

THE ASSOCIATION OF EXPLORATION GEOCHEMISTS



President:

R. W. Boyle
Geological Survey of Canada
601 Booth Street
Ottawa, Ontario K1A 0E8
Canada

NEWSLETTER NO. 16

AUGUST 1975

Vice Presidents:

C. F. Gleeson
Lakeshore Drive
R. R. No. 1
Iroquois, Ontario K0E 1K0
Canada

R. F. Horsnail
AMAX Exploration, Inc.
4704 Harlan Street
Denver, Colorado 80212
U.S.A.

ASSOCIATION EXECUTIVE - 1975 - 1976

The officers and councillors listed at the left of this page assumed office at the adjourned Annual General Meeting held in Ottawa, Canada, May 16, 1975.

At that time, a vote of thanks was extended to Dr. Ivor Elliott, his executive and council, for their good shepherding and excellent attention to the business of the A.E.G. during their tenure of office (1974-1975).

Secretary:

E. V. Post
Skyline Labs, Inc.
12090 West 50th Place
Wheat Ridge, Colorado 80033
U.S.A.

ANNUAL GENERAL MEETING - 1975

The Annual General Meeting was scheduled to be held during the C.I.M.M. meeting in Toronto, Canada, May 7, 1975. Although a number of A.E.G. members were present at the C.I.M.M. meeting, too few attended the A.E.G. Annual General Meeting to assemble a quorum. The meeting accordingly was adjourned following the Bylaws, and subsequently held in Ottawa, Canada, May 16, 1975. Several matters discussed at the Annual General Meeting and under consideration by Council will be outlined below.

Treasurer:

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

PRESIDENT'S ADDRESS

Councillors:

1975-1976

H. Bloom
P. M. D. Bradshaw
E. M. Cameron
R. L. Erickson (ex-officio)
J. A. Hansuld
P. K. Theobald

1975-1977

M. A. Chaffee
J. A. Coope
I. L. Elliott (ex-officio)
G. J. S. Govett
A. A. Levinson
J. L. Walker

Australian Regional Councillor
P. R. Donovan

The following address summarizing the activities and status of the Association of Exploration Gechemists as of April, 1975, was prepared for presentation at the Annual General Meeting by Dr. I. L. Elliott, President of the Association for 1974-1975:

Good evening, Ladies and Gentlemen, fellow members of the Association. I am very pleased to welcome you to our 6th Annual General Meeting.

People form associations, societies, clubs, etc. principally to communicate within their particular areas of interest and to bring their special interests to the notice of others. During the year, three significant developments have taken place, all of which have a bearing on the communications network within and outside the Association.

The first of these events affects the Journal. One of the primary objectives of the Association is the dissemination of information in the field of exploration geochemistry. The Journal is our principal vehicle for this objective; it is also our most visible asset, carrying the Association's name and purpose far beyond the limits of our membership. Our contract with the publisher of the Journal, Elsevier Scientific Publishing Company of Amsterdam, runs out with the last issue of 1975. Since last October, the Editor in Chief, Dr. Cameron, and Business Manager, Dr. Hansuld, have been negotiating a new contract with Elsevier. The new contract inevitably will result in an increase in the cost of the Journal subscription. We have been extremely fortunate in a period of severe inflation to have been able to maintain the 1972 price constant until the end of 1975. The achievement has been due largely to the success of the Journal as a publishing venture, the cooperation of Elsevier, and in no small part to the hard work of Eion Cameron. I would like to thank both Dr. Cameron and Dr. Hansuld for their efforts in negotiating the new contract.

To offset the increase in subscription cost, the Journal will be enlarged from 400 pages to 600 pages per year, so you will be getting a 50 percent increase in papers. This will give us more flexibility in paper length and the capacity to produce issues dedicated to specific topics such as the Australian and Case History issues. A further positive economic factor is that during 1974, the Journal went out to more than 1,000 subscribers. At this level of circulation, the Association begins to receive royalties which, although they may not be large, contribute to our financial health.

The second development I would like to mention has to do with communication through meetings. The Biennial Symposia on Exploration Geochemistry have become an established forum for the international exchange of ideas and information. Through the newly formed Technical Meetings Committee, under the chairmanship of Dr. Gleeson, the Association will sponsor a variety of meetings ranging from workshops to regional and national meetings dealing with specific topics or geographical areas. These meetings will provide further opportunities for personal contact and discussion. Depending on the scope of the meeting, the Association will have the option of printing the proceedings as special publications, newsletter reports, or as papers in the Journal.

