



# THE ASSOCIATION OF EXPLORATION GEOCHEMISTS

P.O. Box 523, (Metropolitan Toronto), Rexdale, Ontario, M9W 5L4 Canada

*President:*

**K. A. Lovstrom**  
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P. O. Box C, Belmar Station  
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## NEWSLETTER NO. 37

*Vice Presidents:*

**J.H. McCarthy**  
U.S. Geological Survey  
Federal Center, MS 912  
Denver, Colorado 80225  
U.S.A.

SEPTEMBER 1981

### PERSONAL COLUMN

**L.G. Closs**  
Geology Department  
Colorado School of Mines  
Golden, Colorado 80401  
U.S.A.

Information on Association Members is received from around the world. To keep your fellow members informed of your latest moves send a brief summary to the Rexdale office.

*Secretary:*

**R.G. Garrett**  
Geological Survey of Canada  
601 Booth Street  
Ottawa, Ontario K1A 0E8  
Canada

R. Beeson has left his position as Senior Geochemist with Robertson Research Australia Pty. Ltd. and is now Senior Research Geologist with the Metals Division of the Shell Company of Australia, based in Melbourne.

*Treasurer:*

**I. Thomson**  
Ontario Geological Survey  
77 Grenville Street  
Toronto, Ontario M5S 1B3  
Canada

O. Christensen has left the Earth Science Laboratory of the University of Utah Research Institute to accept a position as Research Geologist with Newmont Exploration Ltd., in Sparks, Nevada, U.S.A.

*Councillors:*

1981-82  
**G.H. Allcott**  
**L.A. Clark**  
**W.K. Fletcher**  
**S.J. Hoffman**  
**S.E. Kessler**  
**P.K. Theobald**

L.D. James has resigned his position with ASARCO Inc. and has joined Gulf Minerals Resources Company as their Director of Geochemistry. He remains based in the Denver area.

1981-83

**R.C. Armstrong**  
**E.H.W. Hornbrook**  
**R.E. Lett**  
**A.W. Rose**  
**D.D. Runnells**  
**F.M. Smith**

O. Lavin has elected not to return to Vancouver as a geochemist with Cominco. He will continue to provide consulting services, including sales and support of the Q'GAS system of computer programs, from Kingston, Ontario, Canada.

*Australian Regional Councillor:*

**R.H. Mazzucchelli**

### A MESSAGE FROM THE PRESIDENT - K.A. Lovstrom

*European Regional Councillor:*

**G.H.W. Friedrich**

In the annual report by the President, 1980-81, Dr. A. Rose mentioned the pursuit of affiliation with the International Union of Geological Sciences (IUGS) by council during 1981-82. Affiliation with IUGS should strengthen our stature as an International Association and provide additional services to our international members. To date, a request has been made to IUGS Secretary General for information on requirements and procedures for affiliation. Council anticipates our request for affiliation to be considered by the IUGS Executive Committee at their meeting in Bonn, West Germany early 1982.

*Southern Africa Regional Councillor:*

**G.L. Coetzee**

*Braslian Regional Councillor:*

**R.J.P. Brim**

In the June newsletter I introduced a number of committees to consider new membership, a student prize and future symposia. These committees are now in the process of studying ideas and drafting proposals for council. I would again encourage all Association members to communicate suggestions and ideas to the appropriate committee chairmen.

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### ADMISSIONS COMMITTEE REPORT

The following persons have been accepted for Membership in the Association by Council. The Association is pleased to welcome the new members.

#### VOTING MEMBERS

Leymarie, P. Chief Researcher at the Centre Deteledetection et d'Analyse es Milieux Naturels, Ecole des Mines de Paris-Sophia Antipolis, France.

#### AFFILIATE MEMBERS

Dunn, D. Geologist/ Golden Bell Resources, Vancouver, B.C. Canada.  
 Moran, J.M. Research Geologist, American Selco Inc., California, USA.  
 Winter, E.A. Geologist, Phelps Dodge Corp., Reno, Nevada, USA.  
 York, T.M. Geologist with FMC Corporation, Denver, Colorado, USA.

