

# geogram



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*an informal branch newsletter  
un bulletin interne d'information*

## FROM THE DIRECTOR GENERAL

Since my appointment as Director General a few months ago, life has been one merry-go-round of challenges. Throughout this indoctrination period, I have particularly appreciated the wise counsel and support of JOHN FYLES, ED HALL, the Division Directors and the other members of our Branch management team. Briefings by managers and a host of discussions with individual staff members have proven to be both enlightening and reassuring. This initial overall assessment of the Survey's current program has confirmed in my mind that the GSC is potentially well braced to face some of the complex and crucial issues of the next two decades - and for this we owe much to DIGBY McLAREN's and JOHN WHEELER's prudent leadership during the past seven years.

Perhaps the most immediate problem facing the GSC at present is the loss of staff to the petroleum industry. This has affected the day-to-day operations of the ISPG in Calgary, and will undoubtedly have a serious impact on our ability to provide scientific data essential to studies of hydrocarbon resources.

## NOTE DU DIRECTEUR GÉNÉRAL

Depuis ma nomination au poste de directeur général, il y a quelques mois, ma vie est un éternel apprentissage. Tout au long de cette période d'initiation, j'ai pu profiter des précieux conseils et de l'appui de MM. JOHN FYLES et ED HALL, des directeurs de division et d'autres membres de l'équipe de gestion de notre direction. Des séances d'information avec les cadres et une série d'entretiens avec les membres du personnel ont été pour moi source d'éclaircissements et de confiance. Cette première évaluation globale du programme actuel de la Commission m'a confirmé que la CGC est bien préparée à affronter certains des problèmes complexes et importants que nous réservent les deux prochaines décennies - ce que nous devons en grande partie aux coups de barre prudents de MM. DIGBY McLAREN et JOHN WHEELER au cours des sept dernières années.

Le problème le plus immédiat que doit résoudre la CGC est peut-être la perte d'employés au profit de l'industrie pétrolière. Cette

An EMR Project Team has now been established to assess possible short and long term solutions to the problem. The Team, headed by WALTER NASSICHUK as Chairman and JOHN MAXWELL as Secretary, is expected to submit its preliminary recommendations during the next few months.

Since early January, shortly after Digby McLaren's appointment as Assistant Deputy Minister for Science and Technology, efforts have been underway to plan possible new scientific thrusts that are beyond the scope and resources of our existing program. Four departmental Task Groups have analyzed scientific needs in different activity areas and have submitted their draft reports. Task Group III, with a special emphasis on Precambrian, was chaired by JOHN McGLYNN, while Task Group IV on Sedimentary Basins was chaired by BRUCE SANFORD. Their analyses and recommendations will be presented in late May to a small group of senior departmental managers and representatives of other departments and national organizations.

Participation in this exercise has been useful to the Survey in terms of assessing its scientific

knowledge base and anticipating future issues. A series of audits currently underway will hopefully also lead us to implementing more effective procedures for controlling our activities. An A-Base Review of GSC, scheduled for April 1982, will focus on resource requirements for the various subactivities of the Branch's program.

Because of the above-noted activities and the recent changes in management within the Department, it is timely that the GSC review its long-term scientific objectives, re-assess the scheduling of the integral parts of its scientific program, and evaluate the human and financial resources needed to carry out its mission effectively and efficiently. To help realize this, plans are now being finalized for a Futures Conference this fall devoted to analyzing these aspects.

Many staff members have had the pleasure recently of meeting our Minister of State (Mines), Judy Erola, during her visits to the GSC. At the Pacific Geoscience Centre, Patricia Bay, Vancouver Island, she opened a seminar for industry on the petroleum potential of the offshore and was briefed on the plate tectonic evolution of the Pacific Coast by

saignée a entravé le bon fonctionnement de l'IGSP, à Calgary, et aura sans contredit de graves conséquences sur notre capacité de fournir des données scientifiques essentielles aux études des ressources en hydrocarbures. Une équipe de l'EMR vient d'être formée afin d'évaluer les solutions éventuelles, à court et à long termes. Cette équipe, dirigée par M. WALTER NASSICHUK, président, et par M. JOHN MAXWELL, secrétaire, devrait présenter un rapport préliminaire au cours des prochains mois.

Depuis le début de janvier, après la nomination de M. Digby McLaren au titre de sous-ministre adjoint, Sciences et Technologie, des efforts sont déployés en vue de planifier de nouvelles orientations éventuelles qui dépassent le champ d'action et les ressources du programme existant. Quatre groupes de travail du Ministère ont étudié les besoins scientifiques dans différents domaines d'activité et ont présenté leurs rapports provisoires. Le troisième groupe, dont la principale charge a trait au Précambrien, a été présidé par M. JOHN McGLYNN, et le

quatrième, portant sur les bassins sédimentaires, par M. BRUCE SANFORD. Leurs analyses et recommandations seront présentées, fin mai, à un petit groupe de hauts fonctionnaires du Ministère et de représentants d'autres ministères et organismes nationaux.

Ce travail a été utile à la Commission pour évaluer sa base de connaissances scientifiques et prévoir les questions futures. Une série de vérifications actuellement en cours nous amènera aussi, du moins l'espérons-nous, à mettre en place des méthodes plus efficaces de contrôle des activités. Un examen de base-A de la CGC, prévu pour avril 1982, portera essentiellement sur les besoins en ressources des divers sous-secteurs d'activité du programme de la Direction.

En raison des activités qui précèdent et des derniers changements survenus dans la gestion au Ministère, il est temps que la CGC revoie ses objectifs à long terme,

Robin Riddihough (EPB), and on the petroleum potential of the B.C. offshore by CHRIS YORATH (GSC).

At headquarters in Ottawa, she was shown the Geochronology Laboratories, the Resource Geophysics displays, the Cartography unit, and the Library; briefings in the boardroom included an overview by John Fyles, and comments on field mapping by John McGlynn, on mineral deposit studies by DON SANGSTER, and on radioactive waste disposal by JOHN SCOTT. A ministerial delegation to the U.S. Department of the Interior in early April continued with its mission in spite of the Minister's inability at the last moment to participate; Dr. C.H. Smith led the delegation in her absence. During a briefing on April 2, 1981 at the USGS, a Memorandum of Understanding was signed by Doyle G. Frederick, Acting Director, USGS, and myself on behalf of GSC, which will facilitate scientific co-operation between the two organizations. A plaque commemorating the occasion was presented to the delegation and has since been passed on to the GSC for custody.

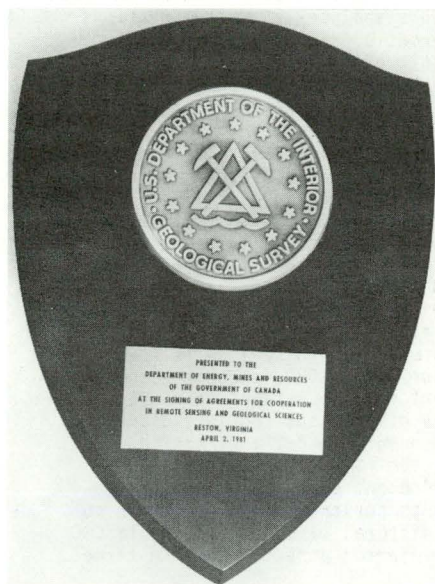
It gives me pleasure to note two new senior appointments made early this year: John McGlynn as Director of the Precambrian Geology Division, and D.C. (CHRIS) FINDLAY, appointed to the Director General's Office as Advisor on Mineral Resource Appraisal and related Federal-Provincial matters. Their participation will undoubtedly augment and strengthen our management team. We welcome back C.F. (NEIL) BURK, JR. and his staff of the Canada Centre for Geoscience Data. This unit has been transferred to GSC and, as of April, is operating within the GID.

The presentation of the Canadian Geographical Society's Massey Medal by the Governor General of Canada to RAY THORSTEINSSON of the ISPG was a source of great pride to all of us. The medal honoured his many major scientific discoveries and accomplishments in Arctic Canada - achievements that provide inspiration to those who follow in his footsteps.

### EMR and U.S. Department of the Interior sign co-operative agreements

Canada and the United States have signed Memoranda of Understanding to exchange information and conduct co-operative research in mineral technology and the

earth sciences between units of the Department of Energy, Mines and Resources and the United States Department of the Interior. The agreements are valid for a period of five years.



The U.S. Geological Survey signed a memorandum with the Geological Survey of Canada for exchanges of earth resource data and joint research in the geosciences. Co-operative undertakings under this memorandum will include preparation of an inventory of worldwide strategic mineral resources, marine geoscience studies, and compilation of an aeromagnetic map of Canada and the United States.

qu'elle réévalue l'échelonnement des éléments de son programme scientifique et qu'elle évalue les ressources humaines et financières nécessaires pour mener à bien sa mission, de manière efficace et efficiente. À cette fin, nous mettons la dernière main à des plans pour la tenue d'une conférence sur l'avenir, cet automne, qui sera consacrée à analyser ces questions.

