

geogram

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FROM THE DEPUTY DIRECTOR GENERAL

GSC AND FEDERAL-PROVINCIAL RELATIONS

Two recent initiatives have indicated that the Geological Survey of Canada should formalize its relationships with provincial geological surveys. The first arose from the GSC Advisory Committee that meetings be held with provincial surveys to develop a basis for working with the provinces so that the GSC is in fact a national geological survey. The second, was from the Federal-Provincial Relations Office that a formal mechanism should be established for communication between federal and provincial institutions. This would help alleviate current complaints from the provinces, over a much larger spectrum than the matter of geological surveys, concerning poor communication between federal and provincial agencies.

We believe that the Geological Survey has maintained, on a one-to-one basis, good communications with the provinces, although there have been occasional lapses. GSC generally checks, at least at the Divisional level, with provincial surveys regarding proposed projects to be undertaken in a province. All provinces are sent a listing of current projects indicating especially those having a field component for the coming fiscal year; occasionally we receive comments on these proposed projects from the provincial agencies.

Acting on the suggestions that federal-provincial communications should be improved, the GSC, represented by myself, recently briefed the Association of Provincial Geologists, a Subcommittee of the Mines Ministers Conference, on a proposal that the GSC and provincial surveys meet at least once, and preferably, twice a year. In these meetings we would discuss mutual program matters, identify duplication and gaps, and provide a forum whereby matters such as national standards and requirements for national programs could be presented and reviewed.

It was agreed that a meeting, convened by the GSC, take place prior to the GAC meeting in Quebec City, at which time the GSC will present the rationale for its program and provincial surveys will present theirs. Minutes of the meeting will be circulated to senior officials in federal and provincial bureaucracy as a means of indicating that a formal communication is taking place.

Notwithstanding the establishment of this more formal mechanism of communication we still expect GSC scientists to keep in touch with their provincial counterparts and to continue the transfer of scientific and technological information upon which both the federal and provincial organizations need to meet their responsibilities. ◇

Energy, Mines and
Resources Canada

Énergie, Mines et
Ressources Canada

NOTE DU SOUS-DIRECTEUR GÉNÉRAL

LA CGC ET LES RELATIONS FÉDÉRALES-PROVINCIALES

Deux événements récents laissent entendre que la Commission géologique du Canada devrait officialiser ses relations avec les organismes provinciaux de levés géologiques. En premier lieu, le Comité consultatif de la CGC a proposé la tenue de réunions avec les organismes provinciaux afin d'établir des bases de travail avec les provinces pour que la CGC devienne un organisme vraiment national d'étude géologique. En second lieu, le Bureau des relations fédérales-provinciales est d'avis qu'il faudrait créer un mécanisme officiel de communication entre les organismes fédéraux et provinciaux. Cette mesure contribuerait à atténuer les critiques actuelles des provinces, qui s'étendent à bien d'autres questions en plus des levés géologiques, au sujet du manque de communication.

Nous croyons que la Commission géologique a toujours gardé de bonnes relations avec les provinces, chacune prise séparément, bien qu'il y ait eu des difficultés occasionnelles. Avant d'entreprendre des travaux, la CGC se renseigne auprès des organismes provinciaux au moins au niveau des divisions, au sujet des projets à entreprendre dans la province. Toutes les provinces reçoivent une liste des projets courants, spécialement ceux qui, comportant des travaux sur le terrain, sont censés être entrepris au cours de l'année financière à venir. Il arrive parfois que les organismes provinciaux commentent ces projets.

Afin d'améliorer les communications fédérales-provinciales, la CGC, que je représentais, a récemment présenté à l'Association des géologues provinciaux, sous-comité de la Conférence des ministres des mines, un mémoire où il est proposé que la CGC et les organismes provinciaux analogues se réunissent au moins une, et de préférence deux fois, par année. Il y serait question de la possibilité de programmes communs, du double emploi et des lacunes, des normes nationales et des besoins de programmes nationaux.

Il a été convenu qu'une réunion, convoquée par la CGC, aura lieu avant celle du CCC (Comité consultatif de la CGC) qui se tiendra à Québec; la Commission y présentera alors la raison d'être de son programme et les organismes provinciaux en feront autant. Le procès-verbal de la réunion sera distribué aux fonctionnaires supérieurs fédéraux et provinciaux, afin de bien indiquer le caractère officiel de ces réunions.

En dépit de la création d'un tel mécanisme de communication, à caractère officiel, nous nous attendons encore à ce que les scientifiques de la CGC maintiennent leurs relations de travail avec leurs collègues des provinces et poursuivent l'échange d'information scientifique et technique dont les organismes fédéraux et provinciaux ont besoin pour assumer leurs responsabilités. ◇

STAFF NEWS

Director General's Office

J.O. Wheeler

In fulfillment of an obligation undertaken in 1973, when John Wheeler agreed to become Chief Geologist (Deputy Director General) of the Geological Survey, and in accordance with his expressed desire to resume a research career, he will revert to the Research Scientist's classification at a date yet to be determined later this year. As a result of his leadership and guidance, the present program of the Geological Survey is more clearly defined, and better understood by both management and scientist than possibly at any other time in the Survey's history. Furthermore, John leaves the position with an encyclopedic knowledge of the Survey's activities, and of the geology of Canada, which will be of further benefit to the nation by his resumption of a research career. It would be hard to over-emphasize the value of his contribution to the Survey during his years as Chief Geologist and we may all look forward to our continued association with him and his wise and balanced judgement on our science for many years to come.

- D.J. McLaren
Director General

Digby McLaren was in Washington for meetings of the Board of the International Geological Correlation Project. As chairman of the board he presided over the annual meeting of the scientific committee and the 7th meeting of the Board. *W.W. Hutchison* was also present as an ex-officio member in his role as Secretary General, IUGS.

Atlantic Geoscience Centre,
Dartmouth

Graham L. Williams is the new Head of AGC's Eastern Petroleum Geology Subdivision. Graham is a palynologist, and worked in the petroleum industry in Canada and the United States before joining the Geological Survey of Canada in 1971. Apart from international eminence in palynology, Graham is well-known as the editor of *Geology*, an instigator and past president of the Atlantic Geoscience Society, etc. Sometimes, in the past, he drove management nuts; now he is one - a manager, that is.

Sedley Barss, who also is a palynologist, spent six months as the Acting Head of Eastern Petroleum Geology Subdivision, until Graham took over. Sedley says he will be glad to get back to work!

Felix Gradstein went to Woods Hole Oceanographic Institution in December, 1978 for six months as a guest investigator in the Micropaleontology Section. In late January he spent two weeks as a guest lecturer at Carleton University in Ottawa.

Frank Thomas joined the Eastern Petroleum Geology Subdivision in July 1978, as a micropaleontology technician, working with Felix Gradstein. One of his principal responsibilities is the management of AGC's scanning electron microscope.

Piet Doeven arrived from Utrecht in October, 1978, as a N.R.C. Visiting Fellow. Piet is a micropaleontologist, specializing in late Cretaceous nannofossils. He is working with sample material from exploratory wells on the Scotian Shelf, Grand Banks and the Labrador Shelf.

The Eastern Petroleum Geology Subdivision, and the Resource Management Conservation Branch, have moved into the new Murray wing of the main building complex at Bedford Institute of Oceanography. Thus ends decentralization at AGC. More on this later!

Geological Information Division

Lloyd Babcock retired at the end of 1978 after 38 years of service with the Government of Canada. He joined the GSC in 1945 after service overseas with the Canadian Forces. Starting as a draftsman with the old coal section in Ottawa, under Dr. Mackay, Lloyd later became a senior supervisor and was one of our most experienced cartographers. A testimonial lunch was held by the cartographic staff to mark his retirement and he left almost immediately afterwards to spend his first winter of retirement in Florida.

We are happy to welcome *Debbie Martin* to the permanent staff of the library; Debbie won a recent competition as our new cataloguing clerk.

Congratulations to *Ingrid Weniger* who recently won the competition as cataloguer to the library at CANMET.

Paul Laurendeau also retired at the end of the year with 35 years of Government service. Paul was in charge of the map library and saw the collection through a number of phases, including transfer of the collection down to the lower floor and the general rehabilitation of the area with the present library annexe. Paul had rather a lonely post down there and was always glad to have visitors. We miss his company and his philosophical comments on life in general.

We welcome, as our Division Administrative Officer, *Florine Frappier* who came to us in January from the Canadian Council on Rural Development. She has had a busy time as we were without an Administrative Officer for some time; it would have been much worse if we had not been able to have the willing and cheerful services of *Lise Hyde* who did her best to keep the books straight. Lise is now acting as Division Secretary as *Ghislaine Demars-Charette* left at Christmas on maternity leave. Her baby - Marie-Josée - arrived early in January and recently visited us with her mother, both of them looking very well.

Institute of Sedimentary and
Petroleum Geology, Calgary

Joanne McCloskey is not really new on the scene but after several years of continuous employment in *Dale Cormier's* publications sales office she finally got her chance when she won the competition for *Debby Budvarson's* post as a CR3. Joanne has spent most of her life in Calgary and holds a B.A. from the University of Calgary.

Anne Cloney, who takes over *Joanne's* temporary post on what we hope will be a permanent basis, brings a wealth of experience to her position in publications sales which is an important interface with the downtown community. Anne has worked with H.M. Customs Office and also with Dome Petroleum in places as far north as Tuktoyaktuk. She holds a B.A. in English and French from Mount Allison University.

Karen Wallace has been with us for some time in temporary capacities but she also recently obtained prestige and permanence when she was appointed as an officer of the Energy Subdivision with the classification of PCL. Karen is a B.Sc. graduate from the University of Toronto with a major in geology.

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de la publication originale.

Aline Hennessey has come to us from DVA's Veterans Welfare to take the place of *Monica Wade* in *Nita Penley's* mailroom. *Monica* has transferred to the Department of Communications after winning a promotional competition.

Two new faces in the typing pool are: *Claudia Koch* from Winnipeg who came to help handle our word processing machines from a position with National Revenue; and *Elizabeth Pazur*, a stenotypist who worked in the sheriff's office in beautiful Kelowna, B.C. before coming to Calgary to see the bright lights and to meet some of the wild westerners. (Editor's Note: all she'll meet around here are people just back from their holidays in Kelowna or those who are planning to retire there!)

