



## **Paper 1**

# **The Canadian Mineral Processors A Brief History**

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**Keywords:** History, Canadian Gold Metallurgists, Canadian Mineral Processors

Presented 20 January 1998

# **THE CANADIAN INSTITUTE OF MINING, METALLURGY AND PETROLEUM**

## **THE CANADIAN MINERAL PROCESSORS DIVISION**

**The Canadian Mineral Processors (CMP) as we know it today had its beginning as an operator-oriented group called the Canadian Gold Metallurgists. The formation of the Canadian Gold Metallurgists was predicated on the principle of "Cost plus tails", i.e. obtaining the lowest possible cost per ton of ore milled with the highest recovery possible. This focus on operators and their interests is maintained as a priority today.**

### **BACKGROUND**

The first recorded discovery of placer gold in Canada was on the Chaudiere River in Quebec's eastern townships in 1832 and the first major production came from placer deposits in British Columbia in 1858 (Verity 1974). Placer deposits were the major source of gold until the late 1890's, although lode deposits were found in Nova Scotia in 1862. In 1896 the Klondike Gold Rush commenced with the discovery of gold by Henderson and Carmack in the Yukon. The peak was reached in 1900 when over one million ounces of gold valued at approximately \$22.3 million were recovered. With the exhaustion of the easily accessible deposits, more capital intensive operations were necessary such as those initiated in 1906 by the Yukon Gold Corporation. This giant dredging operation continued to produce until 1966. Today only a few small operations remain.

The development of Canadian lode gold mining began in earnest around 1900 when the railroads were opening up the interior and western part of the country. At this time many discoveries occurred, particularly where mineral outcroppings were near surface. Tremendous impetus for exploration and the reopening of former producers followed the elimination of the gold standard by Great Britain around 1931, and more importantly the United States in 1933, with subsequent stabilization of the price of gold at \$35 per ounce in 1934. Prior to this the price of gold was basically unchanged since 1717, approximately, \$20 per ounce (Verity, 1974; Green, 1973).

The depression of the 1930s adversely affected most industries, however for the gold producers it was a very profitable time. Prices of materials and equipment declined and labour was cheap and plentiful. Interest in gold mining was further stimulated in 1936 when a three year tax exemption was declared for all new metal mines. In 1938 a decline in the value of the Canadian dollar relative to the U.S. dollar benefitted the industry. The second world war provided yet again further incentive for gold production and in 1941 Canadian gold production reached a high of approximately 5.4 million ounces. This figure was not surpassed until 1991 when approximately 5.6 million ounces were produced (Natural Resources Canada, 1996 ).

With the formation of the International Monetary Fund after World War II, the dollar/gold relationship became firmly established and the gold/dollar price remained within a small trading

range of \$35/ounce for almost 28 years (Robbins & Lee, 1979). The gold producers however, found themselves in an increasingly serious situation after the war. Costs were rising quickly and the growth of new metal mining industries created a demand for labour with which the gold mines could not compete. Also at this time, the Canadian dollar rose in value causing a decline in the Canadian price of gold and many communities dependent on the gold industry were seriously affected. In June of 1948 the federal government enacted the Emergency Gold Mines Assistance Act (EGMAA). It offered some relief, however the number of producing mines continued to decline, going from 122 in 1949 to 68 in 1956 and slipping to only 21 by 1972. In 1968 the “two-tier gold price system” came into effect. Gold for monetary uses and settlements between central banks was fixed at \$35/ounce, however, outside this system, gold was allowed to follow the open market. In 1971 this “two-tier” system ended when the price of gold began to rise significantly, as seen in Table 1. However, erratic gold prices and increasing costs during most of the 1970's led to declining production levels

<b>TABLE 1 AVERAGE ANNUAL GOLD PRICES</b>			
<b>Year(s)</b>	<b>US\$/Oz</b>	<b>C\$/Oz</b>	<b>Production (Av.) Oz. Troy</b>
1921 - 30	-	20.67	1,621,213
1934	35.00	34.50	2,972,074
1935	35.00	35.19	3,284,890
1940	35.00	38.50	5,311,145
1941-1960	35.00	35.89	4,089,229
1968	38.82	41.82	2,743,021
1969-72	41.13 - 58.22	44.29 - 57.66	2,323,245
1973	97.22	97.24	1,954,340
1975	160.96	163.76	1,653,622
1980	614.38	719.08	1,627,484
1985	317.35	433.21	2,815,206
1996	369.34	502.67	5,331,195

Sources: Canadian Minerals Yearbook, Natural Resources Canada, 1996, and Verity, T.W., Canadian Gold Mining And The EGMA Act, Energy, Mines and Resources, Ottawa, 1974.

To give an idea of the proportion of gold production originating from lode deposits, averaged figures for selected periods and years from 1858 to 1996 are shown in Table 2.

<b>TABLE 2: AVERAGE ANNUAL GOLD PRODUCTION (Ounces)</b>							
<b>Year</b>	<b>Au/Qtz Mines</b>	<b>%</b>	<b>Placers</b>	<b>%</b>	<b>Base Metals</b>	<b>%</b>	<b>Total</b>
1858-60	-	-	73,346	100	-	-	73,346
1861-70	16,745	11.3	131,055	88.7	-	-	147,800
1901-10	46,548	6.7	448,188	64.2	203,052	29.1	697,788
1921-30	1,498,590	92.4	55,140	3.4	67,484	4.2	1,621,214
1931-40	3,211,199	84.7	82,436	2.2	498,308	13.1	3,791,943
1961-70	2,792,986	81.9	36,644	1.1	580,285	17.0	3,409,915
1975	1,206,627	73.0	10,771	0.6	436,257	26.4	1,653,622
1980	1,026,549	63.1	66,231	4.0	534,735	32.9	1,627,484
1990	4,737,611	88.0	128,379	2.4	515,220	9.6	5,381,209
1991-95	4,494,851	88.9	129,292	2.6	430,341	8.5	5,054,484
1996	4,706,167	89.2	127,768	2.4	443,202	8.4	5,277,137

Sources: Verity, T.W., Canadian Gold Mining and The EGMA Act, 1974 and Canadian Minerals Yearbook, Natural Resources Canada, 1996.

The Department of Mines and Technical Surveys (later called Department of Energy, Mines and Resources, and currently Natural Resources Canada) and the Treasury Department were responsible for the administration of the Emergency Gold Mines Assistance Act (EGMAA). The purpose of this Act was to stabilize employment in the remote gold mining communities by assisting Canadian gold mine operators in meeting the greatly increased costs of production of gold, for which, unlike all other primary mine products, there had been no compensating increase in the price. It was designed primarily to assist the high cost or marginal mines to continue operating over a difficult period and to maintain their dependent communities. This Act guaranteed a gold price based on the cost of production, provided they sold their gold to the Royal Canadian Mint. The international gold price was fixed at \$35 US/oz some years earlier, thus there was great incentive to improve recovery at the mills.

The EGMA Act came into force in 1948, was amended several times and was extended to 1976, however, in reality, after 1971 none of the gold mine operators applied for assistance. An assessment has shown that most operators and observers agree it was beneficial and that it extended the lives of some gold mining communities. It is important to remember that the gold mining industry was a very important part of the Canadian mineral industry, and as such, it was a priority that it be maintained. The value of the gold industry to Canada can be seen in Table 3. An interesting aspect of the EGMA Act is that it was very profitable for the Canadian taxpayer. It is difficult to estimate the amount of gold that would be held in Canada's reserves without that purchased by the Mint at \$35 per ounce. After March 1968 the Mint did not add the gold to its

reserves but sold it on the open market. As well, the official value of the reserves has been increased several times since 1968. Looking at the estimated cost of the assistance and today's price of gold it is readily apparent that it was a good investment, aside from the intended social benefits (Verity, 1974).

