Search Minerals Completes Zirconium Recovery Testing at SGS Canada Inc.

written by Raj Shah | January 12, 2021

January 12, 2021 (Source) – **Search Minerals Inc. (TSXV: SMY)** ("**Search**" or the "**Company**") is pleased to report that SGS Canada Inc. ("**SGS**") has reported on preliminary metallurgical testing on a channel sample from **SILVER FOX** for recovery of a zirconium mineral concentrate. **SILVER FOX** is the fourth major mineralized zone in the Port Hope Simpson – St. Lewis Critical Rare Earth Element ("CREE") District and is enriched in zirconium content in comparison to **FOXTROT** and **DEEP FOX** Resources (see Search Minerals new release October 22, 2020).

HIGHLIGHTS – ZIRCONIUM RECOVERY TESTING

- **A SILVER FOX** sample weighing approximately 17 kilograms was delivered to SGS from the channel sample program;
- SGS completed chemical and mineralogical analysis of the sample.
  - The sample analyzed 4.26% ZrO_2 and 0.08% HfO_2 and 1.02% TREO
  - The zirconium mineral identified was Zircon ($ZrSiO_4$) at a grade of ~6.5% and a mineral particle size of 19 um (P50)
  - Zircon was analyzed by Electron Probe Micro Analysis (EPMA) and showed the zircon was very clean of impurities with an average ZrO_2 content of 66.1%
- Mineral processing studies indicated;
  - The sample was ground to 100% passing 53 um to ensure zircon liberation

- Iron oxides in the sample were predominantly magnetite. Davis Tube and Low Intensity Magnetic Separation (LIMS) removed iron as a high grade iron oxide concentrate
- Wet High Intensity Magnetic Separation (WHIMS) at a magnetic intensity of 15,000 Gauss successfully recovered 70-85% of the light and heavy REEs into the magnetic concentrate in ~10% of the feed mass with only 11% zircon loss.
- The WHIMS tails were floated under different conditions in a series of 5 tests. A fatty-acid collector was effective at zircon concentration while addition of a benzohydroxamic acid collector improved rejection of silica

- The combination of LIMS, WHIMS and Flotation yielded the following results including float test 5. Float test 5 included 4 stages of open circuit cleaning.

Product	Mass, %	Analysis, %			Distribution, %		
		ZrO_2	SiO_2	Fe_2O_3	ZrO_2	SiO_2	Fe_2O_3
LIMS Mag Conc.	8.7	1.09	10.9	87.4	2.2	1.3	73.7
WHIMS Mag Conc.	8.3	4.82	42.4	22.0	9.4	4.7	17.8
Float Rougher Conc.	14.4	22.2	62.1	2.26	74.6	12.1	3.2
Float 4^{th} Clean Conc.	3.1	43.0	36.4	1.14	31.3	1.5	0.3
Head (direct)		4.26	73.0	9.80			

- These results showed that (1) iron could be rejected by LIMS, (2) the REE's could be concentrated by WHMIS and (3) the zircon could be floated to produce a 43% ZrO2 concentrate. This is equivalent to a 64% Zircon concentrate (ZrSiO4)
- SGS commented in their report, "Overall, the results obtained in this test work program were quite promising

and further test work is recommended to optimize the flowsheet developed to produce zircon, REE, and magnetite concentrates. Given that only five flotation tests were carried out in this program, there remains significant potential to improve flotation performance to reduce zircon losses to the cleaner tailings and further increase concentrate zircon grade by evaluating options to address the calcite and fluorite that appear to report to this product."

Greg Andrews, President/CEO states, "This test work demonstrates the potential to produce a zirconium/hafnium concentrate from the Silver Fox deposit. Furthermore, the use of WHIMS to recover a REE concentrate represents a potential breakthrough in processing. The treatment of a REE concentrate would dramatically reduce the size of a Direct Extraction plant for REE recovery. Similarly, the use of acids and bases and other reagents would be significantly reduced. Search Minerals will follow up on these results and test the processing method for application at Foxtrot, Deep Fox and Fox Meadow mineralization. Search Minerals appreciates and thanks ACOA and InnovateNL for their continued support received to undertake this study."

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 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. The Company controls a belt 63 km long and 2 km wide and is road accessible, on tidewater, and located within 3 local communities. Search has completed a preliminary economic assessment report for **FOXTROT**, and a resource estimate for **DEEP FOX**. 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 generous support from the Department of Tourism, Culture, Industry and Innovation, Government of Newfoundland and Labrador,("**InnovateNL**") and from the Atlantic Canada Opportunity Agency ("**ACOA**"). We have completed two pilot plant operations and produced highly purified mixed rare earth carbonate concentrate and mixed REO concentrate for separation and refining.

For further information, please contact:

Greg Andrews
President and CEO
Tel: 604-998-3432
E-mail: info@searchminerals.ca

Neither the TSX Venture Exchange nor its Regulation Services Provider (as that term is defined in the policies of the TSX Venture Exchange) accepts responsibility for the adequacy or accuracy of this release.

Not for distribution to U.S. Newswire Services or for dissemination in the United States. Any failure to comply with this restriction may constitute a violation of U.S. securities laws.

Cautionary Statement Regarding “Forward-Looking” Statements:

This news release includes certain “forward-looking information” and “forward-looking statements” (collectively “forward-looking statements”) within the meaning of applicable Canadian and United States securities legislation including the United States Private Securities Litigation Reform Act of 1995. All statements, other than statements of historical fact, included herein, without limitation, statements relating the future operating or financial performance of the Company, are forward-looking statements.

Forward-looking statements are frequently, but not always, identified by words such as “expects”, “anticipates”, “believes”, “intends”, “estimates”, “potential”, “possible”, and similar expressions, or statements that events, conditions, or results “will”, “may”, “could”, or “should” occur or be achieved. Forward-looking statements in this news release relate to, among other things, future technical results from the Company’s recent Company’s drilling program and closing of the metallurgical testing. Actual future results may differ materially. There can be no assurance that such statements will prove to be accurate, and actual results and future events could differ materially from those anticipated in such statements. Forward-looking statements reflect the beliefs, opinions and projections on the date the statements are made and are based upon a number of assumptions and estimates that, while considered reasonable by the respective parties, are inherently subject to significant business, economic, competitive, political and social uncertainties and contingencies. Many factors, both known and unknown, could cause actual results, performance or achievements to be materially different from the results, performance or achievements that are or may be expressed or implied by such forward-looking statements and the parties have made assumptions and estimates based on or related

to many of these factors. Such factors include, without limitation, the risk that the Company is not able to find suitable investors for the Offering or does not receive the approval of TSX Venture Exchange. Readers should not place undue reliance on the forward-looking statements and information contained in this news release concerning these times. Except as required by law, the Company does not assume any obligation to update the forward-looking statements of beliefs, opinions, projections, or other factors, should they change.