



## A MINING ENGINEERING FIRM WITH STRONG INTERNATIONAL EXPERIENCE

Our focus is to add value to your project and company by listening to your needs, using innovative ideas, employing sound engineering, and applying an optimizing and cost-saving approach. Our team recognizes mining is a complex and multi-faceted business, where a solution to each challenge may have downstream effects.



### COLLECTIVE TEAM EXPERIENCE:

- 300+ Resource Estimates
- 200+ Engineering Studies
- Over 20 projects into production
- 30+ Due Diligence studies
- Spanish language fluency
- Latin Amer., USA, Africa, Europe

### RECENT KEY PROJECTS:

#### BEAR CREEK MINING, CORANI - PERU

- 22,500 tpd open pit silver lead zinc @ 5,000 MASL
- FS field investigation: geotechnical, hydrogeo, & environmental baseline
- Non-parametric geometallurgical modeling for polymetallic flotation and recovery optimization
- FS capital & operating cost estimation

#### ANFIELD, CORINGA - BRAZIL

- Surface and Groundwater management plan
- Waste rock dump design
- Environmental monitoring & ARD Management
- Mine water balance
- TSF seepage modeling
- PEA & Resource Estimate (2009 - 2017)

#### TRIMETALS MINING, GOLD SPRINGS - USA

- Resource estimate for 4 separate deposit areas
- Three 43-101 resource reports
- 15,000 tpd 3 stage crush & agglomerate HLF
- Merrill-Crowe gold recovery plant
- Preliminary Economic Assessment
- Metallurgical test program support

#### ECI EXPLORATION & MINING, INDE - MEXICO

- Restart 200 tpd underground operations
- 1,500 tpd underground expansion
- Multiple scenario PEA for econ. optimization
- Tailings dam design update & const. support
- Detailed mine planning, sequencing and flow sheet review.

#### GREAT PANTHER SILVER, CORICANCHA - PERU

- Legacy high-grade underground project
- Assisted during mining acquisition process
- Performed environmental assessment and provided mitigation solutions for areas of concern
- Findings assisted in evaluating project risk and value, leading to successful project acquisition

#### LYDIAN INTERNATIONAL, AMULSAR - ARMENIA

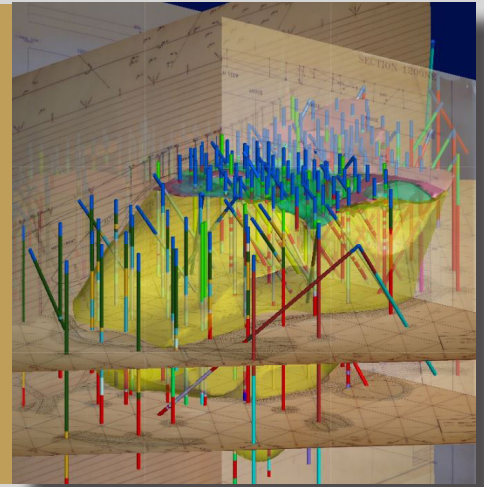
- FS Design for: WRF design and stability analysis, pit dewatering predictions, ARD management, and closure planning related to surface water
- Study involved careful mgmt of ARD material and passive treatment, resulting in \$65M in savings compared to previous design



**SERVICES:**

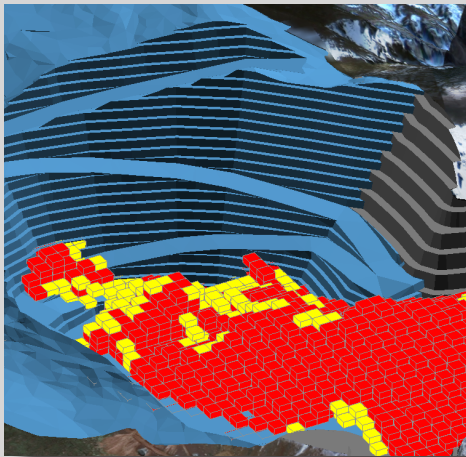
**GEOLOGY & RESOURCE ESTIMATION**

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**

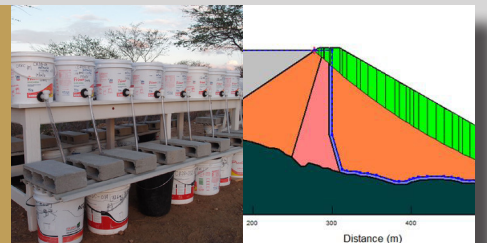
Project Due Diligence  
 Multi-Scenario Economic Modeling  
 Scoping Studies / PEA, PFS, FS Studies  
 Technical Reports (NI 43-101, Guide 7, JORC)  
 Whittle Pit Optimization

**MINERAL PROCESSING**

Heap Leach Pad Design  
 Process Flowsheet Development  
 Laboratory & Pilot Plant Test Work, Plant Audits

**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**

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

**EXPERIENCE**

20+ yrs  
 18 yrs  
 30+ yrs  
 30+ yrs  
 25+ yrs  
 18 yrs

**LANGUAGE**

Spanish Fluent  
 Spanish Fluent  
 Spanish Functional  
 Native Speaker

**GRE ASSOCIATES**

Mark Smith, P.E., G.E., D.GE, S.E. - Expert Geotechnical Eng.  
 Dave Hallman, P.E., P.G. - Expert Geotechnical Eng.

38 yrs  
 30+ yrs

Spanish Functional