THE ASSOCIATION OF EXPLORATION GEOCHEMISTS

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

Newsletter No. 54

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January 1986

PERSONAL COLUMN

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 and please indicate that this information is intended for the Newsletter.

Bernard J. Maurette has formed a new company which, in association with Midland Earth Science Associates of Nottingham, England, offers the mining industry a comprehensive analytical service by X-ray fluorescence spectrometry and associated data processing. He may be contacted at Maurette Resource and Services Limited, 109 5621 - 11th Street N.E., Calgary, Alberta, Canada T2E 6Z7. Phone (403) 295-1081.

MESSAGE FROM THE PRESIDENT - Ian Thomson

It seems that everyone I talk to is hoping that 1986 will be a good year. Certainly members of our Association are working hard to provide some special opportunities for us to meet, exchange ideas and learn from each other. In fact this is going to be the busiest year for the Association with regional meetings in Canada, Greece, South Africa and China. Personally I would like to attend all of these events, but that is quite impossible. Rather, we look forward to early accounts of these get-togethers and ultimately publication of their proceedings.

The New Year has brought a change to your executive. The Treasurer, Robert Jackson has found that he can no longer continue to serve in this position. Presidents come and go on an annual basis while the Secretary and Treasurer are long standing positions which provide both stability and business management skills to the executive. During his years as Treasurer, Robert Jackson introduced improved accounting procedures and significant changes in the operation of our permanent office in Toronto. On behalf of the Association I would like to thank Robert for his highly valued contribution. Your Council has appointed Lynda Bloom of Toronto as interim Treasurer.

I wish everyone a happy and prosperous New Year.

ADMISSIONS COMMITTEE REPORT

Names of the following candidates have been recommended by the Admissions Committee and have been approved by Council. According to the Association's by-laws the names of candidates are to be published for consideration by the membership. If you wish to comment on any candidate, please do so in writing to the secretary within 60 days.

Voting Members

Biste, Michael Harald	Chief Geologist, Technoplacer Mineracao Ltda., Sautarem, Brazil
Bruaset, Ragnar Ulf	Exploration Geologist, Burnaby, B.C., Canada
Burke, George	Analytical Chemist, Dunceraig, Australia
Evans, Geoffrey Michael (Transfer)	Project Manager, Colonia Anzures, Mexico
McConnell, John Wilson (Transfer)	Exploration Geochemist, Nfld., Canada
Melo, Junior Germano (Transfer)	Assistant Professor, Univ. Fed. Rio G. du Norte, Brazil
Salehdanu, Aryono, Suwarno	Graduate Student, EWU, Cheney, Washington, U.S.A.

Affiliate Members

Gerouki, Fanie	Exploration Geochemist, Athens, Greece
Ioannides, Kiriacos	Exploration Geochemist, Attikis, Greece
Kouvelos, Costas	Exploration Geochemist, Athens, Greece
Mastroyiannidom, Katerina	Exploration Geologist, Alexandroupolis, Greece
Williams, Lynda B. (Transfer)	Geologist, L.S.U., Baton Rouge, Louisiana, U.S.A.
Zagouroglou, Constantine	Exploration Geochemist, Athens, Greece

Student Members

Vazquez-Rojas, Rodrigo	Student, U. of Costa Rica, San Jose, Costa Rica

CALENDAR OF COMING EVENTS

The following calendar of forthcoming Symposia and Meetings on Topics directly or indirectly related to exploration geochemistry has been compiled to aid members in planning for these events. If you are aware of any meetings not listed in the Calendar please write the Association's office with information

1986

February 20 - 22, 1986

EXPLORATION GEOCHEMISTRY SHORT COURSE, Vancouver, Canada (See Newsletter for further details.)

March 5, 1986

SME-AIME ANNUAL MEETING - GEOCHEMICAL SESSION - Lithogeochemical methods for volcanogenic Massive Sulphides, New Orleans, Louisiana. (S. Clark Smith, P.O. Box 18325, Reno, Nevada, U.S.A. 89701. Phone 702-849-2235.)

