures we do. You will get the best performance at room temperature. Capacity diminishes above or below 68°F.

Overcharging batteries shortens their life. This happens because overcharging raises the battery temperature and causes the problems described above. Leaving a constant current charger on the battery for too long can overcharge it. A constant voltage charger that has too high of an output will also overcharge a battery. However, overcharging batteries happens less than most people think. Depending on the battery capacity and the amount of use, some batteries should actually stay on the charger anytime they are not in use. The smaller batteries used in

some data collectors are a prime example. One of our customers left one on the charger for a year and a half. The data collector is being used now and shows no signs of battery problems. If leaving the battery on the charger makes you uncomfortable, think of your cordless phone or Dustbuster. My cordless phone sits on the charger quite a bit longer than the 10 hour charge time listed in the manual. I've had the thing for almost two years and haven't had any problems. Undercharging a battery does pretty much what common sense would tell you, it shortens the battery life. Repeated undercharging will shorten the battery's service life but doing it occasionally won't hurt. It's all right to charge the battery for half an hour so you can get the day's work done. We most commonly see problems with undercharged batteries when the cells have been replaced with higher capacity cells. The user charges it for the normal amount of time and finds out the battery has less life than it did before. If your battery normally gets an overnight charge and you get high capacity cells installed, you will probably need to extend the charge time to a day and a half or longer.

Memory set is probably one of the most commonly known NiCad battery problems. If the battery is not completely discharged before charging it back up for several charge cycles, it starts to 'remember' how much it gets used and the capacity decreases accordingly. Memory set problems have decreased because of improvements in battery components and charger design. Again, think of your cordless phone. Mine often gets used for no more than 10 minutes before it goes back on the charger but when I do have two hour conversations I don't run the batteries down. But what can you do if you think your batteries have taken a memory set. The first thing to try would be using the battery until it is dead, fully charging it, and running it down again. Several cycles of 'exercising' the cells like this might do the trick. Discharging the batteries at a higher current works sometimes. We use automotive light bulbs to do this for two reasons. One, to have a visual indication that the battery is completely discharged, and two, the bulb discharges the battery at a high current rate without blowing the fuses. If you are using a constant current charger and consistently have problems a constant voltage charger will probably help. The high current initially supplied to the battery serves the same purpose as discharging it at a high current. Some people think that shorting the cells and then recharging them will cure memory set problems. **This should never be done**. *Shorting a high capacity cell will produce a lot of heat and the possibility of explosion exists.* Cells that have been shorted can actually reverse, resulting in negative voltage. If you try to short a cell pack that has fuses or thermal protection built in you will destroy these and have a useless cell pack. NiCad cells should never be taken below about 1 volt per cell. Taking them below this can cause all sorts of problems.

NiCad cells short out or lose their capacity to generate electrons at the end of their service life. If one cell in a pack shorts out it causes problems for the rest of the cells. In the charge cycle the other cells often get overcharged. In use the battery has a very short life or none at all. These cells can sometimes be made usable again but since it usually indicates the cells are at the end of their service life we recommend replacement. Battery packs that blow fuses usually have some mechanical problem that lets a short circuit develop. This has to be fixed to prevent damage to the cells.

So how long should NiCad's last? Manufacturers often list 300 to 500 cycles. This is with the best of care and is a little higher than normally experienced. We typically see two to three years with proper care. If the pack is less than a year old and you get shortened life, look for something else as the cause of the problem.

We have mentioned exercising or replacing cells to repair a NiCad battery pack. Unless you have the correct tools and the electrical and mechanical knowledge to properly replace the cells you should leave the job to a competent repair technician. Look for someone who will test the battery before replacing the cells in case the battery still has some usable life. If the cells have to be replaced, the new cell pack should have all the thermal and short circuit protection that the original had. The replacement cells should be tested and have a guarantee that they won't fail in the first year.

We hope this information helps you extend the usable life of your NiCad batteries. This information came from fifteen years' experience we have in building chargers and maintaining batteries. We would like to hear your opinions and experiences or any questions you might have about your rechargeable batteries. We might even mention your name in an upcoming article. Write us at:

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Reprinted from "The Nevada Traverse", No. 2, 1993 ■

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"RIGHT OF ENTRY" - REPORT ON COURT DECISION

by Carl J. Rooth, OLS
Executive Director of The Association of Ontario Land Surveyors

The Right of Entry is a privilege granted to all licensed Ontario Land Surveyors under the Surveys Act, 1990 R.S.O. chap.S30, section 6. This privilege is stated as follows:

"*6.-(1)*

A surveyor or a person in the surveyor's employ while making a survey may

(a) at any time enter and pass over the land of any person; or,

(b) at any time suitable to the occupant of a building enter the building, and do any act thereon or therein for any purpose of the survey, but the surveyor is ***liable*** *for any damage occasioned thereby."*

We wish to draw your attention to a recent court case between Wayne Arthur Summerville (plaintiff) and R.D. Tomlinson Limited and Robert Douglas Tomlinson (defendants). The proceedings of this case are Court File No. 292657/87 and the judgement was delivered orally by the Honourable Mr. Justice R.G. Byers on December 8, 1992, at Belleville, Ontario.