De nombreux membres du personnel ont pu rencontrer récemment la ministre d'État aux Mines, MME JUDY EROLA, durant ses visites à la CGC. Au Centre géoscientifique du Pacifique à Patricia Bay, à Vancouver, elle a prononcé l'allocution d'ouverture d'un séminaire à l'intention de l'industrie sur le potentiel pétrolier des régions au large des côtes et a été informée de l'évolution tectonique des plaques le long de la côte ouest par M. Robin Riddihough (DPG) et du potentiel pétrolier de la côte au large de la Colombie-Britannique par M. CHRIS YORATH (CGC). À l'Administration centrale à Ottawa, on lui a fait visiter les Laboratoires géochronologiques, les expositions de la Géophysique des ressources, le service de cartographie et la bibliothèque; des séances d'information dans la salle du conseil ont compris une vue d'ensemble tracée par M. John Fyles, et des commentaires sur les travaux de cartographie sur le terrain, par M. John McGlynn, sur les études des gisements de minéraux par M. DON SANGSTER et sur le stockage définitif des déchets nucléaires par M. JOHN SCOTT. Une délégation ministérielle au département de l'Intérieur des États-Unis, envoyée au début d'avril, a poursuivi sa mission malgré l'incapacité dans laquelle la ministre était d'y participer; M. C.H. Smith dirigeait l'équipe en son absence. Durant une séance d'information tenue le 2 avril 1981 à l'USGS, un protocole d'entente a été signé par M. Doyle G. Frederick, directeur intérimaire de l'USGS, et par moi au nom de la CGC, qui facilitera la collaboration scientifique entre les deux organismes. Une plaque commémorant l'occasion a été présentée à la délégation et a depuis été remise à la CGC, qui la conservera.

Je suis heureux de souligner deux nominations au début de l'année: M. John McGlynn a été nommé directeur de la Division de la géologie du Précambrien, et M. D.C. (CHRIS) FINDLAY, conseiller en matière d'évaluation des ressources minérales et des questions fédérales-provinciales connexes auprès du directeur général. Leur participation représentera certainement un enrichissement et du renfort pour notre équipe de gestion. Nous sommes heureux d'accueillir à nouveau au sein de notre direction M. C.F. (NEIL) BURK, JR. et son personnel du Centre canadien des données géoscientifiques, qui relève maintenant de la CGC et plus précisément, à compter d'avril, de la DIG.

La présentation de la médaille Massey de la Société géographique royale du Canada par le Gouverneur général du Canada à M. RAY THORSTEINSSON, de l'IGSP, est pour nous tous source de grande fierté. La médaille lui a été remise en reconnaissance de ses nombreuses découvertes et réalisations scientifiques dans l'Arctique canadien - réalisations qui inspirent ceux qui le suivent.

The other memoranda signed are between EMR's CANMET and Canada Centre for Remote Sensing, and the Interior's Bureau of Mines and U.S. Geological Survey, respectively. At the signing of the agreement the USGS presented this plaque to the Geological Survey of Canada and Canada Centre for Remote Sensing.

**Director General's Office**

Penny Benson has left the GSC Personnel Unit and has joined Mr. McKim's office in the Tower as Executive Assistant to the ADM (Administration). Replacing Penny as Classification Officer is Donald Smallman who comes to us from Veterans Affairs.

Our new Pay Administration Clerk, Louise De March, who joined us in October, is at present on language training.

**Atlantic Geoscience Centre**

Dick Fillon, who for the past nine years has patrolled the northern Labrador Sea in search of clues for the history of deposition and modification of the surficial sedimentary units, has left AGC for South Carolina. At U.S.C. he will be continuing and extending his studies on the paleo-circulation of the North Atlantic and hopes to continue his work with colleagues at AGC.

Jim Syvitski joined AGC in January in the position of Sedimentologist. Before coming to Dartmouth, Jim was lecturer with the University of Alberta in Calgary.

Jane Dawe came to us in February as the Secretary to Regional Reconnaissance Subdivision. Jane was formerly with Transport Canada and replaces Janet Fougere who left in January to work for the R.C.M.P. in Halifax. Janet had been at AGC since 1973.

On February 27, Fred Ewing, a technician with Program Support retired because of disability. Fred was employed with Fisheries and Oceans before joining AGC in 1974.

Pat Stewart, AGC Administrative Officer, left in January to work with Health and Welfare Income Securities Branch. He was back at AGC one week later, which proves that distant fields are not greener!

Barry Inkpen, electronics technician who had been at AGC since 1974 left in March to work for Nova Scotia Research Foundation in Dartmouth.

In late December, John Woodside rejoined AGC after a year in Bangkok, Thailand as Senior Marine Geophysicist with United Nations Committee for Co-ordination of Joint Prospecting for Mineral Resources in Asian Offshore Areas (CCOP).

On June 1, 1981, Environmental Marine Geology Subdivision welcomed its new head, David Piper. David was formerly with the Geology Department at Dalhousie University in Halifax.

After graduation from Cambridge with a B.A. (Geology) in 1966, he went on to receive his Ph.D. (Geology) also from Cambridge. Work on his doctoral thesis included a year spent at Scripps Institution in 1967/68. Following three years of work as a research fellow at Cambridge, David was appointed assistant professor and later associate professor at Dalhousie and was chairman of the Department of Geology from 1977-80. In 1979, he was awarded the APICS Young Scientist Award.

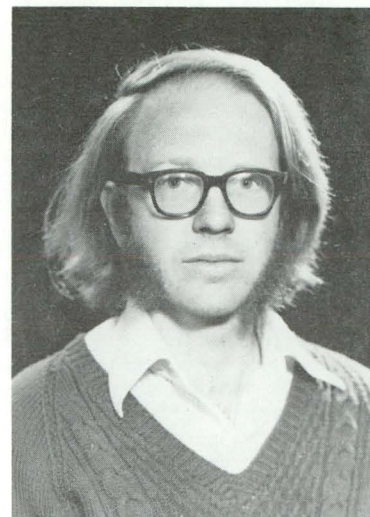
In addition to his managerial duties, David will continue to pursue his research in modern marine geological processes.

Paul Lake joined Eastern Petroleum Geology as a litho-stratigraphy technician in January.

**Field Diary**

The AGC 1981 field program has begun with the departure of Ruth Jackson and Don Locke for the Arctic where they will carry out a program of seismic refraction and heat flow measurements to test the validity of Ruth's hypothesis (in conjunction with Ian Reid at Dalhousie University) that crustal thickness is proportional to spreading rate. This is the third consecutive year for adding a few more points to the graph by which such hypotheses can be tested. We hope that the thaw we experienced at home did not mean that the specially purchased thermal sleeping bags were superfluous to their needs.

The next big event of the field season (in June) will be LASE (Large Aperture Seismic Experiment) in which Charlotte Keen and John Woodside will direct a crew on board CSS DAWSON at the head of a 6-kilometre long seismic array towed by ships from the Marine Science Institute at the University of Texas and Woods Hole to investigate the structural detail of the U.S. continental margin near Baltimore Canyon. This is the first phase of a 10-year operation to look at the development of the continental margins on both sides of the Atlantic. In one of those ten years, a transect of the Nova Scotian margin is planned.

**Central Laboratories and Technical Services**

Don Harris has been appointed to the position of Research Mineralogist within the Mineralogy Section. Since 1967, Don has been a member of the mineralogy group at CANMET where he established the electron microprobe laboratory and carried out an extensive series of research studies on various sulphide mineral assemblages, platinum group minerals and mineralogical nomenclature problems, all of which have contributed to his international reputation. At the GSC, he will be continuing his studies in the same general area and in the coming months he will be undertaking some co-operative research studies.

Bob Bretzlaff became the Operations Manager of the Mineral Data Bank in December replacing Dave Rose. Bob, an honours graduate from Carleton University, has been with the Mineral Data Bank since early 1977. Bob recently resigned and returned to the farm in early May. We wish him every success in his new career.

Andy Douma, formerly with the Analytical Chemistry Section of CLTS, has recently joined the Mineral Data Bank. Andy is a geology graduate of Carleton University and his many talents include building an energy efficient house (GEOGRAM No. 14, p. 7) and being a pilot.

## Cordilleran Geology Division

### Vancouver

Personnel in the Cordilleran Geology Division in Vancouver are a very congenial group ready for a party at the drop of a hat (which explains why no one here wears one). Christmas party 1980 was the occasion of an annual gathering for a big bash at the Cypress Park Lodge high in the mountains overlooking Vancouver.

Work of course is not neglected and apart from routine production of maps and reports much extra-curricular work is done. Witness the GAC Symposium, in which the staff played a prominent part, giving papers authored by Ken Dawson, Hugh Gabrielse, R.I. Thompson of the Vancouver office, and B.E.B. Cameron and Chris Yorath of Pat Bay. In addition Jim Monger presided over the whole affair as President of the Cordilleran Section. Industry and universities also participated in the symposium, "The Last 100 Million Years (Mid-Cretaceous to Holocene) of the Geology and Mineral Deposits in the Canadian Cordillera".

Jim Monger, John Wheeler and Hugh Gabrielse attended a workshop in Austin, Texas, sponsored by USGS-GSC to compile a map showing the allochthonous (?) terranes in the western Cordillera from Alaska to Mexico. ▲

## Economic Geology Division

Graeme Bonham-Carter worked in the Geomathematics Section from December 1980 to April 1981 temporarily replacing Rao Divi, who is on leave of absence at King Abdulhaziz University, Jeddah, Saudi Arabia until September. Graeme graduated from Cambridge University and obtained his Ph.D. from the University of Toronto. After teaching for eight years at Stanford University and University of Rochester, he decided to become a farmer, initially in England and, during the past three years, near Wellington, Prince Edward County, Ontario. Graeme is perhaps best known for his book "Computer Simulation in Geology" co-authored with J.W. Harbaugh. The Canadian winter allows him to practice geomathematics on a part-time basis.

During his term in Ottawa this past winter, Graeme completed a study on the integration of geo-science data for Kasmere Lake area in northwest Manitoba. He also

New library space on the 5th floor is slowly taking shape and we hope to have everything moved down there in a couple of months.