<b>TABLE 3 CANADA - GOLD PRODUCTION BY DECADES</b>			
<b>Year(s)</b>	<b>Total Ounces</b>	<b>Total Value(\$)</b>	<b>Gold % Of All Minerals</b>
1891-1900	3,761,355	77,754,127	26.0
1901-1910	6,977,877	144,245,542	18.7
1911-1920	7,480,026	154,625,880	9.5
1921-1930	16,212,132	335,134,503	14.2
1931-1940	37,919,434	1,261,475,776	36.0
1941-1950	37,454,552	1,401,636,533	21.4
1951-1960	44,330,032	1,523,045,408	8.3
1961-1970	34,099,153	1,272,240,461	3.3
1972	2,079,000	119,625,660	1.7
1980	1,627,484	1,165,416,000	3.7
1985	2,815,206	1,219,653,000	2.7
1991	5,635,492	2,338,614,000	6.7
1996	5,277,137	2,802,952,000	5.7

Source: Verity, T.W., Canadian Gold Mining, and the EGMA Act, Energy, Mines and Resources, Ottawa, 1974 and The Canadian Minerals Yearbook, Natural Resources, Canada, Ottawa 1996

### **THE CANADIAN GOLD METALLURGISTS**

The seed for the formation of the Canadian Gold Metallurgists was planted in early 1957 with a meeting held between Jack Carter, Ian Gordon and Russell Sullivan, mill superintendents for McIntyre Porcupine Mines Ltd., Hollinger Consolidated Gold Mines Ltd. and Preston East Dome Mines Ltd., respectively, to discuss mutual problems. At the end of the afternoon, they found they had discussed many issues of mutual interest and felt that an informal meeting discussing problems could be beneficial to all the mill superintendents in the Porcupine area. Accordingly, an invitation was sent to the area superintendents to meet at Preston East Dome Mines in March, 1957. That

meeting was so successful that it was decided to hold meetings quarterly at the various mines. It was also decided that the meetings should be as informal as possible, no minutes were kept and no formal papers prepared. To keep the size of the group to a manageable level, each mill was limited to two representatives at the meetings. The format was found to be very successful as was indicated by an almost 100% attendance.

Early in 1958 the Mines Branch of the Department of Mines and Technical Surveys at Ottawa heard of these meetings and asked to send their Industry Liaison Officer, Ron M. Ennis, to a meeting. Ron Ennis found the meetings very worthwhile. Ron persuaded George Hawkes of Kerr Addison Gold Mines to attend a meeting of the Porcupine Group. He, in turn, was so impressed that he helped form a similar group in the Kirkland-Larder Lake area. Soon after representatives from the Malartic-Val d'Or and Red Lake areas attended and in due course formed local groups.

Concurrently, the Extraction Metallurgy Division of the Mines Branch at Ottawa had for several years been working on a program to find the best means of recovering uranium from uranium ores. In 1960 the pressure for work from this segment of the mining industry was diminishing and it was felt that when personnel and equipment became available, research efforts should be directed to the metallurgy of gold ores, and particularly to the chemistry of cyanidation. Informal discussions were initiated with the Ontario Mining Association (OMA), individual mine managers and mill superintendents to obtain input in defining the most pressing problems, and the ones that, if addressed, would offer the most economical benefit to the gold industry.

In late 1961, Ken Downes, Chief of the Extraction Metallurgy Division issued letters to the managers of all Canadian gold mines inviting their mill superintendents to a two-day meeting to be held in Ottawa in January, 1962. The meeting, now considered the first official "operators" conference, was attended by about 25 mill superintendents. Here, the format was one of presentations, discussions and demonstrations of work undertaken and techniques developed by the Mines Branch for obtaining data on milling circuits, particularly those which could be utilized in cyanidation control. The meeting was so successful that the Extraction Metallurgy Division was requested to hold another meeting in January, 1963.

The 1963 meeting, attended by representatives of 27 of the 40 gold mills in Canada, was expanded from two days to a three-day event with the second day of the meeting devoted to papers given by the mill operators themselves. On the third day of the meeting, the mill superintendents decided to form an organization to include all gold mines in Canada and named the organization the Canadian Gold Metallurgists. A tentative committee was elected, all subject to approval by the managements of the majority of gold mines. The tentative committee consisted of the following:

Chairman: C. S. Stevens, Delnite Mines Ltd.  
Vice-Chairman: G. J. Hawkes, Kerr-Addison Mines Ltd.  
Secretary: R. M. Ennis, Mines Branch

Members: J. Y. Cote, Sullivan Consolidated W. Grell, MacLeod Cockshutt  
W. W. Weeks, San Antonio R. J. McLeod, Giant Yellowknife  
E. H. Hall, Bralorne Pioneer O. J. Matthews, Cochenour Willans  
John Stone, Cariboo Gold Quartz

By May 1963 approval from the majority of managements had been received and the above committee was considered to be active.

The purpose of the Canadian Gold Metallurgists espoused at the time was to use every possible means to discover methods of lowering "Costs Plus Tails" in the individual mills and the industry as a whole. To accomplish this, the following objectives were set:

- (1) Quarterly meetings will continue to be held in the four areas where there are several mines close together.
- (2) An annual meeting will be held in Ottawa in January of each year where the Mines Branch and the members of the Canadian Gold Metallurgists can report on new developments during the year and point out to the Mines Branch areas where more research could be of help to the industry.
- (3) Encourage research in the individual mills to the fullest extent possible.
- (4) To encourage as far as possible standardized test procedures so that results from one mill may be compared with the results from another mill.
- (5) To ensure a continuing supply of mill metallurgists by attempting to interest high school and university students, with suitable qualifications, in the mining, and metallurgical industry by offering summer work in mills and mill laboratories.

On January 21, 22 and 23, 1964 the first meeting sponsored by the Canadian Gold Metallurgists was held in Ottawa with the Extraction Metallurgy Division of the Mines Branch as host. Thirty-one mill operators, representatives from the Mines Branch and invited guests, totalling about fifty participants attended. The new committee elected for 1964 was:

Chairman: G. J. Hawkes, Kerr-Addison  
Vice-Chairman: J. Y. Cote, Sullivan Consolidated  
Secretary: W. A. Gow, Mines Branch

Reps: W. Grell, MacLeod-Cockshutt R. J. McLeod, Giant Yellowknife  
W. W. Weeks, San Antonio O. J. Matthews, Cochenour Willans  
E. H. Hall, Bralorne Pioneer C. S. Stevens, Delnite  
John Stone, Cariboo Gold Quartz

At about this time, Charlie Stevens, who had been Mill Superintendent at Delnite Gold Mines for many years, was hired by the Mines Branch to fill the vacancy left by the untimely death of Ron Ennis. Charlie Stevens became the Secretary of first, the Canadian Gold Metallurgists and later the Canadian Mineral Processors (CMP). He was a great promoter of the organization, tirelessly explaining its purpose to Mine Managers across the country. He consolidated the tradition of having a Secretary from the Mines Branch (CANMET), a practice which is still in effect today.

It was not long before it became obvious that many operating and metallurgical improvements and developments were occurring in the gold mills across Canada in a relatively short period of time. This was readily apparent to the gold mine managers who were supportive of and promoted the Canadian Gold Metallurgists.

The Annual Operators' Conference held in Ottawa in January of each year was now well established. These meetings were attended mainly by gold mill superintendents and metallurgists as well as technical personnel from the Mines Branch.

Shortly after the Canadian Gold Metallurgists was formed some base metal operators who had heard of the meetings expressed an interest in learning more about the aims and methods of the organization. In 1966 and 1967, several invited representatives from the base metal operations attended the meeting as observers. They were impressed by what they saw and prepared to form a similar group of their own. At the same time it was becoming apparent to the Gold Metallurgists' Committee that they were faced with a steadily declining membership due to the continuing decrease in the number of operating gold mines. They foresaw fewer participants and more importantly less exchange of information. It appeared quite logical to the Committee, since most of the unit operations and problems in gold milling are similar to those of base metals, that the base metal people be invited to join in the formation of a new group. This proposal was approved by the Canadian Gold Metallurgists at the 1967 annual meeting. A similar recommendation was presented by the base metal representatives present. Consequently, at the 1968 Annual Meeting, it was decided that milling representatives from the base metal mines be invited to join the Gold Metallurgists to form the Canadian Mineral Processors (CMP).

