

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

By

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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. A preliminary economic assessment of the project indicated that the project is technically feasible and economically attractive. Search is planning to validate its Direct Extraction technology in a 20-tonne hydrometallurgical demo plant at SGS Canada.

Since 2012, SGS has been working with Search Minerals to develop and optimize a simple and robust process flowsheet, proven during several pilot campaigns that operated from 2016 to 2022.

This paper will provide an overview of the testwork programs since 2012 and highlights how each program contributed to the process flowsheet from ore to final purified product options (Mixed RE Oxide or Mixed RE Carbonate). It will focus on some of the challenges that were met and solved along the way and will describe the current state of development.

Keywords: Foxtrot project, Labrador, REE, demo plant, hydrometallurgy, Direct Extraction technology