

Council for 2004/2005

President

F.M.G. Egerton

President-elect

W.H. van Niekerk

Vice-presidents

Senior

R.P.H. Willis

Junior

R.G.B. Pickering

Immediate Past-president

T.R. Stacey

Honorary Treasurer

J.A. Cruise

Members of Council

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N.G.C Blackham***	A.F. Mulaba-Bafubiandi**
A.M. Croll	M.P. Mullins*
C.P. de Villiers*****	J.C. Ngoma
M. Dworzanowski*	K.C. Owen
P.H. Ferreira	F.W. Petersen*
A.M. Garbers-Craig	R.C.D. Phillis*
J.M.A. Geldenhuis	M.H. Rakale*
P. Hand*****	M.K.C. Roberts
K.J. Hay	C.T. Smith*****
P.J. Knottenbelt**	G.L. Smith
G.V.R. Landman	M.M. Valenta***
A. Mabbett*****	J.N. van der Merwe
N.C. Machingawuta	D.J. van Niekerk
D.F. Malan*****	H.G. Waldeck

*Co-opted members

** Representing Non-Corporate Members

***Observer (MMMA)

****Observer (GSSA)

*****Observer (AMMSA)

*****Observer (SACMA)

*****Observer (SACPS)

*****Observer (SANIRE)

Branch Chairmen

Johannesburg Branch	J.L. Porter
Free State Branch	C.P. de Villiers

Pretoria Branch

H. Möller

Western Cape Branch

D.J. Bradshaw

Bushveld Branch

C.A.F. Sweet

Zululand Branch

I.J. Walton

Mpumalanga Branch

M.R. Mohring

Past-Presidents serving on Council

A.N. Brown	R.P. Mohring
H.E. James	J.R. Dixon
O.K.H. Steffen	M.H. Rogers
R.D. Beck	L.A. Cramer
D.A.J. Ross-Watt	A.A.B. Douglas
N.A. Barcza	S.J. Ramokgopa

Key objectives of the Institute

To initiate and give effect to the means whereby the requirement for technology and scientific knowledge of the minerals and metals section of the South African economy is satisfied; and to represent and promote the interests of its members.

Arrangement of this Report

In accordance with the current management policy, this report on the activities of the Institute is presented under eight main headings:

1. Interests of Individual Members
2. Technical Meetings
3. Publications
4. Regional Development
5. Engineering Science and Technology in South Africa
6. State Liaison
7. International Liaison
8. Management and Administration.

1. Interests of Individual Members

Portfolio Holder: F.M.G. Egerton

Key Performance Areas

In the interests of individual members, the SAIMM

undertakes to assess the qualifications, experience, and the level of responsibility of applicants for membership, and allocates a membership certificate in an appropriate grade as a means of granting appropriate professional and technical status to individuals who practise in the minerals and metals sector
arranges conferences, colloquia, schools and seminars where technical information on mining, metallurgical and allied issues is disseminated. Both members and the general industry benefit from these interchanges

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undertakes to prepare and publish career guidance brochures, bursary handbooks, audiovisual and video programmes, optional school curricula material, etc., and participates in the activities of the RADMASTE Centre to stimulate scholars and students to select careers in the minerals and metals sector of the South African economy guards the professional interests of engineers, scientists, technologists, and technicians by providing a corporate voice and by representing their interests on bodies such as the Engineering Council of South Africa through representation on ECSA, assists with the evaluation of curricula at universities and technikons with a view to improving the level of education of graduates and diplomates and ensures that the courses are relevant to the needs of the minerals and metals sector makes awards, in the form of medals, prizes and certificates, in order to recognize technical excellence, to stimulate a sense of pride in high standards of performance, and to encourage individuals involved in the minerals and metals sector to share the results of their work through publication. The following are eligible for SAIMM awards: individuals for the very highest achievements in the South African mining and metallurgical industry, SAIMM members and non-members for papers of the highest standard published in the Journal or other SAIMM publications, and students from universities and technikons for exceptional academic performance arranges technical excursions, banquets, and other social events to create opportunities for professional association and fellowship for its members.

1.1 Membership Committee

R.P.H. Willis, Chairman

R.D. Beck	R.G.B. Pickering
A.N. Brown	S.J. Ramokgopa
L.A. Cramer	M.H. Rogers
J.A. Cruise	D.A.J. Ross-Watt
J.R. Dixon	G.L. Smith
A.A.B. Douglas	T.R. Stacey
F.M.G. Egerton	O.K.H. Steffen
K.J. Hay	J.N. van der Merwe
H.E. James	D.J. van Niekerk
N.C. Machingawuta	W.H. van Niekerk
R.P. Mohring	H.G. Waldeck

Membership

Members of the SAIMM comprise engineers, metallurgists, chemists, physicists, geologists, certificated managers, and technikon diplomates, all of whom have an interest in the fields of mining, extractive metallurgy, metals technology, and other related areas.

Corporate members are classified as follows

HONORARY LIFE FELLOW: must have rendered services to the Institute, science, or industry.

FELLOW: (Minimum age 30 years.) A person eligible for election or transfer into the class of Fellow shall be any minerals professional employed for a minimum of five years in a senior technical position of responsibility provided that the candidate has had ten years' combined technical tertiary education and appropriate experience, or experience only.

MEMBER: (Minimum age 25 years.) A person eligible for election or transfer into the class of Member shall be employed for a minimum of two years in a technical position of responsibility provided that the candidate has had five years' combined technical tertiary education and appropriate experience, or experience only.

Non-corporate members are classified as follows

COMPANY AFFILIATE: companies associated with mining or metallurgical industries are eligible for membership.

HONORARY FELLOW: persons of distinction in public service, science, or the arts.

ASSOCIATE: a person eligible for election or transfer into the class of Associate shall be any person with a recognized industry qualification, within the disciplines of mining, extractive metallurgy, or metals technology.

STUDENT: a full-time student or postgraduate student at a university, technikon, or any other educational institution approved by Council, who is being trained to occupy a technical position in the mining or metallurgical industry or associated organizations.

Membership Roll

Members of the Institute are divided into CORPORATE and NON-CORPORATE members, all of whom are entitled to attend and speak at meetings. Only Corporate Members are entitled to vote. All applications for membership or transfer require one proposer and one seconder.

RESIGNATION: A member may resign from the Institute by sending his or her written resignation to the Secretary together with payment of any monies due.

RETIRED MEMBERSHIP: A Fellow or Member who has *bona fide* retired from active business may retain membership at a reduced subscription providing he or she has been a member for 20 years. Members can contact the Secretary to establish the number of years of service prior to submitting a written request for Retired Membership to the Institute.

STUDENTS: A candidate may remain a Student member only while he or she is being educated or trained in a manner approved by the Council.

When he or she no longer qualifies as a Student member, he or she shall automatically be transferred to the category of Associate. Students are reminded to forward a copy of their degree certificates to the Institute on graduation.

A candidate may not remain a Student member after the end of the Institute's financial year in which he or she attains the age of twenty-eight years, unless the Institute receives written confirmation from the university or technikon that the Student member is still a full-time student.

CHANGE OF DETAILS: It is essential that members contact the Institute without delay about change in designation, change in employer, payment address or change in postal address.

Table 1

Summary of new applications and membership movements for 2004/2005 and comparison of membership grades and total membership 2004/2005

Membership grade	Members July 2004	New members	Transfers in	Transfers out	Reinstatements	Resignations	Deceased	Struck-off	Net gain/(loss)	Members June 2005
Honorary Life Fellow	41	0	0	0	0	0	0	0	0	41
Honorary Fellow	4	0	0	0	0	0	0	0	0	4
Life Fellow	15	0	0	0	0	1	0	0	-1	14
Fellow	381	21	12	11	1	9	0	9	5	386
Retired Fellow	144	0	11	0	0	2	6	0	3	147
Life Member	1	0	0	0	0	0	0	0	0	1
Member	660	33	7	21	4	19	2	16	-14	646
Retired Member	80	0	12	0	0	3	2	0	7	87
Associate	717	21	22	13	6	25	3	38	-30	687
Retired Associate	14	0	2	0	0	0	1	0	1	15
Student	325	120	2	23	0	2	0	0	97	422
Company Affiliate	170	2	0	0	1	14	0	0	-11	159
Total	2552	197	68	68	12	75	14	63	57	2609

Without this the communication link to members is broken. Also, members must ensure that, where subscriptions are paid by a company, the Institute has on record the correct payment address.

Benefits of Membership

Individuals derive various benefits from membership of the Institute:

- contact with fellow members
- special reduced fees when attending congresses, symposia, colloquia, conferences, schools, discussion groups, etc.
- notices of events promoting technology transfer, which also satisfy the need for continuing education
- a bi-monthly *Journal* with a balanced content and of high technical standard, which serves as a communication medium to keep members informed on matters relating to their professional interests
- participation in technical excursions, banquets, and other social events, which create further opportunities for professional association and fellowship
- tax deduction of membership fees in most cases
- reduced registration fees for professional registration through the Engineering Council of South Africa.

Companies that become Members of the Institute

- benefit from the opportunities to exchange knowledge, particularly about new developments and research
- receive the Institute's publications of international conferences held in South Africa, as well as monographs on a variety of subjects and regular copies of the bi-monthly *Journal*
- are entitled to send two non-member employees to mining and metallurgical schools, colloquia, congresses, visits, and excursions at member rates
- receive newsletters and notices about all Institute activities

benefit from the fact that Company Affiliateship is tax-deductible

have ample opportunity to send delegates to attend technical meetings to obtain information and to benefit from the experience of others.

1.2 Career Guidance and Education

G.V.R. Landman, Chairman

M. Booth	F.W. Petersen
F.M.G. Egerton	M.H. Rakale
M.F. Handley	M.K.C. Roberts
P.J. Knottenbelt	B. Tait
A. Mulaba	

The objectives are realized through six focused areas, which are as follows:

- Facilitating debate on mining and metallurgical education*—a conference (workshop on Education, Training and Career Development, was held on 9 February 2005, explaining the challenges facing the minerals industry education with regard to fluctuating demand, stakeholder needs, content, finance, etc.
- Capacity building in mining-related university departments*—the Career Guidance Committee decided after consultation with some mineral-related departments to engage in a mentoring programme to assist students and young professionals to understand and engage more effectively with the industry and the challenges facing them. Potential SAIMM members were invited and an overwhelming response was received. A workshop to be held on 25 August 2005 to develop such a system, is envisaged
- Technical study on assessing the capacity of mining and metallurgical engineers, technologists and technicians in South Africa*—an independent study by Prof. Josh Lurie on the skills needed by graduates and diplomates for mining and metallurgy was undertaken. It was used for the education conference

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Advertising, website and overall promotion—the Committees Secretary promoted the South African Mining industry as a career option by attending the Minquiz 2005 at Mintek on 2 March 2005. The development of the Career section for the SAIMM website has begun and will be based on a model similar to that of the Australian Institute of Mining and Metallurgy

Continuous professional development (CPD)—the Committee Secretariat continues to sustain a database of SAIMM members participating in conferences, seminars, etc. of the SAIMM with the aim of it serving as a register to be consulted for professional registration at ECSA

Synergies with other forums/initiatives—the Career Guidance Committee seeks partnership with any other institution that aims at promoting mining and metallurgy as a career choice. It therefore tries to eliminate duplication of effort. The Career Guidance Committee plans to focus on advertising mentoring as part of the whole SAIMM strategy in the year ahead.

