

# Proceedings, 98th Annual General Meeting, 1995

The 98th 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, 16th August, 1995.

## Obituaries

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

### *Honorary Life Fellows*

R.C.J. Goode, F.G. Hill

### *Life Fellows*

R.S. Cooke, J.W.V. Mortleman

### *Fellows*

S. Craib, R.R. Hendry, T.J.B. Jones

### *Retired Fellows*

E.E. Lamberti, Z.J. Lombard, G.A. MacKay, D.J. Molony, K. Smith

### *Members*

J.M. Black, W. Muir

### *Retired Member*

G.B. MacGillivray

### *Retired Associates*

A.H. Johnstone, G.S. Stander.

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 September 1994 issue of the *Journal*, were confirmed.

## Welcome

The President extended a special word of welcome to the guests, including Mr A.H. Munro, President of the Chamber of Mines, the Presidents and representatives of 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 Oskar Steffen, the recipient of the Brigadier Stokes Memorial Award

Mr Beck, President of the Associated Scientific and Technical Societies of South Africa

Dr Viljoen, President of the Geological Society of South Africa  
Mr Gundersen, Past President, Mine Ventilation Society of South Africa

Mr Plowden, Vice President of the South African Institute of Electrical Engineers

Mr D. Smith, President of the Association of Mine Managers of South Africa

Mr Brear, President of the Association of Mine Resident Engineers

Mr West, President of the Mine Metallurgical Managers Association

Mr Pullen, President of the Engineering Council of South Africa

## Honorary Life Fellowship

*Mr Rick Mohring:* Honorary Life Fellowship is awarded by the Council to corporate members of the Institute who have rendered outstanding service to the industry and to the Institute. It is my pleasure to announce that the Council has decided to award Honorary Life Fellowship to the following:

- ▶ **Mr Richard Beck**, for his outstanding contribution to the Institute over a number of years, particularly for his work during the Centenary Year as Chairman of the Centenary Committee and for the work he continues to do for AS&TS.
- ▶ **Mr Peter Janisch** for his outstanding contribution to the Institute, particularly during the Centenary Year for the commemorative issue of the *Journal* and his contribution at the Centenary Lecture.
- ▶ **Mr Henry James** for his outstanding contribution to the Institute over a number of years, and particularly for his input to the Strategic Plan and his ongoing support on the Engineering Council of South Africa.

## Brigadier Stokes Memorial Award

*Mr Rick Mohring:* 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 1995 is to be made to Dr Oskar Steffen.

*President:* 'South Africa's mining history is a fascinating story of colourful characters. For some of the most famous, mining was an entirely new venture. The African continent today is somewhat more complicated than it was a hundred years ago. Gut feelings and *déjà vu* attitudes are no longer a recipe for success in mining projects—or are they? Have we become victims of data and information processing to the extent that it blurs our vision with too many risks that become too ghastly to contemplate? The career paths of typical mining engineers have become so conditioned and systematized within the rigid framework of discipline so essential to the efficient operation of labour-intensive units, that they are unlikely to generate entrepreneurial attitudes. Rather, the relative stability of our mining industry has resulted in secure and complacent employment attitudes over many years, which, by definition, are counter-productive to entrepreneurial development.'

What I have just quoted is a resurrection of cogent statements and surging questions that might have been posed at any time during the past thirty years by a hand-wringing politician or economics theoretician from the comfort of knowing that someone else would have to provide the solutions. These words were, in fact, delivered by an engineering entrepreneur *extraordinaire*, who had already shown the way: Oskar Steffen, in his Presidential Address to this Institution in 1989. Steffen was then, and still is, the antithesis of his own words. He knew what he was attempting to communicate; he had been there. Equipped with a civil-engineering degree, he had served in the Production Department at Nchanga in Zambia, becoming Open Pit Manager in 1968. What brought him back to the academic life at Wits a year later is not recorded, but he stayed for five years, until 1974, when he and his colleagues, Andy Robertson and Hennie Kirsten, could no longer either ignore or resist the market gap that yawned before them. SRK was born. In twenty years, this mine-planning, environmental-management, and geo-technical consultancy has grown into an international practice and a centre of excellence of world repute. These twenty years also encapsulate the man.

