

The **Nechalacho Rare Earth Elements (“REE”) Project**, Thor Lake, NWT, Canada, is an advanced, large rare earth development project. Demand for the REE used in the manufacture of high strength permanent magnets – particularly neodymium, praseodymium and dysprosium - is increasing, and prices for these three REE in China rose by approximately 50% in 2017. With a completed Feasibility Study and approved environmental assessment, the Nechalacho REE Project is uniquely positioned to bring a new supply of critical technology metals to the marketplace.

The Nechalacho property is a rich polymetallic rare metals resource, with additional potential for economic recovery of beryllium, lithium, zirconium, niobium, and tantalum. Presence of high grade, near surface neodymium-praseodymium (Nd-Pr) and dysprosium resources in the T-Zone and Lake Zone also provide the potential for near-term, small-scale development to produce Nd-Pr rich concentrates for export. These zones are the focus of renewed development work for the project in 2018/19.

Project Development

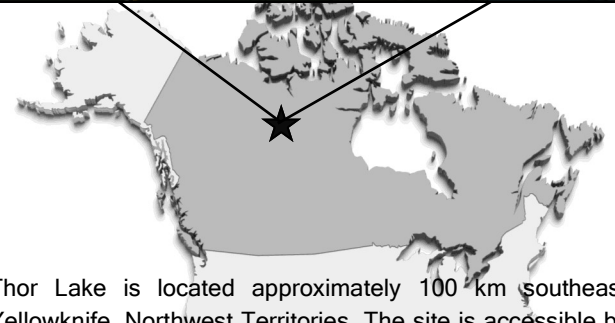
Since acquiring the property in 2005, Avalon has invested over USD\$80 million to further explore and develop the Nechalacho REE Project. This has included metallurgical, environmental and market studies and 120,197 metres of diamond drilling in 559 holes resulting in NI 43-101 compliant measured, indicated and inferred resources in a high grade sub-zone called the Basal Zone.

While Avalon's 2013 Feasibility Study focused on the heavy rare earth-rich Basal Zone of the Nechalacho deposit, the property hosts other near surface Nd-Pr rich deposits in the T-Zone, F-Zone and Tardiff Lake Zones.

2018/19 Plans

- Complete scoping study on East Arm-Yellowknife Road / Hydro infrastructure corridor (in progress)
- Process testwork on low-cost method for Nd-Pr concentrate recovery by ore sorting technology
- Prepare scoping study on small scale development model for F-Zone and Tardiff Zones Nd-Pr resources
- Re-sample old drill cores to analyze for lithium and establish initial T-Zone lithium resource estimate
- Resume permitting process and community engagement toward identifying local Indigenous business partners

Location and Infrastructure



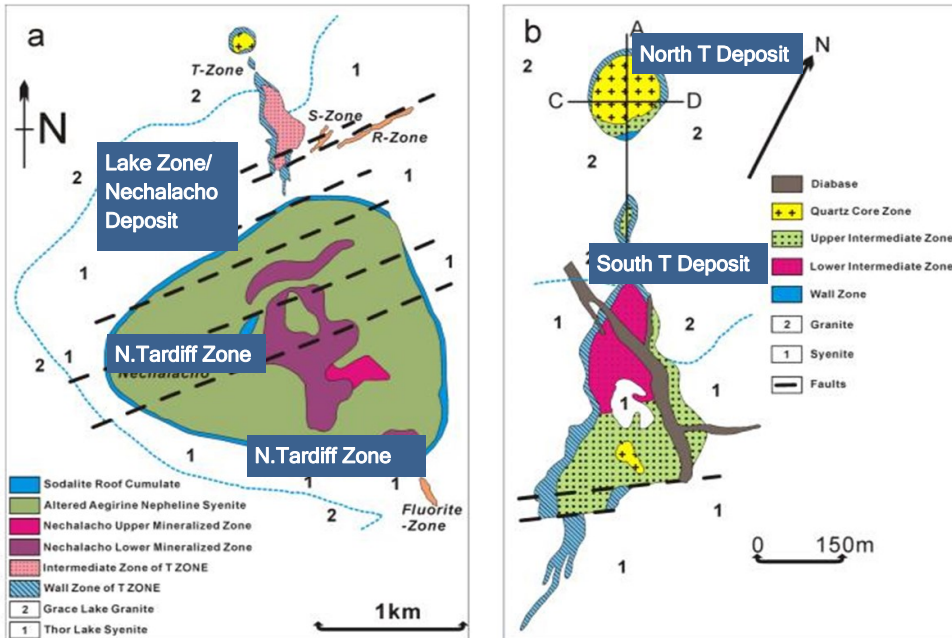
Thor Lake is located approximately 100 km southeast of Yellowknife, Northwest Territories. The site is accessible by air transport, barge in the summer and ice roads in the winter. Hay River is a port with an existing barging terminal and the Hay River railhead is accessible year round by an all-season highway.

