

# THE GANGUE

*The newsletter of the  
Mineral Deposits Division  
Geological Association of Canada  
No. 24  
Sept 1986*

## R.W. (BOB) HODDER WINS DUNCAN R. DERRY MEDAL:

The Duncan R. Derry Medal is awarded annually by the MDD to a Canadian geologist who has made major contributions to the field of economic geology. The 1986 winner, richly deserving the award, was Professor R.W. (Bob) Hodder of the University of Western Ontario. Bob continues to pursue an outstanding career in the field of economic geology, as a teacher and administrator at the University and as a consultant to industry. He has earned and maintains enormous respect from all who come in contact with him.

Bob was born in Ottawa, and began his university education at Carleton in the general science program. He soon switched to the Queen's geology program (smart man! - Edit.), and went on to receive a doctorate from the University of California at Berkeley, in 1959, completing a study of alkaline rocks and niobium mineralization in the Namegos Complex of Northern Ontario, later published as GSC Bulletin 70.

For the next 12 years, Bob was employed as an exploration geologist for Amax and for Callahan Mining Corporation in Canada, the United States and Peru. As Callahan's exploration manager and later vice-president, he was involved to varying degrees in work that led to the discovery of several significant ore deposits in the US, including:

- the Candelaria and Delamar silver deposits in Nevada and Idaho;
- the Cofer massive sulphide zinc deposit in Virginia; and
- the Penobscot and Bald Mountain polymetallic massive sulphide deposits in Maine.

Since joining the faculty of the University of Western Ontario in 1970, Bob has continued to act as an exploration consultant and has passed his expertise on to a large and growing number of graduate and undergraduate students, many of whom have developed into topnotch mineral deposits geologists in their own right. His academic career continues to be tirelessly devoted to teaching and research, geared toward imparting a better understanding of a wide variety of ore deposits and their generative processes. He is a prolific publisher, having authored or co-authored over two dozen papers related to this work, many of which have become benchmarks for the science.

Bob has served and continues to serve on a large number of committees related to the SEG, CIM and GAC and, despite a heavy administrative load as chairman of the department at Western, he continues to teach and remains approachable by all. He maintains close ties with industry, and organizes numerous field trips to exotic locales, attended by students and industry geologists alike.

Bob is an extremely humble man and professes to be embarrassed by this award. He has spent much time on the giving, rather than receiving, end for various other forms of recognition. MDD is pleased and proud to make this award to Dr. Hodder, and we wish him continuing success in his career as one of Canada's pre-eminent economic geologists.

## Call for Nominations:

Nominations are invited for the 1987 Duncan Derry medalist. Candidates should preferably be members of GAC and preferably, but not necessarily, members of MDD (and if the winner is a member of neither, she/he soon will be! - vide Mike Knuckey - Edit.)

Nominations for the medal are to be made by three members of the MDD, either jointly or by independent submissions. Nominations should be supported by an introduction to the candidate, a summary of the candidate's accomplishments in economic geology, a curriculum vitae, and any other information or attachments that will supplement and enhance the presentation. Candidates should be recognized for their skill and stature as professional economic geologists, and also by their public contributions to the science. It is acknowledged that publication is the prime but not the only method of spreading scientific information in any discipline.

Nominations should be sent to the Chairman of the Selection Committee, who is the current Vice-Chairman if the MDD. Nominations for 1987-88 should be sent to:

J.M. Morganti  
Placer Development Ltd.  
401 Bay Street  
Suite 2600  
Toronto, Ontario  
M5H 2Y4

## THE GANGUE - BUSINESS ADDRESS:

In order to clear up some confusion obviously existing out there in MDD ranks, the address of The Gangue is:

Giles R. Peatfield  
Editor, The Gangue  
c/o MineQuest Exploration Associates Ltd.  
201-311 Water Street  
VANCOUVER V6B 1B8  
(604) 669-2251

LETTERS TO THE EDITOR:

Dear Sir:

I have been actively working on the field, mineralogical and geochemical aspects of gold deposits associated with Archean greenstone-granite complexes of Dharwar Craton of India, to understand the genetic relation between Archean volcanic processes and ore forming processes and to develop genetic models for successful exploration of Archean metallic mineral deposits.

I understand and am very much impressed by the research of GAC/MDD and therefore I would like to interact and exchange my research results on Indian ore deposits with GAC scientists.

Sincerely  
Dr. Neelam Siva Siddaiah  
Precambrian Research Group  
School of Environmental  
Sciences  
Jawaharlal Nehru University  
New Delhi - 110 067 INDIA

Dear Sir:

Having had the good fortune to participate in all phases of research from pure basic research, mineral deposits research, more directed exploration research and exploration (the ultimate application of research), perhaps I can comment on Don Sangster's January feature article. Don may have been disappointed with the lack of response to his earlier series of articles. This is not surprising since Don is one of those rare clear thinkers who tends to "say it all". But to stir Canadians to any discernable movement is a major accomplishment, and recent initiatives in Canada are something for which Don deserves no small measure of credit.

