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Descrizione fisica	1 online resource (XXIII, 684 p. 421 illus., 136 illus. in color.)
Disciplina	622.28
Soggetti	Engineering geology Engineering—Geology Foundations Hydraulics Mineral resources Fossil fuels Geotechnical engineering Geoengineering, Foundations, Hydraulics Mineral Resources Fossil Fuels (incl. Carbon Capture) Geotechnical Engineering & Applied Earth Sciences
Lingua di pubblicazione	Inglese
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Note generali	Includes index.
Nota di contenuto	1. Scope of ground engineering -- 2. Fundamental principles for ground engineering -- 3. Excavation mechanics -- 4. Pillar systems -- 5. Interaction between workings -- 6. Support and reinforcement -- Systems -- 7. Ground support design -- 8. Pillar extraction -- 9. Longwall mining -- 10. Overburden subsidence -- 11. Operational hazards -- 12. Managing risk in ground engineering -- Glossary of terms and symbols -- Appendices.
Sommario/riassunto	This book teaches readers ground engineering principles and related mining and risk management practices associated with underground coal mining. It establishes the basic elements of risk management and the fundamental principles of ground behaviour and then applies these

to the essential building blocks of any underground coal mining system, comprising excavations, pillars, and interactions between workings. Readers will also learn about types of ground support and reinforcement systems and their operating mechanisms. These elements provide the platform whereby the principles can be applied to mining practice and risk management, directed primarily to bord and pillar mining, pillar extraction, longwall mining, sub-surface and surface subsidence, and operational hazards. The text concludes by presenting the framework of risk-based ground control management systems for achieving safe workplaces and efficient mining operations. In addition, a comprehensive reference list provides additional sources of information on the subject. Throughout, a large variety of examples show good and bad mining situations in order to demonstrate the application, or absence, of the established principles in practice. Written by an expert in underground coal mining and risk management, this book will help students and practitioners gain a deep understanding of the basic principles behind designing and conducting mining operations that are safe, efficient, and economically viable. Provides a comprehensive coverage of ground engineering principles within a risk management framework Features a large variety of examples that show good and poor mining situations in order to demonstrate the application of the established principles in practice Ideal for students and practitioners About the author Emeritus Professor Jim Galvin has a relatively unique combination of industrial, research and academic experience in the mining industry that spans specialist research and applied knowledge in ground engineering, mine management and risk management. His career encompasses directing ground engineering research groups in South Africa and Australia; practical mining experience, including active participation in the mines rescue service and responsibility for the design, operation, and management of large underground coal mines and for the consequences of loss of ground control as a mine manager; appointments as Professor and Head of the School of Mining Engineering at the University of New South Wales; and safety advisor to a number of Boards of Directors of organisations associated with mining.
