

IOM³ Materials Congress 2004

The recent Institute of Materials, Minerals and Mining (IOM³) Materials Congress 2004, held in London from 30th March to 1st April, 2004, included a symposium entitled 'Platinum – from Cradle to Grave'. Chaired by Professor Peter R. Simpson (Imperial College London and Administrative Secretary to the U.K. Parliamentary and Scientific Committee) and introduced by Professor Jane Plant (Imperial College London and Chief Scientist of the British Geological Survey, U.K.), the symposium featured a range of papers spanning geological, economic and environmental issues relating to the platinum group metal (pgm) industry. This selective review focuses on geological aspects, in particular ones relating to South Africa.

Between 1999 and 2003 demand for platinum (Pt) from the jewellery, automotive and industrial sectors has consistently outweighed supply of new metal from mines. In the same period the Pt price has risen from around \$350/troy oz to over \$800/troy oz, and in 2004 has moved to over \$900/troy oz (1). Alongside the growing demand for the other pgms, these factors have encouraged an increase in pgm exploration projects around the world, while established major producers seek to expand operations to satisfy metal demand. Papers presented during the morning session provided an insight into some of the economic and social challenges faced by producers in South Africa as they look to increase production levels, and the issues surrounding exploration of platinum group elements (PGEs) including one exploration programme in the U.K.

In 2002, the South African Government introduced the Black Economic Empowerment (BEE) policy. This requires South African mining companies to transfer 26 per cent of their mining assets to Historically Disadvantaged South Africans (HDSA) within ten years, and has placed a new responsibility on all the Bushveld producers. Professor Dennis Buchanan (Imperial College London) presented a financial evaluation model for a South African PGE mine. This highlighted

the economic effects of the BEE policy, and a new royalties policy.

J. F. W. Bowles (Mineral Science Ltd., France) gave an interesting presentation outlining some of the issues faced by PGE exploration programmes. He highlighted the difficulties of identifying PGE-bearing minerals in the field, particularly working among the highly weathered and poorly exposed formations of certain African countries such as those in Sierra Leone and Madagascar.

S. J. Thompson (Agricola Resources, U.K.) introduced a potential PGE exploration programme within the U.K. The company has recently secured an agreement (via Beowulf Gold PLC) with a landowner for acquiring exclusive exploration rights for PGEs on property on the Isle of Unst, one of the Shetland Isles. Unst is the most northerly inhabited island in the British Isles, and is the only part of the U.K. currently being investigated for PGEs. The exploration area covers 8 km² of an ophiolite complex, that was mined for chromite between 1824 and 1945. The presence of PGEs associated with the chromite deposits has been known since the nineteenth century and in 1985 a British Geological Survey reconnaissance programme discovered medium to high levels of PGEs at several locations. If Agricola exercises its option, it intends to carry out a systematic geological investigation, including soil and rock geochemical analysis. If results are favourable, a diamond drilling programme will be undertaken.

Other papers covered commercial fuel cells developments and the environmental effects of autocatalysts. It is hoped that many of the papers presented will be published in a future issue of the IOM³ journal *Applied Earth Science*, see:

www.ingenta.com/journals/browse/maney/aes

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Reference

- 1 "Platinum 2004", Johnson Matthey, London, 2004

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