I would like to thank all members of the Committee for their contribution in the past year and for the support from Council and the president of SAIMM.

I would like to mention a special appreciation to Mr Peter Knottenbelt for his unselfish determination to make the Higher Education Workshop such a success.

1.3 Promotion of the SAIMM

Portfolio holder: F.M.G. Egerton

Since its inception in 1894, the Institute has been a dynamic organization attending professionally to the needs of all its members. There are approximately 2700 members and the Institute's membership shows a steady growth.

Factors such as:

- growth of the South African mining and metals industry
- increasing diversity amongst its members
- scientific and technological developments
- the need for trained manpower and
- the increasing demands of society on the mining and metals community have helped to shape the Institute.

To better serve the needs of members, the activities of the Institute have been divided into three major fields namely Mining and Metallurgy.

The increasing complexity of the Institute's affairs and the need to respond rapidly to local and international developments, led to the formulation of a Strategic Plan:

- Clarify the direction in which the Institute is developing
- Identify the Institute's corporate objectives
- describe how it should organize and structure itself to be truly effective and remain effective
- formulate guidelines for future planning, budgeting and decision-making at all levels.

1.4 Awards and Adjudication Committees

Awards and Adjudication Committee—Mining

M.H. Rogers, Chairman

R.D. Beck

R.G.B. Pickering

J.R. Dixon
A.A.B. Douglas
F.M.G. Egerton

G.L. Smith
T.R. Stacey
R.P.H. Willis

Awards and Adjudication Committee—Metallurgy

W.H. van Niekerk, Chairman

R.D. Beck

L.A. Cramer

A.M. Garbers-Craig

J.M.A. Geldenhuis

**Co-opted members*

K.J. Hay

N.C. Machingawuta

R.L. Paul*

F.W. Petersen*

Brigadier Stokes Memorial Award

The Brigadier Stokes Memorial Award, which takes the form of a platinum medal, is awarded to an individual for the very highest achievement in the South African mining and metallurgical industry, and is not necessarily based on technical expertise.

The Award was established in 1980, and the previous recipients were as follows:

1980	H.F. Oppenheimer
1981	W. Bleloch
1982	F.G. Hill
1983	A.W. Whillier (posthumously)
1984	D.G. Krige
1985	R.E. Robinson
1986	M.D.G. Salamon
1987	T.F. Muller
1988	W.J. (Wim) de Villiers
1989	R.A. Plumbridge
1990	W.G. Boustred
1991	P. du P. Kruger
1992	E. Pavitt
1993	D.A. Pretorius
1994	H. Wagner
1995	O.K.H. Steffen
1996	B.E. Hersov
1997	D.W. Horsfall (posthumously)
1998	B.P. Gilbertson
1999	L. Boyd
2000	A.H. Mokken
2001	T.L. Gibbs
2002	J. Ogilvie Thompson
2003	P.V. Cox
2004	H.J. Smith

This year the award is being made to P. Motsepe for his outstanding contribution to the industry over many years.

SAIMM 50 Year Club

The Institute established the 50 Year Club in 1989 to recognize the faithful and loyal support of its senior members with 50 years' unbroken membership. They become members of the club on the 50th anniversary of their joining the Institute. Their names are published each year in the Annual Report and they are presented with a gold lapel badge on a suitable occasion. There are no fees, and the only obligation of members is to wear their lapel badges with pride and affection at all meetings of the Institute. The present members of the club are as follows:

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*Year to
June*

Member

1924	E.C. Polkinghorne*	
1926	R.M. Martin*	
1927	W. Allen*	
1930	E.T. Dunstan* (posthumously)	
	P.L. Ward*	
1931	F. Bowdler*	
1932	J.E. Laschinger*	
1933	F.D. Cartwright*	E.R.C. O'Connor*
	C.H. Coxon*	B.M. Roberts*
	J. Levin	A.A. von Maltitz*
	D.D. McWilliam*	T. Waterman*
1934	A.C.M. Cornish-Bowden*	J.W.V. Mortleman*
	H.E. Cross*	K. Rood*
	E.F. Laschinger*	A. Siff*
	E. Margo	O. Weiss*
1935	O.B. Swallow*	
1936	O. Deane*	A.H. Mokken*
	T.L. Gibbs*	H.L. Monro*
	R.C.J. Goode*	R.M.F. Seawright*
	F.G. Hill*	A.C. Pigott*
	D.M. Jamieson*	J.S. van Zijl*
	D.J. Rogers*	L. Walter*
1937	W. Bleloch*	J.J. Klein*
	L.A. Bushell*	C.D. Storrar
	K.W. Findlay*	
1938	V.C. Barnes	C.A. McKechnie*
	E.T.S. Brown*	J.A. Nixon
	R.S. Cooke*	E. Popplewell
	J.K.E. Douglas	C.G. Sowry*
	A.L.A. Forder*	E.W. Thiel*
1939	G. Armstrong-Smith	R.S. Pearson
	D.E.R. Ayres	D.C.J. Squirrel*
	E.H.D. Carman	R.F.J. Teichmann*
	W.G.H. Jackson*	I.S. van Eyssen*
	T.A. Newman	S.J. Venning
1940	L.D.C. Bok*	G.D. Gettliffe*
	A.W.L. Brereton	G.G. Stanley
1941	A.H.H. Davison*	D. de V. Oxford*
	D.J. Forder	E. Pavitt
	A.R.C. Fowler*	A.C. Petersen*
	H.F.W. Ketelbey	E.R. Rudolph
	J.D. McNamara	P.W.J. van Rensburg*
	T.F. Muller*	
1942	R.E. Burnton*	O.L. Papendorf
	R.C. Espley-Jones	V.O. Steed
	N.M. Hayne*	J.E. van Leeuwen*
	R.T. Naudé	W.C. Walmsley*
1943	D.J. Molony*	R.P. Plewman
	J.D. McMorran	
1944	A.F. Dick	V.M. Reinecke*
	R.B. MacGillivray	A.S. Swartz
	L.J. Prince*	A.H. Taute
	J.F. Reid	P.B. Weehuizen
1945	J.L. Curtis*	K.E. Steele*
	E.T. Pinkney	
1946	W.I. Spence	

1947	G.H. Grange	J.D. Pollard
	W.B. Howe	V.C. Robinson*
	J. Marr-Levin	A.N. Shand*
	C.J. Parr*	G.R. Still
1948	D.F. Foster	J. Pope*
	M.H. Grusd	N.A. Stacey
	P.A. Laxen	J.A. Tyser
	G.Y. Nisbet	
1949	G.P. Bennett	J.P. Hugo
	J.F. Curtis*	D.A. Immelman
	O. Davel	
1950	D.F. Grieve	R.P. Plasket
	B.E. Hersov	V.C. Ward
	D.G. Maxwell	
1951	D.G. Krige	N.C. Pope
	B.H.L. Leach	W.T. Ruhmer
	M.J. Martinson	T. Zadkin*
	W.D. Ortlepp	
1952	A.N. Brown	E.P. Mortimer
	M.J. Deats	D.J. Murphy
	W. Lurie	H.J. Stucke
	N. Mertincevic	R.G. Williams
1953	B.G. Fordyce	G.D. Tainton
	G. Langton	J. Uys
	A.A. Sealey	N. Zolezzi
1954	R.C. Bertram	R.B.W. Wiggill

* Deceased since becoming members of the club

Gold and Silver Medals

Papers published in the *Journal* from March 2004 to February 2005 by members of the Institute were considered for medals.

Gold Medals

L.R. Nelson, R. Sullivan, P. Jacobs, E. Munnik, P. Lewarne, E. Roos, M.J.N. Uys, M. de Vries, K. McKenna, N. Voerman, and B.O. Wasmund for their Transaction paper published in the October issue of the *Journal* entitled 'Application of a high-intensity cooling system to DC-arc furnace production of ferrocobalt at Chambishi'.

Silver Medals

Silver medals were awarded to the following:

P.C. Pistorius for his paper published in the August issue of the *Journal* entitled 'Equilibrium interactions between freeze lining and slag in ilmenite smelting' and J.H. Zietsman and P.C. Pistorius for their paper published in the October issue of the *Journal* entitled 'Process mechanisms in ilmenite smelting'.

The authors were recognized for their contributions in this field.

W.E. Stumpf—medal (attending) for his paper published in the Decemberr issue of the *Journal* entitled 'Hot work modelling of two equivalent low carbon strip steels produced, respectively, by the cold charge route and by the hot charge route'.
R.M. Lamy and L. Lorenzen for their paper published in the January issue of the *Journal* entitled 'A study of factors influencing the kinetics of copper cementation during atmospheric leaching of converter matte'.

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Honorary Life Fellows

Honorary Life Fellowship is awarded by Council to Corporate Members of the Institute who have rendered outstanding service to the industry or to the Institute over a considerable period. Council has conferred Honorary Life Fellowship on the following persons:

Pre-		
1923	A. Aiken	S.H. Pearce
	A.F. Crosse	J.P. Williams
	J. Littleton	
1923	J. Moir	
1930	H.A. White	
1931	P. Cazalet	J.A. Wilkenson
	A. Whitby	
1932	J.R. Thurlow	
1934	Wm. Cullen	A. McArthur Johnston
	W.R. Feldtmann	G.H. Stanley
	E.H. Johnson	
1938	G. Melvill	F.W. Watson
	S. Newton	
1941	J. Henderson	
1943	Sir R.N. Kotzé	
1946	J. van N. Door	T.K. Prentice
	C.J. Gray	R.S.G. Stokes
	Jas Gray	S.J. Truscott
	J.V. Muller	G.A. Watermeyer
	John Orr	J.A. Woodburn
1951	W.W. Mein	
1953	P.E. Hall	B. St. J. van der Riet
1954	C. Biccard Jeppe	
1955	P.N. Lategan	
1958	R.A.H. Flugge-de-Smidt	
1960	G. Hildick-Smith	A.J. Walton
	A.J. Orenstein	F. Wartenweiler
	H.J. van Eck	
1961	C.S. McLean	
1966	F.G. Hill	F. Meyer
1970	H.E. Cross	D.M. Jamieson
	R.C.J. Goode	
1974	R.J. Adamson	C.J. Irving
	W. Bleloch	J.F. Reid
	H. Britten	
1975	M. Barcza	J.T. McIntyre
	J. de V. Lambrechts	
1976	D.G. Maxwell	A.R.O. Williams
1978	J.K.E. Douglas	V.C. Robinson
	D.D. Howat	
1979	J.P. Hugo	P.W.J. van Rensburg
1980	Hon. S.P. Botha	R.P. Plewman
	Hon. P.G.J. Koornhof	R.E. Robinson
	A. Louw	
1982	M.G. Atmore	
1983	C.S. MacPhail	
1985	P.R. Jochens	M.D.G. Salamon
	D.G. Malan	
1986	D.G. Krige	G.Y. Nisbet
1987	A.N. Brown	
1988	J.D. Austin	D.A. Viljoen
	R.P. King	

1989	P.A. von Wielligh	
1990	S. Budavari	G.T. van Rooyen
	L.W.P. van den Bosch	
1991	H. Wagner	
1992	J. Lurie	
1993	No award	
1994	B.C. Alberts	
1995	R.D. Beck	H.E. James
	P.R. Janisch	
1996	R.J. Dippenaar	
	J.S. Freer	
	H.G. Mosenthal	
1997	J.A. Cruise	
1998	D.A.J. Ross-Watt	
1999	No award	
2000	N.A. Barcza	J.R. Dixon
	R.P. Mohring	
2001	M.H. Rogers	D.J. van Niekerk
2002	L.A. Cramer	R.F. Sandenbergh
	C.T. O'Connor	J.H. Selby
2003	A.A.B. Douglas	P.J. Knottenbelt
2004	No award	

In 2005 this award is to be conferred on F.A. Camisani-Calzolari for his outstanding contribution to the Institute over a number of years.