Try to perceive the energy that drives this outwardly modest, calm, almost bland engineering person. The practice expands to North America, Europe, South America, and Australia. Assignments in these continental regions are complemented by others in West Africa, Russia, and extensively at home in Southern Africa. Steffen's hand and physical presence are felt directly in all of them. He completes his Ph.D. thesis on rock mechanics in the design of open pits, and he serves in leading capacities on four national and international learned societies but directs his major interest at our own, becoming President in 1989 and continuing active participation in Council meetings and affairs in the years that follow. Regular publications and conference contributions continue to fertilize his professional reputation. SRK expands. A new and very practical office block is opened in Sandton. Oskar farms cattle, cotton, and sugar. He plays golf with a skill becoming his modesty, and successfully participates in—and we do not say 'manages'—an all-female family, itself one of much accomplishment.

Throughout, Steffen remains what he was born to be: the complete engineer. He is concerned about the potentiality of failure- and risk-evaluation methods, balancing this side always with cost. A further quote from his Presidential Address illuminates the engineer:

'Since the costs of all projects are ultimately recovered from the community for which they are undertaken, an over-engineered project may be just as damaging to the community as one that is under-engineered.'

And he goes on to offer South African experience and skills to the African continent, where this balance is vital.

The Brigadier Stokes Memorial Award recognizes singular contributions to South Africa's mineral-extraction industry. In Oskar Steffen we have such a contributor. He ranks worthily with those who have preceded him, but he has taken his contribution into a further dimension—as an exporter. This, also, is not unique. Shaft-sinking enterprises have been exported for decades. However, we recognize Steffen, for a combination of intellect, energy, professionalism, and humanness. His peers in the Institute, which he has graced by his fellowship, and to which he has given so much, are now pleased to reward that recognition.

*Dr Oskar Steffen:* Words are not really my forte, so, if I make inadequate use of them tonight, I beg your pardon.

The honour that this award represents is far more than I deserve, but I accept it with great humility in acknowledgement to all my partners, since I am but one member of a team who participated in the accomplishments mentioned in the citation. There is but one truly free choice one makes in life and that is one's choice of partners. If I am allowed to claim some credit, then it is for my choice of partners.

Firstly, I want to acknowledge my business partners—what a team!

Secondly, my life partner, Marge, who has borne the brunt of loneliness while I have spent so many days away from home. I cannot over-emphasize the value of Marge's enthusiastic support.

But none of this would really have been possible if it weren't for the high esteem that the South African mining industry enjoys in foreign lands. That image has been developed over many, many years by the painstaking efforts of all the engineers and other professionals associated with the mining industry, and that, of course, includes everyone present here tonight. So I would like to thank all of you, and those not present, for the opportunity you provided us.

Lastly, I would like to acknowledge most sincerely the many South African clients who have patiently tolerated our excursions into other countries and trust that they have benefited directly from these experiences too.

Council's decision to make this award to me tonight will inspire me and my partners to complete the unfinished business for which the award was made. I bring thanks to God for his generous gifts and continued guidance. In reverence to the previous recipients of this award and in gratitude to Council, I undertake to continue in the endeavours that you have valued so highly, to the best of my ability.

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## Presentation of Medals and Certificates.

*Mr Rick Mohring:* Papers published in the *Journal* from March 1994 to February 1995 by members of the Institute were considered for medals, as were the *CMMI Proceedings*.

### Gold Medal

Dr D.H. Laubscher receives the Gold Medal for his paper entitled 'Cave mining—the state of the art', published in the October 1994 issue of the *Journal*.

### Silver Medals

The following were awarded Silver Medals for papers published in the *Journal*.

- R.H.C. Andrew for his paper entitled 'Economic considerations in the use of rubber tyres in mechanized deep-level mining', which was published in the October 1994 issue of the *Journal*.
- The Mining Department of the University of the Witwatersrand for a suite of papers that were published in the January/February 1995 issue of the *Journal*, accepted on the Department's behalf by Professor Huw Phillips.

The following received Silver Medals for papers published in Volume 2 of the *Proceedings, XVth CMMI Congress*.

