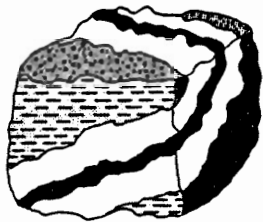


THE GRANBY

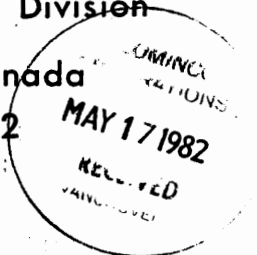


Newsletter of the Mineral Deposits Division

Geological Association of Canada

No.12

January 1982



CHAIRMAN'S REPORT: Win Some - Lose Some

The MDD maintains a full program of symposia, field trips and workshops for the benefit of its members. Most activities are proposed but later die because of program conflicts, lack of adequate local expert leadership, or absence of a workable infra-structure. The joint MDD-CIM symposium and field trip proposed for the Yukon in September of 1983 is one of the casualties. It died because it conflicts with other technical programs that will look into shale hosted zinc-lead deposits and exploration results of the northern Cordillera. MDD members are reminded that both the Victoria 1983 annual meeting and the DIAND Northern Resources Conference overlap and duplicate the subject matter of the now dead MDD-CIM symposium. You are urged to attend the surviving technical gatherings.

A field trip to Copper Mountain (Newmont), Hedley and Greenwood is now scheduled for the last week of April 1982. This three-day field trip is being organized by Keith Fahrni, with help from Bob Seraphim and Jim Fyles. The trip will provide an up-date on all three areas, and will cost an estimated \$96.00. The fee includes bus, lunch and a guidebook. Noranda has kindly permitted use of old Granby data for the trip. The only apparent difficulty could be a late winter snow storm, but the trip seems worth the chance. This newsletter has a form for your use should you wish to enroll. Please send the form to Keith Fahrni.

The three MDD field trips concluded in October were all oversubscribed by at least 100%. They all also had good luck with the weather. Let's hope such luck continues.

V.F. Hollister
Chairman

PUBLICATIONS: A Proposed MDD Guidebook Series

Progress in the development of a MDD Guidebook Series continues under the stewardship of a new Editor-in-Chief - A.J. Sinclair of the University of British Columbia has replaced recently retired Dave Strong of Memorial University. Dave's enthusiastic and thorough groundwork has provided a substantial base on which to build. At present we are considering three guidebooks for publication dealing with the Noranda camp, Highland Valley camp and a selection of mineral deposit types across the southern part of the Canadian cordillera.

Details of the format for the Guidebook series are not finalized but the results of many ad hoc meetings of MDD executive members over the past year have led to a reasonably good idea of what we would like to see as a final product.

1. A high calibre of content to include (a) a district overview, (b) detailed mine descriptions (c) field log for critical geological stops. Some leeway in actual structure depending on individual camps and authors.
2. Format - (a) 8½" x 11" standard format to allow for ease of publication across the country.
(b) Possible loose leaf format to permit update by sections.
(c) Special covers (plasticized) to provide protection during field use.
3. A formal review board to ensure a consistent high calibre of content. Some final decisions will have to be made in the near future on such things as (a) cover design, (b) financing (perhaps in part by pre-sale), (c) will we include coloured photos and/or coloured maps, etc. Many of the decisions relate very directly to finance and several approaches to this problem are being considered at the moment. Furthermore, our decisions must be totally consistent with the publication policy of our parent body and a formal presentation will be made to G.A.C. council in the near future regarding our hopes for the MDD Guidebook Series. With luck we hope to be in publication during 1982.

EXECUTIVE NOMINATIONS

The Nominating Committee of the MDD welcomed nominations for all positions on the Executive Committee, i.e. Chairman, Vice-Chairman, Secretary, Treasurer, Program Chairman and Publications Chairman. In addition, three Directors will be elected in 1982. Nominations should be supported by three MDD members. Only with the active participation of the membership can we be assured of a good Executive. Please send nominations to Dr. K.M. Dawson, Chairman, MDD Nominating Committee, Geological Survey of Canada, 100 West Pender Street, Vancouver, B.C., V6B 1R8.