Student Prizes

Prizes were awarded to the following students and were presented at faculty prize-giving ceremonies held at the respective universities.

The prizewinners were as follows:

University of the Witwatersrand

Mining	F. Sathekge
Metallurgy	N. Dlamini

University of Pretoria

Mining	A.W. Bester
Metallurgy	T. Boshoff
Student Dissertation	A.W. Bester

University of Johannesburg

B Tech Mining Engineering	C.H. du Buisson
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University of Cape Town

Chemical Engineering	C. Ayers
Materials Engineering	M. Mshumi

University of Stellenbosch

Chemical Engineering	B. Pieterse
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Cape Peninsula University of Technology

Chemical Engineering	X. Boo
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The prizes for the universities of Cape Town and Stellenbosch, and the Cape Technikon are awarded at the Western Cape Branch Annual General Meeting.

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1.5 SAIMM Scholarship Trust Fund

L.A. Cramer, Chairman
 M.H. Rogers, Vice Chairman
 N.A. Barcza*
 R.D. Beck
 J.R. Dixon
 R.P. Mohring*
 *Resigned

The Scholarship Fund had a successful year in 2004 and the support that it has been able to give to some of the South African tertiary institutions has been greatly appreciated as shown by the following quotes from the institutions concerned:

'These bursaries have lessened the financial stress of the students so that they are able to concentrate on their studies.'

'The SAIMM Scholarship Fund has made a real difference to the success of many of the first-year students.'

'Thank you once again and I assure you that my staff and I shall do everything in our power to ensure a satisfactory return on your investment.'

The Fund received generous donations of some R239140.33 in 2004, which has allowed the Fund to commit R270000.00 to the various institutions for the 2005 academic year. These funds will be used to assist a great many more students than could be supported last year (R80000.00 was dispersed in 2004) and will have a very significant impact on their academic careers. A small reserve of funds is being kept each year and will be carried into 2006.

Continued support is being solicited from the many companies in the mining industry during 2005 and from the loyal members of the SAIMM. In future the Trustees are hopeful of being able to continue the current level of support for first and second year students at our best institutions.

1.6 SAIMM Gold Medal Awards

The South African Institute of Mining and Metallurgy were pleased to assume the administration of the Gold Medals and Scholarships in 2001, which had previously been done by the Chamber of Mines. All contributions are held in a separate Fund within the SAIMM accounts.

A total of four awards is presented to the universities of Pretoria and the Witwatersrand for the best student in the Faculty of Engineering and the best student in the branches of mining or metallurgy as determined by the universities. The award comprises a gold medal and a postgraduate scholarship to the value of R25 000.00.

These awards are only made possible by the generous contributions from major organizations in the industry, viz., AngloGold, Anglo American, Anglo American Platinum Corporation, Anglovaal Mining, BHPBilliton, De Beers Consolidated Mines, Gold Fields South Africa, Impala Platinum, Kumba Resources, and Sasol Mining. The SAIMM and the two universities are grateful for their generous support.

1.7 Banquet Committee

J.A. Cruise, Chairman
 L.A. Cramer
 J.R. Dixon
 A.A.B. Douglas
 F.M.G. Egerton
 R.P. Mohring
 M.H. Rogers
 T.R. Stacey
 W.H. van Niekerk

This year's banquet was held at the Sandton Convention Centre and we again had 1 000 guests.

The entertainment was again kept a secret and unbeknown to the audience, an arena had been built behind the curtains at the end of the ballroom; behind these curtains were waiting five white Lippizaner horses and their riders. As the curtains opened, a lone Lippizaner with its red-coated rider stood in the spotlight. Thereafter, we were given a half hour's demonstration of high school dressage. The Lippizaner, being a 400-year-old breed, had originally been trained as a war horse, so in addition to the dressage movements, high-leaping and back-kicking military manoeuvres were shown. The logistics of building an arena of sawdust in the ballroom, and of getting the horses up four floors in a lift and then past the kitchens would have taxed a military commander.

2. Technical Meetings

Portfolio Holder: W.H. van Niekerk

2.1 Technical Programme Committee—Mining

G.L. Smith, Chairman
 A.M. Clegg*
 A.M. Croll
 J.A. Cruise
 A.A.B. Douglas
 F.M.G. Egerton
 P.H. Ferreira
 M.F. Handley**
 I.F. Home**
 G.V.R. Landman
 D. Limpitlaw*
 J. Mothomogolo
 M.P. Mullins
 J.C. Ngoma
 K.C. Owen
 R.C.D. Phillis*
 R.G.B. Pickering
 J.L. Porter*
 M.H. Rakale
 B.C. Rip*
 T.R. Stacey
 F.W. Taylor*
 J. Truter
 H.G. Waldeck
 J.N. Wallington*
 R.P.H. Willis

*Co-opted members

**Resigned during the year

The Technical Programme Committee-Mining hosted eleven events during the last year and, despite an attempt to spread these evenly throughout the period, there was still a concentration in August-September, which coincided with the Electra Mining exhibition. Only one international event—'Platinum Adding Value' was convened during the year. A successful workshop on 'Mineral Sector Higher Education' was convened in conjunction with the Career Guidance and Education Committee to develop a better understanding of industry education needs and trends. Other events convened during the year reflected topical issues relating to mineral rights, BEE, risk management, explosive rockbreaking, coal operations, basic business skills, the design development and operation of rockpasses, and tunnelling (in conjunction with SANCOT). Overall event attendance at 925 members and guests, relative to 1 400 last year, was significantly reduced. This drop in attendance can largely be attributed to the reduction in the number of international events in the programme relative to previous years. There has, however,

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Schedule of Mining Technical Conferences, 2004/2005					
Type of Event	Date	Title	Convenor	Venue	Attendance
Colloquium	25 August 2004	The Management of Risk in the Minerals Industry	W. Waldeck	SA National Museum of Military Museum	41
Colloquium	7–9 September 2004	Sustainability of Coal	J. Ngoma	National Exhibition Centre, Nasrec	84
Colloquium	8 September 2004	Developments in South African Gold Processing	M. Greyling	National Exhibition Centre, Nasrec	64
Conference	9 September 2004	Underground Operators Conference	K. Owen	National Exhibition Centre, Nasrec	177
Colloquium	28 September 2004	SAMREC Inquisition 'Speak now or forever hold your peace'	R. Dixon	Mintek Randburg	99
International Conference	3–7 October 2004	International Platinum Conference 'Platinum Adding Value'	M. Rogers	Sun City	167
Colloquium	21 October 2004	Student Colloquium	A. Garbers-Craig	Sanlam Auditorium, University of Pretoria	160
Workshop	3–4 November 2004	Mining Business Awareness	J. Fisher/G. Smith	Mintek Randburg	15
Colloquium	16–17 November 2004	Design, Development and Operation of Rockpasses	T.R. Stacey	SA National Museum of Military Museum	72
Colloquium	26 January 2005	Mining Rights: Old to new and the impact on You!	J. Porter	SA National Museum of Military Museum	112
Workshop	9 February 2005	Minerals Sector Higher Education	P. Knottenbelt	SA National Museum of Military Museum	111
Colloquium	11–12 February 2005	A new era of tunnelling	E. Sellers/J. Cruise	Katse Dam, Lesotho	49
Colloquium	21 April 2005	Recent Advances in the Production of Super Performance Steels	K. Geldenhuis	Emerald Casino, Vanderbijlpark	39
Colloquium	11 May 2005	BEE—Milestones	H. Rakale and R. Phillis	SA National Museum of Military History	33
School	6–7 June 2005	Underground Hard Rock Drilling and Blasting	J. Truter	Civic Centre, Rustenburg	100
International Conference	26–28 June 2005	3rd Southern African Conference on Base Metals 'Southern Africa's response to changing global base metals market dynamics'	W. van Niekerk	Kitwe, Zambia	130

been a noticeable decline in support from gold mining operations. The committee has undertaken to further develop a programme of events that reflect the changing nature of the minerals industry, economic drivers and associated member interests. Current event planning extends well into 2007.

The hard work and commitment of the committee members and the secretariat is acknowledged and highly appreciated. The success of the TPC-Mining depends on this dedication and willingness to devote time to advancing the objectives of the SAIMM. Thank you.

The committee regrets the untimely passing of Paul Mwasinga and extends condolences to his family.

2.2 Technical Programme Committee—Metallurgy

F.W. Petersen, Chairman

H.E. Bartlett*

F.K. Crundwell

J.P.R. de Villiers*

G.C.P. Donoghue*

M. du Plessis*

M. Dworzanowski

R.T. Jones*

N.C. Machingawuta

W. Maritz**

P.S. Mokgokong

A. Mulaba

D.S. Ngandu

A.M. Garbers-Craig

J.M.A. Geldenhuis

M. Greyling*

P. Hand*

K.J. Hay

**Co-opted members*

***Resigned*

H. Potgieter

R. Suss*

W.H. van Niekerk

T. Vermaak*

The 2004/2005 TPC—Metallurgy started off with active participation in Electra Mining 2004, where the SAIMM was involved in two events, i.e. New Development in South African Gold Processing and Small Scale Mining. Both these events were well attended, and the delegates took full advantage of integrating the technical sessions of the conferences with the live exhibition.