The purpose of the Canadian Mineral Processors as outlined in the Constitution adopted at this meeting was to use every possible means to discover practical methods of attaining the most economical recoveries and lowering milling costs in the individual mills and the industry as a whole.



The first meeting of the Canadian Mineral Processors was held in Ottawa, January 21 - 23, 1969. Initially the Committee or Board of Directors consisted of 12 members. Ten members representing the various regions, and two members normally coming from the Mines Branch. The initial Groups or Regions were:

1. Newfoundland, New Brunswick and Gaspe
2. Quebec Base Metal Mines
3. Malartic - Val d'Or Group
4. Porcupine Group
5. Kirkland - Noranda Group
6. Red Lake Group
7. Ontario Base Metal Mines
8. Manitoba - Saskatchewan Mines
9. Northwest and Yukon Territories Group
10. British Columbia Mines

In 1970, representatives of the iron ore industry were invited to the meeting and in 1971 membership was amended to read " Membership in the CMP is open to Mill Superintendents, Assistant Mill Superintendents, Metallurgists and technical personnel directly connected with processing gold, base metal and ferrous ores in Canada.

In July of 1971, Charlie Stevens became ill and the duties of the Secretary were carried on, in an acting capacity, by Harold Smith of the Mines Branch. On July 31, 1972, Charlie Stevens lost his lengthy battle with cancer. The duties of the Secretariat were subsequently transferred from the Extraction Metallurgy Division to the Mineral Processing Division, under Division Chief Henry Woodroffe. Eddy Joe of Eldorado Mining and Refining, was hired at that time by the Mines Branch as Industry Liaison officer and Secretary of the CMP. Bob Bruce of the Mines Branch became the first Treasurer of CMP at the instigation of Henry Woodroffe who felt that such a position was a necessity for the CMP. It is interesting to note that the initial membership fee was \$2.00, resulting in a treasury balance of approximately \$100.

All the early meetings of the CMP were held at the Mines Branch in Camsel Hall and delegates were bused to and from their downtown hotels. Delegates at these early meetings will certainly not forget some of the rides in the January cold and the hard and cold leather seats of the buses. The only official social functions were a luncheon sponsored by the Mines Branch at the Camsel Hall cafeteria and a reception and dinner at a downtown hotel, initially sponsored by companies such as Cyanamid, Dow Chemical and CIL, on an alternating basis.

These dinners were always very informal affairs. No speeches were solicited and they were generally discouraged. The Chairman would briefly thank the sponsor(s) and the podium was then turned over to any member(s) who wished to sip from the ever present wine cask and tell a "story" (perhaps some of the "old timers" recall Bob Bruce's parrot jokes such as the one about the "frozen Parrot"). The dinners became so large and popular that the sponsors each decided to make a donation to the meeting rather than alternate responsibility for it. By this time the annual meeting was becoming too large for Camsel Hall and in 1987 all aspects of the meeting were moved to a downtown hotel.

A regular feature of all of the annual meetings up until the early 1990's, was the in-depth tour of The Royal Canadian Mint. This practice had to be cancelled due to very strict security procedures instituted by the Mint. Efforts to have these become part of the Program again are underway.

During the 70s, the possibility of an affiliation of CMP with the Canadian Institute of Mining and Metallurgy was a subject of discussion at several annual CMP operators' meetings. Initially CIM wanted the CMP to become part of the Metallurgical Society (MetSoc); however this proposal was soundly rejected by CMP delegates. The CMP members wanted to maintain a strong focus on operator's issues and to retain their autonomy. In 1980 a negotiating team led by then Chairman Phil Claridge was formed to deal with the matter. It was at the 13th Annual Meeting of the Canadian Mineral Processors, in January, 1981, that the members decided, in a close vote, to become a Division of CIM, but, only based on an agreement with CIM which guaranteed them full Division status within CIM, while maintaining autonomy in conducting all affairs of the group.

A Research and Development Session was added to the Technical Program on the afternoon of the third day of the Operators' Conference in January, 1984. The papers presented proved to be of interest to the Operators and similar sessions have continued to be part of the annual program. A key aspect of the Technical Program is that there are no simultaneous sessions and discussion and question time is allocated to all presentations. In fact up until the early 1990's, all discussion and questions pertaining to the technical presentations were recorded and transcribed into the Proceedings. Although this transcription is no longer done, the discussion and question aspect is actively encouraged.

Membership of the CMP has grown from approximately 50 in 1964 to approximately 711 members as of October 1997 and encompasses the operators of metallic, non-metallic and fuel minerals production facilities, as well as research organizations, consultants, academics and technical personnel from equipment and chemical suppliers.

Over the years the boundaries of the Regions have changed to better reflect geography and the membership; also a position of 2nd Vice-Chairman has been added to the Executive Committee. The present Board of Directors consists of the following Executive positions plus a Representative from each of the indicated Region (a listing of the Board of Directors for all years is given in Appendix 1):

**EXECUTIVE:** Chairman, Past-Chairman, 1st Vice-Chairman, 2nd Vice-Chairman, Secretary and Treasurer.

**REGIONS:**

Atlantic	Toronto	N. W. Ontario
Labrador	Central Ontario	Manitoba
N. W. Quebec	N. E. Ontario	Saskatchewan
Montreal	Lake Superior	Alberta/NWT
British Columbia/Yukon		

Each of the Regions maintains its own finances and normally hosts one or more technical meetings and plant tours per year, with the Regions of N.W. Quebec, Toronto, Vancouver, Sudbury and Timmins being particularly active. In addition to these activities and the Annual Operators Conference each January, CMP maintains close liaison with the MetSoc Division of CIM and co-sponsors several technical sessions on mineral processing at their annual Conference of Metallurgists. The CMP also sponsors or co-sponsors several mineral processing sessions at the CIM Annual General Meeting.

Internationally, the CMP maintains close ties, through the CIM, with the major technical societies and associations. In 1982 the CMP hosted the International Mineral Processing Congress (IMPC) in Canada for the first time. An interesting aspect of this meeting is that this was the milieu for the first trade show run under the CIM banner. The trade show was such a success that it has now become a regular feature of all CIM Annual General meetings. Plans are currently underway by CMP to again bid to host the IMPC. The CMP also was one of the sponsors of the two International Autogenous and Semi-Autogenous Grinding Technology Conferences held in Vancouver, Canada in 1989 and 1996, a very successful conference on column flotation, Column 91, held in Sudbury in 1991 and the Innovations in Mineral Processing Conference held also in Sudbury, in 1994. CMP will co-sponsor, with The Hydrometallurgy Section of The Metallurgical Society of CIM, Uranium 2000 - International Symposium on the Process Metallurgy of Uranium, to be held in Saskatoon in 2000.

## **EDUCATION**

The CMP has always been a strong believer and supporter of education programs, both those initiated by CIM as well as those initiated by CMP on a national and regional basis.

At the regional level surplus funds are generally awarded to selected students. Nationally the CMP invites two selected students from each of the universities in Canada offering courses in mineral processing to their Annual Operator's Conference, all expenses fully paid. This provides the students with an excellent opportunity to meet with industry operators and become familiar with current problems and practices.

A new initiative, undertaken in cooperation with MetSoc, for the purpose of providing better service to the membership was launched this year in the area of professional development. A detailed questionnaire was sent to all CMP members and 78 replies were received. A great deal of interest was expressed for management style courses such as project management, leadership, communication, etc. Courses in financial or economic analysis were the next most requested areas. MetSoc returns showed basically the same areas of interest and a pilot project commenced with an intermediate level course on project management held in Sudbury in August, 1997. The course has been given several times since August at various locations across the country. Presently plans are underway to provide the course through viable distance learning technologies such as audio tapes, manuals, CD ROMs, Internet or combinations of all.