Diane Campbell is known to many in GSC Ottawa where she worked for many years as technician and *Bill Shilts'* aide de camp in Terrain Sciences. She later took a B.Sc. degree at Carleton and then joined us in a variety of temporary posts. She has recently been appointed assistant technician in paleontology - now that she again has a toehold in government science we hope she is about to start a long, steady climb to more challenging positions.

Regional and Economic Geology Division

The Economic Geology Subdivision has had the opportunity to trade ideas and experiences with three well-travelled geological "resident visitors" during last fall and winter.

John A. McDonald was with us as a Visiting Fellow for a little over three months last fall, during part of his sabbatical from the Australian National University, Canberra. *John*, an expatriate Canadian, worked vigorously on his project of studying "exhalite" lithologies in volcanic terranes. With the help of *Don Sangster* and other members of the Subdivision he visited the Matagami, Noranda, Timmins, and Bathurst camps to observe "exhalite" lithologies and to collect samples for petrographic and chemical studies. His aim is to recognize characteristics that might serve to distinguish sulphide-poor varieties of "exhalites" from similar rocks of different origin and thereby sharpen this exploration tool.

Saiful-Islam Saif, who is with us as a Post-Doctoral Fellow, was born in the Northwest Frontier Province of Pakistan some 35 years ago. He received his B.Sc. (Hons.) in

geology at the University of Peshawar in 1966 and went on to win the gold medal and his M.Sc. there in 1970. His interests were in economic geology and, not unsurprisingly for a man working in the rugged country north of the Khyber Pass, structural geology. In 1973 he went to the University of New Brunswick. To his credit, he took the change from good rugged geological exposures to bushy drift-covered New Brunswick hills (called mountains by the natives) in his stride. His Ph.D. thesis at UNB was on a structural-stratigraphic problem related to mineral exploration in the Bathurst district. After a visit to Pakistan he returned to Canada with his wife and joined our community last September. In conjunction with *Don Sangster* he arranged a study of the iron formations that are a distinctive feature of the Bathurst, N.B. massive sulphide camp.

David J. Mossman is with us as a Visiting Fellow during his sabbatical from the University of Saskatchewan. *Dave* is a peripatetic Nova Scotian. He had the early good fortune to do summer field work in British Columbia while a student at Dalhousie (B.Sc., 1959). Next (1959-62) he worked in Central Africa in mineral exploration for Anglo American. This provided material for his M.Sc. thesis on the East African rift system (Dalhousie, 1964). After a brief period of geological work in Nova Scotia, he and his wife, a fellow Nova Scotian, sallied forth to New Zealand in 1965. He enrolled at the University of Otago and studied the Greenhills ultramafic complex in southernmost New Zealand (Ph.D., 1970). Returning to Canada, he worked briefly in New Brunswick and then (1971) joined the University of Saskatchewan. *Dave's* broad geological interests are partly evident in the range of subjects he has pursued since he arrived in Ottawa last August and occupied *Alec Baer's* house (*Alec* in turn being in England on sabbatical from the University of Ottawa). These include studies of the dissimilar minerals lazulite and davidite, of geochemistry applied to locating blind exhalite ore deposits, and of the application of clay mineralogy to certain problems in Saskatchewan potash mines.

NEWS FROM VANCOUVER

An article by *Jim Monger* published in *GEOS* and entitled "Evolution of the Cordillera" was awarded a first prize for excellence and is to be entered in the International

Competition in Los Angeles. Another successful venture to popularize geology is *Geris Eisbacher's* "Vancouver Geology" published by the GAC. More than 7000 copies have been sold since the guidebook became available in 1973.

Tom Richards resigned from the Cordilleran Subdivision in the fall of 1978. During his five years with the Survey *Tom* made exceptional contributions in many disciplines concerning the geology of the Skeena Arch. He takes with him an expertise that will be irreplaceable for years to come. *Tom's* resignation is the first among the scientific personnel in twelve years.

Steve Gordey joined the staff in the fall of 1978 and comes to the Subdivision with an excellent background in the geology of southeastern Yukon. He is undertaking a project designed to update the regional geological mapping in Nahanni map area.

Janet Hinchliffe resigned from her position in the library to join MacMillan Bloedel Limited. Her successor is *Wynne Horwath*.

Thanks to the efforts of *Mary Akehurst* and her excellent group, the library and sales office provide an information services unit that has become well known to the public in the Vancouver region. The library sees a constant flow of exploration geologists, consultants and students and the integration of sales with reference material seems to be well received. Sales of open file maps have been aided by displays of coloured maps and photographs. In the library a globe, about 1 m in diameter, featuring a Russian geological map of the world has attracted much attention and study. If the space problem can be resolved many more regional maps will be displayed.

Terrain Sciences Division

John Luscombe joined the permanent staff of our Sedimentology and Mineral Tracing Section in January, 1979, after several years as a term casual. *John* will continue to work in our Flume Laboratory as well as our Sedimentology Laboratory.

Ed Bélec joined Terrain Sciences in April as Divisional Draftsman. He comes to us from Canadian Hydrographic Service. Welcome! *Graham Carmichael* is staying with the Division and is now working for the Radioactive Waste Disposal Program.

Central Laboratories and Administrative Services

We welcome *Jayne McAllister* and *Susan Gagnon* to the Word Processing Centre. Both Jayne and Susan operate the Xerox 800 Word Processing equipment. Jayne is from Department of Health and Welfare and Susan came to us from the Secretary of State. *Suzanne Lalonde*, who has been one of our operators since 1977, is leaving for a position in the Department of Finance. We would like to wish Suzanne all the best in her new job.

We are happy to see *Dwaine Davidson* back to work in our Shipping and Receiving area. Dwaine has been on French language training since May 1978. We have only one question for you Dwaine - "Parlez-vous français?"

Kathy Newberry, who operated the computer terminal for the Finance Office has left our Accounts unit for a new position in Financial Services. We welcome *Donna Lucas* to the Accounts office. Donna, who escaped to us from Anti Inflation Board where she was the sole pay clerk, is our new Accounts Payable clerk.

Resource Geophysics and Geochemistry Division

The newest member of the Magnetic Methods Section of RGG is *Dennis Teskey*, a native of Guelph, Ontario. Dennis' experience with airborne magnetics is extensive. After graduation from the University of Toronto in Engineering Physics in 1962 he spent three years with the Canadian Air Force working in Argus patrol aircraft. An M.Sc. in geophysics at U. of T. followed. Subsequently he worked on magnetic interpretation for Aero Service Corporation, the GSC and Geotrex Limited. Most recently he completed studies for a Ph.D. in exploration geophysics at McGill. He joined the GSC to work with *Les Kornik* and *Peter McGrath* on methods of interpretation of airborne magnetic data.

We congratulate *Dominique Roucher* who recently won a competition at the Computer Science Centre, 588 Booth Street.

Brian O'Connell joined the Geochemistry Subdivision in February. He previously worked at the Computer Science Centre (CSC) as a data processor. He will now perform data management and programming duties at the Survey. *Robert Ruddy*, who previously held this position, has left for the CSC.

OF GENERAL INTEREST

Digby J. McLaren, F.R.S.

Congratulations to our Director General on his election as a Fellow of the Royal Society for research on the Devonian rocks of Canada, for services to geology through the Geological Survey of Canada and for leadership in international scientific organizations. The Royal Society of London received its charter in 1662, is one of the oldest and certainly the most prestigious learned society in the world. Many letters and messages of congratulations have come in including a fine scroll from ISPG signed by all the staff. Division directors hosted a celebration lunch at Café de la Bonne Fourchette on March 28.

E.M.R. Libraries meet at Christmas

This past December saw the staff of the six EMR libraries in Ottawa get together to celebrate the festive season. The GSC Library hosted the affair and guests came from Remote Sensing, Surveys and Mapping, Earth Physics, Resource Economics, and CANMET libraries.

While the EMR libraries work closely on a daily basis, this occasion marked the first time that all the EMR library personnel have met for a social event. Seeing old friends, matching faces with familiar voices from the telephone, and meeting counterparts from other libraries made it an enjoyable afternoon for everyone.

By the time this GEOGRAM is distributed the amalgamation of Lapidary and Paleontology laboratories on Ground floor of 601 Booth Street will be complete. Since January 24, alteration and enlargement of the old Lapidary area have been underway with resultant chaos in both lab areas. During this time those persons needing thin sections have borne with us gallantly; we appreciate their consideration. The computer terminal area on the Ground floor opposite the Lapidary laboratory has also been refurbished to accommodate specialized paleontological collections. Soon most of paleontology will be situated in the north wing on the Ground and first floors. Room 500-520, the paleontology acid laboratory, has been rearranged substantially and now accommodates a conodont preparation unit as well as a reduced area for megafossil preparation. We have been fortunate to have *Anita Regan* as a temporary lab technician, for three months during the winter.

- Murray Copeland
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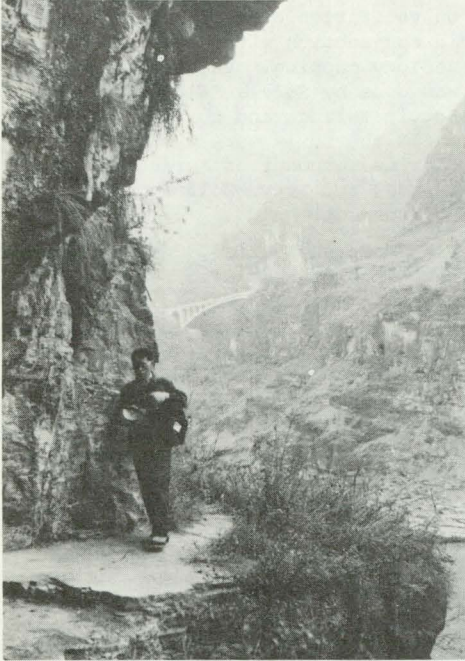
A special guest, Doreen Sutherland, was also at the party. For Doreen, who retired as Head of the GSC Library in 1977, it was a chance to see long time friends and to observe the results of the major library renovations that she planned. Her many friends in the GSC will be glad to know that she is healthy and enjoying retirement.

Everyone attending agreed that this event was a huge success and we look forward to more occasions like this in the future.◇



(From left to right) *Lois Claxton*, Head of Resource Economics Library; *Annette Bourgeois*, Head of GSC Library; *Peter Harker*, GID Director; *Valerie Hoare*, Head of Surveys and Mapping Library; *Doreen Sutherland*, past Head of GSC Library; and *Bob Blackadar*, Chief Scientific Editor.

