



THE ASSOCIATION OF EXPLORATION GEOCHEMISTS

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

President:

I. Thomson
Placer Development Ltd.
P.O. Box 49330, Bentall Stn.
Vancouver, British Columbia V7X 1P1
Canada

NEWSLETTER NO. 52

JULY 1985

Vice Presidents:

G.H. Allcott
United States Geological Survey
National Centre, M.S. 913
Reston, Virginia 22092
U.S.A.

A MESSAGE FROM THE PRESIDENT

S.J. Hoffman
BP - Selco
890 West Pender Street
Ste. 700
Vancouver, British Columbia V6C 1K5
Canada

Secretary:

R.E. Lett
Association of Exploration Geochemists
P.O. Box 523
Rexdale, Ontario M9W 5L4
Canada

Treasurer:

R.G. Jackson
359 Broadway Avenue
Toronto, Ontario M4P 1X1
Canada

Councillors:

1985-86
L.G. Closs
I.L. Elliott
C.F. Gleeson
N.G. Lavery
W.D. Goodfellow
C.E. Nichols

1985-87
L.B. Bloom
R.G. Garrett
R.K. Glanzman
B. Hitchon
B.W. Smea
A.E. Soregaroli

Australian Regional Councillor:
B.L. Farrell

European Regional Councillor:
E. Wilhelm

Southern Africa Regional Councillor:
G.L. Coetzee

Brazilian Regional Councillor:
R.W. Lewis Jr.

Northern Countries Regional Councillor:
A.J. Bjorklund

From where I sit, working with a mining company based in Vancouver, Canada, 1985 is a year of contrasts.

The 11th IGES meeting in Toronto was one of the best I have attended, well organized and providing a superb opportunity to meet other professional geochemists. Technically, the papers presented at the meeting were of a very high quality showing that exploration geochemistry is on the move and displaying growing sophistication in many areas of mine finding. Active participation in workshops by a large number of people indicates to me that exploration geochemists are willing to exchange information in order to improve their skills, rather than sit and listen to formal presentations: A very healthy situation.

Despite this intellectual vigor exploration geochemistry is suffering, along with the rest of the mining industry, through the depths of a depression. This is particularly evident in North America where many skilled geochemists are out of work and employment opportunities are few. These facts probably contributed to the relatively low attendance in Toronto.

The mid 1980s are a time of both contrasts and change. As my year as President progresses I hope to be able to tell you something of the way your Association will be growing into the second half of the decade. Look for the next message from the President.

Ian Thomson

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

Appleton, James D.	Geochemist, British Geological Survey, Keyworth, Nottingham, England
Birrell, Russell D.	Experimental Scientist, CSIRO, Division of Mineralogy and Geochemistry, Wembley, Australia
Burman, Jan-Ola C.	Manager of Analytical Laboratory, Swedish Geological, Lulea, Sweden
Edmunds, Frederick R.	Seeking employment/contract
Feather, Clive E.	Assistant manager, Anglo American Research Labs, Johannesburg, South Africa
Groth, Peter K.	Geological Associate, geochemical exploration with Amoco Production Co., Denver, Colorado, USA
Jaacks, Jeffrey A. (transfer)	Geochemist for Nicor Mineral Ventures, Denver, Colorado, USA
Mackenzie, David H	Chief geologist-research for CRA Exploration Pty. Ltd., Canberra, Australia
Merkle, Roland K. (transfer)	Research Officer, Inst. Bushveld Res., Dept. of Geology, University of Pretoria, Pretoria, South Africa
Romberger, Samuel B.	Dean of Graduate Studies and Research, professor of Geology, Colorado School of Mines, Golden, Colorado, USA
Wiese, Claus O.	Exploration geochemist/project manager, Urangesellschaft, Toronto, Ontario, Canada

AFFILIATE MEMBERS

Bamwoya, James J.	Applied geochemist, Saint John, New Brunswick, Canada
Dobbs, James R.	Geochemical assay technician, Bondar-Clegg Inc., Denver, Colorado, U.S.A.

AFFILIATE MEMBERS (continued)

- Empson, John S. Geological Consultant, San Diego, California, USA
- Hewitt, Robert P. Managing Director, Courant Geological Services, West Perth, Australia
- Olesen, Bjarne L. (transfer) Engineer, F.L. Smidth & Co., Landrager, Denmark
- Paterson, Rooney G. Chief geologist, Aberfoyle Exploration, Hawthorn East, Australia
- Sandberg, Timothy M. A seasonally employed exploration geologist, Vancouver, British Columbia, Canada
- Smith, Garry K. An exploration consultant, 4DX Ltd., Kleinburg, Ontario, Canada
- Spangenberg, Jorge, E. Manager of Departamento de Geoquímica Aplicada, DI.NA.MI.GE. (Uruguay), Montevideo, Uruguay
- Stanaway, Kerry J. District geologist for Nicor, Missoula, Montana, U.S.A.

STUDENT MEMBERS

- Christie, Brian J. Graduate student at Queen's University, Kingston, Ontario, Canada
- Erdman, Ted W. Graduate student, University of Idaho, Moscow, Idaho, USA
- Gorsynski, George A. Graduate student, University of British Columbia, Vancouver, B.C., Canada
- Jubell, Youssef M. A research student in applied geochemistry, Imperial College, London, England
- Hahn Raimund, J.C. Graduate student at Eastern Washington University, Cheney, Washington, USA
- Meadow, George R. Graduate student at the University of Colorado, Boulder, Colorado, USA
- Milne, P. Clinton Graduate student, University of Idaho, Moscow, Idaho, U.S.A.
- Skinner, John C. Graduate student, Colorado School of Mines, Golden, Colorado, USA
- Teclemariam, Mesghinna H. Student in ITC, Delft, The Netherlands

Due to the large number of applications received as a result of the 11th IGES Symposium in Toronto, April 1985, only the names and membership classes of individuals reviewed by the Membership Committee have been listed below. Any member wishing to have further information on these individuals should contact the secretary.

