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Nota di contenuto	Front Cover; Dedication; Contents; Preface; Acknowledgments; Authors; 1. Introduction; 2. Site Investigations for Mechanized Excavation Projects; 3. Physical and Mechanical Properties of Rocks, Soils, and Coals; 4. Rock-Cutting Tools and Theories; 5. Laboratory Rock-Cutting Tests; 6. Wear of Cutting Tools; 7. Roadheaders; 8. Impact Hammers; 9. Hard Rock TBMs; 10. Soft Ground Tunnel Boring Machines; 11. Microtunnel Boring Machines and Jacking Forces; 12. Shaft and Raise Boring Machines; 13. Large-Diameter Drill Rigs; 14. Mechanical Excavation in Coal Mines; 15. Chain Saw Machines 16. Emerging Mechanical Excavation Technologies
Sommario/riassunto	The secret to streamlined scheduling of mining and civil engineering projects is a solid understanding of the basic concepts of rock cutting mechanics. Comparing theoretical values with experimental and real-world results, Mechanical Excavation in Mining and Civil Industries thoroughly explains various rock cutting theories developed for chisel, conical, disc, and button cutters. The authors provide numerical examples on the effect of independent variables on dependent variables, as well as numerical and solved examples from real-life