Mike Orchard is now one of us on the continuing staff and Mory Dong is now a member of the permanent staff in the accounting section. Elsie Gillis has joined the Survey as a clerk-typist.

### Pat Bay

The group in the Pat Bay outpost has been actively in the swim (in a manner of speaking) investigating the sea floor and in this connection hosted a seminar on the Canadian Pacific Continental Margin in which 100 registrants from the petroleum industry attended. The two day affair was favourably received by the visitors.

They are preparing for the arrival of the M.V. HUDSON for some extensive marine work in May-June.

Marjorie Mangin joined the group as a micropaleontologist technician.

participated in geostatistical studies in southern Keewatin and the GSC-Esso Minerals Canada joint project on lead and zinc in carbonate rocks.

Wan Liang-guo, a research scholar from the People's Republic of China, arrived at GSC, Ottawa in late January to work on iron deposits in metamorphic rocks. Mr. Wan comes from Jiangxi Province in China and graduated from Beijing Geological College in 1968 where he studied mineralogy, petrology and geo-chemistry. Since graduation he has been on the staff of the Geological Bureau of Inner Mongolia, engaged in research and exploration of sedimentary iron deposits in highly metamorphosed terrain and in the study of gold and graphite deposits.

Mr. Wan is looking forward to extending his comparative study of iron formations and related mineral deposits by participating in field work with GSC parties in Ontario and New Brunswick. Mr. Wan's wife, also an active geologist, and his son and daughter have remained in Inner Mongolia while Mr. Wan continues his professional training in Canada.

## Geological Information Division

### Cartography

Peter Hermann transferred to the Division from the Polar Continental Shelf Project in April. He has a broad experience in multicolour map production and is a welcome addition to Unit "C".

John Bill was the successful candidate in a competition last fall for the senior supervisory position in Unit "B". John brings a wealth of experience in thematic cartography production and administration to his new job.



Herb Finn retired on December 30 after an outstanding career in Cartography. Herb joined the GSC in 1945 as a junior draftsman and for the last 20 years he supervised subunits at the City Centre office and at 601 Booth. He is an outstanding calligrapher and produced many artistic presentation certificates for retirements and special occasions, the last a scroll for Digby McLaren's retirement. He is pictured above receiving his certificate from John Fyles as Bob Blackadar looks on.

Steve Gagnon retired in February having spent 31 years making maps for the GSC. He had a special talent for designing and producing complex figures and illustrations for publications. At the time of his retirement he was supervisor of subunit "A2".

George Fouchard, an outstanding cartographer in Unit B1, retired on May 30 having served the Branch for more than 14 years. Prior to joining the Survey, George spent more than 25 years with the Military Mapping and Charting Establishment.

We wish Herb, Steve and George the best of luck and a long and happy retirement.

Other news

Myra Owen left the Library in December to take a position with the University of Ottawa as head of the Vanier Nursing Library. Mary Malloy, a graduate of Dalhousie School of Library Science, has been holding the fort at the Reference Desk since February.

We're sad to report that Diane Plourde, our Divisional Secretary, left us in mid-April to take on the task of executive secretary with Coca-Cola Limited, Ottawa division. Though we miss her cheerfulness, we're sure there are more smiles than ever before at the place that "adds life"!

In April, Joseph Gallace joined the Data Systems Group and will be working primarily with the cartographers to establish a new system to give improved digitizing facilities. Joe comes to the Division with scientific computing experience gained in both NRC and the private sector.

**Institute of Sedimentary and Petroleum Geology**

Much missed at the ISPG is Coal Geologist Dave Marchioni, who set sail with June Christie from Los Angeles for Australia via Hawaii and Fiji in January of this year. Dave came to the Institute after completing his Doctor of Philosophy degree at the University of Newcastle, Australia. Much of his research in Calgary from October 1977 to January 1981 was concerned with the coal geology and petrology of the Sydney Basin of Australia. He was a regular at the Philosophy Club's meetings which were convened Friday afternoons at the Circle Inn, Denny's Den, the Spanish Lounge and other dialectical watering holes around town. He has returned to Australia to set up his own coal consulting firm in Sydney.

Lou Kamenka has recently joined the Resource Evaluation Section of the Coal Subdivision. He is a graduate of the University of Alberta and is working on Plains coal evaluation, part of the Coal Inventory of Canada program.

Clastic sedimentologist Darrel Long left ISPG in January to become a geology teacher at Laurentian University. Darrel finished his Ph.D. (Geology) at Western University before commencing stratigraphic and sedimentological studies of Tintina Trench/Bonnet Plume coal-bearing sequences from March 1977 to January 1981. In February, Brian Ricketts joined the Coal Subdivision staff.

He is a carbonate and clastic sedimentologist who has left Gulf Canada Ltd. to study coal measures in the Arctic Islands and northern Yukon with the Survey. He received his Ph.D. from Carleton University; his Masters degree was obtained in New Zealand at the University of Auckland. Welcome to the soccer team Brian! Representing New Zealand on the horse shoe pitch in 1979 and 1980, he was runner-up to Mike Cecile in this international event.

David Hughes has been promoted to Section Head, Resource Evaluation Section of the Coal Subdivision. Working with him is Coal Systems Geologist Kathy Mottershead whose postgraduate work was in computer science at York University. She will be developing computer programs capable of storing, manipulating and displaying coal exploration data for varying depositional environments and will be applying her computing science expertise to the development of new coal evaluation programs. Much of the data is on hand, thanks to the work of SUMMUS RESOURCES, a computer resource evaluation program group put together by University of Albert's Geology Professor Gordon Williams. SUMMUS was contracted by the government in May 1979 to input coal resource information online. To that end, geologists Cathy Lutzak and Abdehl Elmorchid, technician Angela Schlese and data entry operator Margaret Just have set up and will have completed by September 1981 seven data bases on coal measures in Western Canada. This has meant that coal seams have been studied and correlated from geophysical logs and the information regarding those seams has been encoded and entered into specific programs for resource evaluation purposes. SUMMUS now has offices in the ISPG building and Cathy, Abdehl et al. are commonly mistaken for civil servants.

Jack Unger recently retired after 10 years at the Institute as Storesman. He is now working as Storesman for Petro-Canada. A gala retirement was held in the ISPG Boardroom on March 6. Elsie O'Keefe (now of Petro-Canada and formerly of ISPG) was commissioned to make the farewell cake. At right Jack and his wife display his plaque commemorating 37 years of public service. Mathew Hall is the new ISPG Storesman.

Nicos Ioannides has returned to France to work as a palynologist at the research labs of Esso in Bordeaux. His research for the past three years involved the study of Tertiary spores, pollen and dinoflagellates from the Mackenzie Delta-Beaufort Sea region and of dinoflagellates from the Jurassic and Cretaceous of the Eastern Arctic Islands.

John Brindle assumed administrative duties as Acting Assistant Director of the Institute on March 9th. Trevor Powell became Acting Subdivision Head of the Petroleum Subdivision on the same day and Lloyd Snowdon took over Trevor's previous position as Head of the Geochemistry Section (Acting) on March 18th.

Brian Norford is Acting Head of Paleontology and assumed those responsibilities last October when Walter Nassichuk became Director of ISPG.

Maverick geotech Norma McNeill has been interpreting geophysical cross-sections and maps for the Petroleum Subdivision since January. She has 15 years of experience in seismic and geophysical work to her credit under various seismic contracting companies in the Calgary area.

Congratulations to Pat Greener on her promotion. Pat supervises the word processing unit which for some time has been reduced to a crowd of one. She and Hilde King dedicatedly hung in as the word processing unit dwindled and the work did not. However, the Force must be with them because two term employees have recently been hired to take some of the pressure off while Tammie McRae and Claudia Thompson are on maternity leave. We expect to see the word processing unit up to strength again in August. In the meantime, our

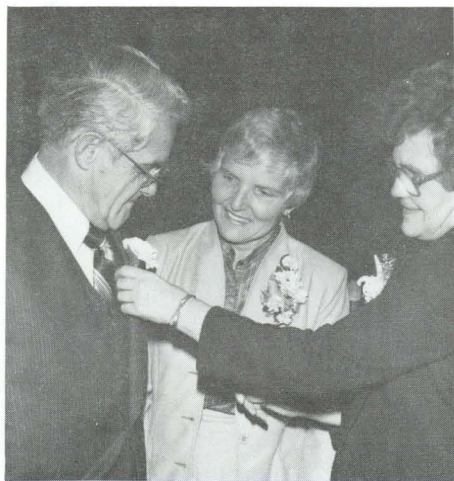


favourite Jughustler and Shooter, Maria Varalta, is back from Texas and behind the keyboard again. She left the word processing unit last fall to work with a seismic crew but packed it in when the rigs started moving south.

Brad Gorham began work in the Inorganic Geochemistry Lab as geochemical technician in March. Denise Armstrong has again "crossed the floor". She is back at the ISPG as carbonates lab technician. Lloyd Bligh filled that position from June 1975 to January 1981. He is now working for Petro-Canada in a similar capacity. Jim Broadfield, micropaleontology lab technician, has joined Mobil Oil in Calgary. He began his technical career six years ago in Curation at the ISPG and will be working for Mobil as a petrology technician. We wish him the best "in the patch".

Nancy Long is now a land clerk at Nova Corporation. She was secretary of the Petroleum Subdivision for a year and a half. Elspeth Snow began working for Regional Geology as the geological technician a few months ago. Donna Smith assumed Coal Subdivision secretarial duties on January 5th. She worked for several years in the administrative offices of the Calgary R.C.M.P. unit before coming to the Institute.