MINERAL DEPOSITS RESEARCH: An open letter to the mineral industry

Dear Friends,

As some of you are no doubt aware, I have expressed concern, in several submissions to this newsletter, about the status of Canadian mineral deposits research. This concern was prompted by, among other factors, the downward-trend in discovery rate of certain commodities and/or deposit-types. It was also prompted by comments from members of your community expressing a degree of uneasiness regarding the nature and direction of such research in the country. To quote a recent letter from one of your members "...too much money has been wasted...in projects which did not have the remotest chance of yielding useful conclusions which might guide the search for economically exploitable ore". While several counter-arguments could be marshalled against the latter opinion it, taken together with the slowing-down in discovery rate, must be regarded as a clear signal for a new thrust in mineral research.

Many of you are aware of my proposal to create a Mineral Deposits Research Centre (MDRC) in Canada. Since the proposal was first circulated last February, I have received many comments from members of your community. Reaction has ranged from -10(con) to +10(pro). The concerns expressed most commonly by industry are two-fold: 1) the MDRC would become a dead-end government bureaucracy; 2) the research undertaken would tend to be "ivory-towerish" and not industry-oriented. Both concerns are squarely addressed in the MDRC proposal and revolve around the concept of PARTICIPATION. Industry participation in a non-government, wholly research-oriented centre would, I submit to you, put to rest both of your concerns. MDRC could provide the vehicle by which industry would directly influence the nature and direction, such as government and universities do now, of mineral deposits research in Canada. Participation, as outlined in the MDRC proposal, could take three forms: 1) actively taking part in the selection of your staff in research projects; 3) funding. Each of these forms of PARTICIPATION is briefly documented below.

1. Selection of research projects

As outlined in the MDRC proposal, an Advisory Council, consisting of a mix (50% industry?) of university, industry, and government representatives would provide broad guidelines to MDRC's research efforts. As you are well aware, the mineral industry of 1982 contains a large number of highly-educated, highly-motivated individuals who have earned the respect of their more academic peers and who are perfectly capable of offering good sound advice to a research centre. Dick Hutchinson (Univ. of Western Ontario) also advocated more industry participation in research direction when he stated "...industry may be capable of more direct action and of more efficient choice than government in selecting projects" (Can. Min. Jour., April, 1981, p. 40). A high level of enthusiastic and committed industry participation of this type would go a long way toward fending off development of an "ivory tower" trend in the research centre.

2. Direct involvement in research

Provision was made in the MDRC proposal to encourage a significant number of visiting scientists at the Centre. Visiting scientists from industry would, of course, be welcomed but, recognizing that you may not be able or willing to afford a prolonged absence of your key staff member(s), other forms of direct involvement can be envisaged. For example, although the actual research might be done by a permanent MDRC member, one of your staff could be designated (by you) as "Principal Supervisor" or some such category. This designated person would remain at his work place in your company but would stay in close contact with the direction and rate of research progress of an individual project. Another possibility is to agree to a commitment of, for example, a mine geologist to a particular research project. This geologist would participate in preliminary discussions regarding the objectives of the research, would alert the MDRC investigator to new sampling opportunities as new headings were developed at the mine, would participate in regular progress reviews, etc. Once again, direct participation by a committed industry individual could do much to keep research from straying into esoteric fields.

3. Funding

A question frequently raised by your colleagues is "Why should industry fund a research centre when we pay our share to the government in taxes?" This position cannot be defended. You know as well as I that monies, once paid as taxes, are thereafter regarded as government monies, not yours. The money is, in effect, "laundered" and neither you nor I are capable of turning over tax money with strings attached as to how we want it spent. There is no guarantee that any of your tax money will go into the type of mineral deposits research you want. What you can do, however, is divert that money directly to mineral deposits research before it's paid to the government. The Income Tax Act allows contributions to research to be tax-deductible. The regulations are well laid out in Revenue Canada's Interpretive Bulletins No. IT-151R2 (Scientific Research Expenditures and Allowances) and IT-439 (The Meaning of Scientific Research). While recognizing that, because of the vicissitudes of industry's capability to wholly support a research centre, partial support through participatory funding of individual projects, or general grants to the centre, is an obvious form of industry participation with the objective of influencing Canadian mineral deposits research via an MDRC.

