The mineral exploration process

- Exploration activities and related works as undertaken by proponents

**Exploration Phase**

- Deposit Assessment Phase

**Initial Planning Stage to EA-5 Stage**

- DA-1 Stage to DA-4 Stage

**Mining Complex Development**

**Scale of Works in the Field (on-site)**

- Use of geoscience databases, maps, models and scientific literature.
- Synthesis of information on specific region, area, or mineral of interest.
- Develop and refine surveying and mapping tools to assess potential exploration projects.
- Analysis of geoscience data, models and maps.
- Select target minerals and prospective target regimes or areas.
- Consider market and fiscal policies, legal and social constraints.
- Select project objectives and strategies.
- Determine and plan specific exploration projects.
- Regional Archean and Ground-based reconnaissance.
- Airborne and Ground-based geophysical and geological surveying.
- Initial Prospecting.
- Regional Archean and Ground-based reconnaissance surveying.
- Analysis of geoscience data, models and maps.
- Select target minerals and prospective target regimes or areas.
- Consider market and fiscal policies, legal and social constraints.
- Select project objectives and strategies.
- Determine and plan specific exploration projects.

**Preliminary Surveys**

- Prospecting.
- Map designation.
- Claim-obligation.
- Airborne and Ground-based geophysical and geological surveying.
- Line cutting.
- Preliminary surface sampling, grab, chip, channel and panel sampling.
- Technical evaluation.
- Evaluation of results.
- Confirm presence, position, characterization, and physical target anomalies. Select those for follow-up.

**Phase 1 (Exploration Planning)**

- Detailed drilling, sampling and mapping (may be underground).
- Excavation and evaluating activities for underground work (e.g., ramps, shafts).
- Data acquisition and initial design planning of exploration work (including sample preparation and analysis).
- Define and select the extent, location, quality, and characteristics of the deposit.
- Economic analysis to justify further works.
- Preliminary environmental characterization (pre-feas).

**Phase 2 (Regional Reconnaissance)**

- Identify and confirm the existence of the mineral resource.
- Consider other minerals that might be economically viable.
- Early decision-making in terms of the deposit's potential.
- Define and select the extent, location, quality, and characteristics of the deposit.
- Economic analysis to justify further works.
- Preliminary environmental characterization (pre-feas).

**Phase 3 (Verification of Targets, Assessments, or Showings)**

- Detailed drilling, sampling and mapping (may be underground).
- Excavation and evaluating activities for underground work (e.g., ramps, shafts).
- Data acquisition and initial design planning of exploration work (including sample preparation and analysis).
- Define and select the extent, location, quality, and characteristics of the deposit.
- Economic analysis to justify further works.
- Preliminary environmental characterization (pre-feas).

**Phase 4 (Definition of the Deposit)**

- Detailed drilling, sampling and mapping (may be underground).
- Excavation and evaluating activities for underground work (e.g., ramps, shafts).
- Data acquisition and initial design planning of exploration work (including sample preparation and analysis).
- Define and select the extent, location, quality, and characteristics of the deposit.
- Economic analysis to justify further works.
- Preliminary environmental characterization (pre-feas).

**Phase 5 (Project Engineering)**

- Based on a project's objectives, evaluate and analyze parameters for economic and financial assessment.
- Estimate market prices, as well as social, political, and environmental risks.
- Rationalization of indicated and measured deposits.
- Establish technical and economic feasibility of a potential mine.
- Begin or continue pre-feasibility studies.

**Phase 6 (Project Economics)**

- Based on a project's objectives, evaluate and analyze parameters for economic and financial assessment.
- Estimate market prices, as well as social, political, and environmental risks.
- Rationalization of indicated and measured deposits.
- Establish technical and economic feasibility of a potential mine.
- Begin or continue pre-feasibility studies.

**Phase 7 (Feasibility Study)**

- Evaluate market prices, as well as social, political, and environmental risks.
- Rationalization of indicated and measured deposits.
- Establish technical and economic feasibility of a potential mine.
- Begin or continue pre-feasibility studies.

**Phase 8 (Pilot Plant)**

- Detailed drilling, sampling and mapping (may be underground).
- Excavation and evaluating activities for underground work (e.g., ramps, shafts).
- Data acquisition and initial design planning of exploration work (including sample preparation and analysis).
- Define and select the extent, location, quality, and characteristics of the deposit.
- Economic analysis to justify further works.
- Preliminary environmental characterization (pre-feas).

**Phase 9 (Definitive Feasibility Study)**

- Based on a project's objectives, evaluate and analyze parameters for economic and financial assessment.
- Estimate market prices, as well as social, political, and environmental risks.
- Rationalization of indicated and measured deposits.
- Establish technical and economic feasibility of a potential mine.
- Begin or continue pre-feasibility studies.

**Phase 10 (Final Investment Decision)**

- Based on a project's objectives, evaluate and analyze parameters for economic and financial assessment.
- Estimate market prices, as well as social, political, and environmental risks.
- Rationalization of indicated and measured deposits.
- Establish technical and economic feasibility of a potential mine.
- Begin or continue pre-feasibility studies.