## **AWARDS**

In 1984 the CMP initiated two annual awards, the 'Mill Man of The Year' award and the 'Special Achiever Award'. In 1990 an award for the 'Best Presentation' at the annual meeting commenced and in 1994 the 'Life Member' award was instituted. At the Annual Business meeting in 1996 the name of the 'Special Achiever' award was changed to the 'Bill Moore Special Achiever' award and in 1997 the 'Mill Man of The Year' award was changed to 'Mineral Processor of The Year'. These awards are presented each year at the Annual Meeting in Ottawa.

A brief description of these awards and the recipients are given below:

### **MINERAL PROCESSOR OF THE YEAR AWARD**

The award is made from time to time as circumstances warrant in recognition of meritorious service to the Division or an outstanding technical contribution to the industry. The recipient is normally a member of the Canadian Mineral Processors Division but non-members with exceptional qualifications are also considered.

### **BILL MOORE SPECIAL ACHIEVEMENT AWARD**

The award is made in recognition of meritorious service to the Division or an outstanding technical contribution to the industry. This award is specifically intended to honour a younger member of the industry under the age of 35.

### **LIFE MEMBER AWARD**

Awarded from time to time for demonstrated abilities and contributions to the science of minerals beneficiation in Canada; as an operator, research scientist, engineer, or academic, as well as for contributions to the Canadian Mineral Processors Division. Life Membership is limited to a maximum of five CMP members at any one time.

### **BEST PRESENTATION AWARD**

Awarded for the presentation aspect rather than the technical aspect of a paper at the Annual Operators Conference.

### **CHAIRMAN'S PLAQUE**

Presented each year to the outgoing Chairman in recognition of contributions to the Division.

## AWARD WINNERS

YEAR	MINERAL PROCESSOR OF THE YEAR	BILL MOORE SPECIAL ACHIEVER	BEST PRESENTATION	LIFE MEMBER	CHAIRMAN PLAQUE
1997	Daryl McNamara	Allen Gardiner	Grant Feasby	Andy Mular	Mike Mular
	MILL MAN OF THE YEAR	SPECIAL ACHIEVER	BEST PRESENTATION	LIFE MEMBER	CHAIRMAN PLAQUE
1996	Jacques McMullen	Pierre Lacombe	Jim Finch Glen Dobby		Luc Duval
1995	Cory Sibbald	Daniel Houdouin	Andre Laplante	Klaus Konigsmann	Lloyd Buckingham
1994	Ernie Marcotte	Brian Flintoff	Jeff McLaughlin	Gordon Agar	Brad Marchant
1993	John Knapp	Andre Laplante	Michael Allan Brian Flintoff		Klaus Meyer
1992	Gerald Veillette	Glen Kosick	Robert Edwards		Bert Huls
1991	Ken Thomas	Tony Harris	Glen Kosick		Bill Moore
1990	Dick Coleman	Olga Matwijkeno	Ross MacFarlene		Bill Moore
1989	Doug Knight	Glenn Dobby			Godfrey McDonald
1988	Clyde Lendrum	Brad Marchant			Ernie Marcotte
1987	Mike Amsden	Chris Brown			Graham Karklin
1986	Bill Timm	Peggy Witte			Rudy Tenbergen
1985	Eric Johnson	Ron Colquhoun			E. Cunningham
1984	Klaus Konigsmann	Jim Gowans			Colin Chapman

The support and direction given initially by the Mines Branch and continued by CANMET has played a major role in the success of the Canadian Gold Metallurgists and in turn, the Canadian Mineral Processors. The support and dedication of those persons who contributed their time and talents over the years to the smooth running and success of the annual meetings should not be overlooked, in particular the following:

Hedley McCreedy, John Herbert, Gilles Tremblay, Diane Loucks, Bob Pinard, Wayne Cameron, Larry McCullough, Lorna Paquette, Natalie St. Jean, Ron Molnar, Wes Griffiths, Madona Skaff, Dave Hardy and Bruce Taylor.

The CMP and its predecessor, the Canadian Gold Metallurgists, have developed an effective methodology for the advancement and transfer of improved and new technology in mineral processing operations. They have provided CANMET a unique window into industry and its operating problems and invaluable input into the direction of government research.

The CMP began as an operator oriented group and it is important that it maintain this focus in our rapidly changing world. The challenge for the CMP will be to continue the development and transfer of technology required by the operators into the next millennium.

### **ACKNOWLEDGEMENT**

The author is indebted for the information derived from many discussions with “old-timers” Ernie Marcotte, Bob Bruce and Eddy Joe. The assistance of A. Putz, K. Haque, J. Zinck and J. Chevrier is also gratefully acknowledged.

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**APPENDIX 1**

**EXECUTIVES/BOARDS of DIRECTORS**

**CANADIAN GOLD METALLURGISTS & CANADIAN MINERAL PROCESSORS**

## CANADIAN GOLD METALLURGISTS

### 1963

Chairman: C. S. Stevens, Delnite Mines Ltd., Porcupine District, Ontario  
Vice-Chairman: G. J. Hawkes, Kerr-Addison, Kirkland/Larder District, Ontario  
Secretary: R. M. Ennis, Mines Branch, Ottawa.

Regional Reps: J. Y. Cote, Sullivan Consolidated Mines Ltd., Malartic/Val d'Or District, Quebec (replaced by J. Keyes).  
W. Grell, MacLeod Cockshutt Gold Mines, Geraldton, Ontario.  
W. W. Weeks, San Antonio Gold Mines Ltd, Manitoba.  
R. J. McLeod, Giant Yellowknife Mines Ltd., NWT.  
E. H. Hall, Bralorne Pioneer Mines Ltd., British Columbia.  
O. J. Matthews, Cochenour Willans, Red Lake District, Ontario.  
John Stone, Cariboo Gold Quartz Mining Company Ltd., British Columbia

### 1964

Chairman: G. J. Hawkes, Kerr-Addison Gold Mines Ltd.  
Vice-Chairman: J. Y. Cote, Sullivan Consolidated Mines Ltd.  
Secretary: W. A. Gow, Mines Branch, Ottawa

Regional Reps: W. Grell, MacLeod-Cockshutt                      R. J. McLeod, Giant Yellowknife  
W. W. Weeks, San Antonio                              O. J. Matthews, Cochenour Willans  
E. H. Hall, Bralorne Pioneer                              C. S. Stevens, Delnite  
John Stone, Cariboo Gold Quartz

### 1965

Chairman: P. Coulter, Malartic Gold Fields(Que.) Ltd. (replaced D. Beaumont who left the industry)  
Vice-Chairman: Ed Hall, Bralorne Pioneer Mines Ltd.  
Secretary: Charlie Stevens, Mines Branch, Ottawa.

### 1966

Chairman: Ed Hall, Bralorne Pioneer Mines Ltd. (Appointed when M. Sveinson left the industry)  
Vice-Chairman: Rod McLeod, Giant Yellowknife Mines Ltd.  
Secretary: Charlie Stevens, Mines Branch, Ottawa.



**1967**

Chairman: Eric Johnson, McIntyre-Porcupine Mines Ltd.  
Vice-Chairman: Ernie Marcotte, Upper Canada Mines Ltd.  
Secretary: Charlie Stevens, Mines Branch, Ottawa.

