

Proceedings, 100th Annual General Meeting, 1997

The 100th Annual General Meeting of The South African Institute of Mining and Metallurgy was held in the Gold Room, Transvaal Automobile Club, 60 5th Street, Lower Houghton, Johannesburg on Wednesday, 13th August, 1997.

Obituaries

The President announced the death, during the year, of the following members:

Honorary Life Fellows and Past Presidents

D.M. Jamieson, V.C. Robinson

Fellows

S. Goodwin, M.W. Johns

Retired Fellows

T.F. Muller, P.L. Nathan, N. Orsmond, R.J. Ortlepp, H.S. Sichel, K.E. Steele, W.B.L. Steuart, N.B. Vinson

Member

J.P. Hatfield

Retired Members

S.T. Baron, B.F. Pinder

Retired Associate

F.J.A. van Reenen

In memory of the deceased and in sympathy with the bereaved, all rose and observed a moment of silence.

Minutes

The Minutes of the previous Annual General Meeting, which were published in the November 1996 issue of the *Journal*, were confirmed.

Welcome

The President extended a special welcome to the guests, including Mr T. Main, Chief Executive of the Chamber of Mines of South Africa, Dr C.V. Phillips, President of the Institution of Mining and Metallurgy (UK) and representatives of our sister institutes and other associations. Recipients of awards, senior members of industry, Honorary Life Fellows, Past Presidents, Members, and other guests, among them the following:

Dr N.S. Segal, Chamber of Mines of South Africa

D. Bakker, Acting Chief Director, Dept of Minerals and Energy

Prof. F. Sellschop, Associated Scientific and Technical Societies of South Africa

R.F. Tucker, President, The Geological Society of South Africa

Prof. G.D.J. Smith, President, The South African Institution

of Mechanical Engineering

A.D. du Plessis, President of the Institution of Certificated Mechanical and Electrical Engineers of South Africa

D. Botha, Executive Director, South African Institution of Civil Engineers

C. Albertyn, President of the South African Institution of Chemical Engineers

L. Piper, President of the Institute of Mine Surveyors of South Africa

Dr R.D. Marcus, President of The South African Engineering Association

R.J. van der Schyff, Vice President of the Association of Mine Metallurgical Managers' of South Africa

Mr F.S. Brear, Past President of the Association of Mine Resident Engineers

Mr V. Nel, Chief Executive, Chamber of Engineering Technology.

Dr Nic Barcza called upon Dr Vic Phillips, who was inducted as President of the IMM (UK), on 22 May, 1997, to give a brief address to members of the SAIMM. Dr Phillips was visiting South Africa, as part of his presidential duties at this time and was welcomed to the podium.

'Mr President, Nic, ladies and gentlemen, thank you very much for the invitation to attend here today. I feel it is a great honour that The South African Institute of Mining and Metallurgy should welcome the President from the UK. I spent two days down in Cape Town, attending your Minerals Processing 1997 Conference and I thought what a wonderful occasion that was and I would like to thank your colleagues from the Western Cape Branch for their hospitality last week.

'You may be aware that the IMM itself is involved in a merger with the Institution of Mining Engineers' home in the UK. We have, of course, well over 200 members based in South Africa and I'm sure many of them have membership with your own Institution. If you take in the countries of southern Africa, Zimbabwe, Zambia, Botswana and Namibia you have a total of about 440 of our members based in parts of Africa. That by far exceeds those in Australia or the whole of the United States. We have traditionally, of course, had 51% plus, of our membership working outside of the UK and Ireland and we are hoping that this merger with the Institution of Mining Engineers will have benefits across the whole of the Institution of Mining and Metallurgy's interests across the world. We have such a thing as a Royal Charter in the UK and we're apparently involved in inviting our members to support the changes to our Charter bylaws to allow this full merger to take place.

'It's interesting to note that this is your hundredth AGM. The IMM had its 106th AGM in May and I am the 99th President. The 100th President, hopefully, will be the President

of this new combined Institution which, hopefully, I will continue to show great interest in all the rest of the metallurgical institutions in other parts of the world such as South Africa, Australia and Canada, and I'm hoping that in due course perhaps some closer form of relationship between ourselves may be possible. I thank you for the opportunity to attend and to say a few words. Thank you, Nic, for your hospitality in Cape Town—and I believe again later this evening. Thank you.'

