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- Readout in feet, meters and chain

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Fall Issue, 1982 Volume XI-4

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ALS NEWS

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Deadline dates for submission of material to insure printing are as follows: Winter Issue - December 15, Spring Issue - March 15, Summer Issue - June 15, Fall Issue - September 15.

Opinions expressed by individual writers are not necessarily endorsed by the Editorial Board or by the Council of the Alberta Land Surveyors' Association. Articles may be reprinted with due credit given to the source and with the permission of individual writers or when no writer is indicated, with the permission of the Editor.

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Finally after twelve years of discussion, studies, committee meetings, annual meetings and draft legislation, our new Land Surveyors Act, regulations and bylaws have been proclaimed and came into force on August 2, 1982. Copies of these new statutes have been sent out to all members and articled students. The new Act, regulations and bylaws contain some new and interesting provisions. Undoubtedly we will encounter some administrative problems with our new Act, but we are certainly looking forward to this new task.

A layperson is to be appointed to Council and to the new Practice Review Board by the Minister. The purpose of these appointments is to provide a "window" to the public on the operations of our professional association. We in turn, look forward to their fresh input into our affairs. These appointments will be made and announced in the near future. Council has selected A.J. Edwards, D.B. Gillmore, S.M. Loepky, and E.T. Scovill as candidates to serve on the Practice Review Board. I am pleased to announce that they have all agreed to form the initial Practice Review Board. This Board has been granted considerable authority and responsibility and will have an unavoidable input into the future direction of our Association especially with respect to academic qualifications and standards of practice. Our new Discipline regulations provide for mediation and additional latitude in dealing with complaints against members and corporations. New provisions are now in place for articled students, as the formation of the Western Canadian Board of Examiners is now formalized. The solution to provide for corporations has been very elusive. This issue has been resolved through an agreement with the professional engineers by recognizing similar professional responsibilities and similar codes of ethics common to both professional bodies.

Since our Act and regulations are now in place and in effect law, permits are now required for all corporations that purport to conduct surveying in Alberta. We are now entertaining applications from these corporations and urge that all applications be made as early as possible. In the event that ownership problems have to be resolved to qualify for a permit we would like to receive the application accompanied by a letter outlining any problems and a request for a time extension. Council will review each situation on its own merit and grant time extensions if necessary to avoid any undue hardship on any existing firm. To date, approximately a dozen firms have been granted a corporate permit.

Our Systems and Procedures Committee was charged with the responsibility of reviewing the proposed regulations under the Land Titles Act with respect to the preparation and use of descriptive plans. This committee has reviewed this issue, reviewed the proposed regulations prepared by the Land Titles Office and has prepared a draft regulation that addresses our Association's concerns. A meeting of the Land Titles and our Association will be held on the 8th of October, 1982 to review this question. Our Association is concerned about the fundamentals arising from the use of these descriptive plans and the responsibility of the user. They are also concerned in whom the responsibility will lie when making the initial decision of when a descriptive plan is allowed. It would appear that this issue may end up as rather complex if all concerns are met.

The Legislation Committee has completed the initial review of the Surveys Act. This initial review was to attempt to decide if the Surveys Act requires a complete re-write or amendments to update and clarify same. The committee has reported back to Council that they recommend a complete re-write of the Act. The committee will now attempt to define the principles our Association would like to see incorporated into the Act and regulations thereunder and then present them to the Provincial Government for consideration. Please forward your comments and suggestions to this committee as soon as possible.

The Second User's Conference on Land Information Systems was sponsored by the Alberta Land Surveyors' Association and the Canadian Institute of Surveying in Edmonton on the 9th and 10th of September, 1982. This was very well attended by a wide cross-section of industry and government. The resolution reflecting the aims of this conference of an acceleration of the existing programs necessary for the primary system will be presented to the Provincial Government with the support of our Association. Some concerns were expressed as to the possibility of duplication of efforts by the various government departments, the need to assure compatibility between the primary and secondary systems and between all users, the amount of information that should be allowed to be stored without encroaching into individual privacy and the possibility of conducting this project by private firms rather than government only. Elsewhere in this newsletter you will find the resolution passed by this conference. I would urge all members to review and consider this issue and give your comments of support or constructive criticism to your member of the Legislative Assembly. Your M.L.A. will eventually have to make some very serious and expensive decisions in this regard, and Alberta Land Surveyors are a very valuable source of information and expertise on this topic. A special thanks to Charlie Weir and the Organizing Committee for the superb job in handing this conference. It was certainly a tremendous success and an attribute to our Association.

Please attend your committee meetings and forward your comments to the appropriate committee chairman. Your concerns and solutions to issues can only be dealt with if you participate.

W.R. Hunter, A.L.S.
President
I have had some inquiries lately from Surveyors who were unsure of target areas for gas and oil wells, so I thought I would take this opportunity to review the S.U. 1088 (New Spacing Unit) that came into effect September 1, 1981.

Uniform, an organization of Alberta farmers, made an application to the Energy Resources Conservation Board (ERCB) to consider a change in the target area requirements to provide for target areas in the corners of quarter sections.

Most of the agricultural groups were in favour of the change. Their main argument being that of the effects of land severance and extra headlands on farming and ranching operations that are caused primarily by well-access roads, which can result in substantial inconvenience, extra work time, a safety hazard and increased costs to the agricultural industry.

A majority of the oil companies were opposed to the change. They were of the opinion that the present central target areas offered the most flexibility because the large common target area allowed the locating of wells to take optimum advantage of subsurface geological occurrences as well as any land surface obstructions to reduce the impact on farming.

The Board decided to change the target areas for all white and yellow areas of Alberta as shown on the Public Land Classification Map, exclusive of lands within authority Board-designated oil pool boundaries as of August 1, 1981, and exclusive of the area covered by S.U. 800, which covers an area south of Township 30 and east of the 5th meridian.

To encourage a well to be located as close as possible to the corner or the boundary of the quarter section, target areas are divided into primary and secondary areas. Locating a well in the primary area is preferred. For the secondary target area, proposed wells would be approved if agreed to by the surface landowners.

The target areas for wells drilled under the S.U. 1088 spacing are as follows:
1. The drilling spacing unit for one section gas remains the same as before:
   (a) Primary target area - northeast quadrant of L.S. 6.
   (b) Secondary target area - the remainder of the normal target area.
2. Where the prescribed drilling spacing unit consists of one-half-section:
   (a) Primary target area - northeast quadrant of L.S. 6 or L.S. 16.
   (b) Secondary target area - the west and southeast quadrant of L.S. 6 or L.S. 16.
3. Where the prescribed drilling spacing unit consists of one-quarter-section:
   (a) Primary target area - the northeast quadrant of L.S. 8, 14 or 16.
   (b) Secondary target area - the west and southeast quadrant of L.S. 8, 14 or 16.
4. Where the prescribed drilling spacing unit consists of two legal subdivisions the target area will be the northwest quarter of the legal subdivision designated in the spacing unit order.
5. Where the prescribed drilling spacing unit consists of one legal subdivision the target area will be the northwest quarter of the legal subdivision.

If there are any questions regarding target areas the ERCB have requested that the oil company personnel, rather than the survey consultant contact them.

An interim directive has been prepared by the ERCB that consists of an information package on surface rights. Effective September 1, 1982, the ERCB will require that each well licence application include a statement that the package was delivered on first contact with the landowner, the name of the land agent making the delivery and the date of the delivery. The information package consists of a brochure "Negotiating Surface Rights", a two page document "The Land Conservation and Reclamation Council" and a guide "The Surface Owner".

This guide has two items that are of interest to surveyors. The first under the heading The Right to Survey states - The company has the right to enter your property to survey after making a reasonable attempt to notify you of its intention. The company may call on you before surveying to determine an approximate well and road location which would be suitable to both parties. However, a survey is required to identify exactly the proposed location of the well and the surface area required. The second is under Other Site Restrictions and states - A well may be drilled no closer to a road than 40 metres without the consent of the local authority concerned. Also, a well may not be drilled within 100 metres of an occupied dwelling without the consent of the owner.

The above article is a brief description of the S.U. 1088 target areas. Those who want more detailed information, contact the Energy Resources Conservation Board and get a copy of Order No. S.U. 1088.

L. Leiman, A.L.S.
A HUNDRED YELLOW RIBBONS

A periodic item on Council's agenda and in ALSA communications is the perennial problem of "spikes in roads". Again in this issue there is a letter of concern from the Vehicle Inspection Branch of Alberta Transportation, justifiably concerned about the safety of children travelling in school buses.

The object of that concern is the damage and potential danger of a blowout caused by a surveyor's spike left in a public roadway and subsequently uprooted by a grader and lying loosely on a gravel road waiting for the next school bus load of children to pass over it.

What is a surveyor's liability if a 5 inch spike with a yellow ribbon is found in the blown tire on a school bus which has rolled over an embankment maiming twenty school children for life? Will your insurance cover the grief and damage caused? Will the Association stand behind you when you plead that it is accepted practice? I leave each land surveyor and articled pupil to ponder these questions but I also ask you to consider the more important question — What are you doing to prevent this problem and to ensure that nobody can say that you were responsible for that yellow ribbon in the school bus tire?

PROFESSIONAL ADVERTISING

Until very recently, advertising by professionals was considered to be strictly taboo. Most professional associations either prohibited advertising completely or else placed very stringent conditions on the media, size and content of any type of advertising.

In the last few years however, the rules have been challenged first in the United States and more recently, in Canada. The paramount Canadian case involves a Vancouver lawyer named Labour who advertised a "Neighbourhood Legal Clinic" at "prices middle income families can afford". His advertisements including specific prices appeared in local newspapers and he had a large illuminated sign on his office building. Quite expectedly he was charged with conduct unbecoming a barrister and solicitor by the Law Society of British Columbia, a charge which eventually ended up in the Supreme Court of Canada.

The Supreme Court in upholding the finding of unbecoming conduct by the Law Society had to deal with several major issues. Two of these issues were: Does the Combines Investigation Act apply to the Law Society? and; Does the prohibition of the right to inform the public of the type and cost of legal services violate the right of freedom of speech?

To the relief of every professional society in Canada, the Supreme Court answered both questions in the negative. In essence the Court held that the provincial legislatures had the power to regulate the provision of professional services including restrictions on advertising and that these restrictions did not infringe on the freedoms of expression.

What the Court did not say however, is perhaps even more important. And that is that if the professional associations do not handle the authority delegated to them in a responsible manner, the legislatures may amend the rules.

It is obvious that public opinion with regard to professional advertising is changing. The public want more information in order that they can decide which professional will give them a better service for their dollar. The public is knowledgeable and concerned.