This article is being printed with the permission of R.D. Tomlinson Limited in an effort that our members will have a better understanding of our liabilities for damage when exercising our "Right of Entry".

The following is a synopsis of the information contained in the REASONS FOR JUDGEMENT.

The plaintiff owned some 400 acres of heavily wooded property with a wide variety of mature trees.

In 1981, the plaintiff discovered that a line had been cut along the south boundary of his property for a length of approximately 4,400 feet. The width varied from 8 to 10 feet wide and approximately 300 trees had been cut down and left.

The defendant, R.D. Tomlinson, OLS, had been hired by the land owner to the south to do a boundary survey.

"THE RIGHT TO TRESPASS ON PRIVATE PROPERTY IS A SPECIAL PRIVILEGE GIVEN TO SURVEYORS. THAT PRIVILEGE SHOULD BE HONOURED, NOT ABUSED."

The plaintiff hired another surveyor for an opinion as to the boundary line in question and paid a sum of $4,401.32 to have a plan prepared. The defendant, Mr. Tomlinson, did not contest the location of the boundary as surveyed by the plaintiff's surveyor.

The transcript contained several paragraphs by a forester, who evaluated the costs relative to the value of the downed trees.

We quote from Mr. Justice Byers judgement,

> "I cannot help but express my dismay about the circumstances surrounding this entire affair. The right to trespass on private property is a special privilege given to surveyors. That privilege should be honoured not abused. Anyone can make a mistake. But I would have expected a surveyor, once having been alerted to the fact that he has trespassed on someone's property and caused damage, to have taken all reasonable steps to make it right."

The costs that were awarded to the plaintiff were as follows: (1) $4,401.32 plus P.J.I. at 10% from January 1, 1983 to date; (2) $6,860. no interest; (3) $12,-500. plus P.J.I. at 10% from January 1, 1983.

There was another endorsement by Justice Byers as to costs to the plaintiff fixed on a party and party scale. Plaintiff was to have all expert witnesses paid their reasonable accounts in full, including two days' trial time.

The above is a brief synopsis of the trial proceedings.

We as land surveyors must take due care to notify owners on both sides of a property boundary when possible of our intention to survey a boundary. Traverse lines are to be kept to a minimum width and should be entirely on your client's property. When you have made the decision to cut the final line, you must also accept the liability for any damage occasioned thereby for any mistake that may occur if in fact the final line was inadvertently cut on a neighbouring property.

The Association has written to The Honourable Mr. Justice R.G. Byers and provided a copy

of the Right to Entry article that was prepared by Lorraine Petzold, OLS, in May of 1988. Justice Byers refers to the word "trespass" throughout the above proceedings. We do not believe that a surveyor carrying out the course of a survey should be considered to be trespassing on the lands as legislation has given us this Right of Entry under the Surveys Act. Surveyors **must** understand that this right must be exercised with care and understanding.

You may want to take time to review the article "Right to Entry" and understand the four basic items that should be treated respectfully by both the surveyor and employees and these are:

- APPEARANCE
- IDENTIFICATION
- MANNER OF ACTION
- LEAVING THE SITE

Additional copies of the "Right to Entry" article are available at the AOLS office upon request.

Reprinted from "*The Ontario Land Surveyor*", Spring 93 Edition ◙

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FROM THE FIELDBOOK

BOOKS

Check your local book store for two recent books by Nimbus Publishing.

"*Oak Island Gold*" by Bill Crooker. This is Bill's second book on Oak Island.

"*Your Land and the Law*" by Alex M. Cameron. Mr. Cameron is a lawyer with the Nova Scotia Department of Justice.

STAFF

Shelley Lane will be taking maternity leave shortly after the Convention. Sharon Gunn will fill the position in SRD while Shelley is away.

When we think of original monuments, there may be a tendency to think of something old, planted years ago, but original monuments are being planted all the time.