In conclusion, then, creation of an MDRC, wholly committed to carrying out basic research to better serve the mineral industry, would provide a unique vehicle by which industry could participate, in many ways, in mineral deposits research. You would, therefore, no

longer have to feel that somebody else was doing your research for you and you were on the outside looking in with little or no opportunity to influence the nature and direction of research to suit your perceived needs. The consequences of your not PARTICIPATING in mineral deposits research is, as you have pointed out, a decrease in relevancy of such research to your needs. Unless you will continue to be content to complain from afar, I submit that mineral deposits research needs your PARTICIPATION and an MDRC would provide you with an unique opportunity to do so.

Respectfully,

D.F. Sangster
Room 699
601 Booth Street
OTTAWA, Ontario
K1A 0E8

P.S. Copies of the MDRC proposal may be obtained by writing to me at the above address.

DUNCAN R. DERRY MEDAL: Call for Nominations

J. Alan Cooper, Chairman of the Award Committee, is seeking nominations for the outstanding economic geologist who has made major contributions to the science of economic geology in Canada. Nominees should preferably, but not necessarily, be members of GAC and MDD. Nominations should be made by three MDD members, either jointly or separately, and supported by relevant biographical data. Please submit nominations before January 31, 1982 to J. Alan Cooper, Newmont Exploration of Canada, Ste. 2840 Commerce Court West, Toronto, Ontario, M5L 1E

At a MDD Executive Meeting in Vancouver, November 15, official approval was given for a copy of the Duncan Derry Medal to be lodged in the GAC public archives. Accordingly, the GAC was invoiced \$50.00 to cover cost of the nickel medal, the gold plating and part of the design and die cost.

FINANCE: Probable Increase in MDD Dues

At the November 15 Executive Meeting, Treasurer Al Sinclair reported that the Division is in fair shape financially, with about \$2900 in the bank. However, the MDD Guidebook Series will incur substantial pre-publication expenses, some of which must be borne by the Division. Increase in postage also will place a strain on MDD finances in 1982. A modest increase in dues is being considered for 1982, the exact amount to be determined when the 1982 financial position is better known.

FIELD TRIP REPORT: MDD Field Trip on Mineral Deposits in Granitoid Rocks of the Canadian Appalachians

The mineral deposits division of the GAC sponsored a successful field trip on mineral deposits in granitoid rocks in New Brunswick and Nova Scotia. Field trip leaders were Dr. Art Ruitenber of the New Brunswick Department of Natural Resources and Drs. Duncan Keppie and A.K. Chatterjee of the Nova Scotia Department of Mines.

On October 5, field trip participants arrived in Fredericton. During the evening, Art Ruitenber provided a lecture on his favoured topic: tin-tungsten-molybdenum and antimony deposits in New Brunswick and their relationship to Appalachian tectonic evolution.

Early the following morning the group proceeded to the Lake George Antimony Mine (Consolidated Durham Mines and Resources Ltd.) for an underground examination of the vein system. The mine geologist, Charles Morrissy also provided an excellent display of representative drill cores of the recently discovered scheelite-bearing zone in a granite porphyry and a related skarn. During the afternoon, the Mount Pleasant tungsten-molybdenum-tin deposit (Billiton Canada Ltd. was visited. The mine geologist, Gustaaf Kooiman, provided a very interesting talk on mineral zonation in the fire tower deposit. This was followed by a discussion on mining methods by mine engineer Steve Braithwaite. Art Ruitenber then took the group on a surface tour to show the relationships between major rock units, alterations phases and mineralized zones in the Mount Pleasant sub-volcanic complex, which he first mapped during 1963-1964. During the evening the group stayed in Saint John, where A.K. Chatterjee gave an interesting talk on the petrology and petrochemistry of the East Kemptville granite rocks and associated tin-bearing greisen deposits. Duncan Keppie then summarized his latest ideas on the plate tectonic history of the Nova Scotia Appalachians, which initiated a lively discussion.

