Search Minerals expands their rare earths discovery with critical materials' zirconium and hafnium

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As the West looks to establish a non-Chinese source of supply of critical rare earth elements, one Canadian company has been successfully expanding its rare earths project, as well as discovering some additional valuable metals like zirconium (Zr) and hafnium (Hf).

Zirconium dioxide (ZrO_2) is used in laboratory crucibles, metallurgical furnaces, as a refractory material, and in ceramics (including use in dental ceramics); because it is mechanically strong and flexible. Zircon ($ZrSiO_4$) and the cubic zirconia (ZrO_2) are cut into gemstones for use in jewelry. Ceria-zirconia is widely used as a component in current three-way catalytic converters.

Zirconium is used in ceramics, jewelry, dentistry, and catalytic converters

Hafnium is a good absorber of neutrons and is used to make control rods, such as those found in nuclear power plants and submarines.

Hafnium is used in some superalloys for special applications such as jet engine turbines in combination with niobium, titanium, or tungsten. Hafnium oxide is used as an electrical

insulator in microchips, filaments and electrodes.

Hafnium is used in superalloys, nuclear rods in nuclear submarines, microchips, and jet engine turbines

Search Minerals discovers zirconium and hafnium

Search Minerals Inc. (TSXV: SMY) recently announced that they have discovered zirconium and hafnium, in addition to their existing valuable rare earths dysprosium (Dy), neodymium (Nd), praseodymium (Pr), terbium (Tb) and yttrium (Y). The discovery was made at their Silver Fox Deposit.

With regards to the Silver Fox discovery Search Minerals stated: "This surface expression is significantly longer, but thinner, than the surface expressions of the nearby and related **FOXTROT** and **DEEP FOX** Resources. The mineralization is similarly hosted by peralkaline volcanic rocks and contains slightly lower grades of the REE magnet materials (Nd, Pr, Tb and Dy) but significantly higher grades of Zr and Hf."

Dr. David Dreisinger commented: "The objective of metallurgical testing of the **SILVER FOX** (and other deposits) will be to recover a high grade zirconium by-product for sale with minimal processing cost and complexity. Search is engaged with our technology advisor, SGS Canada, to identify process flowsheet options."

Search Minerals expands the mineralized zone at Fox Meadow

Search Minerals also recently announced that they have successfully expanded the critical rare earth element mineralized zone at Fox Meadow. The Company stated:"The trenching/channelling programs at **FOX MEADOW** have outlined a mineralized zone of up to 123.6 m wide and at least 500m in

strike length; mapping and airborne magnetic anomalies suggest that the zone is up to 650m long. In contrast, both the **DEEP FOX** and **FOXTROT** mineralized resources are about 350-450m long and up to 40m thick."

About Search Minerals

Search is focused on finding and developing critical rare earth element mineral assets in Labrador, Canada. The Company controls properties in three distinct areas of this region; the Port Hope Simpson (PHS) Critical Rare Earth Element District in SE Labrador; the Henley Harbour Area in Southern Labrador; and the Red Wine Complex located in Central Labrador.

Within the Port Hope Simpson District, Search's main discoveries are the Foxtrot Resource, Deep Fox, Fox Meadow, and Silver Fox deposits which contain rare earths including dysprosium (Dy), neodymium (Nd), praseodymium (Pr), terbium (Tb) and yttrium (Y).

The flagship Foxtrot Resource covers a 70 km long and 8 km wide belt. At Foxtrot the Total Indicated Resource is 7.392 million tonnes with grades of neodymium oxide (1,732ppm), neodymium (1,485ppm), praseodymium (397ppm), and dysprosium (191ppm).

The 14 year LOM Foxtrot Project offers an IRR of 16.7% on an after tax NPV10% of $48 million, with a CapEx of $152 million.

Investors should note the NPV quoted above is only for the Foxtrot Project, so once the other projects are combined into a bigger project the NPV should improve materially.

Closing remarks

Search Minerals is both expanding their existing very promising rare earths project as well as finding other valuable metals zirconium and hafnium. Investors will need some patience, as more exploration work needs to be done to further grow the

resource and improve on the economics.

Combined with an excellent management team, and strong Government and local support, the Company continues to advance their Port Hope Simpson District project at a steady pace. Rare earths expert Jack Lifton recently stated about Search Minerals: “I think it may well be Canada’s first commercial rare earth producer.”

With a market cap of just C$9 million there is plenty of potential upside ahead for investors if Jack is right.