First some brief comments on where economic minerals-related research is done in Canada. Some excellent work is done in the universities, but it is sporadic, depending upon the all too rare confluence of a brilliant student, prescient supervisor, and challenging problem (in these situations funding is rarely a problem). Some good work is also done by federal and provincial geologists, but in many cases I believe their employers have principal objectives other than mineral deposits research. Provincial research councils, as with the surveys, must work within nongeological boundaries for the most part, and depending on leadership, their research efforts are often fragmented rather than team efforts where rewards can be so much greater. Unfortunately, to my knowledge the National Research Council does not undertake mineral deposits research. Mining company research is mostly metallurgical, although Falconbridge, Inco, and occasionally Cominco, have done valuable deposits and exploration research focused on corporate problems, but results are seldom published. Other companies support outside research but many are non-Canadian and usually do not fund research in Canada. Finally, in those mineral corporations owned by governments, it was my perception that leading exploration research was done by SOQUEM during the sixties, and it was published in detail, but for some reason the work was discontinued. The Saskatchewan Mining Development Corporation did innovative exploration research in the eighties. Although much of their work is unpublished, through the medium of joint ventures many of the techniques were disseminated and widely applied by the industry, especially in Athabaska Basin exploration. But as with other companies controlled by economists, priorities soon shift to activities with a shorter payback than research.

It was my pleasure to be involved during the mid-late sixties in discussions with Roger Webber at McGill University concerning formation of the Mineral Exploration Research Institute. Joining forces with Roger Blais and Guy Perrault at Ecole Polytechnique the joint institute IREM/MERI was founded. The model, or more correctly I should say "the dream", was the Pulp and Paper Research Institute in Montreal. It is well funded by most of the pulp and paper companies in Canada and has served that industry well. There is a greater commonality of products, raw materials and problems than in the mineral industry. Unfortunately, IREM/MERI has seldom been well funded, but at least the research has focused on mineral industry problems perhaps due to a governing board heavily weighted with industry people.

To conclude an already too long discussion, we must unite to secure greater funding for mineral exploration research (of which mineral deposits research is a part) in Canada, or we will not survive in an increasingly competitive world. I believe that funding should come mostly from industry, with offsetting tax advantages. All results should be made public but with a limited time advantage to supporters. Two or three research institutes may be required as a geographic requisite. Their direction should be strongly influenced by industry. The work should be closely tied with universities to spread both work and benefits, and links with research councils, even NRC, should be investigated. Often we have too little co-operation between research and teaching organizations so our efforts are diluted. In some states, such as Idaho, the state survey and the university geology department are in the same building and are often the same people with joint appointments. In such ways, co-operation and efficiency in exploration research can be achieved. I emphasize applied research. Basic data are required as building blocks, but insofar as is possible, let the richer countries support that work. Canada is a small economic unit. We are uncomfortable with the "hewers of wood and drawers of waters" image, but we cannot use all these mineral resources so let us direct our research to support the mineral industry role we are destined to fill.

Very sincerely,  
Lloyd A. Clark

LOGO CONTEST:

MDD needs a logo, for letterhead, publications, etc. An informal contest to design such a logo has been called for, and in this edition of The Gangee we publish several tentative proposals. We are keen that the membership come up with some more and submit them, via The Gangee, for judging by the MDD executive. Ideally, the logo should contain the GAC emblem in some form, and should be simple and bold for printing purposes. The winner stands to win "fame and fortune", although how much of either has not been made wholly clear!

JUST A THOUGHT:

Some years ago, I had occasion to read a ratherly elderly Bulletin of the Nevada Bureau of Mines ("Geology of the Candelaria District, Mineral County, Nevada", by Ben M. Page. Bulletin 56, 1959). Apart from its intrinsic interest, I found it to be written in a delightful style. One sentence in particular caught my eye. In describing the obscure character of parts of the rock complex of Pickhandle Gulch, Page (p. 24) admitted, with disarming candour, that "A good deal of debatable interpretation is unavoidably mingled with the following descriptions." I suspect that most of us could benefit from thinking about that statement.

Editor.

## PAST FIELD TRIPS:

### MDD Adventures in Iberia:

"The afternoon of the 14th April, 1986 found 33 Canadian and 2 French geologists aboard a bus bound from Lisbon to Santiago de Compostella. This illustrious group was somewhat similar in composition to previous MDD field trips, with an embarrassing preponderance of B.C. geologists (25), many of whom had lived through previous field trips and for some reason wanted to subject themselves to another. We also had with us four persons from Ontario, two from Yukon, one each from the Northwest Territories and New Brunswick and two from France. Of these, fourteen were employed by industry majors, sixteen were consultants or employed by juniors, three were Government geologists and last but definitely not least, one was a University professor who felt duty bound to keep our intuitive hypotheses on ore genesis within the realms of scientific credibility.