Alcock, P.W.	A	Klassen, R.A.	A	Snow, R.J.	A
Atkin, B.P.	A	Karvinen, W.O.	A	Spat, A.G.	A
Atkins, W.M.	A	Kramar, U.E.	A	Starke, B.V.	A
Attridge, R.L.	A	Kingston, D.M.	S	Stea, R.R.	A
Averill, S.A.	A	Kuerzel, H.	A	Steele, K.G.	A
Baker, C.L.	A	LeGeyt, M.R.	A	Stednick, J.D.	A
Ballantyne S.B.,	A	Lipton, G.M.	A	Stephens, G.C.	A
Bates, J.L.	S	Livermore, J.S.	A	Szabo, N.	A
Beswick, A.E.	A	Liv, Q.Q.	A	Thalenhorst, H.	A
Bird, D	A	Lovett, A.M.	A	Thiboutot, H.	A
Blok, H.P.	A	McDonald, C.A.	A	Thompson, J.P.	A
Bree, D.G.	S	McNeil, K.A.	A	Thormtom, I.	A
Bridge, D.A.	A	Macrae, W.E.	A	Tremblay, J.H.	A
Burgener, J.A.	A	Martin, D.P.	A	Trevail, R.A.	A
Burkhart, C.R.	A	McClenaghan, M.B.,	A	Troope, W.R.	A
Burns, J.G.	A	McConnell, B.W.	A	Trudel, P.	A
Butella, C.I.	A	McKinnor, D.,	A	Van Engelen, J.A.C.	A
Calhoun, S.	A	Menzies, J.	A	Vanhees, E.H.	A
Calow, R.W.	A	Middleton, R.S.	A	Vanigen, R.	A
Chamois, P.E.	A	Morrice, M.G.	A	Wallace, S.M.	A
Chater, A.M.	A	Moon, K.J.	A	Waitzenegger, R.P.	S
Crone, W.R.	A	Murray, T.A.	A	Watanabe, R.Y.	A
Crock, J.G.	A	Newsome, J.W.	A	White, M.V.	A
Churcher, P.L.	S	Nichols, R.F.	A	Whitehead, R.E.	A
Cohen, D.R.	S	O'Connor, P.J.	A	Whyte, J.B.	A*
Dardel, J.R.	A	Ollila, H.A.	A	Widmar, F.N.	A
Denham, G.H.	A	O'Sullivan, J.R.	A	Yoshie, H.	A
Dickin, R.C.	A	OuYang, Z.Q.	A	Zabev, B.	A
Dilabio, R.N.	A	Parcher, A.C.	A		
Downing, D.A.	A	Patel, J.M.	A		
Duller, P.R.	S	Peatfield, G.R.	A		
Elcomb, K.F.	A	Peterson, P.J.	A		
Finamore, P.F.	A	Porritt, J.	A		
Ford, K.L.	A	Prasad, E.A.V.	A		
Frick, C.	A	Quan, E.S.K.	A		
Friske, P.W.B.	A	Quarch, H.	A		
Gardiner, W.W.	A	Richardson, J.M.	S		
Geddes, R.S.	A	Reimann, C.,	A		
Gewargis, W.,	A	Sado, E.V.	A		
Graves, W.J.	A	Sam, R.,	A		
Hansen, J.E.	A	Sandberg, E.A.	A		
Harvey, P.K.	A	Schermann, O.	A		
Harding, J.R.	S	Schultejann, P.A.	A		
Hattori, K.	A	Scott, J.C.	A		
Hennessy, J.	A	Seeley, J.L.	A		
Hill, J.R.	S	Shah, S.R.A.	A		
Holroyd, M.T.	A	Shelp, G.S.	S		
Jackson, T.A.	A	Sheppart, A.	S		
Johnson, M.I.	A	Shilts, W.W.	A		
Kinrade, J.D.	A	Smith, T.J.	A		

*transfer status

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.

July 7 - 12, 1985

AUSTRALIAN INSTITUTE OF MINING AND METALLURGY, Annual Conference, Queensland, Australia (Aus. IMM, P.O. Box 310, Carlton South, Victoria 3053, Australia)

July 10 - 12, 1985

FIRST CONFERENCE OF THE GEOLOGICAL SOCIETY OF TRINIDAD AND TOBAGO (W. Ali, c/o Geological Department, Trinmar Ltd., Point Fortin, Trinidad, West Indies)

July 27 - August 7, 1985

FOURTH INTERNATIONAL PLATINUM SYMPOSIUM, Stillwater, Mont., Toronto, Canada, Sudbury, Canada. (A.J. Nordrett, 4th IPS, Department of Geology, University of Toronto, Toronto, Ontario, Canada, M5S 1A1)

July 28 - August 2, 1985

8th INTERNATIONAL CLAY CONFERENCE, Denver, Colorado. Sponsored by AIPEA (Dr. A.J. Herbillon, Groupe de Physico-Chimie Minerale et do Catalyse, Univ. Catholique de Louvain, Place Croix du Sud 1, B-1348, Louvain-La-Neuve, Belgium)

August 12 - 14, 1985

HYDROTHERMAL REACTIONS, 2nd International Symposium on Hydrothermal Reactions, University Park, Penn., U.S.A. (The Pennsylvania State University, Keller Conference Centre, University Park, PA, 16802 U.S.A.)

August 19 - 24, 1985

CHILEAN GEOLOGICAL CONGRESS (4th) Antofagasta, Chili (4th Chilean Geological Congress, Dept. of Geosciences, Universidad del Norte, C'asilla Box 1280, Antofagasta, Chili)

August 20 - 29, 1985

TILL SYMPOSIUM 1985. Glaciogenic deposits as indicators of glacial movements and their use for indicator tracing in the search for ore deposits, Finland. (INQUA-TILL Symposium, Geological Survey of Finland, SF-02150, Espoo, Finland)

August 25 - 30, 1985

Workshop on Geochemical Exploration in Tropical Rain Forest.
Brazil (R.W. Lewis, Rua Aguaraiaba 86, Bonsucesso - Rio de Janeiro,
R.J. CEP 21.061, Brazil).

August 26 - 29, 1985

GLACIER MAPPING AND SURVEYING SYMPOSIUM, Reykjavik, Iceland
(Mrs. R. Richardson, Secretary General, Glaciological Society,
Lensfield Road, Cambridge CB2 1ER, U.K.)

September 7 - 12, 1985

GOLD IN THE WESTERN SHIELD. (See Newsletter for further details)

September 8 - 13, 1985

HYDROGEOLOGY IN THE SERVICE OF MAN (J. Day, Maclean Bld., Crownash
Giffard, OX10 8BB U.K.)

September 15 - 21, 1985

FIRST INTERNATIONAL CONFERENCE ON GEOMORPHOLOGY; Geomorphology.
Resources, Environment and the Developing World (British
Geomorphology and Research Group, University of Manchester,
Manchester, England M13 9PL, U.K.)

September 14 - 22, 1985

GRANITE-RELATED MINERAL DEPOSITS (International Symposium),
Halifax, Nova Scotia. (R.P. Taylor, Dept. of Geology, McMaster
University, 1280 Main Street West, Hamilton, Ontario L8S 4M1

September 16 - 19, 1985

DEUTSCHE MINERALOGISCHE GESELLSCHAFT (DMG), GESELLSCHAFT DEUTSCHER
METALLHUTTEN-UND BERGLEUTE (GDMB), SOCIETY FOR GEOLOGY APPLIED TO
MINERAL DEPOSITS (SGA) JOINT MEETING. Aachen, Germany.
(Professor G. Friedrich, Chairman DMG-GDMB-SGA Joint Meeting
1985, Institute of Mineralogy and Ore Deposits, Technical
University Aachen Wullnerstrabe 2, D-5100 Aachen, F.R. Germany)

September 16 - 20, 1985

ORGANIC GEOCHEMISTRY (12th International Meeting), Julich, F.R.G.
(KFA Julich GmbH Conference Secretariat, P.O. Box 1913 D-5170
Julich, Federal Republic of Germany)

September 22 - 25, 1985

HIGH HEAT PRODUCTION (HHP) GRANITES, HYDROTHERMAL CIRCULATION AND
ORE GENESIS. (The Conference Office, The Institution of Mining
and Metallurgy, 44 Portland Place, London W1N 4BR, England 01-580-3802)

October 6 - 10, 1985

SOCIETY OF EXPLORATION GEOPHYSICISTS (5th Annual Meeting, Washington, D.C., U.S.A. Convention Assistant, SEG, P.O. Box 3098, Tulsa, OK. 74101 U.S.a.)

October 9 - 12, 1985

6th LATIN AMERICAN GEOLOGICAL CONGRESS, Bogota, Colombia (Executive Committee, 6th LAGC, Diagonal 53, No. 34-53, Bogota, D.E. Colombia

October 28 - 31, 1985

GEOLOGICAL SOCIETY OF AMERICA (Annual Meeting), Orlando, Fla., U.S.A. (S.S. Beggs, GSA, P.O. Box 9140, 330 Penrose Place, Boulder, CO. 80301, U.S.A.)