Rules regarding professional advertising can be relaxed to provide the public with more information without jeopardizing the quality of service or creating unfair competition. Professional advertising can be informational without being promotional.
LETTER FROM TRANSPORTATION SAFETY BRANCH
ALBERTA TRANSPORTATION

Dear Sir,

Re: Survey Markers 5" Spikes - School Bus Flat Tires

The Transportation Safety Branch, Vehicle Systems Section, designs and operates the School Bus Semi-Annual Inspection Bus Monitoring Programs. It has come to our attention that the 5” spikes used in the survey work on roads, especially in the Oil Patch, and particularly in the Carnwood area, are causing a problem with school bus tires. The spikes in the road are being graded out by the road graders and then are getting into school bus tires. As we are very concerned with child safety, perhaps your group could assist us to eliminate the problem by suggesting a remedy.

I have discussed this problem with Doug Krempien of Midwest Surveys and Services Ltd. He suggested that I write to you. We would very much appreciate your consideration of this problem and await your suggestion or comments.

Thank you.

Al Simpson
Vehicle Examiner

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Dear Sir:

I find it interesting that so soon after our Legislative Body passes an Act that says:

"No person except an Alberta Land Surveyor...shall engage in the practice of land surveying."

and

"practice of land surveying" means establishing and maintaining a network of geodetic points...

that they would proceed to run the following advertisement. The last line is interesting.

I wonder if there is a message for us there? At least the irony of the ALSA pushing the Survey Engineering course at U of C will provide some humor for those ALS’s not experiencing a heavy workload these days.

R. Riley, A.L.S.
NEW MEMBERS

#532 WONG, Jerry Peter

Jerry was born in Canton, China and emigrated to Canada in 1960. He attended High School in Medicine Hat and went on to the University of Alberta graduating with a B.Sc. in Engineering.

Articulship was served under J.H. Hogg, Ernest F. Zander and John M. Paul. The topic of Jerry’s technical report submitted as part of the qualifying examination was “Legal Principles of Property Boundary Control”.

Construction control surveys, road surveys, subdivision and public rights-of-way are the areas that Jerry has had the most experience in. He is also a member of APEGGA and the YMCA.

Jerry is another one of our single members, enjoys photography and resides in Calgary.

#533 GLIDDON, Robert Alan

Winnipeg, Manitoba, 1947 was Robert’s birthplace. He attended Westgate High School and Red River Community College in Manitoba, and went on to further his education at the University of New Brunswick. He received a diploma in Survey Technology from college and a B.Sc. Engineering (Surveying) from UNB.

Brian J. Dixon served as Robert’s principal from November, 1978 to July, 1982. The topic of Robert’s technical report was “The Effects of Federal Policy and Its Administration on Settlement in the Canadian West”. He has been involved in municipal, control and legal surveys for most of his working career.

Robert enjoys cross country skiing, scuba diving, bicycling and furniture refinishing. He and his wife Genievene and their son Robert reside in Edson.

#534 KARPIEL, Ronald S.

Ron hails from Toronto, Ontario. Born in 1952 he completed high school in 1970 and then went on to attend Ryerson Polytechnical Institute and the University of Toronto (Erindale College) receiving a Bachelor of Technology (Geodetic Science).

Brian Kerr, February/81 - September/81 and Gunter Hohn, January/82 - July/83 served as Ron’s principals during his articulship. “Registration of an Industrial Subdivision Under Section 36.1 of the Surveys Act with Emphasis on Computer Application” was the topic of the technical report submitted as part of the qualifying examination.

Ron has spent 3 years of his working career on the establishment of 2nd and 3rd order horizontal control networks; 2 years on right-of-way surveys for pipelines; 2 years on boundary surveys, retracements and subdivision layouts and; 1 year on pipeline as built surveys and various construction layouts.

Skiing and boating are a couple of his extra-curricular activities. Ron is also an Ontario Land Surveyor.

#535 PRATT, Lyall Howard

Vermilion, Alberta hailed the birth of Lyall Howard Edward Pratt in 1949. Upon completing high school in 1967 in the City of Grande Prairie he enrolled in Survey Technology at NAIT.

Lyall was articulated to Duncan Gillmore from December, 1969 to June, 1982. The topic of the technical report submitted as part of the qualifying examination was “Township Subdivision in Alberta Yesterday and Today”.

Lyall’s work experience includes 9 years field work in oil field, construction, subdivision, rights-of-way, and township surveys. He also has 3 years of experience in computations, drafting supervision, subdivision approval process, and field crew assignments.

Canoeing and photography are a couple of his outside interests. Edmonton is where Lucy and Lyall Pratt make their home.
NEW SURVEYORS’ LEGISLATION BECOMES LAW

After more than five years of detailed drafting and thirty years of debate, surveyors in Alberta will now be authorized to practice as corporations. The Land Surveyors Act (SA 1981 L-4.1) and regulations and bylaws pursuant thereto were proclaimed by order in council effective August 3, 1982.

The new legislation creates two types of practitioners in addition to an Alberta Land Surveyor: Either a surveyor’s corporation or a surveyor’s partnership may become registered under the Act each having certain privileges to represent themselves as survey practitioners under the Act. In order to qualify as a surveyor’s corporation or partnership there are certain ownership and operating requirements which must be met by the corporation or partnership. In addition to the privileges conferred by the statute there are a number of obligations and restrictions on the practice such as the obligation to comply with all regulations and bylaws of the Association. Breaches of these requirements may subject the corporation to disciplinary action or cancellation of their permit to practice.

In addition to the incorporation provisions of the new legislation, there are many other major and minor changes from the old legislation which have been in effect since 1965.

One major provision of the new Act was to define the fields of practice of surveying and land surveying. Land surveying is defined as the exclusive field of practice and includes essentially the expanded and modernized role of the cadastral surveyor. This practice is obviously exclusive to members of the ALSA. The general field of practice however, is the broad definition of surveying of points on the surface of the earth. With the exception of land surveying, the general field of practice is not exclusive to members of the ALSA. The Association may however, establish standards and regulate the practice of surveying amongst its members.

The new legislation provides for the appointment of one member of the public on the Council of the ALSA and one public member on a Practice Review Board (PRB). The PRB is intended to review and advise Council on educational and experiential standards, the evaluation of competence of practitioners and the practice of surveying in general. The PRB may also be requested to review the practice of any practitioner. The PRB in conducting a review of a practitioner’s practice has essentially the same powers as the Discipline Committee.

A Registration Committee is established to review applications for registration as Alberta Land Surveyors. This committee shall consider whether an applicant has sufficient training and experience and if he is of good character. The Registration Committee may require an applicant to obtain further experience. Decisions of this Committee may be appealed by Council.

Under the new legislation, the Discipline Committee has extremely broad powers to take either remedial or punitive action in cases of unskilled practice or unprofessional conduct. In addition to the normal penalties of fines, suspension or cancellation, the Discipline Committee may require a disciplined person to take steps to improve his educational or experiential standing or to limit the scope of his practice.

By virtue of the Code of Ethics Regulation a new code of ethics replaces the former code. The code is composed of eight general principles for the ethical guidance of the profession.

The Examination and Training Regulation formalizes the relationship between the ALSA and the Western Canadian Board of Examiners with the Universities Coordinating Council retaining control over the professional examinations. A number of small changes to the articling arrangements give the Registrar, on behalf of Council, the power to reject articles which do not appear to meet the necessary requirements for a proper tutorship of a candidate. The concept of academic training prior to articles and then a professional practice examination which was originally adopted at a Special General Meeting in 1973 is entrenched in the Examination and Training Regulation.

Overall, the new legislative package represents many years of hard work for many members in addition to thousands of dollars of legal advice. The legislation represents principles, compromises and many years of experience. With patience, diligence and understanding it should serve the land surveying profession and the public well.

CONTINUING EDUCATION

Oct. 15 The Art of Presentation - U of A Extension
Oct. 18-20 Residential Subdivision Layout - U of A Extension
Nov. 1-2 Recreation Planning - U of A Extension
Nov. 1-2 CIS Seminar on Aerial Surveying for Floodline Mapping and Water Management - Holiday Inn, Toronto
Nov. 18 - 19 Credit and Collections - Robinson Education Seminars - Edmonton Chamber of Commerce (465-0308)
Nov. 18 - Dec. 8 Engineering and the Environment - U of A Extension
Nov. 22 Geotechnical Engineering in the Planning Process - U of A Extension
Nov. 23-24 Land Use and Its Control - U of A Extension
Nov. 23-24 The Surveyor and the Law - Edmonton Inn, Edmonton
Nov. 29-30 Annexation Techniques and Decisions - U of A Extension
Dec. 6-8 Planning Law - U of A Extension
Dec. 9-11 CIS Seminar on Adjustments - Edmonton

Jan. 5/83 Least Square Estimation - U of C
Jan. 5/83 Adjustment Methods in Photogrammetry - U of C
Jan. 5/83 Resource Mapping Applications - U of C
Jan. 5/83 Non-topographical Photogrammetry - U of C

Correspondence Courses
Northern Alberta Institute of Technology
Survey Methods and Instruments
Survey Computations
Photogrammetry & Photo Interpretation
Univeristy of Wisconsin
Elementary Surveying I
Elementary Surveying II
Attasabasac University
Mathematics 212 - Calculus
Mathematics 215 - Introduction to Statistics
Mathematics 376 - Ordinary Differential Equations
Geography 317 - Man and Environment
Geography 303 - Canadian Urban Development

als news fall, 1982
SURVEYORS ON THE MOVE

Apologies to Paul Ellegood - he's not returning to the East. Sorry Paul, I guess we jumped the gun.

Stan Foster has joined the firm of J.D. Barnes Ltd. as survey supervisor.

Amin Kassam joins the Survey Control Branch of the Alberta Bureau of Surveying and Mapping.

Bill Mintz has transferred from his position as District Surveyor in Alberta Transportation to the Land Surveys Branch of the Alberta Bureau of Surveying and Mapping as Regional Manager (south).

Doug Pearson joins Olds College as Survey Instructural and Coordinator of Survey Programs.

Robert Wallace joins All-West Surveys Ltd. of Calgary.

Bob Gliddon has established an office for Stewart, Weir and Company at 5010 - 3rd Avenue in Edmonton.

COUNCIL PROCEEDINGS

After a marathon twelve hour session, Council of the ALSA on September 16th, approved the application for registration of the first nine surveyor's corporations. Several other applications were rejected for non-compliance with the statutory provisions. The main problem in the rejected applications was in compliance with the requirement that a majority of the directors be members of the ALSA.

In other council business a number of "articling" problems were dealt with. Council rejected articles where the surveyor into the articles was subservient to the articled pupil in the employment relationship. An articled pupil who was a victim of the economic times was allowed to continue writing examinations even though he was not under articles.

As a result of several under-expenditures, Council was able to make an interim downward adjustment in the 1982 budget. Projected expenditure decreases and revenue increases were apparent in the third quarter and should continue until year end.

In conformance with the new Land Surveyors Act, Council appointed a number of new committees and recommended the names of "public members" to the Minister for appointment to Council and the Practice Review Board.

