Principal Mining and Geomechanics Engineer

Expertise	Mining Engineering, Numerical Modeling, Cave Mining
Education	M.Sc. (Mining), 2012 B.Sc. (Mining Engineering), 2010 Universidad de Chile, Santiago, Chile
Professional Affiliations	Member: American Rock Mechanics Association (ARMA)
Honors	"Juan Bruggen" Best Graduate of Class 2010 Mining Engineering, University of Chile. Awarded by the Mining Engineering Institute of Chile (IIMCh)

Professional Experience

	ITASCA Minneapolis	
2023 – Present	Principal Geomechanics Engineer	
2019 – 2023	Senior Geomechanics Engineer	
2013 – 2019	Mining and Geomechanics Engineer	
2012 – 2013	Advanced Mining Technology Center (AMTC), Universidad de Chile Research Assistant	

Project Experience

Underground Mining: More than fourteen years of experience conducting geomechanical analysis for underground operations, including longwall, stoping, cut-and-fill, and room-and-pillar mines. Extensive application of advanced numerical modeling to mine design, sequencing, stability assessments, ground support optimization, and mining-induced seismicity. Representative clients include Tronox and Nyrstar (United States); Havieron (Australia); Red Lake, Raglan, and Trevali (Canada).

Cave Mining: More than fourteen years of specialized experience supporting sublevel, block, and panel caving projects from concept through feasibility. Technical expertise includes undercut and extraction-level design, draw control and scheduling, caveability assessments, fragmentation and recovery forecasting, infrastructure stability evaluations, and surface subsidence modeling. Client portfolio includes New Afton, Kemess, Stornoway, and Ekati (Canada); Kiruna and Boliden (Sweden); Ghaghoo and Karowe (Botswana); Northparkes and Cadia Valley Operations (Australia); Henderson, Resolution, and Dome (United States); Narkuzgan (Kazakhstan); El Teniente, Chuquicamata, and Escondida (Chile); PTFI, Tujuh Bukit, and Hu'u (Indonesia).

Rock Mass Characterization: Experience conducting core logging, geotechnical site investigations, and in-situ testing across diverse geological settings. Developed and applied numerical methods to evaluate rock mass strength and fragmentation, incorporating strength heterogeneity and discrete fracture networks (DFNs). Supported the creation of geotechnical block models used for mine design, stability assessments, and draw strategies. Clients include Freeport-McMoRan, Stornoway, Newmont, and the Minnesota Department of Transportation (MnDOT).