#### STUDENT MEMBERS

Kuehn, C.A. Graduate student at Penn State University, University Park, Pennsylvania, USA.  
 Pennell, C.J. Post-Graduate student, University of Queensland, Australia.

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### A LEXICON OF EXPLORATION GEOCHEMISTRY

Like me you have noted that exploration geochemistry has developed its own jargon of scientific and pseudoscientific terms. Most of us are quite familiar with the words and what they mean. But --- just imagine the problem faced by someone new to exploration geochemistry or the confusion that can arise in translating information into another language. The problems are often made worse by the fact that many terms have been adopted or incorporated from other areas of science to cope with a situation peculiar to exploration geochemistry. Consider the words "background" and "hydromorphic".

The following paragraph illustrates my point:

"Initial evaluation of the regional patterns comprised recognition of grossly anomalous locations within a complex geochemical landscape. Manipulation of these data using multivariate statistics was helpful. Application of selective extraction techniques to the stream sediment samples provided a more effective approach. Speciation was readily achieved between metals derived by clastic and hydromorphic dispersion, respectively. Data related to clastic dispersion processes have a simple distribution in which a single threshold can be used to distinguish anomalous samples, related to the specialised granites, from a large, uniform background population."

Try explaining that to your girlfriend or translating it into Chinese with a pocket dictionary. Plain speech would be preferable but the jargon developed gradually, appears necessary and is here to stay.

I believe we need a lexicon of exploration geochemistry containing definitions (in English) and equivalent words in at least French, Spanish, German and Russian. Communication problems can be really bad as I discovered personally working in several countries and is a daily difficulty here in Canada when we operate officially in both French and English.

I am willing to put this together and request your support. Words for inclusion, definitions and word equivalents in other languages should be sent to me, care of the Association's permanent address in Rexdale. I will be establishing a multi-lingual committee to review submissions and will air contentious points here in the newsletter.

Please help me to help you.

Ian Thomson, Treasurer

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## HANDBOOK OF GEOCHEMICAL EXPLORATION

### Volume 1 - ANALYTICAL METHODS IN GEOCHEMICAL PROSPECTING

As mentioned in the last Newsletter, Elsevier is publishing the 7 volume Handbook, the series being edited by G.J. Govett. The first volume, on analytical methods, written by W.K. Fletcher will be available later this year. To give an indication of the scope of Volume 1 the chapters and their lengths are indicated below:

Chapter	Pages
1. Introduction	1-24
2. Quality Control in the Laboratory	25-46
3. Sample Preparation	47-56
4. Sample Decomposition-Solution Techniques	57-96
5. Colorimetry and Related Techniques	97-108
6. Atomic Absorption Spectrophotometry	109-138
7. Emission Spectroscopy	139-166
8. X-Ray Fluorescence	167-198
9. Electrochemical Methods	199-212
Appendices	213-216
References	217-240
Subject Index	241-250

Elsevier has offered to make Volume 1 available to Association members at a discount. If there is sufficient interest they have also offered to make Volumes 2 and 3 similarly available to members. Volume 2, edited by R.J. Howarth, is entitled 'Statistics and Data Analysis in Geochemical Prospecting', and Volume 3, by G.J. Govett, is 'Rock Geochemistry in Mineral Exploration'.

Prices for Volumes 2 and 3 are not yet set, however, Elsevier will make Volume 1 available through the Association for US \$30.00, inclusive of surface mail postage. The Association has to place the order with Elsevier in the first week of January, therefore the absolute deadline for receipt of orders at the Toronto office is December 31, 1981. After that time cheques, money orders etc. will be returned to the sender.

To order a copy of the Handbook of Geochemical Exploration, Volume 1 - Analytical Methods in Geochemical Prospecting by W.K. Fletcher:

Send US \$30.00 (or Canadian \$ equivalent at the pending exchange rate), your name, and address to which you wish the volume mailed, to the Toronto office, to be received by December 31, 1981.

Receipts of your order will be acknowledged. The bulk order will be mailed to Elsevier in January 1982.

