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## **NEWS RELEASE**

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# Avalon Reports Promising Initial Results from Nechalacho Project Metallurgical Process Optimization Work

Toronto, ON -- Avalon Rare Metals Inc. (TSX and NYSE MKT: AVL) ("Avalon" or the "Company") is

Toronto, ON -- <u>Avalon Rare Metals Inc.</u> (<u>TSX</u> and <u>NYSE MKT</u>: AVL) ("Avalon" or the "Company") is pleased to provide a progress update on its Nechalacho Rare Earth Elements Project, Thor Lake, NWT (the "Project"). The Company has been focusing on optimizing the Project development model outlined in its Feasibility Study ("FS"), the results of which were released on <u>April 17, 2013</u>. Optimization goals include lowering capital and operating costs, reducing environmental impacts, enhancing metallurgical recoveries and improving overall operational efficiency.

Highlights from the recent work include a potentially significant simplification of the Concentrator flowsheet, taking advantage of an improved flotation reagent scheme and alternative grinding technology. In addition, an optimized hydrometallurgical process has been identified to crack all the minerals in the flotation concentrate with potential to improve heavy rare earth ("HREE") recoveries to over 90% along with improved zirconium, tantalum and niobium recoveries. This process would replace the previous sulphuric acid bake process, which generated the Enriched Zirconium Concentrate ("EZC") as a byproduct, and has the potential to significantly enhance product revenues. A pilot plant trial of the simplified Concentrator flowsheet is now underway at SGS Minerals Services ("SGS"), to be followed by a pilot plant trial of the optimized hydrometallurgical process, once bench scale work is complete in later this month.

#### CONCENTRATOR PROCESS IMPROVEMENTS

In the Concentrator design, the crushing and milling circuits have been reviewed and a simpler, more energy-efficient circuit has been developed. This circuit has only a single stage of crushing (as opposed to the three stages in the FS model), followed by a Semi-autogenous ("SAG") mill and two Vertical mills. Capital and operating costs should be lower with this new configuration and the amount of slimes generated for tailings disposal would be reduced with an associated reduction in potential environmental impacts.

Bench scale flotation work has identified an alternative reagent suite which appears capable of matching (and for some elements, improving) previous flotation performance while eliminating the need for both desliming prior to flotation and gravity enrichment of the flotation concentrate. The reagent suite also allows for open circuit cleaning, thereby significantly reducing any circulating loads, allowing smaller equipment to be used and simplifying the operation. The pilot plant trial of this flowsheet in progress at SGS, will confirm process performance and engineering design criteria. Environmental testing is also ongoing to validate the anticipated improvement in environmental performance.

### HYDROMETALLURGICAL PROCESS IMPROVEMENTS

For the Hydrometallurgical Plant, opportunities for improving leaching efficiency have been identified with longer kiln residence times and higher temperatures. In addition, considerable work has been performed evaluating options for improving the recovery of HREE using various combinations of acids, alkalis and elevated temperatures.

This work has indicated that total HREE recoveries exceeding 90% can potentially be achieved for all HREE directly from the flotation concentrate (without prior sulphuric acid baking, as contemplated in the original design). A preliminary flowsheet has been developed and further testwork is in progress, with the aim of determining the process design criteria for each of the unit operations and optimizing reagent requirements. A pilot plant trial of this flowsheet is scheduled to commence at SGS later this month.

Successful implementation of this process has the potential to enhance project economics considerably and remove the necessity for marketing the EZC as a final product. However, initial estimates of increased power and reagent consumption associated with this process would necessitate consideration of alternative locations for the Hydrometallurgical Plant. Regardless of location, the Hydrometallurgical Plant would still produce a mixed rare earth precipitate (which is the feed for the Refinery) along with a high quality zirconium chemical product plus valuable niobium and tantalum oxides as by-products, all of which were previously locked up within the EZC material.

Improved processes for the removal of impurities from the mixed rare earth precipitate product have also been developed. These improved processes would enable the consolidation of impurity removal steps in environmentally stable forms at the Hydrometallurgical Plant site. The impurity removal flowsheet has been successfully tested in a pilot plant trial conducted at Mintek in Johannesburg, RSA. The product from this flowsheet would be suitably "clean" for feeding into any conventional rare earth refinery.

Finally, a potential method for extracting lanthanum and cerium (the two highest volume and lowest value rare earths products) at the Hydrometallurgical Plant has also been identified, which could greatly reduce the amount of mixed rare earth precipitate to be transported to the proposed Refinery in Geismar, USA for separation. Accordingly, the capacity of the Refinery would be reduced by approximately 50% with attendant potential cost savings.