- R. Huberts and P. Dempsey with A. Pinches and J.W. Neale, for their paper, entitled 'The MINBAC bacterial-oxidation process'. Messrs Pinches and Neale, who are non-members, receive certificates.
- R.A. Snodgrass and M.P. Hay for their paper, with P.J. du Preez, entitled 'Process development and design of the Northam Merensky concentrator'. Mr Du Preez, a non-member, receives a certificate.
- Dr L.R. Nelson for his paper entitled 'Simulation of two-phase fluid flow in bottom, gas-stirred ladles'.
- D. de Wet Smith and R.J. Dippenaar for their paper entitled 'A thermal analysis of the liquid-pool purification of zirconium metal in a high-energy beam facility'.
- D.A.A. Smith for his paper, with M.N. van Warmelo, entitled 'The development of an empirical model for the tempering of hot-rolled 3CR12 plate'. Mr van Warmelo, who is a non-member, receives a certificate.

### Presentation of Student Prizes

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

- *Mining:* No award.
- *Extractive Metallurgy:* S. Kristafor and T. Heinzle of the University of Cape Town for a dissertation entitled 'Comparison between fine-bubble and normal flotation for selectively floating fine pyrite from pyrite-quartzite mixture', a presentation made at the AGM of the Western Cape Branch.
- *Metals Technology:* Colleen Snyders of the University of the Witwatersrand for a dissertation entitled 'An evaluation of the effect of copper additions to 17% chromium ferritic stainless steel'.

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:

#### University of the Witwatersrand

##### *Prestige Prize:*

Mining	Bevan Jones
Metallurgy	Colleen Snyders

##### *Book Prize:*

Mining	Bevan Jones
Metallurgy	Colleen Snyders

#### University of Pretoria

##### *Prestige Prize:*

Mining	W.-D. Wieland
Metallurgy	Aletta Rautenbach

##### *Book Prize:*

Mining	Z.J. van Zyl
Metallurgy	Hanalie du Plooy

#### Technikon Witwatersrand

##### *Prestige Prize:*

Metalliferous Mining	No award
Coal	Peter Scheepers.

### Annual Report and Accounts

The President presented the Annual Report, highlighting certain aspects.

He pointed out that, in regard to a change of name for the Institute (page 6), Council had made the recommendation, but that it was as a result of the quality of the negative responses that were received from Members (and not the quantity of the positive responses) that caused Council to withdraw the proposal. The Institute is proud of its name and it was decided not to change it.

Mr Don Ross-Watt then presented a summary of the Financial Report.

*Mr Don Ross-Watt:* The subscriptions received showed an increase on last year, being R108 859 for Company Affiliates and R310 962 for individual Members, as against R99 312 and R233 839 last year. The subscription rates continued to be among the lowest of the major engineering institutes.

Income from Colloquia and Schools was down on last year at R117 828, compared with R168 265. This was due, in part, to the effort that the Technical Programme Committee put into the CMMI Congress in the first half of the year, for which only reimbursement of the costs was received, and also to one or two Colloquia that were poorly attended or postponed due to lack of support.

The increase in income derived from the surplus of Sale of Investments at R347 249, compared with R285 553, was due, in part, to partial repayment of the INFACON Bursary Fund of R84 396. Investments decreased at cost value to R805 151 from R854 744 owing to the sale of investments and that, coupled with the depressed stock market, saw the market value of the investments decrease to R2 379 290, compared with R2 760 645.

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Expenditure for the year increased to R885 166, compared with R757 720, due in part to salary increases and increased expenses for the *Journal*, which increased to R202 003.

Payments were made into two funds: the Brigadier Stokes Memorial Fund and the MacArthur Forrest Memorial Fund.

Although income from investments was used to cover working costs during the year, this had been budgeted for, taking into account the Institute's involvement with CMMI during the year.

The Annual Report and Accounts were adopted by the meeting.