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#### FUTURE MEETINGS

#### 9TH INTERNATIONAL GEOCHEMICAL EXPLORATION SYMPOSIUM - May 12-14, 1982, Saskatoon

Final preparation are in hand for the non-technical parts of the program, those for the technical sessions await the deadline for submission of abstracts in November 30, 1981. See, the final call for papers on page 14.

The registration forms will be mailed to all members on completion of the program arrangements. To date the majority of abstracts received have been on the subject of uranium and base metal litho-geochemistry.

#### 10TH INTERNATIONAL GEOCHEMICAL EXPLORATION SYMPOSIUM -

August 28, September 2, 1983, Helsinki

A planning meeting of the Organizing Committee was held in Copenhagen in August and matters are well in hand. The Symposium organization will involve members of all the Scandinavian Geological Surveys, and different tasks are being undertaken by groups in each country.

The first circular will be mailed by April 15, 1982, and the meeting announced in international journals this autumn. The Organizing Committee will also make a brief presentation at the upcoming 9th IGES in Saskatoon next May.

GOLD 82 - MAY 24-28, 1982, Salisbury

This symposium is being organized by the Geological Society of Zimbabwe, with the support of the Geology, Metallurgy and Mining Subs.Committee of the Scientific Council of Zimbabwe.

The five sections cover the distribution of gold in crustal rocks, its transport, mineral deposit types and gold exploration. The program includes both pre-and post-symposium field excursions. Should any member wish to submit an abstract of a paper for presentation the deadline for receipt is December 1, 1981.

Copies of the first information circular are available from:

The Organizing Secretary,  
Gold 82  
Institute of Mining Research  
P.O.Box MP 167  
Mount Pleasant, Salisbury,  
ZIMBABWE

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PROCEEDINGS OF GOLD'81

As you will have read in Stan Hoffman's report on the April regional symposium in Vancouver, published in last June's Newsletter, the meeting was an overwhelming success. The joint AEG-GAC Cordilleran Division Organizing Committee have decided to publish the proceedings themselves in Vancouver. As a co-sponsor the Association will receive sufficient copies for all members and subsequent sales through the Toronto office.

Publication is expected in early 1982 and Council has decided that a free distribution should be made to all 1982 members of the Association. The distribution is a welcome benefit from the success of Gold'81, which due to the efforts of the Organizing Committee, the reputation of the speakers, and the topicality of the subject enjoyed a registration of about twice that originally anticipated. Council hopes that the Association can continue to provide Symposium proceedings to its members, either through the Journal or by such publishing ventures. However, Council also wishes to point out that this is an extraordinary event after an extra successful meeting, the distribution only applies to 1982 members, subsequent copies will have to be purchased at the discounted rate available to Association members.

1982 MEMBERSHIP LIST

To coincide with the biennial International Geochemical Exploration Symposia a new 1982 membership list will be published and distributed with the March 1982 Newsletter.

Members are asked to pay particular attention to ensuring the address, postal codes, and telephone numbers are correct on their 1982 dues notices. If no further information is provided the membership list details will be the same as on the dues notices.

1981 DUES - SOME STILL OUTSTANDING !

Yes, there are still some 60 members from 1980 who are on our records as not yet having paid their 1981 dues. You will know who you are, as there is a 1981 dues reminder enclosed and you have not been receiving the Journal.

Sometimes mail gets lost, or errors occur. Unless we hear from you, either your 1981 dues, or some lead on where your dues may be, your name will be struck off all remaining mailing lists before the December Newsletter is distributed. If you intend to resign, and forfeit the various benefits of membership, the Association would appreciate a letter of resignation.

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FROM THE SECRETARY'S OFFICE - Bob Garrett

It has come to the time when we have to ask members for their 1982 dues. You will find a Dues Notice enclosed, again as last year we have listed those books that are available through the Toronto office.

It is with pleasure that I draw your attention to the fact that the dues remain unchanged at US \$42.50. The continued success of the Journal and every effort to run a 'tight ship' are allowing us to fight the ravages of inflation. With the decreasing value of money membership is going to be some 12% cheaper for 1982, and we plan to distribute a new membership list and the proceedings of Gold'81.