March 9 - 12, 1986

54TH ANNUAL CONVENTION OF THE PROSPECTORS AND DEVELOPERS ASSOCIATION, Toronto, Canada. (PADA, 420 - 74 Victoria Street, Toronto, Ontario, Canada)

March 16 - 22, 1986

GEOCHEMISTRY OF THE EARTH'S SURFACE AND PROCESSES OF MINERAL FORMATION. (R. Rodriguez Clemente, Museum of Natural History, CSIC, c/o Jose Gutierrez, Abascal 2, 28006, Madrid, Spain.)

March 20 - 21, 1986

FRONTIERS IN GEOLOGY AND ORE DEPOSITS OF ARIZONA AND THE SOUTHWEST, Tuscon, Arizona. (University of Arizona, Conference Department, 1717 E. Speedway Blvd., Room 3201, Tuscon, Arizona 85719, U.S.A. 602-621-1232)

April 2 - 5, 1986

GEOCHEMISTRY AND MINERALIZATION OF PROTEROZOIC VOLCANIC SUITES, Keyworth, Nottingham, U.K. (T. Pharaoh, Deep Geology Research Group, British Geological Survey, Keyworth, Nottingham, NG 12 5GG, U.K.)

April 13 - 19, 1986

ADVANCED EXPLORATION GEOCHEMISTRY SHORT COURSE, Glenside, S. Australia. (See Newsletter for further details.)

May 12 - 14, 1986

REGIONAL MEETING OF THE ASSOCIATION OF EXPLORATION GEOCHEMISTS - EXPLORATION IN THE NORTH AMERICAN CORDILLERA. (GeoExpo 86) Vancouver, British Columbia, Canada. (Further details in Newsletter.)

May 17 - 19, 1986

SYMPOSIUM ON SEDIMENT HOSTED STRATIFORM COPPER DEPOSITS, Ottawa, Canada. (Prof. A.J. Naldrett, Dept. of Geology, University of Toronto, Toronto, Ontario, Canada M5S 1A1.

May 19 - 21, 1986

GEOLOGICAL MINERALOGICAL ASSOCIATIONS OF CANADA - ANNUAL MEETING, Ottawa, Canada. (Dr. J.A. Donaldson, Department of Geology, Carleton University, Ottawa, Ontario, Canada K1S 5B6)

May 30, 1986

SOCIETY OF ECONOMIC PALEONTOLOGISTS Short Course "Glacial Sedimentary Environments", Champaign, Illinois. (Joni C. Merkel, Society of Economic Paleontologists and Mineralogists, P.O. Box 4756, Tulsa, Oklahoma 74159-0756. (918) 743-2498)

July 7 - 11, 1986

REGIONAL MEETING OF THE ASSOCIATION OF EXPLORATION GEOCHEMISTS - GEOLOGICAL SOCIETY OF SOUTH AFRICA GEOCONGRESS. (The Symposium Secretariat, S. 339, CSIR, P.O. Box 395, Pretoria, Republic of South Africa 0001)

August 4 - 8, 1986

THIRD INTERNATIONAL HUMIC SUBSTANCES SOCIETY (IHSS) MEETING, Oslo, Norway. (W.L. Comtell, USGS, 5293 Ward Rd., Arvada, CO. 80002, U.S.A. (303) 236-3615 **or** Dr. E. Gjessing, Norwegian Institute for Water Research, P.O. Box 333 Blinden, N-Blinden, Oslo 3, Norway 472-23-52-80)

August 11 - 15, 1986

FOURTH INTERNATIONAL KIMBERLITE CONFERENCE, PERTH, WESTERN AUSTRALIA. (J.D. Lewis - Secretary, 4th IKC, Geological Survey of Australia, Mineral House, 66 Adelaide Terrace, Perth, W.A. 6000)

