

Briefing Note  
Provided to the House Natural Resources Committee  
Subcommittee on Energy and Mineral Resources Oversight Hearing  
“America’s Mineral Resources: Creating Mining and Manufacturing Jobs and Securing America”  
March 21, 2013

Avalon Rare Metals Inc. is Canadian headquartered mineral development company, publicly traded in Toronto and New York, with a primary focus on the rare metals and minerals in North America. Americans comprise a high proportion of our current shareholders.

Our flagship project, the 100%-owned Nechalacho Rare Earth Element Deposit, Thor Lake, Northwest Territories, Canada is one of the largest undeveloped rare earth elements resources in the world. Its exceptional enrichment in the more valuable Heavy Rare Earth Elements (HREEs) is key to enabling advances in clean energy technologies, national defense and other growing high-tech applications. Nechalacho is one of the few potential sources of these critical elements outside of China, currently the source of over 95% of the world supply.

Avalon is well funded to complete its Feasibility Study (expected in Q2 2013) and has no debt. Our project includes a mine and processing facility in the Northwest Territories of Canada and plans for a refinery in Geismar, Louisiana. This project will cost over \$1.2 billion to build. It is one of very few projects outside China to be at the final Feasibility stage, the last stage before full project financing is secured and construction begins.

Avalon also explores for and owns other rare metals and minerals project in Canada and the US, of which two are at advanced stages of development: Separation Rapids (lithium) in Ontario, and East Kemptville, Nova Scotia, a tin-indium-gallium-germanium project where large inferred resources have been identified requiring further drilling to bring the project to the pre-feasibility stage.

Avalon is proud to be a charter member of the Rare Earths Technology Alliance (RETA), a Washington, DC-based international industry association (non-lobbyist) whose membership includes producers and users of rare earths and also includes academic institutions engaged in rare earths research and development. RETA’s primary goal is to promote the development of the rare earth industry through education, market development and dealing with common issues facing the industry. It is in that spirit of education and insight into this emerging industry, in recognition of the U.S.-Canada trade relationship, and in support of clean technologies and their contribution to future growth economies that we appear before the committee today to support the RARE Act of 2013.

### **Rare Earths: Jobs and Economic Growth**

According to the Industrial Minerals Corporation of Australia (IMCOA), an Australian-based authority on the rare earth market, rare earth demand is expected to grow at a rate of 7-12% per year to 2020. Rare earths are used in a multitude of applications, many in the clean energy sector. These include electric and hybrid vehicles, wind turbines, solar panels, and energy-efficient lighting. The next few years will be crucial to the clean energy sector as it develops. Rare earth magnets and phosphors are key building blocks for companies developing these technologies and they need access to a competitive and secure rare earth supply chain to prosper.

Other end use applications include smart phones, oil refining catalysts, MRI machines, other medical diagnostics and treatments, and various military applications. Demand outside China is expected to grow from 35,000 tonnes in 2012 to 55,000 tonnes in 2016. This increase in demand assumes that export quotas from China will remain around 30,000 tonnes and that no new export restrictions on rare earths are imposed so that rare earth consuming industries outside China will be allowed to grow.

### **China's Dominance: Threat to jobs in the US and North America.**

Today, China produces over 95% of the world's rare earth elements, even as new sources are being developed in other countries, including the US, Canada, and Australia. However, China has been implementing a range of policies to control its domestic rare earth industry: reducing the number of companies involved in the extraction and processing of rare earths, imposing limits on foreign ownership in the rare earth sector, imposing export taxes, export quotas, curbing illegal mining, implementing and enforcing strict environmental regulations, and attempting to set prices. The outcome of these policies is reduced availability of rare earths outside China, higher prices and potentially greater price volatility outside China and the threat of further export restrictions, which ultimately create the potential for severe supply shortages. While we currently see relatively low rare earth prices, our interest is that when they spike again, the US and North America should not be impacted as much as we have been. Industry experts believe export restrictions, specifically on the scarce heavy rare earths, are likely in the coming years. Western companies are essentially being forced to set up manufacturing inside China, which puts at risk their intellectual property and eliminates jobs in countries like the US. This is troublesome not only for Avalon, but other companies along the supply chain and should remain a major security concern for western governments.

