### **Basic Materials – Rare Metals**

# **Avalon Rare Metals Inc.** (OTCQX: AVARF, TSX: AVL)

#### **Company Description:**

Avalon Rare Metals Inc. is exploring for and developing rare metals deposits in Canada. Its flagship project, the 100%-owned Nechalacho Deposit, located at Thor Lake in Canada's Northwest Territories, ranks as the world's largest undeveloped rare earth elements (REE) resource outside of China. The Nechalacho Deposit has exceptional enrichment in valuable 'heavy' rare earth elements ("HREE"), increasingly in demand for solar thin films, high strength magnets, wind turbines, LED lighting, rechargeable batteries and other green energy applications. Nechalacho is one of the few significant REE sources outside of China, which currently controls 95% of world REE supply but is steadily reducing amounts available for export - by 40% over the past seven years, according to the Journal of Energy Security. Avalon recently updated its resource estimates for the Basal and Upper Zones of the Nechalacho deposit by 100% to 2.5 million tonnes of contained TREO (Total Rare Earth Oxides) and probable reserves of 12 million tonnes at 170% TREO. Avalon has completed a Prefeasibility Study confirming positive economics for the project and has also successfully developed flotation and metallurgical processes for producing an REE mineral concentrate then upgrading it into a chemical concentrate. The Company has commenced permit processing and anticipates a start date for full capacity production in 2015, assuming construction activities begin in 2013.

#### **Informational Report Highlights:**

- 50% growth projected for \$1.25 billion REE market: From 2003 to 2008, global REE demand jumped by 50% and the value of production nearly tripled from \$500 million to \$1.25 billion. REE demand is forecast to rise at least 50% to 200,000 tons per year by 2015, driven by expanding use of REE in high tech, industrial and medical applications.
- Nechalacho is unusually rich in valuable HREE: Drilling samples indicate that Nechalacho is uniquely enriched with HREE. Samples graded 22% HREO (Heavy Rare Earth Oxide). Most REE deposits are primarily light elements with only 1% 3% HREE. Because of their relative scarcity, HREE command higher prices as much as 5X to 10X LREE prices.
- Avalon will be one of the first to market with new HREE production: Most of the new REE resources being developed outside China are LREE; Avalon owns the world's second largest undeveloped HREE resource. In addition, Avalon's project is in an advanced stage of development with production expected to commence within 5 years.

Avalon expects to quickly ramp up annual production to 10,000 tonnes of REE. The Company anticipates the market will readily absorb all it can produce since, even at 10,000 tonnes, Avalon's output is less than 5% of annual REE consumption. An independent consultant calculates a pre-tax Net Present Value for Nechalacho production of approximately \$385 million, or more than twice Avalon's current \$181 million market value, based on assumptions of an 18 year mine life, total project construction capital costs of \$810 million, an 8.0% discount rate and average operating costs over the life of the project of \$240 per ton of ore mined.

### **Informational Report**

Equity | Canada September 14, 2010

# **VIRIATHUS**®

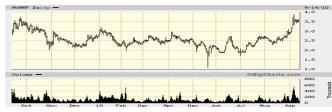
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#### Financial Data (USD):

Share Price:	3.52
Market Capitalization (mln):	280.0
Shares Outstanding (mln):	79.1
Float (mln):	NA
Average Volume (90 Day approx.):	122,928
52 Week Range:	\$1.09-3.90
Exchange:	OTCQX & TSX



#### Milestones:

- June 2010: Indicated Mineral Resource estimate updated by 100% for Nechalacho to 2.5 million tonnes of contained TREO. Prefeasibility study confirms positive economics.
- 2010 2012: Avalon completes bulk sampling, feasibility studies, permitting, Environmental Assessment and a pilot study of REE extraction and processing.
- 2013 2015: Commercial production commences at 5,000 tonnes of REE annually from Nechalacho from an underground mine using an on-site concentrator and an offsite hydrometallurgical plant.

#### **Corporate Contact Information:**

Avalon Rare Metals, Inc. Mr. Donald S. Bubar, M.Sc., P.Geo. President & CEO 416-364-4938 www.avalonraremetals.com

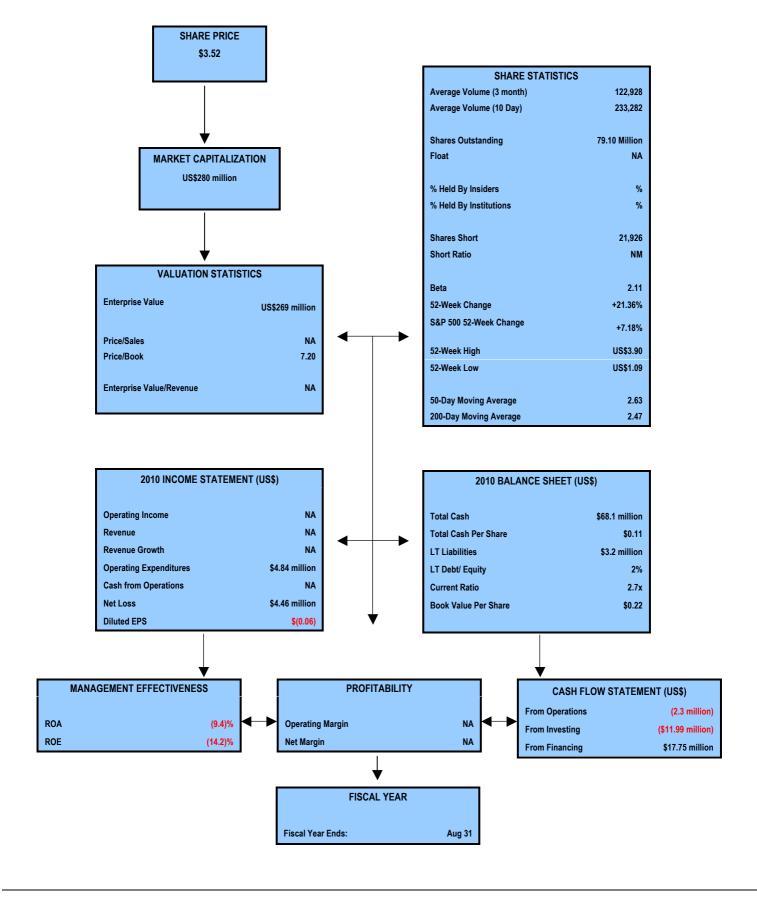
Mr. Ron Malashewski, P.Eng Manager, Investor Relations rmalashewski@avalonraremetals.com 416-364-4938 info@avalonraremetals.com

