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Nota di contenuto	Cover; Advances in Gold Ore Processing; Contributors; Table of Contents; Preface; Acknowledgements; List of Acronyms; List of Mineral Formulae; Gold - An historical introduction; Gold in Ancient Egypt; Early Gold-Mining Centers; Gold and Alchemy; Uses of Gold; Gilding; Gilding of metals; Gilding of glass and porcelain; Gold in the glass industry; Occurrence of Gold; Processing of Gold Ores; Gold panning; Amalgamation; Chlorination; Cyanidation; Refining of gold; Some recent trends in gold ore processing; Gold Standards and Assaying; Gold in Currency; Banks; Gold Museums; Suggested Reading Part I. Project Developmentl.1 Feasibility Study Management; Sampling procedures; Introduction; Sampling Basics; Importance of minimizing bias; Overall precision; Components of Sampling Error; Preparation error; Delimitation and extraction errors; Weighting and periodic quality fluctuation errors; Fundamental error and minimum sample mass; Percussion Hole Sampling; Blast-Hole Sampling; Plant Sampling; Sampling from Stationary Situations; Sampling from stockpiles; Sampling from trucks and railway wagons; Sampling from holding tanks and vessels; Sample Processing; Conclusions; References Mineralogical investigation of gold oresGold Mineralogy; Gold minerals and alloys; Solid-solution gold; Colloidal gold; Surface gold; Forms and carriers of gold; Process Mineralogy of Gold; Gravity concentration;

Floatability of gold minerals and carriers; Size and shape of gold grains; Silver content of native gold; Activators and depressants; Collector loading; Composition of gold mineral; Leachability of gold minerals; Cyanidation in leach tanks; Heap leaching; Other lixiviants; Response to oxidative pretreatment; Process mineralogy of gold from autoclave-CIL circuits
Process mineralogy of gold from roaster-CIL circuits
Process mineralogy of gold from bio-oxidized leach circuits; Response to ultrafine grinding CIL; Methodology for Studying Gold Minerals; Instrumental Analysis for Gold; Concluding Remarks; Acknowledgments; References; Process flowsheet selection; Introduction; Comminution Process Options; Overview; Ore characteristics; Throughput; Downstream process requirements; Operating cost; Free-Milling Ore Process Options; Overview; Site-specific issues; Gravity-recoverable gold; Treatment of high-silver ores; Complex Ore Process Options; Overview
Treatment of high-copper ores
Preg-robbing ores; Oxygen-consuming ores; Issues associated with mercury; Refractory Ore Process Options; Refractory Process Selection; Factors for consideration in Refractory Process Selection; Gold mineralogy; Arsenic content; Sulfide content; Gangue mineralogy; Ore variability; Project scale; Incremental gold recovery; Flotation performance; Site-specific environmental considerations; Project location and infrastructure; Water quality and availability; Power costs; Availability of neutralization reagents; Cyanide consumption and costs; Project life
Ability to pilot

Sommario/riassunto

The gold processing industry is experiencing change. As free-milling and oxide ores become depleted, more complex polymetallic and refractory ores are being processed, coupled with increasing pressure for stricter environmental compliance. Recent years have also seen a steady reduction in mineral processing and metallurgy graduates and a gradual loss of older operating experience. A contribution to documenting current and future best practice in gold ore processing seems timely. The focus of this volume is on advances in current gold plant operation, from conception to closure; chapt