Honorary Life Fellowship

Mr Mike Rogers (Senior Vice President): Honorary Life Fellowship is awarded by the Council to corporate members of the Institute who have rendered outstanding service to the industry or to the Institute. It is my pleasure to announce that the Council has decided to award Honorary Life Fellowship to the following:

- ▶ **Mr J.A. Cruise** for the outstanding contribution to the Institute over a number of years.

Brigadier Stokes Memorial Award

Mr Mike Rogers: The Brigadier Stokes Memorial Award was instituted in 1980 to commemorate the outstanding contribution to the South African mining industry made by Brigadier R.S.G. Stokes, an Honorary Life Fellow and Past President of this Institute. The award is made to an individual for the very highest achievement in the South African mining and metallurgical industry. It gives me great pleasure to announce that the award for 1997 is to be made posthumously to Professor David Horsfall.

The late Professor David Horsfall was a recognised authority in coal processing not only in South Africa but throughout the countries of the world where coal mining is practiced. He contributed to elevating South African coal processing technology to the highest standard and passed on his knowledge and technologies to future engineers through his interest in education.

David was born in Leeds in the north of England in 1931 where he attended both school and university.

He was awarded a B.Sc. and Diploma in Mineral Dressing and Coal Preparation by the University of Leeds in 1957 and put his newly acquired knowledge to use with the National Coal Board in Hobart House, London, where he became the Technical Assistant to the Chief Coal Processing Engineer. He left this position in 1964 to join Amcoal (Anglo American) as a Fuel Technologist based in Johannesburg where he subsequently attained the position of Consulting Metallurgist. His passion for coal preparation and his desire to pass on knowledge resulted in him accepting the Shell Chair of Coal Studies at Wits University in April 1988, a position he filled with flair and enthusiasm until his untimely death in September 1995.

Professor Horsfall is recognised in the coal industry for his pioneering work in double stage, dense medium washing carried out at the Landau Colliery to produce a low ash metallurgical coal and high grade steam raising coal. These products formed the basis of the coal export programme which resulted in the construction of the Richards Bay Coal Terminal in 1976. David was one of the initiators of the low ash coal project within the Anglo American Corporation. His technical

report was used as a core document in the contract with the Japanese Steel Mills, a contract which laid the foundation for the coal exporting industry in South Africa. The combined low ash coal production from several collieries was sold through the Transvaal Coal Owners' Association, a contract which is still in place today. From an initial throughput level of 12 million tons per annum the coal export business has expanded to its current level of 60 million tons per annum and earns for South Africa revenue in excess of 8 billion Rands annually.

The success of the double stage washing led David to the concept of multi-product mines where he proposed that collieries supplying Eskom power stations should first process the coal to take out a primary export fraction and provide Eskom with a secondary product. Optimum colliery was an early follower of this concept. He further went on to propose the 'Coalplex' scheme in which the maximum recovery of the energy in the coal would be obtained by producing export quality coal, converting some of the coal to liquid fuels, and using waste heat from this process to generate power to supplement electricity generated by burning the lower quality fractions of the coal. To date the 'Coalplex' concept has not been used in its entirety on any one site but there is a movement worldwide towards combined heat and power generation systems.

Another first for David was his flow sheet design for the first high density de-shaling plant at New Vaal Colliery which treats large tonnages of coarse coal to ensure that the Lethabo power station receives a product of consistent calorific value. This is important as the station burns coal of 16 MJ/kg, the lowest quality coal burned by Eskom. This is a concept which has been adopted at other Eskom-tied collieries.

The concept of utilising lower quality coal was a theme that David continually returned to as he was concerned with extending the life of South African coal reserves, the bulk of which lie in the lower quality and lower yielding Waterberg reserves. In order to utilise the Waterberg reserves economically he had commenced research into increasing yield by means of ultra fine grinding and lowering transport costs, and improving handling by using coal/water slurries.

His intense interest in maximizing the recovery of coal led to David being involved in early testwork on froth flotation, spirals and jigging for the recovery of fine coal. The use of spirals is commonplace today and more and more mines are introducing froth flotation cells in order to maximize recoveries.

