

## **Geomechanics Engineer**

**Expertise** Geomechanics, Geotechnics, Seismic Hazard, Shallow Seismic Geophysics, Numerical Modeling

**Education** B.Sc. (Civil Engineering), 2000  
M.Sc. Studies (Geotechnical Engineering), 2004 - 2006  
Universidad Nacional de Ingeniería, Lima, Perú

### **Professional Experience**

February 2011 - Present *Itasca S.A., Santiago de Chile, Geomechanics Engineer*

February 2007 - February 2011 *Ausenco Vector (formerly Vector Perú S.A.C.)  
Geotechnical Civil Engineer*

June 2004 - February 2007 *ZER Geosystem Perú S.A.C., Project Engineer*

### **Project Experience**

#### *Geomechanics*

- Estimation of recommended inter-ramp angles for final pit slopes through stereographic analysis of fractures; kinematic analysis of slopes; estimation of rock mass strength and global slope-stability analysis using the limit equilibrium method for PFS and FS levels in mining projects and for closure of existing mines.
- Bench-blasting analysis using the KCO model.
- Geomechanical evaluation of mine entrances and ventilation chimneys for closure. Crown pillar analysis using *FLAC*.
- Oriented core-sample logging, using imprinted clay and ACT methods.

#### *Geotechnics*

- Dynamic analysis using *FLAC* in order to obtain stresses and deformations of tailings and water dams using UBCHYST for non-liquefiable materials and UBCSAND for liquefiable materials.
- Geotechnical exploration; characterization of soils and estimation of strength parameters of soils using field and laboratory information. Analysis of bearing capacity and settlement at foundation levels for foundations; limit-equilibrium slope stability analysis and solutions for different mining and road projects. Simplified liquefaction analysis for analysis of foundations and slopes.
- Supervision of geotechnical diamond-drilling boreholes and undisturbed sampling. Field reports and field-test processing.

*Seismic Hazard and Seismicity*

- Seismic source updating; determination of seismic parameters of area sources; deterministic and probabilistic hazard analysis for many Peruvian mining projects
- Analysis of seismic records.
- Time-domain spectral matching of seismic records.

*Geophysics*

- Multi-channel surface wave testing (MASW), micro-tremor array measurement testing (MAM) and shallow seismic refraction testing, signal processing and reporting.