



THE ASSOCIATION OF EXPLORATION GEOCHEMISTS

P.O. BOX 523, (METROPOLITAN TORONTO), REXDALE, ONTARIO, M9W 5L4 CANADA

NEWSLETTER

NO. 27

President

P.M.D. Bradshaw
Barringer Research Ltd
304 Carlingview Drive
Rexdale, Ontario M9W 5G2
CANADA

Vice Presidents

R.H. Carpenter
Dept of Geology
University of Georgia
Athens, Georgia 30602
U S A

P.K. Theobald
U S Geological Survey
Branch of Exploration Research
Building 25, Federal Center
Denver, Colorado 80225
U S A

Secretary

R.G. Armstrong
Cominco Ltd, Suite 1700
120 Adelaide St W
Toronto, Ontario M5H 1T1
CANADA

Treasurer

F.N. Ward
U S Geological Survey
Branch of Exploration Research
Building 25, Federal Center
Denver, Colorado 80225
U S A

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PERSONAL COLUMN

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

Alex Burton has returned from Zambia to Vancouver, B.C. where he has established an exploration consulting business, Burton Consulting Inc., #5 - 924 West Hastings, Vancouver, B.C.

Lloyd Clark, with the Saskatchewan Mineral Development Corporation, Saskatchewan, now represents the AEG on the Canadian Geoscience Council.

Roy Cox has recently been appointed Chief Geologist for Placer Exploration Ltd., the Australian subsidiary of Placer Development Ltd., of Vancouver, Canada. His business address remains unchanged at 13th Floor, Goldfields House, Circular Quay, Sydney, N.S.W., 2000.

J.F. Gilfillan wishes to announce a change of business address to, 7th Floor, 77 Pacific Highway, North Sydney, N.S.W. 2060 Australia. Communications from the Association should still be addressed to P.O.Box 422, Lane Cove, N.S.W. 2066 which remains unchanged.

Ray Lett has recently completed his PhD at the University of British Columbia, Vancouver, Canada and has joined Barringer Magenta as a Senior Geochemist. He will be working primarily in Canada.

Peter Moeskops has recently returned from an extended trip to South Korea and the Philippines where he has been assisting the Asian Development Bank with the setting up of an \$8 million loan to expand minerals research and development facilities in South Korea.

Gerald Park has opened a geochemical-geological consulting practice in Salt Lake City, Utah. His past experience is in uranium, precious and Base metal exploration.

Art Rose is now the representative of the AEG on the National Committee for Geochemistry. This is a committee under the National Academy of Sciences, National Research Council of the USA, whose primary aim is to coordinate and assist activities both within the US and internationally

John Stephanson has recently joined Geosurvey International Ltd., as Exploration Manager handling their exploration program in Tanzania and stationed in Dodoma, Tanzania.

Ian Thompson formerly of Barringer, has joined the Ontario Geological Survey as Geochemist whose duties will be to formulate and manage geochemical programs conducted by the Survey.

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EDITORIAL --- President P.M.D. Bradshaw

Since the last newsletter, several important decisions affecting every member of the A.E.G. have been made by the Association Council.

By far the most far-reaching decision by the Council has been the renewal of the Association's contract with Elsevier to continue as publishers of the Journal of Geochemical Exploration for a further five years. The Journal is certainly the most visible aspect of the A.E.G. and a vigorous Journal with material of international standard is essential for the success of the Association. It is largely through the standards set by the Journal, as well as those of the bi-annual meetings, that the Association has been able to establish exploration geochemistry as an important aspect of the earth sciences. The high scientific standard of the Journal, which is subscribed to in over 30 countries by more than 1300 universities, institutions and individuals, is due to the hard work of the editor, Dr. Eion Cameron, the editorial board and the contributors. However, the publishers also form an essential element in presentation of high quality Journal of international standard. Elsevier have agreed to continue publication of the Journal at the same cost (in US dollars) to the Association for a further five years. (While this agreement does contain a clause allowing Elsevier to increase the price should the exchange rate between the U.S. dollar and Dutch guilder swing by more than 30%, hopefully, this will never occur.) This agreement means that the subscription rate of the Journal to Association members should remain unchanged for 10 years. This must be regarded as a dramatic achievement in this decade of double digit inflation. The business editor of the Journal, Dr. John Hansuld was instrumental in concluding the Association's contact with Elsevier and we are most grateful for his efforts.