During his academic career at the University of the Witwatersrand he introduced a specialist coal course for fourth-year extractive metallurgy students, short courses for industry, a graduate diploma course for engineers and a M.Sc. course in coal processing. As an aid to teaching, he introduced highly successful working models to simulate coal preparation processes using coloured density tracers to evaluate separating efficiencies.

David had many activities outside his work duties which included the music of Gilbert and Sullivan, after-dinner speaking, and a gift for learning other languages which included a sprinkling of Japanese and Russian. He was an avid collector of silver antiques and mining memorabilia and had a life-time passion for canals and barges.

He was, however, best known for his interest in the South African Coal Processing Society of which he was a founder member and its first chairman in 1968 and was later chosen as

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Man of the Year for his contributions to the coal processing industry. David was the editor of the 'Coal Preparation for Plant Operators' handbook which is used by the Chamber of Mines Training College for the Basic Coal Preparation Course. This was followed in 1987 with the manuals for the advanced course in coal preparation which is accepted by the Technikon RSA as a part of the curriculum for the National Diploma in Fuel Technology.

He was elected to the International Organizing Committee of the International Coal Preparation Congress, and his influence on the committee resulted in South Africa being awarded the Congress in the year 2002. In recognition of his services to coal preparation worldwide, a memorial lecture in his honour will be delivered at the forthcoming Brisbane Congress of the ICPC.

David represented the industry on the Discard Utilisation committee, the Low Smoke Fuel committee, the Steering committee for Coal Research for the National Energy Council and numerous other research committees in South Africa.

He presented papers worldwide, including the annual Lexington Coal Conference, various World Coal Institute symposia, the International Coal Preparation Congress, Coaltrans, International Conference on Coal Research and to other mining and metallurgical organizations.

In pursuit of his desire to pass on knowledge, David presented many papers to the Coal Processing Society, the Mine Metallurgical Managers' Association and to the SAIMM. He was generous in his support of the Institute, delivering papers at Institute symposia and supporting Branch meetings, particularly the Mpumalanga Branch.

It would be true to say that Professor David Horsfall was the founder of modern coal processing in South Africa, and that it was his foresight and ingenuity that contributed to the resurgence of the South African coal industry in the seventies, growing from the mining industries' 'Cinderella' to a leader in technology and export earnings.

He was respected and admired by all who came into contact with him and is sorely missed.

As Dr James Campbell of Amcoal said in his eulogy, a man of David's stature and talents could be proud, stubborn, dogmatic, humorous, witty, wise and inspirational to name but few of his attributes, but knowing that out of this complex morphology something good would always issue. Anyone having had dealings with David would echo these sentiments.

The outstanding contributions that David Horsfall made to the coal mining industry of South Africa make him an eminently worthy recipient of the Brigadier Stokes Memorial Award.

Professor Horsfall's son Christopher, who is the youngest of 4 children, (the others, 2 daughters and another son, who lives in England) was called upon to accept the award on behalf of the family. Although he has an engineering degree he has never used it, as his interests lie in the food trade. He takes after his late father with his vibrant personality and love of entertaining people. He is newly married and lives in Parkhurst.

Mr Christopher Horsfall's reply: Thank you very much for those kind words. I wish I could respond on a technical level, but unfortunately none of us developed dad's flair. I think all that we can hope for is that there are some people out there in the industry who can carry forth his passion and wisdom. And wherever he is, and from the family, all we can say is that we're extremely honoured. Thank you very much.

Presentation of Medals and Certificates.

Mr Mike Rogers announced the following awards, which were presented to the recipients by the President.

50-year Membership Awards

- G.Y. Nisbet, who was elected as a Member on 11th April, 1947 as a student
- G.R. Still, who was elected as an Associate on 12th September, 1947 as a student.

Papers published in the *Journal* from March 1996 to February 1997 by members of the Institute were considered for medals:

Gold Medals

Mrs M. du Toit and Dr P.G.H Pistorius for their paper entitled: 'The welding of experimental low-nickel CR-Mn-N stainless steels containing copper'.

Silver Medals

M.K.C. Roberts for his paper published entitled 'Evaluation of the influence of grout-prestressing on the performance of timber packs: static and dynamic considerations'.

