Senior Engineer

Expertise Mining, Drill and Blast

Education B.Eng. (Mining), 2009

Laurentian University, Sudbury, Ontario, Canada

Registration P.Eng.

Professional Experience

2021 – Present	Itasca Consulting Canada, Inc., Sudbury, Ontario Senior Engineer
2019 – 2021 2018 – 2019	Sudbury Integrated Nickel Operations, Glencore (Nickel Rim South Mine), Sudbury, Ontario Senior Mine Engineer Mine Systems Engineering Lead/Engineering Supervisor
2015 – 2018	Sudbury Integrated Nickel Operations, Glencore (Fraser Mine), Sudbury, Ontario Mine Engineer Long-Term Planner
2014 – 2015 2014 – 2014 2013 – 2014	KGHM International (Craig Mine/Morrison Deposit), Sudbury, Ontario Mine Backfill Engineer Short-Term Planner Underground Mine Supervisor
2011 – 2013 2010 – 2011 2010 – 2010	KGHM International (Podolsky Mine), Sudbury, Ontario Underground Operations Mining Experience Blasthole Planner/Relief for Mine Ventilation and Survey Project Management

Project Experience

Senior Mine Engineer: Timely and quality delivery of Life of Mine plans and annual budget, capital management and reporting, objective settings for key performance indicators, and workforce management and planning. As Innovation lead, responsible for Webgen Wireless Detonators, Ventilation on Demand, Autonomous Mucking, Deswik Scheduling, and Deswik Drill and Blast Proof of concept. Production management through workplace and equipment utilization. Review and approve mine extraction sequence, evaluate and develop mining plans for safe and economic ore body extraction and the feasibility of new mining zones. Site improvement projects and process changes. Develop, direct, and lead Mine Engineers, Engineers in Training, and Technicians.

Mine Systems Lead/Supervising: Management and optimization of Ventilation on Demand system, achieving 90 percent VOD enabled for all underground auxiliary fans. Successfully redesigned and implemented complete process water system upgrade due to elevated system pressures. Management of Dewatering

Joffre Sanftenberg ITASCA

Page 2 of 2

System, Compressed Air System, Backfill System. Develop, direct, and lead Mine Survey, Ventilation, and Design Technicians.

Long-term Mine Planning: Optimize long range and life of mine plans, annual reserves and cut-off grades reviews, annual budget preparation, mining method review/selection, annual cash-flow analysis, management of boundary agreements, and compliance to regulatory standards.

Backfill Mining: Materials requirement planning, QA/QC monitoring (UCS testing, particle size distribution modelling), and initiation and implementation of mine backfill projects, system improvements, and preventative maintenance program for surface plant and underground distribution system.

Underground Operations Mining and Supervisory Experience: Development, haulage, production loading and blasting (bulk mining), backfill, mine services, and construction. Supervision of backfill, construction, and narrow vein production crews; establish processes and procedures to ensure safe production; employee development and training; and implementation of mine schedule in compliance with mine standards.

Blasthole Planning: Stope optimization; design of drilling, loading, and timing; and contractor management and scheduling.