Joni Merrill is acting secretary for the Petroleum Subdivision and Shelley Wilson became our switchboard operator/receptionist on February 2nd. Jean Spirritts has been promoted to a CR3 position in Publications.



Irene Rose, ISPG hostess, pins a carnation on Bernie Latour as Eleanor looks on.



Walter Nassichuk (left) and Eleanor Latour are amused as Bernie describes some of the light-hearted memories of the last 37 years.

B.A. (Bernie) Latour retired at the end of 1980 after 37 years of distinguished service with the Geological Survey. Bernie began his career with pioneer studies of the Bowser Basin under Hugh Bostock the Elder. Thereafter, he followed in the footsteps of Bertie Mackay, the maestro of coal geology. He was transferred from Ottawa to Calgary in 1965 where he was in charge of administrative aspects of the western operations. Most of his early years were occupied with planning the new ISPG building and, eventually, masterminding the moving procedures. He then became King Coal, head of the Coal Resource Evaluation Section of the Coal Subdivision.

At a gala send-off party in the ISPG Boardroom, youthful Bernie and his beauteous wife, Eleanor, waxed eloquent over the wonders they had seen during the past 15 years in Calgary. One of the several novel gifts for the occasion was a coal-fired stove, handcrafted by the Cartography Unit. Several more appreciated (if less appropriate) gifts were buried in the pseudo coal. Bernie, still in his mid-50s, is acting as a senior consultant to Petro-Canada during the early part of his retirement. He visits the Institute weekly - and looks far more prosperous than when he was one of us!

### Precambrian Geology Division

Aside from the regular hum of scientific activity emanating from office doorways, the ambience in the halls of the Division is almost tranquil these days. With the subsidence of the threat of a move to faraway places and completion of a management shuffle that, except for two section heads involved all

positions from Director on down, the local world is a calmer place. Even one of the few serious cynics in the group has been heard to say, "It's getting very difficult to think negatively around here". Not only that, after a lull of about 10 years we were visited by not one but two directors general in the last four months; Digby McLaren came over before his "retirement" and Bill Hutchison dropped in last month. Digby's

encouraging comments and Hutch's visits to individual scientists were much appreciated. Pulse rates and the noise of paper shuffling will increase markedly in the next few weeks as the beginning of the field season approaches.

John Reesor has returned to full-time research after a term as Director of Regional and Economic Geology Division and more recently, of Precambrian Geology Division that demanded more dedication and personal sacrifice than is normally asked of manager-scientists. Progress in Cordilleran geology has been dramatic in recent years; southern British Columbia will be fertile ground for the careful and perceptive fieldwork that is John's hallmark. As Head of Precambrian Subdivision Walter Fahrig worked hard and effectively for the Precambrian cause during difficult times. Returning to full-time science this year he has not escaped completely from managerial responsibility; he is Head of Paleomagnetic Section.

John McGlynn brings his broad knowledge of Precambrian geology and a reputation for accessibility to his new job as Director of the Division. Despite budgets, new thrusts, and other bureaucratic challenges he has made time for several coffee breaks at 588 Booth and for many of the talks in the Precambrian High series (see page 16). One of his current problems is to find a person of high enough calibre to fill the large shoes of Ira Stevenson. Ira will be leaving the Survey this summer to begin various new activities.

Several other members of the Division have shouldered new responsibilities. John B. Henderson (Bear-Slave) and

Tony LeCheminant (Churchill), join "old boys" Tony Davidson (Superior-Grenville) and Ken Currie (Petrology) and "new boy" Otto van Breemen (Geochronology) at the Divisional Section Head meetings. Paul Hoffman, Ken Card, and Tony Davidson have taken on the large roles of authors and compilers of the Precambrian Shield volume of the sixth edition of *Geology and Economic Minerals of Canada*.

There have been changes in classification as well. André Ciesielski, John R. (Jack) Henderson and Subhas Tella were transferred from term to staff research scientists this winter. Fred Campbell has been seconded to the Black Tower to help set up a new branch.

Many thanks to Bob Stevens, Dale Loveridge, Ken Currie and Peter Thompson for their contributions to the Precambrian Geology Division part of GEOGRAM.

#### Visiting Fellow joins Petrology Section

Dr. J.B. (Joe) Whelan recently joined the Petrology Section as a Visiting Fellow. Joe went to school in Sydney, and attended the College of Cape Breton and St. Francis Xavier University before finishing up his baccalaureate at the University of Western Ontario in 1974. He then returned to the Atlantic provinces to do a Masters degree at Memorial University on molybdenum occurrences in the Ackley City granite batholith.

For the past five years he has been in Australia at the Australian National Batholith acquiring wisdom at the source of the distinction between S and I type granites in the Lachlan fold belt. By way of diversion, Joe also worked on a porphyry system in Papua New Guinea. Having learned the granite alphabet as far as I and S, Joe arrived in February to work on an A type granitoid, the Topsails batholith of Newfoundland. Since he has already experienced the weather in Newfoundland, he must be one of those hardy souls who enjoys it! Joe will join several other petrologists, namely Richard Herd, Ken Currie and Fred Chandler in cutting a mapping swath through west central Newfoundland.

#### New Section Head for Geochronology

On May 1st, Otto van Breemen joined the GSC as Head of the Geochronology Section. He came to us from the Scottish Universities Research and Reactor Centre, East Kilbride, Glasgow where he has pursued his research interests since 1968.

Dr. van Breemen was born in Indonesia but at an early age came to Canada with his parents who settled near Stoney Plain, Alberta, where he completed his secondary education. After a B.Sc. in 1963 and an M.Sc. in 1965 at the University of Alberta he took a Ph.D. (1968) at the University of Leeds in England.

His thesis topic concerned the geochronology of the Limpopo Orogenic Belt in southern Africa.

In 1968 he proceeded to the Scottish Universities Research and Reactor Centre where he was appointed Senior Lecturer in 1977. He has carried out Rb-Sr geochronology, U-Pb age work on zircons, common lead isotopic studies and a samarium-neodymium study on garnets and their metamorphic host rocks during his time at the Research and Reactor Centre. The Centre is operated by a consortium of seven Scottish universities and this has given Otto the opportunity to collaborate on a wide range of projects with geologists from these universities. Indeed his impressive publication résumé lists as many different co-authors as titles.

Dr. van Breemen is best known for his intensive work in the Scottish Caledonides which has led to the unravelling of a detailed chronology of structural, metamorphic, and igneous events and also to the separation of Precambrian from lower Paleozoic elements. He has also worked in the Limpopo Belt of southern Africa, the Ketelidian Belt in southern Greenland and on Precambrian rocks from Finland, Ireland and Nigeria.

Members of the Geochronology Section got to know Otto personally during a week long visit he made to the GSC in the early January cold spell. They pronounced him a decent fellow, affable and pleasant, and were looking forward to having him join the section.

#### **Resource Geophysics and Geochemistry Division**

Yvon Maurice visited Madrid in October to attend a Nuclear Energy Agency meeting (Organization for Economic Cooperation and Development) on "uranium in granites". This was followed by a stimulating trip in western Spain and eastern Portugal to numerous field sites that had been described during the conference.

Bill Coker will be leaving the GSC in June to take up a new position as Senior Geochemist with Gulf Minerals in Toronto. Bill joined us in 1975 after an earlier stint in industry with Rio Tinto and following a Ph.D. from Queen's University. Since then he has worked on geochemical problems in Shield areas of Ontario, Manitoba and Saskatchewan and was deeply involved (!) with extensive lake sediment surveys carried out in these regions. We shall miss his good cheer,

neat office and above all, his major contributions to geochemistry research in Canada. Doubtless he will be back from time to time to see what is going on. Good luck.

Zita LeBlanc left us permanently in February to pursue a career in Motherhood. Barbara Boland was employed in Zita's place until she left also to take a permanent position at Industry, Trade and Commerce. We wish them both success in their new careers.

Brian Williamson has joined the group filling a temporary position until the end of June.

Gwendy Hall and Alice MacLaurin recently attended an advanced training course at Dionex Corporation in San Francisco to look into the latest analytical technology on anions. In the course of events they acquired suntans and managed to struggle back to Ottawa's balmy weather.

Bob Boyle continues his marathon CIMM Distinguished Lecture circuit. At last count he had given 18 lectures on gold and the geochemistry and geology of its ore deposits. That is a lot of rubber chicken dinners!

After receiving his Ph.D. degree in Geophysics from the University of Western Ontario, Jonathan Mwenifumbo joined the Resource Radioactivity Subdivision in December as a Research Scientist to carry on research in the field of borehole logging.

Liu Xian Bing, a visiting scholar from the Peking Uranium Geology Institute arrived at the GSC in November and is spending one to two years with the Radioactive Geophysics Section of RGG studying regional radiometric survey data and developing interpretation techniques.

Zorzet Dikić, a geophysicist from the Institute for Geological and Mining Exploration, Belgrade, Yugoslavia,

is studying geophysical data processing techniques in RGG. She is an International Atomic Energy Agency Visiting Fellow and has been at the GSC for a three-month period since April.

Two new faces have appeared in the ranks of the Terrain Geophysics Section in recent months. Chi Waboso, who arrived in February, is a graduate of the University of Western Ontario. He will be working with the engineering seismic team which is currently investigating the application of high resolution seismic techniques. Dr. Waboso spent the month of March with a GSC seismic crew on the sea ice of the Beaufort Sea investigating the occurrence of subseabottom permafrost.