After a pleasant journey through northern Portugal, we got lost close to the Spanish border around ten o'clock in the evening. The main reason for this was that our ace back seat navigator, Ken Daughtry, has committed the unforgivable sin of falling asleep over his map. Other factors which contributed to the confusion were the refusal of Rodriguez, our driver, to understand our perfectly good English and the peculiar bilingual road signs which always had one of the languages obliterated. We later found out that Spanish had been deleted, leaving 'Gallego' (a Gallic language peculiar to this part of northern Spain) which was as unintelligible as English to Rodriguez. Eventually we arrived in Santiago de Compostella just in time for an early morning snack. We were delighted to meet up with Bruce Winfield, who had carried out much of the organizational work for the trip from his base in Spain.

The following day, we visited Rio Tinto Miner's Arinteiro (10 mt 0.7% Cu) and Bama (20 mt of 0.5%) disseminated copper deposits. These mines are open pit and are located 20 miles east of Santiago. The deposits are hosted in highly deformed, poly-metamorphic ophiolitic metabasic rocks containing some chemical sediments of Paleozoic age. The host rocks are overlain by a metapelitic assemblage and underlain by a gabbro. The ore zone forms a 20-80m thick layer which dips at 25 degrees parallel to the foliation. Mineralization consists of disseminated chalcopyrite in a matrix composed of almandine garnet, gedrite and quartz. Ore zones are enveloped by a 10m layer of garnetiferous amphibolite. It is important to note that elsewhere in the area, metabasic rocks host small bodies of massive pyrrhotite + pyrite + chalcopyrite + sphalerite. The general conclusion on the genesis of the Galician copper deposits is that they represent flattened, sheared and metamorphosed stockwork/alteration systems associated with volcanogenic massive sulphide lenses in a Cyprus type setting. Exploration parameters include presence of metabasic rocks, identification of garnetiferous amphibolites and presence of cupriferous sulphides.

After the mine visit, our motley crew descended upon a small restaurant in the town of Touro. Initially it looked as though service would be very slow, but after 15 minutes it became apparent that the woman in charge had mobilized the whole village into catering for us. Kids rushed out on errands to the baker, butcher etc., grandparents were busy in the kitchen, and trusted regular customers were put behind the bar. Within an hour we were very well wined, fed and aboard the bus bound for the ancient walled city of Luego. Fred Felder provided a learned discourse on the local geology and culture en route and proved to be a mine of information regarding the location of wine cellars and restaurants in Villa Franca, where we spent a convivial evening.

Next morning found us waiting in a line up outside the local police station to report the theft of two suitcases. Wim Groeneweg performed an admirable translating job and before long we were on our way to the Rubiales ZnPb mine. We got a little bit lost and became stuck under a low bridge, but Ken Daughtry, now wide awake, soon found the main road and we arrived at Rubiales in a snowstorm.

The Rubiales Mine is operated by Exminesa, a company owned 48% by Cominco Ltd. Mineralization is hosted in a shear zone in the lower Cambrian Transition series, an assemblage 600m in thickness and grading from basal green slate to interbedded limestone, dolomite and green slate in the upper part. The 100m wide shear zone occurs on the eastern limb of an anticline and is characterised by tight folds, a penetrative schistosity in slates and reduction in thickness of rock units on fold limbs. The ore body occurs in the centre of the shear and has approximate dimensions of 1000m (strike), 600m (depth) and 30m average thickness. Limestone units are brecciated and preferentially replaced by quartz, sphalerite and galena. Slates contain veins parallel to schistosity or bedding. Minor barite, fluorite, chalcopyrite, pyrrhotite and pyrite are also present. The best grades are concentrated at the intersection of the shear zone with a fault, angled at 18 degrees to the shear zone. There is a gradual fall off in Zn and Pb grades away from this core zone. Mining rate is 960,000 tons per year. Approximate reserves are 8.6 million tons of 7.0% Zn and 1.2% Pb. Some of this tonnage, however, may be difficult to mine because of poor ground conditions.

In the past, the origin of this deposit has proved to be controversial, with remobilized syngenetic and hydrothermal models holding sway at different times. The mine staff and many of the geologists on the trip seemed reasonably happy with the hydrothermal model.