Balance Sheet (US\$)	LTM May 31
Cash	10,272,000
Assets	39,571,000
Shareholders' Equity	38.9
Long-Term Obligations	0
LT Debt to Equity Ratio	NA
- •	

P&L Data US\$ mln	Aug 07	Aug 08	Aug 09	May 10
Revenues	NA	NA	NA	NA
<b>Gross Profit</b>	NA	NA	NA	NA
Operating Profit	NA	NA	NA	NA
Net Loss	(0.80)	(1.36)	(2.89)	(4.46)
EPS	(0.02)	(0.02)	(0.04)	(0.06)

		0	Aug 09	May 10
Gross Margin	NA	NA	NA	NA
Operating Margin	NA	NA	NA	NA
Net Margin	NA	NA	NA	NA

# **Financial Metrics**



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# **Basic Materials – Rare Metals**

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## **Company Overview**

Avalon Rare Metals, Inc. (OTCQX: AVARF) is a Canadian mineral exploration and development company that is developing valuable rare earth element ("REE") and metal resources used in the manufacture of hybrid cars, green energy applications and other critical high-tech applications. The elements include the valuable heavy rare earth elements ("HREE") such as dysprosium and terbium, as well as the light, but valuable neodymium; the metals include lithium, tantalum, indium and gallium. Avalon presently owns five rare metals and minerals projects in Canada, three of which are in advanced stages of development.



Source: Company Report

Avalon's Nechalacho Deposit is unique in both the concentration and accessibility of the rare earth elements. It ranks as the world's largest REE resource outside of China.

#### Nechalacho REE Project (Thor Lake)

The Nechalacho Rare Earth Elements Project (formerly known as the Lake Zone) is located at Thor Lake, in the Mackenzie Mining District of the Northwest Territories, approximately 100 km southeast of the City of Yellowknife. Nechalacho is the Company's flagship project. This property is comprised of five contiguous mining leases totaling 10,449 acres. Avalon acquired this project in 2005 in exchange for 2.5 million shares of its common stock. The mining leases have a 21-year life and each lease is renewable in 21-year increments. The property is subject to two underlying royalty agreements entitling royalty holders to a cumulative 5.5% Net Smelter Returns Royalty. The mine site is close to Great Slave Lake, which provides access to railhead at Hay River by barge in summer and ice roads in winter. Rare metal mineralization was first discovered in the Thor Lake area in 1976 by Highwood Resources, Ltd. Highwood spent over \$12 million exploring and developing the property prior to Avalon's purchase.

Proximity to Great Slave Lake provides access to railhead at Hay River by barge in summer and ice road in winter. Current access is fly-in.

Thor Lake: Project Location

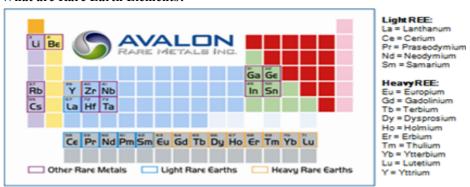


Source: Company Report

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The Thor Lake property is located in the Akaitcho Territory and has been the subject of comprehensive land claim negotiations between four communities of the Akaitcho Dene First Nations and Canada's federal government. At present, an interim agreement is in place which precludes new mineral title from being granted in the Akaitcho territory for up to five years while a land-use planning process is completed. The rights of existing mineral rights holders such as Avalon are thus secure and the Company is working with the four Akaitcho Dene First Nations towards a cooperative development approach for this project, which was formally re-named the Nechalacho REE deposit in in September 2009.

#### What are Rare Earth Elements?



Neodymium, Dysprosium, Terbium and Europium in highest demand

Source: Company Report

Drilling results indicate a high percentage of more scarce and valuable HREE in the Nechalacho deposit.

Due to its high percentage of scarce and highly valuable HREE -from europium through lutetium plus yttrium, the Basal and Upper Zone layers of the Nechalacho Deposit are the Company's main targets for initial development. In June 2010, Avalon updated Indicated Mineral Resource estimate for the Basal and Upper Zone. The new estimate increased Indicated Resources by 100% to 12.0 million tonnes grading 1.70% TREO (Total Rare Earth Oxides) with 22% HREO/TREO (Heavy Rare Earth Oxides as percentage of Total Rare Earth Oxide), an unusually high concentration of HREE. In most REE deposits, LREE represent 97% to 99% of the deposit with HREE representing only 1% to 3%. Deposits having a high proportion of HREE are rare and consequently much more valuable.

**June 2010 Indicated Resource Estimate for Nechalacho** 

Zone	Millions tonnes	% TREO	% HREO		
INDICATED M	IINERAL RESOURCI	ES			
Basal Zone	14.48	1.82	0.40		
Upper Zone	6.89	1.45	0.17		
INFERRED MINERAL RESOURCES					
Upper Zone	99.06	1.29	0.12		
Basal Zone	76.87	1.60	0.33		
Total	175.93	1.43	0.21		

#### **Notes to Resource Estimate Table:**

- 1. HREO (Heavy Rare Earth Oxides) is the total concentration of: Y2O3, Eu2O3, Gd2O3, Tb4O7, Dy2O3, Ho2O3, Er2O3, Tm2O3, Yb2O3 and Lu2O3.
- 2. TREO (Total Rare Earth Oxides) is HREO plus: La2O3, Ce2O3, Pr6O11, Nd2O3 and Sm2O3
- 3. Wardrop Engineering considers a 1.60% TREO cut-off grade to be a reasonable estimate of potentially economic resources, based on a preliminary estimate of operating costs of \$197.00/tonne.
- 4. To determine a recommended cut-off grade, Gross Metal Values (GMV) were calculated using 4 year average REE prices (where available) and assuming recoveries of: 74.6% for Y2O3 and 82.1% for all other rare earth elements. The metallurgical recoveries include both mineral processing (flotation) and hydrometallurgical recoveries. A 1.60 % TREO cut-off grade closely approximates a \$200/tonne GMV.
- 5. IND = Indicated, INF = Inferred, H/T = ratio of HREO to TREO expressed as percent.