November, 1985

PETROLEUM GEOCHEMISTRY AND EXPLORATION IN AFRO-ASIAN REGION, Dehradun, India (Kuldeep Chandra, KDM Institute of Petroleum Exploration, Oil and Natural Gas Commission, 9, Kaulagash Road, Dehradun - 248195, India)

1986

January 14 - 15, 1986

COMPUTER APPLICATION IN MINERAL EXPLORATION (CAME '86) Toronto, Canada. (See Newsletter for further details)

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)

May 12 - 14, 1986

REGIONAL MEETING OF THE ASSOCIATION OF EXPLORATION GEOCHEMISTS - EXPLORATION IN THE NORTH AMERICAN CORDILLERA. Vancouver, British Columbia, Canada. (See Newsletter for further details)

May 17 - 19, 1986

SYMPOSIUM ON SEDIMENT HOSTED STRATIFORM COPPER DEPOSITS, Ottawa, Canada. (See Newsletter for further details)

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 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 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. (See Newsletter for further details)

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)

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

CALL FOR PAPERS

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. Geochemical exploration techniques have played and will continue to play a significant role in mine finding in the Cordillera.

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 deposits and their genesis.
- Advances in current techniques, sampling, analytical and interpretive.
- New frontiers - vapor, multi element and bio-assay geochemistry techniques.

Extended abstracts of proposed papers of up to 500 words should be sent, before November 5, 1985 to:

GEOEXPO/86 Regional Symposium Association
700 - 409 Granville Street
Vancouver, B.C.
V6T 1T2

It is expected that complete manuscripts submitted by June 15, 1986 will be published in the Symposium Volume.

GOLD IN THE WESTERN SHIELD - September 7 - 12, 1985

The Saskatoon section of the CIM Geology Division will host a Symposium entitled "Gold in the Western Shield" from 9th to 10th September, 1985 at the Ramada Renaissance Hotel, Saskatoon, Saskatchewan, Canada. Topics will include geological settings and exploration signatures of gold deposits in the region, gold exploration techniques and theoretical aspects of gold deposit genesis. Field trips are planned to the Northwest Territories (Cullaton, Lupin, Salmita) deposits (September 7th and 8th) and the La Ronge gold belt (September 11th and 12th). Authors interested in submitting papers should contact:

Lloyd A. Clark
Technical Chairman
c/o SMDC
122 - 3rd Avenue North
Saskatoon, Saskatchewan S7K 2H6
Phone: 306-664-6843

To receive future mailings regarding the Symposium and excursions, contact:

Brian Larrivee
c/o Claude Resources Inc.
P.O. Box 7380
Saskatoon, Saskatchewan S7K 4E4
Phone: 306-665-7505

BULK MINEABLE PRECIOUS METAL DEPOSITS
OF THE WESTERN UNITED STATES
Symposium: April 6-8, 1987

CALL FOR PAPERS

The Geological Society of Nevada is calling for the submission of abstracts for an international symposium on ore deposits. The abstracts submitted should represent high quality, scientific papers that deal with one or more of the following aspects of Bulk Mineable Precious Metal Deposits: descriptive geology and mineralogy, exploration techniques, genetic models, successful exploration and development scenarios and advances in extraction and recovery techniques. Although the emphasis of the symposium and bound volume will be deposits of the Western United States, papers describing bulk mineable precious metal deposits around the world are invited.

Abstract deadline: **December 1, 1985**. For more information write:
Geological Society of Nevada, Symposium Committee, P.O. Box 70218, Reno,
Nevada, U.S.A. 89570-0218.

INTERNATIONAL SOUTH EUROPEAN SYMPOSIUM IN EXPLORATION GEOCHEMISTRY

Athens, Greece, November 10 - 11, 1986

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.

Registration and welcoming reception on November 9, 1986.

For 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 6357 IGME GR

COMPUTER APPLICATIONS IN MINERAL EXPLORATIONCAME '86 - BYTING THE ROCKS

The sponsoring societies of Computer Applications in Mineral Exploration invite your participation in the second CAME Conference and Exhibition to be held on January 14th and 15th, 1986, at the Sheraton Centre, Toronto.

The objectives of CAME'86 are the same as those of the very successful 1984 conference - to familiarize everyone involved in the mineral exploration industry with all the various computer services and facilities that are available to them. This second conference and exhibition is intended to bring the user up to date with developments in this rapidly changing area, and one with increasing influence in all aspects of exploration.

The exhibition will present displays and hands on demonstrations, as well as special classroom style sessions in oversize booths. The formal PRESENTATIONS will be given in the immediately adjacent theatre. These systems will emphasize practical experience gained by users of currently available systems, as well as recent developments by service organizations and manufacturers. The EXPANDED ABSTRACTS of the presentations will be published in a special volume to be included in the registration fee. Some of the areas in which presentations, poster-displays and exhibits are invited include:

- bibliographical and reference data bases
- data gathering and interpretation in the field
- integration of analytical results with field data
- statistical interpretation, geostatistics
- processing of remotely sensed data
- financial and risk analysis
- ore reserve compilations, ore deposit models
- mineral deposit files
- drill core logging and presentation
- graphical data presentation, mapping, 3-D models
- claims and property maintenance
- data integration through digital image analysis
- artificial intelligence and expert systems
- preliminary mine layout for feasibility studies

A special accommodation discount will be available at the Sheraton Centre. Further information on CAME '86 will be distributed in the newsletters and journals of the sponsoring societies. Potential speakers are invited to submit an outline of their presentation for consideration by the Program Committee, as soon as possible. Final expanded abstracts (1000 to 2000 words) will be required by October 31st, 1985. Further information can be obtained from:

PROGRAM

Grant Troop
Ontario Geological Survey
77 Grenville Street
Toronto, Ontario
M5S 1B3

EXHIBITION

Dave Jones
MPH Consulting Limited
Suite 2406
120 Adelaide St. W.
Toronto, Ontario M5H 1T1

REGISTRATION

Terence Bottrill
Bottrill Geological Services
192 Weldon Avenue
Oakville, Ontario
L6K 2H8

1986 SME-AIME ANNUAL MEETING, NEW ORLEANS, LOUISIANA,
GEOCHEMICAL SESSION: MARCH 5th, 1986

"LITHOGEOCHEMICAL METHODS OF EXPLORATION FOR VOLCANOGENIC MASSIVE SULFIDES"

Session Chairman: S. Clark Smith
P.O. Box 18325
Reno, Nevada 89701
Ph. (702) 849-2235

The Geochemistry Session will be a half day of papers dealing with volcanogenic massive sulfide systems and the key geochemical signatures that can be used during exploration to identify and locate them. There will be some discussion on the occurrence of gold and the relationships to the ore forming processes. This session follows two days of papers on VMS of North America and South America sponsored by the SEG.

THIRD EXPLORATION GEOCHEMISTRY SYMPOSIUM, GUILIN, CHINA, October, 1986

FIRST CIRCULAR

Full details of the 3rd Exploration Geochemistry of China sponsored jointly by the Commission of Exploration Geochemistry of the Geological Society of China, the Society of Metals of China and the Society of Nonferrous Metals of China are given in a first Circular enclosed with this Newsletter. The number of delegates attending this meeting will be limited and will be selected on a "first come - first served basis". Members interested in attending the Symposium should respond to the first Circular as soon as possible.

A SYMPOSIUM ON
SEDIMENT-HOSTED STRATIFORM COPPER DEPOSITS
OTTAWA, CANADA
MAY 17 - 19, 1986

The Mineral Deposits Division of the Geological Association of Canada and the Mineralogical Association of Canada are organizing an international **Symposium on Sediment-Hosted, Stratiform Copper Deposits** as part of the Geological Association of Canada - Mineralogical Association of Canada - Canadian Geophysical Union Annual Meeting, Ottawa, 1986.