On the Dues Notice you will see various methods of preferred payment. It is easiest, and least expensive for the Association to handle cheques drawn on North American banks and International Money Orders. However, these methods of payment may be difficult for some members and we can handle UNESCO coupons and International Postal Orders. If you believe that your method of payment may result in handling charges in Canada please include them with your payment, otherwise the Association may only finally receive a small part of your dues payment. If it helps some members to pay directly through a bank the Association's account is with:

The Canadian Imperial Bank of Commerce  
Rexdale and Islington Branch,  
2267 Islington Avenue,  
Rexdale, Ontario M9W 3W7, Canada

Branch Transit No. - 9822

Deposit Account No. - US \$ 02-00018

If you pay this way through your bank please still return your Dues Notice to Toronto with a record of the originating bank, any draft number they may provide, and the date of the transaction. This allows the office to match the bank statements in Toronto to the members correctly.

Some members are lucky to have a generous employer who pays their dues. Occasionally we receive checks for dues and no indication as to whose dues they are. If your dues are paid this way please ensure that your dues notice accompanies the cheque.

Lastly, the due date for your Dues is January 1, 1982. Your prompt, or early, payment is an enormous help to your Association. The Treasurer enjoys Christmas and New Year far better if he knows that the majority of dues are in by mid December. The Association pays for the 1982 Journal issues for its members in advance. The fact that your name is on the first list that goes to Elsevier ensures the uninterrupted delivery of the Journal to you.

#### NOMINATIONS OF COUNCILLORS FOR 1982/4

In order to carry out elections for Ordinary Councillors for 1982-84 the ballot papers will have to be mailed with the December Newsletter.

The Association requires some eight nominees for the next election. The nominations procedure is outlined in Section 4.04 of the By-Laws. Briefly, any six Voting Members can nominate a Voting Member, who should signify his willingness to serve in writing to Council, or Council can nominate Voting Members who are willing to let their names stand. If you wish to nominate anyone please organize the nomination and forward it to the Secretary as soon as possible.

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#### POSITIONS VACANT

#### JOHN F. GILFILLAN & ASSOCIATES PTY. LIMITED

##### Staff Geochemist

Applications are invited from suitably qualified geologists and geochemists for the position of Staff Geochemist with a major international energy company actively engaged in mineral exploration in Australia.

QUALIFICATIONS: higher degree in geochemistry.

EXPERIENCE: a broad knowledge of mineral deposits, their geology and geochemistry, and the use of geochemical exploration techniques is required, with at least five years appropriate experience.

SALARY : negotiable above \$25,000.

BENEFITS : four weeks annual leave; contributory superannuation.

The Job Specification calls for a keen exploration oriented person to assist management with the planning of programmes, to organise field and research projects and to supervise field work.

Reasonable removal expenses within Australia will be paid to a Melbourne base to the successful applicant. Overseas applications are welcome and expenses will be negotiated.

Applications will be confidential and should be submitted in writing to:

Mr. J. F. Gilfillan,  
John F. Gilfillan & Associates Pty. Limited,  
P.O. Box 422,  
LANE COVE NSW 2066 AUSTRALIA

PROVINCE OF NOVA SCOTIAEXPLORATION GEOCHEMIST or PLEISTOCENE GEOLOGISTExploration Geochémist

The Mineral Resources Division of the Nova Scotia Department of Mines and Energy requires a Senior Research Scientist in the field of exploration geochemistry to undertake field oriented programs in stream, lake, till and soil geochemistry. Experience and a good publication record in exploration geochemistry combined with a knowledge of statistics and computing would be advantageous.

Pleistocene Geologist

The Mineral Resources Division of the Nova Scotia Department of Mines and Energy requires a Senior Research Scientist in the field of Pleistocene geology to undertake a program of systematic mapping of the surficial deposits of Nova Scotia. Experience and a good publication record combined with a knowledge of the application of Pleistocene geology to mineral exploration and exploration geochemistry would be advantageous.