The Rubiales hospitality came to a climax during the lectures which followed the luncheon. Towards the end of the talks the door swung open and two sturdy Spanish ladies carried into our midst a flaming cauldron to which they proceeded to add assorted highly flammable liquids. The added warmth was welcome in the cold room and when we were given the fiery brew to drink our insides warmed also. The lecture was followed by animated discussion and then we headed north to Ribadeo, a small village in the northern coast of Spain.

On the following day, we met two Anglo-American geologists who took us on a tour of the Salava gold prospect. This prospect was originally mined by the Romans who excavated between three and five million tons of rock from two pits. The Romans may have mined a zone of residual enrichment with grades of 4 or 5 times the primary grade. The gold mineralization occurs close to the hornfelsed western contact of a granodiorite (Kar 285 Ma) in a series of west dipping en echelon sub-parallel lenses with average size 75 X 75 X 30m. These lenses occur in the granodiorite parallel to the foliation in the overlying metasediments and have a mineralogy consisting of albite + carbonate + sericite + quartz carrying 2-5% sulphides (pyrite, arsenopyrite, stibnite and molybdenite). This rock type is considered to be a product of hydrothermal alteration of the granodiorite and has been called 'hongo' rock in the past because it was formerly thought to have a mushroom like shape similar to porphyry copper/molybdenum alteration systems. However it is now known that the lenses have no obvious feeder systems. The gold grain size is in the 2-200 micron range and occurs alone or is intergrown with all of the sulphides except stibnite. Almost 90% of the Au mineralization occurs in 'hongo' rock. Reserves are approximately 20 million tonnes of 1.8 g/t of 5-10 million tonnes of 3-5.5 g/t.

The origin of the mineralization appears to be related to a residual fluid which existed during the late stages of solidification of the granite. The Salava prospect was of special interest to the porphyry experts in our midst who saw in the property a possible Cordilleran exploration target.

After the field visit, Anglo-American hosted a memorable seafood luncheon and then we boarded the bus for a long drive along the Cantabrian coast to Santillana del Mar. This first part of the trip we all found to be very hectic and definitely not for those without sufficient endurance. The bus drives were made more enjoyable by going out of ones way to sit beside a different person each day, presence of a bar on the bus, informal talks and discussions and of course, the marvellous scenery.

Friday morning found us at Asturiana del Zinc's Reocin mine located 30 km south of Santillana on the south-eastern flank of a syncline. Lead, zinc and pyrite mineralization is hosted in three stratigraphic levels of a 40m thick dolomitized reef located near the top of the Aptian stage (mid-Cretaceous). Mineralization extends for 3.5 km along strike and 700m downdip: the average thickness is 12 to 25 m. Ore bodies are stratiform of lenticular and all show a thickening in the vicinity of faults. Open pit and underground reserves are 32.5 million tonnes of 10.6% Zn and 1.5% Pb. The mining rate is 1.3 million tonnes per year.

Most North American geologists would consider the Reocin mineralization to be of the Mississippi Valley type and would favour an epigenetic origin. However, some authorities on the geology of the mine favour a syngenetic origin because of the presence of predictable stratigraphic control, thin ore bearing marly beds, sedimentary microstructures involving ore minerals and evidence for soft sediment deformation structures in mineralized beds.

At the end of the visit, Asturiana hosted a buffet style luncheon situated adjacent to an excellent display of drill core. In the course of our meal, each person in our group was presented with a mounted specimen of drill core as a memento of the visit. Most of the mine staff were present and the convivial gathering came to an end all too soon when we boarded the bus for Madrid.

The bus journey south to Madrid was not uneventful. The scenery across the Cordillera Cantabrica was spectacular and in sharp contrast to the rolling plateau which constitutes central Spain. Great excitement was generated as a result of a sweepstake organized to estimate our time of arrival in Madrid. The estimates ranged between 7:15 p.m. and 11:30 p.m. and we were due at the Canadian Embassy at 9:00 p.m. Towards 6:00 p.m. it became obvious that Gwen Ditson the supreme optimist in our midst stood a good chance of winning the prize. At this point, all sorts of nefarious schemes were being attempted to slow down the progress of the bus: but they were to no avail. Rodriguez refused to be influenced and the bus screeched to a halt in front of our hotel at 7:15 p.m. on the dot.

The first half of our Iberian trip ended with our arrival in Madrid. The bus journeys had been long, the weather sometimes uncooperative and the schedule tight. These discomforts, however, soon fade from our memories when we think of the warmth of our welcome at the various mines we visited and the variety of mineral deposit types we saw. Without the cooperation of the Spanish mining companies, geologists and engineers trips such as these would not be possible. We are extremely grateful and hope that we can return the hospitality some day in the not so distant future.

The second and final installment of the chronicles relating MDD adventures in Iberia will follow in the next issue of The Gangee.

Ian Paterson.