A proposed expansion of hydro power generation and transmission capacity in the NWT potentially offers Nechalacho a low-cost alternative to diesel-generated power at the site. Mine and processing facilities have been designed to significantly minimize impacts to water, land and air and reduce the project's carbon footprint.

Lithium Potential

- The S-Zone and North and South T-Zones at Thor Lake are all polyolithionite (“lepidolite” - a lithium mineral) bearing.
- The North T-Zone has polyolithionite, with 6.97% Li₂O predominantly in the Upper Intermediate Zone.
- The South T-Zone has reported 2.39Mt of low grade beryllium mineralization with no analyses for lithium - but abundant polyolithionite reported.
- R and S-Zones have polyolithionite (6.6% Li₂O in mineral) on surface, but not drilled. The S-Zone trench samples average 1.0% Li₂O.

Known Mineralized Zones



Measured and Indicated Resources in the Basal Zone at Various NMR Cut-Offs As at August 15, 2013

Basal Zone	Tonnes (millions)	% TREO	% HREO	% HREO/TREO	% ZrO ₂	% Nb ₂ O ₅	% Ta ₂ O ₅
US\$345 NMR Cut-Off (Reflects entire Basal Zone)							
Measured	12.56	1.71	0.38	22.50	3.20	0.405	0.0404
Indicated	49.33	1.62	0.35	21.27	3.07	0.405	0.0398
US\$800 NMR Cut-Off (Approximately Reflects High Grade "Basin")							
Measured	5.11	2.20	0.58	26.17	4.23	0.52	0.0544
Indicated	16.15	2.20	0.55	24.87	4.13	0.52	0.0542
US\$1,000 NMR Cut-Off (Selected parts of High Grade "Basin")							
Measured	2.49	2.49	0.68	27.38	4.77	0.59	0.0620
Indicated	6.99	2.52	0.66	26.03	4.66	0.58	0.0614

Operations Management Team

- Dave Marsh, FAusIMM (CP), SVP Metallurgy & Technology Development
- Bill Mercer, Ph.D., P.Geo., VP Exploration
- Mark Wiseman, B.Sc., MBA, VP Sustainability
- Pierre Neatby, BA, VP Sales & Marketing

Environmental Studies and Permitting

While permits for pre-construction work are already in place, the Company must obtain the Class A Water Licence and Land Use Permit authorizing mine construction, operation and closure activities. Once there is renewed investor interest, the process will be accelerated with the expectation that it can be completed in approximately 4-6 months.

Feasibility Study Model

Avalon's 2013 Feasibility Study contemplated production of a mixed rare earth precipitate and enriched zirconium concentrate ("EzC"), containing by-product tantalum and niobium from a hydrometallurgical plant originally conceived for Pine Point, NWT; however, an alternative hydrometallurgical process has been developed that would involve a different reagent suite designed to crack the EZC and requires additional infrastructure than is presently unavailable in the NWT. The Feasibility Study estimated combined production of 9,286 tonnes per annum TREO, plus by-products zirconium, niobium and tantalum.

The 2013 Financial Analysis covered mining, mineral concentration, hydrometallurgical processing, refining and all related infrastructure. Results of the discounted cash flow analysis produced for the Feasibility Study yielded a pre-tax IRR of 22.5% and an NPV at a 10% discount rate of USD\$1.08 billion, with a payback period of 4.3 years and a USD\$1.26 billion capital cost.



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The technical information contained in this document has been reviewed and approved by Bill Mercer, Ph.D., P.Geo. (ON), P.Geo. (NWT), Vice President Exploration of Avalon and Donald Bubar, P.Geo. (ON), President and CEO of Avalon, the qualified persons for the purposes of National Instrument 43-101. For additional information on the Nechalacho Rare Earth Elements Project, see the technical report entitled "Technical Report Disclosing the Results of the Feasibility Study of the Nechalacho Rare Earth Elements Project," dated May 31, 2013 and effective April 17, 2013.

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