**1968**

Chairman: Ernie Marcotte, Upper Canada Mines Ltd.  
Vice-Chairman: Jim Austin, Brynnor Mines - Boss Mountain  
Secretary: Charlie Stevens, Mines Branch, Ottawa

**CANADIAN MINERAL PROCESSORS**

**1969**

Chairman: Jim Austin, Brynnor Mines, Boss Mountain  
Vice-Chairman: E. Thornton, Nigadoo River Mines.  
Secretary: Charlie Stevens, Mines Branch, Ottawa

**BOARD OF DIRECTORS - 1970**

**EXECUTIVE:**

Chairman: E. Thornton  
Vice-Chairman: D. Livingstone  
Secretary: C. Stevens

**REGIONAL REPRESENTATIVES:**

Newfoundland, New Brunswick & Gaspé	E. Thornton, Nigadoo River Mines
Quebec Base Metal Mines	J. J. Bell, Orchan Mines
Malartic-Val d'Or Group	G. St. Pierre, Manitou-Barvue
Porcupine Group	R. Nice., McIntyre Mine
Kirkland-Noranda Group	C. L. Williamson, Normetal
Red Lake Group	A. Lago, Campbell Red lake
Ontario Base Metals	P. Maltby, Falconbridge
Manitoba-Saskatchewan	J. Goodman, Hudson Bay
NW and Yukon Territories	A. Pawson, Giant Yellowknife
British Columbia	D. Livingstone, Granby Mining
Mines Branch	C. Stevens and R. Bruce

## **BOARD OF DIRECTORS - 1971**

### **EXECUTIVE:**

Chairman: D. Livingstone  
Vice-Chairman: G. Dorland  
Secretary: C. S. Stevens

### **REGIONAL REPRESENTATIVES:**

Newfoundland, New Brunswick  
and Gaspé  
Quebec Base Metal mines  
Malartic~Val d'Or Group  
Porcupine Group  
Kirkland-Noranda Group  
Red Lake Group  
Ontario Base Metals  
Manitoba-Saskatchewan  
N.W. and Yukon Territories  
  
British Columbia  
Mines Branch

R. R. Ross, Heath Steele  
  
J. J. Bell, Orchan  
L. Perry, East Malartic  
M. Amsden, Ecstall Mining  
R. J. McLeod., Lake Dufault  
A. Lago, Campbell Red lake  
G. Dorland, INCO  
G. Hughes, Sherritt Gordon  
A. C. Hawken, United Keno  
Hill  
D. Livingstone, Granby Mine  
R. Bruce and C. Stevens

## **BOARD OF DIRECTORS - 1972**

### **EXECUTIVE:**

Chairman: G. Dorland  
Vice-Chairman: M. Amsden  
Acting-Secretary: H. Smith  
Secretary: E. Joe

### **REGIONAL REPRESENTATIVES:**

Labrador/N. E. Quebec  
New Brunswick-Gaspé  
North Western Quebec  
Kirkland Lake-Noranda  
Porcupine  
Red Lake  
Central Ontario  
Manitoba-Saskatchewan  
Northwest Territories-Yukon  
British Columbia  
Mines Branch

V. Daughney  
R.T. Erskine  
P.B. DeMarsh  
R.J. McLeod  
M.P. Amsden  
P. Molloy  
G.M. Dorland  
G.M. Hughes  
P.C. Kotschwar  
S.F. Siscoe  
R.W. Bruce

## **BOARD OF DIRECTORS -1973**

### **EXECUTIVE:**

Chairman:	G. Dorland	Secretary:	E. Joe
Vice-Chairman:	M. Amsden	Treasurer:	R. Bruce

### **REGIONAL REPRESENTATIVES:**

Labrador-N.E. Quebec	V. Daughney, Wabush Mines
Maritime-Gaspe	L. Joncas, Gaspé Copper Mines
North Western Quebec	R.A. Sullivan, Mines de Poirier
Kirkland Lake-Noranda	H.C. Counsell, Noranda
Red Lake	P. Molloy, Dickensen Mines
Porcupine	M.P. Amsden, Ecstall Mining
Central Ontario	D.M. Doyle, Strathcona
Manitoba-Saskatchewan	G.M. Hughes, Sherritt Gordon-Ruttan
NW Territories-Yukon	P.C. Kotschwar, United Keno Hill
British Columbia	A. Murphy, Western Mines

## **BOARD OF DIRECTORS - 1974**

### **EXECUTIVE:**

Chairman:	M. Amsden	Secretary:	E. Joe
Vice-Chairman:	G. Hughes	Treasurer:	R. Bruce

### **REGIONAL REPRESENTATIVES:**

British Columbia	R. W. Nice, Similkameen Mining
Northwest Territories-Yukon	H. P. Jacobi, Cominco-Pine Point
Manitoba-Saskatchewan	P. G. Claridge, INCO-Thompson
Central Ontario	F. R. Deluca, Denison Mines
Red Lake	P. Molloy, Dickenson Mines
Porcupine	P. Kresin, Pamour Porcupine Mines
Kirkland Lake-Noranda	G. B. Bell, Adams Mine
North Western Quebec	J. Y. Cote, Campbell Chibougamau
Maritime-Gaspe	J. Faubert, Madeleine Mines
Labrador-North Eastern Quebec	T. R. Eby, Wabush Mines

## **BOARD OF DIRECTORS - 1975**

### **EXECUTIVE:**

Chairman:	G. Hughes	Secretary	E. Joe
Vice-Chairman:	J. Cote	Treasurer	R. Bruce

### **REGIONAL REPRESENTATIVES:**

British Columbia	R. W. Nice, Similkameen Mining
Northwest Territories-Yukon	H.P. Jacobi, Cominco Pine Point
Manitoba-Saskatchewan	P.G. Claridge, Inco-Thompson
Central Ontario	F.R. Deluca, Denison Mines
Red Lake	P. Molloy, Dickenson Mines
Porcupine	P. Kresin, Pamour Porcupine Mines
Kirkland Lake-Noranda	G.B. Bell, Adams Mines
North Western Quebec	J.Y. Cote, Campbell Chibougamau
Maritime-Gaspe	J. Faubert, Madeleine Mines
Labrador-North Eastern Quebec	T.R. Eby, Wabush Mines

## **BOARD OF DIRECTORS - 1976**

### **EXECUTIVE:**

Chairman:	J. Cote	Secretary:	E. Joe
Vice-Chairman:	R. Nice	Treasurer:	R. Bruce

### **REGIONAL REPRESENTATIVES:**

British Columbia	R.W. Nice, Similkameen Mining
Northwest Territories - Yukon	R.J. Tucker, Giant Yellowknife Mining
Manitoba - Saskatchewan	J.A. Hillier, Hudson Bay Mining
Central Ontario	A.R. Miller, Steep Rock Iron Mines
Porcupine	C.J. Cattarello, Langmuir Mines
Red Lake	P. Molloy, Dickenson Mines
Kirkland Lake - Noranda	B.W. Brooks, Noranda Mines
North Western Quebec	T.V. Graham, Lamaque Mining
Maritime - Gaspe	R.B. Thorndycraft, Kaiser Celestite Mining
Labrador -North Eastern Que.	T.R. Eby, Wabush Mines

## BOARD OF DIRECTORS - 1977

### EXECUTIVE:

Chairman:	G. A. Johnston	Treasurer:	R. Bruce
Vice-Chairman:	D. Doyle	<u>Program Committee:</u>	Chairman - D. Doyle,
Secretary:	E. Joe		E. Johnson, P. Claridge, R. Bruce, E. Joe

### REGIONAL REPRESENTATIVES:

Atlantic (formerly Maritime-Gaspe and Newfoundland)	Benoit E. St.Pierre
Labrador - N.E. Quebec	D. Otway
North Western Quebec	D.W. Hendriks
Porcupine	E.W. Johnson
Central Ontario (2 representatives)	R.A.G. Tenbergen, D.M. Doyle
Red Lake	S. Roberts
Saskatchewan - Manitoba	Phillip Claridge

## BOARD OF DIRECTORS - 1978

### EXECUTIVE:

Chairman:	D.M. Doyle	Treasurer:	E.G. Joe
Vice Chairman:	P.G. Claridge	<u>Program Committee:</u>	Chairman - P.G.
Secretary:	R.W. Bruce		Claridge, G.P. Holmes, T.R. Eby, R.W. Bruce

### REGIONAL REPRESENTATIVES:

Atlantic	Peter Dyas, Consolidated Rambler Mines
Labrador - N.E. Quebec	A. Mai, IOCC
N.W. Quebec	Michael Robert, Niobec Inc, Teck Corp.
Porcupine	E.W. Johnson, Pamour Porcupine Mines
Central Ontario(2 Reps)	R.A.G. Tenbergen, Inco Ltd.
	D. M. Doyle, Falconbridge Nickel Mines
Red Lake	Patrick Capper, Steep Rock Iron Mines
Sask. - Manitoba	Hugh A. Dakin, H. B. M.& S.