### **The Importance of the Secure Supply Chain**

Avalon is pleased to see the introduction of the RARE Act of 2013 with its focus on conducting global census of the identity and availability of rare earths elements and an analysis of the supply chain. We believe that the results of this proposed undertaking will better inform industry participants and end-users on how all parties can work collaboratively to offset actions by a single monopolistic supplier (i.e., China) that can disrupt pricing, availability, and security of supply. Given the wide variety of applications of rare earths in many critical sectors such as clean

energy, defense and national security, we believe this type of assessment and analysis is more important than ever before.

I believe that the US Geological Service (USGS) and US-based experts like Technology Metal Research (TMR), have endeavored to identify the hundreds of potential rare earth deposits outside China. (For example TMR currently tracks the development of over 440 projects in 37 countries and closely follows some 46 projects it defines as 'advanced' in 14 countries). These projects will generally only produce mixed concentrates or possibly separated rare earth oxides, with very few projects pursuing the further value-added processing of such into phosphors, metals, alloys, magnets or motors which are essentially the products that consumers need. China's strategy has been to fulfill the needs of the full downstream processing supply chain and end products, generating more profits and, more importantly, creating more high skilled labor and greater job opportunities in China.

One suggested addition to H.R. 981 is to include recycling and human resources to the discussion about fulfilling the rare earth supply chain. Recycling is the key to an efficient use of resources in the rare earth supply chain to achieve low cost manufacturing. A diverse range of people (e.g. geologists; metallurgical, chemical, process engineers and technicians; business people, operators, researchers) are required to establish, maintain and improve a supply chain outside China.

It is not enough to establish mines and processing plants outside China. End consumers want reliable, long term, price competitive supply chains. Currently, some companies are specifying inferior solutions for certain applications due to fears of high prices or fear of lack of availability of neodymium and dysprosium (e.g. substituting ferrite and other magnets where rare earth magnets increase performance). This strategy is highly detrimental to longer term business and domestic economic development. Using less efficient inputs (such as ferrite magnets rather than rare earth magnets) in certain applications could lead to loss of competitiveness and replacement by most probably foreign-based suppliers, that can build more efficient products using superior raw materials.

The supply chain analysis that H.R. 981 would provide will help government and industry determine where the most sensitive and cost effective investment should take place and highlight the importance of investment at all levels of the supply chain to be able to effectively offer a secure alternative to China.

### **Corporate Social Responsibility**

Social responsibility and environmental stewardship are corporate cornerstones for Avalon. Avalon believes that environmental, economic and social responsibility are integral to the upstream and downstream activities used to create these critical materials; from exploration and development to production. In 2010, Avalon was recognized by the Prospectors and Developers Association of Canada with its award for Environmental & Social Responsibility.

Avalon is also one of only a very few junior resource companies in the world to have published a comprehensive Sustainability Report, prepared to the Global Reporting Initiative standard, in which Avalon fully discloses its policies and practices on social and environmental responsibility, including its performance against specific targets.

### **Permitting**

The permitting and environmental assessment process is different across the world, and is dependent upon the national and local jurisdictions in which the deposit and or operating facilities are to be established. Avalon's Nechalacho deposit is located in the Northwest Territories and is regulated under the Mackenzie Valley Resource Management Act. Avalon is nearing completion of the Environmental Assessment for the project, a critical step in the permitting process, and has already established strong community relationships with local Aboriginal groups where Avalon is considered an industry leader in best practice. In Geismar, Louisiana Avalon has an option on a property where permitting for a separation plant was initiated in December 2012 and is expected to be completed by the end of 2013.

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