Boundary Group in China



View of type Sinian exposed along old tow path above Yangtze River. Bridge for jeep trail access road in the background. GSC 203495-A

Bill Fritz was a Canadian representative on the Precambrian-Cambrian Boundary Working Group during a recent one month visit to China. This visit was sponsored by the Chinese Government and was part of the IUGS-IGCP program, following a proposal for international co-operation which was initiated at the IGC in Australia. △



Typical formational boundary marker at type Sinian section. Formational names are given in Chinese and English. Working Group member is A. Yu. Rozanov, Academy of Sciences, Moscow. GSC 203495-B.

Bill entered China from Hong Kong and visited Canton, Nanking, Peking, Kunming and many other smaller centres. Six other scientists from USSR, Germany, Sweden, England and U.S.A. were part of the group which also toured numerous geological institutes and university geology departments. Chinese geologists, who had been working on the problems of the Precambrian-Cambrian boundary for many years, led this group on field trips to inspect and study various widespread boundary sites. The boundary is of considerable interest to China because many economic phosphorite deposits occur above and near it.

The group found that studies in established fields, such as stratigraphy and paleontology, in China, were of high calibre but new fields, such as sedimentary petrology or classification of recently discovered micro-shelly fossils, were lagging, due to insufficient contact and communication with the international scientific community. ◇

Congratulations to the following who received the GSC "Oscar" - Jasper Conglomerate with silver crest - to mark completion of 25 years' with the Survey:

R.G. Blackadar, L.S. Collett
J.A. Fraser, H. Gabrielse,
O.L. Hughes, J.A. Lowdon,
J.A. Maxwell, I.M. Stevenson,
R.J. Traill, R.K. Wanless,
J. White, B. MacLean and
W.H. Champ

Environmental Impact Studies in the Terrain Sciences Division

Since the beginning of the decade a large proportion of the effort of Terrain Sciences Division, and its predecessor Division of Quaternary Research and Geomorphology, has been devoted to work that falls under the general heading of environmental impact studies. The level of commitment has varied, but during the period 1971-1973, about half the manpower resources of the Division were devoted to this general field. Major contributions by the Division have included surficial geology and terrain mapping of large areas of northern Canada, studies of geomorphic and permafrost processes and of terrain disturbance in the North, and contributions to formal environmental impact assessments for various construction projects. Much of the work was funded by the Environmental-Social Program, Northern Pipelines, and was designed to place government in a position to assess applications to build gas or oil pipelines in the North. In other words, the government was primarily its own customer for the information and expertise generated. However, the information has been used as the evaluation of other types of projects and has been made available to industry and the public at large.

Early work in this field included surficial geology and terrain mapping by Owen Hughes in the Norman Wells area and Vern Rampton along the Arctic Coastal Plain, my own studies of the effect of disturbance on the permafrost active layer, and Ted Owen's work on behalf of DIAND, particularly soil and permafrost studies along the right-of-way of the Pointed Mountain gas pipeline. Related but rather different work included input by John Fyles, on behalf of the Department, to the development of the 1972 Pipeline Regulations and Martin Bik's work in developing standards for the environmental information to be included in the design of the Mackenzie Highway between Fort Simpson and Inuvik.

From these beginnings, four major groups of activities developed more or less simultaneously between about 1971 and 1974. These were (1) surficial geology and terrain mapping of the whole of Mackenzie Valley and northern Yukon Transportation corridors, (2) topical research on permafrost distribution and properties and on terrain disturbance, (3) the production of the Terrain Sensitivity Map Series, and (4) the contribution of the Division to the assessment of the design of the Mackenzie Highway.

The surficial geology and terrain mapping program was undertaken by three teams of geologists. In the southern area, between latitude 60°N and 64°N, the team comprised Nat Rutter, Gretchen Minning, Tony Boydell, and the late John Netterville. The central area, from 64°N to 68°N and west to the Alaska boundary, was mapped by Owen Hughes, Doug Hodgson, Peter Hanley, and Jean Pilon; the northern sector from 68°N to the Arctic Coast, was mapped by Vern Rampton. The southern and central mapping teams ▷

included soil specialists from Environment Canada and Agriculture Canada: Collin Crampton, Steve Zoltai, Wayne Pettapiece, and Charles Tarnocoi. The mapping procedures have been described in a recent paper by Rutter (1977).

Permafrost research in Mackenzie Valley included thermal and engineering studies by Ralph Isaacs, terrain disturbance by Pavel Kurfurst and myself, and slope studies by Jim Code. Work was also done in co-operation with *Jim Hunter* and *Bill Scott* of the Resource Geophysics and Geochemistry Division. These studies were carried out at many locations in the Mackenzie Valley and Delta region. While all this work was underway on land, *Jim Shearer* had begun looking at the floor of the Beaufort Sea, investigating surficial geology, permafrost, iceberg scours in the seabed and submarine pingos. After Shearer left the Division the work was carried on by *Steve Blasco* and *Mike Lewis*, who concentrated on the surficial geology and iceberg scours respectively.

Many of the reports resulting from work in these two programs were published in the report series of the Environmental-Social Committee.

The third major activity at this time was the production of the Terrain Sensitivity Map Series by *Robin Lee Munroe*. These derived maps were based on surficial geology and terrain characterization maps, designed to illustrate land capability and performance. The maps were issued as ten open files, each accompanied by extended legends not only describing the terrain conditions, but also rating the likely reaction of the terrain units to various forms of engineering activity and other surface disturbance.

The final activity during this period was the contribution of the Division to the assessment of the design of the Mackenzie Highway, through the medium of the Mackenzie Highway Environmental Working Group (*Heginbottom*, 1975). The first members of the Environmental Working Group from the Division were *John Fyles* and *Martin Bik*; they were joined by *Ted Owen*, who was on secondment to Indian Affairs at the time, and later replaced, first by myself and then by *John Dugal*. As design documents were submitted for review, they were circulated to each member of the Division who had the relevant expertise. The comments of individual field officers were

consolidated by the current co-ordinator for presentation to the Environmental Working Group.

Several other projects developed out of this activity, including a granular resources inventory by *Ted Lawrence*, the creation of the Mackenzie Valley Geotechnical Data Bank by *Ted Lawrence*, *Don Proudfoot*, and *Joe Lau*, and work by *Pavel Kurfurst* and myself on permafrost and ground ice in Mackenzie Valley. More recently a study of backwater problems at selected tributaries of Mackenzie River has been undertaken by *Paul Egginton*, and is continuing.

In the period between about 1976 and 1977, another area where members of the Division made important contributions was the Mackenzie Valley Pipeline Inquiry. The actual inquiry was preceded by a detailed assessment of the pipeline application of Canadian Arctic Gas Pipeline Limited. The assessment team was headed by *John Fyles* and included *Owen Hughes* as a full member. Contributions to the assessment report were made by *Barrie McDonald* and *Ted Lawrence*. During the actual hearings, *John Fyles* acted as chief scientist, and I was seconded to the Inquiry staff for the duration of the pipeline inquiry. *Ted Owen* and *Peter Lewis* both appeared as witnesses before *Judge Berger*, and *Owen Hughes* was involved in an advisory role.

While the pipeline inquiry was in progress, a major program of terrain and surficial geology mapping was underway in the central Arctic Islands, and south along the corridor which eventually became the original Polar Gas Pipeline route. Like the earlier effort in Mackenzie Valley, this involved the work of more than 15 scientists from the Division. The northern part of the area was mapped by *Doug Hodgson* and included parts of *Ellesmere* and *Axel Heiberg* islands and the other islands of the north-east part of the *Sverdrup Basin*. *Martin Barnett* and *Lynda Dredge* mapped *Cornwallis*, *Bathurst*, and eastern *Melville* islands, and adjacent smaller islands. South of *Parry Channel*, *Somerset Island*, *Prince of Wales Island*, and *Boothia Peninsula* were mapped by *Tony Boydell*, *John Netterville*, and *Art Dyke*; the *Keewatin sector* of the original Polar Gas route was mapped by *Tony Boydell*, *John Netterville*, *Ken Drabinsky*, *Bill Shilts*, *Art Dyke*, and *Roger Thomas*. Farther south,

mapping in northern Manitoba was undertaken by *Lynda Dredge* and *Rudy Klassen*. Complementary data on vegetation and soils were gathered in conjunction with the surficial geology mapping. Vegetation mapping was done by *Sylvia Edlund* in the Arctic Islands and northern *Keewatin*, while the soils work was done by *Charles Tarnocoi* of Agriculture Canada, and *Steve Zoltai* of Environment Canada.

Geomorphological, coastal, and lake studies have also been undertaken in relation to the Polar Gas Pipeline route. This included work on terrain sensitivity by *Pavel Kurfurst*, on slopes by *Paul Egginton* in *Keewatin* and myself in the Arctic Islands, and on frost heave in bedrock by *Kurfurst* and *Larry Dyke*. Lake studies were undertaken by *John Adshead* and *Rod Klassen*, while coastal studies were done by *Pat McLaren* around *Melville Island* and by *Bob Taylor* along *Barrow Strait*.

The Marine and Coastal Section also has been involved in a major study of the Labrador coast as part of the Arctic Marine Oilspill Program. This work was done largely by *Pat McLaren*, who has described the Labrador coastline and rated its sensitivity to oilspills and oil clean-up. That Section's involvement with environmental studies has continued since their transfer to the Atlantic Geoscience Centre last April.

Recently, the main thrust of mapping for environmental purposes, has shifted to the southern Yukon, where *Rudy Klassen*, *Owen Hughes*, and *Vern Rampton* (now on contract) are producing terrain and surficial geology maps of the various pipeline corridors. *John Clague* is also working in the southwest Yukon, studying geomorphological evidence for recent movements on the *Denali* and other faults in that area.

Many staff from the Division have also been directly involved in environmental impact assessment exercises, as part of the Environmental Assessment and Review Process (EARP) of Environment Canada. *Owen Hughes* is a member of the Assessment Panel for the Alaska Highway Gas Pipeline Project, and I am a member of the panels for the Polar Gas Pipeline and the Dempster Highway Gas Pipeline. In the last year, many members of the Division contributed to technical reviews of the environmental impact statement for the original Polar Gas Project. The Division has also contributed to technical reviews of environmental impact statements

prepared for the Gull Island hydro-electric transmission line from Labrador to Newfoundland, the Alaska Highway gas pipeline in southern Yukon Territory, the Arctic Pilot Project (proposed to ship liquified natural gas by tanker from Melville Island to eastern Canada), and the siting of a uranium hexa-fluoride plant for Eldorado Nuclear Limited in southern Ontario.

