

Sixth EFEE World Conference on Explosives and Blasting

Edited by

R.Holmberg et al



EFEE

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Foreword by the Chairman of the Technical Committee

As Chairman of the EFEE Technical Committee I am delighted to introduce to you the proceedings of the 6th EFEE World Conference on Explosives and Blasting held in Lisbon, Portugal. Together with my colleagues from the Technical Committee, Robert Farnfield, José Carlos Gois, Peter Moser, Finn Ouchterlony, José Sanchidrian, and Jerry Wallace, we have selected for these proceedings 41 contributions from 19 nations of all the papers proposed. During the evaluation we have been very much delighted by the high quality of the papers submitted and would like to thank all the authors that accepted the workload and wrote the papers for this book.

The papers in these proceedings cover the whole field from explosives formulation to the blasting operation, from analysing new blast regulations to establishing harmonised standards in our industry. This makes the EFEE World.

Conference on Explosives and Blasting so important and valuable, namely to bring together manufacturers, shotfirers, explosives engineers, managers and researchers from the blasting industry to discuss new developments in our business which form the basis for our raw materials and construction industries.

As the papers published in these proceedings of the 6th EFEE World Conference on Explosives and Blasting show, the conference has fulfilled its mandate admirably and the material will be a good platform for additional, challenging, blasting engineering developments and experiences that we can share in future EFEE conferences.

EFEE and the Portuguese Association of Studies and Engineering of Explosives (AP3E) are very proud of arranging this event in 2011 and we sincerely hope that you are going to enjoy the conference at a place known worldwide not only for its culture and history, but also for its long tradition in the field of blasting in mining and infrastructure projects. Portugal is a significant European minerals producer and remains one of Europe's leading producers of copper, tin and tungsten.

Roger Holmberg,
EFEE Technical Committee Chairman.

Acnowledgement

As Chairman for the EFEE Technical Committee I would like to thank all members of the EFEE Conference Committee and the EFEE Technical Committee for their interest, dedication and commitment to this 6th EFEE World Conference on Explosives and Blasting held in Lisbon, Portugal, 2011.

Specifically, I would like to thank the EFEE Technical Committee for their help with the selection procedure and with the editing of the various papers.

Roger Holmberg, *EFEE Technical Committee Chairman*.

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