### Office Bearers and Members of Council for 1995/1996

*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	D.A.J. Ross-Watt
President Elect	P.D.K. Robinson
Senior Vice President	Dr N.A. Barcza
Junior Vice President	R.P. Mohring
Immediate Past President and 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 1995/96 session, and have found that the ballot papers sent out to Corporate Members of the Institute were in order. There was a return of 519 papers, representing a return of 35,1%. There were 5 spoilt papers. As a result of our scrutiny, we find that the following members have been elected (in alphabetical order):

Mr J.P.W. Bennie	Dr M.A. Ford
Dr L.A. Cramer	M.H. Rogers
Prof. R.J. Dippenaar	Dr A.J.S. Spearing
J.R. Dixon	Dr T.R. Stacey
A.A.B. Douglas	D.J. van Niekerk
F.M.G. Egerton	J.C. Viljoen
Prof. R.H. Eric	P.M.T. White.

'In addition, Dr R.V.R. Handfield-Jones and P.J. Knottenbelt were elected unopposed 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	C.L. Workman-Davies
Pretoria	Prof. R.F. Sandenbergh
Orange Free State	E.N.D. Westgate
Vaal Triangle	Currently vacant
Eastern Transvaal	C.P. Goodale
Western Cape	Prof. F.W. Petersen
Bushveld	C.A.F. Sweet
Natal	J.S.A. Folkard
Zululand	F.W. Klückow.

These Chairmen will serve on Council.

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

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

I would like to record our thanks for 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 1995/6

*President:* I propose that Messrs Aiken & Peat be re-appointed as auditors for the coming year and Messrs van Hulsteyn, Duthie & Saner be re-appointed as Honorary Legal Advisors. This proposal was adopted by the meeting.

### Induction of President

*Mr Rick Mohring:* Don Ross-Watt was born in Krugersdorp in 1946. He was educated at Florida Park High School and, after obtaining a B.Sc. degree in civil engineering in 1968 at the University of Witwatersrand, he worked for Murray & Roberts for two years in Earthworks Contracting and Instructional Design. In 1972 he obtained a B.Sc. in mining engineering, also at the University of Witwatersrand. He was awarded the Chamber of Mines Gold Medal and Scholarship, and then joined Gold Fields of South Africa and worked for three years on production, mainly at the West Driefontein Mine. He spent from 1975 to 1977 studying at McGill University in Canada, where he obtained an M. Eng. degree in mineral economics.

On his return to South Africa, Don worked at West Driefontein for three years as a Mine Overseer and Underground Manager and Relieving Production Manager. This was followed by a two-year stint on Black Mountain in various posts, and by four years at the Rooiberg Tin Mine as Mine Manager. In 1986 he became a member of the Council of the Association of Mine Managers of South Africa, and in the same year he was appointed Consulting Mining Engineer at Gold Fields of South Africa. During his tenure in that post he was responsible, among other things, for the Black Mountain Mine, Doornfontein, O'okiep, Tsumeb, and various technical areas within the Group.

He has visited mines in Canada and the United States, South America, Cornwall, Ireland, Portugal, Scandinavia, and Russia. He is a member of the Council of The South African Institute of Mining and Metallurgy and has served in that capacity since 1987.

He is married to Susan and they have three children: Jennifer, Jacqueline, and Allan.

He is keen on sport and for many years participated in rugby, waterpolo, and road running.

*Incoming President:* It is an honour to accept the position of President of the Institute. My thanks go out to my colleagues and to the Secretariat. Over the years that I have been associated with the Institute, their co-operation has been most enjoyable and rewarding. It is no secret that, while I hold the post of President, I shall strive to maintain and improve the Institute as a premier technical mining and metallurgical organization in this country. I think it has a very important role to play.

I accept the position, and my first task is to call Mr Cruise forward to hand him a commemorative plaque as a memento of his term in office.

### Presidential Address

Dr Ross-Watt then presented his Presidential Address entitled 'Mining Engineering—a discipline for the future', which is reproduced in this *Journal*.

### Vote of Thanks

*Mr Peter Janisch:* The Presidential Address to which you have listened today, and the more comprehensive printed version, reveal to those who do not know him a number of things about the new President. They come also as no surprise to those of us who have worked with him and are proud to be his colleagues.

Firstly, Don Ross-Watt is thorough. He is passionately incapable of leaving any stone unturned—or any rock unblasted, if I may use a mining analogy. If he quotes from a paper—and he does so often—be assured that he has read it and absorbed its contents. If he has visited another mining operation anywhere in the world—and be assured that there are few he hasn't seen—he seeks consistently to learn from them and to apply what he has learnt.