A. Daehnke and Dr P.N. Taggart, co-authors and non-members of the Institute, will receive certificates.

Dr A.J.S. Spearing for his paper entitled 'The design of tunnel support in deep hard-rock mines under quasistatic conditions'.

C.R. Speers, a co-author and non-member of the Institute, will receive a certificate.

M. du Toit and Prof. P.C. Pistorius for their paper entitled 'Sensitization of type 430 ferritic stainless steel during continuous annealing'.

N.M. Vegter and Prof. R.F. Sandenbergh for their paper entitled 'Rate-determining mechanisms for the adsorption of gold di-cyanide onto activated carbon'.

Dr L.R. Nelson for his paper entitled 'The preparation of chromium metal by a sealed, cold hearth, plasma-assisted aluminothermic method'.

Presentation of Student Prizes

Mr Mike Rogers: Prizes are awarded to the following students for the best student dissertation in part fulfilment of the B.Sc. (Eng.) degree.

- *Mining:* W.I. Swanepoel, University of Pretoria, 'Ondersoek na alternatiewe afbou—frontbestutting'.
- *Extractive Metallurgy:* D. Lincoln, University of the Witwatersrand 'Particle stratification'.
- *Metals Technology:* R. Steele, University of the Witwatersrand, 'The use of aluminium cathodes for the electrowinning of zinc'.

Other prizes awarded to students at the Universities of the Witwatersrand and Pretoria were presented at faculty prize-giving ceremonies held at the respective universities. The prize-winners were as follows:

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University of the Witwatersrand

Prestige Prize:

Mining	G.J. van Zyl (posthumously)
Metallurgy	P. Hill

Book Prize:

Mining	G. Lind
Metallurgy	R. Steele

University of Pretoria

Prestige Prize:

Mining	R.S.E. Alberts
Metallurgy	J.O. Claassen

Book Prize:

Mining	C.C. Ballot
Metallurgy	No award

Technikon Witwatersrand

Prestige Prize:

Metalliferous Mining	W.J.A. Wessels and G.J. Fourie
Coal	No award

Atlas Copco Travel Grant for mining engineers

The Atlas Copco Travel Grant for Mining Engineers has been awarded to Mr Dana Roets, Manager Mining, Oryx Mine and Mr Graham Chamberlain, Production Manager, Elandsrand Gold Mine. These prizes were presented by our President at a function arranged by Atlas Copco on 25 June 1997.

Outokumpu Travel Grant for metallurgists

The 1997 Award for the Outokumpu Travel Grant for Metallurgists was awarded to Mr N. Fortmann.

Mr Noel Fortmann, is the worthy recipient of the second award since the inception of this Travel Grant. Noel obtained his B.Sc. (Eng) and M.Sc. (Eng) degrees from the University of the Witwatersrand in 1985 and 1990 respectively. He started his career as a process metallurgist at Rustenburg Platinum Mines in 1990 and progressed rapidly to the position he now holds at Lonrho Platinum Division of Smelter Superintendent.

Noel has been involved with and responsible for a wide variety of technical developments in the platinum industry having commissioned the pilot platinum concentrate flash drier, carried out part of the design and commissioning of the smelter slag milling and flotation plant and played a major role in the modernization and rehabilitation of PGM smelter plants.

Outokumpu was thanked for their valued support and Mr Richard Atkinson Managing Director of Outokumpu Mintec was called upon to present the Award to Noel.

Annual Report and Accounts

Subscriptions received showed an increase on the previous year being Company Affiliates R144 737 (R128 947) and individual membership R376 393 (R346 193).

Income from colloquia and schools doubled from the previous years, being R611 629 (R288 584) and accounts for almost half of our income. The three Technical Programme Committees and, especially the Mining Technical Programme

Committee, who accounted for three-quarters of the total, are to be congratulated on their efforts.

Due to a cash flow squeeze caused by the increased number of events, bridging finance was provided by the sale of investments to the value of R154 507 (R1 079). Interest and dividends received increased to R63 037 (R47 264). Investments decreased in cost value to R752 792 (R823 256) due to the aforementioned sale and the market value decreased to R2 582 339 (R2 995 000).