We are already planning a meeting on Appalachian Geochemistry to be held in Fredericton, New Brunswick, in the spring of next year under the chairmanship of Professor Gerry Govett. I hope you have all already received the first circular announcing this meeting.

In addition, the Association will be very much involved in a meeting called "EXPLORATION '77" sponsored by the Canadian Geoscience Council to be held in Ottawa in 1977.

Whilst on the subject of meetings, I am sure you are all aware that the Sixth International Geochemical Symposium will be held as part of the International Geological Congress in Sydney, Australia, in August, 1976. Dr. Charles Butt of C.S.I.R.O. and his committee are busy with the preliminary planning of the meeting, and we take this opportunity to wish Charles and his colleagues 'good luck' with this important task.

It is with a strong personal sense of relief that I can tell you that the Proceedings of the Vancouver Symposium came out on schedule last month as the Association's Special Publication No. 2. So, barring postal delays, all of you who ordered copies at the meeting should be receiving them shortly. I would at this point like to thank Frans van Eysinga for his efforts at Elsevier and for the support he gave to K. Fletcher and myself during the months it took to edit the volume.

The subject of A.E.G. publications is a third trend which has been set during the year. I trust that by now you have all seen the Case History issue of the Journal, which will also be published by Elsevier in hard cover as A.E.G. Special Publication No. 3. Dr. Bradshaw, chairman of the Case History Committee, is to be congratulated on the exceptional job he has done in compiling and editing this book. We certainly hope that it is the first of a series dealing in the most basic and practical manner with geochemical exploration concepts in a variety of environments.

The Bibliography Committee, under the enthusiastic chairmanship of Dr. Hawkes, in addition to producing Annual Bibliography Supplements which appear in the Journal, is working on a compilation covering the years 1960 to 1975, which we hope will appear as an A.E.G. publication in time for the 1976 Symposium. The time saved by having at hand such a compendium of information on exploration geochemistry will, I think, more than repay the modest cost of this publication.

In other committee work, Bob Carpenter's Research and Education Committee produced a survey of the level of teaching activity in the subject of exploration geochemistry at Universities in North America. When this report is compared with Bloom's 1971 report, it shows clearly the very significant growth in opportunity for students to acquire both the rudiments of a geochemical education and to pursue geochemistry as a research topic. The report also reflects the acceptance of exploration geochemistry as a legitimate and important area of scientific education.

Dr. James' Admissions Committee has had a busy year processing more than 50 applications for membership. As might be expected, we are looking at a slower rate of growth in membership than in earlier years. If we are to maintain and increase our membership in the future, I believe we have to provide our members with some tangible benefits of belonging to the

Association in the form of a respected Journal and informative meetings. There is very strong competition for the subscription dollar, and smaller groups like ourselves and, say, the Canadian Geophysical Union are more vulnerable to inflationary pressures than more broadly based groups such as C.I.M. or S.E.G.

During the year, at the request of a member, consideration was given to the appointment of a regional councillor for Europe. However, neither of the two nominees rallied sufficient support, and the appointment had to be abandoned. I would like to point out that the initiative for the appointment of councillors to represent regional interests must come from the membership, and cannot and should not be imposed by council. We have presently under consideration the appointment of a regional councillor for South America.

Over the past four years we have developed our relationships with other scientific and technical groups, particularly in Canada, through the Canadian Geoscience Council. We have been fortunate indeed in having Dr. Coope to represent the Association on the Canadian Geoscience Council. Dr. Coope's energy and dedication to any task he undertakes is well known. The Geoscience Council is one of the few channels through which scientists can approach the federal government with briefs relating to the formulation of science policy in Canada. For instance, during 1974, the Association contributed to the Council's first report to the government on Research Activity in the Geosciences. Whilst there has been some disappointment with the final form of this report, it is a beginning, and one we must build on. Although the Council and its umbrella organization SCITEC are relatively young and their communications system is still shaky, I believe the Association can make a worthwhile contribution to the Council and benefit from continued membership.