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The Nechalacho deposit is especially rich in the elements described below:

<u>Type</u>	<u>Name</u>	<u>Application</u>	<u>Price</u> <u>Change</u> <u>2006 -</u> 2009
HREE	Europium (Eu)	Creates red TV color phosphors with no substitutes.	103%
HREE	Terbium (Tb)	Magnets; Creates green TV phosphors, with no substitutes.	-24%
HREE	Dysprosium (Dy)	Magnets; lasers; Earphones including the Apple iPod®	54%
LREE	Neodymium (Nd)	Magnets; lasers; glass; Earphones including the Apple iPod®	-8%
Thor La	21	cpected to include rare metals tantalun rconium, hafnium, gallium	ı, ni obium,

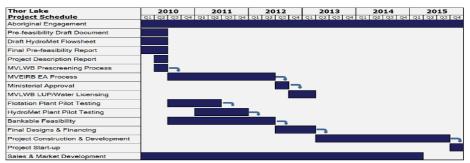
Avalon expects to begin commercial mining of REE from the Nechalacho Deposit by 2015

These HREEs are relatively scarce and increasingly in demand for high tech applications in green energy and medical technology. Because of the high concentration of HREE in the Nechalacho Deposit, Avalon has a significant competitive edge and will likely be able to command premium pricing for the products from its proposed mine.

#### **Development Timeframe**

Avalon has already established a flotation process flow for producing an REE mineral concentrate from extracted ore, and has developed a hydrometallurgical process to further upgrade the REE into a chemical concentrate. In addition, a Prefeasibility Study by an independent consultant has been completed confirming that the project has positive economics and anticipates commercial production can begin within five years. If this timeline is achieved, Avalon will be years ahead of many competitors in bringing new REE resources outside of China on line. Most competitor projects are in an early development stage and many years away from commercial production. Being first to market with new REE production would give Avalon an edge in capturing market share in the expanding REE market. To date, the Company has spent approximately \$20 million to develop its resource, including \$6.5 million in 2008, \$5.4 million in 2009 and \$6.9 million up to Q3 2010 (can refer to Q3 statements). Development activities have consisted mainly of resource estimates, sample drilling, metallurgy studies, engineering, community engagement, environmental baseline studies and site cleanup. The Company secured \$17.5 million in additional financing in late 2009, and believes it has sufficient capital to advance Nechalacho through feasibility studies and the permitting process.

#### **Schedule to Production:**



**Source: Company Presentation** 

In September 2009, the Thor Lake project was officially renamed the Nechalacho REE Deposit by the Yellowknives Dene First Nation at a formal re-naming and traditional

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feeding-the-fire ceremony co-hosted by tribal Chiefs Edward Sangris and Ted Tsetta. Nechalacho is the traditional place name for the northeast shore of the Hearne Channel on the East Arm of Great Slave Lake, near the deposit location. Avalon anticipates the mine will be called the Nechalacho mine, but continues to use the Thor Lake name in reference to the local geographic area.

Nechalacho is Avalon's lead project due to its rich HREE mineralization, but the Company has three other projects believed to contain economically viable mineral resources.

#### **Other Avalon Mineral Projects**

In addition to Nechalacho, Avalon has three other REE projects in various stages of development. The Company believes all four of its active projects - Nechalacho, Warren Township, Separation Rapids and East Kemptville, contain potentially economic resources of rare minerals or rare metals. Further development of these projects will be pursued as sales contracts are secured and project financing is arranged.

- Warren Township Calcium Feldspar: This site is presently inactive, awaiting final operating permits and markets to improve for its product. During fiscal 2009, Avalon incurred expenses totaling just \$8,813 for this site mainly for community engagement work. Avalon has no specific timeline in place for the initiation of new work on this project.
- Separation Rapids: Since acquiring this property in October 1996 and securing a Mining Lease in October 2009, Avalon has invested over \$3.8 million on exploration and development work at Separation Rapids, mainly to access lithium minerals potential. Expenses of \$143,288 were incurred in fiscal 2009, mainly related to surveys which will support an application for a Mining Lease and developing a market for the project's lithium mineral resources. Lithium is used in batteries, and new demand for lithium is emerging in the U.S. glass and ceramics industries.
- East Kemptville: Expenses of \$373,926 were incurred during fiscal 2009 in connection with this project. Spending covered geological compilation work, metallurgical tests assessing ways to improve recovery of tin and other metals in the resource and the preparation of a new resource estimate. The Company has retained Wardrop Engineering Inc. to complete a Preliminary Economic Analysis on the potential for renewed production of tin and by-product indium plus base metals at East Kemptville. Avalon expects to complete a new resource estimate in 2010. In addition, the Company has budgeted \$500,000 for exploration work on new tin indium targets in the area, including a 2,000 meter drilling program now in progress.

**Other Projects**: The Company has decided not to pursue further development of its Red Hill project and expenditures incurred to date for Red Hill have been written off. Other projects in development include Lilypad Lakes, Wolf Mountain, and East Cedartree, but Avalon has not detailed specific expenditures relating to these projects.

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## Rare Earth Element (REE) Market

Avalon's near-term focus is on developing its REE deposits at Nechalacho. Rare earth elements (REE) refers to the lanthanide series of elements (atomic numbers 57-71, plus Yttrium, atomic number 39) that form a subset of rare or specialty metals. There are 16 Rare Earth Elements in total as defined by the U.S. Geological Survey, as shown in the following table.

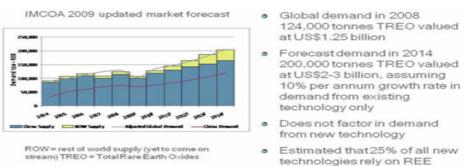
Rare Earth Elements				
HREE	Yttrium Europium Gadolinium	Erbium Terbium Dysprosium	Thulium Ytterbium Lutetium Holmium	
LREE	Lanthanum Cerium	Praseodynium Samarium	Neodymium Promethium	

REE is a \$1.25 billion global market. Experts predict 50% growth and a \$2-\$3 billion market within five years, with growth fueled by expanding use of REEs in hybrid cars and other high tech applications.

From 2003 to 2008, global demand for REE rose nearly 50% from 85,000 tons per year to 124,000 tons per year. The value of production nearly tripled during this period from approximately \$500 million to \$1.25 billion. Demand softened in 2009 due to the worldwide recession, but is already showing signs of recovery and is forecast to grow at greater than a 9% compound annual rate between 2009 and 2014 to nearly 193,000 tons per year by 2014, driven by growth in the number of hybrid vehicles, other green energy industrial and medical technology applications, according to Industrial Mineral Company of Australia (IMCOA).