Thus, through the conduct of core program activities in terrain analysis and geomorphic processes, which in some areas has been accelerated through special program funding, the Division has both acquired and applied the knowledge necessary to deal with a growing list of environmental concerns.

I am grateful to many colleagues within the Division for input to this article and to *John Scott* and *Bob Fulton* for their comments.

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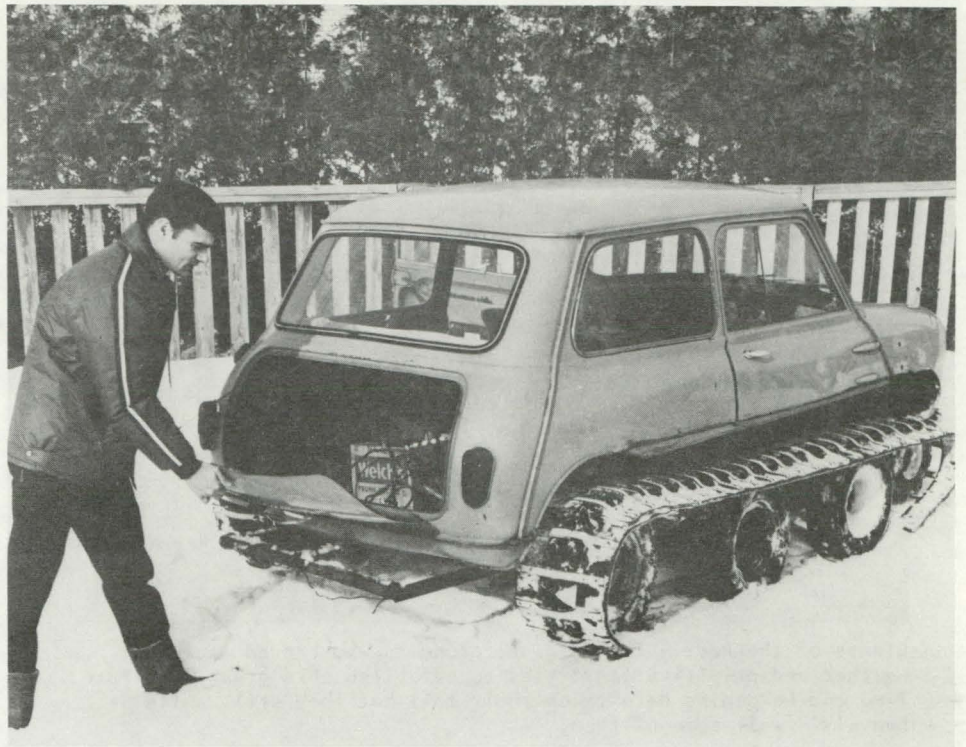
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- J.A. Heginbottom
Terrain Sciences



"Moosemobile"

Jean-Louis Bouvier who is a laboratory supervisor in the chemistry section likes to design and build things as a hobby. Being a hunter himself, his "Moosemobile" which was an Austin, converted from wheels to tracks, generated enough interest that the British Leland Magazine sent a photographer and requested a story for their upcoming edition.

One of his recent projects was a woodburning furnace constructed from two 30-gallon hot water tanks which was installed in the basement of his cottage near Perkins, Quebec. The stove was stolen! Although very annoyed he built a duplicate which he says is also theft-proof excluding explosives of course.

Another project was the construction of a five foot wide snowblower which is powered by a Volkswagen engine. This in turn is mounted on the front of a Land Rover. This serves as his snowplow for the winter months.

His mechanical, electrical and welding skills have been an added asset to his work in the chemistry section where over the years he has built, modified and improved scientific equipment. He also won a suggestion award for his Static Electricity Eliminator.

- G. Bender
CLAS

In early March an article in an Ottawa newspaper featured *Archie Stalker* (Terrain Sciences, Ottawa), who discovered human bones while working in southern Alberta in 1961.

The skeletal remains were found on the east side of Oldman River, about 5 km north of Taber, Alberta. Taken from 60 feet below the prairie level, the remains came from sand that had been buried beneath deposits left by the last ice sheet, which covered the area about 22 000 years ago.

This discovery stimulated controversy over the theory, current in 1961, that man had entered the New World no earlier than about 13 000 years ago. The age of the bones has not been established directly because no method exists for dating them, as there is too little material for radiocarbon dating. But their

degree of mineralization and comparison with other bone specimens, along with their burial beneath glacial deposits, indicate that they predate the last ice age.

Fortunately, the age may be established later this year as an archeologist from the University of Calgary, Richard Forbis, has received a grant of \$17 000 from the National Science and Humanities Research Council to excavate a 500 m² area near the discovery site. Forbis hopes additional funds, required to pay the six man crew, can be found so that excavation to shed new light on the true age of the bones can proceed.

Archie is happy to see the site finally being excavated and plans to visit the area this summer to obtain additional geological information. ◇

B.V. Sanford was honoured in recognition of nearly 30 years of stratigraphic and oil and gas resource potential studies in Ontario's Paleozoic strata by being awarded, as the first recipient, the Ontario Petroleum Institute's Award of Merit for "outstanding contribution to the petroleum industry of Ontario". This happened in October 1978 and the news has only leaked out!

The Institute is 12 years old



Giants of the Past - The original pioneers who braved inclement weather and primitive facilities to establish this great Institute. Time and hardships have taken their toll but they still smile bravely - well some of them!

What could make *Ray Thorsteinsson* doff his eyeshade and sweep aside his fish scales in mid-afternoon? What could bring *Wynn Irish* out of the comfort of retirement on a chilly winter's day and whatever would disrupt *Helen Belyea's* daydreams of a bigger and better dinosaur exhibition at the Calgary Zoo?

It was the same sentimental pull that drew even draftsmen *Lachie MacLachlin* and *Bill Vermette* across the threshold of the Institute library.

All these and several other venerable people are part of the exclusive group who moved into the Institute on the day it opened its doors, March 8, 1967. It may be the only thing they have in common but my how they cherish it! The annual festivities permit only

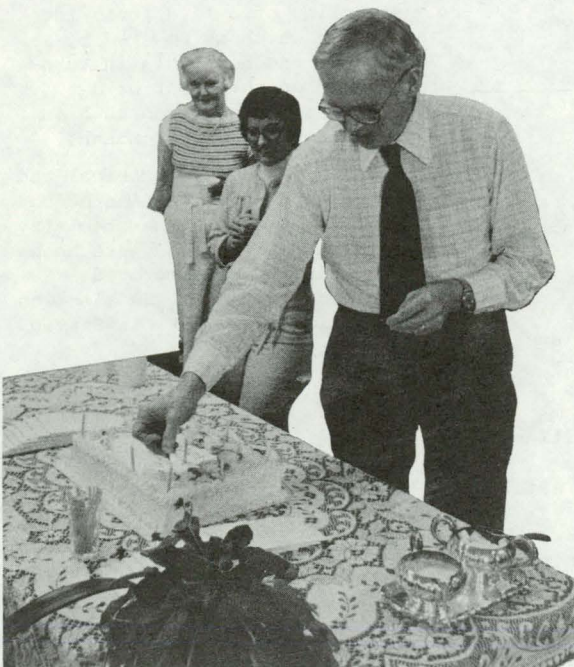
the appointed to partake. People like *Brian Norford*, who arrived two hours late because of a 1967 airport delay, were not invited. A chap called *Digby McLaren*, who was the first Director of the Institute, did not qualify because he was a few days late. Pity!

Director *Stott* placed the candles in the sickly sentimental cake with practiced care; *Wynn* and *Neil Ollerenshaw* looked sad; *Gordie Taylor* talked about the good old days. *Owen Hughes* and *Nita Penley* swapped corny jokes, *Hans Trettin* pretended he didn't mind leaving his maps unattended, *Jim Aitken* proposed a toast (how did he get invited anyway? - he's left us once since 1967). *Dick Proctor* and *Al Heinrich* sobbed as they recalled the tough times behind them.

Bernie Latour cut the cake which was then decorously served. *Bernie* and *Don Stott* recalled how, shortly before moving into the Institute's brand new building twelve years ago, they had been on a Board which was interviewed by *Marian Jones* who then advised them that they must hire her as Head Librarian. They have been dutifully following her advice ever since.

The in-group are now planning next year's gala, lucky 13th anniversary. Sorry, if you don't belong you won't be invited (unless *Marian* takes pity on you).

- *Ward Neale*
ISPG



Director *Stott* carefully places the candles marking the 12th anniversary of the Survey's most famous division. *Marion Jones* gloats in the background.



Bernie Latour, an ancient inhabitant, cuts the cake, flanked by *Bill Vermette* and *Pam van Duffelen*. *Marion Jones* smirks in the background.

The "Hard Core" Building

The brown pile that lies in the shadow of the Murray Mackay Bridge in Dartmouth is not your usual brown pile. It is a one storey building, colloquially known as the Core Building which is located on the campus of the Bedford Institute of Oceanography. Since the opening in 1971, the main building added on three "official" appendages, two in the form of portable trailers. These resulted in extra working (a slight misnomer) space and a series of corridors that are more confusing than the Hampton Court Maze. Rumour has it that one employee did not actually resign but lost his way in one of the dead ends several years ago. This article is to dispell the widely held belief that the former occupants of the Core Building are not normal human beings, that is, with the possible exception of a few unidentified bodies.

From 1971 until January 1979, the Core Building was home to employees of two branches of the federal government, both of which have now moved over to the Main Building of BIO. The first occupants of the Core Building were members of the Resource Management and Conservation Branch (RMCB), one of whose tasks is to oversee drilling operations in Canadian waters south of 60°. The Dartmouth staff are responsible for guaranteeing that oil companies conform to government regulations when exploring for oil and gas in offshore eastern Canada. The main areas of jurisdiction are presently the Labrador Shelf and the Scotian Shelf. Enforcement of the regulations necessitates frequent visits to the rigs by Tom Dexter, Doug Grant or Gordon Karg. The rigs may be land rigs as on Sable Island, semi-submersibles, or drillships. Apparently the most popular visits are to the French drillships where the comfort of the crew is assured by the excellent catering staff and liquor. So far the three voyageurs have always returned safely according to Ferne McCoombs, their very capable secretary.