One of the highlights of the 2004/2005 year was the International Platinum Conference, which was held at Sun City during October 2004. This event was organized jointly by the TPC—Metallurgy and the TPC—Mining. More than 150 delegates attended the event, which was complemented with a series of operational visits.

The events calendar for the second half of 2005 looks promising, with colloquia and a series of metallurgical schools

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planned for the rest of the year. Themes for these events include the production of super performance steels, mineralogy applied to metallurgy, comminution, plant design and the modelling and control of mineral and metal processing operations. One of the key events in the current year is the 3rd International Base Metals Conference in Zambia, where it is expected that 120 delegates will attend this event. This will be followed by a Light Metals Conference in October 2005.

I would like to express my thanks to the members of the TPC—metallurgy, supported by a committed Secretariat, for their contribution during the 2004/2005 year, and the enthusiasm with which they have approached the technical events to ensure overall success.

2.3 South African National Committee on Tunnelling (SANCOT)

J.A. Cruise, Chairman

A. Boniface	R.G.B. Pickering
A.L. Cross	E. Sellers
G. Davis	T.R. Stacey
A.A.B. Douglas	F.B. Stevens
E. McCarter	J. Truter

In February this year, SANCOT held a colloquium in conjunction with the Lesotho Tunnelling Society at the Katse Dam site entitled 'A New Era of Tunnelling.' A good selection of papers was presented, half civil engineering tunnelling and half mining engineering tunnelling. Of interest were Eskom's criteria for the choice of a pumped storage site and the completion of the world's deepest single sink shaft. About 50 delegates attended the colloquium on Friday 11 February 2005 and the site visits the next day.

SANCOT maintained its involvement in the International Tunnelling Association (ITA) and was represented by its Chairman at the 31st ITA Conference held in Istanbul in May this year. Delegates from forty-three of the fifty-three member nations of the ITA attended the conference, with South Africa, under the French name *Afrique du Sud*, seated at the head of the conference table. Working groups on various aspects of tunnelling met during the conference, South Africa was represented on the 'Underground Works and the Environment' working group.

3. Publications

Portfolio Holder: R.G.B. Pickering

R.D. Beck, Chairman

F.M.G. Egerton	F.W. Petersen
P.H. Ferreira	G.L. Smith
A.M. Garbers-Craig	T.R. Stacey
N.C. Machingawuta	J.N. van der Merwe
J.C. Ngoma	H.G. Waldeck
K.C. Owen	

3.1 Journal

Eleven issues, including the presidential issue, were published this year. This is an increase by one issue over the previous

year. Two special issues were published, one containing papers from Mintek to mark its 70th year (July 2004) and one containing papers from the Department of Materials and Process Engineering of the University of the Witwatersrand to celebrate 100 years of metallurgical teaching and research (November 2004). A student issue was published in March 2005, which contained papers written on project work carried out in partial fulfillment of their degrees.

The *Journal* was published on time throughout the year.

The number of transaction papers, which are peer reviewed and represent the peak of publishing technical quality, again increased this year.

55 transaction papers, 14 journal papers, 1 technical note and 9 student papers were published. This represents a 20% increase in transaction papers and the same number of journal papers as last year. Twenty-two possible transaction papers were rejected, with only one from South African authors. The number of metallurgical papers increased greatly, primarily because of the two special issues. It is pleasing to note the large number of papers on topics related to pyrometallurgy that were published. Disappointingly, no papers were published on environmental topics. The number of papers from overseas decreased from 35 to 30%, again representing 12 countries.

The number of papers published per issue remained as for previous years, which is the maximum that can be published without additional binding costs.

Advertising revenue was lower than for previous years on a per issue basis, primarily because of the ill health of Harriet Isserouw, our advertising agent. Again our thanks go to Harriet for her work and the support we receive from companies in the minerals industry.

Overall costs were in line with budget except for typesetting. These costs were higher because there were fewer requirements for DTP time in setting papers for international conferences and more time was allocated to the *Journal*.

An investigation into the costs of full colour publication was undertaken and proved to be only some ten per cent higher than current costs. Council approved the change of format to full colour and Dawn designed the first colour issues to be published in the first month of the new financial year.

Professor Robbie Robinson has continued with his thought-provoking Journal Comments throughout the year, for which we are very grateful.

The *Journal* was represented on the Website Committee to ensure that papers are readily accessible to members.

The DTP department has again maintained the high standard of *Journal* layout and thanks go to Dawn van der Walt and Julie Mohamed.

Hawa Vali resigned and was replaced by Nazli Mamdoo. I would like to thank Hawa and Nazli for their hard work, the members of the Publications committee for their advice, and all the staff at the secretariat for their input during the year. Finally, thanks go to all those who gave of their time as referees, without whom the standard of the *Journal* could not be maintained.

3.2 Book Publications

There was no activity in respect to Book Publications. Miscellaneous sales were good.

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4. Regional Development

Portfolio Holder: W.H. van Niekerk

Key Performance Areas

To promote the interests of members based in different regions, the SAIMM:

supports the establishment and maintenance of branches to satisfy the local needs of its members for professional association and the exchange of technical information

co-operates with other member societies of AS&TS and with associations and interest groups that have close ties with operating mines and metallurgical plants by holding joint technical meetings and collaborating in the field of publication.

4.1 SAIMM Branches

4.1.1 Johannesburg Branch

J.L. Porter, Chairman

G.C.P. Donoghue	A.D. Pooley
V.G. Duke	E.H.H. Sachse
A.S. MacFarlane	F.W. Taylor
N.A. Mjacu*	A.R.T. Thin
X. Pan	M. Woodhall

*Deceased

The July 2004 to August 2005 year is reviewed in this annual report. Overall, the membership of the Branch Committee has remained stable and the level of support and commitment remains satisfactory from the broader SAIMM membership, mining companies and the supplier industries. The attendance at meetings remains highly variable and—not surprisingly—is influenced by the relevance of the subject matter of the presentation. However, the Branch Committee has taken the view that, in terms of its mandate to promote the activities of the SAIMM, it is important to fairly represent subject matter for broad as well as for specialized interest groups. Average attendance at meetings has been

Two functions during the year were held in collaboration with the GSSA, Johannesburg Branch, and proved to be of mutual benefit.

2003	2004	2005
59	60	50

Committee

The Branch Committee Annual General Meeting was scheduled for Thursday, 21 July 2004, at which time new committee members were elected. The Chairman and portfolio members will be elected at the first Branch Committee meeting in August 2005.

With the deepest regret, the Committee notes the passing of Aubrey Mjacu earlier this year. Aubrey will be sorely missed by family, friends and colleagues.

Finances

One of the fundamental objectives of the SAIMM branches is to promote the interests of the Institute with a view to attracting

new members. On this basis, the Branch aims to operate on a break-even basis. The simplified income and expenditure for the year are shown below:

Income:	
Total sponsorship/fees charged	R 49 523.41
Write off very old amounts	R -1 140.29
Write off EcoSat invoice	R -2 954.53
	<u>R 45 528.59</u>
Expenditure:	
Venue costs including catering	R47 278.63
Secretarial/tel/bank/stat/gifts	<u>R16 537.45</u>
	<u>R63 816.08</u>
Total nett loss for the year:	<u>R18 387.49</u>

It is believed that, whilst our events offer value for money, we should not ask individual sponsors for additional amounts to cover the increased cost base. Thus, as a result of the accumulated loss for the year, the outgoing Branch Committee has agreed to investigate alternative sources of sponsorships for the monthly meetings.

Technical presentations

Thursday, 16 September 2004

Electrical Power Supply to the South African Consumer: Two presentations—two perspectives—number of people attending the presentation: 62.

Because of the interest shown in the above subject, the format of this Branch meeting differed from the norm and consisted of two presentations, followed by a question and answer session. Presentations were by:

Ian Morison from Anglo plc, who spoke on industry concerns and

Piet Steenkamp from Eskom Generation, Primary Energy, who responded.

The presentations provided our members with an up-to-date perspective on both the current initiatives in the mining industry dealing with power/energy conservation and the current plans being implemented by Eskom to address a projected gap between supply and demand. A lively and entertaining debate followed the presentations.

Thursday, 28 October 2004

The Story of how Rand Refinery has transformed its role in the modern international gold industry: by Peter Radcliffe, Managing Director—number of people attending the presentation: 44.

The presentation covered how Rand Refinery transformed from a company providing a limited service to the South African gold mining industry to a fully fledged international gold business. The presentation then went on to describe the technologies and products that underpin the business now servicing the company's customers.

Of particular interest to our members was an update on the strategies keeping the Rand Refinery at the forefront of world refining practice and the part it is playing in South Africa's downstream beneficiation initiatives.

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Wednesday, 24 November 2004

Games Foxes Play: Planning for Extraordinary Times: by Clem Sunter—number of people attending the presentation: 48.

The presentation summarized the concepts and models explained in the popular business book *The Games Foxes Play* about having strategic conversations on the future of business, with particular emphasis on the mining industry. The concepts have been used successfully to identify risks and uncertainties associated with mining as well as new rules of the game for the mining industry in South Africa. Of particular interest to our members, Clem discussed how any mine future can be reduced to a game board consisting of four possible scenarios.

Saturday, 4 December 2004

Family Christmas Outing Blaauwbank Historic Gold Mine—number of people attending the outing: 35 adults and 1 child.

This year the annual Christmas family function was taken to the Blaauwbank Historic Gold Mine, which pre-dates the development of the Witwatersrand Gold Fields. The mine is an adit and is still operational today but combines production with historical visits and a conference venue. The group went on the underground visit of approximately 1½ hours duration, which provided an insight into mining more than 100 years ago. The social occasion was enjoyed by everyone and it is a pity that more families do not attend this family event.

Thursday, 27 January 2005

Transformation Journey of De Beers Consolidated Mine (DBCM) by: Khumo Seopela—DBCM Executive—number of people attending the presentation: 40.

The presentation outlined the transformation process to which DBCM has committed itself, especially in the light of the introduction of the Mining Charter and Black Economic Empowerment (BEE) in South Africa. Mrs Seopela was the head of transformation at DBCM and at the time was responsible for developing strategies to prepare the organization for a successful conversion from 'old order mining rights' to the 'new rights'. Her responsibilities included employment equity, social labour plans, environment and ecology.

Wednesday, 23 February 2005

Improved Base Metal Leaching with Oxygen Addition presented by Jaco Schoeman Manager Environmental Technology, Atomaer—number of people attending the presentation: 28.

Atomaer has made many advances in the recovery of value, using innovative techniques, from dumps and low-grade deposits in Australia. The company is now involved in projects in Southern Africa and a joint venture with TWP.

This presentation covered the replacement of air-agitated tanks with smaller mechanical-agitated reactors with a side stream Atomaer reactor installed for high shear mixing. Also covered in the presentation was the conceptual design work, initial on-site pilot plant and highlights of the challenges associated with projects in Zimbabwe.

The presentation provided an insight into recent advances in extractive metallurgy for our membership and offered some exciting ideas for future projects.