Expenditure for the year increased to R1 300 506 (R940 572) mainly due to provisions for an estimated loss on the sale of the Stonehurst property of R150 000, a provision of R50 000 for debts of over six months on colloquia income and an increase to R456 961 (R305 611) for administration, which including 50% increase in postage, R35 000 for career guidance booklet etc. Expenses for the *Journal* increased marginally R339 593 (R306 963), despite large increases in postage rates.

Although income is shown to exceed expenditure by R73 776, this has been depressed by the R200 000 of provisions for loss on sale of property and debts exceeding six months, less the R154 507 from sale of investments.

Our thanks go to Fleming Martin, our investment advisers, our accountant Mr Stan Hickin and our auditors for financial services rendered for the year.

Office Bearers and Members of Council for 1996/1997

President: I have pleasure in announcing that, in accordance with Clauses 3.2 and 3.3 of the Constitution, the retiring Council has elected the following Office Bearers for the ensuing year:

President	R.P. Mohring
President Elect	J.R. Dixon
Senior Vice President	M.H. Rogers
Junior Vice President	Dr L.A. Cramer
Immediate Past President	Dr N.A. Barcza
Honorary Treasurer	J.A. Cruise.

In terms of the election of ordinary members of Council, there is a letter from the scrutineers stating 'We have to report that we inspected the nomination papers for members of Council for the 1997/98 session, and have found that the ballot papers sent out to Corporate Members of the Institute were in order. There was a return of 394 papers, representing a return of 26.1%. There were 4 spoilt papers. As a result of our scrutiny, we find that the following members have been elected (in alphabetical order):

W.J. Abel	Prof. R.F. Sandenbergh
J.P.W. Bennie	Dr A.J.S. Spearing
E.G. de Villiers	Dr T.R. Stacey
A.A.B. Douglas	D.J. van Niekerk
F.M.G. Egerton	P.J. Venter
R. Graham	J.C. Viljoen
Dr R.G. Gürtunca	P.M.T. White.

In addition, Dr R.V.R. Handfield-Jones and P.J. Knottenbelt were elected to represent non-corporate Members of Council.

In terms of Clause 3.2.8 of the Constitution, the Chairmen of the Branches are as follows:

Johannesburg	G.L. Smith
Pretoria	Prof. R.F. Sandenbergh

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Free State	W.D.R. Robinson
Mpumalanga	K.T. Bladwell
Western Cape	Prof. L. Lorenzen
Bushveld	S. St. J. Tose
Natal	R. Hill
Zululand	J.R. Walklate

These Chairmen will serve on Council.

The following Past Presidents have signified their willingness to serve on Council for the ensuing year:

Prof. R.P. Plewman	C.E. Fivaz
Prof. R.E. Robinson	Dr O.K.H. Steffen
G.Y. Nisbet	H.G. Mosenthal
Prof. A.N. Brown	R.D. Beck
H.E. James	Dr H. Scott-Russell.
B.C. Alberts	D.A.J. Ross-Watt

It is with regret that I have to report that Mr Pieter van Rensburg, a Past President who has served on Council for the past 32 years has resigned as a Past President serving on Council. Council Members are in agreement that it is a great loss for all of us. I call upon Prof. Brown to thank Mr van Rensburg for all his valued contributions over the years.

I would like to record our thanks to the Past Presidents for their continued support. I congratulate all those elected, and thank those who have agreed to serve another term of office.

Election of Auditors and Honorary Legal Advisors for 1997/8

President: I propose that Messrs Aiken & Peat be re-appointed as auditors for the coming year, and that Messrs van Hulsteyn, Duthie & Saner be re-appointed as Honorary Legal Advisors. Agreed.

Induction of President

President: It is my pleasant duty to introduce your new President, Mr Rick Mohring.

Mr Mike Rogers: Richard Peter Mohring was born in Johannesburg in 1947 and was educated at King Edward VII High School in Johannesburg.

After obtaining a B.Sc. Degree in Mining Engineering at Wits University he started work with Rand Mines Limited at its Durban Roodepoort Deep gold mine. There he progressed through the production ranks to the position of Underground Manager. In 1975 he was transferred to the Coal Division of Rand Mines to undertake the planning of the division's expansion into opencast coal mining. This entailed the design and equipment selection for the Rietspruit and Duvha Opencast Mines. As Planning Manager of Duvha Opencast he was responsible for the Mine's development. In 1980 he was promoted to Mine Manager of Welgedacht Colliery and shortly thereafter took up the post of Project Manager of Middelburg Mine. This involved the planning and development of another larger opencast mine of which he was made General Manager.