Secondly, Don is an Institute man. There can be few who have derived such levels of technical benefit from the conferences, papers, and colloquia that are the very stuff of this Institute. It permeates his paper, and gives promise that it will pervade his presidential year.

And, thirdly, he is foremost an engineer—a mining engineer—with a deep understanding of the art of the possible and a healthy respect for its limitations. Having made that point, what is most impressive about this address is its focus on engineering as the key to the future of our great, hundred-year-old industry. And here he sounds a serious warning. Any thought, he says, that the current difficult position of the industry (described elsewhere as being in survival mode)

should dictate a reduced training of mining engineers will become a self-fulfilling prophecy with dire consequences. It is a warning that needs to be heard: no mining engineer, no deep-level mining; no deep-level mining in South Africa, then very limited mining engineering. Ross-Watt is no such Micawber. Up-front and without equivocation, he describes mining engineering as a discipline for the future. He nails his colours firmly and they fly for all to see: mining engineering, particularly in South Africa's great mining regions (the Wits basin, the Bushveld Complex, the diamond pipes, the coal basins), as a future that we have to create. And in doing so, don't be too proud to draw from others such as the copper miners of Arizona and Chile, and the gold miners of Nevada, who have discovered, not a moment too soon for their own industries, that what counts is the cost per ounce or the cost per pound of their own, finally saleable product.

Our concern has to be deep mining. It is where our international reputation lies, and where (on the Witwatersrand and in the Bushveld) our future rests. Ross-Watt produces three keys. He calls them simplistic; they are not. The keys are rock engineering—the key to safety; wet-bulb temperatures—the key to productivity; and effective recovery of metals from stopes and extraction from ore—the key to profitability. The threads that draw those three together are training, supervision, and the use of time and, importantly, backfill. I find myself elated by the emphasis he brings to the last of these, and I look forward to the influence his presidential year will bring to bear on the co-ordination and development of this vital technology in deep and ultra-deep mining. He correctly identifies Northam Platinum and the South Deep project as benchmark deep-mining ventures that have gone nap on new technology, the success of which will most surely signpost the future.

In Don Ross-Watt, our Institute has acquired a President of energy, integrity, and intellect. He will go on to make the quality of impact that distinguished his predecessors like Oskar Steffen and Horst Wagner. He will also, incredibly, continue to deliver to his employer the kind of service that has turned his mines into stars, to run his standard 200-odd kilometres per week, and to be the family man we have always known him to be.

On your behalf I thank him for his address and wish him well in this undertaking.

### Closure

The meeting closed at 17:58. ◆

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John Cruise awarding honorary life membership to Richard Beck



Oskar Steffen receiving the Brigadier Stokes Memorial Award from John Cruise



John Cruise awarding honorary life membership to Peter Janisch



John Cruise awarding a gold medal to Dr Dennis Laubscher



John Cruise awarding honorary life membership to Henry James



Don Ross-Watt delivering his Presidential Address

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Don Ross-Watt presenting a commemorative plaque to John Cruise



Representatives from the Mining Department of the University of the Witwatersrand. Left to right: Dr Gys Landman, Kaby Kabongo, John Cruise, Prof. Huw Phillips, Ugur Ozbay and Dr Mike Gouws



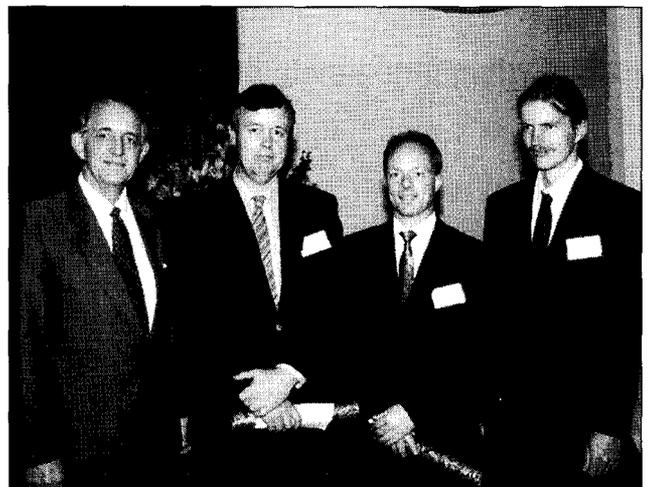
John Cruise, Dave Smith and Martin van Warmelo



