

THE DEVELOPMENT OF SEARCH MINERALS' DIRECT EXTRACTION TECHNOLOGY FOR THE RECOVERY OF REE FROM ITS CRITICAL REE DISTRICT IN SE LABRADOR

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Abstract

The Search Minerals Foxtrot project in Labrador represents a significant Canadian resource of critical rare earth elements rich in key magnet rare earth elements (~ 400 g/t Pr, 1500 g/t Nd and 190 g/t Dy). A preliminary economic assessment of the project indicated that the project is technically feasible and economically attractive.

Since 2012, a variety of metallurgical test programs have been undertaken at SGS which have led to the development and optimization of a simple and robust process flowsheet, proven during several pilot campaigns that operated from 2016 to 2019. The improved flowsheet should allow Search to reach name-plate capacity faster and will use conventional processing equipment.

This paper will discuss the overall process flowsheet from ore to final purified (>99% TREO) product. It will focus on some of the challenges that were met and solved along the way and will describe the current state of development.