The second matter of importance to the A.E.G. is the proposed changes in the constitution relating to the admission of Associate members. All voting members will have received notification of this intended change which will be voted on at the next annual meeting. The aim of this change is to broaden the base of the A.E.G. and encourage membership by a wider spectrum of scientists and technicians interested in exploration geochemistry. At the same time, the qualifications for full membership in the A.E.G. have remained unchanged and will continue to be rigidly adhered to.

Earlier this year, the Council accepted the offer of a group from Saskatoon to hold the 1982 International Convention in that city. Saskatoon is undoubtedly the most rapidly expanding exploration centre in Canada at this time. 1982 also coincides with the Centennial Year of Saskatoon and this convention promises to be very lively and interesting.

Best wishes in 1979.

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FUTURE MEETINGSEXPLORATION GEOCHEMISTRY IN THE BASIN AND RANGE PROVINCE

April 9 - 10, 1979

Ramada Inn, Tucson, Arizona, U.S.A.

A two-day program is planned which will include papers on uranium geochemistry, reconnaissance and detailed case histories, precious metal geochemistry and analytical techniques.

If you have not received the second questionnaire and announcement, please contact:

W.L. Lehbeck, Registration Chairman, Skyline Labs, P.O.Box 50106, Tucson, Arizona, 85704
(from Ken Lovstrom - Symposium Chairman)

8th INTERNATIONAL GEOCHEMICAL EXPLORATION SYMPOSIUM - April 1980, Hannover, Germany

To date 300 colleagues from 49 countries have responded to the questionnaire attached to the "First Announcement". As well, progress is being made on the numerous excursions and field trips. There will be a pre-symposium excursion in Western Germany and excursion to the Harz deposits during the symposium. After the symposium, 5 field trips are planned as follows:

- 1) Austria - Yugoslavia - 7 days to visit polymetallic Alpine deposits.
- 2) Austria - 5 to 6 days of prospecting and geology.
- 3) Czechoslovakia - 5 days to visit Sn, F, polymetallic deposits in the Krusne Hory Mountains.
- 4) Southern Germany - 4 to 5 days to visit U, barite and fluorite deposits.
- 5) Northern Germany - 2 days to visit area for the deposition of nuclear waste.

The second Announcement will be distributed March 1979 and will include a "Call for Papers". Please have these ready for prompt submission.

1979 URANIUM THEME MEETING

There will be a one day symposium on geochemical exploration for uranium to be held on November 4, 1979 in San Diego, California, in conjunction with the 1979 Annual GSA meeting.

This symposium will be a series of invited papers intended to give an over-view on geochemistry specifically within the United States. Interested persons should contact,

The Chairman of the Organizing Committee, Dr. R. H. Carpenter, Dept. of Geology, University of Georgia, Athens, Georgia, 30602, U.S.A.

INSTRUCTIONAL PROGRAMSGEOCHEMICAL EXPLORATION FOR URANIUM AND BASE METALS by H. Bloom and A.A. Levinson

Offered twice: May 7 - 11, 1979 and May 21 - 26, 1979

This program, now in its 19th year, is an introductory course on the fundamentals of modern geochemical exploration techniques, ideally suited for geologists, chemists and other interested in trace element geochemistry as related to mineral exploration.

Theory and practical field problems are uniquely combined with the analytical laboratory. Two days are spent in the field at mineralized uranium and base metal sites where techniques for sampling soils, stream sediments, vegetation and water are demonstrated. The students then carry out geochemical surveys using field kits to perform on-site analyses of stream sediments and waters. The samples collected are then analyzed in the laboratory in time for class discussions. Atomic absorption spectrometry, colorimetry, fluorimetry, and paper chromatography are used for these analyses.

Other topics reviewed are: primary dispersion and endogenic halos, geochemical mineral suites, secondary dispersion patterns, soil and vegetation sampling criteria, and trace metal partition between stream waters and sediments. Emphasis throughout is placed on the practical aspects of conducting a geochemical survey. Sampling and analytical errors are evaluated in the interpretation of data. Computer-programmed statistics, as well as graphical methods, are used for data interpretation.

For further information please write to;

Continuing Education Short Course: Geochemical Exploration for Uranium and Base Metals,
Office of Continuing Education, Colorado School of Mines, Golden, Colorado, U.S.A.

URANIUM GEOLOGY AND EXPLORATION by R.H. De Voto

Offered twice: March 14 - 16, 1979 and July 11 - 13, 1979

This three-day short course for geologists and engineers covers:

- a) geochemistry and geology of uranium,
- b) mechanisms important in the generation of anomalous uranium concentrations,
- c) many geologic environments favorable for the formation of economic and subeconomic uranium deposits, and
- d) exploration techniques and programs.

