



130 Adelaide St. W., Suite 1901, Toronto, ON. M5H 3P5
Tel: (416) 364-4938 Fax: (416) 364-5162
ir@avalonraremetals.com
www.avalonraremetals.com

NEWS RELEASE

December 12, 2013

No. 13-15

Avalon's Nechalacho Project Metallurgical Process Optimization Yielding Improved REE Recoveries

Toronto, ON -- [Avalon Rare Metals Inc.](#) ([TSX](#) and [NYSE MKT](#): AVL) ("Avalon" or the "Company") is pleased to report that metallurgical process optimization work on its Nechalacho Rare Earth Elements ("REE") Project, Thor Lake, NWT (the "Nechalacho Project") is yielding improved flotation and hydrometallurgical recoveries, which are expected to beneficially impact project economics.

The combined test results of the updated flowsheets for both the Concentrator and Hydrometallurgical Plants indicate that the overall recoveries of heavy rare earth elements ("HREE") to the Refinery feed would now be in excess of 80% compared to approximately 42% in the [April 2013 Feasibility Study](#) (the "FS").

Although preliminary estimates of the capital and operating costs associated with these new processes are higher than those contained in the FS, it is anticipated that the increased revenues from the additional HREE production will still yield an overall improvement of project economics.

Process design criteria, plant designs and cost estimates for both the Concentrator and Hydrometallurgical Plant are currently being reworked along with revisions to the Mine Plan, and the results of this work will be used to produce an updated technical report in early 2014.

CONCENTRATOR

Over the past four months laboratory testwork and a pilot plant trial of an updated Concentrator flowsheet have been completed at SGS Minerals Services ("SGS"). This work has confirmed an overall improvement in REE flotation recoveries to approximately 89% (compared to approximately 78% in the FS) using a simpler and easier to operate flowsheet.

These results were achieved using a flowsheet without de-sliming ahead of flotation, with no gravity enrichment of final concentrate and with zero recycling of tailings from the four stages of cleaner flotation; all of which will reduce capital requirements and result in a simpler plant to operate. The principal change has been the introduction of a superior reagent suite together with an increase in the flotation mass pull from 18.0% to 21.4%. A trade-off study of the optimal mass pull for the Concentrator is currently underway.

The process design criteria and the Concentrator plant design were updated as test results became available. This exercise has also incorporated more energy-efficient crushing and grinding circuits in which the crushing has been reduced from a three stage circuit to a single stage and semi-autogenous grinding or "SAG" plus Vertical mills have replaced the original Rod/Ball mill configuration.

Environmental testing of the new tailings composition from the modified reagent suite has indicated no negative impacts on environmental performance. The simplified flowsheet is anticipated to improve environmental performance through reduced energy use, reduced carbon dioxide emissions and improvements in water treatment efficiencies.

HYDROMETALLURGICAL PLANT

The flowsheet optimization work for the Hydrometallurgical Plant has resulted in the development of an alkali cracking process to replace the sulphuric acid baking used to treat the flotation concentrate in the FS. Although optimization of this flowsheet continues, a pilot plant of the updated flowsheet has now been successfully completed at SGS.

The sulphuric acid baking process utilized in the FS resulted in approximately 47% of the HREE contained in the flotation concentrate (as well as the niobium and tantalum) remaining trapped in the Enriched Zirconium Concentrate (“EZC”) specialty by-product. The alkali cracking process successfully alters (or “cracks”) the zircon in the flotation concentrate which enables the contained HREE (and most of the zirconium) to be released into solution. Total HREE recoveries reporting to the Refinery will now be in excess of 90% of the HREE in the flotation concentrate, as opposed to the approximately 52% recovery contemplated in the FS. In addition, the alkali cracking process allows for the recovery of zirconium as zirconium basic sulphate, a product which, unlike EZC, already has established markets.

Light rare earth element (“LREE”) leach recoveries are also generally improved with the new flowsheet (with the exception of cerium which becomes oxidised during the cracking process, making it less amenable to the acid leaching). The new processes do not result in any changes to environmental performance or waste stream quality.

Continuing work is focused on the early removal of lanthanum and cerium (two of the highest volume and lowest value oxides) which could greatly reduce the volume of the mixed rare earth precipitate to be transported to the Refinery, and upgrading the recovery process of niobium and tantalum to create separate salable products.

MINE PLAN OPTIMIZATION

A review of the Mine Plan used in the FS has also been carried out to determine the most appropriate mining method to be used and to optimize the grade of the ore recovered. Particular consideration was given to the mining cost, the undulating floor of the Basal Zone, the changing Basal Zone thickness, and the need to be able to maintain a relatively constant grade of the feed to the Concentrator. A hybrid mining method consisting of “drift and fill” primary stopes, and “up-hole” bulk mining (uppers for the secondary stopes) was selected.

A four-hole summer drilling program was completed at the Nechalacho Project site with the objective of better defining high grade mineralization previously intersected by wide-spaced drill holes close to the proposed location of the access ramp. This high grade ore would be accessible early in mine development and potentially for use as direct shipping ore for Hydrometallurgical Plant commissioning.

The program successfully confirmed the presence of high grade ore near the proposed access ramp location, with one hole intersecting 12.1 metres averaging an impressive 2.82% TREO and 29.9% HREO/TREO in the lower part of the Basal Zone. These results do not materially affect the overall resource estimate reported in the [Company News Release dated August 15, 2013](#).

Geological modelling of the resource continues and a new resource model will be incorporated into an updated mine plan. The Qualified Person for the resource information in this News Release is William Mercer, PhD, P. Geo. (Ontario), P. Geo. (NWT), Vice President, Exploration, Avalon Rare Metals Inc., and

the Qualified Person for the other technical and scientific information in this News Release is David Marsh, B.Sc (Hon.), FAusIMM (CP), Senior Vice President, Metallurgy, Avalon Rare Metals Inc. Dr. Mercer is also providing overall direction on the drilling and monitoring of the QA/QC on the laboratory analyses. A detailed summary of the results of the summer drilling program is available on the Company web site at www.avalonraremetals.com/resources/nechalacho/2013_Summer_Drilling_Reults.pdf.

About Avalon Rare Metals Inc.

Avalon Rare Metals Inc. is a mineral development company focused on rare metal deposits in Canada. Its 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, the Nechalacho Project remains the most advanced potential large new source of heavy rare earths in the world outside of China, currently the source of most of the world's supply. Avalon is adequately funded, has no debt and its work programs are progressing. Social responsibility and environmental stewardship are corporate cornerstones.

For questions and feedback, please e-mail the Company at ir@avalonraremetals.com, or phone Don Bubar, President & CEO at 416-364-4938.

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", "expects" or "does not expect", "is expected", "scheduled", "targeted", or "believes", or variations of such words and phrases or state that certain actions, events or results "may", "could", "would", "might" or "will be taken", "occur" or "be achieved". Forward-looking statements contained herein include, without limitation, the Company's beliefs and expectations concerning improvements in REE flotation recoveries, the simplification and ease of operation of the Concentrator flowsheet, improvement of the Concentrator's environmental performance, and improvements in HREE and LREE recoveries using alkali cracking. 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 forward-looking 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 forward-looking 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 Nechalacho Project, uncertainties associated with securing the necessary approvals and permits in a timely manner, assumptions used in the FS 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.