Council reviewed a number of advertising concerns which had come forth and took appropriate action in each case.

Due to the amount of Council business to deal with, the November meeting was tentatively scheduled as a two day meeting to held on November 26 and 27.

RULE CHANGES

FOR ARTICLED PUPILS

The proclamation of the new Land Surveyors Act, Regulations, and Bylaws produces some changes for articled pupils.

Before a pupil can commence articles he must now hold a certificate of completion from the Western Canadian Board of Examiners and be a resident of Alberta. Upon receipt of articles they must be approved by the Registrar on behalf of Council. The Examination and Training Regulation specifies that they shall not be approved unless the Registrar or Council are satisfied that the ALS will provide proper training and experience to the pupil and that the pupil will be under the direct personal supervision of the ALS. There are provisions whereby, subject to the approval of Council, the pupil may be under the supervision of another qualified person during part of his articles.

Under the new regulations the length of articled service will be a standard two years of which a minimum of 18 months shall be spent in the field and 6 months in the office. The pupil must however, as in the old Act, remain under articles until all examinations have been passed.

The fees for filing of articles increases from $25 to $50 and the annual article levy increases to a maximum of $100. Pupils who fail to submit their annual article levy or their Affidavit of Field Service may be subject to automatic termination of articles if their fees and affidavits are not received by January 31 of each year. Penalties are also established for late payment and/or reinstatement.

All applications for registration as Alberta Land Surveyors will be reviewed by a Registration Committee which will review the candidate's academic and experiential qualifications and determine if the candidate is of good character. A person refused registration by the committee may appeal the decision to Council.

The new legislation became effective on August 3, 1982. Articles entered into under the former Act are however, generally deemed to continue under the provisions of the old Act except that an articled pupil must complete all examinations and his field and office experience within a period of five years of proclamation of the new Act.

SURVEYOR'S DIARY

Oct. 24-26 Community Planning Association of Alberta Conference - Palliser Hotel, Calgary

Nov. 2-3 CCLS Directors' Meeting - Toronto
Nov. 23 Old Timers' Nite - Joint ALSA/CIS Dinner Meeting
Nov. 23-24 The Surveyor and the Law - Edmonton Inn
Nov. 26 ALSA Council Meeting
Dec. 3 CCLS Regional Meeting - Regina
Dec. 9-11 CIS Seminar on Adjustments - Edmonton
Mar. 27-31 Western Federation of Professional Land Surveyors - Las Vegas, Nevada
Apr. 20-22 CIS - 101st Annual Meeting, Victoria
Apr. 29-30 ALSA Annual Meeting - Jasper Park Lodge

LEGISLATION GROUP

The main activity of the Committee this year will be the Surveys Act review. In this regard two meetings of the Committee have been held thus far for the purpose of developing some consensus about the format and content of an updated Act.

While the basic principles contained in the present Act would be maintained, it is apparent to the Committee that the present Act lacks coherence in places, is incomplete in others, and contains many sections which are outdated and not in harmony with present practice.

One concept under discussion is that we should move towards an Act which embodies only basic principles, while detailed procedures and methods should be set down in regulations or instructions pursuant to the Act. This proposal will probably be resolved as detailed reviews proceed and a need for additional regulations becomes more apparent.

Some fairly prominent issues will have to be resolved also.

Such as:

- should Part II of the Act be administered by the Director of Surveys, or by the Land Titles?
- major urban subdivision surveys are still causing problems. The present provisions in the Act for delayed posting are not always practical.
- should all "legal" surveys be brought under the Act, i.e. wellsite, condominium, etc.?

In any event it is apparent that the Surveys Act review/rewrite is a major task, which will require some considerable time and effort to complete properly. Any members who have problems with any section of the Act should not hesitate to let the Committee have their comments.

R.J. Fulton, A.L.S. Chairman

als news fall, 1982
WHY BUY?
Rent It... From Butler

Butler Survey Supplies carries a complete line of survey field equipment. Most of this equipment is available on a short term rental or on a longer term rental purchase agreement. Renting from Butler Survey Supplies gives you economical access to such sophisticated and highly accurate equipment as:

- Sokkisha Red 1 A
- Kern DM 502
- HP 3808
- HP 3805
- HP 3800
- Tellurometer CA1000
- Tellurometer MRA3
- Theodolites, Transits and Levels (Sokkisha, Zeiss, Wild, and Kern)
- Motorola Walkie Talkies
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1982 ALS GOLF TOURNAMENT

The 1982 version of the annual ALS Golf Tournament was held at the Sylvan Lake Golf Course on August 20, 1982. A grand time was had by all. Special thanks to the Red Deer crew of Joyce & George Moore, Marg & Gil Oslund, Brenda and Ralph Bunting and others. They did their usual super job for supper and refreshments. Forty-five golfers took part in three different categories, including seven ladies and only one playoff was required this year — between Dave Holmberg and Wayne Hucik. The winners were:

- ALS TROPHY (Established Handicaps)
  Winner: Tony Melton; 2nd: Wayne Hucik; 3rd: Dave Holmberg
- JACK HOLLOWAY CHALLENGE CUP (Modified Calloway)
  Winner: G. Tronnes; 2nd: Grant Cross; 3rd: Keith Smith
- ALS OPEN (Full Calloway)
  Winner: Cam Christianson; 2nd: Donna Christianson; 3rd: Brenda Clayton

Special Events: Longest Drive - Herb Kiel; Shortest Drive - Walter Carbis; Longest Putt - Tom Swanby; Closest to the Hole on Drive - Len Leiman.

Special thanks are also due to Dave Holmberg, Hugh Impy, and Ken Allred for their expert help.

Keith Smith

Editor's Note: Special thanks to Keith Smith for organizing and directing the tournament.

COMMUNICATION QUESTIONNAIRE SUPPORTS STATUS QUO

The ALSA Communication Questionnaire which was recently circulated did not produce any startling results but rather supported the general format of annual and regional meetings and ALS News.

Of sixty-two replies, 68% indicated that they “usually” or “always” attend the annual general meetings while 89% indicated that they “usually” or “always” read ALS News. Only 40% however, attend regional meetings on a “usually” or “always” basis.

Specifically on ALS News, 90% preferred that the length of ALS News remain the same, 81% preferred the same frequency, 60% indicated the quality as good and 40% as excellent. Of the specific ALS News features, court case reviews, biographies, association notes, president’s message, cartoons and editorials, rated the highest. One person specifically did not like the editorials - my comment to him is that the space is free to anyone who would like to fill it.

The question “Are you willing to contribute to ALS News?“ obviously confused a number of respondents even though over half indicated a yes. It was not intended to request “monetary” contributions, merely “literary” ones. Nevertheless we get offers for both kinds. Maybe in these slow economic times a number of budding authors will spring from our ranks with some good articles for publication.

The concensus on regional meetings appears to be that they be held in Edmonton and Calgary two or three evenings per year and mainly discuss association business with the occasional guest speakers.

Annual meetings should continue to be 2 days long (with some feeling for 3 day meetings) and feature more business, seminars, technical papers and guest speakers. Social functions are apparently adequate at present. The one question we forgot to ask was location for annual meetings. Perhaps the proponents for other locations will express themselves as their literary contribution.

G.K. Allred, A.L.S.

CHANGES TO THE OFFICIAL REGISTER

The following changes in the official register have taken place subsequent to the Summer Issue of ALS News.

NEW REGISTRATIONS
- #533 Gliddeon, Robert Alan
  Box 729, Edson TOE 0PO  Sept. 16, 1982
- #534 Karpial, Ronald S.
  32, 3115 - 119 Street, Edmonton  Sept. 16, 1982
- #535 Pratt, Lyall H.E.
  241 Clareview Road, Edmonton T5A 3Y8  Sept. 16, 1982

L.W. GROVER RETIRES

Len W. Grover, P.Eng., A.L.S., a long standing member of the Alberta Land Surveyors’ Association, retired from The UMA Group Ltd., in April, 1982 after thirty-two years of service.

Mr. Grover joined Underwood McLellan Associates Limited in 1950 on defence projects at Namoa and Cold Lake in Alberta. In 1955 he was appointed Branch Manager of the Calgary Office with responsibility for the Alberta operations.

He was appointed General Manager in charge of all operations of Underwood McLellan Associates Limited in 1966 and appointed Executive Vice President in 1974 for The UMA Group Ltd., which is the parent company of Underwood McLellan Associates Ltd. in 1966 and appointed Executive Vice President in 1974 for The UMA Group Ltd., which is the parent company of Underwood McLellan Ltd.

Len and his wife Ellie have taken up residence in Hawaii, having resided in Vancouver since 1975.
The Alaska Pipeline, Pluto Bay, October, 1980

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EMPLOYEE BENEFITS

By Beverley A. Walker

Bev is currently working with William M. Mercer Ltd., a Canada-wide human resources consulting firm, in the group insurance area. Prior to joining the firm, Bev was Compensation and Benefits Manager for GWG Inc. In between these two positions Bev and Peter (of A.L.S. notoriety) were travelling overseas.

Supplementary Health Care and Dental Insurance

In Canada, Provincial Medical Care and Provincial Hospital Plans reimburse a significant amount of medical and hospital expenses. For example, the Government Hospital Plans cover necessary hospital accommodation up to public ward level as well as all other hospital expenses incurred. Provincial Medical Care Plans also cover Doctor’s expenses up to a negotiated fee schedule which changes from time to time. Increasingly, a number of Doctors have been extra billing their patients as they feel the reimbursement provided under the Government Plan is inadequate. As well, coverage is extended to individuals when travelling outside of their province of residence.

Private insurers are not permitted to insure health care expenses covered by Government Plans. Some of the expenses generally covered under private supplementary health insurance plans are: the difference in cost between public ward and semi-private or private hospital accommodations, prescription drugs, private nursing, some prosthetic appliances, eyeglasses, hearing aids, dental expenses, and so on. Few private insurers provide supplementary health insurance on an individual basis and dental insurance is not available under individual policies.

Most firms provide employer sponsored medical insurance plans to their employees. Until the November, 1981 Federal Budget, employers found such plans to be an efficient way of providing non-taxable compensation to their employees. As a result of the Federal Budget, effective January 1, 1982, premiums paid by an employer for such programs are to be included in the employee’s taxable income. Employer sponsored supplementary health and dental insurance programs are still popular with employees as they remove the risk of the employee incurring large medical and dental expenses which otherwise would have to be paid by the employer.

Generally, supplementary health insurance programs reimburse the employee medical expenses after a small deductible (i.e. $15 per person or family) up to a percentage of the covered medical expenses outlined in the Plan (i.e. 80% or 90% reimbursement). As well, these plans generally cover the difference between public ward hospital accommodation and semi-private or private hospital accommodation.

Following the advent of Medicare, the insurance industry has attempted to maintain the level of their premium volumes by adding new benefits or by reducing or eliminating either the deductible or the co-insurance features of their Plans. Recently in Canada, there has been a trend especially by unions to negotiate “no deductible” and 100% reimbursement levels under health insurance plans.