On the morning of October 7 the group boarded the Bay of Fundy ferry to Nova Scotia where the East Kemptville tin deposit, owned by Shell Canada, was visited. Mine geologist Paul Sinclair summarized the geology and exploration history and led a tour to a large trench that provided an excellent section across the tin-bearing greisen zone. The night was spent in Shelbourne where A.K. Chatterjee provided a well documented talk on the Millet Brook uranium deposit.

The following morning, the trip proceeded to the Millet Brook uranium deposit, where the mine geologist, James Robertson provided a summary of the local geology and possible genesis of the deposit. This was followed by a detailed examination of several uranium-bearing fracture zones in intensely altered megacrystic granite. The more daring participants then proceeded to load their pockets and numerous plastic bags with the attractive yellowish and bright green uranium phosphates autinite and tourbernite. In the afternoon, most field trip participants were dropped at the Halifax International Airport from where they proceeded to various destinations across Canada and the United States.

J.A. Garnett

MDD SYMPOSIA: Two Big Ones for Winnipeg '82.

Mineral Deposits of the Proterozoic

A symposium on mineral deposits of the Proterozoic will be sponsored by MDD during the GAC Winnipeg May 16-19, 1982. Co-convenors George Gale and W.D. McRitchie have organized two sessions that will deal with mineral deposits and metallogeny of the Southern Province and the southern part of the Churchill Province in Manitoba and Saskatchewan. These sessions will be followed by a session devoted to the metallogeny of selected areas, e.g. Arizona - New Mexico, southeast Newfoundland and Ungava. At the time of writing the convenors are still awaiting confirmation of several potential speakers and therefore can still accommodate contributions from members, especially in areas such as Ungava and the Labrador Trough. A field trip to examine the setting of various mineral deposits in northern Manitoba is scheduled immediately after the meeting. For further details contact George Gale at 204-633-9543.

METHODS OF PREDICTIVE METALLOGENY

A panel discussion co-sponsored by the Provincial Geologist Committee and the MDD will occupy either one morning or afternoon session at Winnipeg 1982. Co-convenors Athol Sutherland Brown and Geoff Leech have invited the following speakers: D.V. Rundquist of the All Union Institute Leningrad; D.F. Sangster of the G.S.C; G.W. Mannard of Kidd Creek Mines, DeVerle Harris, University of Arizona; R.J. Cathro of Archer Cathro and Associates and J. Boldy of Placer Developments will offer discussion.

Dr. Sangster will review methods of predictive metallogeny with emphasis on G.S.C. methods of deposit modelling; Dr. Rundquist is a proponent of an all embracing system of terrain evaluation and target selection for all types of deposits. George Mannard is not a believer in wholistic systems and may propose alternatives. Bob Cathro has applied genetic models of stratiform shale-hosted Pb-Zn-barite deposits to exterior areas of the northern Cordillera. Ample opportunity for discussion from the floor will be offered.

9th INTERNATIONAL GEOCHEMICAL EXPLORATION SYMPOSIUM

The Association of Exploration Geochemists and the MDD are co-sponsoring the symposium which will be held at the Centennial Auditorium, Saskatoon, Saskatchewan May 12-14, 1982, immediately preceding G.A.C. Winnipeg '82.

Special sessions will include geochemical exploration for uranium, hydrocarbons and geothermal energy, and the role of litho-geochemistry in exploration. At least one day will be devoted to uranium related topics. Field trips have been arranged to the Thompson Nickel Belt, Flin Flon, Yellowknife - Pine Point, Stillwater Complex - Yellowstone Park - Butte, and a potash mine in the Saskatoon area.

Further information may be obtained from 9th IGES Organizing Committee, Box 1971, Saskatoon, Saskatchewan, S7K 3S5, Canada.

VICTORIA '83

Chairman Vic Hollister had recently responded to a letter from A. Sutherland Brown with the following suggestions for MDD symposia at the 1983 G.A.C. Annual Meeting in Victoria, B.C.:

- a) 'Gold deposits of the Canadian Cordillera', to be convened by A. Panteleyev and co-sponsored by the G.A.C. Cordilleran Section.
- b) 'Tin and tungsten deposits of the Canadian Cordillera' convened by K.M. Dawson & J.A. Coope
- c) "Deep ocean mineral deposits", convenor yet to be determined.