RMCB also stored a cut of all samples from the offshore wells in the Core Building; hence the name, or perhaps a more appropriate name would have been Cutting Building. The storage space for these rock samples occupied most of the main building with a few peripheral offices and laboratories. All sample storage has now been moved to the Murray Building. Samples are routinely processed to release

and concentrate the contained microfossils, foraminifers, ostracods, spores, pollen and dinoflagellates. Processing for the first two groups is taken care of by Kim Duffie of RMCB, while Geological Survey staff concentrate on the palynomorphs (the spores, pollen and dinoflagellates).

The first wave of GSC staff was housed in the Core Building in 1971, while awaiting completion of the maiden addition to the original building. The group then consisted of six geologists and a secretary under the direction of *Bruce Sanford*. It was christened the Eastern Petroleum Geology Section. The mandate of the group (not to be quoted in official circles) was to undertake basin analyses and a hydrocarbon inventory of offshore eastern Canada. To accomplish this it was felt desirable to have a staff including regional geologists, a structural geologist, lithostratigrapher, micropaleontologists, palynologists and a geophysicist. Initially, EPG reported to GSC Ottawa but this all changed in 1972 when the Atlantic Geoscience Centre came into being, with *Bosko Loncarevic* as Director. EPG at that time became a subdivision of AGC, which in turn is a division of GSC. (I hope the reader does not find these abbreviations as confusing as I do.)

Like most government creations, EPG has grown over the years so that it now includes 12 geologists, 6 technicians, 2 draftsmen and our secretary, *Carol Mitchell*, who prevents us from self-destructing. In 1974 EPG lost *Bruce Sanford* who returned to Ottawa to pursue research. His replacement was *Pat Purcell*, now back in Calgary with the oil industry after four years as Subdivision Chief. The present head is *Graham Williams*. Graham is one of the three palynologists in EPG. The other two are *Sedley Barss* and *Jon Bujak*. A palynologist is literally one who studies dust; this means all three study spores, pollen and dinoflagellates. Spore and pollen are part of the reproductive cycle of plants which explains *Graham Williams'* interest in them. Because *Sedley* is the oldest (and I hear someone say that's impossible), he studies the Paleozoic rocks while *Jon* and *Graham* study *Sedley*, and in their spare time look at Mesozoic and Cenozoic rocks. So far 65 of the east coast offshore wells have been analyzed. There still remains plenty of work to do, however, *Bill MacMillan* and *Bernie Crilley* having prepared over 15 000 samples. A rough calculation shows that when their retirement becomes due they will

have processed approximately 100 000 samples. That should keep *Jon*, *Sedley* and *Graham* busy for a few decades.

The other EPG biostratigraphers are the two micropaleontologists, *Piero Ascoli* and *Felix Gradstein*. These specialists study the forams and ostracods in the samples processed by RMCB, and picked by those five indispensables, *Agnes*, *Helen*, *Irene*, *Jean* and *Winnie*. Other skills of the quintet include organizing Christmas parties, baby showers and, with *Iris Hardy*, farewell parties. They are also very industrious workers whose labours save *Felix* and *Piero* considerable effort.

Piero has been with EPG since 1971, being one of the original six. His first love (I mean in geology) is ostracods, whereas *Felix* is most interested in foraminifers. The studies of the two micropaleontologists provide independent dating of the east coast wells and thus confirm the palynological determinations. It is not true that all micropaleontologists are small, one has only to look at *Felix* and *Piero* to realize this is a fallacy. A recent addition to the staff is *Frank Thomas* who performs the dual role of running the Scanning Electron Microscope and helping *Felix* and *Piero*. EPG also has a Visiting Fellow, *Piet Doeven*, a nannofossil expert.

Another of the original pioneers is *Lubos Jansa* who moved to Dartmouth from Calgary. He is interested in everything geological and much that isn't. He is officially a lithostratigrapher and has undertaken some innovative studies of Canadian east coast wells. One of his major achievements is his work on the Deep Sea Drilling Project (D.S.D.P.) core holes in the Atlantic. *Felix Gradstein* has also played a leading role in the D.S.D.P. studies. Other lithostratigraphers are *Dave Umpleby* who has recently completed a detailed paper on the geology of the Labrador Shelf, and *Iris Hardy*, now engaged in a study of the Upper Cretaceous Wyandot Formation. *Paul Girouard* is the technician responsible for keeping *Lubos* happy which is a feat in itself.

Iris has also been concerned with some geochemical studies of offshore wells under the direction of *Pat Purcell* and in co-operation with *Mohammad Abdul Rashid*. They have utilized several parameters including the visual organic type analyses by *Sedley Barss*, and gas analyses to make predictions on source rock potential on the Scotian Shelf. ▽

The key synthesizer for the group is *John Wade* who undertakes regional studies and has established with Lubos the lithostratigraphy of the offshore wells. John and Dave Umpleby are also on the Government Hydrocarbon Inventory Committee. No, the Committee does not invent hydrocarbons, but it does attempt to predict the potential of explored and frontier areas.

The EPG staff is predominantly ex-industry with little direct contact with the rest of Bedford Institute. Two who broke the psychological barrier were *Al Grant* and *Ian Harris*. Al worked for Mobil before moving to Bedford Institute in 1965. From there he "was transferred" to EPG, with all moving expenses paid, in 1973. Al has carried out some major geophysical studies of the Labrador Shelf and Baffin Bay. Most of his computer programming is done by *Art Jackson* who can perform miracles at short notice. Ian, before leaving to join Petro-Canada, was our Lower Paleozoic expert.

The other geologists are *Bob Howie* and *Peter Hacquebard* who are a unique breed within EPG since many of their studies are onshore. Peter, a coal petrologist, is deeply (no pun intended) involved in the present provincial drilling program aimed at increasing knowledge of valuable coal reserves, both on and offshore. He is assisted by *Mike Avery* who carries out organic matter analyses using transmitted light. Bob Howie is presently devoting his efforts to the salt project, one of whose major concerns is the safe disposal of nuclear wastes, which, politically, is a very sensitive issue.

The EPG staff is completed by the two draftsmen, *Gary Cook* and *Gary Grant*, and *Carol Mitchell*, also mentioned earlier. The two Gary's or Gary² produce accurate final figures from our mistakes while Carol spends her days correcting our English.

EPG has now moved into it's new prison where each of us is cloistered in individual cells (the most dangerous 'scientists' apparently will be behind bars). Happily we have survived and hope to retain the harmonious environment that made working in the Core Building such a pleasure. At least other BIO residents here realize that we are human upon finally emerging from our isolation.

- *Graham Williams*
AGC

U.S.G.S. Centenary



March 3, 1979 was the centenary of the United States Geological Survey. To mark the occasion and as a gesture of goodwill to our sister organization, *Peter Harker* put up a commemorative panel on the second floor of the Ottawa headquarters. Here he and *Digby McLaren* view the display which depicts the diverse mapping of the USGS from the tectonic map of the Indonesian Region to the geological map of the Amazonis Quadrangle of Mars.

What's Going on in the Library?

If you have visited the Ottawa GSC library within the last month, you will have noticed that the normal calm has been replaced by what appears to be utter chaos. Do not despair! Take heart in the knowledge that the projects being undertaken are nearly complete and the end result will be a better library.

The library staff has endeavoured over the last few months to correct a number of serious problems that have plagued the library for quite some time. We have successfully completed a stack cleaning and shelf reading program in which the dust gathered through time immemorial was removed and "lost souls" returned to their proper resting places. After "cleaning up our act", we have moved on to "thinning our ranks" by cautiously weeding the book collection. This time-consuming project cannot be rushed and will most likely go on for the rest of this year.

Our perpetual nemesis - lack of space - has once again reared its ugly head. To make room for our ever growing group of journals, the book collection has been relocated in the map library. With this move, the hours of operation for the map library have been

increased in order to provide better access to the books. The journal collection is currently being shifted to create space for the next seven years.

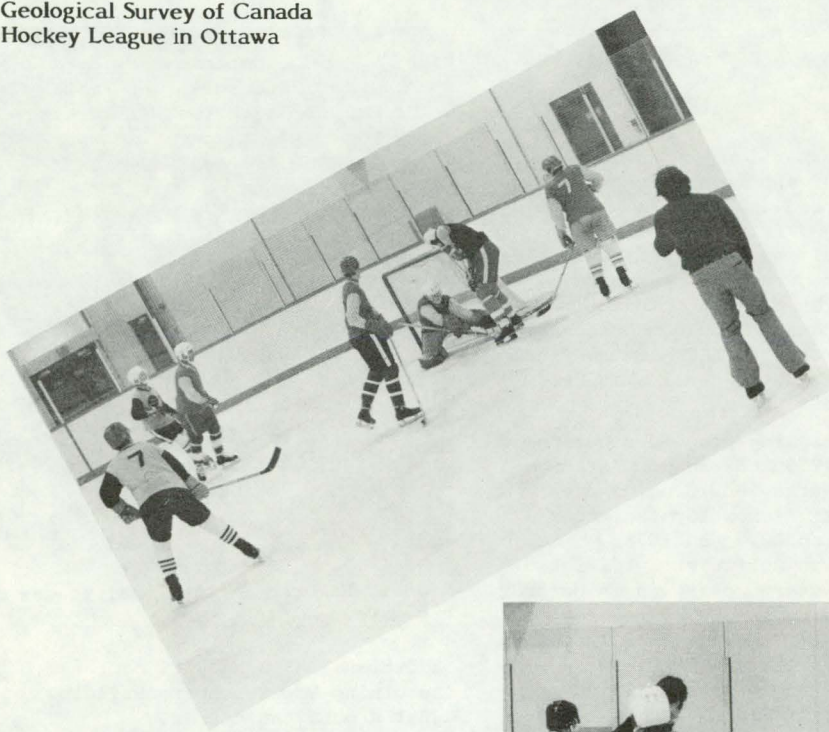
Finally, the arrival of some new shelving has allowed us to design a new journal display area. Both the reserve journal collection and the non-reserve journals received during the previous week will be displayed on shelves in this area. This should make it easier to see the new publications and will provide you with a quieter area in which to review the literature.

The library staff has appreciated your co-operation and would like to hear your ideas and opinion concerning these recent projects.