September 1 - 5, 1986

PROSPECTING IN AREAS OF GLACIATED TERRAIN, 1986, Kuopio, Finland (Institution of Mining and Metallurgy, 44 Portland Place, London W1N 4BR, England)

September 8 - 10, 1986

SYMPOSIUM ON INNOVATIVE DIRECTIONS IN PETROLEUM EXPLORATION. (I. Williamson, Department of Geology, Imperial College, London, U.K. SW7 2BP)

September 29 - October 1, 1986

GOLD '86 (International Symposium), Toronto, Canada. (E. Craigie, Selco Division of BP Resources, Canada. 55 University Avenue, Suite 1700, Toronto, Ontario, Canada M5J 2H7

October, 1986

3rd EXPLORATION GEOCHEMISTRY SYMPOSIUM, Guilin, China. (Prof. Xie Xuejing, Chairman, Organizing Committee, 3rd Chinese Exploration Geochemistry Symposium, Institute of Geophysical and Geochemical Exploration, Langfong, Hebei, 102801, The People's Republic of China.)

November 10 - 11, 1986

INTERNATIONAL SOUTH EUROPEAN SYMPOSIUM IN EXPLORATION GEOCHEMISTRY, Athens, Greece. (See Newsletter for further details)

1987

April 23 - 26, 1987

12th INTERNATIONAL GEOCHEMICAL EXPLORATION SYMPOSIUM
4th SYMPOSIUM ON METHODS OF GEOCHEMICAL PROSPECTING, Orlean La Source, France. (The Organizing Committee, 12 IGES - 4th SMGP, BRGM B.P. 6009, 45060 Orleans Cedex, France, tel. 38 64.30.08)

September 1 - 5, 1987

14th COLLOQUIUM ON AFRICAN GEOLOGY, Berlin. (G. Matheis, Technical University, Berlin SFB 69, Ackerstrassa 71-76, D-1000, Berlin 65)

1989

July 9 - 19, 1989

28TH INTERNATIONAL GEOLOGICAL CONGRESS. Washington, D.C., U.S.A. (I.G.C., P.O. Box 1001, Herndon, VA 22070)

FUTURE MEETINGS

REGIONAL MEETING OF THE ASSOCIATION OF EXPLORATION GEOCHEMISTS - EXPLORATION IN THE NORTH AMERICAN CORDILLERA, Vancouver, B.C., Canada May 12 - 14, 1986

SECOND CIRCULAR

The theme of this meeting is Geochemical Exploration for Cordilleran Mineral Deposits.

From Mexico to Alaska the American Cordillera presents a wide variety of mineral deposit types, geological settings, topographic and climatic variations that challenge the exploration skills of those who would find mines.

The Association of Exploration Geochemists and the Cordilleran Section of the Geological Association of Canada, co-sponsors of the Symposium invite papers for oral presentation and/or poster sessions which deal with:

- -integrated exploration case histories, successful or otherwise
- -The impact of the varied physical environments of the Cordillera on the application of geochemical techniques
- -Geochemistry of mineral deposit and their genesis
- -Advances in current techniques, sampling analytical and interpretive
- -New frontiers - vapor, multi element and bio-assay geochemistry techniques

THE DEADLINE FOR EXTENDED ABSTRACTS (500 WORDS MAXIMUM) OF PROPOSED PAPERS HAS BEEN EXTENDED. ADDITIONAL ABSTRACTS FOR REVIEW WOULD BE WELCOMED BY THE ORGANIZING COMMITTEE.

A second circular will be distributed to all members. Further information may be obtained from:

GEOEXPO/86 Regional Symposium Association
700 - 409 Granville Street
Vancouver, British Columbia, Canada
V6T 1T2

INTERNATIONAL SOUTH EUROPEAN SYMPOSIUM IN EXPLORATION GEOCHEMISTRY Athens, Greece, November 10-11, 1986

SECOND CIRCULAR

The Institute of Geology and Mineral Exploration (Greece) and the Association of Exploration Geochemists is sponsoring the International South European Symposium in Exploration Geochemistry. This Symposium will be held in Athens, Greece, from November 10-11, 1986. The program includes two days of technical sessions (general and special sessions, poster presentations and exhibitions), field trips and program for guests and spouses. A second circular is enclosed with this Newsletter.