Sediment-hosted stratiform copper deposits have been the subject of considerable research in several parts of the world and new concepts and hypotheses have been developed.

TECHNICAL AND POSTER SESSIONS

The **technical program** will include presentations on deposits in the Lubin district of Poland, the Zambian and Zairian Copperbelts, the North American Redstone, Spar Lake and White Pine districts and possibly important deposits in the Soviet Union, China and Australia. Additional talks will be given on tectonic settings, age relationships, sediment diagenesis, basinal fluid geochemistry and migration and ore genesis.

A series of **poster displays** are being planned as an integral part of the symposium.

A prominent objective of the meeting will be to identify features and criteria of the sedimentary copper environment of significance in mineral exploration.

FIELD TRIPS

An excursion to the Michigan Copper District and the Spar Lake area of North America will be arranged prior to the meeting (May 10-16, 1986). In addition, initial planning is underway for a post-symposium 7-10 day field visit to West German and Polish field areas with mine visits in Poland (commencing May 23, 1986). Visits to core libraries in West Germany and to government offices in Poland will be part of this trip.

CALL FOR PAPERS

Although invited speakers will address the symposium, unsolicited papers will constitute a major part of the program. The Organizing Committee encourages the summittal of abstracts of quality papers on the symposium theme and closely related topics.

Titles of proposed papers should be submitted prior to June 30, 1985. The receipt of abstracts deadline is October 15, 1985.

PUBLICATIONS

A volume containing both invited and unsolicited presentations will be published as soon as possible after the symposium. All authors will be required to submit final manuscripts at the time of the symposium.

LOCATION AND DATE

The symposium is being organized as part of the Geological Association of Canada - Mineralogical Association of Canada - Canadian Geophysical Union 1986 annual meeting in Ottawa. Registration for the symposium will commence on the evening of Friday, May 16, 1986 and the technical and poster sessions will end at noon on Monday, May 19th, 1986. Poster displays will be open throughout the symposium. Delegates will register for both the symposium and the GAC-MAC-CGU Annual Meeting.

The technical program of the Annual Meeting will begin on Monday, May 19th, 1986 and end on Wednesday, May 21st, 1986 partially overlapping and continuing after the symposium.

FURTHER INFORMATION

Prospective authors, exhibitors and delegates should write to the following address requesting further information:-

"Sediment Hosted Stratiform Copper Deposits"
c/o Professor A.J. Naldrett
Department of Geology
University of Toronto
Toronto, Ontario
CANADA M5S 1A1

FROM THE SECRETARY'S OFFICE

Annual Reports from the President, Secretary and Treasurer presented in this Newsletter highlight the significant membership increase during the past year. Since compilation of these reports there has been a further, sizable gain in membership when a group of one hundred and thirty new members joined the Association during the recent 11th IGES in Toronto. Although the rise in membership is undoubtedly encouraging, it is equally important that the healthy growth is maintained. Therefore I would ask those of you who have still to renew your 1985 Annual Dues to please do so as soon as possible. Normally at this time "Dues Payment Reminder Notices" are sent to those in arrears. However, these notices will not be mailed until later in the year due to changes in the business procedures of the Association's Toronto office. Consequently I would urge you not to delay until a notice arrives, but take the initiative and renew your Dues **TODAY**.

The Association is entering an especially active period and during 1986 will be sponsoring or supporting a number of regional geochemical meetings. Meetings include CAME '86 in Toronto, Canada, GeoExpo '86 in Vancouver, Canada, The International South European Symposium in Exploration Geochemistry in Athens, Greece, The South African Geocongress Regional Geochemical Meeting and the Third Exploration Geochemistry Symposium in Guilin, China. Further announcements on these and other meetings will appear in forthcoming issues of the Newsletter. Other activities scheduled to commence in the coming year are the Association of Exploration Geochemists - Geological Society of America Geochemical Short Course and the Distinguished Lecturer presentations to be given at three U.S. and three Canadian Universities by the Association's first Distinguished Lecturer, Ian Nichol. Again, further announcements on these topics will appear in the Newsletter later this year.

The most recent Association-sponsored meeting, the 11th IGES attracted almost 400 delegates to Toronto. Those present were unanimous in their praise of the high quality of the papers presented, workshops and field trips. A report on the meeting and a review of the various technical and social activities is included in this Newsletter. While on the topic of the 11th IGES, those members who were unable to attend can still purchase the Symposium Program and Abstracts Volume through the Association's Rexdale Office.

I would like to draw your attention to a number of items of general interest. Following a lengthy correspondence with Miss M. Tierney of the Inland Revenue Department, I am now happy to report that United Kingdom members can now claim their annual membership dues as an income tax deduction. Further details may be obtained from Inland Revenue Technical Division, Somerset House, London WC2r 1LB (Reference T1644/93/1983/MT).

A call to members for assistance and participation in the foundation of a mineral deposit primary geochemical signature catalogue from Gerry Govett also appears in this Newsletter. This is an important project which will do much to aid the international exchange of geochemical data. Please respond to the request for information.

Another topic related to the exchange of information through the Association involves the "Program Software Pool" initiated by Eric Grunsky. There have been an encouraging number of requests for available software, but as yet no contribution of software or relevant information. Please help support this concept with your software contributions or general comments.

Finally, I am pleased to announce the election of L.B. Bloom, R.K. Glanzman, B. Hitchon, B.W. Smee and A.E. Soregaroli as Ordinary Councillors for the 1985-87 term; the Nordic Countries Regional Councillor, A.J. Bjorklund, the European Regional Councillor, E. Wilhelm and a new Australian Regional Councillor, B.L. Farrell. We wish them every success during their term of office.

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
M9W 5L4

For further information, requests, submissions, contact:

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

STUDENT PAPER COMPETITION - 1985

The Association of Exploration Geochemists will hold its second annual Student Paper Competition in 1985. Papers eligible for the competition must have been published in a refereed scientific journal within the last five years and less than five years since the graduation of the student author. Multiple authors are allowed, although the student must be the senior author. Deadline for receipt of nominations is November 1, 1985. The award will be announced in January, 1986 and the prize will consist of a two-year membership at the appropriate level in the Association of Exploration Geochemists and receipt of all publications. Please send nominations, including three copies of the paper and the current address of the nominee to: S.E. Kesler, Department of Geological Sciences, University of Michigan, Ann Arbor, MI 48109-1063, U.S.A.

REPORT ON THE 11th INTERNATIONAL GEOCHEMICAL EXPLORATION SYMPOSIUM

The 11th IGES was held in Toronto, Canada, at the new Metro Toronto Convention Centre from April 27 to May 2. In addition to the core of technical sessions, both pre- and post-symposium field trips were held, and a series of four workshops were organized for the weekend immediately prior to the meeting. The symposium was attended by 371 participants from 19 countries, including places as far away as Australia, India and the People's Republic of China; however, over 75% of the participants were from North America.

The pre-symposium field excursion took some 30 participants to the Timmins, Ontario, area where case histories of exploration in deep overburden were reviewed in the field, and visits were made to Hoyle Pond (Au), Owl Creek (Au) and Kidd Creek (Cu,Zn,Ag). The post-symposium field excursion visited the new gold camp at Hemlo, Ontario. Again attention was focused on geochemical case histories, the geological setting of the district was reviewed, and visits made to the property of Lac Minerals and Noranda's Golden Giant Mine.