The trend under privately insured dental programs has been to reimburse a large portion of basic and preventative dental expenses, i.e. cleaning, filling, extractions, etc. Major dental expenses such as prosthesis, caps, bridges, etc. together with orthodontia are generally covered with a lower co-insurance (i.e. 50%) and/or a yearly maximum (i.e. $1,000 per insured).

Large companies with many employees do not in effect “insure” their supplementary health or dental plans, they buy administrative services. Typically the Plan design will reflect any special needs which the company has. Smaller organizations with fewer employees (i.e. 50 employees or less) generally can only purchase the packaged supplementary health and dental plans which are marketed by insurance companies. Firms with fewer than 20 employees are generally required by insurance companies to have 85% participation in the plan. With the increase in the number of families where there are two working spouses, often plans will allow the employees covered by their spouse to opt out.

A dramatic increase in the cost of providing government sponsored medical and hospital expenses has resulted in governments seriously re-thinking any further expansion of these programs. In an attempt to reduce the dramatic increase in costs of these programs, there has been an attempt to shift the costs to users by either allowing practitioners to extra bill, by introducing deduct charges or users fees, or by limiting the facilities available to provide such services. This last approach appears to be the most prevalent one as it is not unusual for an individual to wait for weeks or sometimes months before being hospitalized for treatment which may be considered elective.

It is likely that in the future this attempt to shift the cost of health care to the individual will result in private plans covering a larger percentage of medical and hospital expenses. For example in Ontario, hospitals can now individually determine the cost to be charged for the difference between public ward accommodation and semi-private and private accommodations. As a result, the average additional cost for semi-private rooms is $18 to $20 per day and for private rooms is $80 per day. Some of the provinces which started to cover dental expenses for children are either limiting the age of children covered, or dropping some of the coverage which was previously provided, i.e. there have been some discussions to terminate the dental plan in Quebec.

Most people incur medical and dental expenses on a regular basis. For this reason employer sponsored supplementary health plans and dental plans are very popular even now that the premiums paid by the employer will result in taxable income to the employee.

ADDITIONS TO LIBRARY

The Boundary Hunters
Lewis Green
Case Reports Concerning Legal Principles of Boundaries From New Brunswick Reports (second series), Volumes 1 through 23 - 1969 - 1978
Association of New Brunswick Land Surveyors
Fences as Evidence (Continuing Education Program) Association of Ontario Land Surveyors
Land Registry Office Searching Manual
Izaak Rijcke, B.Sc., O.L.S.
Mapping and the Surveyor
Proceedings of the Joint Seminar of the Association of Ontario Land Surveyors and Erindale College, University of Toronto in cooperation with the Canadian Institute of Surveying

STAR ALMANACS

The 1983 Star Almanac has been ordered from Pendragon House and will be available for a cost of $8.00 from the ALSA office very shortly. We have placed an order of 150 almanacs, so get your orders in soon to avoid disappointment.
SECOND USER’S CONFERENCE DRAWS 140 PARTICIPANTS

The Second User’s Conference on Land Information Systems held at the Westin Hotel in Edmonton on September 9 and 10 attracted over one hundred and forty participants.

The Conference which was a sequel to the User’s Conference on Provincial Coordinates held at the University of Alberta Law Centre in 1975 featured Mr. Sune Andersson from Gavle, Sweden. Mr. Andersson is the Director-General of the Central Board for Real Estate Data in Sweden and is also Chairman of Commission III (Land Information) of the Federation Internationale des Geometres. He has also been engaged as a land information systems consultant in several foreign countries. Mr. Andersson spoke on Land Information Systems in Sweden and around the World.

Sune Andersson  
Director General of Real Estate Data  
Government of Sweden  

The Canadian scene was presented by speakers Larry Simpson, Executive Director of the Land Registration and Information Service for the Council of Maritime Premiers; and John Kerr, O.L.S. of the Ontario Ministry of Natural Resources. David McLellan, Dominion Geodesist, spoke on the Impact of the 1985 Redefinition on Land Information Systems and Dr. Graham Lodwick from the University of Calgary presented a paper on the Impact of Current Technology on the Implementation and Operation of Land Information Systems.

The remainder of the program was specifically oriented to the state of the art in various sectors of the Alberta economy. Panel discussions addressed System Design and Cost, the

Alberta Scene (a government panel), The Need for Land Information Systems in the Petroleum Industry, Utility Systems and Municipal Advances in Land Related Information Systems. A presentation of the One Call System was also made.

An additional feature of the program were tours to a number of operational land information systems on Thursday evening. Tours of the Mapping Division of the Bureau of Surveying and Mapping, the City of Edmonton Geographic Base Information System, and Associated Engineering Services Ltd. Intergraph System were available to interested persons. A film presentation on Geographical Referencing Systems in Ontario was also an option feature on the program.

Subsequent to the formal presentations an open forum allowed registrants to discuss the various presentations made during the conference and also to raise topics and concerns for general discussion.

The conference concluded with the presentation and endorsement of a resolution which requests the Government of Alberta to accelerate and enhance its existing programs with the objective of completing a primary land information system for the province by 1988.

The conference was sponsored by the Alberta Land Surveyors’ Association and the Edmonton Branch of the Canadian Institute of Surveying.

Lawrence Murgatroyd  
TransAlta Utilities  

USER’S CONFERENCE REQUESTS ACCELERATED PROGRAM

The Second User’s Conference on Land Information Systems recently held at the Westin Hotel in Edmonton endorsed a resolution calling on the Government of Alberta to accelerate and enhance its existing program with the objective of completing a primary land information system by 1988.

The resolution requested the Government to densify its horizontal and vertical survey control program, integrate the land survey system with the control system, and expand the mapping program to include digital line records and digitized terrain models. It also called for a computerized private and public land ownership record. The system would be expected to retain legal descriptions as a parcel identifier and assign one agency to establish centroid coordinates of parcels and ensure standardization and accessibility to the system.

The conference was attended by over 140 persons composed of municipal, provincial and federal government officials, land surveyors, engineers, planners, lawyers and consultants representing utility companies, oil and gas and pipeline companies, universities and private enterprise. Speakers came from Sweden, the Maritimes, Ontario and Alberta with other participants coming from Ontario, Manitoba, British Columbia and Alberta.
LUNCHEON ADDRESS TO THE SECOND USER'S CONFERENCE ON LAND INFORMATION SYSTEMS
Milt Pahl, M.L.A.

Mr. Chairman, Ladies and Gentlemen:

Let me first of all extend a warm welcome to our out-of-country, out-of-province and out-of-city visitors, and express my thanks to the organizing committee of this conference for giving me the opportunity to be with you this afternoon.

I suspect I am so honored here today as a reward. I suspect the reward is for my enthusiastic boosting of the concept of a province-wide computerized land related information system in the legislative debates and also, I suppose, more importantly from the viewpoint of tangible progress, has been my lobbying at the time of establishing budgetary priorities for funding such things as the LRIS Coordination Group. If that is indeed the case, I will reward you as well by not spending a lot of time talking about a subject that you have already spent a day and a half talking about and have another afternoon ahead of you as well. Instead, I would like to talk with you about Alberta’s present economic climate and outlook. But before I do, it is perhaps as well to comment upon the magnitude of the task before us all in support of an effective land related computerized information system and the benefits it may yield.

I am sure it is well recognized by the practitioners here today that Nirvana in the form of an accessible land related information system will take more than a decade from the benchmark of the first User’s Conference held in May of 1975. Through private sector cooperation with government, and I am mainly familiar with the efforts of the Alberta Land Surveyors’ Association, progress has occurred in terms of acceptance of the concept and in tangible moves towards implementation. Because we are now on the road to implementation, I think this Second User’s Conference on Land Information Systems and its purpose is particularly timely. The purpose of this conference was well stated in your brochure and I quote, “It is time to reassess the needs for land information systems and to discuss the direction in which we are moving amongst producers and prospective users of land information, to ensure that the plans established to date will optimize the technology available for the maximum benefit of society.”

I note from your program that the results of this conference will result in resolutions, some of which I am sure will be directed to the Alberta Government. I would like you to reflect upon that for a moment. What you are saying is that the information utility related to land has been and should continue to be, a responsibility of government to initiate and, in the main, to control. In times when it has been fashionable to say “let’s get government out of our lives”, and “let’s have less government”, in the matter before this conference, the role of government is surely well accepted, and what we are dealing with is more on how to make it more effective and more efficient.

Before I launch into my promised topic, I have to confess that although I have been very impressed with the impact that surveyors and their “straight lines” have on our lives, my upbringing has left one nagging doubt with me as to the surveying group’s collective professional competence — let me explain. I was born and raised on a flat land ranch near Hanna, Alberta and thus grew up with an immediate understanding of townships, sections, quarter sections, and road allowances on the two-mile, one-mile grid. Throughout my working life, I have had various limited exposures to the technological advances of the profession in doing their job more quickly, more accurately, and more efficiently, including the use of laser optics and computers. But behind all that awe for the wondrous things that the profession of surveying has been able to do, lies a boyhood impression that continues to give you “feet of clay.”

My problem is that I cannot escape the indisputable fact that frequently the only reason for turns in Hanna-area roads was caused by something the surveyors had to do called “correction lines.” As an economist, and having since been introduced to the concept of a ‘fudge’ factor to make things work out, I can assure you that although doubts may remain as to competency caused by correction lines, I cannot help but observe the existence of correction lines certainly speaks well of the profession’s honesty.

Now let me speak of Alberta’s economy and the economic outlook. In fairness to my previous remarks you may find a few economic “correction lines” within what I’m going to say as well.

In talking about the economy of Alberta, it is I think, important to recognize that we have two basic industries represented by agriculture and oil and gas. Those industries have been at the base of our economic foundation in the past, and will continue to be so for the immediately foreseeable future. In addition, we have a very significant element of the productivity of this province tied into construction involving both housing and non-housing construction. We also have a well developed service sector that includes tourism, which in itself is over a billion dollar a year industry in Alberta.

Looking back over the course of the 1970’s, Alberta has had without a doubt, the strongest economy in Canada. During that time, one of the key reasons we have enjoyed the strongest economy is because we have had by far the highest level of private sector investment in any part of Canada. For example, at the end of the decade, during 1980, per capital investment in Alberta was over $8,000 whereas throughout the rest of Canada the average per capital investment was $3,500. It was and still is, the Alberta Government’s policy of encouraging private sector investment that we believe had a great deal to do with the strength of our economy during the 1970’s.