Wednesday, 23 February 2005

Mining in Western Australia presented by Mohamed Ali Mohamed Australian Exchange Student—number of people attending the presentation: 28.

The second presentation given at this Branch meeting was as a result of the exchange programme between the Johannesburg Branch of the SAIMM and the Perth Branch of the Aus IMM. This year we hosted Mohamed Ali Mohamed who provided us with a short presentation about mining in Western Australia and his recent visit and work experience in South Africa.

Thursday, 17 March 2005

Optimizing Mining Method and Equipment for Narrow Reef Mechanized Mining presented by Rodney Pickering—number of people attending the presentation: 27.

This presentation by Sandvik attempted to identify some of the changes in both mining process and equipment and to point to a direction for further improvements in hard-rock mining productivity. This work is based on the premise that for most of the 20th century narrow reef hard-rock mining in South Africa has not changed substantially. The mining process and the technology employed are a perfect match and deliver consistent results. The consequence of such a good match means that the potential for improvement is severely limited. This situation is exacerbated by the changing socioeconomic circumstances of the employees. Therefore, to bring about substantial improvements in this sector of the mining industry requires innovative change in the mining process and the mining equipment/technology employed.

Thursday, 21 April 2005

Where is Mintek today—And where will it be tomorrow?—presented by Dr Roger Paul, General Manager: Technology—number of people attending the presentation: 42.

In order to survive in the Darwinian world of business, Mintek has undergone a number of structural transformations in order to attain its 71st birthday this year. While admitting some mistakes, Dr. Paul recounted how Mintek has managed to make a successful transition from a research organization to a business—a business whose business is doing high quality R&D for the minerals and metallurgical industry worldwide.

The presentation started with a detailed examination of Mintek as it is today, cascading downwards from its mandate to strategies, structures, processes, and finances. We were told how Mintek has integrated R&D with its business operations, while simultaneously ring-fencing them financially to keep them separate. What mechanisms are used in order to direct research and how does the organization balance the interests of its two biggest stakeholders—the ministries of Minerals and Energy and Science and Technology and industry?

Thursday, 19 May 2005

The Afilease Uranium Project presented by Neal Froneman—number of people attending the presentation: 106.

Afilease has determined that new primary supply over the next decade will not behave elastically with an increase in the uranium price because of the long lead times required to bring

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large mines into production. This has created a window of opportunity for producers that can bring new production on stream in the next 5 years. Aflease owns a significant uranium resource in the Klerksdorp area, known as Dominion Uranium, adjacent to its Bonanza gold mining operation. This deposit contains in excess of 300 million lbs of uranium oxide and represents about 6% of the worlds 'Reasonably Assured' uranium.

Initial indications are that a new mine will be commissioned by the end of 2006. The first uranium production can therefore be expected during the first quarter of 2007.

Neal Froneman shared with the members of the SAIMM Johannesburg Branch his-first hand insights about this exciting new mine development opportunity.

Thursday, 21 July 2005

Impala Platinum presented by Robin Bremner—number of people attending the presentation: 45.

The platinum industry has been in an upswing over the last decade. Consumption has outstripped production and has attracted many new miners to the South African orebodies. The established producers have met the challenge by establishing new mines, on the Eastern Limb of the Bushveld Complex and in Zimbabwe, as well as gearing up their existing mines. Impala Platinum has done all the above and has taken a bold step to access the deeper ore reserves of the Rustenburg operation.

The presentation by Robin Bremner, project manager, told of the background for the new shafts and provided details of the innovation that is being invested in to establish new mineable reserves.

Technical visits

No technical visits were held during the year under review.

Acknowledgements

As chairperson, I would like to thank the Committee for their work during the year. Having regular committee meetings prior to the evening presentations has assisted with the overall co-ordination of the branch function.

I would like to thank Ginette Oliver for her hard work during the year and the secretariat in general for their support and the excellent co-ordination of events.

I would also like to thank our speakers for their valuable contributions, as well as the audiences and sponsors. It is always gratifying to see Council members and past-presidents in our audiences, as well as students.

Finally, on behalf of the outgoing Branch, I welcome the committee-elect to their tenure of office and wish them all of the best for the year ahead.

4.1.2 Free State Branch

No report was submitted this year.

4.1.3 Pretoria Branch

H. Möller, Chairman

T. von Moltke, Vice-chairman

K. Banks

D. Boshoff*

D. Gudmanz**

S. Havenga**

J. Klingenberg*

**Student representatives*

***Secretaries*

M. Moripa*

J. Morkel*

K. Sengani*

M.K.G. Vermaak

H. Visser*

The Pretoria Branch of the SAIMM again organized a number of events during the year. The branch, together with the departments of Materials Science and Metallurgical Engineering and of Mining Engineering at the University of Pretoria, presented a series of metallurgical forums and mini colloquia (see Table). These events were well attended by students, lecturers and members from industry. Cocktail parties were held after these meetings and served as get-togethers for the members. We were again fortunate to have a number of local presenters and presenters from abroad (these included speakers from the United States of America, the United Kingdom and Japan).

The presidential address of the then president-elect, Frank Egerton, was held on 21 July 2004.

The branch once again hosted the Research Seminar of the School of Mining and Mineral Sciences at the University of Pretoria on 22 October 2004, and it was attended by members from industry, the departments of Mining Engineering, Metallurgical Engineering, and Geology.

A potjiekos day was held on 21 May 2005 and was attended by students and lecturers of the departments of Mining Engineering, Metallurgical Engineering and Geology. Various prizes were made available for the day.

I would like to thank my committee for their support, and also Professor Chris Pistorius, Head of the Department of Metallurgical Engineering and Professor Nielen van der Merwe, Head of the Department of Mining Engineering, University of Pretoria, for their continued support. Last, but not least, I would specially like to thank the people who worked behind the scenes and really put in a special effort to keep the SAIMM Pretoria Branch alive, namely Sarah Havenga and Daleen Gudmanz.

4.1.4 Western Cape Branch

D.J. Bradshaw, Chairman

M. Wright, Vice-chairman

P. Slatter, Secretary/Treasurer

A. Burger

A. Nesbitt

J. Eksteen

C. Sweet

P. Gaylard

J. Sweet

M. Harris

P. van der Plas

M. Powell

The committee of The Western Cape Branch of the SAIMM has steadily grown since its beginnings in the early eighties and in 2004 had nineteen members. The growth was also necessary to handle the organization of the IMPC in 2003. In 2004 it was decided to reduce the size of the committee and to give people the option of standing on an annual basis. At the Annual General Meeting on 5 August 2004, the committee was reduced to 12 members and Prof. O'Connor and Prof Lorenzen stood down as members but were accepted as honorary senior members. They were thanked for their long-term participation and support.

Mini colloquia, past year events, and future planning: Pretoria Branch of the SAIMM: 2004/2005		
Date	Title	Presenter
2004-07-21	The Mechanisation of UG2 Mining in the Bushveld Complex Presidential address:	F. Egerton, SAIMM President
2004-08-06	Some thoughts on sulphide flotation chemistry	J. Miller, University of Utah
2004-08-25	The influence of China on the global steel industry—opportunities and threats	L. van Niekerk, Ispat Iscor
2004-09-15	AEL Blasting Seminar	J. Truter, African Explosives
2004-09-22	Are we facing the non-proliferation or proliferation of nuclear weapons? The South African Experience of the 1970s to 1990s	W. Stumph, Department of Materials Science and Metallurgical Engineering, University of Pretoria
2004-10-22	Research Colloquium	Departmental participation
2005-02-16	Modelling residual stress generation and relaxation during processing	A. Korsunsky, Oxford University
2005-03-16	Forensic metallurgy in the South African Police Service	D. Poolman, SAPS
2005-03-22	Consumption and use of vanadium The Influence of vanadium on two properties of carbon Steels: The formation of acicular ferrite and the resistance to CO ₂ corrosion' Hydrogen trapping behaviour in vanadium-added steel	P. Mitchell, Vanitec D. Edmonds, University of Leeds S. Yamasaki, Kimitsu R&D Laboratories, Nippon Steel Corporation
2005-04-13	Microscopic mechanisms of inclusion formation, solidification, and high temperature transformation of steels	T. Emi, formerly of Kawasaki Steel and Tohoku University in Japan
2005-05-18	Reservation of engineering work in the built environment	D.J. van Niekerk, SIYAZA Consultants

Student evenings

These events have been jointly organized and sponsored by SAICHE and SAIMM over recent years to raise awareness of the two professional organisations and to provide some career guidance and mentoring for the students.

2004: Olive evening

The student evening was held at Langehoven hall on 27 August. Over 100 students and staff from 4 institutions gathered to hear Dr Carlo Costas to talk about the olive industry.

Presentations were also given by Mr Martin Wright of the SAIMM, who focused on the benefits of belonging to a professional body, and Mr Kevin Harding, SAICHE, who gave a presentation outlining the benefits and costs.

2005: Visit to Olof Berg brandy distillery

Caroline Snyman of Distill arranged a visit to Olof Bergh distillery in Goudini on 19 May. A very interesting tour was given and the afternoon finished with a very informative tasting in which blended, pot stillled and vintage brandies were discussed and sampled.

Informal presentations were given by Mr Martin Wright, SAIMM, who focused on the benefits of belonging to a professional body, and Mr Craig Sheridan, SAICHE.

Student Tour

An annual mineral processing student tour for undergraduate students from the University of Cape Town, University of Stellenbosch and Cape Peninsula University of Technology is organized by the management of the Western Cape Mineral Processing Facility. In 2004 this tour went to Gauteng. Until 2003, this was supported and funded by SAIMM; since 2003 the tour has been funded by the Mineral Education Trust Fund but this may be reviewed.

Mineral Processing 2004

The annual conference organized by the Western Cape branch of the SAIMM was back to its familiar form after making way for the International Mineral Processing Congress in Cape Town in 2003. This year's event was the 22nd in the series organized in conjunction with the local tertiary institutions and was held at the Lord Charles Hotel on 5–6 August 2004 and was attended by nearly 200 people. The range of themes included the traditional areas such as bio- and hydrometallurgy, physical separation, pyrometallurgy, control, comminution and flotation, with new sessions and themes such as metal accounting. The event showcased both national and international speakers with a mix of presenters and delegates from industrial operations, design companies and research and technical institutions. Notable was the participation from an Indian delegation and the strong Australian contingent seen to be extending and consolidating links.

The first keynote addresses was given by Dr Francis Peterson, Mintek, entitled 'Maximising the PGM value matrix towards a strategic economic advantage for South Africa'.

Particularly challenging and inspiring was the second keynote 'Biocatalysts for the future: Designed by evolution' by Dr Francis Arnold visiting from the California Institute of Technology. The topic of biocatalysis was novel for many in the audience but may well be a taste of things to come.

