

## NON-FERROUS

Hatch's professionals provide design and operating experience in the execution of world-class autoclave technology for all metal sectors.

### PROCESS DEVELOPMENT AND DESIGN

- Pressure Leaching
- Pressure Oxidation
- Hydrogen Reduction
- Flowsheet Development
- Mini and Demonstration Plant Programs
- Process Modelling

### LINING DESIGN

- Membrane Lining Systems
- Cladding Techniques
- Custom Refractory Lining Systems
- Lining Evaluation
- Finite Element Analysis
- Quality Assurance
- Technical Consulting

### STUDIES AND DESIGN REVIEWS

- Feasibility Studies
- Basic and Detail Engineering
- Procurement
- Project and Construction Management
- Technical Audits and Design Reviews
- Due Diligence
- Technical Assessments

### SAFETY REVIEWS AND COMMISSIONING

- HAZOP Reviews
- Operating Manuals
- Autoclave Plant Commissioning
- Start-up Assistance

### MATERIALS SPECIFICATION

- Common and Advanced Alloys
- Materials Evaluation
- Management of Corrosion Testing

### CUSTOM MECHANICAL DESIGN

- Autoclave Heat Recovery Systems
  - Direct Contact
  - Shell and Tube
  - Spiral and Hairpin
- Autoclave Vessels
  - Horizontal
  - Vertical
  - Batch
  - Continuous
- Autoclave Agitators
  - Oxygen Systems



*High Pressure Leach Autoclave for the Ravensthorpe Project. It is a six compartment horizontal pressure vessel, constructed of explosion clad titanium. Each compartment is agitated by Titanium agitators.*