However, as we are well into the second year of the 1980’s decade, the oasis of economic prosperity that has been Alberta is now eroded by the economic desert that has characterized the rest of Canada for the last several years. Indeed, we in Alberta are becoming more aware that we are not an economic island and are subject to the effects of what is in fact a worldwide recession. High interest rates, which I guess can be characterized as a manifestation of persistent inflation on a worldwide scale, continue to have a negative impact. The Alberta economy has been buffeted by particularly inept economic management at the national level. Those severe body blows have been manifested by the disastrous national energy program, introduced on October 28, 1980; the federal budget of November 12, 1981, which transformed investment incentives into plugged loopholes; and Mr. MacEachen’s latest budget of this summer in which he projected nearly a
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continued from page 19

$20 billion federal deficit this year, wrapped in the theme of "solidarity and sharing". Strange words indeed for a free enterprise economy.

Enough of what is wrong. In the face of a sharp downturn in the Alberta economy since the first of this year, where do we go from here with respect to Alberta's economic outlook? After all, it is preferable and sensible to build upon strengths. What are those strengths in Alberta? At the outset, I mentioned the basic industrial sectors of our economy, agriculture and oil and gas. Another strength that I should like to touch upon is that of our people. The strengths of Alberta's 2,300,000 plus population is certainly well represented here in this room. Highly educated, a strong work ethic, and a very bright. With of our growing numbers, we are developing into a significant economic market in our own right. Let me express for a moment to explain that last point. Alberta's third largest industry is the tourism and hospitality industry. Approximately 60 - 65 per cent (it varies from year to year) of that industry's revenues are generated by Albertans. In that context you are a tourist anytime you are more than 50 miles from home. The point I want to make is that when we are looking for ways to boost economic activity, and economic opportunities we should not forget to look at ourselves and the "bootstrap" type of opportunities that are represented within the Alberta market. When talking about Alberta's oil and gas industry, it was also noted that the workforce participation rate in Alberta is in excess of 70 per cent, which is the highest in Canada and among the highest in North America. Given those strengths then, what has your Alberta Government done, and what are we doing to continue to assure the Albertans remain a land of opportunity for those willing to invest their capital and labor towards creating a better life?

In recognizing the economic downturn of the Canadian and to a somewhat lesser and more recent extent, the Provincial economy, we presented a provincial budget in the spring that was both stimulative in terms of government expenditures and also to recognize the slackness in the economy and also that sustained a climate of stability and consistency which has proven successful in encouraging the Alberta risk-taker. In addition, the mildly stimulative provincial budget has been supplemented by the Albert Economic Resurgence Plan, which is designed to help the Alberta economy through a transition from the booming 1970's and quite frankly, perhaps an overheated 1980-81, towards a steady growth condition in the remainder of the 1980's.

I am sure you are all familiar with the lastest elements of the Alberta Economic Resurgence Plan, the Alberta Heritage Fund Mortgage Interest Reduction Program and the Small Business and Farm Interest Shielding Program, which were introduced by Premier Lougheed earlier in the year. If this program is not perhaps touch briefly on them later, but the first element of the Alberta Economic Resurgence Plan was the Alberta Oil and Gas Activity Program which was designed to help strengthen and renew the vigour of our base oil and gas industry. The signing of the September 1, 1981 energy agreement established a suitable pricing framework for Canadian oil and gas which enabled the Province to adjust royalties and incentives through the Alberta Oil and Gas Activity Program. That stimulus to the petroleum industry's activity will spread economic benefits throughout the Province to business in the smaller centres, to the many Alberta manufacturers of oilwell equipment and supplies, to the small trucking operator, to the small roadbuilders and, or course, to our farm community, many of whom earn off-farm income working in the petroleum industry. Revitalizing this basic industry benefits virtually everyone.

The Alberta Oil and Gas Activity Program will increase revenue flows to industry by approximately $5.4 billion over a period of about five years. The $5.4 billion of increased revenue flow to the conventional oil and natural gas industry arises from a royalty reduction for conventional crude oil, a royalty reduction for natural gas and a natural gas royalty holiday for new discoveries as well as special measures for 1982 and 1983 that include the establishment of a $250 million grant for certain oilfield service and maintenance work.

The maintenance and service grant program was designed essentially to help the Alberta petroleum service companies through a difficult period expected in the summer and early fall of this year. These companies were severely hit by the downturn in drilling and servicing activity caused by Ottawa's National Energy Program. As those of you close to the oil and gas industry know, the Maintenance and Service Grant Program was not taken up to the extent anticipated, with severe cash flow pressures among the explorers and producers and I suppose, a pessimistic outlook as to the possibility of selling existing or new production. Since the introduction of that program we have introduced a "correction line" and extended the grant program so that all conventional oil and gas footage spudded on Crown lands to the end of the year will qualify for "in place" credits or for development drilling grants. We feel this would accelerate existing drilling programs and encourage new activity at a time when many drilling contractors as well as the oilwell servicing industry are experiencing hardships due to the general economic climate prevailing in Canada.

With respect to the economic outlook for the conventional oil and gas industry, I suggest and indeed predict that the turnaround will come very quickly. The basis for my prediction are several-fold, but revolves around an improvement in cash flows generated from better netbacks and an improvement in market conditions, particularly with respect to the sale of natural gas in the United States.

The second element of the Alberta Economic Resurgence Plan has been the increase in the Farm Fuel Distribution Allowance designed to reduce input costs to Alberta's base agricultural industry. The Farm Fuel Distribution Allowance is a $2 per litre reduction in the price of fuel used for agricultural purposes in Alberta. This assistance is in recognition of the tremendous cost increases based by farmers who because of international and climatic factors have no control over the price received for their produce.

Another selective element to the Alberta Economic Resurgence Plan has been the decision to reduce by 50 per cent a one year basis the license fee for all trucks that require over $40 per year for license plates. This action will restore $17 million of sorely needed cash to the Province's trucking industry.

The latest two programs of the Alberta Economic Resurgence Plan, the Alberta Heritage Fund Mortgage Interest Reduction Program, and the Small Business and Farm Interest Shielding Program, will bring security, stability and certainty to Alberta homeowners and businesses. These two programs are made possible by a major new direction in the Heritage Savings Trust Fund.

In order to assure full economic recovery, the principal or capital of the Heritage Fund will be invested, but the interest earned in the years the interest income will fund these temporary "financial-boostrap" programs and 15 per cent rather than 30 per cent of Albertans' non-renewable resource revenue will be added to the Heritage Fund.

Finally in terms of an economic outlook for Alberta, I feel the sharp economic downturn has bottomed out and the signs of recovery are evident. Certainly for our province, which is so dependent upon export markets for our base industry products, the key to recovery lies with Canada's largest trading partner - the United States. American interest rates are lowering and they seem to be dealing effectively with inflation. The Alberta Economic Resurgence Plan will boost consumer and business confidence which has been understandably shaken by the suddenness of the economic downturn. Although I am sure any out-of-province visitors would sense it, perhaps we need to remind ourselves that Alberta still has the strongest economy in Canada. Without strong base industries of agriculture and energy, and with some measure of cooperation from the Federal Government, we have the capacity to lead Canada out of the grip of recession. In terms of the future, we of course, need to do more in terms of further diversifying our economic base.

Lastly, in terms of economic outlook, I would like to say that I am particularly encouraged by the large appetite for diversification in our economy based upon the intellectual
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- Point the reticle of the theodolite at the ground point of the range rod and record the $\Delta H$ value shown at the display.
- Point the instrument at the power line and record the $\Delta H$ value.
- Add the two recorded $\Delta H$ values numerically (signs may be positive or negative).

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RESOLUTION OF THE SECOND USER’S CONFERENCE ON LAND INFORMATION SYSTEMS

September 9 & 10, 1982
Edmonton, Alberta

WHEREAS at a first User’s Conference on Provincial Coordinates, held in May, 1975, a number of recommendations and resolutions were made concerning Land-Related Information Systems, and
WHEREAS the Government of Alberta has implemented programs to meet most of the objectives of that conference, and
WHEREAS there is an urgent need for a Land Information System in the Province as demonstrated by these proceedings of the Second User’s Conference on Land Information Systems of September 9 and 10, 1982, and
WHEREAS the orderly development of a network of computerized secondary land information systems is dependent upon having in place a provincial primary land information system, and
WHEREAS many secondary systems are now being developed in isolation and are not standardized for lack of a completed primary system, and
WHEREAS the township system of land subdivision provides an excellent system of parcel identification, and
WHEREAS in addition to a parcel identifier, the relative positions of parcels are necessary for data processing.

BE IT RESOLVED
That the Government of Alberta be requested to:
1. Accelerate and enhance its existing programs with the objective of completing by 1988, and maintaining thereafter, a primary land information system comprised of the following:
   (A) Survey Control
      i) the geographical positions and heights of a homogeneous network of survey control markers on a grid of approximately 10 km x 20 km in rural areas, and spaced from 300 m to 800 m in major urban areas.
      ii) the heights of a homogeneous network of survey benchmarks at a density necessary to supplement the survey control network for the fulfillment of the majority of users’ needs.
   (B) Photogrammetric Control
      The geographical positions and heights of photogrammetric control points, relative to the survey control networks, derived through aerial triangulation of photography at approximate scales of 1:60 000 in rural areas and 1:8 000 in major urban areas.
   (C) Land Survey
      The geographical positions of governing monuments and points of primary and secondary surveys, relative to the survey control network derived from survey plans of registered record in the Land Titles Offices.
   (D) Mapping
      i) a digital line record, at a scale of 1:1 000 covering major urban areas and at scales of 1:20 000, 1:250 000 and 1:1 000 000 covering the entire province, containing as a minimum the positions of points and lines and the identifiers depicting:
         ■ the survey control networks,
         ■ the primary and secondary land survey systems,
         ■ hydrographic features,
         ■ municipal boundaries, and
         ■ the public transportation system.
      ii) a digital terrain model, suitable for the derivation of 1 m contours in major urban areas, and 10 m contours over the entire province.
   (E) Ownership
      i) a computerized record of private land ownership and related documents.
      ii) a computerized record of public land dispositions and related documents.
2. Ensure that the legal descriptions of property are retained and used as one of the parcel identifiers.
3. Assign one agency the responsibility for the establishment of coordinate values for the centroid of each parcel and for the establishment of other common identifiers suitable for computer processing.
4. Assign to one agency the authority to ensure standardization of, and public accessibility to, the primary land information system.
5. Assign to a central agency the responsibility for the development of standards for the coordination and the integration of secondary land information systems with the primary system.
MINISTRY OF MINES AND RENEWABLE ENERGY

Luncheon Address to
The Fourth Canadian Symposium on Mining Surveying and Deformation Measurements
The Banff Centre, June 9, 1982
Presented by:
Mr. Robert E.D. McCuaig, M.Sc., P.Eng., A.L.S., C.L.S.