The course will stress the fundamental geochemical control of the distribution of uranium in primary rock-forming environments, and its modification in diagenetic and metamorphic environments. The geologic and geochemical factors pertinent to each type of uranium deposit will be analyzed and the exploration significance of these factors and the resulting environments will be discussed. Field examination of uranium accumulations in the Front Range, Colorado, area will be conducted (weather permitting). The utility and economics of various uranium exploration techniques and programs will be studied, as will the economics and long-range future of nuclear power.

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A REPORT FROM AUSTRALIAGEOCHEMICAL WORKSHOP - "THE ROLE OF GOVERNMENT ORGANISATIONS" - Canberra, Australia - May, 1978

The following report was extracted from the Bureau of Mines Journal.

"At the Workshop on the Involvement of Government Organisations in Geochemical Surveys held in Canberra on 4th May 1978 at the end of the 7th BMR Symposium, about 90 geologists and geochemists from State Surveys, BMR, CSIRO, mining companies and the Association of Exploration Geochemists (AEG) discussed current problems facing geochemical survey and exploration work in Australia.

Geochemistry has been shown by the dramatic growth in its use in the last two decades to be a direct, effective and relatively cheap exploration tool well suited to the Australian environment, but developments in the science have not kept pace with this growth, and there is now an urgent need to identify and tackle the problems impeding its further development in Australia.

The objective of the Workshop was to take stock of current geochemical thought in Australia - to improve communications, identify areas of responsibility, consider future directions, and initiate any necessary action.

The first part of the Workshop was devoted to hearing what the current activities are of each government organisation, their present role and their future expectations in geochemistry, whereas each participating company indicated what it regarded government activity should be from the user's point of view. Following the statements and examination of viewpoints, and those of the AEG, some of the more pressing problems confronting the future of exploration geochemistry in Australia were discussed.

The topics discussed included such wide ranging matters as: the need for uniform presentation of geochemical information, particularly for use in data banks and sample repositories; geochemical problems requiring study in Australia; and what constitutes survey work and how can it best serve exploration needs, or what are the objectives of survey work as distinct from those of prospecting?

The main results of the discussion at the Workshop are:

A clear picture has emerged on the division of responsibilities between organisations for the various aspects of geochemical work in Australia. There is already considerable agreement on many important issues, and the way is open for improved communications and co-operations between organisations.

There is general agreement that provision of geochemical maps and data is a fundamental service to earth scientists, and the AEG suggests this should be provided, or at least co-ordinated by a national body, preferably BMR.

State Surveys, BMR, and companies are not in favour of starting on an Australia-wide systematic geochemical mapping program at this stage, but, in general, agree that regional geochemical survey work is a legitimate activity for government organisations, especially as part of province studies. Agreement has not been reached on what is an appropriate sampling density, but there is general agreement that both rock and stream sediments should be collected as they have complementary applications in regional work. Orientation surveys conducted by Surveys are of considerable assistance to industry. Experience has shown that compiling maps from open-file data cannot be justified at present because of the variable quality of the data held.

The mining companies have many common views on what government organisations should be doing, and recognize that there are many essential geochemical functions that such organisations can do best. They consider that the production of geochemical index maps should have a high priority for State Surveys. They endorse the role of basic data collecting, and studies to determine the geochemical character of lithostratigraphic units, including both those with economic potential and those providing background characteristics. They would like to see case-history studies of prospects made, technical developments monitored and method applications developed. Research is supported, in the investigation of fundamental geochemical processes and the development of new methods. Companies prefer that data be released quickly, handled by computer, and made available in 1:100 000 or possibly 1:250 000 - scale map areas, as well as in the form of reports, microfiche, and computer lists and tapes.

If drilling is required in conducting stratigraphic rock geochemistry of sedimentary basins, it is probably uneconomic to pursue this type of geochemistry in prospecting for the time being.

It was proposed that some of the most pressing problems affecting the future of geochemical work should be investigated. BMR should explore with State Surveys and companies the possibility of undertaking case-history studies of prospects before original geochemical features are destroyed.

There is general approval that guidelines be established for presenting data, and that some standardisation in procedures be introduced. There is recognition of the need to improve facilities for readily accessing geochemical data in a usable form. The AEG has been requested to look into and advise on the best ways of standardising some geochemical procedures and some aspects of data presentation and to examine ways of improving the access to data held in files by canvassing the views of potential users and contributors of data."

The BMR Journal is obtainable from the Bureau of Mineral Resources, P.O.Box 378, Canberra City, A.C.T. 2601, Australia, at a cost of \$3.00 for each number, or on annual subscription of \$10.00.