#### Mineral Deposit Field Trip - Southern B.C. - 1986:

Between April 26 and May 10, 1986, the Department of Geological Sciences, University of British Columbia ran their third edition of their perennially impressive field trip to visit several mines and mineral occurrences across southern British Columbia, under the able leadership of Colin Godwin. The trip covers a very wide variety of mines and mineralization in the various tectonic belts or terranes of the southern Canadian Cordillera. The trip covers some 5,000 km, and from the look of the itinerary supplied by Colin, there isn't much time to spare.

"Trygve Hoy and Bill McMillan of the BCMEMPR provided excellent framework geology to the many mineral deposits that were visited. Colin Godwin conducted summary discussions on all deposits visited. The trip is particularly exciting because the mineral deposits across this transect of the Canadian Cordillera provide examples of almost all types of deposits because a wide range of tectono-stratigraphic settings occur. It is doubtful if there is anywhere else in the world that offers such diversity so conveniently."

"The trip is successful not only from a geological point of view. It is also an important forum for discussion and exchange of ideas between the mining industry, the university, and the provincial government. Some claim it is also a good party!"

Colin advises that there is a good chance that there will be a re-run of this trip in 1988. All interested parties should contact Colin at UBC.

#### UPCOMING FIELD TRIPS:

##### Brazil - November '86:

Plans are well in hand for the MDD sponsored mineral deposits field trip to Brazil, from 31 Oct. to 15 Nov. 1986. At the time of writing, enough people had signed up to run the trip, but there may still be room for more participants in an expanded group. This trip, which will visit a wide variety of deposits in various parts of the Brazilian Shield, will be led by Dr. Augusto Kishida (Docegeo) and Dr. Joao Batista Teixeira, Dr. Pedro Barbosa de Deus and Prof. Eduardo Ladeira (University of Minas Gerais).

Details of the itinerary, costs and conditions are available from:

Luca Riccio  
Brazil Field Trip Co-ordinator  
1440 Paisley Road  
North Vancouver, B.C.  
V7R 1C3 (604) 980-7352

Anyone interested in getting on this trip should contact Luca as soon as possible to find out whether there is any space left. Costs from Los Angeles - Brazil return are quoted as \$3,150 CDN. Travel to and from Los Angeles and costs for lunches and dinners in Brazil will be extra.

##### New Zealand - Fiji '87:

The itinerary has now been drawn up for the Mineral Deposits Division's New Zealand - Fiji economic geology tour, scheduled from May 6 (arrive Auckland) through May 21 (depart Vatukoula). The first 8 days in North Island will feature: a trip to Waihi mine and gold fields in the Coromandel Peninsula; titanomagnetite beach sand mining operations at Taharoa; a climb of Mt. Tarawera; tour of geothermal and hot spring areas in the Rotorua-Taupo graben (Wairakei, Whakarewarewa, Ohaki); visit to Tongariro National Park.

The 7 day South Island leg includes: traverse of "mineral belt" of the New Zealand Geosyncline; west coast gold dredging operation; visit to Fox and Franz Josef alpine glaciers; alluvial and lode gold workings in Otago; Dun Mountains opiolite belt; Greenhills layered igneous complex; various aspects of coastal geology.

Highlights during the two day Fiji trip will be a tour of the Emperor Mine (Au-Ag-Te) and a look at the late Tertiary Tavua caldera, focus of continued exploration for precious metals.

The exploration and mining industry in New Zealand and Fiji have been most responsive with offers to help facilitate the tour. There will be ample opportunities at various points en route for participants to meet with industry/government/university geologists.

The travel agent, Finlay Travel Ltd., quotes estimated costs (CDN\$) as follows: From Toronto, \$3,405.00; from Vancouver, \$3,061.00 (double occupancy). For more detailed and up to date information, contact either of the trip leaders as follows:

Dr. David Mossman  
Department of Geology  
Mount Allison University  
Sackville, New Brunswick  
EOA 3C0  
(506) 364-2312 office  
(506) 536-1266 home

Dr. Simon Haynes  
Dept. of Geological  
Sciences  
Brock University  
St. Catharines, Ontario  
L2S 3A1  
(416) 688-5550 ext3530  
(416) 892-8538 home

SHORT COURSE:

Ore Microscopy and Fluid Inclusion Analysis - Dec '86:

The third annual edition of this course will be held from Dec. 1 to 3, 1986, at Washington State University, Pullman, Washington. "The course is designed as a practical introduction for exploration and mining geologists. Emphasis is placed on using modern petrographic and analytical techniques to help solve a variety of geologic, mineralogic, and metallurgical problems. The course will also be of value to those who do not intend to do their own analytical work but who wish to better understand the procedures and results of commercial labs or data reported in the literature." More information from:

Dr. Lawrence D. Meinert  
Ore Microscopy Short Course  
Washington State University  
PULLMAN, WA 99164-2812

SEMINARS:

McMaster University, Hamilton:

Tuesday, September 23, 1986  
Dr. Wayne T. Jolly  
Dept. of Geological Sciences  
Brock University

"The Petrology of the Huronian low-Ti tholeiites of the Thessalon Area, central Ontario."