I would like to thank the organizing committee for their invitation and for their generous assistance provided to me to attend this Fourth Canadian Symposium on "Mining Surveying and Deformation Measurements". The preceding two and half days of papers have presented an overview of the integrated and multi-disciplinary aspects of surveying required for the mining industry, which have included:

- Mining Surveying
- Associated Engineering Surveying Technology
- Photogrammetric Techniques for Deformation Surveys
- Rock Deformation and Geotechnical Surveys

I welcome this opportunity to express one of my concerns as an engineer and surveyor involved with consulting to the resource development sector, namely, the apparent minimal use of survey control networks for major developments.

Consulting engineering and surveying companies are called upon by resource development companies to advise, design and implement survey control networks required for site development. The International Society for Mine Surveying defines mine surveying "as a branch of mining science and technology which includes all measurements, calculations and mapping which serve the purpose of ascertaining and documenting information at all stages from prospecting to exploitation and utilizing mineral deposits both by surface and underground working".

The scope of activities of mine surveyors therefore requires an accurate integrated survey control network from which to base mine management. Multi-disciplinary relations that depend on accurate positional data include:

- Geodesy
- Geology
- Geophysics - to assess seismicity
- Rock mechanics - highwall monitoring
- Environmental rehabilitation
- Geotechnical monitoring

The keynote speaker, Mr. Gary Livingston, President of B.C. Coal, mentioned that "information is power", a point with which I concur.

Recent developments that depend on Survey Control in Mining are:

- Exploration and mapping of mineral deposits; digitization and numerical presentation of the geological, mineral and tectonic data; developments of computerized data banks for geological and mining data manipulation.
- The problem of ground subsidence in mining areas is a major problem in areas subject to development. Geodetic surveying methods (vs. geotechnical instrumentation) have been successfully applied in the development of prediction theories when planning a mining exploration under densely populated and industrialized areas.

HISTORICALLY

Historically, grid systems were laid out that consisted of a system of orthogonal lines approximately perpendicular and parallel to the underground workings or the geological alignment of the resource that was to be exploited. The exploration geology has usually been conducted with any available small scale survey control. Frequently, photogrammetric mapping, which is required at an early stage of the development used whatever sparse control was readily available.

On the prairies in Canada, the Third System of Survey with its well known checkerboard pattern, which you all have seen from the air, has been used as survey control in the absence of any other control.

A CASE HISTORY

A case history that I would briefly like to discuss is that of an open pit mine in Alberta.

Not unlike many other mine operations, they started their plant on their own survey system.

1. The original Grid originated from a survey intended solely for aerial mapping of the area. The origin of the coordinates was a section corner on a baseline (0.00 N and 0.00 E) with the bearings referred to the meridian through that point. This point was chosen because it was located on the previously surveyed baseline, which had been cut open.

2. A second survey system was established fifteen years later and is a grid system which is parallel to the axis of the mine. The origin of the coordinates was a random point and rotated approximately 20° west of true north. This grid system became known as the Prime Contractor’s Grid.

3. The third system of Township Survey is a legal system of land subdivision governed by statute law in the Province of Alberta. This third system is the system in which the mine was required to connect to the appropriate licensing agencies, namely ERCB.

4. In order to protect proprietary geology information, a new exploration geology hole numbering system was introduced to replace the original Grid System. The hole locator system was based on a grid coincident with the Contractor’s grid; however, the origin was off the mine.

5. With the introduction of metrical grids, all coordinates were converted but in order to do away with any negative coordinates, a false easting and northing were applied to all the previous origins.

All of these survey systems were extended as required and the integrity of the survey the further from the origin was always unknown. Since the surveyor’s frame of reference was within the survey network, he could not quantitatively assess the accuracy of the network. The problem with extrapolating survey control is not unlike trying to determine the deflection in a cantilever beam if you are on the beam and it is therefore your frame of reference.

The company of which I speak of recognizing their need to establish a geodetic survey basis for all phases of development at their site requested the firm of W.D. Usher & Associates Ltd. to design such a framework. To resolve the problems presently encountered with the multiple reference systems, the designed survey network consisted of comprehensive survey control for the integration of all surveying and mapping.

Survey control, as defined by the Alberta Bureau of Surveying and Mapping is: "a rigid and mathematically exact co-ordinate marked permanently on the ground and centrally recorded, and which is used to correlate information from all types of surveying, mapping and development activities." With respect to centrally recorded information, it is vitally important that mining surveyors become aware of the plethora of survey information which exists not only in the provincial bureaus of surveying, but also at Geodetic Survey of Canada in the National Geodetic Data Base.

We recommend that the resource development company take immediate steps to establish and utilize the Alberta Survey Control which sometimes is referred to as a 3° TM Grid or 3° Transverse Mercator Grid.

als news fall, 1982
We frequently are called upon to provide initial survey control for new developments; however, we believe it is our professional responsibility to discourage the implementation of local reference systems rather than to survey a comprehensive survey system. The survey requirements of the total project must be considered.

I would like to recommend to this audience that every new development, such as those taking place at Tumbler Ridge, B.C. should be surveyed in accordance with those statute regulations that govern survey control areas. The resulting coordinates should be recorded at a central agency which is charged with the administration of the legislation which governs the application of Survey Control to the legal survey system. Mining companies or their consultants should be able to conduct a pre-analysis for the design of the network and subsequent adjustment of the data to insure compliance with all standards. The variance/co-variance matrix should form part of the record forwarded to the government for filing. The challenge is for the private sector to voluntarily forward their survey information to a central registry for the betterment of the public record. Consider for a moment the possible applications to geology and mining if Manalta (Greg River) and Luscarn (Cardinal River Coal) were on an integrated control system.

All resource developments are now huge projects and as such, require extensive survey planning at the outset of the project. An integrated survey based on the provincially adopted coordinate system would enable aerial photography, ground control for aerial photography, permanent ground control, precise survey control for plant site area and the coordination of legal survey boundaries to all be integrated within the survey control network. Before any part of the project is completed, the impact on the total project should be considered.

More firms in Canada should be developing the capability of completing such a survey project themselves without being dependent on the design and computing facilities of governments. This requires modern and sophisticated least squares and adjustment programs for horizontal control surveys capable of doing a complete computerized simulation of the network before the field work commences to insure that it will meet the required accuracy criteria. This same program should be able to do a complete computerized adjustment and statistical analysis on the returns of the field survey.

As a cadastral surveyor, I can not ignore that with the implementation of a survey control network, all existing property corners should be tied to control in order to preserve the legal survey fabric and facilitate its replacement at the rehabilitation stage.

The Mine Surveyor will be called upon to define the economic merits of installing a universal system of survey control rather than merely utilizing a local framework. I contend that survey control is the pre-requisite for resource development of an area.

The benefits of survey control can be considered as small at first and will overtake the costs in most cases, only after ten or more years. While it is difficult to document, it is widely accepted that the benefits after twenty years are enormous compared with the costs.

Some of the obvious advantages of implementing a Survey Control network at a resource development site are:
1. National/international in scope through a consistent and well-defined relationship to latitude and longitude, i.e., allows for interchange of geology between sites.
2. A definite known positional accuracy (ellipsoid of error) at a known confidence interval, for each monument.
3. Confidence and knowledge that error propagation is not distorting the survey.
4. The primary network can be densified at any time if there is a need for additional survey control in a particular area.
5. Permanent monumentation which can be used for photo control for all mapping conducted throughout the life of the project.
6. All mapping to be conducted will be compatible with the metric 3° Transverse Mercator provincial mapping program as well as the National Topographic Series map sheets.

continued on page 31
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ARTICLED PUPILS
by Allan W. Nelson, A.L.S.
Address presented to the ALSA Professional Practice Seminar - March, 1982.

The morals, work habits and techniques, of articulated pupils which are acquired during their period of articles, form the basis for professional conduct subsequent to obtaining commissions as Alberta Land Surveyors.

These individuals are the life blood of the Alberta Land Surveyors’ Association and as such should be charged with improving the image of the profession in the public eye and maintaining established ideals. This can only be accomplished through proper instruction, supervision and example.

Consider for a moment the possibility that the education process in the past as well as the daily policies of employers have not covered the full scope of professional practice.

The Alberta Land Surveyors
Numerous shortcomings have been clearly demonstrated in the past by Alberta Land Surveyors:
- Articled pupils are often supervised to a great extent by another Land Surveyor or by non-professional, technical staff.
- Failure to instruct assessment of evidence in the field but rather by verbal, written or no instruction is a common occurrence.
- A complete variety of projects and a complete scope of duties not made available to many pupils.
- The ability of an individual to properly and professionally conduct a field survey for example represents only one aspect of a multi-faceted operation.
- Failure to demonstrate personal and corporate limitations and obligations as well as encouraging healthy interchange with other land surveyors or allied professionals.
- Failure to instruct pupil on application of various acts, regulations, municipal policies, procedures and bylaws.
- Disregard for preparation and presentation of professional reports.
- Failure to report both the merits and inadequacies of a candidate for commission as an Alberta Land Surveyor to the Association and to the pupil prior to final assessment by the examination committee.

Little has been done by many Land Surveyors to formally assess their articulated pupils or to discuss this assessment with them in a constructive manner. When a land surveyor completes an Affidavit of Field Service and Discharge of Articles the Association and the profession as a whole are relying on the opinion of that individual as to the competence of the pupil. The pupil is articulated to a particular land surveyor for the specific reason that the land surveyor is responsible for the practical and academic growth of the pupil. The surveyor’s responsibility is to provide the instruction or to put the vehicle within the pupil’s grasp through which he or she may obtain the required knowledge.

There are obvious inconsistencies between Alberta Land Surveyors in the manner in which articulated pupils are handled, treated and instructed.

I was told, as a pupil, when I requested an opportunity to follow a file through, particularly plan preparation and processing, that there would be lots of time for that after I got my commission. This exhibits that this particular surveyor was interested in withholding meaningful and necessary knowledge from a pupil. For what potential reason? Possible personal business gain and the probable prospect of keeping an experienced employee in a lesser position for a longer period of time? Another surveyor (employer), to whom I was not even articulated, saw fit to arrange for and sponsor private tutoring lessons in one particular problem subject. We see two extremes here that demonstrate only one inconsistency. Has our Association fallen short in providing direction to the membership?
- Failure to demonstrate awareness of professional, personal and corporate liability.
- Failure to instruct the pupil on the relationship of business and finance to the profession.

A good surveyor does not necessarily make a good business manager and conversely a good business manager not necessarily a good surveyor. It is however, only reasonable to assume that a candidate for commission as an Alberta Land Surveyor should have some knowledge of business and financial administration. A surveyor in private practice should be able to demonstrate financial responsibility for the protection of clients and the general public. Unbiased service to the public should take precedence over monetary considerations.

Liability
Professional, personal and corporate liability is an area of which a candidate should have a clear understanding not only as to pitfalls but of obligations and responsibilities, should errors or omissions occur. Again protection of the public should be paramount in order to maintain the integrity of the profession.

Let us have a good inward look at ourselves. Are we fulfilling our legal and moral obligations to our pupil?