The four workshops proved to be successes, and generated a great deal of participation and discussion amongst the 114 attendees. The two largest workshops were concerned with problems of Till Geochemistry and Geochemical Anomaly Recognition, the Biogeochemistry and Rare-Earth workshops were smaller. The Organizing Committee was particularly happy to see Harry Warren and Hans Shacklette, two of the fathers of biogeochemistry in North America, actively participating in the workshops. The consensus of the participants was that the small forum workshops were extremely useful for focusing on specific problems, and that the opportunities for information exchange was invaluable. Full reports on the proceedings will be published in the Symposium Volume of the Journal.

The technical core of the Symposium consisted of 51 papers and 30 poster presentations, along with a commercial exhibition participated in by 24 government and industrial institutions from around the world. The opening paper was a historical review of exploration geochemistry in Canada by Brummer, Gleeson and Hansuld, and it set the scene for the following four days of papers on advances in exploration geochemistry worldwide. In a departure from usual practice, a session was held on Geochemical Patterns and the Environment. The methodologies used in environmental and exploration studies are very similar, and the opportunity to cross the inter-disciplinary boundary was taken advantage of by many participants. Through the generosity of Billiton Canada Ltd. four prizes were made available for best paper and poster in both student and professional categories. An international committee of ten reviewed the presentation and the awards were announced at the closing ceremonies. The best paper, entitled "Some conceptual models for geochemistry in areas of preglacial deep weathering", was presented by R.E. Smith of CSIRO, Perth; and the best student paper, "Biogeochemistry: A geochemical method for gold exploration in the Canadian Shield" was presented by D.R. Cohen of Queen's University, Kingston and was co-authored by himself with I. Nichol and E.L. Hoffman. The best poster award was given to G. Bonham-Carter, P.J. Rogers and D.J. Ellwood, of the Geological Survey of Canada and Nova Scotia Department of Mines and Energy for their poster, "Catchment basin analysis applied to surficial geochemical data, Cobequid Highlands, Nova Scotia". Lastly, but not least, the best student poster award was made to P.L. Churcher and R.D. Dickhout of the University of Waterloo for their presentation, "Total organic carbon analysis of ancient sediments: A new technique".

The overall range of topics covered in the presentations was very broad, case histories and research papers were given on media as diverse as rocks, soils, glacial tills and other debris, stream sediments and waters, vegetation, and soil gases, in environments ranging from the permafrosted north, to the tropics and where the earth's surface was freshly exposed to situations where old peneplained land surfaces ranged back to the Jurassic and even Paleozoic. In addition to the session of environmental geochemistry already mentioned, sessions were also held on new advances in analytical chemistry, e.g., ICP-MS and selective partial attacks, and the analysis and display of exploration data. Presentations by authors from many parts of the world described the results of nation-wide geochemical reconnaissance surveys. The interpretation of these data in terms of lithospheric development and the presence of geochemical and metallogenic provinces provided some tantalizing glimpses of the value of geochemical data in helping to understand geological evolution in its broadest sense. As more of these national surveys are completed the full value of reconnaissance geochemical surveys will be recognized.

The programme also included visits to geochemical laboratory facilities in and around Toronto, the Ontario Centre for Remote Sensing, and the local Pleistocene stratigraphy. The Social programme was capped by a superb evening atop the CN Tower, the weather was kind and the view from a height of 350 m, as dinner was enjoyed, every bit as good as the promotional advertising said it would be.

In conclusion, the meeting was a scientific success, only participation was less than had been hoped for. The generally depressed state of the world minerals economy, and the widespread cost cutting moves of institutions, especially concerning foreign and conventional travel, had much to do with the low attendance level in comparison with previous symposia. However, those who were lucky enough to attend enjoyed a stimulating symposium and returned home primed with new ideas to carry on their geochemical endeavours.

11th IGES - RESULTS OF BEST PAPER AWARD AND PRIZE DRAWS

At the 11th International Geochemical Exploration Symposium in Toronto, Canada commercial exhibitors Lakeland Helicopters Ltd. and Geochemical Services Inc. offered draws for prizes.

The two winners of a silver bar each from Lakeland Helicopters were:

M. Berezowskyj	B.P. Resources
R.G. Smith	Diagnostic Research Laboratories

The six winners of numbered and signed wildlife prints from Geochemical Services Inc. were:

W.C. Riese	ARCO Exploration
I.D. Pirie	Corporation Falconbridge Copper
J.-P. Lalonde	Government of Quebec
K. Elcomb Overburden Drilling Management Ltd.	
J.J. Barakso	Min-En Labs
W.B. Coker	Kidd Creek Mines Ltd.

SCHOLARSHIP IN EXPLORATION GEOCHEMISTRY

The Association is pleased to announce that the Scholarship in Exploration Geochemistry for 1985-86 has been awarded to Mark Wilson. Mark is enrolled in an M.Sc. program at the University of Saskatchewan and will work on a thesis project involving stable isotope geochemistry and geochronology of carbonate hosted lead-zinc-silver-gold deposits of the Kootenay Arc, B.C. Further details of the award are given below.

ELIGIBILITY: Any graduate student involved in some aspect of exploration geochemistry and enrolled in a graduate program at either the University of Regina or the University of Saskatchewan.

AWARD VALUE: The award shall not exceed \$1,000.00.

CONDITIONS: An amount up to the limit awarded will be given to the grantee based on the credentials of the applicant. The award is intended for University fees, books, travel expenses (both for field work and conferences), equipment and services (where these are shown to be an integral part of the research).

APPLICATION: A letter of application should be forwarded to Dr. G.R. Parslow, Dept. of Geology, University of Regina, Regina, Sask., Canada, S4S 0A2 **NO LATER THAN MAY 1 IN ANY GIVEN YEAR.** The application should include a brief curriculum vitae, names of two referees, a brief (one page only) resume of your research including a list of your intended purchases with the award (up to \$1,000.00).

TENURE: From September 1 in the year of application for a period of 12 months.

11th IGES - SYMPOSIUM PROGRAM AND ABSTRACTS VOLUME

A number of 11th IGES Program and Abstracts Volume copies are available for sale at a cost of Canadian \$10.00 (includes postage and handling) through the Association's Rexdale Office. The supply is limited and to avoid disappointment send in your order TODAY with the necessary remittance. Cheques or money orders should be made to "11th IGES".

MINERAL DEPOSIT PRIMARY GEOCHEMICAL SIGNATURE CATALOGUE -
A CALL FOR ASSISTANCE AND PARTICIPATION

A recommendation to compile data on bedrock geochemical responses to mineralization was made at the Workshop on Thresholds and Anomaly Interpretation at the combined 10th International Geochemical Exploration Symposium and the 3rd Symposium on Methods of Geochemical Prospecting meeting in Helsinki in 1983. A joint committee of AEG and the Working Group on Geochemical Prospecting of the IAGC decided to undertake this task.

The initial objective of this project is to assemble data on the geochemical response in bedrock to mineral deposits of all types to provide a geochemical exploration guide for specific deposit types. The essential data required are information on a deposit and its geological environment; a list of elements that are enriched or depleted and the dimensions of the halos for each element that responds; and a record of elements that do not respond. These data will be published together with an interpretative summary of element combinations that are likely to be useful for specific types of mineral deposits in particular geological environments.

Dr. P.V. Koval was appointed to co-ordinate data collection from the USSR and Eastern Europe, and Professor G.J.S. Govett for the rest of the world. Forms for recording the data (together with comprehensive explanatory notes) are included with the Newsletter.

