Investigation of Polymeric Reagents for Potassium Chloride Collection During Potash Flotation, University of Regina

This research project was developed to address the local needs of Saskatchewan's potash industry. Saskatchewan contains nearly 40% of the world's known potash reserve and produces approximately one-third of the world's total potash production. As such, potash processing is a major industry in Saskatchewan and a source of regional pride. Mineral extraction research is critical to maximizing operation efficiency and resource utilization and provides an opportunity to demonstrate industry leadership. The main benefactors of this research are the potash extraction and distribution companies throughout the province. This research will be conducted with in-kind support provided by K+S Potash Canada, Nutrien Ltd, and the Mosaic Company. Experimental conditions and equipment will be designed to mimic the PotashCorp extraction process. Polymeric compounds have been demonstrated to be highly effective reagents across a broad range of applications and industries. It is therefore hoped that a suitable polymer may be identified that can increase the KCl extraction efficiency while simultaneously reducing total collector usage and associated costs. This research has the potential to benefit the potash industry and contribute to the fields of polymer science, surface chemistry, and mineral extraction.