Search Minerals Completes Magnetic Separation of Bulk Samples at SGS Canada

written by Raj Shah | September 16, 2022

September 16, 2022 (Source) – **Search Minerals Inc. (TSXV: SMY | OTCQB: SHCMF)** ("**Search**" or the "**Company**"), is pleased to announce that two bulk samples of mineralization from Deep Fox and Foxtrot have been processed in our **PHASE 1** magnetic separation program at SGS Canada (Lakefield) ("**SGS**"). The Deep Fox sample comprises 53 metric tonnes recovered from the exposed surface of the deposit. Similarly, the Foxtrot sample comprises 20 tonnes of surface material.

The **SGS** program involved bench scale work to test the amenability of the two samples to magnetic separation and then the execution of a continuous pilot plant operating at ~550 kg per hour of feed material over 15 separate pilot plant periods to produce a pre-concentrate of iron by Low Intensity Magnetic Separation (LIMS) and a rare earth concentrate by Wet High Intensity Magnetic Separation (WHIMS) and a final tailing material for environmental testing.

The results of the magnetic separation pilot plant on the two bulk samples were in line with expectations.

Highlights of the program were,

- The total rare earth recoveries were high, at 88-90% for Deep Fox and 84-85% for Foxtrot.
- The rare earth concentrate grades were upgraded from ~1% TREO + Y to 3.2% TREO + Y for Deep Fox and 3.7% TREO + Y for Foxtrot.

- The pilot plant testing demonstrated a good magnetic separation performance at a coarser primary grind size (P_{80} ~100 µm) than that of the batch tests.
- The metallurgical performance was steady over the pilot plant operation.
- A total of ~13.8 tonnes of Deep Fox Rare Earth Concentrate and ~5.1 tonnes of Foxtrot Rare Earth Concentrate were produced.
- The Deep Fox and Foxtrot Rare Earth Concentrates will be used in Search's Phase 2 development program in the Sprint to Production to extract and recover high grade/high purity mixed rare earth concentrate product using Search's Direct Extraction Technology.
- A total of ~1.74 tonnes of Deep Fox LIMS concentrate grading 94.9% Fe_2O_3 and ~1.2 tonnes of Foxtrot grading 87.4% Fe_2O_3 were recovered and will be studied as a potential by-product, ie: iron ore.
- Approximately 5 tonnes of non-magnetic material were collected after the magnetic separation. This material will be characterized for dry-stackable tailings disposal and possible by-product use as a sand material for the construction industry.

Dr. David Dreisinger, Director/Vice-President of Metallurgy states; "The results of the testing on the two bulk samples were in line with expectations and provide a basis for "scale up" of the commercial facility. The availability of approximately 18.9 tonnes of rare earth concentrate allows us to move to our larger scale testing of the Direct Extraction Process. The benefit of producing a concentrate, using the grinding and magnetic circuit, prior to our proprietary Direct Extraction Process, is the reduction in size of equipment and reduced chemical and energy use to obtain similar overall recoveries of saleable rare earth elements."

Greg Andrews, President/CEO states; “We continue with our “Sprint to Production” and this is a very important step to scale up and produce more material for further separation into individual oxides of the permanent magnet material, Neodymium (Nd), Praseodymium (Pr), Dysprosium (Dy) and Terbium (Tb). These are the key elements which create the value in the rare earth element supply chain. Upon producing the oxides, we are seeking co-funded government programs to process the 18.9 tonnes of rare earth concentrate using our proprietary Direct Extraction Process to produce approximately 1t of mixed rare earth oxide concentrate for further separation processing. Ultimately, Search will demonstrate the transformation of the permanent magnet oxides into metal as a precursor to magnet fabrication.”

Qualified Person:

Dr. David Dreisinger, Ph.D., P.Eng, is the Company’s Vice President, Metallurgy, and Qualified Person (as defined by National Instrument 43-101) who has supervised the preparation of and approved the technical information reported herein. The company will endeavour to meet high standards of integrity, transparency, and consistency in reporting technical content, including geological and assay (e.g., REE) data.

About SGS

SGS is the world’s leading testing, inspection and certification company. SGS is recognized as the global benchmark for quality and integrity. With more than 96,000 employees, SGS operates a network of over 2,700 offices and laboratories around the world. SGS is constantly looking beyond customers’ and society’s expectations in order to deliver market leading services wherever they are needed. Working together to make the world a better, safer place.

About Search Minerals Inc.

Led by a proven management team and board of directors, Search is focused on finding and developing Critical Rare Earths Elements (CREE), Zirconium (Zr) and Hafnium (Hf) resources within the emerging Port Hope Simpson – St. Lewis CREE District of South East Labrador. Search controls two deposits (Foxtrot and Deep Fox), two drill ready prospects (Fox Meadow and Silver Fox) and numerous other REE prospects, including Fox Valley, Foxy Lady and Awesome Fox, along a 64 km long belt forming a REE District in Labrador. Search has completed a preliminary economic assessment report for **DEEPFOX** and **FOXTROT.** Search is also working on three exploration prospects along the belt which include: **FOX MEADOW, SILVER FOX** and **AWESOME FOX**.

Search has continued to optimize our patented Direct Extraction Process technology with the support from the Department of Industry, Energy ad Technology, Government of Newfoundland and Labrador, and from the Atlantic Canada Opportunity Agency. We have completed two pilot plant operations and produced highly purified mixed rare earth carbonate concentrate and mixed REO concentrate for separation and refining. We also recognize the continued support by the Government of Newfoundland and Labrador for its Junior Exploration Program.

Search Minerals was selected to participate in the Government of Canada Accelerated Growth Service ("**AGS**") initiative, which supports high growth companies. AGS, as a 'one-stop shop' model, provides Search with coordinated access to Government of Canada resources as Search continues to move quickly to production and contribute to the establishment of a stable and secure rare earth element North American and European supply chain.

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