## BOARD OF DIRECTORS - 1979

### EXECUTIVE:

Chairman:	P.G. Claridge	Treasurer:	E.G. Joe
Vice Chairman:	G.P. Holmes	<u>Program Committee:</u>	Chairman - G.P.
Secretary:	R.W. Bruce		Holmes, R.G. MacFarlane, D.B. Arthur., R.W. Bruce

### REGIONAL REPRESENTATIVES:

Atlantic	David M. Wood, Brunswick Mining
Labrador-N.E. Quebec	Ross MacFarlane, Iron Ore Company
N.W. Quebec	Rudy Biss, Niobec Inc.
Porcupine	Colin Chapman, TexasGulf Canada
Central Ontario	Bruce Arthur, Rio Algom Ltd.
Red Lake	Donald W. Bridges, Mattabi Mines
Manitoba-Sask.(2 Reps)	Eric Cunningham, Sherritt Gordon Mines
British Columbia(2 Reps)	John Lovering, Afton Mines Ltd.
Yukon-NWT	David W. Whittall, Cominco

## BOARD OF DIRECTORS - 1980

### EXECUTIVE:

Chairman:	Phil Claridge, Inco Metals	Secretary:	R.W. Bruce
Vice-Chairman:	Gerald Veillette, Noranda Mines	Treasurer:	E.G. Joe

### REGIONAL REPRESENTATIVES:

Atlantic	Tad Cienski, Mines Gaspé
Labrador - N.E. Quebec	Dennis G. MacGillivray, Wabush Mines
N.W. Quebec	Andre P. Blais, Lamaque Mining
Porcupine	Colin Chapman, TexasGulf Canada
Red Lake	Chan P. Patel, Falconbridge Copper
Central Ontario	Rudy Tenbergen, Inco Metals Company
Manitoba-Saskatchewan	Gil Labarre, H. B. M. & S
British Columbia	John Lovering, Afton Mines Ltd.
Yukon-N.W.T.	Graham Karklin, Echo Bay Mines

## BOARD OF DIRECTORS - 1981

### EXECUTIVE:

Chairman:	Gerald Veillette	Treasurer:	E.G. Joe
Vice-Chairman:	Colin Chapman	<u>Program Committee:</u>	C. Chapman, C. Brown, T. Cienski, D. Doyle, L. Sirois
Secretary:	L.L. Sirois		

### REGIONAL REPRESENTATIVES:

Atlantic	Brian Arsenault, Heath Steele Mines
Labrador-N.E. Quebec	Gerry Taylor, Iron Ore Company
N.W. Quebec	Andre Blais, Lamaque Mining
Porcupine	Ron Colquhoun, Dome Mines
Red Lake	Ken Stowe, Mattabi Mines
Central Ontario	Leo McFarlane, Madawaska Mines
Manitoba-Sask.	Dave Shefford, Inco Metals
British Columbia	Chris M. Brown, Utah Mines Ltd.
Yukon-N.W.T.	Graham Karklin, Echo Bay Mines

## BOARD OF DIRECTORS - 1982

### EXECUTIVE:

Chairman:	Colin Chapman	Treasurer:	Edwin Joe
Vice-Chairman:	Eric Cunningham	<u>Program Committee:</u>	Colin Chapman
Secretary:	Louis Sirois		Chris Brown, Don Doyle, Louis Sirois

### REGIONAL REPRESENTATIVES:

Atlantic	Neil Dorcas, Brunswick Mining
Labrador - N.E. Quebec	Gerry Taylor, Iron Ore Company
N.W. Quebec	Marcel Larouche, Noranda Mines
North-Eastern Ontario	Ron Colquhoun, Dome Mines
North Western Ontario	Ken Stowe, Mattabi Mines
Central Ontario	Leo McFarlane, Madawaska Mines
Manitoba-Saskatchewan	Dave Shefford, Inco Metals
British Columbia-Alberta	Chris Brown, Utah Mines Ltd.
Yukon-N.W.T.	Graham Karklin, Echo Bay Mines Ltd.

## BOARD OF DIRECTORS - 1983

### EXECUTIVE:

Chairman:	Eric Cunningham	Treasurer:	Edwin Joe
Vice-Chairman:	Rudy Tenbergen	<u>Program Committee:</u>	Chairman - R.
Secretary:	Louis Sirois		Tenbergen, D. Doyle, L. Sirois

### REGIONAL REPRESENTATIVES:

Atlantic	Brian Arsenault, Heath Steele Mines
Labrador-N.E. Quebec	Gerry Taylor, Iron Ore Company
N.W. Quebec	Marcel Larouche, Noranda Mines
North-Eastern Ontario	Roy Lindsay, Pamour Porcupine Mines
North Western Ontario	Malcolm Dellow, Mattabi Mines
Central Ontario	Ernie Marcotte, Falconbridge Ltd.
Manitoba/Saskatchewan	Ken Ball, Sherritt Gordon Mines
British Columbia/Alberta	Gary Hawthorne, North Vancouver
Yukon/N.W.T	Jim Gowans, Cominco Ltd.

## BOARD OF DIRECTORS - 1984

### EXECUTIVE:

Chairman:	R. Tenbergen	Treasurer:	E.G. Joe
Vice-Chairman:	G. Karklin	<u>Program Committee:</u>	Chairman - G.
Karklin			
Secretary:	L.L. Sirois		L. L. Sirois

### REGIONAL REPRESENTATIVES:

Atlantic	W.N. Wallinger, Mt. Pleasant Tungsten Mine
Labrador Quebec	Gerry Taylor, Iron Ore Company
N.W. Quebec	Roger Peloquin, Northgate Patino Mines
North-Eastern Ontario	Roy Lindsay, Pamour Porcupine Mines
North Western Ontario	Malcolm Dellow, Mattabi Mines
Central Ontario	Ernie Marcotte, Falconbridge Ltd.
Manitoba/Saskatchewan	Ken Ball, Sherritt Gordon Mines
British Columbia/Alberta	Gary Hawthorne, North Vancouver
Yukon/NWT	Jim Gowans, Cominco Ltd.



## BOARD OF DIRECTORS - 1985

### EXECUTIVE:

Chairman:	G. Karklin	Treasurer:	E.G. Joe
Vice-Chairman:	E. Marcotte	<u>Program Committee:</u>	E. Marcotte,
Secretary:	L.L. Sirois	L. L. Sirois	

### REGIONAL REPRESENTATIVES:

Atlantic	L. Duval, Mount Pleasant Tungsten Mine
Labrador-N.E. Quebec	Ronald Ross, Wabush Mines
N.W. Quebec	Roger Peloquin, Northgate Patino Mines
North-Eastern Ontario	W. Moore, Kidd Creek Mines
North Western Ontario	Ross Melville, Campbell Red Lake
Central Ontario	Claude Ferron, Noranda Ltd.
Toronto	G. McDonald, Selco Mining
Manitoba/Saskatchewan	Manfred Nevin, Uranerz Min.&Explor.
British Columbia	P. McIntyre, Equity Silver Mines
Yukon/NWT	R. Simkus, Cominco Ltd.