The Association
If our Association has indeed been lax in providing direction to the membership, it may seem reasonable to introduce a mandatory detailed pupil assessment form to be completed by the surveyor with some measure of responsibility therefore being taken by the surveyor and require this to be a formal part of a candidate’s assessment.

The Articled Pupil
It would be erroneous and undesirable to presuppose that any and all articulated pupils could be or will be ideal surveyors. Not only must the surveyor make all efforts in instruction and evaluation, but the pupil must demonstrate many attributes:
- mental, emotional and physical capacity
- working knowledge of legislation and procedures
- ability to deal on an equitable and unbiased basis with peers, subordinates, other professions and most importantly with the general public.

I firmly believe that many of these characteristics can be implanted in an individual however, the desire to demonstrate a professional attitude is inherent to a great extent.

The continuing daily attention on our profession by the consumer at large dictates that all members of the Association must strive to demonstrate to articulated pupils the true meaning of professionalism. The pupil also has a great obligation to seek knowledge and investigate matters pertaining to the duties of an Alberta Land Surveyor.

Conclusion
It is only through conscientious instruction and maintaining truly professional work ethics that we may be able to maintain a respected profession and pass along a desirable occupation to future generations.

No written words can accomplish this. It is the daily actions of all Alberta Land Surveyors in a truly professional and progressive manner that will ensure preservation of an honorable profession by proper training, supervision and assessment of today’s article pupil.
THREE REASONS TO CHOOSE GREENPARK...

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THE CONTRACT PARTY CHIEF
by L.W. Breton, A.I.S., C.L.S.
Address presented to the ALSA Professional Practice Seminar - March, 1982.

Up until recently our booming economy has spawned a new type of surveyor - the Contract Party Chief. Who is he? What does he do? How does he operate? How come he is able to operate? Is his operation a detriment to the public or to our profession? I will try to define what type of person will most likely fall under this heading and then outline some of the advantages and disadvantages of using such a person. I will also point out the ethical problems a land surveyor faces when dealing with this.

Who is he? He could be an ex-party chief who wishes only to work part-time and offers his services to whatever firm or surveyor that requires his services. He also can be a land surveyor just starting out and/or does not wish to establish a survey operation, or who handles the overflow of other firms or surveyors. He also could be the entrepreneur type who though not desiring or maybe not able to acquire a commission as a land surveyor is still ambitious enough to go on his own. The last type of contract party chief is one who is hired out at an agreed rate from one firm to another.

How does he operate? He usually will work on an hourly or daily basis for the duration of a project or during a period of time that the surveyor or survey firm is overloaded and still wishes to give its clients service. He also, in some cases, works for a set price on a particular project which the surveyor or firm will farm out to him, but is usually supervised by the surveyor. Other times the situation is that the contract party chief has actually obtained the survey assignment himself and is in reality hiring the surveyor for his signature and possibly for his supervision and expertise.

Why hire a contract party chief and what advantages are there in using him? Well he can handle overflow work so as to give clients service within a reasonable time. Projects too large for the surveyor’s or firm’s staff can thus be done by utilizing contract party chiefs. Though usually the contract party chief costs more than regular employees, he is paid only while working and not during slack times or off-seasons. Since he usually provides his own equipment there is little or no capital investment required. He is usually quite experienced in the field of surveying he offers his services in, and with proper supervision can be expected to do a good job. He will usually fix up his mistakes on his own time.

There are however, several disadvantages to using contract party chiefs for the user and for the profession as a whole. There may not be the same control over this person as there is over one’s own employees. If one does not supply proper supervision and control, one then becomes an agent and is allowing a non-land surveyor to practice surveying. The contract party chief may after a while acquire his own clients and in effect be practicing land surveying in competition with his former employers. In cases of serious errors he does not usually have proper insurance or enough financial resources to stand behind his work. In cases where one firm hires out a party chief or crew to another firm or surveyor there is the possibility that the client is paying more for his services than he should.

There seems to me to be many serious ethical problems involved when we use contract party chiefs. In the case where a land surveyor is used as a contract party chief is one being an agent? If the contract party chief is a non-professional, is one in reality allowing him to practice land surveying? How responsible is the land surveyor and/or firm for the work and actions of this party chief, especially if he is operating as an incorporated entity. In the final analysis is the public being served and protected?

With the slowdown of the economy firms and surveyors will maybe not use contract party chiefs as much. However, this practice will continue and we should extensively debate this and decide whether it should continue and if so maybe set up rules or guidelines concerning the hiring or use of contract party chiefs.

In the meantime, my opinion is that if a land surveyor does use a contract party chief, he is completely responsible for any plans he has signed for work done by this person and if he has not adequately supervised and controlled this person’s work he has allowed a non-land surveyor to practice land surveying.

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SURVEYOR/PILOT CAPTURES COVETED PRIZE

The Canadian Owners and Pilots Association (COPA) sponsor annually an Air Rally known as the Governor General’s Cup. The trophy was donated for annual Canadian competition by Governor General Vincent Massey in 1953.

The race is a rally, not a speed test, and is a competition of pilot skills, navigation, photo interpretation and flight management. Lyle Ford and his navigator (son), Dean A. Ford, scored 92% over 37 other aircraft flying out of the Namao Air Base in Edmonton on August 28th. The flight was a triangular course from Namao to Bellis and Athabasca. Lyle flew his Cessna 210 around the course in 72 minutes and 12 seconds (late 12 seconds on his flight plan) and landed 28 feet past the designated spot on the runway to score a win.

Lyle and Dean share a $500 prize and keep the coveted trophy for a year along with two small keeper trophies. Lyle has logged around 2600 hours flying over the last 15 years for pleasure and business.
CONTINUING EDUCATION QUESTIONNAIRE
A Summary of Results for Alberta

by Dr. Clive S. Fraser
Division of Surveying Engineering
The University of Calgary

INTRODUCTION
Technological changes have had a profound impact on the surveying profession over the past decade, and nowhere has this been more apparent than in Alberta. Accompanying the vigorous activity in the energy and resource sections of industry, new instruments, techniques and methodologies such as inertial surveying systems, total stations, digital mapping and geodetic network pre-analysis have gained wide commercial acceptance. A measure of a professional surveyor’s competitiveness is largely gauged by how well informed he or she is on the subject of these new theoretical and practical developments.

The imparting of new knowledge relating to professional practice is largely the role of continuing education, through which both the level of formal education can be raised, and changing technology can be related to surveyors by refresher-type courses. With the specialized circumstances which now characterize the surveying and mapping profession, continuing education is a high priority item, a fact which is well recognized by the Division of Surveying Engineering at The University of Calgary.

During the winter months of 1981/82, a questionnaire was circulated to members of the surveying and mapping profession in western Canada by the Division of Surveying Engineering, in cooperation with the land surveying associations of the four western provinces. The questionnaire, which dealt with continuing education in surveying engineering, was compiled and distributed in order for the Division to assess the requirements of the surveying and mapping community in this important area. Further, the data from this questionnaire was to be used as an initial input to a continuing education data base for western Canada. A summary of the questionnaire results, relating to all four of the western provinces, is given in Fraser (1982). The purpose here is to discuss the results of the continuing education questionnaires that were circulated to members and articled pupils of the ALSA.

Prior to examining the outcome of the questionnaire circulation, it is useful to review the nature of the continuing education courses being offered by the Division of Surveying Engineering. The Division envisages offering courses at three levels:
(i) Professional Registration - for articling students and engineers in training;
(ii) The Professional (working) Level - primarily directed towards practicing engineers, land surveyors and others who require either refresher courses in, or a comprehensive introduction to recent technological and theoretical developments in surveying and mapping, and
(iii) The Advanced (graduate) Level - directed to the same professionals as in (ii), but pitched at a higher, state-of-the-art theoretical level.

The continuing education questionnaire was essentially divided into three parts, according to the levels (i), (ii), and (iii). Section A of the questionnaire dealt with level (i), whereas courses at levels (ii) and (iii) were contained in Section B. The first nine courses listed in level (i) are common to the examination syllabi of the Board of Examiners for Canada Land Surveyors, Western Canadian Board of Examiners for Land Surveyors, and the Canadian Council of Professional Engineers. Higher-level topics (levels ii and iii) mainly encompass recent technological and theoretical advances in surveying engineering.

RESULTS

Number of Respondents
Of 280 questionnaires sent out to ALSA members, 47 (17%) were returned. The response from articled pupils was somewhat more enthusiastic, being 36% (85 returns out of 166 sent out). Of the total number of questionnaires circulated 24% were returned, which is regarded as a moderate response. Although members and articled pupils filled in different colored forms, no distinction is made between these two groups in the following summary of results. However, it is interesting to note that a number of members sought courses in level (i) whereas a few articled pupils expressed an interest in higher-level courses.

Course Timings
With regard to the timing of continuing education courses, there was a very strong demand for the mid-winter period and a particularly weak demand for the summer months. The ratio of the number of respondents selecting the period November to February over those selecting May to August was about 5:1.

Course Format
For all levels, there was a strong requirement expressed for short, continuous periods of instruction. Courses of say, one day per week for six weeks were in less, though still significant, demand. At the professional level there was also a firm demand for a format of one or two day seminars.

In terms of numbers, of 70 respondents to section A, 39 opted for the six day course whereas, 29 chose a format of one day per week for six weeks. In Section B, 34 respondents expressed a preference for the six day course, versus 39 for the one to two day workshop or lecture series, and 31 for both the seminar and the one day per week course format. The number of responses in Section B exceeds the number of respondents to levels (ii) and (iii) because in many cases both options were selected.

Location
The majority of respondents to both Sections A and B are prepared to travel to Calgary to participate in continuing education courses. The ratio of those in favor of Calgary versus another provincial city was about 2.5:1 for both sections of the questionnaire.

Demand for Individual Courses

Section A - Professional Registration
Table 1 lists the number of respondents to each of the professional registration courses in Section A of the questionnaire. With the possible exceptions of map projections, photogrammetry, hydrographic surveying, and engineering and mining surveying, all courses in Section A could most likely be viably run at this time on the strength of the demand from ALSA members and articled pupils alone. The strongest demand exhibited is for the topic of adjustment and data analysis (which augurs well for the forthcoming CIS adjustment seminars), cadastral studies and geodesy.
TABLE 1
Number of Alberta Land Surveyors' Association members and articled pupils selecting professional registration courses in Section A of the continuing education questionnaire.