IMCOA forecasts that because of an imbalance in the primary distribution of REE, a total of 205,000 tons of total rare earth production will be required in 2014 to meet demand for HREE and neodymium. China will continue to be the dominant producer, but new projects in the US, Australia and Canada will be needed to bridge the gap between supply and demand, especially for HREE. Speaking at the annual convention of the Prospectors and Developers Association of Canada in March 2009, IMCOA representative Dudley Kingsnorth noted that demand amounted to some 124,000 tons of rare earth oxides in 2008 and prices averaged between \$9 and \$11/kg, creating a \$1.25 billion market. Assuming 10% annual growth in REE demand from existing technologies alone, Mr. Kingsnorth envisions a \$2-3 billion global market for REE within 5 years.

#### **Global Rare Earths Market:**



**Source: Company Presentation** 

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At present, China produces over 95% of the world's REE. However, China has begun imposing export quotas and tariffs on REE. In July 2010, the Chinese Society of Rare Earth announced that it would reduce its rare-earth exports by 72% in the second half of 2010. Shipments will be capped at 7,976 metric tons from 28,417 tons for the same period a year ago. China's announcement captured considerable attention in the international media since it highlights the vulnerability of Western countries to supply disruptions and the need for new non-Chinese REE supply sources. While new REE sources are being developed in Canada, the U.S. and Australia, most are several years away from production. In addition, if China bans HREE exports, demand for HREE will exceed supply for the foreseeable future. Most new production will not impact the HREE shortage since, with the exception of Avalon's mine, virtually all of the non-Chinese REE resources currently in development are mainly LREE deposits.

The average hybrid car uses 30 kg of REE. As demand for hybrid vehicles grows, REE demand should rise as well.

#### **REE Applications**

The typical hybrid vehicle contains approximately 30 kg of REE In addition to hybrid vehicles, REEs are used extensively in catalytic converters, wind turbines, household appliances, industrial motors, MRI machines, computers and medical instruments. REE have been used to create innovative new materials such as solar thin films and high strength magnets which improve the energy efficiency of electric motors by allowing a smaller size and weight. The use of REE magnets in air conditioners, for example, has reduced power consumption by 50% while maintaining the same level of performance. Major new applications for REE are also found in industrial air conditioners (500 kg), wind turbines (0.75 to 1.0 tonnes per megawatt) and MRI machines (1-3 tonnes).

Growth Forecast by Application			
A m m lá sa tá ma	Growth	2013 demand	
Application	Rate % p.a	tonnes	
Glass Additives	1%	14,000	
Catalysts	7%	32,000	
Polishing Powder	7%	21,000	
Battery Alloy	17%	43,000	
Magnets	13%	42,000	
Phosphors	9%	14,000	
Ceramics	8%	9,000	
Others	8%	13,000	
Total	10%	188,000	

Source: Roskill HK Rare Earth Conference Nov 07 From Lynas Corporation presentation<sup>1</sup>

Lynas Corporation, which owns REE deposits in Western Australia, projects 10% annual growth in REE demand over the next several years. Demand in certain applications such as battery alloys is forecast to grow even faster – at 15-17% annual rates.

Automotive applications alone represent a huge and growing market for REE products. Toyota's popular Prius hybrid car utilizes over 30 kg of REE in aggregate, primarily lanthanum in nickel metal hydride batteries and neodymium in magnets in the motor, with the addition of terbium and dysprosium to make the motor more heat resistant. Rare earth magnets are also utilized in the car's regenerative braking system for capturing released energy and recharging the battery. Cerium is used in the catalytic converter to reduce emissions and also in some glass formulations. Increasing vehicle

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http://www.lynascorp.com/content/upload/files/Presentations/Sydney\_Mining\_Club\_Presentation\_30\_July\_2009\_745665.pdf

sales in China and India also represent enormous growth opportunities. At present, there are currently around 765<sup>2</sup> vehicles for every 1,000 U.S. citizens, but fewer than 50<sup>3</sup> per 1,000 citizens in China and 20 per 1,000 citizens in India. This suggests more than a billion vehicles could be added to the global fleet as vehicle purchases in China and India begin to approach U.S. levels.

#### **REE Prices**

The graph above shows prices for two REEs - Dysprosium and Europium, which have moved mainly in concert. REE market expert Dudley Kingsnorth notes that market prices for individual REEs are determined by:

- Current and future (potential) applications.
- Growth of each application.
- Propensity for substitution.
- Balance between supply and demand for that REE

Variances in the relative market value of select REE can be significant and purity plays a major role in determining price. The table below shows prices for individual REEs in May 2010. Prices are quoted in US\$/kg on an FOB China basis. Higher purity oxides or other value-added properties would likely attract higher prices than those shown in the table.

HREEs, such as those found in abundance in Nechalacho, are relatively scarce and typically command higher prices.

#### **Rare Earth Element Prices:**

Metal Oxide	Principal Uses	Price US\$/kg
Light Rare Earths	D. J	
Lanthanum Oxide 99% min	Re-chargeable Batteries	36.00 - 38.00
Cerium Oxide 99% min	Catalyst, glass, polishing	35.00 -37.00
Praseodymium Oxide 99% min	Magnets, glass colourant	48.50 - 49.00
Neodymium Oxide 99% min	Magnets, lasers, glass	48.50 - 49.00
Samarium Oxide 99% min	Magnets, lighting, lasers	33.00 -35.00
Heavy Rare Earths		
Europium Oxide 99% min	TV colour phosphors: red	575.00 - 595.00
Terbium Oxide 99% min	Phosphors: green, magnets	585.00 - 605.00
Dysprosium Oxide 99% min	Magnets, lasers	278.00 - 298.00
Gadolinium Oxide 99%min	Magnets, superconductors	39.00 - 41.00
Yttrium Oxide 99.999% min	Phosphors, ceramics, lasers	33.00 - 36.00

Source: Metal-Pages.com, May 2010

Neodymium is the principal REE used in high strength magnets; dysprosium and terbium are sometimes added to magnets to enhance thermal properties. Neodymium oxide (Nd203) was recently trading at around US\$26.00 to \$27.00/kg. More scarce heavy REEs such as europium command higher prices. Metal Pages.com recently quoted prices of US\$470 to \$490 for Europium Oxide (EU $_2$ 0 $_3$ ), US\$340 to \$360 for Terbium Oxide (Tb $_2$ 0 $_3$ ) and US\$130 to \$135 for Dysprosium Oxide (Dy $_2$ 0 $_3$ ). Europium is used to make lasers and in the manufacture of fluorescent glass.

