



# A MINING ENGINEERING FIRM WITH STRONG INTERNATIONAL EXPERIENCE

GRE is a multifaceted engineering firm specializing in the mining industry. Our focus is to add value to your project and company by understanding your needs, employing innovative ideas, and applying sound engineering practices while maintaining an economically-driven approach. We have teams in the USA and Mexico that serve a wide range of domestic and international clients.



#### **COLLECTIVE TEAM EXPERIENCE:**

- 300+ Resource Estimates
- 200+ Engineering Studies
- Over 20 projects into production
- 30+ Due Diligence studies
- Spanish language fluency

Metallurgical Test Work, Flowsheet Development

• Latin Amer., USA, Africa, Europe

## **RECENT KEY PROJECTS:**

#### LUMINA GOLD, CANGREJOS - ECUADOR

- PEA-stage open pit gold mine
- Geochemical characterization
- ARD prevention planning
- Surface water management
- Mine dewatering

and the law

Mine water balance

#### MANTOVERDE - CHILE

- PFS-stage open pit copper mine
- Copper heap leach optimization
- Cobalt recovery circuit
- Economic ssessment
- Metallurgical design and test program support

#### MINERA INDEA - MEXICO

**BONNIE CLAIRE - NEVADA** 

**Novel Extraction System** 

Resource updates

Finacial Models

Mine Design

Tailings facility construction design

PFS-stage open pit lithium Mine

Novel Mining System - Borehole Mining

- Plant restart operational audit
- Mine closure liabilities assessment, mining operations support, and historic tailings deposit resource assessment

#### **EL AGUILA MINE - MEXICO**

- Drystack tailings design
- Water balance
- Geochemistry
- Pit flope stability and optimized pit dewatering
- Waste rock dump and TSF design

### ARGONAUT GOLD - ONTARIIO, NEVADA, MEXICO

- Review mill startup
- Heap leach closure
- Heap leach site investigation
- Heap leach design for new facility

## **SERVICES:**



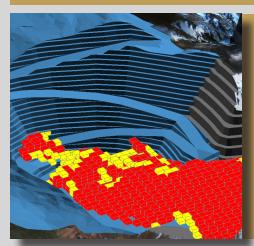
#### **GEOLOGY & RESOURCE ESTIMATION**

Exploration Sampling Program Design
Drillhole sampling & assay QA/QC
3D Geological and Structural Modeling
Mineral Resource Estimation and Technical Reports

#### MINING & GEOTECHNICAL ENGINEERING

Open Pit & Underground Mine Design and Engineering Mine Production and Cost Optimization Geometallurgical Modeling Rock Mechanics





#### PROJECT VALUATION & OPTIMIZATION

Project Due Diligence Multi-Scenario Economic Modeling Scoping Studies / PEA, PFS, FS Studies Technical Reports (NI 43-101, Guide 7, JORC) Whittle Pit Optimization

#### MINERAL PROCESSING

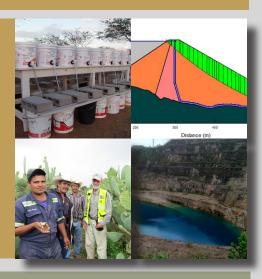
Heap Leach, Biological Oxidation Expertise Process Flowsheet Development, Plant Audits/Improvements Laboratory & Pilot Plant Test Work

#### MINE WASTE MANAGEMENT

Conventional & Dry Stack Tailings Design
Waste Rock Facility Design
ARD Mitigation & Management
Geochemical Characterization
Mine Waste Cover Design & Seepage Modeling

#### HYDROGEOLOGY AND WATER RESOURCES

Groundwater Characterization & Modeling
Mine Water Balance Studies
Surface Water Engineering



#### **SENIOR LEADERSHIP**

Todd Harvey, PhD - President/Director Process Engineering Larry Breckenridge, P.E. - Principal Environmental Engineer Terre Lane - Principal Mining Engineer Rick Moritz - Principal Mining & Process Engineer Luis Quirindongo - Principal Geological/GeoTech Engineer

#### **EXPERIENCE LANGUAGE**

30+ yrs Spanish Functional
20+ yrs Spanish Fluent
30+ yrs
30+ yrs
20 yrs Native Speaker