<table>
<thead>
<tr>
<th>Course</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Adjustment and Data Analysis</td>
<td>42</td>
</tr>
<tr>
<td>(2) Survey Astronomy</td>
<td>25</td>
</tr>
<tr>
<td>(3) Geodesy</td>
<td>34</td>
</tr>
<tr>
<td>(4) Photogrammetry</td>
<td>13</td>
</tr>
<tr>
<td>(5) Surveying II</td>
<td>25</td>
</tr>
<tr>
<td>(6) Cadastral studies</td>
<td>38</td>
</tr>
<tr>
<td>(7) Applied Photogrammetry &amp; Remote Sensing</td>
<td>29</td>
</tr>
<tr>
<td>(8) Hydrographic Surveying</td>
<td>19</td>
</tr>
<tr>
<td>(9) Cartographic &amp; Map Projections</td>
<td>11</td>
</tr>
<tr>
<td>(10) Physical Planning</td>
<td>24</td>
</tr>
<tr>
<td>(11) Engineering &amp; Mining Surveying</td>
<td>14</td>
</tr>
</tbody>
</table>

TABLE 2
Number of respondents selecting professional and advanced level courses.

<table>
<thead>
<tr>
<th>Course</th>
<th>Professional</th>
<th>Advanced</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(ii)</td>
<td>(iii)</td>
</tr>
<tr>
<td>(1) Advanced Satellite Positioning</td>
<td>25</td>
<td>7</td>
</tr>
<tr>
<td>(2) Analysis and Design of Geodetic Networks</td>
<td>19</td>
<td>2</td>
</tr>
<tr>
<td>(3) Analytical Methods in Remote Sensing</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>(4) Application of DTM's in Surveying Engineering</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>(5) Contemporary Cadastral Studies</td>
<td>25</td>
<td>6</td>
</tr>
<tr>
<td>(6) Digital Methods in Topographic and Resource Source Mapping</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>(7) Engineering Deformation Surveys</td>
<td>14</td>
<td>3</td>
</tr>
<tr>
<td>(8) Interial Surveying</td>
<td>26</td>
<td>5</td>
</tr>
<tr>
<td>(9) Least-Squares Estimation and Error Analysis</td>
<td>16</td>
<td>6</td>
</tr>
<tr>
<td>(10) Non-Topographic Photogrammetry</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>(11) Operations Research in Surveying Engineering</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>(12) Physical and Dynamical Geodesy</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>(13) Position-Based Land Information Systems</td>
<td>19</td>
<td>5</td>
</tr>
<tr>
<td>(14) Redefinition of Continental and Regional Geodetic Datums</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>(15) Specialized Adjustment Methods in Photogrammetry</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>(16) Survey Instrument Methodology</td>
<td>14</td>
<td>4</td>
</tr>
</tbody>
</table>

Section B - Higher Level Courses
The numbers of respondents selecting each of the higher level courses as one of their first four preferences, at both levels (ii) and (iii), are listed in Table 2. The demand in level (ii) seems to be centered on the topics of inertial surveying, contemporary cadastral studies, advanced satellite positioning, geodetic network design and analysis, and position-based land information systems. When the questionnaire returns from the three other western provinces are taken into account, it appears that these four courses could be viable run at this time.

As regards the advanced level courses, it is apparent that there is simply not enough demand for these offerings. In this category, the course attracting the most demand was advanced satellite positioning, but only 7 out of 69 respondents selected it.

CONCLUDING REMARKS
The following conclusions are drawn not only from the Alberta questionnaire returns but from the results for the entire sample of 234 completed questionnaires. However, the weight of the 106 ALSA returns in this sample is quite apparent in the results. Briefly, the conclusions include:

- In the western provinces there is a moderate demand for continuing education in surveying engineering at the professional registration level. However, this demand is concentrated mainly in Alberta and, to a lesser extent, in British Columbia.
- There is a strong demand for half a dozen or so courses at the higher or professional level. Again this demand appears to be mostly from Alberta.
- There is presently insufficient demand for advanced high-level continuing education courses in surveying engineering.
- Initially, courses should be offered in Calgary. At a later time they could be held in Edmonton and Vancouver, and perhaps in other provincial cities.
- Courses should be conducted in winter, and they should follow a format of a concentrated two to six day presentation.

continued from page 25
7. All statutory reporting can be done using survey control.
8. All legal evidence in the area can be referenced to the control network. This allows legal monuments to be re-established quickly and accurately if they have been destroyed by construction.
9. A site control network allows construction to be carried out on an interconnected structure at different locations on the structure with the prior knowledge that the structure will fit together to a pre-determined tolerance.
10. Data Bases and/or Digital Terrain Models (DTM) compiled by photogrammetric techniques are only inter-related if they are on the same control network. The classic analog techniques of photogrammetry are presently giving way to digital techniques as required for DTM. Data management through total station survey systems and photogrammetry can be compared if the final presentation is to be a DTM.

In conclusion, since public money is being spent to establish Geodetic Data Bases, I think that Mine Surveyors have a responsibility to have their survey control incorporated in the public domain for the overall strengthening of the national survey fabric. Co-ordination is needed between Government and the private sector prior to being compelled through legislation to make survey control available. I believe resource development companies should be encouraging the Government to record their control surveys in the public record. This would strengthen the need for higher professional standards, educational background and responsibilities of the mine surveyor, in order to achieve these control surveys.

No mining property of large magnitude can be worked systematically, efficiently and confidently without a control survey.

als news fall, 1982
BOOK REVIEW

Arpenteurs de Nouvelle-France
by J. Roland Pelletier

This book, obviously based on a tremendous amount of research, starts off with a general review of the basic history of surveying starting with quotes from the Bible "Deuteronomy - Cursed be he that removeth his neighbor's landmarks" to the Babylonians, to Egyptians, the Greeks and the Romans. It then goes on to explain how the survey profession developed in France and the evolution of the different units of measurement and area. The "arpent" was a unit of area which varied depending on time and locality. One hundred "perches" equaled one arpent. The "toise" was a unit of measure equal to 1.949 metres.

The geographical area covered by the book is the Gaspe, City of Quebec and environs, and Mont-Royal (now Montreal), and environs. They were claimed by Jacques Cartier in 1534 and 1535 in the name of the King of France. The book explains how land surveying developed in la Nouvelle-France and then changed again when the English took over the country.

The main thrust of the book is a biography of the professional lives and where possible the social and personal lives of the first surveyors. It is based on records in archives, court records, registries, memoires, and records kept by the different religious orders.

The first surveyor in Nouvelle-France is conceded to be Samuel de Champlain but little space was given to him as the author felt that other historians had very capably covered his life. The next surveyor was Jen Bourdon, (1601 - 1668) surveyor/engineer. All in all, the lives of 22 surveyors, hydrographers, cartographers, explorers and professors of surveying from 1601 to 1790 are covered.

A point of interest is how the first land concessions called "seigneuries" were parcelled out and how the surveyors always added a "little bit" extra to their measurements so as to ensure full measure to the concession. The next is the types of instruments and survey techniques used. Re-establishment of property boundaries were as much a problem then as now, if not more so.

Though somewhat criticized in this book, for lack of precision in their work it must be realized that these men were more interested in laying out properties in a practical sense than in spending time obtaining the best possible precision with the rudimentary equipment at their disposal. It is also significant that along with logistic problems of trying to lay out properties in virgin country, most of this work was done on a bid basis.

With the exception of Benigne Basse Deslaurier (1639 - 1659) of whom the records are quite critical, most of these men came out as hard working and dedicated. They mostly were family men (lots of kids) and showed a tendency to become bureaucrats in later life. Very few were the swashbuckling type of adventurer one would expect to find in this era. Exceptions to this were Louis Jolliet, discoverer of the Mississippi and Antoine Silvy who went to James Bay with Louis Jolliet.

M. Pelletier's book was written for L'Ordre des Arpenteurs Geometres du Quebec, and as such was intended to be read mostly by Quebec land surveyors. Some of the descriptions and address locations are not easy to follow if you are not native to the area. Though M. Pelletier has obviously tried hard to dig up all the facts, many of these men come through only as dry, dusty skeletons of themselves. It is too bad we can't see them more completely. How big were they? What were their loves, hates and ambitions? Why did they come here in the first place? But every once in a while you do get a hint or a flash of insight. If you are willing to spend several long winter evenings with this book, you may get an insight into another world and another time. Of course you must be able to read French.

The book is available at the Alberta Land Surveyors Association library.

L.W. Breton, A.L.S., C.L.S.

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TRESPASS - DAMAGES

While this case deals with the issues of the negligent operation of oil wells and trespass to property, the focus of this comment is on the liability of surveyors to land owners. Decided by the Supreme Court of Alberta, the facts of the claim against Alberta Surveying Services are as follows.
Taylor was a sheep farmer in Wainwright, Alberta and while he maintained his farming operation, Pacific Petroleum had oil well sites and access roadways on his property. On August 4, 1973, Taylor left his property to go to Wainwright, and as he left he secured all of the gates around the property where his sheep were kept. When he returned to his farm that evening, he discovered that his sheep were out of their enclosure and that they were roaming over a wide area.
When Taylor rounded up his sheep, he found that some of his ewes were mixed with rams that Taylor had segregated from the rest of his flock as they had not yet been de-wormed. This circumstance proved unfortunate for Taylor, as some of his ewes were impregnated by the rams earlier than Taylor in January instead of in the spring. This meant that Taylor would incur the cost of feeding these animals, as opposed to putting the ewes and new born lambs out to pasture. In addition, some of the ewes contracted worms as a result of their contact with the rams.
Taylor also found that ten or fifteen poplar trees had been cut down on his property, as well as a number of saskatoon bushes. Taylor had planted the trees as shade for his sheep, and he apparently used the berries from the saskatoon bushes for food.
On August 4, three employees of Alberta Surveying were on Taylor's property to establish the boundaries of flow lines connecting two of Pacific Petroleum's well sites. The surveyors left by the gate from which Taylor's sheep escaped, at trial, the survey crew member who testified could not recall what steps were taken to ensure that the gate was correctly fastened.
At trial, in discussing Taylor's claim for negligence against Alberta Surveying, Wachowich, J. held that the survey crew had not exercised proper caution in entering or leaving Taylor's field. Thus, on a balance of probabilities, the survey crew had not fastened the gate securely. Knowing that the sheep were within the property, the crew ought to have returned to check that the gate was securely fastened before leaving the property. In addition, the survey crew should have foreseen that the escape of the sheep might have severe consequences.
Wachowich, J. also held the surveyors responsible for the destruction of Taylor's saskatoon bushes and poplar trees. The survey crew apparently did not realize that the trees and bushes were not on the part of the property leased by Pacific Petroleum. (Under the leasing arrangement, Pacific apparently had the right to use the property in any way they wanted). Section 73 of the Alberta Surveys Act states that a surveyor cannot do any damage while working on another's property. As the trees and bushes were cut without Taylor's permission, Alberta Surveying were liable for the cost of replacing these items.
Damages for the escape of the sheep were assessed under three heads against Alberta Surveying by Wachowich, J. The surveyors were found to be liable for:
1. the cost of de-worming the sheep that became infected after contact with Taylor's rams
2. ten per cent (10%) of Taylor's saskatoon bushes
3. the cost of Taylor's labour to round up his sheep

For a copy of this case, contact the Law Society of Alberta, 133 10th Avenue, Calgary, Alberta. The cost of the book is $1.50.

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