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http://www.thetrumpet.com/?q=4800.3063.0.0

http://www.greencarcongress.com/2006/05/percapita\_car\_o.html

## **Development Strategy**

Updated Nechalacho mineral resource estimates indicate 175.9 million tonnes averaging 1.43% TREO, equivalent to 2.5 million tonnes of contained TREO.

#### **Resource Update and Winter Drilling**

Avalon updated its Indicated Mineral Resources estimates for the Nechalacho REE deposit in June 2010. Inferred resources for both the Basal and Upper Zone now total approximately 176 million tonnes averaging 1.43% TREO, representing 2.5 million tonnes of contained TREO. This amounts to a 100% increase in contained TREO from the previously reported estimate from January 2010. With this new total resource estimate, Nechalacho now ranks as the second largest REE deposit in the world by reported TREO and the third largest contained niobium deposit by reported niobium pentoxide.

Avalon commenced winter drilling in mid-January 2010 with one drill and added a second drill in February. The first drill focuses on areas adjacent to the main indicated mineral resource that were not accessible during the summer due to wet ground and drilling along Long Lake to extend the HREE rich mineralization indicated in drill hole L09-206.

The second drill is testing exploration targets, including the extension of the known zone immediately south of Long Lake, and then combining condemnation drilling of proposed plant site, airstrip and tailings sites.

As a result of the winter drill program, extensions to the high grade Basal Zone were discovered in step-out holes drilled to the north, west and south of the presently delineated Inferred Resources. In addition, further high grade REE intersections in several holes drilled to define the Basal Zone in the West Long Lake area.

The Company reported results of a Prefeasibility Study by independent consultant Scott Wilson Roscoe Postle Associates, Inc. in June 2010, which confirmed with a high degree of confidence that the project development model as presently conceived is technically feasible and will provide satisfactory returns on invested capital and acceptable risk. Metallurgical process test work is ongoing. A flotation process for producing an REE mineral concentrate has been established and Avalon has successfully developed a hydrometallurgical process for further upgrading the REE into a chemical concentrate.

Avalon has begun final feasibility study work and project permitting. At the same time, the Company is continuing to develop First Nations partnerships for the project. In regards to permitting, Avalon is generating a project description report which will be submitted to the Mackenzie Valley Land and Water Board for a Type A Land Use Permit and a Type A Water License. The Company anticipates a 45-day pre-screening process. The Mackenzie Valley Environmental Impact Review Board will then conduct a two-year Environmental Assessment study. Avalon expects the process for finalizing the Land Use Permit and Water License and determining conditions for each to take one year. Once these permits and licenses are finalized, Avalon will be able to post an environmental bond and begin construction work on its mine.

Concurrent with the Environmental Assessment process, Avalon will be undertaking a Feasibility Study. The study will be conducted in-house to minimize out-of-pocket expense, but under the direction of an independent third party consultant to ensure quality. A financing package will be developed concurrently along with the Feasibility Study.

Another corporate priority is accelerating REE product marketing efforts through strategic partnerships and recruiting marketing talent. Avalon has accomplished this by hiring Pierre Neatby as Vice-President of Sales and Marketing in July. Mr. Neatby spent nearly 19 years with Noranda/Falconbridge, where he held various leadership

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positions in marketing culminating in the role of Managing Director of Noranda's European sales operations. In addition, while the Nechalacho REE Deposit remains the Company's highest priority project, Avalon also plans to evaluate strategic alternatives for Separation Rapids and complete preliminary Economic Analysis work for East Kemptville. Project expenditures for the balance of FY 2010, including winter drilling, are budgeted at approximately \$7.0 million.

#### **Production Estimates**

Avalon expects to commence production at 5,000 tonnes per year by 2015 and quickly ramp up to 10,000 tonnes of total rare earth oxides (TREO) per year. The Company's Hydrometallurgical Plant will produce four saleable products in hydrated oxide form – a total rare earth oxide, a zirconium oxide, a niobium oxide and a tantalum oxide. At full production, the Hydrometallurgical Plant will have an annual output averaging close to 10,000 tonnes TREO, 18,000 tonnes  $ZrO_2$ , 1,700 tonnes  $ZrO_3$  and 100 tonnes  $ZrO_3$ . It should be noted that the tantalum, niobium and zirconium production do not entail significant additional costs since these occur in the same mineral phases that contain the heavy rare earths (zircon and fergusonite). These minerals go into solution along with the rare earths and will be recovered separately. Flotation plant rates of recovery are estimated at 79.5% for TREO, 89.7% for zirconium, 68.9% for niobium, and 63.0% for tantalum, for a combined recovery rate of 84.6%.

The development model for Nechalacho envisions two site components: an underground mine and floatation plant located on-site and a hydrometallurgical plant located at another site closer to existing transportation and energy infrastructure. An existing brownfield site has been chosen for the hydrometallurgical plant at the former Pine Point Mine on the south shore of Great Slave Lake. Construction of this facility would begin 24 to 30 months prior to operations.

REE along with associated zirconium, niobium and tantalum will be mined underground from the Nechalacho deposit. A declined ramp will be used to access the ore zone located at approximately 200 meters depth. Initial production will be 1,000 tonnes a day ramping up quickly to 2,000 tonnes per day. At this rate, approximately 12 million tonnes of probable mineral reserves will be mined from the Basal and Upper Zone of the Nechanlacho deposit over 18 years of operations. Mining will be conducted with a first pass of primary stopes, followed by pillar extraction. Primary crushing will be completed underground and crushed ore and waste rock conveyed to the surface.

Avalon has completed mine site flotation process test work and is setting up a minipilot plant to begin pilot test runs of REE processing.

Processing facilities will include a flotation plant that will produce a high-grade concentrate that will be barged off-site to the hydrometallurgical plant for secondary processing. A tailings management facility will be located up-slope from the flotation plant.

The hydrometallurgical plant will further process the REE concentrates utilizing a flow sheet developed by consulting metallurgist JR. Goode, P. Eng. The process will include acid baking, caustic cracking, water washing, filtration, caustic regeneration and evaporation, double salt precipitation, solvent extraction, and product drying to produce direct ship goods. Construction activities are expected to last 24 to 30 months and to begin in 2013 upon receipt of land and water permits and financing.

Rates of recovery after hydrometallurgical plant processing are estimated at 93.0% TREO, 90.0% for zirconium, 80.0% for niobium and 50.0% for tantalum, for a combined recovery rate of 90.0%.

