



Maximize Your Process Outcomes

SRC's Mineral Processing team provides leading-edge research, development and demonstration services for a variety of commodities and mineral processing technologies. We help maximize your resource and improve productivity at every stage of the mining cycle, from exploration to closure.

Our team of engineers and scientists can customize testing and design to meet the unique needs of mining companies.



**DIAMONDS • URANIUM • POTASH
LITHIUM • BASE METALS
PRECIOUS METALS • RARE EARTH ELEMENTS
INDUSTRIAL MINERALS**

Service Capabilities

▶ TESTING

- Bench
- Pilot
- Field

▶ EVALUATION

- Mineralogy
- Process
- Equipment

▶ DESIGN

▶ OPTIMIZATION and TROUBLESHOOTING

▶ PRODUCT MANUFACTURE



Technologies

▶ New Technologies

- Particle ore sorting and sensor-based sorting technologies
- In situ recovery, particularly for potash and uranium applications
- Novel lithium and rare earth recovery technologies

▶ Mineralogy Studies (from SRC's Advanced Microanalysis Centre™)

- Automated mineralogy
- Mineral liberation studies
- Acid generating potential
- Mineral deportment studies

▶ Comminution and Milling

- Indices (crushing, abrasion, ball mill, rod mill)
- SAG Design test for semi-autogenous mill design
- Attrition scrubbing, desliming, screening and cyclone testing

▶ Physical Separation

- Magnetic separation (dry, wet, high intensity, low intensity)
- Electrostatic separation (free-fall and drum)
- Gravity separation (shaking tables, Knelson concentrator, DMS, heavy liquid separation)
- Liberation analysis (floats and sinks)
- Ore sorting: Radiometric sorting and XRT

▶ Hydrometallurgical Processes at Bench or Pilot-Scale

- Leaching (acid leaching, alkaline leaching, cyanidation – agitated and column, hot leaching, cold leaching)
- Crystallization, evaporation, precipitation, simulated solar pond evaporation
- Flotation (mechanical flotation, hydroflotation, column flotation, pneumatic flotation)
- Solvent extraction, fractional precipitation
- Ion exchange

▶ Slurry Flow, Thickening and Solid-liquid Separation Testwork

- Pipe flow modelling for slurries, viscosity measurements for slurries in pipelines and MBI clay analysis (from SRC's Pipe Flow Technology Centre™)
- Filtration (vacuum filtration and pressure filtration, lab and pilot filter press and centrifuge)
- Settling (static settling, flocculant screening, dynamic settling, pilot thickening)
- Hydroclassifiers

▶ Tailings and Effluent

- Tailings flow and deposition (bench and pilot-scale from SRC's Pipe Flow Technology Centre™)
- Mine water treatment
- Tailings treatment
- Paste backfilling tests
- Acid generation potential

Our Mineral Processing team also works with SRC Geoanalytical Laboratories (an ISO/IEC accredited facility) and SRC's Advanced Microanalysis Centre™ to offer clients an expanded range of services for mineralogical analyses. In addition, SRC Environmental Analytical Laboratories provides our clients with environmental testing and is one of only a few laboratories accredited for radioactive substances.