

Green Pages

Book review:

Green markets for minerals* proceedings of the IM Open Forum

The rising tide of environmentalism has adversely affected many mineral producers, but it has also provided them with a number of opportunities for mineral applications. These markets are as diverse as water treatment, waste disposal, and flue-gas desulphurization. Whilst legislation is forcing up the industry's environmental standards, the advent of environmental management provides an opportunity for producers to display its 'green' credentials. The picture painted of the extractive industry by environmentalists is undeservedly black, because the more efficient a producer is, the more effectively that producer conserves the very resources he exploits. The 1993 IM Forum examined these issues and how they affect the mineral producer, and this publication comprises the papers presented at that meeting.

Contents

Environmental legislation and its influence on the minerals industry

by Alistair Duncan, Grimley J.R. Eve

The development of BS7750 — The British Standard for Environmental Management Systems

by Chris Sheldon, British Standards Institution

Mineral processing techniques and mineral recycling

by Jon Helliwell, Cookson Ceramics & Minerals Ltd

Conservation of mineral resources — An important green role for the mineral producer and processor

by Colin Bristow, Camborne School of Mines

Bentonite — A swell clay for the environment

by David Rogers, Volclay Ltd

Soda ash and sodium bicarbonate in environmental applications

by Gunilla Lindmark, Solvay Nordic, AB & Luc van Cangh, Solvay SA

Caustic magnesia in environmental control technology

by Lucas Athanasakis & Dimitri Lois, Grecian Magnesite SA

Authors' biographies

Environmental legislation and its influence on the minerals industry

Alistair Duncan has a background in property and minerals consultancy dating from the mid-1970s. From 1989 he was estates manager and subsequently head of the Estates and Geology Division of Hepworth Minerals and Chemicals Ltd, part of the Hepworth Group. Last autumn he joined the Manchester office of consultants Grimley J.R. Eve as regional head of minerals, a position in which he will further develop the firm's capabilities in the minerals and waste sector. He is a chartered minerals surveyor and member of the Institute of Quarrying, and has been actively involved in various committees of the Royal Institute of Chartered Surveyors (RICS), Silica and

Moulding Sands Association, Sand and Gravel Association and the CBI Minerals Committee. He has also served on the Department of the Environment working group, reviewing the guidelines of silica sand extraction. He is a past secretary and chairman of the North Staffordshire RICS Minerals branch.

The development of BS7750 — The British Standard for Environmental Management Systems

Chris Sheldon was one of the founding members of a special cross-functional environmental task force established inside the BSI in September 1989. Their brief was to examine the needs of UK industry in confronting environmental concerns and formulate a strategy that would enable the Institution to provide documents and services that would assist their efforts. He was given the responsibility of devising and implementing a communications strategy on the subject of co-ordinating the flow of information both in and out of the programme. As of 1 October 1992, he was appointed manager, environmental initiative, and is now responsible for co-ordinating all the development associated with BS7750 Environmental Management Systems and its related services within BSI.

Mineral processing techniques and mineral recycling

Jon Helliwell obtained a degree in chemistry and a PhD from the University of Newcastle-upon-Tyne before spending a short spell working in a titanium nitride coatings company. Following this, Mr Helliwell joined Anzon Ltd (later Cookson Ceramics and Antimony Ltd) as a laboratory section leader, working on all aspects of zircon and antimony processes there. After two years with Cookson he became a principal chemist in the surface science laboratory of International Paint (now Courtalds Coatings). Two and a half years later, he rejoined Cookson as personal assistant to the minerals sector chief executive. He is currently zircon product manager, and has been with Cookson now for four years.

Conservation of mineral resources — an important green role for the mineral producer and processor

Colin Bristow graduated from Bristol University with a degree in geology in 1957, following which he worked in Kenya for four years as an exploration geologist. After returning to the UK and obtaining an MSc from Exeter University, he joined English China Clays (ECC) as a geologist in the Clay Division production department. He remained with the company until 1991. In 1988 he was invited to become a visiting professor of industrial geology at Camborne School of Mines, and has actively promoted the importance of industrial minerals and construction raw materials. He is vice president of the Royal Geological Society of Cornwall and serves on the board of the Institute of Cornish Studies and the Science Faculty Council of Polytechnic South West. In February 1993, he received the Hal Williams Hardinge Award from the AIME in Reno, USA.