Hydrometallurgical treatment of the mineral concentrate will extract the REE from the minerals, bring them into solution, partially refine them and precipitate them out to produce chemical concentrates in the form of high-grade mixed REE carbonates – one mainly LREE and the second mainly HREE, These mixed REE carbonates will ultimately require further processing to separate individual REEs, which may be done

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initially by third parties or ultimately built into an integrated business model. Avalon estimates total operating costs ranging around \$240 per ton, inclusive of mining, milling and hydrometallurgy. The Company's preliminary market studies also indicate that mixed REE carbonates containing a high proportion of heavy REE could be a saleable product without further processing.

Avalon has already completed mine site flotation process test work, developed a processing flow sheet and begun confirmation testing. The Company has reported excellent progress in its ability to process and deliver HREE carbonate, LREE carbonate, niobium pentoxide, zirconium oxychloride and gallium.

During 2010, Avalon plans to utilize an existing five metric ton supply of core sample minerals stored at Yellowknife to feed a mini-pilot plant, which will produce 600 kg of concentrate. As part of a hydrometallurgical plant pilot run, Avalon will process 20 kg of the concentrate per day during a 30 day trial.

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Donald S. Bubar CEO & President

RJ (Jim) Anderson Vice President, Finance& CFO

William Mercer Vice President, Exploration

David Swisher Vice President, Operations

## **Management & Board of Directors**

Donald S. Bubar, M.Sc, P.Geo., President, Director and CEO. Mr. Bubar is a geologist with over 30 years experience in mineral exploration in Canada. He is a graduate of McGill University, (B.Sc., 1977) and Queen's University (M.Sc., 1981). From 1984 to 1994, he worked for Aur Resources Inc. where, as Exploration Manager, he was involved in the discovery of the Louvicourt copper-zinc deposit, Val d'Or, Quebec in 1989. Since 1995, Mr. Bubar has been President and CEO of Avalon.

Mr. Bubar is also a Director of the Prospectors and Developers Association of Canada (PDAC) and was instrumental in the creation of its Aboriginal Affairs Committee in December, 2004. He continues to Co-Chair the committee which advocates for greater co-operation between exploration companies and aboriginal communities.

R.J. (Jim) Andersen, C.A., C.P.A. Vice-President, Finance and CFO. Mr. Andersen is the managing director of the accounting firm Andersen & Company Professional Corporation, a boutique accounting firm located in downtown Toronto. He has 15+ years experience in public practice and has provided auditing, accounting and management consulting services to mining companies and large manufacturing firms in several different industries. He joined Avalon in 2000 and was in charge of the Company's external audit for five years prior to that.

Mr. Andersen earned his B.Com (with high distinction) from the University of Toronto in 1991 and began his career with the mining services team at Coopers & Lybrand. More recently, he has acted as a part-time professor in the MBA program at the Schulich School of Business at York University and is a trustee of the Gardiner Museum

William Mercer, Ph.D. P.Geo. Vice-President, Exploration. Dr. Mercer has been VP Exploration with Avalon since 2007. A consulting geologist, Dr Mercer earned his BSc. in geology from Edinburgh University (1968) and a Ph.D. from McMaster University (1975). He has enjoyed a 32-year career with the Noranda/Falconbridge Group, serving in a variety of managerial positions and working on international projects spanning over 30 countries, ultimately serving as Director- Geology and Geochemistry.

His responsibilities have ranged from management of large exploration groups based in Canada and overseas, to technical advice on advanced acquisitions as part of the Business Development Group, negotiation of joint venture agreements, review of resource reports, implementation of quality control programs and implementation and auditing of environment, health and safety programs.

Dr. Mercer is currently President of the Canadian Federation of Earth Sciences (CFES), the umbrella organization for all earth science associations in Canada (2008 - 2010). He served as President of the Prospectors and Developers Association (2002-2004) and has been a PDA executive for 8 years. He currently chairs or is a member of several PDA committees, including the Governance Committee, Health and Safety Committee and Corporate Social Responsibility.

In January 2009, Dr. Mercer was the recipient of the David Barr Award from the Association for Mineral Exploration in British Columbia for excellence in leadership and innovation in mineral exploration health and safety. He also was honored with the PDA Distinguished Service Award in 2006.

Mr. Swisher is a mining engineer with over 25 years of underground and surface mining experience in metals mining and industrial minerals operations. Mr. Swisher was previously Vice President of Tamerlane Ventures Inc., where he was responsible

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Pierre Neatby Vice President, Sales & Marketing

Cindy Hu Controller

Charlotte May
Corporate Secretary

Ron Malashewski Manager, Investor Relations

Alan Ferry
Chairman (Non-Executive)

Brian D. MacEachen

Director (Chairman of Audit Committee)

Hari Pandya, CGA, BA *Director* 

for successfully completing a multi-year environmental permitting and feasibility study process for the Pine Point zinc-lead project, located near Hay River, NWT. Mr. Swisher also has extensive experience in the planning, engineering and managing of large-scale mining operations for such companies as Cargill Deicing Technology, Getchell Gold Corporation and Santa Fe Pacific Gold Corporation.

Mr. Neatby joined Avalon in July 2010 from Noranda/Falconbridge, where he spent 18 years in various marketing and sales positions, culminating in the role of Managing Director of Noranda's European sales company in England. He has served as Chairman of industry associations in the UK and as a LME committee member. He trained as a black belt in Six Sigma with Noranda and has directed a number of successful process improvement initiatives.

Cindy Hu, CA, CPA, CGA, Controller. Ms. Hu is a senior manager with the accounting firm Andersen & Company Professional Corporation. She is a Chartered Accountant with 11 years experience in public accounting practice and financial reporting, primarily for junior public companies and private wealth management portfolios. She joined Avalon in 2007.

Charlotte May, Corporate Secretary. Ms. May has over 20 years experience in the junior resource industry in the areas of corporate secretarial, marketing and public company administration.

Mr. Malashewski's professional career spans over 30 years and includes engineering project management, strategic planning, technical and corporate management, investment management and investor relations, with emphasis in the mining and minerals sector, most notably rare earth elements and minor metals. During his professional career, he has developed many industry contacts with various levels of investment decision-makers, including Portfolio Managers, Analysts, Financiers, and Technical and Scientific Experts.