- *David Reade*
GID

Tim Tozer is to receive the Miller Medal of the Royal Society of Canada in recognition of his work in the Triassic and its ammonites. He will be going to Saskatoon to receive this handsome gold medal - Congratulations!

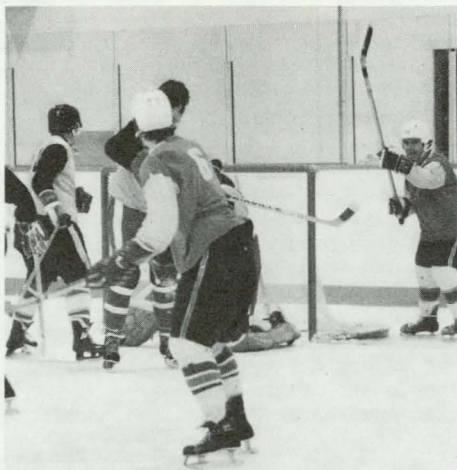
Geological Survey of Canada Hockey League in Ottawa



The GSCHL has completed its sixth season. The League used the new facilities at the RA Centre this year with 48 regular season and 4 playoff games played there. All four teams make the playoffs with the eventual winner determined by a two game total point final. The champs have yet to be determined; however, look for names and pictures in a future issue of GEOGRAM.

Team 1 has been in the middle of the pack for most of the season. A well balanced bunch, they have Rick "Sieve" Allard between, beside and sometimes on top of the posts. Helping Rick out on defense are Hugh "Elbows" MacAulay (noted for skating backwards more different ways than forwards), Garth "Zinger" Jackson (wicked shot) and George Cameron (turn around George!). Larry "Slick" Coté provides their scoring punch up front along with Andy "Magnet Stick" Vernie just learning to pass.

Team 2 started off strong and looked like they were going to walk off with first place. They have however reverted to their true form and are fighting for last place. Their captain is Greig "Crybaby" Lund who, when he isn't up at the red line waiting for the long pass, will complain to anyone who will listen. Defensively they are lead by Mikkel "Bigfoot" Schau who stops onrushing forwards anyway that he can. Bill "Ankles" Hyatt and Jay "String" Pratt cruise the wings taking passes from the likes of Sean "Golden Gloves" Going. They have lost Dave Watson who was traded to Newfoundland for future considerations.

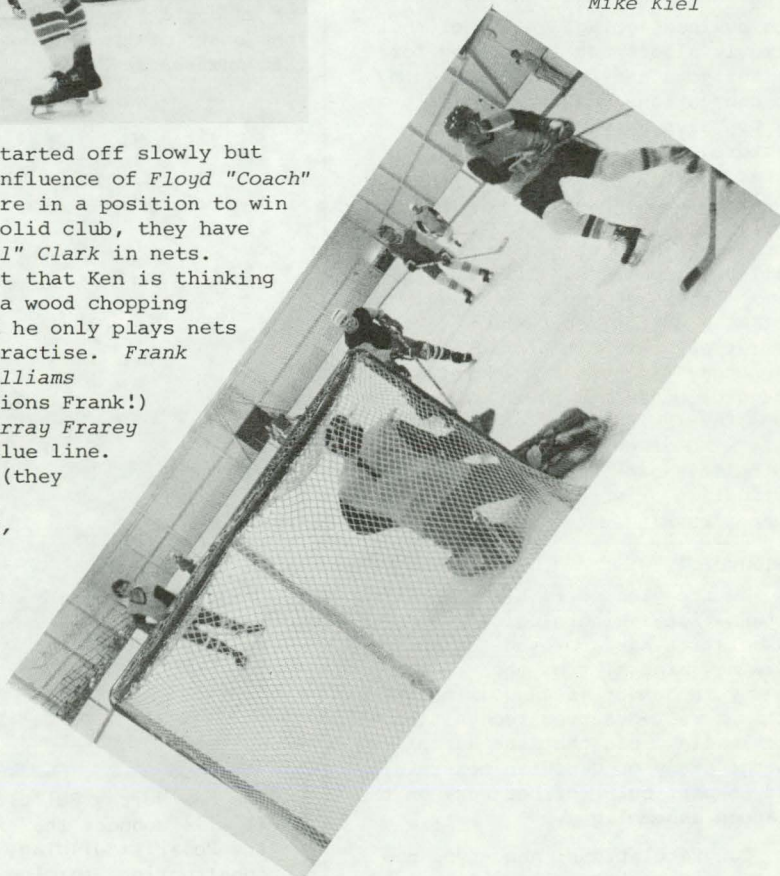


Team 3 started off slowly but due to the influence of Floyd "Coach" Heney they are in a position to win it all. A solid club, they have Ken "The Wall" Clark in nets. Rumour has it that Ken is thinking of starting a wood chopping business and he only plays nets to stay in practise. Frank "Grandpa" Williams (congratulations Frank!) and "Old" Murray Frarey patrol the blue line. Offensively (they really are), Ron Christie, Norm Grenier (wrists as thick as his head!) and Bob Skinner keep opposition goalies dancing.

Team 4 after a disastrous start has first place all wrapped up. Ron "-80 Mesh" DiLabio with his unorthodox style of goaltending is keeping the puck out of the net with help from Peter "Hooker" Holman. They have a strong offense with "Wild" Wilf Podolak going on a scoring rampage with one goal and Gilles "Digger" Lemieux who never gives up in the corners. As if they weren't enough the squad could rely on the "Dynamic Duo", Greg Martin and Graham Carmichael to wipe out any 4 or 5 goal deficit they might encounter. It has been rumoured that the other three teams chipped in and arranged it so that Greg would be down south for the playoffs. Cheer up Barry, you guys didn't deserve him anyway.

On a more serious note the League would like to thank Marcel St. Pierre, Fred Quigg and Bob Delabio for their efforts as referees. Senior Management is also to be thanked for tolerating absences by staff to participate in the league. Players are reminded that we can expect this co-operation only as long as we faithfully make up our time. This amounts to about a half hour per day per man and is a small price to pay for the good times to be had playing hockey.

- Graham Carmichael
Mike Kiel



The following quotation comes from *Petros*, the journal of the University of Leicester Students' Union Geological Society, volume 13, 1975:

Geology in a Nutshell

The following essay, published in the *Western Miner and Oil Review* was written by a Canadian elementary school student.

Geology is the thing that tells you all about stones and rocks before they're dug out of their haunts. It also tells us about fossils which are supposed to be turned into stone in the stone age. The biggest of these animals is called the Dinasaour and there is one in a park in Calgary that was turned into concrete and remained there to this day along with other fearsome beasts of the time. This is no lie for I have seen them with my own eyes. The dinasaour is as long as from here to goodness knows where and about three times as high as our sealing. There was no people in those times except a few bible characters. One of them was called Mrs. Lot and she was turned into salt.

People who study geology are called geologists. Much of their time is spent searching for samples to put in museums to encourage others to study geology and keep the business going. A lot of their time is also spent in looking for better jobs and for oil, and going to conventions and things like that. My pop says they're just like doctors. They put a lot of letters after their names and look wise and tell you nothing and charge you plenty for it. All the mines are found by a kind of geology labourer called prospectors. These poor prospectors have no book learning, but make use of their thumb in a secret way called the rule of thumb. When they discover a good thing the geologists and their pals called promoters swindle him out of it. This kind of swindling is supposed to be fair game and it is called litigation or something like that. My pop wasn't sure. ◇

"Sabinaite"

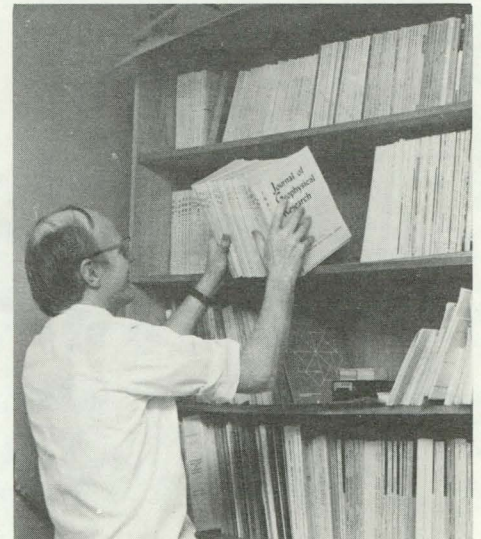
We are pleased to hear that the International Mineralogical Association has approved the naming of a new mineral from the Francon quarry in honour of *Ann Sabina*. It is a well-deserved recognition of the leading role that she has played in the study of Canadian minerals, and in particular of her work on the Francon assemblages.

Congratulations, Ann - you now have a mineral to call your own! ◇

AGC Move

As many in GSC may already know, the Bedford Institute (BIO) is three-quarters of its way through a five year (1975-1980) building and facility expansion program. AGC, one of the major tenants at BIO, has been involved in the whole proceedings, from the initial planning of the space and facilities required by Energy, Mines and Resources at BIO for both the Resource Management and Conservation Branch (RMCB) and AGC, to the final large move that recently has been completed.

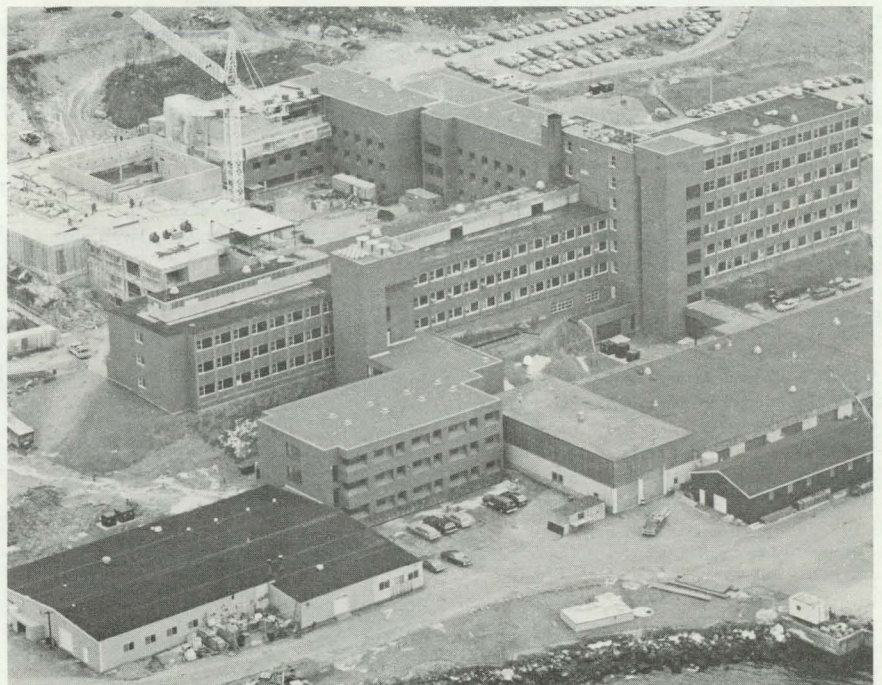
The planning proceeded during 1975 and 1976 and the completion of the John Murray Building, where most of EMR is now located, took place during 1977 and 1978. The building was sufficiently finished for us to start moving in in October. This building is a three storey east-wing off the original Institute buildings. It is a combined laboratory and office building of approximately 21 000 sq. ft. plus an additional 10 000 sq. ft. of geological sample curation space. Because new sample curation facilities were a major part of the building program and because both AGC and RMCB wanted to be adjacent to these facilities, it was logical for all of EMR to be in the Murray Building. However, not all of us could fit into it, so part of the staff of the Regional Reconnaissance Subdivision uses an



Richard Haworth in the final stages of his move.

additional 3500 sq. ft. of the adjoining Van Steenberg Building just around the corner.