Please note that there is only one vacancy. It will be filled with either an Exploration Geochémist or a Pleistocene Geologist.

Candidates should have a Ph.D. and related experience. The successful candidate will form part of an active group of geologists promoting mineral exploration in Nova Scotia. The current all time high level of exploration activity in Nova Scotia makes this an extremely attractive opportunity.

Salary Range

\$31,429 to 37,178

Full Civil Service Benefits.

Competition is open to both men and women.

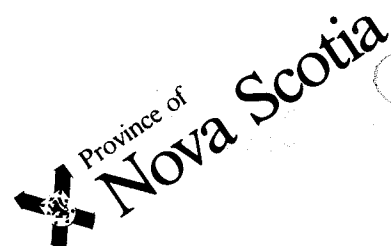
Please quote competition number 81-338

Application forms may be obtained from and should be returned to the

The Nova Scotia Civil Service Commission,  
P.O.Box 943,  
Halifax, Nova Scotia,  
B3J 2V9

or

The Provincial Building,  
360 Prince Street,  
Sydney, Nova Scotia  
B1P 5L1





JOURNAL NEWS - Eion Cameron

The 700 page special issue, comprising the proceedings of the 8th IGES in Hannover, was published in early September as Volume 15 of the Journal. The next regular issue will be published in November.

The Canadian postal strike caused a long interruption in mail to and from the editors' office through mid-summer. Apologies for the delays, matters are returning to order.

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POST DOCTORAL FELLOWSHIP

The Resource Geochemistry Subdivision of the Geological Survey of Canada has an immediate vacancy of a minimum one year postdoctoral fellowship. The research program centres on developing methods for the isolation and recovery of various sulphur species in geological materials, particularly shales, for isotopic analysis at another laboratory.

Applicants must have a degree in chemistry and courses in analytical chemistry. Preference would be given to those experienced in the chemistry of sulphur compounds and to those with some knowledge of mass spectrometry. The salary is in the range \$21,000 - \$23,000.

Please send curriculum vitae together with names and addresses of three references to:

Ms. Wendy Hall,  
Laboratory Manager,  
Geological Survey of Canada  
601 Booth St., Rm. 198,  
Ottawa, Canada,  
K1A 0E8

Telephone 613-995-6914

BIBLIOGRAPHYRECENT PAPERS ON EXPLORATION GEOCHEMISTRY

This list comprises titles that have appeared in major publications since the compilation present in Newsletter No. 36. Journals routinely covered and abbreviations uses are as follows: Economic Geology (EG); Geochimica et Cosmochimica Acta (GCA); The USGS Professional Paper (USGS PROF. P); Circular (USGS CIR); and Open File Report (USGS OFR); Geological Survey of Canada Papers (GSC PAPER) and Open File Report (GSC OFR); Bulletin of the Canadian Institute of Mining and Metallurgy (CIM BULL); Transactions of Institute of Mining and Metallurgy, Section B: Applied Earth Sciences (Trans IMM). Publication less frequently cited are identified in full. Compiled by L. Graham Closs, Colorado School of Mines, Member AEG Bibliography Committee.

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## 9th INTERNATIONAL GEOCHEMICAL EXPLORATION

## SYMPOSIUM

SASKATOON, SASKATCHEWAN, CANADA

May 12-15, 1982

FINAL CALL FOR PAPERS

The Association of Exploration Geochemists is sponsoring the 9th IGES, for which the theme of the meeting is Geochemical Exploration for Energy Sources (uranium, hydrocarbons and geothermal), with a special session of litho-geochemistry (sponsored by the Mineral Deposits Division of The Geological Association of Canada). Papers and posters are invited also on all innovative aspects of geochemical exploration.

Please forward EXTENDED ABSTRACTS (1000 words) indicating whether you prefer a LECTURER or POSTER presentation, no later than November 30, 1981, to:

9th IGES Organizing Committee  
Box 1971  
Saskatoon,  
Saskatchewan, S7K 3S5  
CANADA

(please note the recent change of address)