Alan Ferry, C.F.A. Non-Executive Chairman. Formerly Vice President, Dominick & Dominick Securities Inc, Mr. Ferry has been an independent business consultant since 2007, following a 28-year career in the investment industry as a mining analyst and mining corporate finance specialist. Mr. Ferry is a director of six listed junior mining companies, including Lead Director of Guyana Goldfields Inc. and Chairman of Macusani Yellowcake Inc. He holds a B.Sc. in Geological Sciences from Queen's University (1977) and Chartered Financial Analyst designation. Mr. Ferry has been a Director of Avalon since 2000.

Brian D. MacEachen, C.A. Director, Chairman of Audit Committee. Mr. MacEachen is currently President and CEO of Linear Metals Corporation, having served as Vice-President and CFO of Linear Gold Corp. and Linear Metals Corporation since January 2004 and June 2006, respectively. A Chartered Accountant with more than 20 years of experience in overseeing the financial management of publicly-traded companies, Mr. MacEachen's involvement in the mining industry has spanned 23+ years, including senior positions with Franco-Nevada Mining Corporation and Aur Resources Inc. Mr. MacEachen has been a director of Avalon since 1998.

Mr. Panday has had a very successful career in international banking including being the founding President and CEO of ICICI Bank Canada, where he defined and executed the entry strategy to launch ICICI in Canada. ICICI is the second largest financial services company in India with \$90 billion of global assets. Prior to founding ICICI Bank Canada, Mr. Panday held senior positions at HSBC Bank Canada and the Bank of Montreal. In 2009, Mr. Panday was recognized by the Indo-Canadian Chamber of Commerce in Toronto with the "Corporate Executive of the Year" award and selected to the "India Abroad 2008 - Power List" of prominent Indo-Canadians.

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#### Peter McCarter Director

Phil Fontaine

Director

David Connelly
Director

Peter McCarter, B.A., LL.B., M.B.A. Director. Mr. McCarter graduated from the University of Toronto with a B.A. degree in 1974 and from York University (Osgoode Hall) with LL.B. and M.B.A. degrees in 1978. Mr. McCarter practiced law at the Toronto law firm of Aird & Berlis from 1978-1989, specializing in corporate/securities/resource law. Mr. McCarter joined Aur Resources inc. in 1989 and, prior to Aur's acquisition by Teck Cominco in August 2007, served as Executive Vice-President, Corporate Affairs, Secretary and a director of Aur. Mr. McCarter also currently serves as a director of Thundermin Resources Inc., a TSX listed junior resource company. Mr. McCarter has been a Director of Avalon since 2007.

Mr. McCarter has served on a number of advisory committees for the Ontario Securities Commission (OSC), including being a member of the Securities Advisory Committee (1988-1989); a member of the Toronto Stock Exchange's Committee on Corporate Disclosure -- the Allen Committee (1994-1997; and a member of the Continuous Disclosure Advisory Committee of the OSC (2004-2006).

Phil Fontaine, B.A., LL.D. LL.D. (R.M.C.), LL.D. (Brock), LL.D. (Windsor) LL.D. (Lakehead), LL.D. (U of Winnipeg), Director. Mr. Fontaine is the former National Chief of the Assembly of First Nations and a Special Advisor to the Royal Bank of Canada. He is a member of the Sagkeeng First Nation in Manitoba and plays an active role in the support of his community. Mr. Fontaine earned his Bachelor of Arts degree in political studies from the University of Manitoba (1981) and has received numerous awards and honorary degrees for his work on behalf of his people and the country. Mr. Fontaine joined the Avalon Board of Directors in September of 2009.

Mr. Connelly is a resident of Yellowknife, NWT, and well known in the northern business community. He has acted as a strategic consultant to business, government and First Nations on implementing economic development opportunities in the north and has been a Community Relations Advisor to Ayalon for the past two years.

A graduate of Dalhousie University, University of Toronto and the Canadian Forces Logistic School, Mr. Connelly began his career in international banking in Asia. Following several development-related assignments with government, he was hired by Sherritt Gordon Mines as Director of Business Development, leading efforts to capitalize on value-added opportunities for their hydrometallurgical process.

As President and CEO of Inuvialuit Development Corporation, he led the turnaround of Canada's largest Aboriginal development corporation from 1992 to 1997. His contribution to Aboriginal economic development was recognized when he was awarded the Queen's Jubilee Medal in 2003. Since 1992, he has structured over 20 successful joint ventures and served on the boards of many of Northern Canada's largest companies.

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## Competition

The discussion of REE mining companies begins with an overview of world production and reserves. As shown in the table below, China presently controls over 95% of global REE production. China is also a major consumer of REE, accounting for 65% of annual consumption which was valued at approximately \$1.25 billion last year. Japan is another major REE consumer, accounting for an estimated 30% of global consumption, and relies on China for its supply. The U.S. is not a significant consumer of unprocessed REE products. However, the U.S. depends on China and Japan for supplies of value-added REEs in processed forms such as magnet alloys. The fact that no REE is currently mined in the U.S. has become a strategic concern for Washington due to the growing importance of REE in many high-tech defense applications.

The REE world production and reserves statistics shown in the table below were compiled by U.S. government sources:

World Mine	Production	, Reserves	, and Re	eserve Base:
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	2007	2008		
United States	-	-	13,000,000	14,000,000
Australia	-	-	5,200,000	5,800,000
Brazil	650	650	48,000	84,000
China	120,000	120,000	27,000,000	89,000,000
Common Wealth of				
Independent States	NA	NA	19,000,000	21,000,000
India	2,700	2,700	1,100,000	1,300,000
Malaysia	380	380	30,000	35,000
Other Countries	NA	NA	22,000,000	23,000,000
Total (Rounded)	124,000	124,000	88,000,000	150,000,000

Competing mines are mainly developing LREE resources. Avalon has one of the world's only sizable, undeveloped HREE resources.

Rare earths are relatively abundant in the Earth's crust but discovered minable concentrations are less common than for most other ores. U.S. and world resources are contained primarily in bastnäsite and monazite. Bastnäsite deposits in China and the United States constitute the largest percentage of the world's REE resources, while monazite deposits in Australia, Brazil, China, India, Malaysia, South Africa, Sri Lanka, Thailand, and the United States constitute the second largest segment. Apatite, cheralite, eudialyte, loparite, phosphorites, rare-earth-bearing (ion adsorption) clays, secondary monazite, spent uranium solutions, and xenotime make up most of the remaining resources. Undiscovered resources are thought to be large. Substitute minerals are also available for many REE applications, but generally are not as effective.

