SHORT COURSE

A-Z of Copper Ore Leaching



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Notes

OVERALL OUTLINE

- PART A: Leachability of copper minerals, and leaching processes for copper ores and secondary materials
- PART B: Leaching of copper sulphide concentrates
- PART C: Agitated leaching of oxide ores
- PART D: Heap Leaching

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PART A LEACHABILITY OF COPPER MINERALS, AND LEACHING PROCESSES FOR COPPER ORES AND SECONDARY MATERIALS

OUTLINE

- · Leachability of copper minerals and importance of gangue minerals
- Oxide and sulphide deposits
- Sulphuric acid leaching processes
- Leaching processes for secondary copper sulphide ores
- · Leaching processes for secondary copper materials
- Developments and trends

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PART B LEACHING OF COPPER SULPHIDE CONCENTRATES

OUTLINE

- Background
- Processes applied commercially or semi commercially
- Processes operated at pilot or demonstration plant scale
- Other process developments
- Trends
- Postscript

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PART C: AGITATED LEACHING OF OXIDE ORES OUTLINE

- Background
- Typical Commercial Copper Acid Leach Operations
- Typical Acid Leach Flowsheets
- Copper-Cobalt Operations
- Ammonia Leach Operations
- Acid Versus Ammonia Leaching Case History
- Testwork, Scale-up and Design Criteria
- Equipment
- Key Process Design Issues
- Plant layout
- Industry Trends

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PART D: HEAP LEACHING OUTLINE

- Introduction and process developments
- Role of bacteria in heap leaching of sulphide ores
- Heap bio-leaching of chalcopyrite
- Alternative methods of re-oxidizing ferrous iron to ferric
- Testwork program
- Scale-up
- · Plant design criteria
- Process flowsheet
- Plant layout
- Pad design
- Heap building
- · Leach solution management
- Operation and control
- Industry trends
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Notes