3:30 p.m. (coffee) - Rm. S.S.C.-123  
4:00 p.m. (seminar) - Rm. S.S.C.-102

Tuesday, September 30, 1986

Dr. Miro Ivanovich  
Harwell, U.K.

"Radioactive disequilibrium in rocks at radwaste disposal sites."

2:30 p.m. (seminar) - Rm. S.S.C.-163  
3:45 p.m. (coffee) - Rm. S.S.C.-123

UPCOMING MEETINGS:

GOLD '86:

By the time you receive this newsletter, the major international symposium on the Geology of gold deposits might well be history. The conference, to be held in Toronto from Sept. 28 to Oct. 1, 1986, will consist of numerous technical sessions, poster displays, excursions, etc. It promises to be a memorable meeting, and anyone not planning to attend but who would like further information can obtain it from:

GOLD '86 REGISTRATION  
Suite 1700, 55 University Avenue  
TORONTO, Ontario  
Canada, M5J 2H7

M.E.C.A. CONFERENCE - VANCOUVER:

The Vancouver Section of COGS (the Computer Oriented Geological Society) will be hosting a 2 day conference at the Holiday Inn Harbourside, Vancouver, November 17 and 18, 1986.

Topics to be covered include: Management, artificial intelligence, databases, CAD-AUTOCAD, geostatistics, communications/networking, case histories and remote sensing. A workshop entitled "Camping with your computer" will be part of the meeting. For information regarding the computer conference or COGS membership, please contact:

Bruce Downing  
Newmont Exploration of Canada Ltd.  
Suite 900, 808 W. Hastings St.  
Vancouver, B.C.  
V6C 3A4 (604) 682-6291

BULK MINEABLE PRECIOUS METALS DEPOSITS OF THE WESTERN UNITED STATES:

The Geological Society of Nevada will host a major symposium and field trips on this topic in Sparks, Nevada, April 6-8, 1987. A very full slate of papers, workshops and field excursions are planned, and given the present and increasing importance of these deposits, the meeting promises to be a popular one.

More information from:  
Geological Society of Nevada  
Symposium Committee  
P.O. Box 70218  
RENO, NV 89510

ORLEANS, FRANCE:

From 23-26 April, 1987, the Association of Exploration Geochemists (AEG) and the International Association of Geochemistry and Cosmochemistry (IAGC) will host the 12th International Geochemical Exploration Symposium and the 4th Symposium of Methods of Geochemical Prospecting, at Orleans, France. The technical sessions will include both oral presentations and poster sessions, and will cover such topics as integrated mineral exploration techniques, geochemical prospecting for precious metals, geochemical exploration under extreme climatic conditions (both wet and dry) with emphasis on weathering effects, and recent developments in analytical techniques, data processing, etc. Information from:

The Organizing Committee  
12th I.G.E.S. - 4th S.M.G.P.  
BRGM  
B.P. 6009  
45060 ORLEANS CEDEX 02  
FRANCE  
Telex: 780.258 F Telephone: (33) 38.64.30.08

PACIFIC RIM CONGRESS 87:

The Australian Institute of Mining and Metallurgy (AUS.IMM) will host an international congress on the geology, structure, mineralisation and economics of the Pacific Rim, at Gold Coast, Queensland, Australia from August 26-29, 1987. "This major international congress will bring together from around the Pacific Rim a broad spectrum of geoscientists with knowledge of the geology, structure and orebody development in that area, to provide a total up-to-date understanding from basic mechanics to descriptions of ore bodies, exploration methods and exploration problems. It will provide a forum for geologists from all nations of the region to present their knowledge of the area and its economic potential together with the economic and political realities of their region."

More information is available from:  
C/O AUS.IMM CONGRESS SECRETARIAT  
PO Box 731 Toowong  
4066 Qld.  
AUSTRALIA  
Telephone (International) (617) 371 7900

EXPLORATION '87:

The third decennial international conference on geophysical and geochemical exploration for minerals and groundwater will be held in Toronto from Sept 27 to Oct. 1, 1987. This will be the third in a series of such meetings, following successful conferences in Niagara Falls in 1967 and Ottawa in 1977, and will emphasize the roles of geophysics and geochemistry in exploration. More information from:

EXPLORATION '87  
c/o 222 Snidercraft Road  
Concord, Ontario  
Canada L4K 1B5

FROM THE ANNUAL BUSINESS MEETING - MAY 21, 1986

Chairman's Report:

Lee Barker opened with some comments in new initiatives and recent accomplishments of the MDD which include:

- 1 - Two copies of The Gangue,
- 2 - The Hemlo Guidebook which has now repaid its initial cost, hence we are sharing revenue with the CIM,
- 3 - Publication of the Highland Valley Guidebook,
- 4 - The Yellowknife Guidebook which is well underway,
- 5 - The Ore Deposit Models reprint series which should be available late this year,
- 6 - MDD involvements with the Northern Miner Magazine in their "Ore Horizons" section, and
- 7 - Involvement in the joint CIM-MDD publication.

