

## Advancing Geological Knowledge to Support Safer Potash Mining

In collaboration with Nutrien, BHP, and academic researchers, we are supporting a new project aimed at enhancing the geological understanding of key features in Saskatchewan's potash mines. Focusing on the Lower Patience Lake salt beam (Lanigan B Zone), the project will study the composition and structure of the Shadowband clay — a distinct geological marker within the mining zone.

The goal is to build a stronger foundation for understanding how the salt beam behaves during mining operations and to identify opportunities for developing sensing technologies that can detect and map important subsurface features. By characterizing the Shadowband clay and its relationship to surrounding rock layers, the project will contribute to optimizing mining practices — improving productivity, supporting safe operations, and minimizing waste.

Leveraging decades of operational expertise from Nutrien and BHP, along with academic innovation through the International Minerals Innovation Institute (IMII), this research will deliver new insights into rock-mechanics behavior and help inform the future of sustainable, efficient mining in Canada's potash sector.

## Unlocking new insights into the geology of potash mining.

Through advanced study of the salt beam and Shadowband clay, we are helping drive safer, more efficient mining practices for one of Canada's most important critical minerals. **Proponent:** University of Regina

Project Duration: October 2023 to October 2026

Project Cost: \$272,000
IMII & Industry Contribution: \$182,000

Mitacs Contribution: \$ 90,000

The International Minerals Innovation Institute (IMII) is the trusted hub for expertise and innovation in Saskatchewan's minerals industry, driving transformative change, inspiring actionable solutions, and building a sustainable and globally respected minerals sector in the province. As a member-based organization governed by industry, post-secondary education, and government, we unite to accelerate technological innovation, develop a representative workforce, and promote thought leadership. Together, we drive progress and shape the future of the minerals sector. <a href="https://www.imii.ca">www.imii.ca</a>