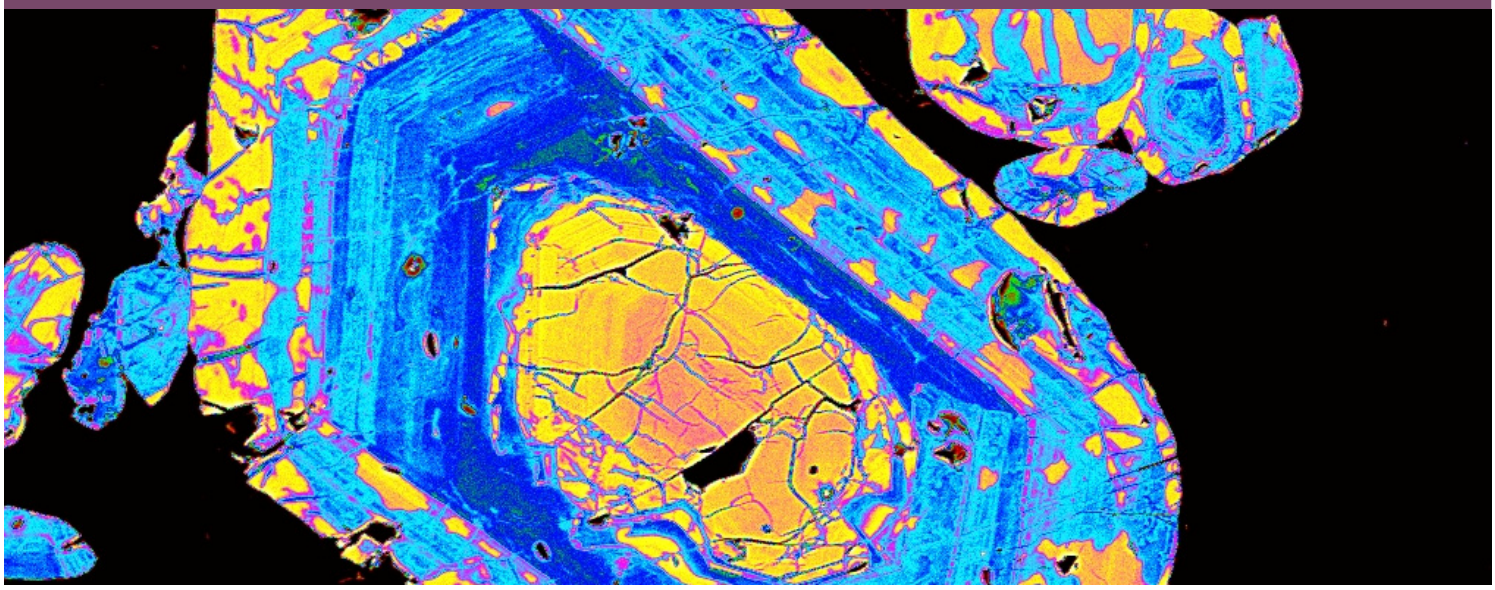
SASKATCHEWAN RESEARCH COUNCIL



Rare Earth Element Services

Metallurgical Testing and Mineral Processing, Microanalysis and Geoanalytical Assays

The Saskatchewan Research Council (SRC) is internationally recognized as an expert in mineral analyses and assays. Many companies working with SRC rely on its international networks to access leading knowledge. As a multidisciplinary organization, SRC has exploration and geoanalytical expertise, and is developing substantial mineral processing capabilities. The expertise and equipment at SRC's many facilities, such as the Geoanalytical Laboratories and the Advanced Microanalysis Centre™, offer valuable resources for new endeavors. This experience, combined with SRC's broad base of specialists, brings together a diverse technical team that can develop unique and comprehensive solutions for industry in Saskatchewan and worldwide.

Mineral Processing and Hydrometallurgy

SRC's experts are focused on rare earth mineral processing and hydrometallurgy and working with mining companies to develop rare earth properties through laboratory, bench scale, pilot testing and field implementation.

We offer all stages of rare earth metallurgical tests from preliminary, detailed, pilot plant testing, to effluent and tailings treatments. Our capabilities include:

- Comminution
- Gravity separation
- Electrostatic separation
- Acid-roasting
- Leaching
- Fractional precipitation
- Tailings characterization
- Classification
- Magnetic separation
- Flotation
- Caustic cracking
- Solvent extraction
- Effluent treatment

CONTACT

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Microanalysis

SRC's Advanced Microanalysis Centre™ electron microprobe can be used to perform nondestructive chemical analyses of micron-scale samples. The REE can be analyzed from 100 per cent abundance down to trace levels with typical detection limits less than 0.01 wt per cent. The microprobe can also be used to create detailed electron and X-ray emission images of the sample for quantitative analysis of the sample mineral abundances. The combination of quantitative mineral chemical and mineral abundance analysis makes the electron microprobe a key tool for REE mineral analyses.

The electron microprobe at the Advanced Microanalysis Centre™ is available on a fee-forservice basis at a rate of $160* per hour. Contact us for more information on quantitative mineralogy.

SRC's X-ray fluorescence (XRF) spectrometer provides one of the simplest, most accurate and economical methods for REE analysis. Concentrations up to 100 per cent are analyzed directly, without dilution and with reproducibility better than ±0.1 per cent.

Analytical Package and Expected Lower Limit of Detection (LLD)*

Analyte	LLD	Analyte	LLD	Analyte	LLD	Analyte	LLD
Ce	5 ppm	Sm	5 ppm	Tb	10 ppm	Er	10 ppm
Pr	5 ppm	Eu	5 ppm	Dy	10 ppm	Yb	5 ppm
Nd	5 ppm	Gd	5 ppm	Ho	10 ppm	Th	10 ppm
						U	2 ppm

Geoanalytical Assays

Rare Earth Element Analysis by Lithium Metaborate Fusion and ICP-OES (Package: REE1)
This package offers analysis of 22 analtyes and is designed for analyzing refractory REE ore samples.
REE - $40.00/sample*

Whole Rock Analysis by Lithium Metaborate Fusion and ICP-OES (Package: WR1)
This package offers a total rock analysis for 16 analytes.
REE - $40.00 – $70.00/sample*

Whole Rock and Rare Earth Element by Lithium Metaborate Fusion, ICP-OES and ICP-MS Analysis. (Package: WR/TR)
This package offers analysis of 13 analytes by ICP-OES and 48 analytes by ICP-MS.
REE - $80.00/sample*

*Prices subject to change without notice

The Minerals Business Unit at the Saskatchewan Research Council (SRC) offers a variety of services using state-of-the-art equipment and technologies to support the requirements of the mining and minerals industries.

Saskatchewan Research Council (SRC) is the province's leading provider of applied R&D and technology commercialization. We have been providing Smart Science Solutions™ in Saskatchewan for over 60 years.