



Sebastien Guido – Project Engineer

Sebastien is a mining engineer cumulating over six years of various experience at operating mine sites (both on surface and underground), as well as in instrumentation, technical services and support, consulting, and teaching. His areas of specialisation are practical ground control and support programs, including field observations, mine monitoring and instrumentation, as well as geomechanics. Sebastien is a Registered Professional Engineer in Quebec.

Expertise

- Ground control and ground support
- Mine monitoring and instrumentation
- Geomechanics

Professional experience

- May 2018 – present: Project Engineer at Andrieux & Associates Geomechanics Consulting, Quebec, Canada.
- Summer 2018: Teaching Assistant (responsible for teaching the *Advanced Rock Mechanics* course) at Université Laval, Quebec, Canada.
- 2014 – 2018: Rock Mechanics Engineer at Goldcorp, Eleonore Mine, Quebec, Canada.
- 2014: Rock Mechanics Engineering Intern at Goldcorp, Eleonore Mine, Quebec, Canada.
- 2013: Teacher (part time) in Mining Technology at the Thetford CEGEP, Quebec, Canada.
- Summer 2012: Mine Engineering Intern at Metanor, Bachelor Lake Mine, Quebec, Canada.
- Fall 2011: Mine Technologist at Metanor, Bachelor Lake Mine, Quebec, Canada.
- Summer 2011: Mine Technologist Intern at Cliffs Natural Resources, Bloom Lake Mine, Quebec, Canada.
- Summer 2010: Mine Technologist Intern at IAMGOLD, Niobec Mine, Quebec, Canada.



Education

- M.Sc. (Mining Engineering), 2019, Université Laval, Quebec, Canada.
- B.Eng. (Mining Engineering), 2015, Université Laval, Quebec, Canada.
- College Diploma (Mining Technology), 2011, Thetford CEGEP, Quebec, Canada.

Registration

- Registered Professional Engineer in the Province of Quebec (OIQ), Canada

Professional affiliation memberships

- Canadian Institute of Mining, Metallurgy and Petroleum (CIM)
- International Society of Rock Mechanics (ISRM)
- Société de l'énergie explosive du Québec (SEEQ)

Project experience

Various projects for international mining companies, both as rock mechanics site engineer and mining consultant.

Conceptual, scoping, pre-feasibility and feasibility studies

- Geotechnical data review, consolidation and gap analysis
- Site characterization (mapping, core logging, Televiewer)
- Conceptual mine design for various underground mining methods
- Backfill requirements

Geomechanical and stability analyses

- Empirical and analytical analyses
 - Stope dimensioning and design
 - Dilution estimates
 - Pillar stability assessment (for sill, crown, rib, etc.)
 - Ground support requirements
 - Probability of failure analyses
 - Statistical modelling (dilution, overbreak, seismicity)



- Numerical modelling
 - Elastic and inelastic 3D numerical analyses for mine extraction sequences, pillars, stope stability, seismicity, backfill, etc.
- Seismicity
 - Design of seismic systems (initial and expansion phases)
 - Installation of sensors (SGM/geophones and accelerometers)
 - Advanced seismic data analyses and interpretation

Ground support systems

- Design of underground support systems for static and dynamic conditions
- Open pit wall support

Instrumentation

- Multipoint Borehole Extensometers (MPBX), Ground Movement Monitors (GMM), Time Domain Reflectometry (TDR) probes, sloughmeters, instrumented cablebolts (SMART cable), etc.
- Telemetry technology (i.e., wireless data transmission)
- Mine-wide seismic surveillance systems

Technical services and support

- Ground control practice reviews and audits
- Ground control-related investigations (e.g., falls of ground)
- Seismicity and rockburst reviews
- Training courses on geomechanics, ground control and ground support

Drilling and blasting

- Elaboration of site-specific blast-induced vibration attenuation curves and standoff distances to respect given vibration limits

Software

- Geomechanics: *FLAC3D*, Map3D, Rocscience suite
- Seismicity: SeisVis and mXrap
- Scientific: MATLAB, Maple
- Computer-Aided Design: AutoCAD, Deswik, Promine, Rhinoceros
- Others: Leapfrog, Office (including VBA)



Publications

Guido, S. (2018). ***Contributions à la conception géomécanique des chantiers à l'aide d'approches statistiques: le cas de la mine Éléonore.*** (Contributions to the Geomechanical Design of Stopes with Statistical Methods: the Case of Eleonore Mine.) Masters thesis, Université Laval. Quebec City, Quebec, Canada.

Guido, S., and Grenon M. (2018). ***Contributions to Geomechanical Stope Optimization at the Goldcorp Eleonore Mine Using Statistical Analysis.*** In ARMS10 “10th Asian Rock Mechanics Symposium,” International Society of Rock Mechanics (ISRM). Singapore.

Guido, S., Grenon M., and Germain, P. (2017). ***Stope Performance Assessment at the Goldcorp Eleonore Mine Using Bivariate Analysis.*** In AFRIROCK 2017 “Rock Mechanics for Africa,” International Symposium, International Society of Rock Mechanics (ISRM). Cape Town, South Africa.