Gathering data for this important project is a formidable task, and its success will depend upon the co-operation and assistance of people all over the world. An attempt will be made to appoint a representative of AEG or the Geochemical Prospecting Working Group of IAGC in each country to be responsible for contacting appropriate people or organizations (in industry, government and Universities) in that country to obtain the required data. This will take a little time to organize; meanwhile, anyone willing to undertake responsibility for a particular country should contact either Professor G.J.S. Govett or Dr. K. Pavel (addresses given below). Please note that it is not necessary to be a member of either organization to undertake this task. Master forms for duplication by Country Organizers, or multiple copies, will be supplied on request. Some Country or Regional Organizers have already been appointed and these are listed below. This list will be updated as names become available.

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RECENT PAPERS ON EXPLORATION GEOCHEMISTRY

This list comprises titles that have appeared in major publications since the compilation presented in Newsletter 51. 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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THE ASSOCIATION OF EXPLORATION GEOCHEMISTS

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Minutes of the Annual General Meeting of the
Association of Exploration Geochemists held in
Metro Toronto Convention Centre Theatre on April 30, 1985

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Brazilian Regional Councillor:
R.W. Lewis Jr.

The meeting was called to order at 5:06 p.m. by the President, R.G. Garrett. Forty-eight persons were present of whom 46 were members and the meeting was determined to be quorate. The President stated that the Agenda had been published in the January 1985, No. 50 issue of the Newsletter.

1. Minutes of the 1984 Annual General Meeting

The President noted that the minutes of the 1984 Annual General Meeting had been published in the April 1984, No. 47 issue of the Newsletter. The President asked if there was any discussion of the minutes. There being none, he requested a motion of acceptance. It was so moved (Siegel), seconded (Closs) that the minutes be accepted. Passed unanimously.

2. Matters Arising

There were no matters arising.

3. President's Report

The President, R.G. Garrett, delivered his report. A copy is attached.

4. Secretary's Report

The Secretary, R. E. Lett, delivered his report. A copy is attached.

5. Treasurer's Report

The Treasurer, R. G. Jackson, delivered his report. A copy is attached.

6. Report of the Admissions Committee

The report of the Admissions Committee was delivered by L.G. Closs on behalf of the Committee Chairman, L.P. James. Closs stated that from March 28th, 1984 to April 28th, 1985 the Admissions Committee had recommended to Council acceptance of 26 Voting Members, 272 Affiliate Members and 38 Student Members for a total of 336 members. Of this total nine members requested transfer from other membership classes. Closs concluded his report by acknowledging the contribution of C. Nichols in increasing the Association's membership.

7. Introduction of the 1985-1986 Executive

The President introduced the new Executive to the members present:

President	-	I. Thompson
Vice President	-	G.H. Allcott
Vice President	-	S.J. Hoffman
Secretary	-	R.E. Lett
Treasurer	-	R.G. Jackson

8. Announcement of the 1985-1987 Ordinary Councillors

The President reported that counting of the ballots for the 1985-1987 Ordinary Councillors had been completed by the Association's Auditor and asked for nomination of scrutineers by the members present to confirm the ballot return. K.A. Lovstrom was nominated by A. Coope and I.L.Elliott, and R. Reise was nominated by S.J. Hoffman and P.K. Theobald. There being no further nominations the President declared the nominations closed. The sealed ballot return was delivered to the scrutineers by the Secretary. The scrutineers reported to the meeting that 194 ballots had been returned of which 2 were spoiled. On the basis of the 192 valid ballots the following members were elected as Ordinary Councillors for the 1985-1987 term.

L.B. Bloom
 R.K. Glanzman
 B. Hitchon
 B.W. Smee
 A. Soregaroli

The outgoing President, R.G. Garrett also serves as an Ordinary Councillor for the 1985-1987 term. The President, R.G. Garrett asked for a motion to destroy the ballots. It was so moved (Govett) and seconded (A. Coope) that the Secretary destroy the ballots. Passed unanimously.

The President stated that he had received the resignation of the Australian Regional Councillor, R.H. Mazzucchelli and that B.L. Farrell had been elected by the Australian members to succeed as Australian Regional Councillor. The President concluded by thanking Mazzucchelli for his work as Regional Councillor and also Ordinary Councillors and other members of the Executive for their support during his term of office.

9. Transfer of Meeting

The President, R.G. Garrett transferred the meeting to the President-elect, I. Thompson. The President, I. Thompson, welcomed the new Executive and Councillors and invited the Past President to deliver his address.

10. Presidential Address

The Past President, R.G. Garrett, delivered his address to the members.

11. Any Other Business

One member asked for information on the number of members originally enrolled at the 1984 Reno Symposium who had renewed membership in the Association. Garrett replied that Council were in the process of evaluating membership renewed and that currently 860 members had paid 1985 membership dues.

12. Adjournment

The motion of adjournment for the 1985 Annual General Meeting was made by A. Coope, seconded by L.G. Closs at 5:50 p.m. Passed unanimously. The President thanked the members present for attending.

President _____

I. Thompson

Secretary _____

R.E. Lett

Distribution: Newsletter
All Councillors
JEG Editors



THE ASSOCIATION OF EXPLORATION GEOCHEMISTS

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

*President:***ANNUAL REPORT BY THE PRESIDENT, 1984-85**

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

The past year has been one of growth for the Association. I am happy to be able to report to the membership that their Association is strong in numbers, financially sound, and is undertaking new roles in the mineral exploration community.

Vice Presidents:

I. Thomson
Placer Development Ltd.
P.O. Box 49330, Bentall Stn.
Vancouver, British Columbia V7X 1P1
Canada

The Secretary has reported on our membership. Let it just be stated here, that after a brief falter in 1983, the membership drive spearheaded by the Reno Regional Meeting at the close of the Association's 1983-84 year gave us the largest growth in membership that we have ever experienced since our founding in 1970. The fact that we are financially sound is due to wise planning in previous years, a favourable publishing contract, our growing membership, and a continuing concern of Council to use our resources prudently. The full details of our financial status are presented in the Treasurer's report.

G.H. Allcott
United States Geological Survey
National Centre, M.S. 913
Reston, Virginia 22092
U.S.A.

Secretary:

R.E. Lett
Association of Exploration Geochemists
P.O. Box 523
Rexdale, Ontario M9W 5L4
Canada

I would like to focus on a number of activities undertaken by the Association during the last year. Some of these were new, and others reflect the accomplishment of goals established in previous years.

Treasurer:

R.G. Jackson
359 Broadway Avenue
Toronto, Ontario M4P 1X1
Canada

Firstly, 1984 saw the institution of the Association's Student Prize, and its award to Paul Matysek of Vancouver for his paper published in the 9th International Geochemical Exploration Symposium, Saskatoon, proceedings. Council hopes that the Student Prize will encourage students to write up their research; and hopefully once the hurdle of their publication is crossed they will continue to publish their work as contributions to their profession.

Councillors:

1984-85
W.B. Coker
B. Hitchon
M. Mason
J.H. McCarthy Jr.
D.D. Runnells
A.E. Soregaroli

Secondly, after many years of discussion the Association established a Distinguished Lecturer Series. Initially the series will be in North America, but once we have gained some experience and can evaluate the Series' effectiveness in promoting interest in exploration geochemistry, Council hopes to extend such activities to the Regions. Our first Distinguished Lecturer will be Dr. Ian Nichol of Queen's University, Kingston, who will give a series of lectures in eastern North America in late 1985 and early 1986.

1984-86
L.G. Closs
I.L. Elliott
C.F. Gleeson
W.D. Goodfellow
N.G. Lavery
C.E. Nichols

The arrival of a new Exploration Geochemistry Bibliography is always an important event. Again, Dr. Herb Hawkes and his committee have made another important contribution to the Association, and applied and exploration geochemistry. The new Supplement covers the literature from January, 1981, to October, 1984, along with older references not previously indexed, and will be of invaluable assistance to practicing geochemists everywhere. It is with some pride that we should read the Association's name on this most important, and internationally recognized, series.