We are actively trying to achieve representation on a similar organization in the United States, the National Research Council Committee for Geochemistry, and we are very pleased that Dr. Rose of Pennsylvania State University has agreed to be our nominee for this appointment.

It remains for me to bring one other item to your attention which will very substantially affect the future of our Association. I refer to our legal status, with particular respect to our position as a taxable entity. We have under consideration the registration of the Association as a non-profit organization in order to enjoy certain taxation benefits. Like marriage, this is not a matter to be entered into lightly, and will, I'm sure, receive the serious attention it deserves from the new council.

This concludes my report to you. Our Association is in good financial health, we have a vigorous programme of meetings and publications under development, and a group of dedicated people

to administer its affairs. I am very grateful to you for having given me the honour of serving as your president, and I certainly thank most sincerely the members of the executive, the council, and the committees for their encouragement, support, and hard work during the past year.

I would like now to introduce to you the new executive officers of the Association for the coming year. Our Treasurer will be Mr. F. N. Ward of the U. S. Geological Survey, a member of the Association since its inception, and well known for his contributions to analytical geochemistry. The new Secretary will be Mr. E. V. Post, president of Skyline Labs, Inc. of Wheat Ridge, Colorado. I'm sure the Association will benefit greatly from Mr. Post's organizational talents and business experience. Dr. R. F. Horsnail, who has served for the last three years on the executive, first as treasurer and then as secretary, moves to the Vice Presidential position vacated by Dr. Boyle. Our other Vice President is Dr. C. F. Gleeson, another founding member of the Association and its first treasurer.

I am very happy to hand over the Presidency to Dr. R. W. Boyle, a man well known and respected the world over for his contributions to our knowledge of the geochemistry of mineral deposits. The Association is fortunate, indeed, that Bob is prepared to devote his time and extensive experience to its affairs.

SCIENTIFIC MEETINGS

A number of scientific meetings of interest to members are scheduled for the foreseeable future. Some of these require prompt action by members if they desire to present a paper or participate in field trips. This is particularly true of The Sixth International Geochemical Symposium:

SIXTH INTERNATIONAL GEOCHEMICAL EXPLORATION SYMPOSIUM

1976

The Sixth International Geochemical Exploration Symposium will be held in conjunction with the 25th International Geological Congress in Sydney, Australia, 16-25 August, 1976. The Sixth Symposium will last three full days, probably in the first week of the Congress. All technical sessions of the Sixth Symposium, which will form part of Congress Section 10, are being organized by the Association of Exploration Geochemists, who will also be arranging some separate social functions for members.

Because of the identification of the Symposium with the

International Geological Congress, attendance will be limited to Congress registrants only. Thus, intending participants should follow the registration procedures issued by the Congress Organizing Committee, who are responsible for arranging accommodations, social functions, other Technical Sessions, and a range of field excursions throughout Australia. All A.E.G. members who wish to attend the Symposium and the Congress should request a copy of the Second Circular from the I.G.C. Secretary-General immediately (address given below) to be airmailed to them as soon as possible. In addition, members will be kept informed periodically about arrangements for the Symposium via A.E.G. Newsletters.

REGISTRATION FEES

Full Congress Membership	\$Australian	60	*
Accompanying Member		30	
Full-time student		15	

* Fee rises to \$A 75 after February 29, 1976

TECHNICAL PROGRAMME

Topics: Papers, in English, are invited covering all aspects of exploration geochemistry, but preference will be given to those referring to exploration for non-outcropping deposits in tropical, arid and/or lateritised terrains. Contributions in the following categories will be particularly welcome:--

1. Advances in geochemical exploration for:
massive sulfides, porphyry copper deposits, uranium, and hydrocarbons
2. Regional geochemical surveys for the selection of areas of potential mineralization
3. Isotope geochemistry in mineral exploration
4. Primary dispersion as a guide to the localization of mineralization
5. Evaluation of data processing techniques in Geochemical exploration.

In addition, there will be a workshop session, with invited speakers, to discuss "The Determination of Threshold."

Procedures for Submission of Papers: Papers submitted for presentation at the Symposium should follow the general procedures adopted for the Congress, as follows:

Before October 1st, 1975, intending contributors should submit a descriptive synopsis of the contents of the paper to be presented, stating the fields to be covered, the treatment of the subject, the studies on which it is based and its relevance to the preferred topics of the Symposium. Material presented should be original, should contain new facts, conclusions, or grounds for conclusions, should be of general rather than local interest, and should not have been published previously. It would be helpful if contributors could list other publications (if any) by them with related subject matter. The papers to be read at the Symposium will be selected on the basis of these descriptions, which should therefore be as clear and accurate as possible.