## BOARD OF DIRECTORS 1986

### EXECUTIVE:

Chairman:	E. Marcotte	Treasurer:	E.G. Joe
Vice-Chairman:	G. McDonald	<u>Program Committee:</u>	G. McDonald,
Secretary:	D. Doyle	D. Doyle	

### REGIONAL REPRESENTATIVES:

Atlantic	Leonard Surges, B. M. & S.
Labrador/N.E. Quebec	Ronald Ross, Wabush Mines
N.W. Quebec	Tshitende Kasongo, Camchib Mines
N.E. Ontario	Bill Moore, Kidd Creek Mines
N.W. Ontario	Ross Melville, Campbell Red Lake
Central Ontario	Claude Ferron, Noranda
Toronto	Michael Smith, Witteck Development
Manitoba/Saskatchewan	Manfred Neven, Uranerz Min.&Explor.
British Columbia	Phil McIntyre, Equity Silver Mines
Yukon/NWT	Ron Simkus, Cominco Ltd

## BOARD OF DIRECTORS 1987

### EXECUTIVE:

Chairman:	G. McDonald	Treasurer:	E.G. Joe
Vice-Chairman:	W. Moore	<u>Program Committee:</u>	W. Moore, D. Doyle
Secretary:	D. Doyle		

### REGIONAL REPRESENTATIVES:

Atlantic	Mike Ounpuu, Brunswick Mining & Smelting
Labrador/NE Quebec	Anh Mai, Iron Ore Company
N.W. Quebec	Tshintende Kasongo, Les Mines Camchib
N.E. Ontario	Ron Colquhoun, Dome Mines
N.W. Ontario	Tom Harvey, Dickenson Mines
Central Ontario	Jim Truskoski, Inco Ltd.
Toronto	Michael Smith, Bechtel Canada
Manitoba/Sask.	Peter Broad, Sherritt Gordon
British Columbia	Brad Marchant, Coastech Research
Yukon/N.W.T.	Holger Krutzelmann, Nerco Con Gold

## BOARD OF DIRECTORS -1988

### EXECUTIVE:

Chairman:	W. Moore	Treasurer:	E.G. Joe
Vice-Chairman:	H. Krutzelmann	<u>Program Committee:</u>	H. Krutzelmann,
Secretary:	D. Doyle		D. Doyle

### REGIONAL REPRESENTATIVES:

Atlantic	Mike Ounpuu, Caribou New Brunswick Mining
Labrador	George Chung, Iron Ore Company
N.W. Quebec	Hanson Zouit, Lac Shortt Mines
Montreal	Robert McIvor, Grinding Process Development
N.E. Ontario	Peter Kresin, Canamax Resources Inc.
Toronto	Gordon Agar, Inco Ltd.
Lake Superior	Klaus Meyer, Teck-Corona
N.W. Ontario	Tom Harvey, Placer Dome Inc.
Central Ontario	Jim Truskoski, Inco ltd.
Manitoba	Bunny Barlin, Hudson Bay Mining
Saskatchewan	Henry Schnell, AMOK
Alberta/N.W.T.	Graham Karklin, Echo Bay Mining
British Columbia/Yukon	Brad Marchant, Coastech Research

## BOARD OF DIRECTORS - 1989

### EXECUTIVE:

Chairman:	Bill Moore	Treasurer:	Edwin Joe
Vice-Chairman:	Len Surges	Past Chairman:	Bill Moore
Secretary:	Don Doyle	<u>Program Committee:</u>	Don Doyle

### REGIONAL REPRESENTATIVES:

Atlantic	Richard May	N.W. Ontario	John Frostiak
Labrador	George Chung	Central Ontario	Bert Huls
W. Quebec	Hasson Zoui	Manitoba	Milt Goble
Montreal	Robert McIvor	Saskatchewan	Henry Schnell
N.E. Ontario	Peter Kresin	Alberta/NWT	Graham Karklin
Toronto	Gordon Agar	B.C./Yukon	Steve Haggarty
Lake Superior	Klaus Meyer		

## BOARD OF DIRECTORS - 1990

### EXECUTIVE:

Chairman:	Leonard Surges	Secretary:	Ray MacDonald
Past-Chairman:	Bill Moore	Treasurer:	Edwin Joe
1st Vice-Chairman:	Klaus Meyer	Treasurer Elect:	Gilles Tremblay
2nd Vice-Chairman:	Brad Marchant	(1991)	

### REGIONAL REPRESENTATIVES:

Atlantic	Richard May, RPC, NB
Labrador	Kevin McDermott, Wabush Mines
N.W. Quebec	Hassan Zouit, Aurtec
Montreal	Michael Ounpuu, Noranda Research
N.E. Ontario	Lloyd Buckingham, American Barrick
Toronto	Glen Kosick, Minnovex Technologies
Lake Superior	Peter McPhail, Hemlo Gold Mine
N.W. Ontario	John Frostiak, Placer Dome Inc.
Central Ontario	Bert Huls, Falconbridge Nickel Mines
Manitoba	Milt Goble, Inco Ltd.
Saskatchewan	Henry Schnell, Saskatoon
Alberta/NWT	Darin Lee, Echo Bay Mines
British Columbia/Yukon	Steve Haggarty, Corona Corp.
Social Convener	Bob Bruce
METSOC/Min. Science	Glenn Dobby, University of Toronto

## BOARD OF DIRECTORS - 1991

### EXECUTIVE:

Chairman:	Klaus Meyer	Secretary:	Ray MacDonald
Past-Chairman:	Len Surges	Treasurer:	Edwin Joe
1st Vice-Chairman:	Brad Marchant	Treasurer Elect:	Angela Putz
2nd Vice-Chairman:	Bert Huls	(1992)	

### REGIONAL REPRESENTATIVES:

Atlantic	Richard May, Fredericton, NB
Labrador	Kevin McDermott, Wabush Mines
N. W. Quebec	Luc Duval, Les Mines Selbaie
Montreal	Rene del Villar, Universite Laval
N. E. Ontario	Kelly Roberts, Falconbridge Ltd.
Toronto	Chris Bennett, Outokumpu Equipment
Lake Superior	Dominic Fragomeni, Hemlo Gold Mines Ltd.
N.W. Ontario	Rod Knapp, Dickenson Mine
Central Ontario	Gerhard Heinrich, Falconbridge
Manitoba	Milt Goble, Inco Ltd.
Saskatchewan	John Dinsdale, Saskatoon
Alberta/N.W.T.	Darin Lee, Echo Bay Mines
British Columbia/Yukon	George E. Rodger, Placer Dome

## BOARD OF DIRECTORS - 1992

### EXECUTIVE:

Chairman:	Brad Marchant	Secretary:	Ray MacDonald
Past-Chairman:	Klaus Meyer	Treasurer:	Edwin Joe
1st Vice-Chairman:	Bert Huls	Treasurer Elect:	Angela Putz
2nd Vice-Chairman:	Lloyd Buckingham		

### REGIONAL REPRESENTATIVES - 1992:

Atlantic	Richard May
Labrador	Kevin McDermott, Wabush Mines
N.W. Quebec	Luc Duval, Les Mines Selbaie
Montreal	Rene de Villar, Universite Laval
N.E. Ontario	Kelly Roberts, Falconbridge Ltd.
Toronto	Chris Bennett, Outokumpu Equipment
Lake Superior	Robert Raponi, Williams Operating Corp.
N.W. Ontario	John Frostiak, Campbell Mines ltd.
Central Ontario	Gerhard Heinrich, Falconbridge
Manitoba	Milt Goble, Inco Ltd.
Saskatchewan	Lawrence Melis, Melis Engineering
Alberta/N.W.T.	Peter Maltby, Nerco Con Mine
British Columbia/Yukon	Jeff Austin, Brenda Process Technology