The AGC move began on October 23 and continued to February 15, 1979 when RMCB completed their move. Every EMR staff member at BIO moved during this period, not one was missed, and there was the predictable response that some felt their new office or lab was better than the previous one, and others thought they had lost something of importance - a view of the ocean perhaps?

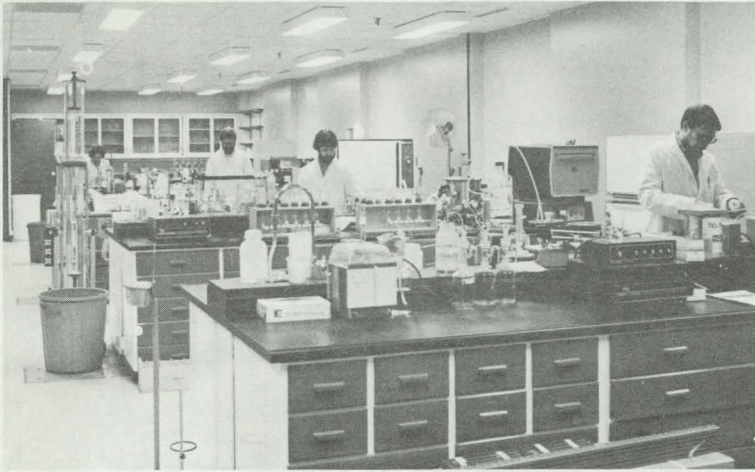


The new Murray Building is the brick wing towards the top of the photo; it will connect the existing Van Steenberg Building, to the left, and the Polar Building, to the right, with the Holland Building, under construction, forming a courtyard in between.

The major advantages gained are that all of AGC is together in one area instead of being spread between two distant buildings. This has made possible a great improvement in informal communications. RMCB and AGC have combined their sample curation facilities in one large and,

we hope, more efficient operation. All staff were forced to sort through their office belongings to get moved and I am certain it improved the appearance of many offices together with the efficiency with which they are used. Other things gained were new, larger labs that we hope will be much more efficient and easier to keep clean. With most interior office and lab partitions being bright coloured pre-painted steel, it made old map tacks not very useful, but magnetic coat hooks, picture hangers and plain magnets to hold maps on the walls are in great demand.

The main lobby in the new Murray Building has the largest foram in Canada permanently mounted



The new Environmental Marine Geology geochemistry and paleoecology laboratory.

in the floor. It is a mosaic made up of pieces of rock collected mainly offshore in eastern Canada (and a little onshore) set in the shape of *Elphidium clavatum*. It is ten feet in diameter and still needs to be geologically mapped.

With a coming together of EPG (Eastern Petroleum Geology), RMCB and the rest of AGC, celebration was held recently in the new RMCB Public Examination Room. It was a great success; the blushing bride and new Head of EPG, *Graham Williams*, was introduced by the groom, *Mike Keen*. The bride's headdress was in paper towel, by Scott and supplied by the fashion house, D.S.S. Inc. ♦

LATE NEWS - UNVERIFIED

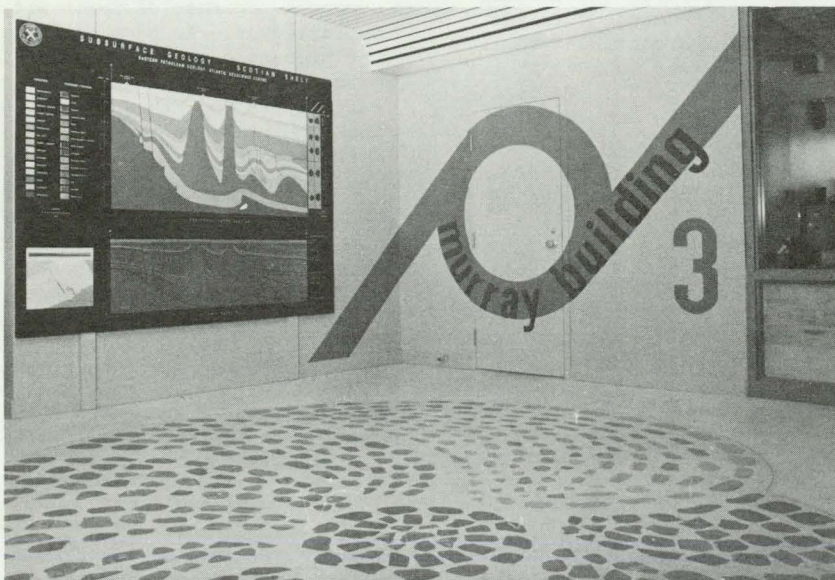
- Recent surveys have shown that the geographic centre of Canada is Murillo, west of Thunder Bay. In keeping with the rationale of relocation, previously published in GEOGRAM, the Precambrian Institute will be moved to Murillo. Land has been acquired adjacent to the slaughterhouse in order to avoid industrial sprawl. The townsite is being enlarged, although a trailer park will serve as temporary accommodation. Central water taps and toilet facilities will be provided. In order to convince personnel to be transferred of ensuring benefits, *Ward Neale* has been retained as a writer of devotional literature extolling the advantages of Murillo over Thunder Bay.
- Contrary to popular belief, *Edgar Froese* and *Terry Gordon* did not retire this year.
- A new course is available for managers who wish to reduce their attention span. An intensive two-week period will teach them to say self confidently "Give me the bottom line".
- After much deliberation, *Erich Dimroth* has refused the directorship of the Precambrian Institute in Murillo.
- For the third consecutive year, the Petrology Section failed to hire *T.N. Irvine* away from the Geophysical Laboratory. He was offered 80% of his previous salary due to lost experience while not working for the Survey. Furthermore, the Survey was willing to pay 90% of his moving costs to Murillo.
- Due to the absence of the winner, *Bill Poole* was unable to award the W.H. Pooh attendance prize at the awards banquet. ♦

The Geological Wives Association Scholarship

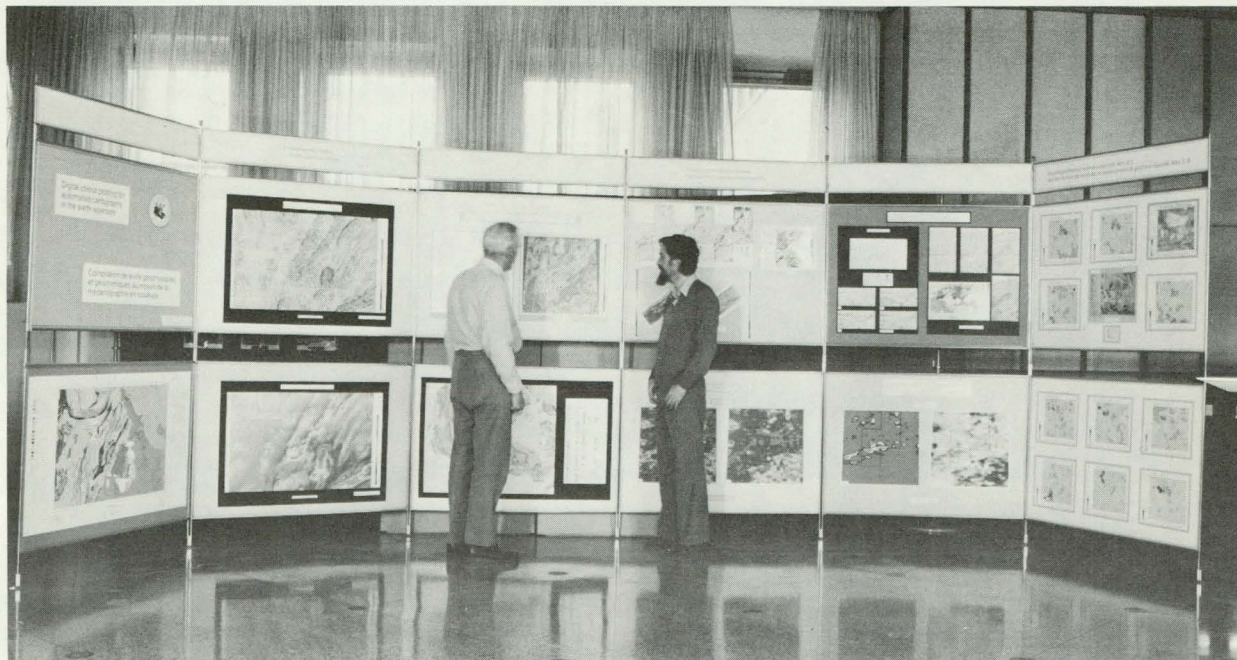
A \$200.00 scholarship is being offered again this year to a son or daughter of any employee of the Geological Survey of Canada, who is preparing to enter a university or college in September 1979.

Application forms will be available after May 1st at GSC offices in Ottawa, Calgary, Vancouver and Dartmouth. They must be completed and in the mail by September 1st addressed to the Chairman of Awards Committee,

Mrs. Edward Hall
679 Windermere Avenue
Ottawa, Ontario
K2A 2W9



The main lobby of the Murray Building showing the largest foram in Canada, *Elphidium clavatum*. Will Thunder Bay be able to beat this? A stromatolite?



