

**PROCEEDINGS OF THE 2003
COAL OPERATORS' CONFERENCE**

UNIVERSITY OF WOLLONGONG, NSW

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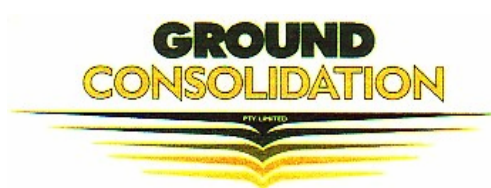
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FOREWORD

The underground coal operators conference series held annually in Wollongong has been recognised as the main form of the exchange of ideas between the mine operators, engineers and researchers in the diverse field of coal mining technology. For the last five years the conference addressed a variety of issues, focusing primarily on underground ground control and mine safety. In order to increase participation, the attention has now been drawn to addressing various issues in addition to ground control and the theme of Coal2003, Longwall Environment demonstrates the true interest of the conference in promoting high output longwall operation. This year the conference is preceded by a halfday workshop on mine subsidence.

The COAL2003 Conference has been generously supported by the following organizations:

- BHPBilliton, Illawarra Coal
- Roadway Reinforcement Services
- Seedsman Geotechnics Pty Ltd
- Ground Consolidation
- Fosroc Mining Pty Ltd

Our thanks go to the authors who have accepted the invitation to contribute and present papers at this conference. They represent a cross section of the developments in the coal and manufacturing industries in Australia, Germany, and The United States of America.

The Aus.IMM Illawarra Branch and the organising committee are extremely grateful to all the above for their support.

The Organising Committee also extends appreciation to James Cook and his colleagues at the Wollongong Union Centre for the management and registration of the conference, Bruce Robertson for his assistance in Audio Visual maintenance, Leonie McIntyre of the Faculty of Engineering for type setting the Conference Proceedings, Gordon Nolan for assisting in designing of the proceedings cover and the University of Wollongong Printery for printing copies of the proceedings.

Naj Aziz, *Associate Professor (Editor)*

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PREFACE

The Illawarra Branch of the Australasian Institute of Mining and Metallurgy has had considerable success in organizing conferences, symposia and seminars over a number of years.

This fourth, in a series of Coal Operations conferences, is a joint collaboration between the Institute, the University of Wollongong and the Mine Managers' Association of Australia.

The organizing committee, which represents each of the collaborators, has brought together a group of speakers who represent a broad range of interests in the coal industry of Australia, together with our representative from Germany and one from America. The emphasis for "Coal 2003" is on the longwall environment which is increasingly important for the long term success of the Australian Coal Industry.

It is my pleasure, as Chairman of the Illawarra Branch, to thank all those who organized and participated and to wish you all a successful and rewarding conference.



Ray Tolhurst
Chairman, Illawarra Branch
Australian Institute of Mining and Metallurgy