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Titolo	Hydrometallurgy : Fundamentals and Applications / / by Michael L. Free
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ISBN	3-030-88087-7
Edizione	[2nd ed. 2022.]
Descrizione fisica	1 online resource (462 pages)
Collana	The Minerals, Metals & Materials Series, , 2367-1696
Classificazione	ZLP
Disciplina	669.0283
Soggetti	Metals Materials Mining engineering Production engineering Geochemistry Metals and Alloys Materials Engineering Metal-organic Frameworks Mining and Exploration Process Engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Introduction -- Chemical Fundamentals of Hydrometallurgy -- Speciation and Phase Diagrams -- Rate Processes -- Metal Extraction -- Separation of Dissolved Metals -- Metal Recovery Processes -- Metal Utilization -- Environmental Issues -- Process Design Principles -- General Economics for Hydrometallurgical Processes -- General Statistics for Hydrometallurgical Applications -- Appendix A: Atomic Weights -- Appendix B: Miscellaneous Constants -- Appendix C: Conversion Factors -- Appendix D: Free Energy Data -- Appendix E: Laboratory Calculations -- Appendix F: Selected Ionic Species Data -- Appendix G: Standard Half-Cell Potentials -- Appendix H: General Terminology -- Appendix I: Common Sieve Sizes -- Appendix J: Metals and Minerals.
Sommario/riassunto	This revised, new edition retains its class-tested coverage of how

metals behave in water while updating and expanding information about metals processing methods. The book further retains its emphasis on predicting and engineering the way metals are extracted from ore sources, separated from unwanted entities, recovered as metals, and purified using water based processing. The transformation of minerals to metals requires hydrometallurgical processing for nearly all of the nonferrous metals we use. This book elucidates the associated fundamentals and processing applications as well as related tools to assess processes and performance. The new edition further includes additional photographs, updated drawings, supplementary data, updated descriptive information, and new detail on rare earth elements processing as well as recycling and byproduct recovery of metals.
