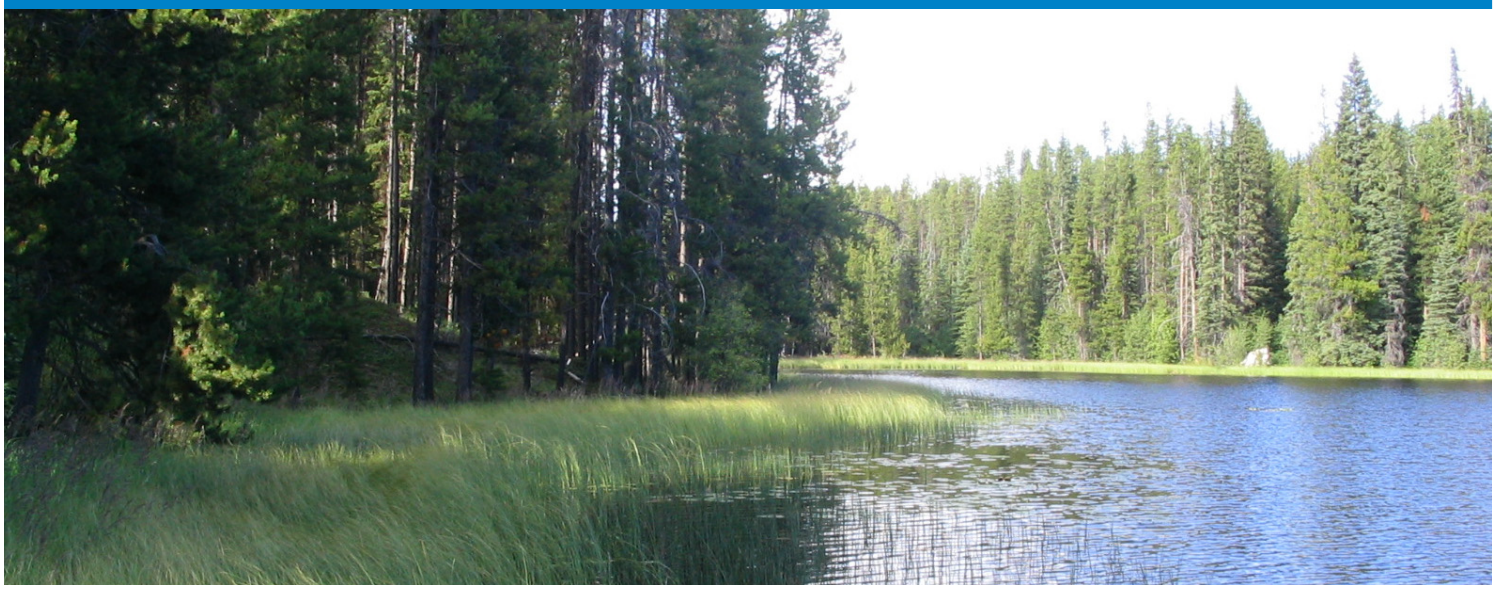


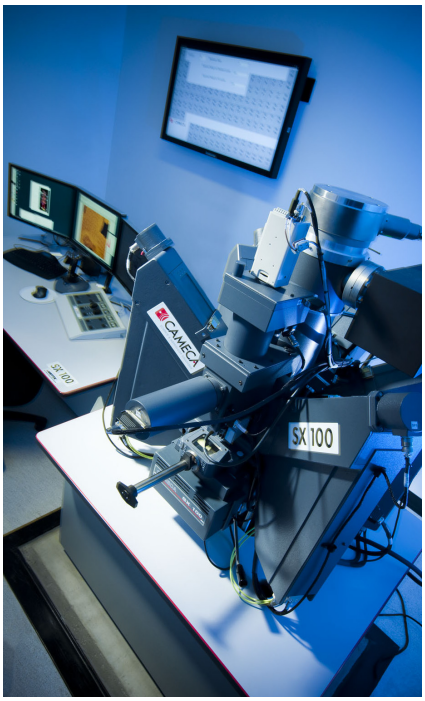
Sustainable Mining Solutions

Mining companies are being challenged to enhance the environmental sustainability of their operations. Public concerns about acid drainage, heavy metals contamination, tailings and wastewater have all led to the need to reduce mining's environmental footprint.