Additional suggestions for MDD symposia are welcome, and the convenors of the above symposia invite suggestions for papers.

FIELD TRIP TO COPPER MOUNTAIN AND GREENWOOD, B.C.

Please return to: Keith Fahrni
Ste. 809 - 626 West Pender Street
Vancouver, B.C.
(687-1022)

Name _____

Address _____

Telephone _____

Enclosed is a cheque for \$96.00 payable to the Geological Association of Canada

(signature)

OTHER MEETINGS OF INTEREST

GAC Cordilleran Section Annual Symposium: Rocks and Ores of the Middle Ages

Time: Thursday and Friday, February 18-19, 1982

Place: Holiday Inn, 1133 West Hastings Street, Vancouver, B.C.

Scientific Program: 9:00 a.m. February 18 to 5:00 p.m. February 19

The 1981-82 symposium will have the theme Geology and Mineral Deposits of the Canadian Cordillera from Carboniferous through Lower Cretaceous. The meeting will be held at the Holiday Inn, Harbourside in Vancouver, on Thursday and Friday, February 18 and 19, 1982.

Registration will be \$45 for members who preregister as per the enclosed registration form. Not all talks have been finalized and titles are subject to change but some of the highlights of the meeting will be:

- J. Monger - Overview of Carboniferous to Lower Cretaceous Tectonics - Progress and Problems.
- E. Danner - Mesozoic Sedimentation, Plate Tectonics and Sedimentary Mineral Deposits of SW B.C. and NW Washington.
- T. Schroeter and A. Panteleyev - Epithermal mineralization of the Toodoggone Ag-Au camp.
- V. Preto and P. Schiazza - Eagle Bay Stratigraphy.
- C. Potter - Structural and Metamorphic History and Tectonic Significance of the Bridge Bridge River Group.
- G. Ray - Hope - Coquihalla Gold Belt.
- M. Bustin - Late Jurassic - Early Cretaceous Coal Deposits of B.C. and Adjacent Areas of Alberta.
- M. Orchard - Practical Use of Conodonts.
- S. Dykes, H. Meade and A. Galley - Geology of the Big Missouri Deposit with Reference to Premier Silbak (new since the CIM).
- C. Godwin - Galena Pb Isotope Analysis of Cretaceous Ag Veins and their Significance to Exploration.
- H. Tipper - Jurassic - Lower Cretaceous ammonite results.
- D. Stott - Record of Late Jurassic - Early Cretaceous Foredeeps in the Foothills of the Northern Rocky Mountains.
- W. McMillan - Porphyry Copper - Molybdenum Deposits of the "Early Middle Ages" in the Canadian Cordillera.
- G. Peatfield - Porphyry Copper-Gold Deposits of the "Early Middle Ages" in the Canadian Cordillera.
- R. Armstrong - Mesozoic Igneous Activity in the Canadian Cordillera-Synthesis Geochronometric Data with Plate-Tectonic Implications.

AND MORE

For registration forms and further information contact: Dr. J.E. Armstrong, Secretary
GAC Cordilleran Section
Geological Survey of Canada
100 West Pender Street
Vancouver, B.C. V6B 1P8
Telephone: 604-666-1041

Two-Day Final Symposium of CCSS Project to be held in Ottawa, Canada, fall of 1983.

Pre- and post-symposium field trips planned for New Brunswick, Vermont and Massachusetts (details to be announced later).

Submissions reporting research on stratabound sulphide deposits and their immediate host rocks in the Caledonian-Appalachian orogen are invited for presentation at this Symposium. Papers will be published shortly after the meeting in a single issue of ECONOMIC GEOLOGY. Priority on the Symposium programme will be given to those papers accepted for publication in the Symposium issue.

Deadlines:

- April, 1982: Titles of proposed manuscripts received by CCSS editor
- Oct 1, 1982: Manuscripts received by CCSS editor
- June 1, 1983: Completion of revisions after technical review; transmittal of final manuscripts to journal; assignment to Symposium programme
- July 1, 1983: Titles and abstracts of papers intended for oral presentation only received by CCSS editor; inclusion in Symposium programme dependent on available space

CCSS editor: Mr. Jack Gair
U.S. Geological Survey
954 National Center, Reston, VA 22092
U.S.A.