REG Division designed an impressive display for the Prospectors and Developers meeting in Toronto. Mike Holroyd was the principal co-ordinator and John Bill of the Cartography Section put the show on the road. Mike and Peter Harker are seen looking at the display which will be in Logan Hall for the summer.

New Method for Water and CO₂

The GSC's Analytical Chemistry Section has adopted a new combined method for two rock constituents that cannot be determined by regular "spectroscopic methods". It involves burning the sample in a stream of oxygen and measuring the evolved H₂O and CO₂ by means of two fixed-wavelength infrared detectors. Largely the work of J.L. Bouvier, (see "Moosemobile", this edition) this new combination of hardware permits one operator to analyze 50 per cent or more samples for the two constituents per day than was possible under the old set-up, with two operators doing one constituent each. Accuracy is about the same as before. Further possibilities are under investigation.

- Syd Abbey
CLAS

GSC on the move

Great changes are coming about at the GSC in the very near future. Early in April Digby McLaren held meetings with each Ottawa division and discussed the GSC reorganization.

First on everyone's mind was the relocation to Thunder Bay. Due to unforeseen difficulties in purchasing a building site, the move has been delayed to at least 1983 and may very well be postponed again because the 1981 Canada Games are scheduled

Alma E. Stafford

Alma Stafford died suddenly at her home in Kingston on April 9 in her 80th year. She will be remembered by my generation as secretary to the Paleontological Section at the Museum, serving under Dr. Walter Bell and Dr. Frank McLearn. The manuscripts of their many memoirs and bulletins and those of Dr. Alice Wilson and others were all typed by Alma. From middle age her life was a brave battle against crippling arthritis but in spite of this she survived all her family and continued to live after her retirement in 1960 at the family home in Kingston. We visited her only a few weeks ago, frail and crippled as she was, she was full of life and fun and looking forward to the summer and glad to be back home after a spell in hospital for a cataract operation.

It would have been good for all our grumblers and hypochondriacs to have seen how much Alma enjoyed life in the face of such infirmity, truly a brave spirit.

- PH

to be held in Thunder Bay. This will involve a lot of construction work and the number of contractors available in the area is rather limited. Perhaps some of the people involved in the move had been hoping that the entire plan would be shelved, however, Dr. McLaren assured everyone that although the location may change Δ

with the possibility of a new federal government, the decentralization is policy agreed to by all parties. The new centre will be named the Precambrian Institute of the Geological Survey of Canada (or "PIGS Can" as it is fondly(?) called by our Precambrian brethren).

Regional and Economic Division has grown steadily over the years and the time has come to "divide the spoils", so to speak. The Cordilleran Subdivision in Vancouver will become a separate division with its own director. As Hugh Gabrielse, the present section head, is planning on resuming a full-time research career, the top brass is busy looking for recruits for the directorship.

Also within REG, the Economic Geology Subdivision has expanded to the point where a division is to be formed and located in the big "O". Geoff Leech has been appointed Director of this new division. Congratulations, Geoff and the best of luck in your new role! We also learned that Bill Poole, head of the Correlation and Standards Subdivision is "going back to the bench" to resume research.

The rumour has finally been made fact - Peter Harker is retiring at the end of June and Bob Blackadar will be taking charge. Bob will still wear his Chief Scientific Editor hat; it appears that he has a very busy time ahead of him, indeed.

Bosko Loncarevic was the first to step down as a division director to pursue his research career and Mike Keen took over AGC. John Reesor (REG) and Don Stott (ISPG) are planning to follow suit as well as John Wheeler and Hugh Gabrielse (as previously mentioned) so the future should prove interesting.

Although there were no startling revelations for most people, everyone felt that the individual divisional meeting approach was a positive one. It provided us with a better understanding of the Survey's roles and an opportunity, unfortunately rare, for the Director General to speak to all the staff.

- LAF

Branch Memorial Fund
(Ottawa Divisions)

The proposal to establish a Branch Memorial Fund from which a gift would be made on those occasions when a Branch expression of sympathy is warranted, has received the approval of the majority of staff members who were consulted on it. The fund will be used to provide a memorial gift on the occasion of the death of a member of the current staff. Money for the fund will be obtained by voluntary contribution and will only be solicited when the funds available fall below a minimum balance. Solicitations for contributions will be handled by Division Administrative Officers and the responsibility for operation of the fund will be that of the Head, Branch Administrative Services.

- John Maxwell
CLAS

Fire at BIO

The folks at AGC had an unexpected day of leisure in the first week of April. The fish tanks and portable labs at the Bedford Institute in Dartmouth caught fire and caused at least half a million dollars in damage. We are relieved to report that the Atlantic Geoscience Centre received some smoke but the fire didn't reach our section of the complex. Unfortunately the damage affected the research area of the Environmental Protection Service of Fisheries and Environment.

We don't have much news from past members - we see Hugh Bostock fairly often. He is busy finishing off his personal memoirs of Yukon days and is completing some pencil sketches which will greatly add to the interest; we are hoping to put out a limited edition.

We saw Gordon and Nellie Daughtry recently, both keeping well and looking forward to a visit to their son who is a geological consultant in B.C. Gordon had news of Art Hale - his predecessor as Superintendent of Cartography - Art is enjoying life on Vancouver Island.

Arthur Lang comes in from time to time and we are glad to see him looking better after some rather drastic surgery.

Yves Fortier always had blue water ambitions, now fully realized having sailed his 'Cabot 36' from the Carolinas to the Virgin Islands. He and Trudy decided to spend the winter there on the boat where they met up with Weldie Phipps who flew many of us around the Arctic in the past. He had sailed his boat from PEI to the Virgin Islands and has abandoned flying for seafaring.

- PH

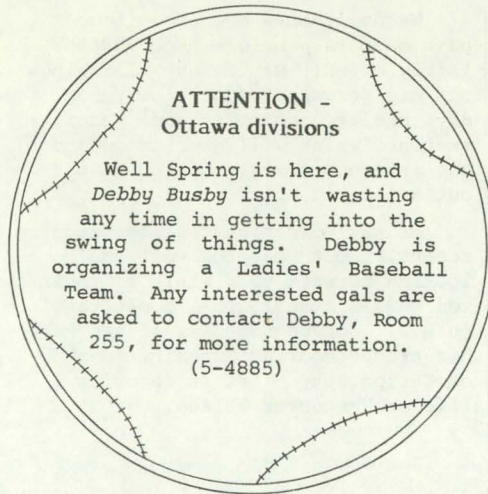


Tim Tozer did a similar two week ocean passage arriving in the Virgin Islands just before Christmas and took these pictures which show the Fortiers and the Phipps with Yves' yacht at Tortola, British Virgin Islands.





Fern Casey, our Branch Administrative Officer was the successful candidate in a competition for Director of Administration, Policy, Planning and Economics Branch in the Department of Agriculture and will be starting her new job on 23 April. A farewell tea was held in Alice Wilson Hall on 20 April. Congratulations, Fern, and we wish you every success in your new appointment. ◇



**ATTENTION -
Ottawa divisions**

Well Spring is here, and Debby Busby isn't wasting any time in getting into the swing of things. Debby is organizing a Ladies' Baseball Team. Any interested gals are asked to contact Debby, Room 255, for more information. (5-4885)

FROM GOVERNMENT PURCHASING GUIDE
April/May 1979

**Land measuring
instrument**

Product: The heavy duty counter is available from **Trumeter Canada Limited**.

Purpose: The machine has been de-



signed to facilitate measurement over rough terrain, fields and farmlands, building sites, etc. It is available in Metric or Imperial calibrations.

Features: The new design is of extra rugged construction and incorporates a heavy duty counter and a large diameter spoked wheel. A detachable handle embodies a scraper to remove mud and dirt build-up which occurs on the measuring wheel.

**For details
Write 028 on Reader Service Card**

As we go to press there has been a great flurry of activity around the Ottawa building as the Division directors prepared to give a "show and tell" to the new Deputy Minister, Ian Stewart. Maps, papers publications and other props were assembled in Alice Wilson Hall for a "dry run" on the morning of April 18th in preparation for the afternoon showing in the 21st floor board room of the Sir William Logan building. Don Stott came from Calgary to present the ISPG program and Mike Keen came from AGC.

An interesting and topical aspect of Mike's presentation was his brief account of AGC's involvement in the aftermath of the wreck and spillage from the tanker *Kurdistan*.

- PH

As this is the last issue of GEOGRAM before the summer, we would like to wish all field parties "GOOD FORTUNE" and "BONNE CHANCE" with this year's field work. We understand that last year was quite wicked in some Arctic areas with an overdose of rain and fog as well as early snow. Perhaps this summer will bring balmy breezes, sunshine and a constant 20°C temperature - well, one can always dream! ◇

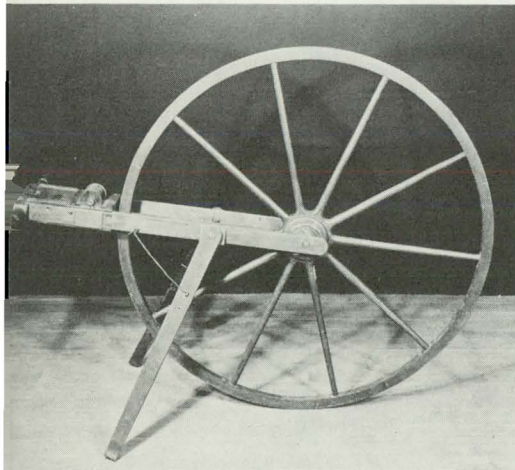
Material for the next issue of GEOGRAM should be sent to your Division office or to Lorna Firth.

Les articles pour la prochaine parution de GEOGRAM devront être dirigés au secrétariat de votre Division ou à Lorna Firth.

Editor/ P. Harker
Rédacteur

Editorial Advisors/
Conseillers à la rédaction

M.J. Copeland
P.J. Griffin
L.A. Firth



Logan's wheelodometer

It's too bad Logan didn't know about this! ▷

This will probably be the last time that I put an issue of GEOGRAM together as I shall be leaving on early retirement on 30 June. GEOGRAM has been a fun project even though it was not always easy to find time to do it or to fit it into our busy publication schedule. It has been a worthwhile effort and I hope it will continue as an informal way of talking to each other in the Survey. Many thanks to all those who have contributed in words, ideas and pictures and to our "editorial advisors", especially Lorna Firth who has typed most of the issues, done the layouts and acted as general newshound. Keep it up, all of you!

- PH