NOMINATIONS FOR COUNCIL

Nominations for Council were made to fill 6 vacancies which will arise at the next Annual General Meeting of the AEG in April, 1979. Ballots have been prepared and distributed to the voting membership. Results of this voting will be tabulated at the AGM after which the new Councillors will be announced. It is important that the Voting Members cast their ballots as soon as received. The ballots must be returned to the AEG permanent office in Rexdale, (Toronto) by April 1, from where they will be transferred to Tucson, Arizona for the Annual General Meeting.

NEW OFFICERS OF THE ASSOCIATION

At a Council Meeting held on January 29, 1979, members of the new Executive were elected for the year 1979 - 1980.

Paul K. Theobald of the US Geological Survey, Denver, Colorado has been elected President of the Association. Paul has supported and contributed to the Association since its inception.

Art W. Rose of Penn State University has been elected to the position of First Vice President.

G. Roger Webber of McGill University, Montreal, Quebec, has been elected as Second Vice President.

Ian Thompson of the Ontario Geological Survey, Toronto, Ontario has been elected to the position of Treasurer.

Bob Garrett of the Geological Survey of Canada, Ottawa, Ontario, has been elected to the position of Secretary.

ANNUAL MEETING - 1979

The next Annual General Meeting of the Association of Exploration Geochemists will be held in conjunction with the 1979 meeting on Exploration Geochemistry in the Basin and Range Province, Tucson, Arizona. The meeting will be held on Monday, April 9, 1979 in the meeting room in the Ramada Inn, immediately following the last paper of the last session of the day. The Agenda for the AGM is as follows:

1. Minutes of the 1978 Annual Meeting
2. Matters arising
3. President's Report
4. Secretary's Report
5. Treasurer's Report
6. Appointment of the Auditors
7. Introduction of the 1979-1980 Executive
8. Election of Ordinary Councillors
9. Constitution change - admission of Associate Members
10. Any Other Business
11. Adjournment

The President, Dr. P.M.D. Bradshaw will deliver his address immediately following adjournment of the meeting.

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ADMISSIONS COMMITTEE REPORTNEW MEMBERS

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

Voting Members

Bloomstein, E.	Exploration Geologist with U.S. Steel Corp., Salt Lake City, Utah, USA.
Bramlett, L.B.	Geochemist with Bendix, Grand Junction, Colorado, USA.
Caddey S. W.	Geologist with the Occidental Minerals Corp., Lakewood, Colorado, USA.
Chakrabarti, A.K.	Chief, Technical Personnel Group / INGEOMINAS, Ministerio de Minas y Energia, Medellin, Colombia.
Christensen, O.D.	Geochemist, Earth Science Lab, University of Utah Research Institute, Salt Lake City, Utah, USA.
Harris, J.F.	Supervising geologist/geochemist, Exploration Research Lab, Cominco Ltd., Vancouver, B.C. Canada
Hassemer, J.R.	Research chemist, Exploration Resources Branch of US Geological Survey. Arvada, Co. 80004. USA.
Hinkle, M.E.	Research Chemist, U.S. Geological Survey, Branch of Exploration Research, Golden, Colorado, USA.
Hunt, C. W.	Exploration geochemist, President of C. Warren Hunt Expl.Ltd., and Polar Resources Co., Calgary, Alta. Canada and Elko, Nevada, USA.
Ito, S.	Geochemist, RMRDC, NR Div., ESCAP, UN Bldg., Bangkok 2, Thailand.
Klinger, G.D.	Geochemist, Manager-Southern District CRA Exploration Pty., North Adelaide, Australia.
Lalonde, J.-P.	Geochemist with the Quebec Dep. of Natural Resources, Quebec, Canada
Leslie J.A.	Consulting geologist, self-employed, Halifax, Nova Scotia, Canada.
Mosquera, T.D.	Geologist - Ingeominas, Ibague, Colombia.
Motojima, K.	Senior Exploration Geochemist, Geological Survey of Japan, Hisamoto, Takatsu-ku, Kawasaki-shi, Japan.
Mukherjee, K. K.	Senior geologist / Geological Survey of India, Calcutta, India.
Nichols, C.E.	Project Geologist/Geochemist/ Union Carbide Corp., Nuclear Div., Oak Ridge, TN, USA.
Olade, M.A.	Senior Lecturer in Applied Geochemistry, University of Ibadan, Geology Dept., Ibadan, Nigeria.
Schofield N.A.	Exploration Geologist, Carpentaria Exploration, Mt. Isa, Australia,

Voting Members (con't.)