Sponsored Activities:

With other organizations the MDD had co-sponsored (or was planning to co-sponsor), both financially and technically the following:

- 1 - The Sedimentary Copper Symposium at Ottawa '86,
- 2 - The CAME '86 meeting in Toronto,
- 3 - GOLD '86 - an international symposium on the geology of gold deposits, to be held in Toronto this fall,
- 4 - A field course on structural mapping techniques held at Nelson, B.C. in May, and
- 5 - For Saskatoon '87 and St. John's '88 the MDD has proposals for joint sessions with the CSPG.

Inevitably, many more activities will be suggested and carried out over the coming years. The members at large are encouraged to suggest things they would like to see done, especially if they are willing to volunteer their services. The Gangue will be happy to act as a clearing house for suggestions - Edit.

MDD EXECUTIVE AND COUNCIL:

The 1986-87 Executive of the MDD is as follows:

- |                  |                   |             |
|------------------|-------------------|-------------|
| Chairman         | - Chris Jennings  | - Toronto   |
| Vice-Chairman    | - John Morganti   | - Toronto   |
| Secretary        | - Barry Cook      | - Toronto   |
| Treasurer        | - Al Sinclair     | - Vancouver |
| Publication Chm. | - Pat Sheahan     | - Toronto   |
| Gangue Editor    | - Giles Peatfield | - Vancouver |

Directors 1984-87:

- |               |             |
|---------------|-------------|
| Ron McMillan  | - Toronto   |
| Richard Moore | - Vancouver |
| Trygve Hoy    | - Victoria  |

Directors 1985-88:

- |               |               |
|---------------|---------------|
| Reg Olsen     | - Edmonton    |
| Edwin Gaucher | - Quebec City |

Directors 1986-89:

- |                 |             |
|-----------------|-------------|
| Tom Schroeter   | - Vancouver |
| Esko Parviaenen | - Saskatoon |
| Colin McKenzie  | - Halifax   |

ROBINSON GUEST LECTURER:

The following report was received from Ron McMillan and is passed on for the interest of Gangue readers:

"The Mineral Deposits Division has acted as the first sponsor of a Distinguished Lecture Tour funded by the H.S. Robinson Memorial Fund. The Lecture Tour will be an event which will be sponsored alternately by the MDD and the Precambrian Division. The object of the series is to have a high quality speaker on mineral deposits (or Precambrian Geology - Edit.) reach a broad audience of interested people across Canada - particularly in smaller centres.

Jeff Thurlow, with his talks on the Geology and Exploration at the Buchans Mine, has launched the series with an excellent start. In two separate tours, one in early December 1985 and the second in April 1986, Jeff delivered 19 talks at 15 places to a total audience of approximately 670. Locations ranged from Victoria, to Yellowknife, to Wolfville, reaching 8 provinces and the NWT.

The talk given in Toronto was the best I have heard in several years - it was a pleasure to hear a paleoenvironmental talk on a significant, but little known mining district by a highly qualified geologist who has intimate knowledge of the deposit derived through experience on the property during several years production and exploration. The superb photographs and illustrations provided graphic documentation.

We are particularly thankful to B.P. Selco for their co-operation and to Jeff for a superb performance."

Further to Ron's report, I would like to stress his point with respect to smaller centres. This tour provides an excellent opportunity for geological groups in small, often remote communities to hear first-rate presentations of topics of interest to many in those communities. I feel strongly that the concept deserves our wholehearted support.

NOTES FROM THE PAST:

From The Gangeue 4, January 1980:

"The Division will hold a luncheon in conjunction with its first Annual Meeting at Halifax '80. The meeting will feature announcement of the first recipient of the Duncan Derry medal and election results for the Executive Committee for 1980-81 (see below). Reports will be given by the outgoing executive, and members will be encouraged to express their opinion on the affairs of the MDD over the past year.

The gala event is scheduled for noon Tuesday, May 20 and will cost about \$7.00. All MDD members and guests are welcome."

"Publications Chairman Jim Allen reports that the first paper of the mineral deposits model series is in press. The paper, on porphyry copper-molybdenum deposits by W.J. McMillan and A. Panteleyev, will be published in the next issue of Geoscience Canada. Papers on stratiform shale-hosted Pb Zn and massive sulphides are in preparation. Topics and authors are still being sought, and suggestions are welcome."