Australian Regional Councillor:
R.H. Mazzucchelli

European Regional Councillor:
B. Bolviken

Southern Africa Regional Councillor:
G.L. Coetzee

Brazilian Regional Councillor:
R.W. Lewis Jr.

During the year two joint Association - International Association of Geochemistry and Cosmochemistry projects made significant progress. These projects, carried out in conjunction with the IAGC's Working Group on Methods of Geochemical Prospecting, concern a compilation of geochemical mineral deposit models and the preparation of a multilingual lexicon of exploration geochemistry, and are led by Dr. G. J. Govett and Dr. J.W. Aucott respectively. The projects were outcomes of the joint Association - IAGC sponsorship of the 10th International Geochemical Exploration Symposium in Helsinki, and their progress augers well for future cooperation between our two organizations.

Also during 1984-85, the Association formalized its activities in the Short Course field. Although there had been continuing discussions on this topic between members and in Council for several years, the formalization was largely precipitated by inquiries made to the Association by the Society of Economic Geologists and the Mineral Deposits Division of the Geological Association of Canada. We are lucky to have Dr. Kay Fletcher as Chairman of the Short Course Committee. Our first cooperative venture, which will also lead to the publication of a course handbook, will be with the SEG, with whom we are finalizing arrangements. Your Council regards this activity as one of great importance to the Association. It provides a way by which we can help to upgrade the level of geochemistry in mineral exploration, and places the Association before the exploration community in a constructive role.

Although linked by our Journal and the Newsletter, members have their best opportunities to meet, exchange experiences, and learn of new advances, at our symposia. The last few years has seen a rapid growth in regional workshops and meetings, usually more problem or area focussed than our biennial International Symposia. In addition to our next International Symposium, to be held in conjunction with the IAGC, and largely organized by the BRGM in Orleans, France, in 1987, we have regional events in South America, Greece, Canada and South Africa planned for the next 18 months. The recession, and slow recovery of the minerals industry and the world's economy, has made travel and participation in meetings far more difficult for many mineral explorationists and geochemists. Perhaps the days of the really large international meeting are passing. It is likely that we will have to review our meetings policy in the light of the new economic reality and determine how the Association can best serve its members and the community.

The continuing theme that we have persued this year has been one of education, professional development, and providing geochemists with the reference tools they need. In a field of science where many of the practitioners of geochemical methods have had limited formal training in the subject, the Association has a major role to play in continuing education and professional development. Various geoscience bodies are looking to the Association for assistance and leadership. Whilst this is flattering and marks of our recognition as the premier geoscience organization in the field of exploration geochemistry, it also places responsibilities on the Association. This will be a major challenge to us in the future, and I urge you to consider how you can support your Association in these most important activities.

Lastly, I must thank all the members, Councillors and the Executive for the help they have given me and the Association over the last year. None of what we have achieved would have been possible without their dedication to the Association and our profession.

A handwritten signature in black ink that reads "Robert G. Garrett". The signature is written in a cursive style with a long horizontal flourish extending to the right.

Robert G. Garrett
President



THE ASSOCIATION OF EXPLORATION GEOCHEMISTS

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

ANNUAL REPORT BY THE SECRETARY 1984-85*President:*

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Brazilian Regional Councillor:
R.W. Lewis Jr.

This year has seen a spectacular 63.6% increase in membership growth (Fig. 1) which can largely be attributed to the efforts of Chet Nichols and the Organizing Committee of the 1984 Reno Regional Symposium in attracting new members to the Association. Since the Association was formed in 1970 it is interesting to note that the years 1975 and 1983 in which membership numbers declined corresponded to periods of slow growth in the mining industry. At the end of 1984 total membership was 1366 comprising 533 Voting Members, 649 Affiliate Members, 128 Student Members, 21 Corporate Members and 30 applicants under review by the Membership Committee. North American Membership (1024) is by far the most dominant group followed by Australia (117), Europe, Central and South America and South Africa (Table 2). During 1984 the Association welcomed new members from Botswana, the Dominican Republic, Ecuador and Thailand. On May 25th 1984 the Association learned with deep regret of the death of D. Richard Clews, a pioneer in the field of exploration geochemistry and a founding member of the Association of Exploration Geochemists.

The 1984 Reno Regional Symposium sponsored by the Association was extremely successful and attracted over 1000 delegates from North America and overseas. Following the 11th IGES in Toronto the Association will sponsor or be involved in four meetings during 1986 namely GeoExpo 86 in Vancouver, the Computer Applications to Mineral Exploration meeting in Toronto, the South African Geocongress and a Regional Meeting in Athens, Greece.

During 1984 several significant changes were made in the administration of the Association including the establishment of a central business office to centralize the Association's bookkeeping, membership lists and Newsletter mailing. The mailing of the Newsletter simultaneously from Toronto and Golden, Colorado has also been implemented as a move to decrease postage costs. Two regular features were introduced in the Newsletter in 1984. These are a calendar of future meetings and symposia and a computer software pool. The latter feature has proved of particular interest and copies of the available programs have been distributed to a number of members. A supplement to the Exploration Bibliography was published in 1985 and all paid up Association members should shortly be receiving copies. In addition a 1985 Membership List will be distributed with the April Newsletter.

Finally I would like to thank those of you who have contributed items of interest or information to the Newsletter and in particular Don Runnells who has compiled the Bibliography updates. Our appreciation must also be extended to Bob Garrett for the essential task of maintaining the membership lists and to Ines Filicetti who very efficiently maintains the Association's Rexdale office. In closing, I have enjoyed the opportunity of serving you as Secretary this year and look forward to continuing in this capacity through 1985-86.

R.E. Lett, Secretary

Table 1

ASSOCIATION OF EXPLORATION GEOCHEMISTS
Fourteen Year Membership Review, 1970-84

	<u>Gain*</u>	<u>Loss</u>	<u>Wastage %</u>	<u>Net Gain</u>	<u>Total</u>	<u>Honorary</u>	<u>Growth %</u>	<u>Dues</u>
1970	229	0	0	229	229	0		10.
1971	89	0	0	89	318	0	38.9	10.
1972	112	1	1	111	429	0	34.9	10.
1973	95	42	44	53	482	0	12.4	27.
1974	54	33	61	21	503	0	4.4	27.
1975	41	50	114	-9	494	3 (2)	-1.8	27.
1976	69	44	64	25	519	3 (2)	5.1	42.50
1977	77	39	51	38	557	3 (2)	7.3	42.50
1978	78	53	68	25	582	3 (1)	4.5	42.50
1979	62	37	60	25	607	3	4.3	42.50
1980	101	51	50	50	657	4 (1)	8.2	42.50
1981	100	35	35	65	723	4	9.9	42.50
1982	169	36	21	133	856	4	18.4	42.50
1983	74	100	135	-26	835	4	-3.1	42.50
1984	611	80	13	531	1366	4	63.6	42.50

***Gain includes new members who paid dues for the first time and old members who became active again after one or more years of non-payment of dues.**