- Steele, K.F. Associate Professor of Geology, Dept. of Geology, University of Arkansas, Fayetteville, Arkansas, U.S.A.
- Tissot, F. Project Manager, UNDP Bukoba, Tanzania.
- Westerhof, A.B. Exploration Geologist/Mineralogist, UNDP, Kigali, Rwanda.
- Yegulalp, G.M. Geochemist/Billiton International Metals B.V., The Hague, The Netherlands.

Affiliate Members

- Aquist, B.E. Senior Geologist, Amer. Copper and Nickel Co., Milwaukee, Wis., USA.
- Bwerinofa, O.K. Geologist, Mindeco Ltd., Lusaka, Zambia.
- Chon, H. T. Teaching Assistant, Dept. of Mineral & Petroleum Engineering, College of Engineering, Seoul National University, Seoul, Korea.
- Chryssoulis, S. Teaching Assistant, Dept. of Ore Petrology, Athens University, Athens, Greece.
- Evans, G.M. Regional Manager for Cities Service Minerals Co., San, Jose, Costa Rica.
- Jones M. B. Geologist, Freeport Exploration Co., Reno, Nevada, U.S.A.
- Khalie M.R. (transfer from student-member).
Assistant professor, Geology Dept., American University of Beirut, Beirut, Lebanon.
- Miller, J. K. Geologist/geochemist, for Dresser Minerals Int., Limerick, Ireland.
- Mountford, B.R. Project geologist, Mindeco Ltd., Linden, Dunkeswell, Honiton, Devon, England.
- Nguluwe, C.A. Project geologist, Mindeco Ltd., Lusaka, Zambia.
- Parr, M.G. Geologist, American Copper & Nickel Co., Wauwatosha, Wis. USA.
- Robinson, G.D. Instructor in geology, Oxford College of Emory Universtiy, Oxford, Georgia, USA.
- Sarkar, S.S. Professor, Dept. of Sciences, University of Zaire, Kinshasa, Zaire.

Student Members

- Chute, M.E. PhD candidate, University of Manitoba, Winnipeg, Manitoba, Canada.
- Curiale, J.A. Graduate Student at the University of Oklahoma, Norman, Ok. USA.
- De Vivo, B. Research geologist with the Institute of Geology and Geophysics, Naples, Italy.

Student Members (con't)

Hunt, W. H. Student/Colorado School of Mines, Golden, Co. U.S.A.
 Langston, D.J. Student/Colorado School of Mines, Golden, Co., U.S.A.
 Lopez, D.A. Student/Colorado School of Mines, Golden, Co. U.S.A.
 Melo, G. Graduate Student at Universidade Federal da Bahia, Alagoas, Brasil.
 Northrop, H.R. Graduate Research Assistant, University of New Mexico, Albuquerque, N.M., U.S.A.

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LOST MEMBERS

Mail addressed to the following members in the cities indicated was returned to the Association office.

Change of address information for the members below would be greatly appreciated.

D.A. Andrews-Jones, The Anschutz Corp., 518-17th St./ste. 1110/Denver Club Bldg.,
 Denver, Co. 80202, USA

S. Bonfa, The Geological Survey of South Africa, P.O Box X112, Pretoria, S.Africa

E. Buhlmann, Preussag Metal Expl. Ltd., P.O.Box 62073, Marshalltown 2107,
 Transvaal, South Africa.

M.D. Fenton 9200 Edwards Way, Apt. 1114, Adelphi, Maryland 20783, USA.

D.A. Galanos 2A Kipseli, Kipseli, Athens, Greece.

K.A. Grace, Kennecott Exploration Inc., 15921 S.W. 87th Ave., Miami, Fl.33157 USA

U.H. Htay 1106 Cheyenne St., Golden, Co., 80401, U.S.A.

A. Robin Martin, Box 443 Weipa, North Queensland, 4874, Australia.

P.C. Masterman, Box 37, Chibougamau, P.Q., Canada.

E.E. Okon, Dept. of Geology, University of Calgary, Calgary, Alta, Canada.

D.E. Philpott 204 River Raod, Rivonia, Johannesburg 2128, R. of S. Africa.

S.S. Sepponen Union Carbide Corp., 6009 Osuna N.E., Albuquerque, N.M. 87109, USA

H.J. Wiggett 1021 Lincoln Blvd., Apt. 218, Santa Monica, Calif. 90403, USA.

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ANNUAL MEETING

The AEG Annual Meeting will be held immediately following

the last technical paper

in the Meeting Room

RAMADA INN

TUCSON, ARIZONA, U.S.A.

on

Monday, April 9, 1979