Authors of papers selected for publication will be then asked to submit an extended abstract stating succinctly the essential points of the paper. Such abstracts must be between 500 and 750 words in length and be submitted by 29 February 1976. Papers will not be programmed if abstracts are not received by that date or are of incorrect length. Abstracts will be printed before the Symposium and made available to all Congress registrants.

During the Symposium, papers will be programmed on a strict half-hourly schedule, with 20 minutes verbal presentation highlighting the main points of the paper and 10 minutes discussion. Presentation must be by the author or co-authors. Papers should be written and read in English; special arrangements to assist speakers in this will be available if required. Papers will be published in full in the usual Special Volume of Proceedings and should be prepared in the format of the Journal of Geochemical Exploration. Further instructions regarding the verbal presentation, and the preparation and submission of manuscripts will be sent to the selected contributors as soon as possible after 1 October 1975.

ADDRESSES FOR INFORMATION

International Geological Congress: All enquiries about the Congress, including registration procedures, accomodation, field excursions, social functions, and Congress technical sessions should be directed to:--

The Secretary-General
25th International Geological Congress
P. O. Box 1892
Canberra City, A.C.T. 2601
Australia

Sixth International Geochemical Exploration Symposium: All enquiries about the technical and other arrangements for this symposium only should be sent to:--

Dr. C.R.M. Butt
Division of Mineralogy
C.S.I.R.O.
Private Bag, Post Office
Wembley, W. A. 6014
Australia

Intending contributors to the Symposium can send descriptive synopses directly to Dr. C.R.M. Butt -- not to the I.G.C. Secretary-General.

EXPLORATION GEOCHEMISTRY IN THE APPALACHIANS**22-23 APRIL 1976**

A regional symposium on various aspects of exploration geochemistry as practised in the Appalachian Province of eastern Canada and the United States is being held under the auspices of the Association of Exploration Geochemists and the University of New Brunswick in Fredericton, New Brunswick, Canada. Papers are invited on case histories, field and analytical techniques, interpretive techniques, and data processing. Synopses, 400 words or more, of proposed papers should be submitted by 10 November 1975.

Field trips are planned to Pb-Zn-Cu mines of the Bathurst district, to the Mount Pleasant Mo-W-Bi-Cu-Sn-Zn deposit, and to the Lake George Sb deposit. Full information and registration forms are available now from:

Dr. G.J.S. Govett
University of New Brunswick
Department of Geology
Fredericton, New Brunswick E3B 5G5
Canada

OTHER SCIENTIFIC MEETINGS OF POTENTIAL INTEREST TO MEMBERS

1. INTERNATIONAL CONFERENCE ON HEAVY METALS IN THE ENVIRONMENT
October 27-31, 1975, Toronto, Ontario, Canada

Themes: (a) Analytical techniques and problems, and standard setting. (b) Pathways and cycles of heavy metals in the environment. (c) Human health effects and epidemiology, including toxicity of specific metals, sub-lethal effects, sites and modes of action and sources of problems. (d) Regulatory problems.

For further information, contact:

M. K. Ward, Executive Secretary
International Conference on Heavy Metals
in the Environment
c/o National Research Council of Canada
Ottawa, Ontario K1A 0R6
Canada

2. EXPLORATION '77

A symposium planned for Ottawa, October, 1977, to present the role of geophysical and geochemical methods in the search for base metals and uranium. Sponsored by the Canadian

Geoscience Council. A comprehensive program is being planned, including extensive discussion of the state-of-the-art in 1977. For information, write:

A. G. Darnley
Geological Survey of Canada
601 Booth Street
Ottawa, Ontario K1A 0E8
Canada

COMMITTEE CHAIRMEN

The following committee chairmen have been appointed by President R. W. Boyle to serve during 1975-1976:

Admissions --

Lloyd D. James
ASARCO, Inc.
3422 South 700 West
Salt Lake City, Utah 84119
U. S. A.