This conference was initiated in the early eighties as a student conference and considerable effort continues to be made to showcase postgraduate research—in particular the poster snapshot and poster presentations. This year's competition for the best poster was won by Sonny Mwasu for his poster entitled 'Measuring particle segregation along SAG mills' in which he discussed the findings of results obtained by crash stopping and sampling an industrial mill.

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The conference was well supported with sponsorship from Anglo American, Anglo Platinum, AngloGold Ashanti, Hatch and Outokumpu.

Workshop: New developments in instrumentation and automation

This workshop was held in conjunction with the conference and was a bumper event with 10 speakers and more than 80 delegates being challenged on a range of topics in this fast developing field. Noteworthy was the significant attention that South African expertise is getting from a global audience.

The keynote presentation 'Instrumentation: The state of the art' by Prof. Jon Tapson began by challenging the status quo and predicting the fundamental effect that widespread and low-cost digital networks are going to have on the control and instrumentation field, with the main effect being on the development of 'smart' or 'intelligent' instruments.

Other speakers ranged from how to 'make sense of the measurements to turn them from data to information', measuring slurry flow and particle sizes, to soft sensing, which included the use of machine vision measurements.

Particularly popular was the session of 5 minutes talks allocated to new research developments and commercial offerings, which preceded the cocktail party and exhibition, generating ample debate and discussion.

Organization of this year's conference is going well and once again is expected to be a successful event.

International section on gold metallurgy

Professor Leon Lorenzen was approached in January 2005 by Bill Staunton (AuSIMM) and Guy Deschenes (CIM) to establish an agreement between Australia, Canada and South Africa to host a series of conferences on a rotating basis every two years. Leon said that he would be prepared to accept this responsibility on the condition that he had the support of the WC branch of SAIMM. This was tabled at the branch committee meeting of 4 Feb 2005 and support for the organization of these conferences was given.

Summary of motivation

Gold production is an important component of the mining activities in Canada, South Africa and Australia. While South Africa has been the dominant gold producer in the last 100 years, Australia and Canada occupy the second and fourth rank, respectively. In recognition of the importance of the industry in the economy, an alliance has been created among our three countries to assist the gold industry in improving its productivity. An international section on gold metallurgy is created to address this goal. This section aims to promote technology transfer and to bridge the gap between plant practice and research activities by organizing International symposia on gold and precious metals every two years. Each country would be the host of the symposium on a rotating basis.

This section is sponsored by the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), the South African Institute of Mining and Metallurgy (SAIMM), the Australian Institute of Mining and Metallurgy (AusIMM) and Natural Resources Canada.

4.1.5 Bushveld Branch

C.A.F. Sweet, Chairman

A recruitment drive was launched in order to increase our membership and a number of new members have completed their documents with a lot more still in the process.

A number of activities are planned for the year, with Rustenburg Platinum and Barplats mines agreeing to host visits.

The Crocodile River mine visit is planned for October this year. It will be interesting to see how they are faring in getting this mine operational again and what the plans are to get it profitable.

Talks are in progress with a smelter and granite works for visits this year as it seems we are generating more interest in organized visits.

4.1.6 Zululand Branch

I. Walton, Chairman

E. Clare

E. Williams

The Zululand Branch of the SAIMM has once again maintained a very strong relationship with the Institute of Electrical Engineers, the Institute of Measurement and Control, the Institute of Refractory Engineers and the Zululand Geological Society. Our members have been invited to attend the presentations hosted by these institutes and their members have in turn been invited to participate in the presentations hosted by the SAIMM.

Technical activities

In February, TRUCO, the Transvaal Rubber Company gave a very informative presentation on the different types of rubber material available to the industry

In April, Dickinson Marketing sponsored a talk on pipes and pipeline construction for the heavy minerals and beach sands industry

The Institute of Refractory Engineers hosted a talk on the refractory industry followed by a sponsored golf day for the members of the mining and metallurgical disciplines Sud Chemie Water and Process Technologies hosted a presentation on the influence of water treatment on the automotive industry.

Social activities

The annual SAIMM Zululand Branch golf day will be held in October at the Richards Bay Country Club. Once again, a full field is expected and the continued support of our very generous sponsors will ensure that the branch will be financially sound for another year.

A quiz evening between the major companies and suppliers in the area will again be held to raise funds for the Institute.

4.1.7 Mpumalanga Branch

No report was submitted this year.

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5. Engineering Science and Technology in South Africa

Portfolio Holder: R.P. Mohring

5.1 Engineering Council of South Africa (ECSA)

	<i>Mining</i>	<i>Metallurgy</i>
<i>Representative</i>	R.P. Mohring	R.F. Sandenbergh
<i>Alternates</i>	J.A. Cruise	W.H. van Niekerk

The Institute nominates members to the registration and professional advisory committees for mining and metallurgy.

During the past year, these committees continued their important work of screening the qualifications and practical experience of applicants for registration as Professional Engineers. The Institute also provides the administration and assessors for the ECSA Professional Review, a prerequisite for registration.

Assistance continues to be provided by nominees of the Institute in the accreditation of courses offered by universities and technikons in the disciplines of mining and metallurgy.

Professional Advisory Committees

Registration Committee

	<i>Mining</i>	<i>Metallurgy</i>
<i>Representative</i>	R.P. Mohring	R.F. Sandenbergh
<i>Alternates</i>	J.A. Cruise	

PAC Mining

R.P. Mohring, Chairman	
A.N. Brown	R.C.D. Phillis
J.A. Cruise	M.H. Rogers
A.A.B. Douglas	T.R. Stacey
F.M.G. Egerton	J.N. van der Merwe
J.C. Ngoma	D.J. van Niekerk

ECSA's standards and qualifications

ECSA is responsible for the setting of Engineering standards and assessment of competence against such standards for the purposes of registration of engineering practitioners in terms of the Engineering Profession Act, 2000. ECSA has established an Engineering Standards Committee to carry out this responsibility and has registered this Committee with SAQA as an 'Engineering Standards Generating Body' for engineering in the higher education band.

The Stage 1 (education) qualifications for engineers, engineering technologists and engineering technicians have been registered on the NQF.

The Stage 2 (training) qualifications have been submitted to SAQA for registration.

ECSA is addressing the question of the need to register specified categories of engineering practitioners, who are those groups practising in areas of engineering technology, which do not readily fit into the four professional registration groups.

The Council has approved a policy on specified categories, setting out the criteria for recognition.

Recognition of voluntary associations

A new set of rules for the recognition of voluntary associations has been Gazetted and came into effect on 4 March 2005. The SAIMM meets the criteria for recognition as a voluntary association. An important benefit to members of the SAIMM is that registered persons are entitled to a significant reduction in their ECSA annual fees.

Continuing professional development (CPD)

The guidelines and requirements on what comprises acceptable CPD and how it must be reported have been approved by the ECSA Council. Registered persons are required to start undertaking and recording CPD activities as from 1 January 2006. Details can be obtained on ECSA's website (www.ecsa.co.za).

The implication of the introduction of CPD will be that registered persons will be required to present evidence of continuing professional development at predetermined intervals in order to maintain their registration.

The SAIMM is an approved provider of CPD activities and will be tasked with vetting all outside courses for CPD purposes in mining and metallurgy.

Election of a new council

The term of office of the present council expires in August 2005. Nominations, approved by the present council, for the new council have been sent to the Minister for approval.

The new council should be in place by year end.

Identification of work and compulsory registration

In its new act, ECSA is required, in consultation with the voluntary associations and affected persons, bodies and/or industries, to identify types of engineering work, which should be carried out by registered persons. Although the act is silent as to what these types or work should be, they are almost certain to be those connected with public health, safety and public interest. Once identified, such types of work are subject to approval by the CBE and publication by the Minister of Public Works. Once prescribed, only persons registered with ECSA may perform the work so identified.

A steering committee has been established to identify engineering work to be reserved for registered persons. The framework will encompass all engineering disciplines and industry sectors where engineering work is performed. This is a long and complex process requiring widespread consultation with stakeholders.

The first draft framework is expected to be submitted to the ECSA Council by September 2005.

PAC Metallurgy

R.F. Sandenbergh, Chairman	
N.A. Barcza	H.E. James
R.D. Beck	W.H. van Niekerk
L.A. Cramer	D.I. Watson
R.H. Eric	

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Metallurgy

The mission of ECSA is to ensure, through a co-operative process of quality assurance, that persons entering the profession are educated and trained according to widely accepted standards, so as to be able to render a professional service for the benefit of the public and the country as a whole. The Professional Advisory Committees of ECSA contributes to this mission by considering matters specific to the discipline and also contributes to wider policy matters as required.

During 2003/2004 the PAC Metallurgy again considered applications for registration as Professional Engineers by means of paper evaluations and interviews. The requirement for continuing professional development of professional engineers will be implemented by ECSA and the PAC supports the strong involvement of the SAIMM in such a process for metallurgical engineers. Members of the committee were also involved in accreditation visits to universities. Ian Watson resigned during the year and the committee would like to record its appreciation for his contributions to the activities of the committee.

5.2 South African Academy of Engineering

R.F. Sandenbergh, Chairman

The objectives of the Academy of Engineering are to promote excellence in the science and application of engineering for the benefit of all members of the public in South Africa. The Academy comprises South Africa's most eminent engineers of all disciplines and related professionals with proven ability and achievement. During the year the representation of mining and metallurgical engineers in the SAAE was increased to recognise their achievements and to facilitate interaction and contributions over a broader front of engineering.

The South African Academy of Engineering and the University of Pretoria took over the responsibility for coordinating the annual Hendrik van der Bijl Lecture at the University of Pretoria. This year's Hendrik van der Bijl Lecture, with the title: 'Energizing our future', was presented on 26 May 2004 by Dr Steve Lennon of Eskom.

6. State Liaison

Portfolio Holder: D.J. van Niekerk

6.1 Outcomes based Education and Training (OBET)

Mining Qualifications Authority

The main achievements for the Mining Qualifications Authority (MQA) as Sector Education and Training Authority (SETA) for the SA Mining and Minerals Sector (SAM&MS) for the year under consideration, includes the following:

- approval by the MQA Board at its meeting held on 28 April 2005 of the following source (foundational) documents reflecting the unanimous views of the stakeholder groupings in the SAM&MS on the following aspects:
 - Level 5 to 8 Qualifications Design, Principles and Models

- Registration as an Elective Option in the SAM&MS
- Licensing as an Elective Option in the SAM&MS, and
- Currency-of-Competence as an Elective Option in the SAM&MS.

submission to ECSA of the SAM&MS's unanimously agreed categories of Engineering Work to be reserved for Competent Engineering Practitioners registered with ECSA

preparation of draft competency profiles for Mine/Operations Overseeing for the three main subsectors vis-à-vis Underground HardRock, Underground Coal and Surface Mining approval by the SGB for Mining and Minerals of the position document relating to Transitional Arrangements in the SAM&MS, and holding of an MQA/Mine Health and Safety Council Workshop on 'The Case for Licensing in the SAM&MS' on 19 July 2005.

