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Technology News

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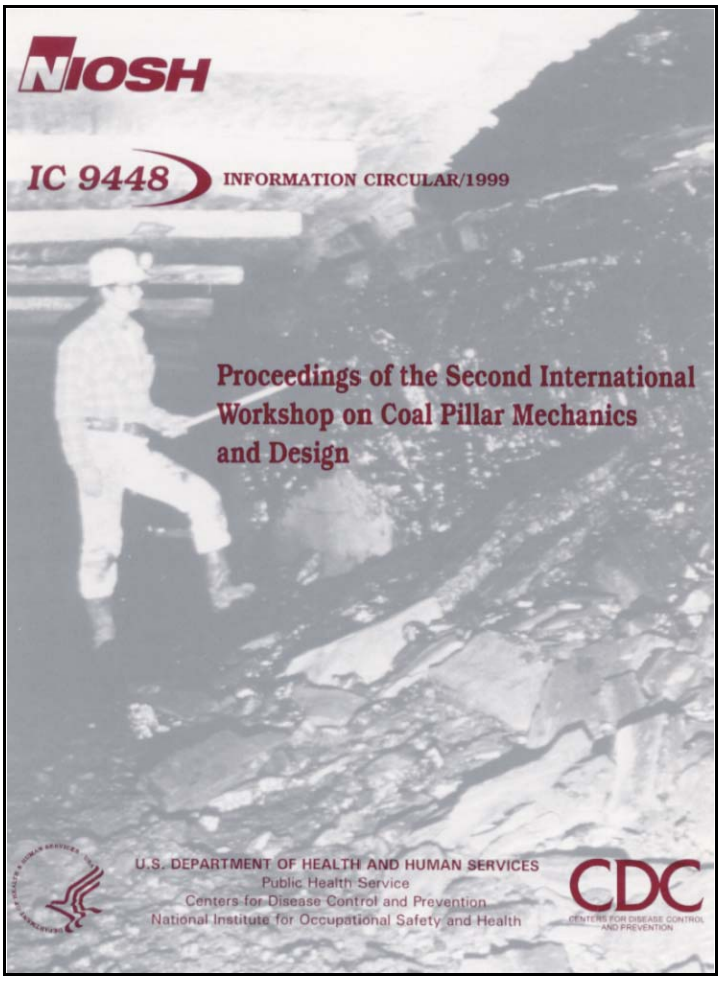
Proceedings of the Second International Workshop on Coal Pillar Mechanics and Design

Information Circular (IC) 9448

Pillar design is the first line of defense against rock falls—the greatest single safety hazard faced by underground coal miners in the United States and abroad. To help advance the state of the art in this fundamental mining science, the National Institute for Occupational Safety and Health organized the Second International Workshop on Coal Pillar Mechanics and Design. The Workshop was held in Vail, CO, on June 6, 1999, in association with the 37th U.S. Rock Mechanics Symposium. The Proceedings (IC 9448) include 15 papers from leading ground control specialists in the United States, Canada, Australia, the United Kingdom, and the Republic of South Africa. The papers address the entire range of issues associated with coal pillars and have a decidedly practical flavor. Topics include numerical modeling, empirical design formulas based on case histories, field measurements, and post-failure mechanics.

The titles of the papers in the Proceedings are:

- A Unique Approach to Determining the Time-Dependent In Situ Strength of Coal Pillars
- Developments in Coal Pillar Design at Smoky River Coal Ltd., Alberta, Canada
- Coal Pillar Design for Longwall Gate Entries



U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
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- Analysis of Longwall Tailgate Serviceability (ALTS): A Chain Pillar Design Methodology for Australian Conditions
- Experience of Field Measurement and Computer Simulation Methods for Pillar Design
- University of New South Wales Coal Pillar Strength Determinations for Australian and South African Mining Conditions
- Practical Boundary-Element Modeling for Mine Planning
- Experience With the Boundary-Element Method of Numerical Modeling To Resolve Complex Ground Control Problems
- The Fracture Mechanics Approach to Understanding Supports in Underground Coal Mines
- A Hybrid Statistical-Analytical Method for Assessing Violent Failure in U.S. Coal Mines
- Empirical Methods for Coal Pillar Design
- Coal Pillar Strength and Practical Coal Pillar Design Considerations
- New Strength Formula for Coal Pillars in South Africa
- Analysis of Longwall Tailgate Serviceability (ALTS): A Chain Pillar Design Methodology for Australian Conditions

- Analysis of Longwall Tailgate Serviceability (ALTS): A Chain Pillar Design Methodology for Australian Conditions
- The Role of Overburden Integrity in Pillar Failure
- Using a Postfailure Stability Criterion in Pillar Design

To order a free copy of these proceedings (IC 9448), contact Donna Opfer at (412) 386-6564, e-mail: **dopfer@cdc.gov**. Or you may complete the order form below, detach, and mail to: Donna Opfer, NIOSH Pittsburgh Research Laboratory, Cochrans Mill Rd., P.O. Box 18070, Pittsburgh, PA 15236-0070, or fax to (412) 386-6891.

To receive additional information about occupational safety and health problems, call **1-800-35-NIOSH (1-800-356-4674)**, or visit the NIOSH Web site at www.cdc.gov/niosh

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