Bibliography --

H. E. Hawkes
6120 Santa Valera
Tucson,
Arizona 85718
U.S.A.

Case History --

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

Computer Applications --

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

Geochemical Analysis --

H. W. Lakin
U. S. Geological Survey
860 Dudley Street
Lakewood, Colorado 80215
U. S. A.

Membership --

R. W. Boyle
Geological Survey of Canada
601 Booth Street
Ottawa, Ontario K1A 0E8
Canada

Research and Education --

A. A. Levinson
University of Calgary
Department of Geology
Calgary, Alberta
Canada

Technical Meetings --

C. F. Gleeson
C. F. Gleeson & Associates
764 Belfast Road (M.R. 1)
Ottawa, Ontario
Canada

Professor G. J. S. Govett, of the Department of Geology, University of New Brunswick, Fredericton, has been appointed the Association's representative on the Canadian Geoscience Council.

NEW MEMBERS

Applications for membership in the Association from the following individuals have been recommended for acceptance by the Admissions Committee and approved by Council:

<u>MEMBER</u>	<u>MEMBER</u>	<u>AFFILIATE</u>	<u>STUDENT</u>
Berendson, P.	Lovering, T. G.	Clark, N. B.	Al-Atia, M. J.
Boyle, D. R.	Lozano, H.	Lisle, R. E.	Criswell, J. A.
Brown, A. G.	Mason, M.	O'Leary, R. M.	Fenne, F. K.
Buhlmann, E.	Moore-Levy, G. Y.	Otton, J. K.	Frizzo, S. J.
Darnley, A. G.	Pulfrey, R. J.	Poole, J. L.	Htay, U. H.
Descarreux, J.	Smith, D. C.	Shei, E. N.	Khawlie, M. R.
Gundlach, H. W.	Steiner, P. K.	Stelling, D. B.	Teng, H. C.
Gilfillan, J. F.	Tavora, F.	Stoch, J. L.	Uthe, R. E.
Hammitt, R. M.	Thaib, J.		
Hitchon, B.	Thomas, W. K. L.		
Hobbs, J. J.	Trichet, J. G.		
Kikuchi, T.	Urquidi, B. F.		
Koksoy, M.	Van Moort, J. C.		
Lawrence, M. J.	Vesely, J.		
Lee-Moreno, J. L.			

DELINQUENT MEMBERS

A significant number of members have not yet paid their 1975 dues. If you are one, you already have been removed from subscription rolls for the Journal of Geochemical Exploration, and will receive no further publications until dues are paid. In addition to your missing a continuing series of timely papers in exploration geochemistry, your non-payment of dues places a considerable financial burden on the Association for publications already sent to you but not paid for.

A notice has been inserted with this newsletter to each member whose dues appear to be unpaid according to the Association's records. Please remit promptly, or advise the Secretary if the Association's records are wrong.

The Secretary has received, mostly from banks overseas, several remittances for dues with no identification of the member on whose behalf payment was made. If you receive a delinquent notice with this newsletter, and have previously arranged for payment through your bank, please advise the Secretary and if possible, supply the name of your bank, and date and serial number of the draft or check.

MEMBERSHIP ROSTER

A roster of the Association membership as of July 1975 is being prepared for publication in the Journal late this year. This roster is a great help to applicants for membership in locating potential sponsors. Please keep the Secretary advised of any address change.

MEMBERSHIP CERTIFICATES

At a recent meeting, the A.E.G. Council considered the question of A.E.G. supplying membership certificates suitable for display. The consensus of Council was that certificates were desirable if sufficient demand existed, but they should only be issued on request and at the individual member's expense. Any members desirous of purchasing a membership certificate are urged to communicate with the Secretary.

INCORPORATION

It has been suggested, as past-President Ivor Elliott pointed out in his Presidential address, that the A.E.G. incorporate as a non-profit corporation and that the Association establish a permanent office through which all business matters could be directed. These matters are now under study by Council. Comments or suggestions on this subject from members will be welcomed by any member of Council.

1978 INTERNATIONAL GEOCHEMICAL EXPLORATION SYMPOSIUM

Consideration is currently being given to the selection of a site for the 1978 International Geochemical Exploration Symposium. Expressions of willingness to host the '78 symposium have been received from two groups -- one in Denver, Colorado, and the other in Hannover, West Germany. The officers and Council of A.E.G. are being asked by mail to vote on the site.