The Saskatchewan Research Council (SRC) is researching and demonstrating technologies and processes that contribute to sustainable practices throughout the mining cycle.

Early stage

- **Tailings Handling Methods:** SRC researchers work with companies to design processes and test tailings handling methods. Developing more efficient designs for processing and tailings management helps reduce tailings volumes and toxicity to minimize a mine site footprint.
- **Environmental Planning:** SRC is home to leading experts that assist companies with predicting and planning for environmental challenges. We have:
  - o Aquatic toxicologists who look into potential contamination effects (SRC's experts are currently investigating how artificial wetlands can purify wastewater effluents)
  - o Climatologists who investigate long-term climate trends to aid companies in planning waste management strategies
  - o Air quality experts who evaluate and analyze both ambient and source emissions
  - o Microbiologists who investigate the potential impacts of naturally occurring microbes on systems and processes, such solubility of metals and ions in effluents and tailings
  - o Environmental assessment experts who provide a Life Cycle Assessment (LCA) service that offers an unbiased evaluation of greenhouse gas emissions, energy use and water toxicity



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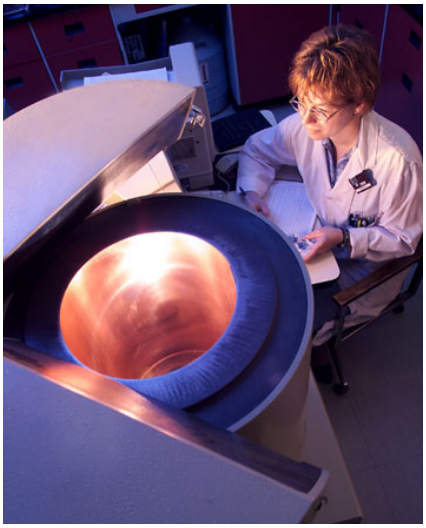
Mid-stage

- **Advanced Microanalysis Centre™:** To aid companies further along in the mining cycle, SRC recently launched an Advanced Microanalysis Centre™. This Centre can characterize ores to assist in optimizing processing and tailings design. The Centre can also identify toxic elements, such as selenium and arsenic, in tailings and wastewater.
- **Environmental Analytical Laboratories:** SRC Environmental Analytical Laboratories provides environmental expertise and test services, including the use of a SLOWPOKE II nuclear research reactor. As one of Canada's most complete analytical chemistry laboratories, Environmental Analytical Laboratories supplies everything from water chemistry and microbiology expertise to hazardous waste classification, industrial hygiene, trace organics and radiochemical analysis.
- **Emissions Testing and Solutions:** SRC can assist mines and mining operations with improving air quality. SRC can assist with internal decision-making by providing technology assessments and engine emission testing. Advanced engine technologies, alternative fuels, control systems and exhaust treatment systems are all technology options that could be evaluated. SRC can also provide recommendations and engineering solutions to meet specific environmental objectives.
- **Processing Efficiency:** SRC can provide technical solutions to Saskatchewan's mineral processing industry to improve existing processes and develop new ones. This will improve productivity and minimize environmental impacts. We have the capabilities and facilities to develop optimal processing methods for: potash, uranium, oil sand/shale, coal and rare earth elements. The result will be reduced tailings and wastewater; recovery of valuable by products; and a reduction in pollutants and the environmental footprint.

Final-stage

- **Remediation:** SRC is leading Project CLEANS, a multi-year, multimillion-dollar project to assess and reclaim mining sites in northern Saskatchewan. With this experience, we can assist companies to decommission existing mines and remediate sites in an environmentally sustainable way while minimizing costs. The expertise gained from the project can be applied to many mine sites.

The Saskatchewan Research Council (SRC) is researching and demonstrating technologies and processes that contribute to sustainable practices throughout the mining cycle.



The Saskatchewan Research Council (SRC) is based in well-equipped laboratory and office facilities in Saskatoon, Prince Albert and Regina.