Registration and welcoming reception on November 9, 1986

For further information and registration forms write to:

Organizing Committee
International South European Symposium in Exploration Geochemistry
Institute of Geology and Mineral Exploration
70 Messoghion Street, 115 27 Athens, Greece Telex: 021 6257 IGME GR

COURSES AND WORKSHOPS

EXPLORATION GEOCHEMISTRY SHORT COURSE February 20 - 22, 1986 - Centre for Continuing Education, The University of British Columbia, Vancouver.

This course will cover geochemical models, sampling and analytical techniques and methods of interpretation applied to exploration geochemical surveys for base and precious metal deposits. The course is designed for industrial participants who have had experience working for an exploration company. Instructors are:

Dr. W.K. Fletcher - University of British Columbia
Dr. S.J. Hoffman - BP-Selco Ltd.
Dr. I. Thomson - Placer Development Ltd.

The course will be held from February 20 - 22nd, 1986 from 8:30 a.m. to 4:30 p.m. in Room 330A Geological Sciences Building, University of British Columbia. The Course fee is CAN $285.00 which includes lunches and course material. A registration form is attached to this Newsletter.

GEOCHEMICAL EXPLORATION FOR PRECIOUS AND BASE METALS, May 5 - 9, 1986

This short course is being given by L.G. Closs at Metals Hall, Green Center, Colorado School of Mines, Golden, Colorado, U.S.A.

The program, now in its 6th year, is an introductory course on the fundamentals of modern geochemical exploration techniques, ideally suited for geologists, chemists, and others interested in the application of geochemistry to mineral exploration. The enrolment fee is U.S. $650 with $50.00 registration deposit. For information concerning the program, contact:

Special Programs and Continuing Education
(SPACE) Office
Colorado School of Mines
Golden, Colorado, USA 80401
303-273-3321

WORKSHOP COURSE IN ADVANCED EXPLORATION GEOCHEMISTRY

April 13 - 19, 1986, Australian Mineral Foundation,
P.B. 97, Glenside, South Australia 5065 Telex 87437
Phone (08) 79-7821

The impetus for this new course derives from the 1983 Australian Regional Meeting of the Association of Exploration Geochemists, at which the need was identified for a course which develops the subject to a level beyond that of introductory courses offered hitherto.

Geochemistry is playing an increasingly important role in exploration for mineral deposits in Australia, a role which will become crucial in the future as blind and concealed targets become more important. This course provides an opportunity for the geoscientists responsible for much of the present effort and expenditure in geochemical exploration to update on current developments, both fundamental and applied, and to hone their skills in the planning, conduct and interpretation of geochemical surveys. At the same time geoscientists involved in research or in the education of those who will become involved in future, will appreciate this opportunity

to interact with their colleagues from industry and incorporate experience from practical case histories in their programmes. There is no limit on the seniority of personnel who would benefit from participation.

The Course

The course is designed to run on workshop lines, time being divided between input by specialist lecturers, presentation of case history data by participants, plenary discussion sessions and syndicate work. At the outset of the course, the participants identify and draw up models for the types of mineral deposits likely to be of interest to mineral exploration companies in coming years. Participants are placed in syndicates when each syndicate has as its objective the formulation of detailed proposals for geochemical exploration for one or more of these deposit types under the range of conditions likely to be encountered in Australia. The proposals should incorporate information derived from the lectures, case histories and discussions throughout the week. The syndicates present their results at the end of the course and these are later compiled into a manual of programmes to be supplied to each participant.