GEOCHEMICAL EXPLORATION 1974

PROCEEDINGS OF THE FIFTH INTERNATIONAL GEOCHEMICAL EXPLORATION SYMPOSIUM at Vancouver have been published by Elsevier Scientific Publishing Company in a 720 page excellently produced volume. This volume is available to paid-up members only at \$US 25.00 through the A.E.G. Secretary's office until one year after publication -- the end of March, 1976.

Some members have received what appears to be an additional billing from Elsevier, above the \$25.00 they paid in advance at the Vancouver Symposium for the volume. The publisher advises us that this is merely their shipping memorandum, and is not a request for additional payment.

ADDRESS BY PRESIDENT R. W. BOYLE

Your President gave one of the keynote addresses at "Exploration Update '75" at the Calgary Convention Centre, Calgary, Alberta, May 20 - 23, 1975, under the auspices of the Annual Joint Convention of the Canadian Society of Petroleum Geologists and the Canadian Society of Exploration Geophysicists. An abstract follows:

Abstract

GEOCHEMICAL EXPLORATION '75

by

R. W. Boyle
Geological Survey of Canada

The earth is characterized by five distinct spheres -- lithosphere, pedosphere, hydrosphere, atmosphere, and biosphere -- the various materials of which provide sampling media for geochemical surveys carried out in the search for mineral deposits, coal, oil, and gas. In reconnaissance and detailed prospecting for mineral deposits the best results have been achieved with hydrogeochemical (particularly stream sediment) and soil surveys. Lithochemical (rock), atmochemical (gas), and biogeochemical surveys have not been extensively employed, but where applied judiciously have yielded a modicum of success. In the search for hydrocarbons, analyses of various hydrocarbon gases and other associated compounds in soils, waters, and rocks have produced some significant results.

The modern methods of geochemical exploration owe their rapid growth in the 20th century to the following circumstances:

1. Elucidation of the nature of primary and secondary dispersion halos and trains that are associated with all mineral deposits and accumulations of hydrocarbons.
2. Development of accurate and rapid analytical methods utilizing the spectrograph and various specific sensitive colorimetric reagents (viz. dithizone).
3. Development of resins and plastic (polyethylene) laboratory ware of all types.
4. Development of atomic absorption spectroscopy.
5. Development of rapid and precise methods of analysis of various volatile elements (e.g. mercury, radon) in rocks, soil gases, waters, and in the atmosphere.
6. Development of airborne gamma-ray spectrometry for geochemical analysis of potassium, uranium, and thorium on a broad scale reconnaissance basis.
7. Development of rapid and precise methods of analysis of various types of both organic and inorganic particulates in the atmosphere.
8. Development of gas chromatography and other precise methods of trace analysis of hydrocarbon compounds and various gaseous inorganic substances.

9. Refinement of field techniques in carrying out reconnaissance and detailed geochemical surveys of all types, but especially those based on stream sediments, lake bottom sediments, heavy minerals, stream and lake waters, ground waters, springs and their precipitates, and biological materials. In recent years, the use of helicopters has revolutionized sample collection in reconnaissance surveys in practically all terrains.

10. Development and refinement of methods of detailed geochemical prospecting using overburden drilling techniques, especially in glacial terrains.

11. Development and refinement of methods using ore boulder and heavy mineral trains for prospecting in glacial terrains.

12. Research and development of efficient methods in the processing and assessment of geochemical prospecting data by statistical and computer techniques.

Future research in geochemical prospecting should be focused on the following:

1. Definition of geochemical provinces and their relationship to metallogenic provinces.

2. Development of methods for discovering deeply buried mineral deposits.

3. Elucidation and formulation of techniques to relate the size and intensity of trace element halos and dispersion trains to the estimated size and grade of mineral deposits.

4. Further development and refinement of biochemical and atmogeochemical methods in the search for mineral deposits.

5. Delineation of the nature and extent of litho-geochemical, pedo-geochemical, hydro-geochemical, and atmo-geochemical halos associated with oil and gas fields.

6. A better understanding of the factors controlling the migration of the elements in endogene and exogene environments.

7. Production of standardized regional geochemical maps on a national grid based on analyses for the principal elements in the periodic table of materials of the lithosphere (rocks), pedosphere (soils), hydrosphere (waters, stream sediments, lake sediments) and biosphere (vegetation, etc.).