The Engineering SGB

The main achievements of the Engineering SGB (ESGB) for the year under consideration, includes the following:

- registration of the 480 credit Stage 1 competency standard in Engineering Technology at level 7 on the National Qualification Framework (NQF) (B Tech degree for Engineering Technologists)
- registration of the 360 credit Stage 1 competency standard in Engineering Technology at level 6 on the NQF (N Dip for Engineering Technicians)
- recommendation of the Stage 2 competency standards for engineers, engineering technologists and engineering Technicians for consideration/ratification by the ECSA Council
- establishment of a new Standards Generation Group of the ESGB to generate the competency standard(-s) for the envisaged 120 credit L5 and 240 credit L6 qualifications in Engineering Technology. This initiative is also expected to resolve the future of the N4 to N6 Certificates currently provided for by Further Education and Training Colleges (FETCs)
- preparation of a draft generic Stage 2 qualification for Certificated Engineers/Managers.

Outstanding/unresolved issues

The following outstanding/issues still require resolution:

- the intention of Government, through the Department of Public Works, relating to 'general compulsory registration'
- the perceived overlap between the Built Environment Act, Act 43/2000 and the Mine Health and Safety Act, 1996 (Act 29/1996 as amended), which regulates the 'safety of persons at mines'
- clarification/confirmation of the meaning of 'public' and 'public interest' as they apply to the Built Environment.

Reservation of engineering work

In terms of section 20(2) of the Council for the Built

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Environment Act, 2000 (Act 43 of 2000) 'the CBE must after consultation with the Competition Commission, and in consultation with the councils of the be professions, identify the scope of work for every category of registered persons'.

The Engineering Council of SA (ECSA), on the other hand, must in terms of section 26(1) of the Engineering Profession Act, 2000 (Act 46 of 2000):

'Consult with all voluntary associations, any person, any body or any industry that may be affected by any laws relating to the Built Environment Professions regarding the identification of the type of Engineering Work which may be performed by persons registered in any of the categories referred to in section 18 of the EPA, including work which may fall within the scope of any other profession regulated by the professions Acts referred to in the Built Environment Act'.

To this end, the ECSA Council has established an Identification of Engineering Work Steering Committee to advise it about Engineering Work to be reserved for Competent Engineering Practitioners registered with ECSA in one of the registration categories. The said IDoEW-SC has produced the first Draft Interim Report to Council setting out the engineering work to be reserved for registered persons.

The debate continues.

7. International Liaison

Portfolio Holder: T.R. Stacey

Key Performance Areas

To achieve its objectives, the SAIMM

participates in and represents South Africa on bodies such as the Institute of Materials, Minerals and Mining (IMMM), the Iron and Steel Society Inc (ISS), the Mining, Metals & Minerals Society (TMS), and together with Mintek on Infacon

appoints corresponding members in areas such as Australasia, Botswana, Brazil, Canada, Chile, Europe, the Far East, Ghana, New Zealand, United Kingdom, and the United States of America, and interacts with sister institutes in other countries to promote international exchange of scientific and technical information.

7.1 APCOM

F.A. Camisani-Calzolari, Chairman

The 32nd International Symposium of APCOM was held in Tucson, Arizona USA, from 30 March to 1 April 2005. The symposium represents an international forum where significant original contributions and emerging or state-of-the-art technologies in all fields of the minerals industry are presented, discussed, criticized and shared by practitioners as well as academics from all over the world. APCOM is held every 18 months, on average, in different member countries. The previous one was held in May 2003 in Cape Town.

Eighty-five papers by authors from all over the world were presented in 24 regular sessions at the symposium. They constituted a balanced mix of the traditional areas of geology, mining, geostatistics, production planning and metallurgy as well as the emerging areas of information technology, market

trends, e-commerce, e-learning, neural networks, graphics and geological information systems. There were also 15 keynote presentations in 3 keynote sessions. A total of 181 participants attended the symposium, representing 25 countries. South Africa was represented by three participants.

The International Council meeting was held on the evening of 30 March 2005. The International Council consists of representatives of four USA institutions, which are the founding members (Colorado School of Mines, SME, Pennsylvania State University and the University of Arizona), and seven international organizations, namely: the Royal School of Mines in London, the Canadian Institute of Mining and Metallurgy, the Moscow Mining Institute, the Australian Institute of Mining and Metallurgy, the Technical University of Clausthal in Germany, China University of Mining and Technology, and the South African Institute of Mining and Metallurgy.

Major decisions of the Council were focused on a multitude of suggested changes identified in formulating an official modernized APCOM constitution. These changes are intended to be circulated in the near future. The Council also confirmed the venue of the next APCOM in Santiago sometime in 2007 and Prof. Don McKee as the international APCOM chairperson.

7.2 INFACON

N.A. Barcza, *National representative*

The last INFACON, namely INFACON X, was held in Cape Town in February 2004.

This event was very well supported by the generous contribution from sponsors, resulting in INFACON X making a surplus of R1.5 million that has been invested in the future of the ferroalloy industry by supporting research and development work at appropriate institutions. These funds are being administered by the South African Institute of Mining and Metallurgy (SAIMM) in consultation with the Technical Committee of FAPA.

The tradition of INFACON is to move between the continents, and the nomination for INFACON XI was awarded to India by the International Committee on Ferroalloys (ICFA) at their meeting during INFACON X. The organizing committee of INFACON X recommended that the SAIMM, Mintek and FAPA should assist the Indian Ferro Alloys Association with the transfer of information from INFACON X to support INFACON XI. It was also agreed that that a small amount of the surplus generated by INFACON X be set aside for this purpose to be administered by the SAIMM and FAPA.

The Indian Ferro Alloys Association has chosen New Delhi as the venue for INFACON XI and the first announcement and call for papers is due to be issued by July 2005. INFACON XI is scheduled to be held in February 2007. The organizing committee of INFACON XI has requested assistance from the International Committee on Ferroalloys the SAIMM, and Mintek. The contact details of the Indian Ferro Alloys Producers Association Producers Association are shown below.

1-B, Haji Moosa Patrawala Industrial Estate, 20, DR. E. Moses Road, Mahalaxmi (W), Mumbai * 400 011, Telefax: 091 22 24962755, E-mail: ifapa@vsnl.net or ifapa@hotmail.com, Website: indianferroalloysassociation.org

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7.3 SAMREC

J.R. Dixon, Chairman

The SAMREC and SAMVAL Committees were combined during the year as many of the representatives from industry were common. The benefits of a joint approach and improved communication have become evident.

SAMREC continued to provide readers to the JSE Securities Exchange for scrutinizing Competent Persons Reports submitted in support of transactions. Activity in this regard increased substantially, mainly as a result of the requirements for mining rights contained in the Mineral and Petroleum Resources Development Act.

The SAMREC working group completed its work on the proposed amendments to the JSE Securities Exchange Continuing Reporting Obligations, which will set reporting standards for public reporting by mining and exploration companies. The JSE will be announcing the requirements in the near future.

The working group has now embarked on the rewrite of the SAMREC Code under the chairmanship of Matt Mullins. Every attempt has been made to make the process as inclusive as possible, and to date over 100 people have been involved in giving their input across the various commodities. Anybody not involved, but who feels he or she can make a contribution, is welcome to contact the secretariat for details.

The SAMVAL Code is now in draft form and will be circulated for comment in the near future. The compilation of the SAMVAL Code is now under the chairmanship of Rob Croll after the resignation of Alastair Macfarlane. A big vote of thanks to Alastair who was instrumental in getting the process up and running in South Africa and, promoting liaison with the International Valuation Standards Committee.

The JSE has, on the advice of SAMREC/SAMVAL, recognized the membership of the following overseas professional bodies as one of the qualifications for a Competent Person submitting to the JSE.

- The Institute of Materials, Minerals and Mining (IMMM)
- The Australasian Institute of Mining and Metallurgy (AusIMM)
- The Institute of Geologists of Ireland (IGI)
- The European Federation of Geologists (EFG)
- The Australian Institute of Geoscientists (AIG)
- The Canadian Council of Professional Geoscientists (CCPG).

The SAMREC/SAMVAL Committee has also decided to recognize the membership of the SAIMM, and the GSSA has as one of the qualifications for a Competent Person. This qualification was until recently limited to the statutory bodies in South Africa, namely ECSA, SACNASP and PLATO.

Both the SAIMM and GSSA have recently passed resolutions that bind their members to the requirements of the Code. Any members who do not comply with the requirements will be considered to have contravened the respective codes of conduct of the two bodies and will be subject to the disciplinary procedures of the two bodies.

The SAMREC/SAMVAL Committee has appointed a disciplinary committee with a mandate to formulate a disciplinary procedure that will be relatively simple to use and

implement. The minerals industry in South Africa must have the opportunity to refer complaints about non-compliance with the codes where it can expect discipline to be administered efficiently and with little cost.

It is also the intention to compile a register of Competent Persons and Valuers under the auspices of the SAMREC/SAMVAL committee. All Competent Persons and Valuers, whether from South Africa or overseas, will be required to enrol with the register in order to publish technical or valuation reports for mineral companies listed in South Africa.

Persons enrolling will be required to state their relevant experience in the various commodities and have this verified by a Fellow of the professional body to which they belong. It is intended that the concept of continuous professional development (CPD) be incorporated into the requirements for membership of the register.

The decision to go ahead with registration of Competent Persons and Valuers has been taken in principle. The details of how to bring it to a working model have now to be resolved.

8. Management and Administration

Portfolio Holder: F.M.G. Egerton

The Secretariat consists of:

Ms Sam Moolla (Manager)

Ms Neo Bethabeng (Switchboard/Receptionist)

Mrs Zuliakha Malgas (DTP Operator)

Miss Nazli Mamdoo (Journal Secretary/Publications Co-ordinator)

Mrs Shahida Moosa (Senior Administration Clerk/Conference Assistant)

Mrs Ginette Oliver (Membership and Subscriptions Administrator)

Mrs Anna Panana (Personal Assistant to the Manager)

Mrs Apathia Sello (Administration Clerk)

Mrs Dawn van der Walt (DTP Supervisor)

Mrs Lara Winning (Accountant/Conference Co-ordinator)

The SAIMM, Office Bearers and Council records their appreciation to the above for their service.

8.1 Finance

J.A. Cruise, Honorary Treasurer

This year has been another financially successful year for the Institute, which now makes it five good years in a row.

However, we should not become complacent. In last year's Finance report, we warned that without any lucrative international conferences, the year would be a hard one to emulate. We were right. With only local events to supplement our coffers, we broke even on our working income and expenditure. Our excess of income over expenditure was due entirely to our increase in investments.

Subscriptions increased for Company Affiliates to R363 188 (R362 634) and Individual Membership to R926 625 (R894 444). As this is below the annual subscription increase rate, it indicates a slight drop in real terms.