The principal contributors to the course, listed below, not only provide lecture material on the topics indicated, but are available for plenary discussion sessions and detailed consultation with syndicate groups on their specific topics of interest. A major contribution to the course content is made by the participants themselves. This includes each participant making a fifteen minute presentation on a geochemical exploration case history from his/her own experience.

The course will commence on Sunday, 13th April, 1986 and end around mid-day on Saturday, 19th April, 1986. A dinner will be held on the Friday evening during the course.

Course Co-ordinator

Dr. Richard Mazzucchelli, Consulting Geochemist, Western Mining Corporation Limited.

Contributors

At the time of printing, the following people have agreed to contribute to the course:
Professor Alan White, Latrobe University - "What the exploration geochemist needs to know about chemistry"
Professor Gerry Govett, University of New South Wales - "Rock Geochemistry"
Professor Cliff Ollier, Bureau of Mineral Resources - "Geomorphology in relation to geochemical exploration"
Dr. Alan Mann, CSIRO, Perth - "Geochemical processes in the secondary environment"
Dr. C.Y. (Sam) Chork, University of New South Wales - "Data processing and interpretation procedures for geochemical exploration"
Mr. Ken Rowley, Consultant and Mr. Murray Chapman, Analabs, Perth - "Developments in sample preparation and analytical chemistry for geochemical exploration"

The course will be limited to 25 participants and so early registration is recommended for this special presentation.

NOTE: The course commences at the Australian Mineral Foundation, Conyngham Street, Glenside with registration and coffee at 9:00 a.m. on Sunday, 13th April, 1986. Formal session begins at 9:30 a.m. A course dinner will be held at AMF on Friday, 18th April, 1986.

Course Fee: Member: $A1015
Non-Member: $A1270
Including Luncheons and Course Dinner

FROM THE SECRETARY'S OFFICE

With three Regional Geochemical Meetings and several Short Courses scheduled, 1986 promises to be a very active year for the Association. At the Association's Annual General Meeting to be held during GeoExpo 86 the elected Ordinary Councillors for the 1986-88 term will be introduced. A Ballot for this election is enclosed with this Newsletter and I would urge all Voting Members to cast their Ballots and return them to the Association's office no later than April 15, 1986. The arrival of the New Year coincides with an ever increasing volume of 1986 Annual Dues flowing into the Toronto Office. Unfortunately despite the encouraging flow only about 400 members have responded to the Request for Dues at the time of publishing this Newsletter. Several large payments must be made by the Association early in the New Year and therefore the prompt return of your dues is important. Please don't delay - send in your dues today.

A number of manuscripts submitted to the Journal of Geochemical Exploration Editor (and even to the Newsletter) for publication fall into the category of "Technical Note" or "Case History". Immediate publication of these important sources of information can be difficult and in order to make these contributions more readily available to the membership a new section entitled "Abstracts" will appear in the Newsletter. The aim of "Abstracts" is to enable members to contact the authors of an unpublished technical note or case history in order to obtain the full text of the material. This will allow a more rapid and greater dissemination of geochemical information. If you have material which you feel may be of interest to other members please send in an abstract for the Newsletter. There is still a good response to the Computer Software program pool and further software contributions are expected in the New Year.

In Newsletter 52 it was incorrectly stated that a geochemical short course would be presented by the AEG and the Geological Society of America. In fact the course will be a joint effort of the Society of Economic Geologists and the AEG. We regret this error.

Finally, on behalf of Ines Filicetti and myself a very prosperous and successful New Year.

ELECTION OF ORDINARY COUNCILLORS

Nine nominations for Council have been made to fill 6 vacancies which will arise at the next Annual General Meeting in May, 1986. Ballots have been prepared and distributed to the Voting Membership. It is important that Voting Members cast their ballots as soon as received. The Ballots must be returned to the Association permanent office in Rexdale (Toronto) by April 15th, 1986. From there the ballots will be transferred, by the Secretary to the Auditor of the Association for counting. Results of the vote will be introduced at the AGM after which the New Councillors will be announced.