LAST MINUTE NEWS

1978 INTERNATIONAL GEOCHEMICAL EXPLORATION SYMPOSIUM

The A.E.G. Council voted overwhelmingly on August 26, 1975, to accept the bid of an organizing group in Denver, Colorado, U.S.A., to hold the 1978 International Geochemical Exploration Symposium in that city. Council felt that the Symposium should be held in a North American location on alternate occasions, in view of the large number of Association members resident on that continent, many of whom are unable to travel to overseas symposia.

WORKSHOP ON GEOCHEMICAL EXPLORATION FOR URANIUM

A workshop on geochemical exploration for uranium will be held November 12-14 inclusive under A.E.G. sponsorship at the Green Center, Colorado School of Mines, Golden, Colorado. The program will include lectures for two days by 6 to 8 invited scientists who are specialists in uranium exploration. The third day will consist largely of reviews of case histories submitted by those attending the workshop. An informal atmosphere will be emphasized, with extensive opportunity for feedback and questions by participants.

A summary of proceedings is planned for publication by the A.E.G. However, individual presentations will not be published, nor will details of case histories presented by participants, thus maintaining an informal yet confidential atmosphere conducive to the exchange of practical exploration ideas.

Session topics will include: geology and genesis of primary and secondary uranium deposits; geochemical aspects of weathering, transport, and deposition of uranium; geochemistry as applied to uranium exploration in Canadian shield-type environment; geochemistry as applied to uranium exploration in Colorado plateau-type environment; and uranium analytical techniques.

Attendance will be limited to 40 persons. Registration fee is U.S. \$250.00 per person, payable in advance with registration forms or a letter of intent to attend.

Further information and registration forms may be obtained from the convenors:

R. F. Horsnail
AMAX Exploration, Inc.
4704 Harlan Street
Denver, Colorado 80212

P. K. Theobald
U.S. Geological Survey
5946 McIntyre Street
Golden, Colorado 80401

H. Bloom
Colorado School of Mines
Dept. of Geology
Golden, Colorado 80401

As time is short, those confident of attending are urged to apply by letter, enclosing the registration fee.

FOR THE ATTENTION OF CANADIAN MEMBERS

REGISTRY OF CANADIAN EARTH SCIENCE RESEARCH PROJECTS

The following announcement is published for the attention of Canadian members at the request of Christopher R. Barnes, Canadian Geoscience Council Editorial Committee Chairman:

The Editorial Committee of the Canadian Geoscience Council urgently requests the help of all Canadian earth science researchers. Our aim is to produce an annual registry of research projects being undertaken in all sectors (government, industry, private, university).

In the past, the NACRGS has compiled Current Research in the Geological Sciences in Canada (e.g. GSC Paper 74-5, ed. T. E. Bolton for 1973-74) and geophysical research has similarly been reviewed annually in the Geophysical Bulletin. Questionnaires involved have been different and coverage has been incomplete, especially concerning industrial research. Further, the CGC prepared a status report on "The Geosciences in Canada - 1974" (GSC Paper 75-6, ed. E.R.W. Neale et al.) and a similar report will be produced during 1976.

In order that information on current research be fully available, in standard format, and requested only once annually, the Editorial Committee is designing a new questionnaire which will allow computerization of the data. This will be mailed in early October for submission by November 31st to Dr. T. E. Bolton, Geological Survey of Canada, 601 Booth Street, Ottawa.

We earnestly request that 1) you complete the form when received and return promptly, or 2) if, as an active researcher, you do not receive a form by October 31st, write for one directly to T. E. Bolton.

Additional data will be added to the survey and the entire data published as GSC Paper 76-5, and annually thereafter.

The data have many uses: especially to check on current research in particular disciplines or regions, to list theses in progress and grant awards, and to help document the health of geoscience and its disciplines at a national level.

SCIENCE FORUM

The Association has been asked to publicize to Canadian members a subscription campaign for Science Forum, an independent Canadian journal dealing with current developments in science and technology and their effects on society. The journal has a distinguished editorial board, publishes timely articles on a wide range of scientific topics, and is available through the University of Toronto Press, Toronto M5S 1A6, from whom additional information can be obtained.

Try it -- you might like it -- and you might feel the urge to write an article on exploration geochemistry for a more general audience.