Ian Rae, a recent graduate of Queen's University joined the section in March. He will be working on electromagnetic technique development with Ajit Sinha. Currently, Ian is participating in an EM survey to map permafrost thickness at Illisarvik Lake in the Mackenzie Delta, N.W.T.

#### Terrain Sciences Division

After five years of service as Head of the Divisional sedimentology laboratories, Wilf Podolak resigned in November to take a position with General Motors Canada Limited in Niagara Falls. While with Terrain Sciences Division, Wilf reorganized the sedimentology facilities and supervised the relocation (twice!) of the physical sedimentology lab. He carried out field work and participated on numerous intrabranched committees. We all appreciated his competent service and, while sad to see him leave, wish him the best of luck in his new job.

Rick Richardson resigned from his position with the Division in January, after having spent a number of years working with field parties in the Arctic Islands. We wish him well in his new job of dealing with sand and gravel resources for the Alberta Geological Survey, a component of the Alberta Research Council in Edmonton.

Gladys Mahony decided to pack it in just before Easter and retire to country living. Gladys' magical fingers deciphered many a scribbled line into legible manuscripts. Her cheery self will surely be missed. All is not lost, though, as Jeanne Grainger is doing a great job of filling in while keeping up with her regular work.

#### Last minute CLTS addition

Steve Frewen, after working for the Division on a term basis for a little over a year, recently won a competition for a Sample Curator Assistant to work with Ulrich ter Haar Romeny in the Reference Collection Facility at Tunney's Pasture. Welcome!

## OF GENERAL INTEREST

#### Precambrian Contacts outside world

The requests for papers, lectures, institutions, symposia and liaisons from members of the Precambrian Geology Division is a measure of the interest of the "outside world" in Division activities and expertise. The eruption of Mt. St. Helens last fall turned Maurice Lambert into a sort of media guru. Radio stations, schools, universities, and Kiwanis clubs were after him for information on volcanoes. After a visit to Mt. St. Helens he addressed the Logan Club and a record crowd at Camsell Hall. A trip to Ecuador and the Galapagos Islands to look at more volcanoes was required to obtain some peace of mind.

Hewitt Bostock, Ken Eade, and Peter Thompson presented papers to Geoscience Forum 80 in Yellowknife last December (-40°C), a meeting where representatives of government, universities, and industry discuss their work in the Northwest Territories. Tony Frith and co-author Stu Roscoe (Economic Geology) received the Barlow Medal from the Canadian Institute of Mining and Metallurgy for their paper on the Hackett River Belt, Slave Province that was published in the CIM Bulletin. In Boulder, Colorado Ken Card attended an organization meeting for the Decade of North American Geology 1980-1990, a Geological Society of America centenary project.

Paul Hoffman went to Austin, Texas for another aspect of the project, the Tectonic Map of North America. Three weeks prior to the Boulder meeting Ken represented the Geological Society at a Career Day for high school students organized by Carleton University. Bob Baragar was in Virginia in April for liaison for the Survey to the International Research Drilling Project, one organization that drills off oceanic crust in places above sea level. At the same time he attended an AGU Chapman Conference on Oceanic Lithosphere.

Grenvillian Tony Davidson presented his story of the Western Grenville Province at meetings with Ontario Ministry of Natural Resources, Ontario Geological Survey and Newfoundland Department of Mines and Energy. Our man in Labrador, Ingo Ermanovics addressed the Conference on Precambrian Problems organized by European Geological Societies in Copenhagen, February 27 to March 2.

Edgar Froese, Adjunct Professor of Geology at Carleton University has recently been spotted frantically plowing through even more books of colleagues who could be drafted to give his lectures in post-graduate petrology, and was forced to give several lectures himself. He had managed to draft Terry Gordon, Ron Emslie, Ken Currie, Richard Herd, Mikkel Schau, and Peter Thompson to stave off the evil day as long as possible. Cheer up, Ed! Final exams are over.

- P.Thompson  
Precambrian

#### Reading the Rocks

Reading the Rocks, the history of the Geological Survey 1842-1972 by Morris Zaslow, can be purchased by GSC staff members for \$12.50 at all three publication outlets. The publisher's price was \$25.00 but the book was deleted from their catalogue in 1980 and is now available only from GSC or Department of Supply and Services.

#### GSC gets prime time

Early in the new year Ann Stenson (CLTS) of the Mineralogy Section was interviewed by the CBC (French network) based on her article on the Canadian gem industry. After interviewing both Ann and Robert Aleya of Aleya's Jewellers, some time was spent photographing jewellery and some various Canadian gems (rough and cut) both from Ann's collection and Mr. Aleya's.

The program was televised in late January. A similar presentation was prepared for viewing in February or March by Mayfair Productions Limited, Toronto.



### Oldest oceanic sediments and basement recovered by deep sea drilling

Leg 76 of the Deep Sea Drilling Project, under the leadership of Dr. Robert E. Sheridan of the University of Delaware and Felix M. Gradstein (AGC) has, for the first time, provided solid evidence for the age of the Atlantic Ocean. In order to accomplish this, drilling operations by M/V GLOMAR CHALLENGER were carried out 450 km east of Florida, between October 20th and December 16th, 1980. The site is in 4966 m of water and was cored continuously from 546 to 1666 m below the seabed where ocean crust-type basement was reached; this was directly overlain by Callovian (Middle Jurassic) brown/green and organic rich, black shales. These sediments, approximately 150 million years old, are the oldest recovered in the oceans and were formed immediately after North America and Africa split apart. Surprisingly, the oldest organic rocks are 10-30 Ma younger than estimates made earlier, and show that the Atlantic Ocean was created by seafloor spreading at a rate three times faster than the present rates of spreading in the Atlantic. Another surprise in drilling into the oldest sediments was finding changes in the Jurassic paleoenvironment caused by bottom currents. It had been expected that since the oldest Atlantic Ocean was much narrower and

ocean pathways to the adjacent Pacific and Mediterranean Ocean limited, that deep and possibly even surface currents might have been temporarily stifled in the confined Atlantic basin. Indeed, over 20 m of organic-rich, phosphatic deposits almost directly on

the ocean crust show limited flushing of the Middle Jurassic Ocean. Younger, Lower Jurassic rocks, however, indicate more current action. This may herald the onset of global deep circulation. The oldest deposits are also rich in the calcareous skeletons of tiny planktonic animals and plants known from the ancient seas once covering Europe and the Mediterranean. Clearly the earliest Atlantic Ocean was an open ocean shortly after its origin.

The excellent, geomagnetic, micro-paleontologic, sedimentologic, geochemical, physical and seismic records at this second deepest ocean site, spanning almost 140 Ma of ocean history will be important for many current ocean and margin studies in Canada, the United States and other countries. One of the immediate goals is to organize the new stratigraphic data into a more detailed Jurassic time scale to which ocean and margin events are tied - the Grand Banks, for example.

A test-hole into gas hydrates was also drilled on this cruise. Gas hydrates are solid, ice-like substances of methane and water, found beneath a wide area of the seafloor on the continental margin east of North America. Gas hydrates are considered significant because they may signal the presence of exploitable natural gas. For the first time in the marine environment, these methane hydrates were tested in a quantitative, geochemical experiment under the leadership of Dr. Keith Kvenvolden of the U.S. Geological Survey.



Bob Sheridan (University of Delaware, in shorts) and Felix Gradstein (AGC) shake hands, happy with the successful drilling aboard M.V. GLOMAR CHALLENGER, at the end of the 81-day cruise in the Western Atlantic.

Dr. F. Bender, President of the Federal Institute for Geosciences and Natural Resources, Hannover, Federal Republic of Germany, spent April 13 and 14 at the GSC in Ottawa to discuss the status of co-operative projects between the two organizations, within the framework of the Canada/Federal Republic of Germany Science and Technology Agreement. Prior to these discussions, Dr. Bender was able to enjoy a magnificent early Spring day on Sunday, April 12, touring the local area under the guidance of Hal Steacy and George Plant. In addition to seeing a little of the Nation's Capital, the tour included the following stops: Parliament Hill overlooking the Ottawa River and Gatineau Hills for a general discussion of the geology,

Old Chelsea to see Precambrian outcrops and evidence of recent landslide activity, Pleistocene deposits north of Cantley, the Vavasour Mine, Farm Point sugar bush (where Dr. Bender was presented with a can of maple syrup), Precambrian unconformity at Gatineau, Nepean sandstone outcrops at Kanata, and the perthite locality southeast of Perth. Dr. Bender is an enthusiastic mineral collector and was able to obtain several samples for his collection during the day.

Dr. Hutchison presented Dr. Bender with a GSC paper weight to commemorate his visit.



- George Plant  
CLTS

## Uranium in Granites Workshop

A workshop on Uranium in Granites was held in Camsell Hall in November of last year. The purpose of the meeting was to discuss the characteristics of radioactive granites and to speculate on their potential for hosting economic uranium deposits. Over 150 delegates, representing governments, universities and the private sector listened to a total of 22 papers on the geology, geophysics and geochemistry of radioactive granites bringing to light the latest research activities. Five papers dealt with situations in the Northwest Territories, four in British Columbia, three in Ontario, two in Nova Scotia, and one each in Alberta, Manitoba, Quebec, and Newfoundland. Papers of a general nature included one by Arthur Darnley entitled "Uraniferous granites - a miscellany of questions", and one by Vlad Ruzicka on the relationship between granitic plutons and the distribution of uranium deposits. Other GSC speakers were Heddy Rimsaite, Dan Boyle, Tony Davidson, Sunil Gandhi, Brian Charbonneau, Ken Ford, John Kerswill, Bruce Ballantyne, Andrea Fabbri and Yvon Maurice who also chaired the meeting. A publication deriving from the workshop is expected to be produced this summer.