Dr Anthony Pinches, Paul Dempsey, John Cruise, John Neale and Dr Robert Huberts



John Cruise congratulating Colleen Snyders



The Mintek group: Henry James, Dr Anthony Pinches, John Neale and Dr Robert Huberts

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John Cruise and Dr Lloyd Nelson



William Joughin, Peter Scheepers and Paul McAdam



John Cruise and Dawid de Wet Smith

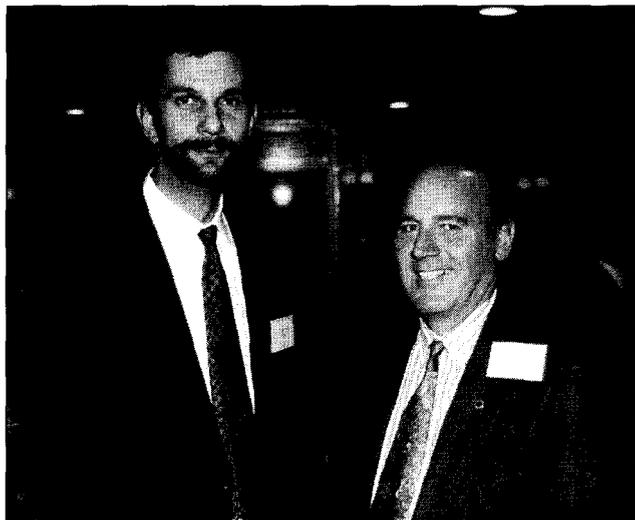


Don and Susan Ross-Watt



John Cruise, Annamarie Snodgrass (who accepted the medal on behalf of her husband Ronnie) and Martyn Hay

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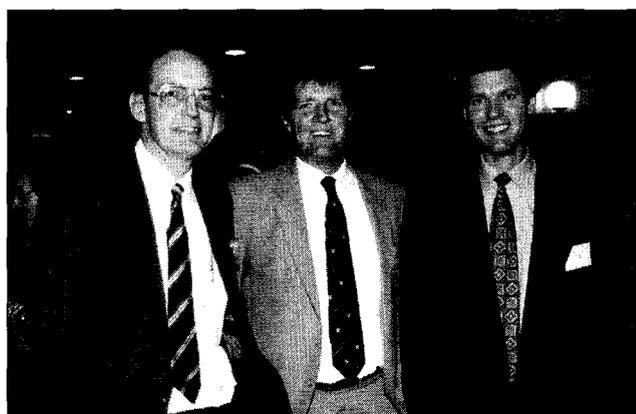
Chris Heili and Frank Egerton



Mike and Amanda Daly with Adele and Clive Workman-Davies



Brian Grobbelaar, Verlaine Kake Deffo, Kaby Kabongo and Phillip Tobias



Dr Dick Stacey, David Louw and Phil Piper



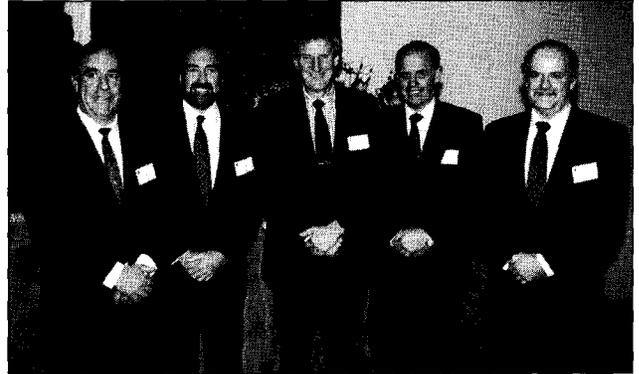
Peter and Josandra Janisch, Brian Grobbelaar, Merlyn and Alan Munro