### PROJECT SCHEDULE and RISK ASSESSMENT

The target date for achieving commercial operations remains 2017 but the start date for beginning construction work remains uncertain due to the present challenging market conditions for raising project financing. Pre-construction development work planned for this summer has been delayed and the construction schedule will need to be compressed in order to meet the 2017 target completion date. The Project optimization opportunities discussed above, if successfully implemented, could help the Company achieve the 2017 target date.

Timing on securing off-take agreements and Project financing remain the most significant risk factors impacting the project schedule in the current depressed global economic environment. Efforts to identify strategic partners and other sources of capital are ongoing. The key factors going forward influencing the timely execution of the Project are: securing a strategic or financial partner, timely receipt of all requisite operating permits and approvals, securing sufficient binding agreements for off-take to support project financing, and the availability of equity and debt financing on reasonable terms.

### **About Avalon Rare Metals Inc.**

Avalon Rare Metals Inc. is a mineral development company focused on rare metal deposits in Canada. Its flagship project, the 100%-owned Nechalacho Deposit, Thor Lake, NWT is exceptional in its large size and enrichment in the scarce 'heavy' rare earth elements, key to enabling advances in clean technology and other growing high-tech applications. With a positive feasibility study and environmental assessment completed, Nechalacho remains the most advanced potential large new source of heavy rare earths in the world outside of China, currently the source of over 95% of the world supply. Avalon is well funded, has no debt and its work programs are progressing steadily. Social responsibility and environmental stewardship are corporate cornerstones.

more about please To find out Avalon Rare Metals Inc., visit our website at www.avalonraremetals.com. For questions and feedback, please e-mail the Company at ir@avalonraremetals.com, or phone Don Bubar, President & CEO at 416-364-4938. Shares Outstanding: 103,796,986. Cash resources: approximately \$12 million.

This news release contains "forward-looking statements" within the meaning of the United States Private Securities Litigation Reform Act of 1995 and applicable Canadian securities legislation. Generally, these forward-looking statements can be identified by the use of forward-looking terminology such as "scheduled", "anticipates", "continues", "expects" or "does not expect", "is expected", "scheduled", "targeted", "planned" or "believes", or variations of such words and phrases or state that certain actions, events or results "may", "could", "would", "might" or "will be" or "will not be" taken, reached or result, "will occur" or "be achieved". Forward-looking statements contained herein include, without limitation, the Company's expectations in connection with its optimization of the proposed development model for the Project; the impact of a simplification of the concentrator flowsheet; the impact of an alternative hydrometallurgical process on the Project; the final pilot plant test results; the potential for enhancement of Project economics; the potential for improved processes for the removal of impurities; the estimated target date for achieving commercial operations in 2017 and the impact that potential Project optimization opportunities may have on this goal; the timing for securing a potential strategic or financial partner, receiving requisite operating permits and approvals, securing sufficient binding agreements for off-take to support project financing and the availability of equity and debt financing on reasonable terms. Forward-looking statements are subject to known and unknown risks, uncertainties and other factors that may cause the actual results, level of activity, performance or achievements of Avalon to be materially different from those expressed or implied by such forwardlooking statements. Forward-looking statements are based on assumptions management believes to be reasonable at the time such statements are made. Although Avalon has attempted to identify important factors that could cause actual results to differ materially from those contained in forwardlooking statements, there may be other factors that cause results not to be as anticipated, estimated or intended. Factors that may cause actual results to differ materially from expected results described in forward-looking statements include, but are not limited to: Avalon's ability to secure sufficient financing to advance and complete the Project, uncertainties associated with securing the necessary approvals and permits in a timely manner, assumptions used in the Feasibility Study proving to be inaccurate, uncertainties associated with Avalon's resource and reserve estimates, uncertainties regarding global supply and demand for rare earth materials and market and sales prices, uncertainties associated with securing off-take agreements and customer contracts, uncertainties with respect to social, community and environmental impacts, uncertainties with respect to optimization opportunities for the Project, as well as those risk factors set out in the Company's current Annual Information Form, Management's Discussion and Analysis and other disclosure documents available under the Company's profile at www.SEDAR.com. There can be no assurance that such statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Such forward-looking statements have been provided for the purpose of assisting investors in understanding the Company's plans and objectives and may not be appropriate for other purposes. Accordingly, readers should not place undue reliance on forward-looking statements. Avalon does not undertake to update any forward-looking statements that are contained herein, except in accordance with applicable securities laws.