On the first evening a lively and well attended discussion took place. It was interrupted twice to allow Duncan Derry and Bernie Manistre to present short communications.

The workshop was one of the activities of the two year old Canadian Granites Study Group. One of the Group's principal objectives is to contribute Canadian knowledge to an international research and development project on Uranium in Granites, jointly co-ordinated by the Nuclear Energy Agency which is part of the Organization for Economic Cooperation and Development, and the International Atomic Energy Agency, a United Nations organization. Other participating countries in this project include Sweden, Spain, France, Great Britain, Ireland, Australia, and the United States.

Canada, unlike some of the other participating countries, has opted for a multiproject approach for its contribution because it occupies such a large slice of the earth's crust with interesting granitoid rocks occurring in many different geological environments that often constitute a large proportion of the landmass. Few of these granites have been studied in any

great detail and considerable opportunities exist for significant research.

The airborne radiometric and regional geochemical surveys, carried out under GSC's Uranium Reconnaissance Program (URP), serves as a framework for the study. URP data has already been instrumental in selecting several of the study areas. The accompanying map shows the locations of the participating projects as well as the areas covered by URP surveys.

A meeting of participants from several countries is in the planning stage and is scheduled tentatively for the spring of 1982. Representatives from the "Centre de recherche sur la géologie de l'uranium (CREGU)" in Nancy, France, have shown interest in hosting the meeting which would provide us with an opportunity to tour some of the French uranium deposits.

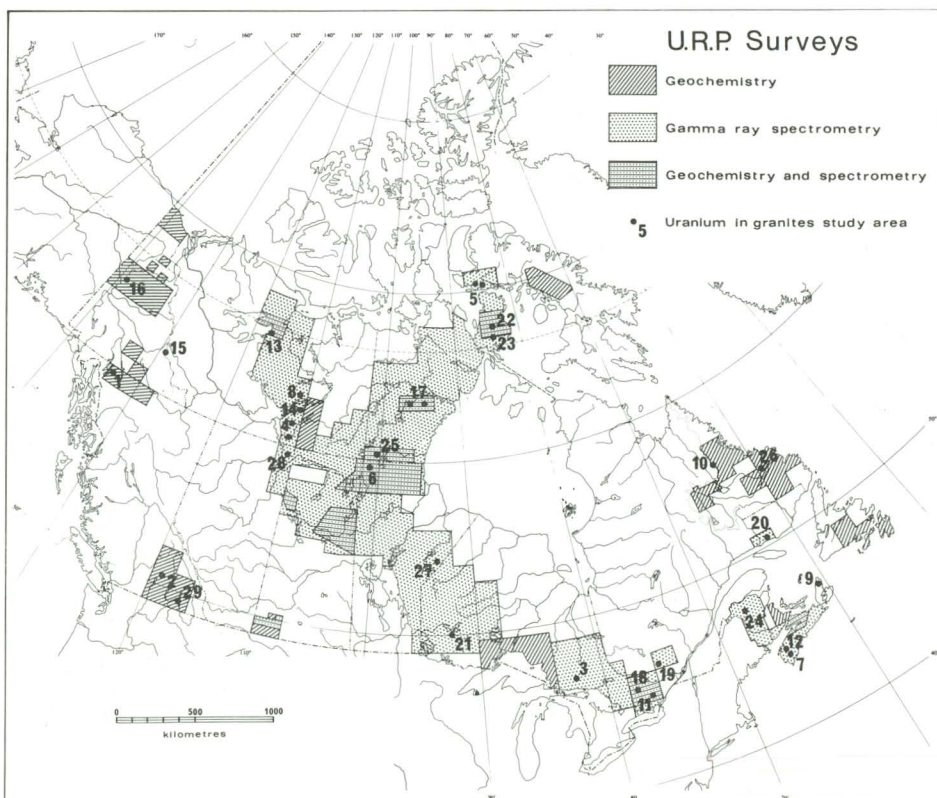
- Yvon Maurice  
RGG

## Permafrost

One major display is produced each year by the Geological Survey of Canada. This is usually produced for exhibit at the annual meeting of the Geological Association of Canada and then is subsequently exhibited at other appropriate meetings or conferences, at the various offices of GSC, and at some universities.

For 1981 the subject of the display is "Permafrost" and, as the Fourth Canadian Permafrost Conference was being held in Calgary in March 1981, the display was produced early enough to be exhibited at that meeting. Three divisions of GSC are involved in permafrost related work: Atlantic Geoscience Centre, Resource Geophysics and Geochemistry, and Terrain Sciences. A small group of scientists from these divisions was formed to design the display and find or produce the necessary photographs, maps, diagrams, and text material. In addition, liaison was maintained with staff of the Earth Physics Branch, as they have been directly involved in some of the work described in the display.

Permafrost related work has been underway at GSC for more than two decades and during this time many aspects of permafrost science or geocryology have been examined. In designing the display, an attempt was made to illustrate some of the



more recent work of the GSC and to show the wide range of topics being considered. To achieve these objectives the display comprised 15 panels, as follows: four panels showing the distribution of permafrost in Canada with photographs and diagrams illustrating selected terrain features, typical of permafrost regions; four panels illustrating permafrost related processes (mudboils, bedrock heave, geochemistry, and solifluction); two panels showing coastal processes; two panels on the Beaufort Sea Continental Shelf (surface features and permafrost distribution); two panels on geo-physical methods for studying permafrost (jet drilling and radar sounding); and one panel on the Illisarvik drained lake experiment.

Drafting of maps and diagrams and actual fabrication of the display were undertaken by the GSC Cartographic Services with assistance from Photographic Services and the

Photomechanical Unit. The Geological Information Division paid for it all.

At the Canadian Permafrost Conference in Calgary, the display was exhibited in the coffee area and thus received considerable exposure. Many people were seen to look at it, several were seen to read it all, and a few were even seen to be taking notes! Favourable comments were made by a number of people, including several members of the conference organizing committee. At the end of the conference, the display was removed to ISPG for exhibit in the lobby there. It is to be exhibited at the GAC/MAC meeting in Calgary in May 1981 and at a symposium on Arctic geology, also in Calgary, in June-July 1981. Plans are for it to be set up in Logan Hall for the summer and early fall and then to be used either at another GSC location or to be placed on the university circuit.

- Alan Heginbottom  
Terrain Sciences

### Creation and/or Evolution?

Some GSC geologists have involved themselves in the Creation-Evolution debate. Media coverage of a recent court case in California has brought the topic into public view.

The geological community in Canada was treated last year to an article by Gordon Winder (University of Western Ontario) in the Geological Association of Canada's GEOLOG ("Scientific Creationism in Canada": v.9, pt.2, pp.22-25, 1980). Commenting on Winder's article, Godfrey Nowlan (ISPG, Ottawa) pointed out how well organized the "creationists" are ("Creative Paleontology": GEOLOG, v.10, pt.1, pp.18-19, 1981). Godfrey was dismayed at the distortions of scientific theories put forward on some early Sunday morning television programs, and urged his readers to pay close attention to the representation of science in the media.

Other scientists have taken more militant stands, as witnessed during discussions at the recent American Association for the Advancement of Science meeting in Toronto. The teaching of the theory of evolution in science courses in the U.S. and Canada is being challenged by fundamentalist Protestant groups eager to see a theory called "scientific creationism" taught alongside or instead of "evolutionism". The debate is becoming more polarized, and more serious. ▶

### ISPG 14th Anniversary

Elsie O'Keefe's gateauwork (see below) was on display in the library again this year as the Giants of the Past Group met again to celebrate their terms at ISPG. Lifers included: Wynn Irish, Helen Belyea, Owen Hughes, Jim Aitken, Nita Penley, Hans Trettin, Lachie MacLachlan, Bill Vermette, Ray Thorsteinsson, Neil Ollerenshaw, Bernie Latour, Al Heinrich, Gordon Taylor, Marian Jones, Don Stott, Wally Banning, Pat Greener, Rudy Klassen, Walter Nassichuk, Dick Procter, Leon Price, John Thomson and Bob van Everdingen. They only qualify if they were at the Institute from Day One. Brian Norford (who missed it by a day due to a snow-storm en route) will never make it (unless the Queen Bee, Marian Jones, relents).

Topics of conversation on the March 6th '81 gathering included: strategies for life on the inside,

stress management for lifers, dirty jokes, and the quality of cafeteria food. These have been the usual topics for the past 14 reunions!

Fourteen years have passed since the Institute's doors first opened on March 8, 1967. That's reason enough to celebrate!

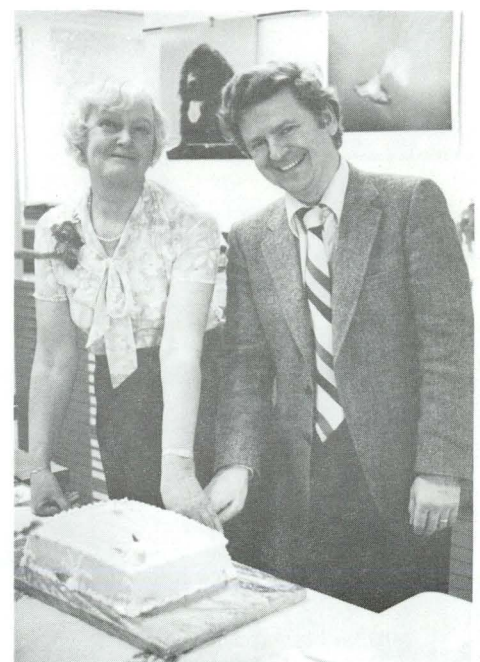
No one knew who gave the signal but suddenly the group broke out of the library compound. Two doors down (in the Boardroom) Jack Unger was making his retirement speech. After putting in ten years of service he was living proof that parole is possible: he'll be working for Petro-Canada. As the venerable ones mixed with their relatively uninitiated comrades, one question remained in their minds: will the circle be unbroken? Find out next year when we bring you the report on the 15th gala celebration.