Mark Mohring, Jomo King with Rick and Lyn Mohring



Professor Morris Viljoen and Mike Rogers



Office Bearers for 1995/96. Left to right: Rick Mohring, John Cruise, Don Ross-Watt, Peter Robinson and Nic Barcza



David Lawrence, Theo Annandale, Don Ross-Watt, Alfred Wood, Martin Redford and Rodney Nelson



SAIMM Secretariat. Left to right: Sam Moodley, Caroline Jansen, Celeste Mackintosh, Karen Norman and Claire Kearney

## 3CR12 in corrosion-abrasion applications\*

Columbus Stainless has issued a detailed guide on the use of 3CR12 to assist material specifiers and end-users who need to decide on suitable corrosion-abrasion resisting material. The guide gives a brief explanation of wear mechanisms and discusses successful corrosion-abrasion applications.

Adrian Marini of Columbus Stainless says, 'The guide is to ensure that 3CR12 is used to the best of its abilities. Although it is very resistant to corrosion-abrasion and has

many other applications, it may not be suitable for certain very aggressive environments.

To obtain a copy of the guide, or to obtain more information about the use of 3CR12 or stainless steel in any application, please contact Adrian Marini on telephone number (011) 783 2060 or Peter Longman on telephone number (0132) 47 2246. ♦

*\* Issued by Sussens Mann Carte Ogilvy & Mather PR.*

# Green Pages

## Raising public awareness\*

by Tony Brewis

The following editorial is reproduced from *Mining Magazine* of January this year. It needs little or no introduction since it says it all quite pointedly.

A fact much bemoaned by the mining industry is that members of the general public, by and large, have no conception of the role the industry plays in their lives. Every day men and women use a myriad of end-products whose existence has been made possible by the extraction of minerals from the earth, yet give no thought to the provenance of these items. In the face of the all-too-frequent adverse comments the industry tends to receive in the popular press, vigorous efforts are called for to promote the benefits of mining to society, yet the impression given is that the industry speaks with muted voice and is seldom heard.

It was good news, therefore, to hear recently of the plans to redevelop the Natural History Museum's Earth Science Galleries – the former Geological Museum – in London's South Kensington. The entire area of the Earth Galleries, comprising 5,400 m<sup>2</sup> over three floors, is to be redeveloped to increase access to the museum's earth science collections, creating what is aimed at being the finest geological exhibition anywhere in the world.

As Dr Neil Chambers, director of the Natural History Museum, said during the meeting called to announce the project: "Our audience research shows that the public sees geology as dry, static and dreary, a subject fit only for academics, and of no relevance to the ordinary citizen. The challenge will be to create exhilarating exhibits which will inspire visitors of all ages to take a fresh look at the science of the earth and to present geology as a dynamic contemporary subject, vital to our very existence".

An imposing new entrance is to be created with a vast hall of rocks extending 17 m upwards to the glass roof. A central atrium will be planned to entice people to ascend by escalator to a series of exhibits which will combine the museum's outstanding collections with the latest interactive techniques to explain the wonders of geology and the benefits of minerals to mankind. Dynamic features will include components of the earth sciences – geology, mineralogy, geomorphology and climatology – and will be interpreted by erupting volcanoes and boiling lava, fluorescent rocks, mysterious caverns, shimmering crystals, underground treasures and a section through a mountain, calling on all the senses by using a range of smells, heat, wet and arid conditions.

The topics to be covered by the six main exhibition areas include: *The power within*, highlighting the power and scale of the processes at work in the earth, including its dynamic structures as well as volcanoes and earthquakes; *The earth's restless surface*, which will explain the deposition of minerals as well as how the forces of erosion have shaped the landscape over millions of years; *From the beginning*, starting with the formation of the solar system, through the beginning of life on earth to the fossil record; *The earth's treasury* will display the museum's internationally renowned collection of minerals and gemstones; and *The useful earth*, which will explain how people use mineral products upon which our modern way of life depends, covering the two main areas of energy and materials. The sixth area, *The earth lab*, will allow visitors to examine specimens themselves and learn how to observe geology in the field.