### REPRESENTATION ON CIM COMMITTEES - 1992:

Distinguished Lecturer	Gordon Agar	Bulletin	Angela Putz
MetSoc/Min. Sciences	Eddie Joe	Special Volumes	Phil Claridge
Mineral Economics	Colin Chapman	Central Publications	Ray MacDonald
Publications	Andre Laplante	AGM - Vancouver	Brad Marchant
Education	Lucky Amaratunga	CIM Environmental Committee	Bill Moore

## BOARD OF DIRECTORS - 1993

### EXECUTIVE:

Chairman:	Bert J. Huls	2nd Vice-Chairman:	Luc Duval
Past-Chairman:	Brad Marchant	Secretary:	Ray MacDonald
1st Vice-Chairman:	Lloyd Buckingham	Treasurer:	Angela Putz

### REGIONAL REPRESENTATIVES - 1993:

Atlantic	Richard May	N.W. Ontario	John Frostiak
Labrador	Kevin McDermott		Ernie Marcotte (Alternate)
N.W. Quebec	Jean Robitaille	Central Ontario	Jeff McLaughlin
Montreal	Rene del Villar	Manitoba	Milt Goble
N.E. Ontario	Kelly Roberts	Saskatchewan	Lawrence Melis
Toronto	Chris Bennett	Alberta/N.W.T.	Peter Maltby
	Steve Williams (Jan. 1994)	B.C./Yukon	Phil McIntyre
Lake Superior	Robert Raponi		

### REPRESENTATION ON CIM COMMITTEES - 1993:

MetSoc/Min. Sciences	Ray MacDonald	Special Volumes	Ray MacDonald
Mineral Economics	Colin Chapman	Central Publications	Ray MacDonald
Publications	Andre Laplante	AGM - Toronto	C.Bennett/R.MacDonald
Education	Lucky Amaratunga	CIM Environmental Committee	Bill Moore
Bulletin	Angela Putz		

## BOARD OF DIRECTORS - 1994

### EXECUTIVE:

Chairman:	Lloyd Buckingham, American Barrick
Past Chairman:	Bert J. Huls, BHP Minerals
1st Vice-Chairman:	Luc Duval, Les Metaux Billiton Canada
2nd Vice-Chairman:	Mike Mular, Noranda Minerals
Secretary:	Ray MacDonald, CANMET
Treasurer:	Angela Putz, CANMET

### REGIONAL REPRESENTATIVES :

Atlantic	Richard May, Fredericton, NB
Labrador	Kevin McDermott, Wabush Mines
N.W. Quebec	Jean Robitaille, Agnico Eagle Mine
Montreal	Cesar Gomez, McGill University
N.E. Ontario	Ken Roberts, Placer Dome Canada
Toronto	Mike Ounpuu, Lakefield Research
Lake Superior	Mike Mular, Noranda Minerals
N.W. Ontario	Ernie Marcotte, Lac des Isles Mines Ltd.
Central Ontario	Jeff McLaughlin, Inco Ltd.
Manitoba	Milt Goble, Inco Ltd.
Saskatchewan	Lawrence Melis, Melis Engineering
Alberta/NWT	Phil MacIntyre, Royal Oak Mines
British Columbia/Yukon	Jeff Austin, Brenda Process Technology

### REPRESENTATION ON CIM COMMITTEES - 1994:

President-Elect (CIM) - Nominating Committee	Lloyd Buckingham
Fellowship Award Committee	Lloyd Buckingham
METSOC/MIN Science	Ray MacDonald
Computer Applications & Automation Committee	Andrew Mular
Mineral Economics	Colin Chapman
Membership	Luc Duval
Publications	Andre Laplante
Education	Lucky Amaratunga
Bulletin	Angela Putz
Special Volumes	Ray MacDonald
Central Publications	Ray MacDonald
97th CIM AGM - Halifax	Richard May
	Lloyd Buckingham
CIM Environmental Committee	Bill Moore
International Relations	Luc Duval

## **BOARD OF DIRECTORS - 1995**

### **EXECUTIVE:**

Chairman:	Luc Duval, Les Metaux Billiton	2nd Vice-Chairman:	Jeff Austin
Past-Chairman:	Lloyd Buckingham	Secretary:	Ray MacDonald
1st Vice-Chairman:	Mike Mular	Treasurer:	Angela Putz

### **REGIONAL REPRESENTATIVES - 1995:**

Atlantic	Bob Owen, PCS	W. Ontario	Ernie Marcotte
Labrador	Kevin McDermott	Central Ontario	Roland Crull
N.W. Quebec	Pierre Lacombe	Manitoba	Richard May
Montreal	Cesar Gomez	Saskatchewan	Chuck Edwards
N.E. Ontario	Bill Shand	Alberta/N.W.T.	Phil MacIntyre
Toronto	Mike Ounpuu	B.C./Yukon	Jeff Austin
Lake Superior	Wayne Luinstra		

### **REPRESENTATION ON CIM COMMITTEES - 1995:**

President-Elect (CIM) - Nominating Committee	Luc Duval
Fellowship Award Committee	Luc Duval
METSOC/MIN. Science	Ray MacDonald
Computer Applications & Automation Committee	Peter Kondos
Mineral Economics	Colin Chapman
Membership	Mike Mular
Publications	Cesar Gomez
Education	Lucky Amaratunga
Bulletin	Angela Putz
Special Volumes	Ray MacDonald
Central Publications	Ray MacDonald
98th CIM AGM - Edmonton	Richard May
CIM Environmental Committee	Bill Moore
International Relations	Luc Duval



## BOARD OF DIRECTORS - 1996

### EXECUTIVE:

Chairman:	Mike Mular	2nd Vice-Chairman:	Chuck Edwards
Past-Chairman:	Luc Duval	Secretary:	Ray MacDonald
1st Vice-Chairman:	Jeff Austin	Treasurer:	Angela Putz

### REGIONAL REPRESENTATIVES - 1996:

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Labrador	Kevin McDermott	Central Ontario	Roland Crull
N. W. Quebec	Pierre Lacombe	Manitoba	Richard May
Montreal	Jacques Boivin	Saskatchewan	Doug Mearns
N. E. Ontario	Bill Shand	Alberta/NWT	Phil MacIntyre
Toronto	Mike Ounpuu	B.C./Yukon	Maurice Tagami
Lake Superior	Wayne Luinstra		

### REPRESENTATION ON CIM COMMITTEES - 1996:

President-Elect (CIM) - Nominating Committee	Mike Mular
Fellowship Award Committee	Mike Mular
METSOC/MIN. Science	Ray MacDonald
Computer Applications & Automation Committee	Peter Kondos
Mineral Economics	Colin Chapman
Membership	Jeff Austin
Publications	Cesar Gomez
Education	Lucky Amaratunga
Bulletin	Angela Putz
Special Volumes	Ray MacDonald
Central Publications	Ray MacDonald
98th CIM AGM - Edmonton	Richard May
99th CIM AGM - Vancouver	Maurice Tagami
CIM Environmental Committee	Jeff Austin
International Relations	Luc Duval

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1st Vice-Chairman:	Chuck Edwards	Treasurer:	Ray MacDonald

### REGIONAL REPRESENTATIVES - 1997:

Atlantic	Alain Bouchard	N. W. Ontario	Ernie Marcotte
Labrador	Kevin McDermott	Central Ontario	Roland Crull
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### REPRESENTATION ON CIM COMMITTEES - 1997:

President-Elect (CIM) - Nominating Committee	Jeff Austin
Fellowship Award Committee	Jeff Austin
METSOC/MIN. Science	Ray MacDonald
Computer Applications & Automation Committee	Pending !
Mineral Economics	Colin Chapman
Membership	Chuck Edwards
Publications	Cesar Gomez
Education	Lucky Amaratunga
Bulletin	Angela Putz
Special Volumes	Ray MacDonald
Central Publications	Ray MacDonald
99th CIM AGM - Vancouver	Maurice Tagami
CIM Environmental Committee	Jeff Austin
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