- Lynn Machan  
ISPG



Marian Jones and Walter Nassichuk dip into the ISPG 14th anniversary cake. ▶

◀La pièce de la résistance!



In an effort to promote discussion of the topic, and of other facets of the interface between science and Christianity, Richard Herd (Precambrian) has started an Ottawa section of an organization called the Canadian Scientific and Christian Affiliation (CSCA). The CSCA is an offshoot of the American Scientific Affiliation, or ASA, a group of several thousand scientists who are also committed Christians. The ASA/CSCA members believe that their professions and their faith are complementary, and that confrontation on sensitive topics like Creation/Evolution comes from too-literal interpretation of both scientific theory and the Bible, and from a lack of respect for the validity of data from both sources.

Richard has recruited Colin McGregor (ISPG, Ottawa) to the CSCA and several other GSC geologists have shown interest. The CSCA has a short tape/slide presentation called "Creation and Evolution". Both Colin and Richard have recently used the presentation as a basis for discussion of Christianity and science among church groups; they welcome questions from anyone trying to get a perspective on the debate.

It is too easy for working scientists to dismiss the claims of religious groups, however vocal, as irrelevant. One root of the problem is the sad lack of appreciation among most non-scientists of the validity and usefulness (never mind the limitations!) of scientific theories, in a society critically dependent on science for survival.

- Richard Herd  
Precambrian

The Geological Wives' Association is celebrating its 20th anniversary this year and is offering an award of \$300 on this occasion to a son or daughter of an employee of the Geological Survey of Canada. The applicant must be entering university, college or technical school for the first year. Application forms are available at Survey offices in Ottawa, Calgary, Vancouver and Dartmouth. They must be completed and postmarked by August 31 addressed to the Chairman of the Award Committee:

Mrs. D.J. McLaren,  
248 Marilyn Avenue,  
OTTAWA, Ontario K1V 7E5

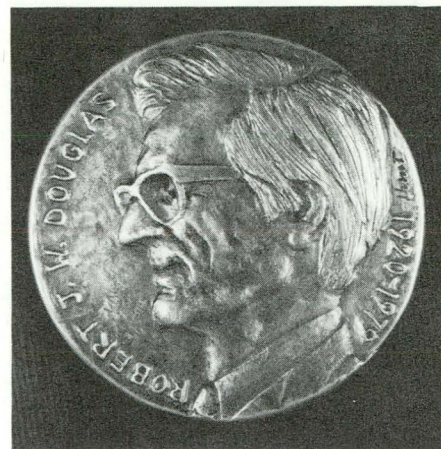
### Award of First Douglas Medal

Harold Williams, professor at Memorial University, and formerly a geologist with the GSC, was the first winner of the R.J.W. Douglas Medal awarded by the Canadian Society of Petroleum Geologists. The presentation was made by Winnifred Douglas, wife of the late Bob Douglas, at a ceremony associated with the annual meeting of the Society.

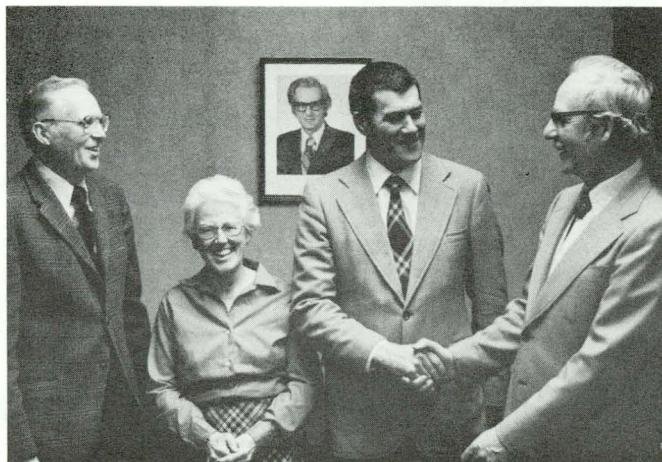
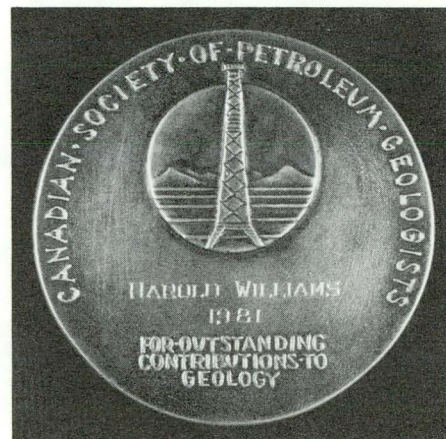
Bob Douglas of the GSC was one of the world's leaders in tectonics and regional geology. After his death in 1979, a committee was set up to raise funds and to design a medal in his honour. The committee consisted of Don Stott, Tim Tozer, Graham Williams, John Wheeler and Ray Price. They chose Dora De Pedery Hunt to design the handsome silver medal.

The C.S.P.G. Douglas Medal Committee included J.C. Scott of Petro-Canada (Chairman), R.A. Price of Queen's University and J.O. Wheeler of GSC. They selected Professor Williams on the basis of the elegant regional maps he has made of his native Newfoundland and of the whole of the Appalachian mountain system and for his major conceptual contributions to stratigraphy, structural geology and the emplacement of ophiolites. It was felt that "Hank" Williams' contributions to geology were in the fine Douglas tradition.

- Ward Neale  
ISPG



R.J.W. Douglas Medal - obverse ▲  
reverse ▼



Hank Williams presented a lecture at ISPG and visited with his ex-GSC colleagues during the recent award ceremonies in Calgary. Here he is shown with (l. to r.) Don Stott, Helen Belyea and Ward Neale. The picture is of Bob Douglas from the Library collection of "Great Western Geologists".

## 8th Whitehorse Geoscience Forum

Once again the Department of Indian and Northern Affairs (DINA) organizers Dirk Tempelman-Kluit, J.A. Morin, R.L. Debicki and newcomer, J.G. Abbolt put together an inspired program for the 8th Whitehorse Geoscience Forum held from Nov. 30 to Dec. 2, 1980. Over 300 of the more "grass-roots types" enjoyed the good mix of university, (Stanford, University of Alaska, Western, Memorial, and British Columbia) government (DINA - Whitehorse and Yellowknife; GSC - Vancouver, Calgary, Ottawa; USGS - Anchorage, Alaska; and British Columbia Ministry of Energy, Mines and Petroleum Resources) and private industry speakers.

After registration and the typical late plane arrival from Vancouver, things got rolling on Sunday afternoon with a regional geology seminar. Dirk "collided" with regional geology and stratigraphy of the Southern Yukon until Steve Gordey (Cordilleran Div.) fell into "Selwyn Basin" stratigraphy only to be "embayed" by "MistyCk" Mike Cecile (ISPG, Calgary) who was upstaged by Bob Thompson's (Cordilleran Div.) "platform" where upon everyone left for the "trough" (Kechika?) at the following reception.

Overview geology and exploration activity papers presented by DINA staff were followed on the next afternoon by the return to a workshop format. The simultaneously held sessions were divided into four topics: small-scale lode mining, skarns, tin, and epithermal deposits. Case histories, models and "type" examples related to each theme were given by five or six expert speakers followed by discussion and further arm waving by the audience. John Lydon (EG) presented a talk in the epithermal deposit workshop and Dave Sinclair (EG), Bruce Ballantyne (RGG) and Ken Dawson (Cordilleran Div.) attended the tin and skarn workshops. Everyone seemed to agree that the workshop format should continue as part of the Forum since many new models and theories were generated at the reception and supper which followed.

In the morning of the last day, the workshop co-ordinators gave highlights while key speakers from each workshop gave their presentations. This was important as many would have liked to attend more than one workshop while others had to rethink their models created the night before!

During the wrap-up on the last afternoon, specific Yukon exploration and mineral prospects not discussed in the previous workshops were presented by mining company explorationists. A paper was also presented by John Lydon (co-authors Ian Jonasson and Wayne Goodfellow (RGG)) on their recent studies of barite in the Selwyn Basin.

During the closing remarks it was suggested as an extra incentive for attending the Forum that the cross-country skiing and the "Klondike Schist" hockey game should become annual and necessary parts of this "function". So next year attend this off-season invigorating and informative gathering, bring your boards, blades and shinpads, and join in the enthusiasm of our Whitehorse hosts!

- Bruce Ballantyne  
RGG

## Fell seven floors and survived

At eleven o'clock on the morning of August 6, 1959 the one ton Jaco Spectrograph fell seven floors onto the street below. To quote an Ottawa newspaper, "workmen and civil servants alike fled in terror as the kicking steel monster fell to the earth". This story even merited a picture!

The action took place at the back door of the Geological Survey on Lebreton Street. The spectrograph was being moved from the laboratory in the National Museum at Metcalfe and McLeod streets to its new home on the seventh floor of the Geological Survey (Booth Street). Because of the large size of the

spectrograph it was necessary to hoist it up through an opening in the wall of the seventh floor. With a beam on the roof and a winch truck on the ground the spectrograph was cranked up to the seventh floor. The winch failed and the insurance company paid. The spectrograph was repaired and put back into service.