NEW EXECUTIVE FOR THE ASSOCIATION

At a Council Meeting held on November 19, 1985, members of the new executive were elected for the year 1986-87.

Glen Allcott of the United States Geological Survey, Reston, Virginia, has been elected to the post of President of the Association.

Stan Hoffman of BP-Selco, Vancouver, has been elected to the post of First Vice President.

Maurice A. Chaffee, U.S. Geological Survey, Golden, Colorado has been elected to the post of Second Vice President.

Ray Lett of Barringer Magenta, Toronto has been re-elected to the post of Secretary.

Lynda Bloom of X-Ray Assay Laboratories Ltd., Toronto, has been elected to the post of Treasurer.

Note: Ian Thomson will continue to serve Council during the 1986-88 term as Past President Councillor.

COMPUTER SOFTWARE PROGRAM POOL

The Association of Exploration Geochemists has formed a computer program software pool for geochemical and geological applications. This allows Association members to share existing software and avoid duplicating the work of writing programs that others have already done. In order to make this pool a success, we would like to get contributions from members. If each member can submit one program then we can be well on our way to establishing a sizable pool.

Initially, a list of programs with a brief description of each new program will be published with each newsletter. A catalogue of all programs will be maintained by the AEG and will be made available on request.

Contributions can be in any programming language and for any computer; however, we would like to have the following rules observed.

For each program:
- Source listing with internal documentation
- The type of machine the program was written for
- A list of peripheral devices required
- User documentation

Observing these rules will assist any user in obtaining maximum benefits and assist in troubleshooting.

The Association of Exploration Geochemists or anyone else affiliated with the authorship or distributing of the computer programs assumes no responsibility for any problems or errors that arise from the use of any of the programs. All users assume use of the programs entirely at their own risk.

Programs Currently Available (Contributed by the Ontario Geological Survey)

TERNARY PLOTTING PACKAGE	$12.00
BINARY PLOTTING PACKAGE	12.00
IRVBAR	6.00
JENSEN	6.00
JENBND	6.00
STRNET	6.00

Please note that all orders for software should be made to

The Association of Exploration Geochemists
P.O. Box 523
Rexdale, Ontario, Canada
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For further information, requests, submissions, contact:

Eric Grunsky
Ontario Geological Survey
911 - 77 Grenville Street
Toronto, Ontario, Canada
M5S 1B3
Telephone: 416-965-7046

DISTINGUISHED LECTURER SERIES

The Committee invites nominations for the Association's Distinguished Lecturer for the 1986-87 Series. A Nomination Form is enclosed with this Newsletter.

ABSTRACTS

The abstracts of unpublished technical notes, case histories and short papers are presented in this section of the Newsletter. If you would like a copy of the full paper or material please contact the Author(s) directly.

MOSSES IN COPPER BIOGEOCHEMISTRY

Abstract

Mosses may provide useful biogeochemical data which complement those obtained from trees and vascular plants. This paper demonstrates elevated copper content of mosses relative to trees and vascular plants. This finding illustrates how mosses may provide a useful biogeochemical tool where trees and vascular plants may not be available.

Harry V. Warren and Stanya J. Horsky

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BIBLIOGRAPHY

RECENT PAPERS ON EXPLORATION GEOCHEMISTRY

This list comprises titles that have appeared in major publications since the compilation presented in Newsletter 53. Journals routinely covered and abbreviations used are Bulletin of the Canadian Institute of Mining and Metallurgy (CIM BULL), Economic Geology (EG), Geochimica et Cosmochimica Acta (GCA), Journal of Geochemical Exploration (JGE), the USGS Bulletin (USGS BULL), Circular (USGS CIR), Open File Report (USGS OFR) and Professional Papers (USGS PROF P), Transactions of Institution of Mining and Metallurgy, Section B: Applied Earth Science (TRANS IMM). Publications less frequently cited are identified in full. Compiled by Donald D. Runnells and Sandra L. Jones, Department of Geological Sciences, University of Colorado, Boulder.

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