Green Pages

Bentonite — a swell clay for the environment

David Rogers is a geologist with a particular interest and experience in the field of industrial minerals. Having graduated from the University of Newcastle-upon-Tyne in 1966, he entered the refractories industry, in which he has spent much of his career so far. Initially he served in various technical positions, and later in the sale and marketing of raw materials. An early involvement in clay minerals developed through the Institute of Clay Technology and in 1988 he turned his attention to bentonite and developed a particular interest in the environmental applications for this mineral. He was involved in the setting up of a joint venture company to serve the growing market for bentonite-based landfill sealants and is now with Volclay Ltd in the Environmental Products Division.

Soda ash in environmental applications

Gunilla Lindmark is a market development manager in the Ecology and Environmental Section of Solvay Nordic AB, based in Marknadsvägen, Sweden. Mrs Lindmark has worked for Solvay since 1991, but has had an interest in the field of limnology for a long time. Following training in chemistry, microbiology and genetics, she studied limnology at the University of Lund. Graduate studies later involved work on water acidification before she joined Solvay.

Luc Van Canghai joined Solvay four years ago and for the last two years he has been a technical adviser, soda ash for the company in Brussels. Prior to this, he trained as a chemical engineer before becoming an organic geochemist for a time. This experience was followed by 14 years in glass research and 2½ years working with grinding materials such as cubic boron nitride and diamonds. He has also spent time carrying out work with new materials for electronics.

Caustic magnesia in environmental control technology

Lucas Athanasakis holds an MSc in mining and metallurgical engineering from the National Technical University of Athens and has seven years' professional experience in various sectors of the minerals industry. These include—mineral processing and beneficiation, production, cost evaluation and feasibility study optimisation in a lead production plant, process design and feasibility studies for new mining and industrial projects. Other experience covers marketing of industrial minerals and the development of new applications for magnesite compounds. He is currently assistant marketing manager of Grecian Magnesite SA.

Dimitri Lois is manager, business development with Grecian Magnesite SA, a position he has held for the past four years. In this capacity he has been responsible for a number of projects starting from the conceptual formulation of R&D needs and often ending in turnkey operations. Examples include two R&D programmes in developing mixed refractory raw materials, testwork in magnetic separation, screening and heavy equipment and setting up a joint venture to design, purchase and construct a petroleum coke grinding unit. Before this, he worked on mining and refractory operations with Grecian Magnesite in northern Greece, where he collaborated on many aspects of quality control and the production and processing of raw magnesite. ♦

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**Edited by R. Loughbrough.*

Further information can be obtained from: IM Industrial Minerals, UK editorial office, 16 Lower Marsh, London SE1 7RJ. Tel: 071-827-9977, Fax: 071-928-6539.

EPPIC environmental award*

De Beers has been presented with the prestigious National Premium Award for Environmental Management, awarded by EPPIC (Environmental Planning Professions Inter-disciplinary Committee) for its water-conservation project 'The Venetia Balance'. The award was accepted by the Chairman of De Beers, Julian Ogilvie Thompson, at a function in Johannesburg on 1st June, 1995.

The project represents a three-year intensive environmental investigation into ways of minimizing the environmental impact of providing water from the Limpopo River to the new Venetia Mine near Messina in the far northern Transvaal. There were very few baseline data on the water resource, and no previous case studies were available for reference. A team of ecological and engineering experts was assembled to decide on how the information could best be gathered. This included the use of new techniques, and agreement on how this scarce resource should be managed and how to mitigate the effect on the remaining riparian woodland in the area. The findings form

the basis of some 40 scientific reports, and resulted in the water-supply scheme for Venetia Mine. The management and monitoring of the scheme are on-going.

Mr Ogilvie Thompson acknowledged the integral part played by the Department of Water Affairs and Forestry, the members of the Environmental Task Group, and the environmental planners, Cave, Klapwijk and Associates, who together made up the multi-disciplinary team responsible for the project.

The EPPIC awards were first presented in 1988, and the National Premium Award is regarded as one of the most prestigious environmental awards in South Africa. The award recognizes excellence for projects planned and managed for the benefit of man and his environment through the application of the principles of integrated environmental management. ♦

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