Conferences and colloquia showed a marked drop in surplus to R619 585 (R1 485 812). As stated above, this was due to the absence of international events. Interest and dividends received fell to R290 100 (R407 229). This was due to our investment policy of drastically reducing our cash

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holding. This is confirmed by the increase in value of our investments which rose by R 1 305 828 (R402 037). In addition, we received revenue from profits on sale of investments of R355 735 (R19 446). Sale of special publications brought in an additional income of R39 695 (R8 399).

Expenditure for the year increased to R2 548 218 (R2 196 556). This was made up in part by an increase in secretarial costs of R835 795 (R612 902). The *Journal* costs rose to R1 408 553 (R1 266 414) due to an increased number of issues to one each month. This was partially offset by income from advertising of R463 560 (R532 552) and sales of R109 198 (R120 960). Administration expenditure dropped to R659 629 (R788 195). Depreciation increased to R120 679 (R103 212). Subscriptions written off decreased by almost half to R51 003 (R90 964).

In summary, the surplus for the year is R1 352 538 (R1 383 445).

Our listed investments have increased to R5 892 806 (R3 358 262). Our cash and cash equivalents decreased to R2 408 197 (R3 969 571). Our accounts receivable rose to R1 336 164 (R553 727). This was due in the main to a large conference that was held at the year end. Our accounts payable rose to R1 778 850 (R1 134 586) for the same reason.

Again we are indebted to the members of our technical committees whose unstinting efforts have brought in a surplus of over R600 000 from their events. I would also like to thank our Secretariat who continue to run an efficient operation and make our Institute the envy of others. To Mrs Winning our accountant go my thanks for controlling the accounts and confusing the Council on a monthly basis, and to KPMG our auditors who keep us on the straight and narrow.

Finally, my thanks go to Ms Moolla, our Institute Manager, with whom I have had a close working relationship these past sixteen years.

Addendum

New Members

Fellows

D.C. Andersen, J.M. Barton, G.K. Chunnett, C.D. De Nooy, D.S. Dodd, D.A. Giese, D.E.C.S. Grant, J.H.K. Hudson, R.J. Kelley, J.J. Laas, A.M. Marsh, I. Matunhire, A.J. McDonald, L.K. Moger, N.F. Nicolau, B. Pruot, G.C. Roets, T.W. Rowland, D.J. Stanton, M.D. Turner Jones, T.P. Williams, A.S. Wood.

Members

D. Adams, A.R. Bye, S.E. Cele, J.G. Crafford, L.E. Cronin, P.J. De Garis, H. De Hoop, M.J. Dunn, B.S. Gohre, R.A. Hornsey, M. Kampani, D. Kasongo, N.V. Khumalo, T. Mahlangu, W.C. Manda, F. Manyanga, I.B. Matshediso, R.N. McIntyre, M. Mphande, D. Munjeri, C. Musingwini, W. Musonda, S.B. Naicker, I. Naidoo, N. Ndhlovu, S. Ndlovu, J.R. Ptasiniski, H.J. Schollenberger, E.T. Sichivula, F.F. Simwanza, G.D. Stacey, J.F.G. Taylor, C.A. van Wyk.

Associates

W. Banda, J. Chamanika, M.M. Chooye, D. de Bruyn, T.P. Gasekoma, R. Gunter, F.N.F. Le Roux, M. le Roux,

N.H. Lötter, Z.C. Marlowe, N.M. Mtimkulu, E. Ngandu, S.R. Nupen, J.G. Schroeder, R.C. Snodgrass, H.-L. Sternberg, G.M.J. van Heerden, J.H. van Vreden.

Students

F.B. Ameer, K.G. Aphane, O.J. Asa, R.S. Badzilani, B. Bam, J.P. Bergh, D.H. Bower, L. Bronkhorst, G.J.P. Chipa, A.M.C. Chitavi, R.H. Connan, C.N. David, Z.M. Dire, K.T. Ditend, J.D. Dlamini, B.B. dos Santos, F.J. du Randt, H.M. Ebrahim, M.W. Erwee, S.G. Gaobuse, S.C. Hutamo, M.A. Kabemba, I.N. Kalipi, M.M. Kashiba, M. Kasonde, K. Katuku, O.R. Kelemetswe, K.D. Khunou, T.P. Komako, G.I. Krebs, M. Kwatara, M.C. Lamola, L.-L. Lee, M. Lundt, M.G. Luther, G. Ma, M.W. Mabaso, L.M. Mabokela, E.I. Madibane, A.P. Mahlangu, P. Mainganye, J.P. Makhubele, K.E. Makofane, T.S. Malebye, M.D. Malesa, M. Malinga, D.W. Manana, K.P. Masuku, M.A. Mathe, F.F. Mbhungele, M.K. Mbonani, A. McKie, O. Medupe, S. Mji, S.M. Mochelo, M.A. Mohamed, I.R. Moholo, M.M. Mohutsiwa, M. Molepo, D.K. Monga, R.I. Montshonyane, S. Moodley, M. Motau, D.K. Moteme, M.R. Mothiba, M.L. Mulaudza, N. Mulaudzi, V.E.M. Munyai, K.G. Musisinyani, S. Mwansa, P.M. Nankamba, G.J. Naude, O. Netshifamadi, T. Netshirando, R.S. Ngaka, N.N. Ngoepe, G. Njowa, H.R. Nkhuna, T.E. Nkosi, A.N. Nkosiyane, A.M. Nonyana, T. Nthutang, T.P. Ntleru, P.R. Ntsebe, B. Peyper, T.R. Phiri, N.E. Pilane, T.I. Radebe, T.I. Rademeyer, K. Ramakuwela, E.S. Ramorula, E.D. Ras, E. Ras, E.A. Rikhotso, D. Rocchi, Y. Roula, H. Saridikmen, W.Z. Saungweme, P.F.R. Scholtz, T.C. Sebutsoe, M.J. Sethethi, S.B.A. Shapaka, R.I. Silima, N.M. Simelane, L.B. Sithole, S.L. Siyaya, M.C. Smit, W. Steinberg, S. Swanepoel, S. Thulasee, L. Tshinavha, J.-A.N. van der Linde, H.J. van Niekerk, T.A. van Niekerk, J.A. Venter, F.M.M. Vlok, Y. Wei, N.S. Wolmarans, N.S. Zulu.

Company Affiliates

Lightnin Africa, Read Swatman & Voigt

Resignations

Fellows

J.R. Cutland, D.S. Fricker, R.N. Guest, M.R. Mortlock, J.M.S. Pinel, P.R. Rogers, D. Rumelin, N. Schoeman, J. Svoboda.

Retired Fellows

D. Dawes, E. Pavitt.

Members

M.J. Ackerman, P.L. Brogan, R.W. Buxton, H.W. Cheetham, J.A. Coetzee, J.G. Crafford, E.P. Deliac, P. Hadebe, J.J. Ison, R.F. Kotze, H.B. Lewis, N.G.S. Marvin, A.D. Pix, M. Pouroullis, D.P. Rowlands, J.P.S. Turner, N.A. van der Mey, M.R.J. van der Werff, K.J. Zoller.

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Retired Members

E.J. Dominy, A.P.S. Howard, D. de L. Slatter.

Associates

F.M. Bethune, R.L. Breckenridge, P.A. Brown, J.H. Buchebner, M.G. Butcher, E. De Villiers, G. Evans, H.J.C. Ferreira, L.D. Hartnick, D. Hendricks, T.D. Hyslop, L.E. Iorio, P.N. Lategan, A.G.M. Law, B.P. Lewis, A.T. McBride, J.J. Momberg, C. Mosoane, J.A. Munro, J.J.P. Pretorius, T.G. Salamon, J.W. Steyn, P.A. Taljaard, M.D. Thomas, E.J. Wainwright.

Students

P.H. Geier, B. Lubbe.

Company Affiliates

Amira International Limited, Assoc. Mining Contractors, Avgold—Target Division, Concor Hochtief Construction, DLFL Mining SA (Pty) Limited, East Driefontein—A Division of Envirowin, Jacked Pipelines, Jeffares Green, Keeve Steyn, Lidonga Minerals (Pty) Ltd, Murray & Roberts RUC Ltd, SAFCEC, St Helena Gold Mines Limited.

Members transferred to Higher Grade

Transfer from Member to Fellow

H.G. Waldeck, A.M. Croll, S.T. Rupprecht, J.D. Taylor, N.G.C. Blackham, F.K. Crundwell, A.S. Lambert, M.J.P.M. Struik.

Transfer from Associate to Fellow

N.F. Nicolau, G.C. Roets, P.A. Osborne, P.J. Hoff.

Transfer from Associate to Member

D.C.S. Maree, S. Uludag, G.D. Stacey, J.A. Buckley, T.J. Otto, B.N. Scott, G.H. Lind, M.H. Rakale.

Automatic transfer to Associate

J.C.C. Geyer, T.P. Kabinde, A.B. McLean, D.S. Mdhlalose, D.T. Mukongo, M.S. Smith, D. de Bruin, R. Gunter, T.M. Mafata, D.T. Mohapi, B.M. Sekano, P.R. du Plessis, J.H. Engelbrecht, V. Makuni, J. Morkel, S. van der Merwe, E.C. van Heerden, E.L. de Toit, T.D. Mokaila, E.T. Phala, S.M. Seema, G.J.C. Strydom, A.W. Bester, F.P. Leteane, V.I. Sokupha, S. Zitha.

Members who retired

Fellows

M. Dijkstra, M. Rutherford, C.P. Ashton, R.M.S. Falcon, C.W.P.

Finn, L.N. Stewart, E.H. Thomas, M.J. Viljoen, P.E. Bryant, R.M. Whyte, E.H.J. Stoyell.

Members

Z.R. Charlton, A.R. Gibb, T.B.S. Giddey, F.W. Knox, C.J. Cloete, J. Killey, R.A. Lindsay, B.J. Love, G.W. Wendel, A.G. Netto, D.I. Watson, A.C. Munro.

Associates

G.D. Bartholomew, A. Stockill.

Deceased

Retired Fellows

H.G. Denkhaus, W.A. Gilbert, G. Langton, E. Popplewell, J. Uys, C.F. Vermaak.

Retired Members

T.C. Marshall Pr Eng., D.A. Young Pr Eng..

Retired Associates

D.H. Stevenson.

Members

N.A. Mjacu, P.P. Mwasinga.

Associates

J.E. Olivier, D.A. Spalding, P. Vos.

Members who were reinstated

Reinstated as a Member

J.A. Buckley, H.J.S de Barros Pinheiro, G.B. Quaye.

Reinstated as a Retired Member

G.W. Wendel.

Reinstated as Associates

P.R. du Plessis, D.K. Joubert, M.P. Molapo, A.G. Mthombeni, S.W. Stapelberg, X.R. Wagner.

Reinstated as a Fellow

M.G. Saner. u