In 1984 he returned to Johannesburg as Managing Director of Duvha Opencast and the fledgling Khutala and Majuba Collieries. He has held the posts of Managing Director of Douglas, Khutala, Middelburg, Rietspruit, Majuba and Welgedacht and Director of Randcoal Limited.

Subsequent to the 1994 merger of Randcoal and Trans-Natal to form the Ingwe Coal Corporation Limited, the world's largest steamcoal exporter, he was appointed Senior Manager: Operations, responsible for Douglas Colliery, Koornfontein Mines, Middelburg Mine and Optimum Colliery and a Director of Ingwe Coal Corporation.

R.P. Mohring is a registered Professional Engineer and has served on the Engineering Council of South Africa since July 1995. He is a Fellow of the SAIMM and has served on its Council since 1988/1989. Married to Lyn, they have three sons, Mark, Craig and Steven.

Presidential Address

Mr Mohring then presented his Presidential Address entitled 'The South African coal industry: current position and future challenges', which is reproduced elsewhere in this edition of the *Journal*.

Vote of thanks

Mr Don Ross-Watt: Mr President, Ladies and Gentlemen, I stand in a position that has, over the years, represented the greatest risk to a timeous completion of the formal proceedings and an early start to drinking time—the position of giving the vote of thanks.

The fact that I am neither a coal miner, nor have any significant exposure to coal mining, is not by accident or neglect of the organisers, but by design. Indeed, the brevity of my comments are by direct instruction of your President. (A measure of both the efficiency and modesty of the man.) I will try to pack some punch into the few words I have been allowed.

Rick Mohring is clearly a man with considerable hands-on experience and expertise in his field, well travelled and widely respected, a man who tackles his work with enthusiasm, energy and I am sure enjoyment, and who has now become one of South Africa's foremost coal executives.

Ladies, gentlemen, you have been treated to Rick Mohring's in-depth knowledge of the industry, my only regret is that there is not 30 to 45 minutes of question time; that is when he really shows how well he appreciates the industry.

I hesitate to comment further on Rick's presentation, lest I detract from, rather than enhance his excellent and informed commentary on the coal business. One cannot help notice however, how this industry has been extremely sensitive to the competitive and constantly changing market in which it exists, and how it is also intensely aware of the competitive international challenges of mechanization, mining and processing methods, productivity, automation, information technology, product development, product quality etc. In certain areas the local industry has equalled, and in other areas bettered, the international competition, while in some areas, as Rick notes, major challenges exist. All of this while responsibly facing the demands of safety, occupational health and the environment.

Rick represents a part of the mining industry we can be proud of, and he represents it well!

I met Rick some time in the early 1970s, in the classrooms of the remarkable Witwatersrand University mining department (then only 75 years old) and also on the inter-faculty rugby

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fields. He was friendly, unassuming leader with a great sense of humour, and also a rock solid front row forward. He enjoyed his beer and smoked his pipe. Today he still remains the same freindly, unassuming leader with an even greater sense of humour. I doubt whether he often puts on a No. 1 or No. 3 rugby jersey today, but he turns in rock-solid contributions in all he does, his job in industry affairs in Chamber of Mines affairs, in the engineering profession, in Institute affairs, in schooling and I am sure in many other areas. And, as far as I am aware he still enjoys his beer and smokes his pipe. Rick Mohring has made a remarkable contribution to the South African coal industry, by just being himself for the last 25 years, (coincidentally the same 25 years of the modern day

success story of South African coal). The Institute will be enriched over the next year by Rick Mohring's particular field of expertise, and will certainly be honoured by the personal status he will bring to the office of President.

Those of you who know Rick and his good wife Lynne, will be looking forward to being associated with them over the next year, and those who haven't yet met them, can anticipate a very pleasant experience in getting to know them. To Rick, Lynne and to the boys, our best wishes for a memorable year.

Closure

The meeting closed at 18:15. ◆