The overall cost of the project has been estimated at £12 million and a significant contribution of £1.0 million has been donated by the mining company RTZ, to help get the project launched. Sir Derek Birkin, Chairman of RTZ, speaking at the inaugural meeting said he hoped that visitors to the restructured museum would feel awestruck as well as informed. "We regard it as of paramount importance that people should understand and appreciate earth sciences and the sources of, and processes involved in, the extraction of metals and minerals which are the very basis of most of the products so essential for everyday life".

In dealing with another aspect of public awareness, RTZ has also recently launched a video *An Environmental Report on RTZ* made by independent broadcaster Julian Pettifer in which he examines the impacts of various mining operations carried out by companies in the RTZ Group in several continents. Given a free hand, he set out apprehensive at what he would find but Mr. Pettifer quite clearly puts the message across that he was, instead, very favourably impressed by the steps taken to protect the environment at each location he visited.

In its donation to the museum project, in its provision of educational material for schools and in facilitating the making of the video, RTZ is providing an example of what mining companies should be doing to raise public awareness of the benefits of mining. ♦

*\*First published in Mining Magazine—January 1995.*

## Environmental management awareness\*

Steffen, Robertson and Kirsten Consulting Engineers and Scientists (SRK) has pioneered a programme to help companies increase and maintain environmental management awareness in their organizations. Based on a modular format, the innovative Professional Development Course in Environmental Management is SRK's response to an accelerating environmental trend within South African industry.

SRK's Bridget McBean explains: 'Spurred by commercial, legal, social, and political considerations, more and more companies are making concerted efforts to improve their environmental performance. This course is aimed at assisting pro-active organizations by providing an awareness of the environmental issues facing business management and an understanding of how the various environmental management tools can best be used to benefit the organization.'

The programme is entirely flexible, the course contents, participants, and duration being dependent on the client's needs. Possible topics could include international trends in environmental philosophy and legislation, ecology and ecological impacts, economics and the environment, and lifecycles of products and projects.

Environmental management tools such as standards for environmental management systems, e.g. BS7750 and ISO 14000, environmental impact assessments (EIAs), and environmental audits, might also be discussed. Participants

will be encouraged to consider further issues such as social impacts, public participation, pollution, and waste control.

As each course is tailor-made to suit the client's needs, different education methodologies and techniques are used. These include presentations, discussions, case studies, and small work groups, to name but a few. Other elements such as industrial theatre may also be incorporated, depending on the company's objective.

The first company to benefit from the programme, Anglo American Corporation Services Limited (Zimbabwe), recently commissioned SRK to develop and present the environmental course to their diverse operations located in different areas of Zimbabwe. Graham Smythe, who co-ordinates the group's environmental efforts, says: 'Anglo group companies individually have made great strides in conserving the environment. The course has helped maintain and build the impetus by bringing a large group of key people to the same level of knowledge and understanding. The programme is successful partly because the presenters, who are full-time members of SRK's Environmental Department, have a wealth of "real world" expertise and experience in managing and assessing environmental impacts and issues'.

For further information, contact Sue Posnick or Bridget McBean at SRK, tel: (011) 441-1111, fax: (011) 880-8086. ♦

*\*Issued by Tish Stewart PR Associates.*

## New SABS marks\*

The well-known quality mark of the South African Bureau of Standards (SABS) has changed. Dr J.P. du Plessis, President of the SABS, made the announcement in June at a special champagne breakfast at the SABS headquarters in Pretoria. He said that the move was motivated by the need to create a golden thread identifying the quality mark and all other SABS marks as members of one family, and to identify the SABS as certification authority on all of them.

One major reason for changing the SABS marks was that, while the SABS quality mark was well known to industry and consumers, the other SABS marks were relatively unknown. Another reason was that various industries had complained that the design of the SABS marks was outdated, and that it had not kept pace with modern design trends and therefore detracted from the appearance of stylish products such as television sets.

The new SABS marks were designed by the renowned South African graphics studio, Pentagraph (Pty) Ltd. The company was also responsible for reviewing the SABS corporate identity.

Dr du Plessis said that the SABS was acutely aware of the costs that would be incurred in changing printing, dies, moulds, etc., and that the use of the new marks would be gradually implemented over a period of two years. The SABS has already initiated discussions with permit holders to determine feasible implementation times for the use of the new certification marks. ♦

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