The Jaco optical emission spectrograph was requisitioned by Hal Champ and purchased in 1951. Hal transferred from the Mines Branch to the Geological Survey in order to establish a Spectrographic Laboratory for determining trace elements in rocks and minerals.

Over the last 30 years of operation nearly 10 000 photographic plates were exposed on the spectrograph. This translates into 100 000 samples and standards, or a million determinations.

Under Hal's direction trace analysis has gone from simple element identification to precise quantitative values for elements in the parts per million range.

The Jaco Spectrograph was retired in April of this year. It is going out the same wall opening that it came in through in 1959. However, it may not be completely forgotten as some of its "innards" may be going to the Museum of Science and Technology.

The old spectrograph is being replaced by a new Ebert Spectrograph which is smaller, optically stronger, and more efficient. With this new instrument it is hoped it will be possible to further improve the quality of analytical work done in the Spectrographic Laboratory.



### The 1980-81 Flood at 601

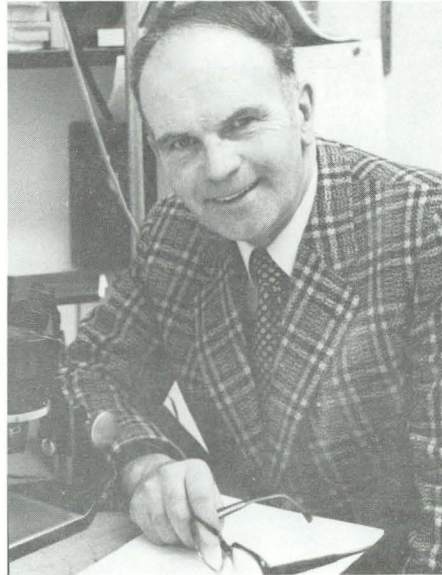
On the night of Boxing Day 1980 and again in early January 1981 the hot-water radiator pipes in many offices in 601 and 615 Booth Street burst during unusually cold weather. Steam and water flooded many areas including the main library stacks and parts of the map library. Books that have suffered damage by water must be dried slowly to reduce the amount of curling. Immediate freezing of wet books impedes the growth of mildew and cuts down on the number of items which must be treated immediately. Material can be removed from the freezers as drying space becomes available. With the aid of a home freezer and a lab freezer, the wet library material was dried out over a period of a week.



The photo shows some of the Russian translations, laid out on tables in Alice Wilson Hall, being air-dried using large fans. Paper towelling was interleaved in the most saturated material to accelerate the process. Fortunately little irreversible damage was done and the library is now back to normal awaiting Ottawa's humid summer in our still un-climate controlled quarters.

### Massey Medal to Thorsteinsson

Ray Thorsteinsson, the ISPG's "verray parfit gentil Knight" of science is this year's recipient of the Royal Canadian Geographical Society's Massey Medal. The Medal



Raymond Thorsteinsson

was presented to Ray by Governor General Ed Schreyer at a ceremony in Ottawa, April 24.

Ray has been with the GSC for over 31 years and this has included 28 summers in the Arctic. He began with sled dogs and canoes and was a leading participant in the Survey's first great Arctic helicopter project, Operation Franklin. Since then he has mapped about 520 000 km<sup>2</sup> and probably knows more about Arctic geology than anyone. He was part of the team that first identified and delineated the Sverdrup sedimentary basin - now the site of many promising natural gas discoveries.

Ray grew up on a farm in Saskatchewan and graduated from the universities of Saskatchewan and Kansas. His pioneer work in establishing the framework of Arctic geology has brought him many high honours: the Miller Medal of the Royal Society of Canada, the Polar Medal of the Royal Geographical Society (U.K.) and the Logan Medal of the Geological Association of Canada. He still returns to the High Arctic every year, still publishes eagerly awaited massive tomes bursting with new information, and is undoubtedly in the running for many more honours and awards.

Shown here is Hal Steacy of the Mineralogy Section of CLTS receiving a suggestion award from Bill Hutchison, our Director General. Hal's suggestion, which has been accepted by the department, was to

use the "Link" between 588 Booth and the Tower for the display of awards and honours made to or received by EMR staff. Hal in a graceful gesture immediately awarded his award to the United Appeal.



A decade in the life of the Geochemistry Subdivision

1970



BACK ROW: Chris Durham, Winston Alexander, Ian Jonasson, Andy Nigrini, Dave Hobbs, Luke Tripp, Rod Allan  
 MIDDLE ROW: Gilles Gauthier, Pat Lavergne, Peter Bélanger, Bill Nelson, Bob Garrett, Ron Horton,

FRONT ROW: Bob Boyle, Rani Aurora, Alice MacLaurin, Eion Cameron, John Lynch, Ruth Chaffey, Willy Dyck, Don Hornbrook

1981



BACK ROW: Pat Lavergne, Willy Dyck, Dave Ellwood, Greig Lund, Ian Jonasson, Bill Nelson, Brian Williamson, Joe Wittwer, Winston Alexander  
 MIDDLE ROW: Chris Durham, Dan Boyle, Yvon Maurice, Eion Cameron, Bob Garrett, John Lynch, Gilles Gauthier, Bill Coker,

FRONT ROW: Jean-Claude Pelchat, Isabella Wysokinska, Aline Stehr  
 Mary Ann Blondin, Alice MacLaurin, Don Hornbrook, Bruce Ballantyne, Gwendy Hall, Lourdes Ilagan  
 MISSING: Bob Boyle and Wayne Goodfellow

## Precambrian High

Precambrian High, a sporadic series of informal talks, progress reports, slideshows, and reruns or premiers of papers presented elsewhere, was organized as a means by which members of the Precambrian Geology Division and other interested persons could find out what was going on scientifically in the Division. Division scientists, students working on Survey-supported theses, two exploration geologists from Texas Gulf, a gravity geophysicist from Earth Physics, and a Visiting Fellow from Denmark, participated this year in a series that ran from December 12 to April 24. Most Friday afternoons 25-30 people turned up for presentations of uniformly high quality. Economic Geology Division and Earth Physics Branch were represented regularly in the audience. The size of the audience, quality of talks, and still largely-untapped source of speakers suggests Precambrian High should start up again in the Fall. In general the absence of a theme will continue but the possibility of a subject-oriented mini series on, for example, Migmatites and Melting, or Major Shear Zones is being considered. Such a mini series could involve both current work and reviews of appropriate portions of the literature by several participants. For information or to pass on ideas, contact me at 593-5107 (Rm. 462, 588 Booth St.)

- Peter Thompson  
Precambrian

Having endured the Canadian summer, it took self-sacrifice for Eion Cameron (RGG) to head off in October to the heat of South Africa for a month of field work. The attraction was the Precambrian sediments. South Africa possesses an unrivaled sequence of older Precambrian sedimentary rocks, including those that host the famous Witwatersrand gold deposits. Eion's objective was to sample the shaly sediments that range in age from 1700 to 3400 million years: samples that record many aspects of the early evolution of the oceans, atmosphere, life, and style of mineral deposits. He hopes to compare data from these samples with those from similar, but stratigraphically less continuous sequences in Canada.

Eion visited South Africa as a guest of the renowned Economic Geology Research Unit of the University of Witwatersrand. Highlights of this trip included field work in the Barberton region of the eastern Transvaal, when the Jacaranda were in full bloom; a memorable visit down a very hot and deep gold mine with Laurie Minter of Anglo American who explained the sedimentology of the gold-uranium placers; and a drive across the Kalahari Desert to visit the Gamsberg base metal deposit. The cherty gossans that are the surface expression of the deposit also had appeal to more ancient travellers. Scattered around the outcrops were

partly made arrowheads, discarded by the Bushmen.

The most obvious attractions of South Africa, apart from its geology, are its scenery and glorious climate, not to mention the wine. But the kindness and hospitality of its people are more than a match for its physical delights.

- Ian Jonasson  
RGG

## GSC Mineral Logging Workshop

A successful three-day mineral logging workshop was held at the GSC on March 31, April 1,2. Participants from the GSC and 26 industry, university and other government groups discussed the state of the art of borehole geophysical measurements. Sponsored by the Borehole Geophysics Section and chaired by Pat Killeen (RGG), the workshop covered nuclear, seismic, electrical, geochemical, electromagnetic, and magnetic borehole logging techniques. Applications ranging from coal, uranium, and base metals to logging for geothermal power stimulated lively and sometimes heated discussions. The growing recognition that geophysical measurements should be conducted down boreholes is leading to rapid improvements and increased research and development efforts in this direction.

- Keith Richardson  
RGG

## ISABELLE TRUMBLE

A week before Easter we were shocked to learn of Isabelle's untimely death. Some GSCers may recall her spry jaunt and ever-smiling face brightening the halls of 601 Booth. Always with a happy thought and kind word, Isabelle was greatly missed when she left the Ottawa Personnel office a few years ago.

Moe Larose, Head, Mineral Sets Preparation Unit, had the unusual pleasure in March of complying with a request from the Faculty of Education at the University of Western Ontario to replace two mineral specimens missing recently from a collection issued by the Geological Survey in 1913 and still in constant use! Moe and his staff currently produce some 6000 mineral and rock collections and 200 economic collections annually. In doing so they carry on a public service which is nearly a century old and which continues to play an important role in the education of Canada's geoscientists.

- George Plant  
CLTS

To those of you heading off to "the field", the rest of us defending the fort wish you a most successful summer with nothing less than tepid temperatures and balmy breezes.

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.

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