Andrea E. Tieman, OLS
Manager, Survey Review Dept. ■

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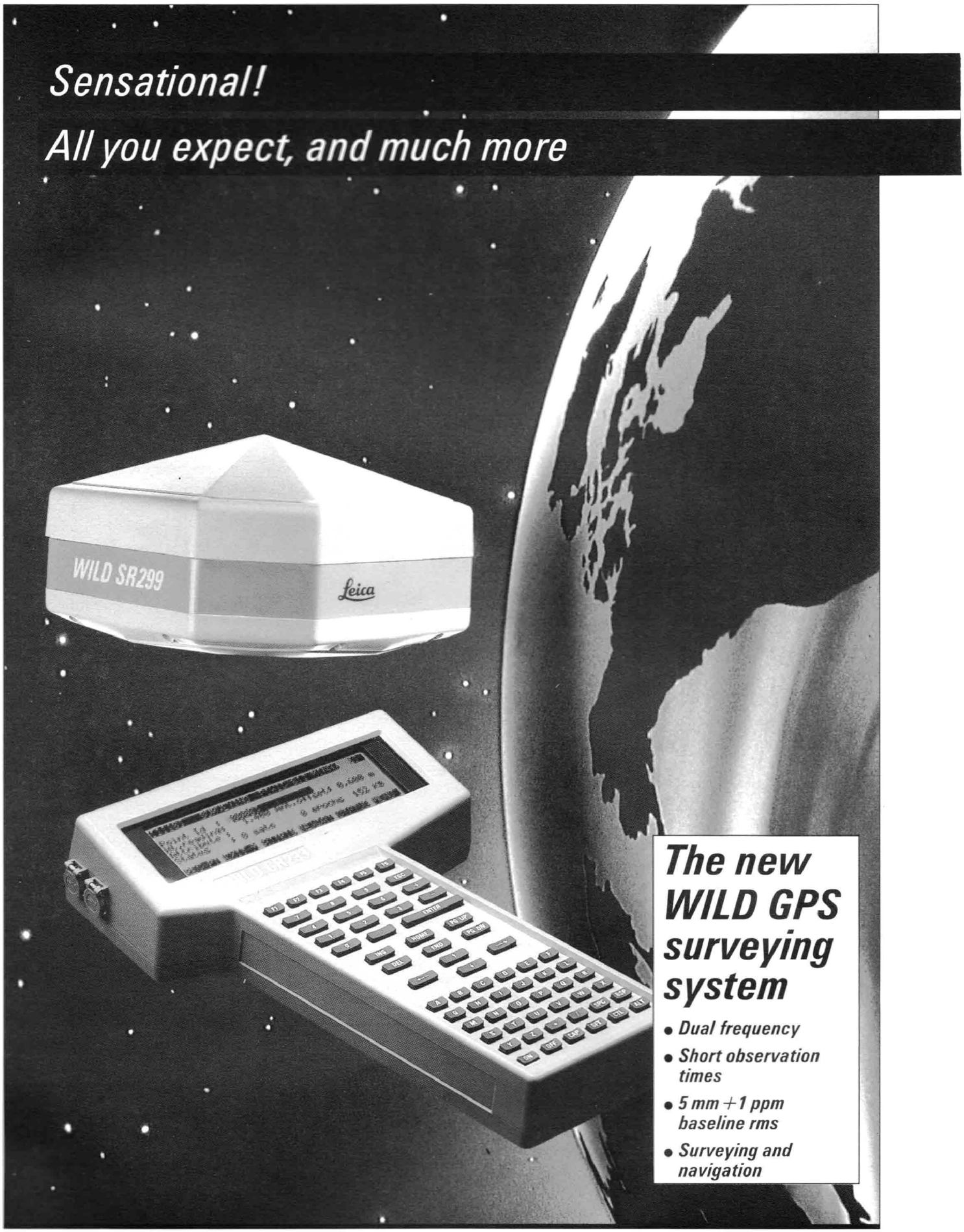

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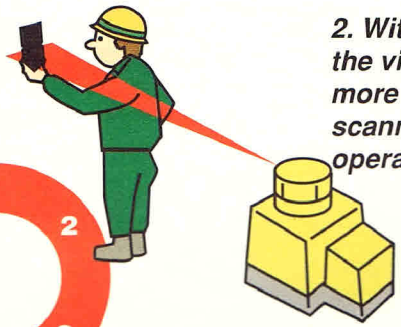

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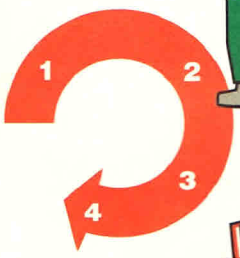

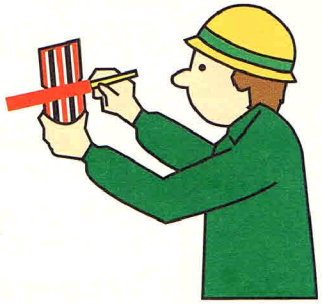

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