SEG SYMPOSIUM ON UNCONVENTIONAL MINERAL RESOURCES

Dedicated to Eugene Cameron, the sessions will be held during the AIME/SME/SEG meeting in Dallas, Texas February 15 and 16, 1982. Also, on the program will be the SEG Distinguished Lecture by Pentti Rouhunkoski, Chief Geologist, Outokumpu: 'On exploration in Finland'.

A pre-symposium field trip to uranium deposits of south Texas is planned; contact Alan V. Shaw (SUNOCO), 12700 Park Central Place, Suite 1500, Box 9, Dallas, Texas 75251 (214) 385-5041.

A short two-day course on geophysics for geologists designed to update exploration geologists, particularly senior personnel, is planned: contact David Campbell, USGS, Box 25046, Mail Stop 964, Denver, Colorado 80225 (303) 234-3676.

GAC Cordilleran Section

Lectures 1982

All meetings will be at 4:00 p.m. at the Robson Media Centre, 800 Robson Street. These meetings are free to all persons regardless whether they are members of the Cordilleran Section, GAC. The scheduled lectures are as follows:

- Thursday, January 7 4:00 p.m. Robson Media Centre
Speaker: Rein Tirrul, University of California
Subject: Geology of the Sistan Suture Zone of Eastern Iran
- Thursday, January 21 4:00 p.m. Robson Media Centre
Speaker: Katherine Sullivan, Astronaut, NASA,
Johnson Space Centre, Houston, Texas
Subject: The Columbia Space Shuttle and Planetary Geology
- Thursday, February 4 4:00 p.m. Robson Media Centre
Speaker: H. Williams, Memorial University
Subject: Appalachian Suspect Terranes: A New Look at the
Development of the Orogen
- Thursday, March 4 4:00 p.m. Robson Media Centre
Speaker: H. Grand, University of B.C.
Subject: A Model for the Origin of Chromite Deposits in the
Joesphine Peridotite of NW California and SW Oregon
and
Speaker: B. Cooke, University of B.C.
Subject: The Geology of a Tungsten Skarn Prospect Near
Cassiar, B.C.
- Thursday, March 18 4:00 p.m. Robson Media Centre
Speaker: B. Bally, Rice University
Subject: A Comparison of some Folded Belts
- Thursday, April 1 4:00 p.m. Robson Media Centre
Annual General Meeting to be followed by lecture
Speaker: R. MacQueen
Subject: Organic Geochemistry and Ore Deposits.

Proceedings of the Gold Workshop, Yellowknife, N.W.T., December 3-7, 1979, 354 p.

This volume, consisting of 14 papers edited by R.D. Morton is available from the Yellowknife Geo-workshop Committee, Box 2397, Yellowknife, N.W.T. Cost is \$10.00 Can. + shipping (2.50 surface, 5.00 air). Any profits from the sale will be used to fund workshops and field trips in the N.W.T.

University of Toronto - Department of Geology Seminars - January 1982

All seminars will be held in the Mining Building, 170 College Street, Room 202

- January 7 Thursday 4:00 p.m.
Dr. A.C. Lenz - Department of Geology, University of Western
Ontario, London, Ontario
"Ordovician to Devonian sea-level changes in western and
artic Canada"
- January 12 Tuesday 4:00 p.m.
Dr. E.D. Appleyard - Department of Earth Sciences,
University of Waterloo, Waterloo, Ontario
"The case for nephelinization in the Haliburton-
Renfrew area"
- January 21 Thursday 4:00 p.m.
Dr. John Reid - Department of Natural Sciences, Hampshire
College, Amherst, Mass.
"Mixed alaskitic and high alumina basaltic magmas in
plutons of the central Sierra Nevada"
- January 26 Tuesday 4:00 p.m.
Dr. D. Sverjensky - Department of Earth and Planetary
Sciences, State University of New York Stony Brook
"Solutions and reactions that formed Mississippi Valley type
ore deposits"