ASSOCIATION OF EXPLORATION GEOCHEMISTS 1984 MEMBERSHIP BY COUNTRY

COUNTRY	NO. OF MEMBERS
ALGERIA	1
AUSTRALIA	117
AUSTRIA	7
BELGIUM	4
BOTSWANA	1
BRAZIL	21
CANADA	256
CHILE	2
COLOMBIA	1
DENMARK	6
DOMINICAN REPUBLIC	1
ECUADOR	1
EGYPT	1
FED. REP. OF GERMANY	20
FINLAND	6
FRANCE	5
GREECE	1
INDIA	4
INDONESIA	2
IRAN	1
IRAQ	1
IRELAND	2
ITALY	1
JAPAN	7
KENYA	1
MALAYSIA	4
MEXICO	5
NETHERLANDS	7
NEW ZEALAND	2
NIGERIA	6
NORWAY	4
PAKISTAN	1
PAPUA - NEW GUINEA	3
PERU	2
PHILLIPINES	5
POLAND	1
PORTUGAL	3
REP. OF SOUTH AFRICA	25
SAUDI ARABIA	7
SOUTH KOREA	1
SPAIN	3
SWEDEN	9
SWITZERLAND	2
TAIWAN	2
THAILAND	3
UGANDA	1
UNITED KINGDOM	20
UNITED STATES	768
VENEZUELA	2
YUGOSLAVIA	2
ZAMBIA	4
ZIMBABWE	4
TOTAL MEMBERSHIP	1366
COUNTRIES WITH MEMBERS	52

ANNUAL REPORT BY THE TREASURER, 1984

The year 1984 was, financially, a year of growth for the Association. The AEG realized a surplus of \$22,196.00 U.S. bringing our total surplus to \$137,742.00.

This growth in our assets reflects conditions and events during 1984 which can be summarized as follows:

Firstly, the AEG experienced a dramatic increase in our membership as a result of the success of the Reno Regional Symposium. This together with receipt of late payment dues resulted in a 100% increase in dues revenue, \$64,637.00 as compared to \$30,330.00 in 1983.

Secondly, the Association managed to maintain fairly stable expenditures related to office overhead and publication of the Newsletter.

Thirdly, a number of new projects which had been planned and budgeted for in 1984 did not proceed until early in 1985. These include the establishment of an editorial office in Ottawa to assist Dr. Eon Cameron in the editing of the Journal.. the recent publication of the Bibliography Supplement, and the publication of an updated membership list.

Finally, included in the surplus for 1984 is a payment from the Reno Organizing Committee of \$5,684.00 which represents an advance order of the Reno Symposium Proceedings requested by attendees to that symposium. These funds will be forwarded to Elsevier in 1985 as the Proceedings volume nears its publication date.

The financial records for the year ending December 31, 1984 have been audited by Doane Raymond Chartered Accountants of Toronto. Their audit report accompanies this Newsletter.

The year 1985 will be an active year for the Association in that a number of new projects are being initiated. Many of these require financial funding. Also, in keeping with the AEG's strong financial position, the Association is taking steps to assume more of the financial costs of administration which previously were provided for by the generosity and support of government, universities, and corporations within the exploration industry. Consequently, members of the Association can anticipate negligible growth in our assets in 1985 and an increase in office overhead.

I wish to thank the membership for their continued support of the Association during very difficult financial times within the mining industry. It has been a pleasure serving you in the capacity of Treasurer.

R.G. Jackson
Treasurer

Doane Raymond

Chartered Accountants

1

AUDITORS' REPORT

To the Members of The Association of Exploration Geochemists

We have examined the balance sheet of The Association of Exploration Geochemists as at December 31, 1984 and the statements of revenue, expenditure and surplus for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

In our opinion, these financial statements present fairly the financial position of the association as at December 31, 1984 and the results of its operations for the year then ended in accordance with the accounting principles outlined in the notes to financial statements applied on a basis consistent with that of the preceding year.

Toronto, Ontario

April 16, 1985



Chartered Accountants

THE ASSOCIATION OF EXPLORATION GEOCHEMISTS

2

BALANCE SHEETDECEMBER 31, 1984

Assets	<u>1984</u>	<u>1983</u>
Cash	\$ 10,866.51	\$ 14,102.57
Term deposits	126,048.09	101,363.27
Cash advances	827.69	80.29
	<u>\$137,742.29</u>	<u>\$115,546.13</u> *
Members' Equity	<u>\$137,742.29</u>	<u>\$115,546.13</u>

* Note: The 1983 audited financial statements have been adjusted to include a cash expense advance not previously reported.

Accounting policies

- a) The Association uses the cash basis of accounting and accordingly, these financial statements do not reflect any liabilities or inventories of unsold publications.
- b) These financial statements are presented in U. S. dollars. Transactions in Canadian dollars are converted to U.S. dollars at the average monthly rates of exchange. Bank accounts and term deposits in Canadian dollars are converted to U.S. dollars at the rate of exchange at balance sheet date.

THE ASSOCIATION OF EXPLORATION GEOCHEMISTS

3

STATEMENT OF SURPLUSYEAR ENDED DECEMBER 31, 1984

	<u>1984</u>	<u>1983</u>
Revenue	\$103,188.14	\$ 99,317.01
Expenditure	<u>80,413.66</u>	<u>89,846.83</u>
Excess of revenue over expenditure	22,774.48	9,470.18
Surplus, beginning of year	<u>115,546.13</u>	<u>106,929.00</u>
	138,320.61	116,399.18
Foreign currency translation	<u>(578.32)</u>	<u>(853.05)</u>
Surplus, end of year	<u>\$137,742.29</u>	<u>\$115,546.13</u>

THE ASSOCIATION OF EXPLORATION GEOCHEMISTS

4

STATEMENT OF REVENUEYEAR ENDED DECEMBER 31, 1984

	<u>1984</u>		<u>1983</u>
Dues	\$ 64,636.71		\$ 30,330.21
Donations	7,349.19		12,280.91
Interest	8,206.93		7,858.88
Publications	7,425.04		7,340.03
- Vol. 4	\$1,220.26		
- Vol. 7	1,901.77	\$ 628.11	
- Vol.10	1,936.94	1,195.92	
- Vol.11	2,278.29	1,918.40	
- Misc.	87.78	3,597.60	
		-	
Royalty income	9,718.52		11,587.00
Handbook of Geochemistry	100.44		29,713.49
Back Issues	-		200.00
Reno Symp. Vol. Advance Order	5,684.00		-
Miscellaneous	<u>67.31</u>		<u>6.49</u>
	<u>\$103,188.14</u>		<u>\$ 99,317.01</u>

THE ASSOCIATION OF EXPLORATION GEOCHEMISTS

5

STATEMENT OF EXPENDITURESYEAR ENDED DECEMBER 31, 1984

		<u>1984</u>		<u>1983</u>
Salaries and benefits		\$ 5,947.14		\$ 5,881.25
- Toronto	\$ 5,583.60		\$ 5,881.25	
- Ottawa Editorial Office	363.54		-	
Office and general		4,670.26		6,666.74
- Office supplies	791.96		380.47	
- Telephone	1,481.15		4,087.21	
- Printing	786.55		2,117.87	
- Secretarial Services	1,441.11		-	
- Miscellaneous	169.49		81.19	
Postage and freight		1,308.54		1,720.11
- Publication distribution	-		828.41	
- General	1,308.54		891.70	
Storage and Insurance		411.47		744.81
Newsletter		6,919.06		6,633.12
- Printing	1,516.40		2,770.26	
- Distribution	5,402.66		3,862.86	
Journal Publication		45,417.50		29,379.86
Back Issues		526.23		-
Professional fees and dues		1,666.28		1,021.46
Advertising		288.00		1,617.54
Seed advances		10,415.27		6,323.51
Handbook of geochemistry		180.00		29,790.00
Aust. Symp. Vol. advance order		2,626.72		-
Bank charges		37.19		68.43
		<u>\$ 80,413.66</u>		<u>\$ 89,846.83</u>