Ken Dawson, on the Seventh Geoscience Forum, Whitehorse, Dec. 2-4, 1979.

"Deposits described in the general sessions reflected the current exploration emphasis on silver, molybdenum and tungsten." Remember them? Edit.

"We noted with mixed feelings some innovations in the 1979 Whitehorse meeting that included a poster display room, publication of abstracts and introduction of hospitality suites. One hopes that these aspects do not herald a further formalization of the original format of casual interchange."

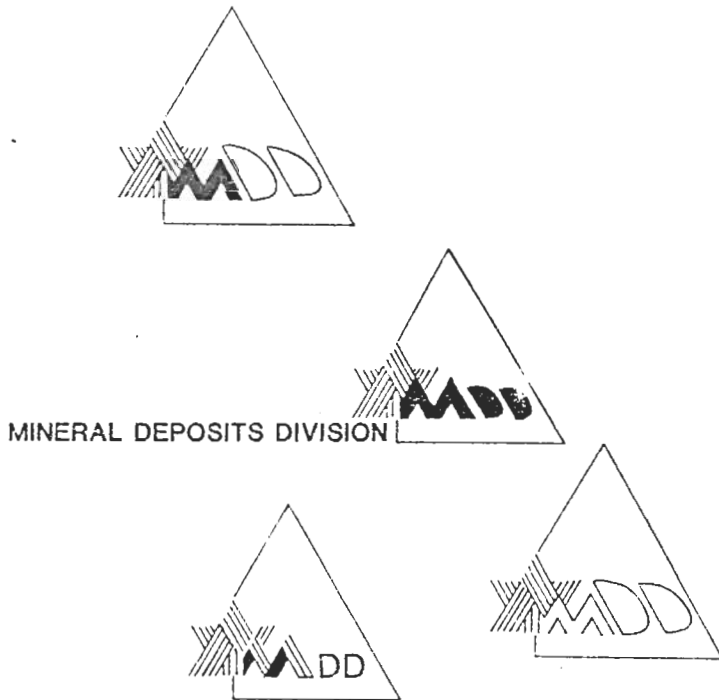
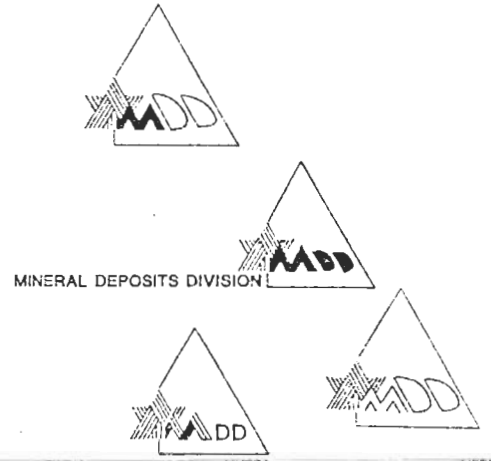
Bill Padgham, on the Gold Workshop and Forum, Yellowknife, Dec. 4-7, 1979.

"Exploration, mainly for uranium, continues at record levels. With the announcement of production from the Polaris lead-zinc deposits to commence in 1982 and plans to have three small gold deposits (Camlaren, Cullaton Lake and Contwoyto Lake (Lupin - Edit.)) in production by then, mining will maintain its position as the predominant industrial enterprise in the northern third of Canada."

"A memorable discourse on the early history of the Yellowknife gold camp was presented by Professor Emeritus (Queen's - Edit.) A.W. Jolliffe. He recounted the discovery of gold in the Yellowknife volcanics by part of his G.S.C. mapping crew while they showed prospectors favourable 'environments' around a small granitic stock that is now exposed along the road to the Yellowknife airport. After hearing recent ideas on mobilization and transport of gold at earlier technical sessions, Jolliffe commented that clearly we gave them the wrong information but in spite of that they found gold and the Yellowknife mines resulted."

LOGO CONTEST

Here are some suggestions received to date - let's have some more!



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Proceedings of the CIM — SEG Uranium Symposium, September 1981.

In September 1981, the Geology Division of CIM, with participation by the Society of Economic Geologists, hosted the Uranium Symposium and Field Trips in Saskatoon, Saskatchewan. Twenty-two papers from this Symposium were put together to make up a collection of current technical papers on economic geology of uranium deposits, emphasizing the deposits in Saskatchewan and also describing several deposits in the U.S.A. and Australia. The papers touch on all aspects of economic geology including geochemistry of uranium, theories of uranium description, descriptions of some uranium deposits, uranium geophysics, and case histories of exploration for uranium deposits.

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