About half of China's current REE production comes from the Bayan Obo mine in Mongolia, which is an iron ore deposit containing LREE produced relatively cheaply as a by-product (with less than 1% HREE according to BCC Research reports). Avalon's Nechalacho REE deposit has a much higher proportion of valuable HREE in its ore (estimated at 2%), so the Bayan Obo and Nechanacho deposits are not directly comparable. More direct competition for Nechalacho comes from various ionic clay deposits in China, which produce HREE from very low-grade ore. These Chinese deposits are problematic, however, because of the severe environmental degradation that results from mining them. Most of these deposits are in illegal, uncontrolled artisanal mines.

A draft report released in August 2009 by China's Ministry of Industry and Information argues for quotas and outright bans on export of some REE products. This report attracted considerable attention from the international media because it highlighted the vulnerability of Western countries to supply disruptions and the need

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for new non-Chinese supply sources. Specific proposals contained in the China ministry draft report included:

- China's 35,000 tons/year REE export quota will be reduced over the next 6 years.
- Some REE exports will be banned entirely, including Dysprosium (used in magnets for the electric systems of hybrid vehicles), Terbium and Yttrium (both used as phosphors in energy efficient lighting).
- China will close 80 of its 100 REE separation and smelting facilities to improve efficiency.

China has announced plans to curtail REE exports and end-users are scrambling to develop new non-Chinese supplies. The supply/demand imbalance created in the near-term will likely drive REE prices higher.

China's rationale for reducing REE exports is that it expects its own internal demand for REE to increase significantly in the future as it focuses on energy efficiency and promoting green energy technologies. The prospect of further reductions in REE exports by China creates worries for end-users outside of China who must deal with near-term supply/demand disruptions and escalating REE prices as competition increases for a dwindling supply.

#### **REE Development Projects**

A number of mining companies outside China plan to capitalize on increasing REE demand and prices by developing new REE projects. Some of the larger REE projects in development are listed below. As shown in the table, Avalon has the world's second largest deposit of TREO at 2.5 million tonnes, and the largest such deposit outside of China.

Deposit	Contained tons TREO	% HREO	Contained tons HREO
Bayan Obo, China	56,900,000	2	1,138,000
Nechalacho Inferred, Canada	2,500,000	22	550,000
Kvanefeld, Greenland	2,150,000	14	301,000
Mountain Pass, USA	1,840,000	0.98	18,032

The Nechalacho deposit is also a very significant resource of niobium, tantalum and zirconium. For contained Nb2O5 (niobium pentoxide) it ranks as the third largest deposit in the world:

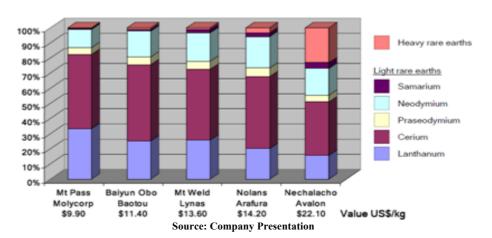
Deposit	Millions tons	% Nb2O5	Contained tons Nb2O5	Source
Araxa, Brazil	440	2.75	12,100,000	CBMM website, reserves
Bayan Obo, China	769	0.13	999,700	USGS
Nechalacho Inferred, Canada	175.93	0.40	701,081	Avalon June 14, 2010 release
Mount Weld, Australia	37.7	1.07	403,390	Lynas website
Catalao, Brazil	25.6	1.23	314,880	Anglo American website
Niobec, Canada	37.912	0.58	219,890	IAMGOLD website

Avalon's Nechalacho REE project represents the largest HREE-rich deposit outside of China and a resource potentially able to supply HREEs in the quantities needed to meet global demand. Many of the world's REE deposits are not amenable to ore recovery for economic reasons, but Avalon's Nechalacho deposit is relatively accessible, economically viable, free of contaminants and thorium, and contains valuable by-

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products such as zirconium, niobium and gallium. Industry experts predict that meeting future REE demand in the West requires the development of all the world's known REE resources – both the LREE resources being developed by Molycorp, Lynas Corp., Arafura and Great Western Minerals Group and the HREE resource being developed by Avalon (as well as some smaller developers of HREE prospects). This is the only scenario that ensures an adequate REE supply for the West's high tech, green-tsch, industrial and medical applications.

#### **REE Distribution: Nechalacho Versus Other REE Deposits:**



As shown in the table above, Avalon's Nechalacho deposit is much richer in higher valued minerals such as Samarium, Europium, Gadolinium, Terbium, Neodymium, Praseodymium and Dysprosium oxides than competitors' projects. As a result, Avalon's production will likely command prices 50% to 100% higher than the REE output from competitor mines. Avalon's market share of total rare earth demand is conservatively forecast to be less than 3% initially at the 5,000 tonnes per year TREO production rate, and then less than 5% at a 10,000 ton annual production rate. Initial market share for more valuable individual HREE, such as dysprosium and terbium, is estimated at 8% and 6%, respectively.

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### **Milestones**

#### **Prefeasibility Study Confirms Positive Economics**

On June 21, 2010, Avalon announced positive results from a Prefeasibility Study conducted by independent consultants. The results demonstrate with a high degree of confidence that the Nechalacho project development model as presently conceived is technically feasible and will provide satisfactory returns on invested capital and acceptable risk. The study covered all aspects of project development, including mining, mineral concentration, hydrometallurgical processing and all related infrastructure. A Discounted Cash Flow (DCF) analysis used to value the project confirmed double-digit internal rates of return and positive net present values at a range of discount rates on both a pre-tax and after-tax basis.

#### **Significant Expansion of Nechalacho Resource Estimate**

A revised resource estimate, prepared by an independent consultant and released by Avalon in June 2010, resulted in a significant expansion of the total Indicated and Inferred Resources. Inferred Mineral Resources for the Nechalacho Basal and Upper Zones now total 175.9 million tonnes averaging 1.43% TREO, representing 2.5 million tonnes of contained TREO. This amounts to a 100% increase in contained TREO from the previous estimated reported in January. With the new total resource estimate, Nechalacho now ranks as the second largest REE deposit in the world by reported TREO and the third largest contained niobium deposit by reported Nb<sub>2</sub>O<sub>5</sub>.

#### Hydrometallurgical Process Developed for Nechalacho

Following the successful development of a flotation process for producing a REE mineral concentrate, Avalon announced in March 2010 that it had successfully established a hydrometallurgical process, proven numerous times in the laboratory, for further upgrading REE into a chemical concentrate.

#### **Drilling Commences on East Kemptville Property**

In February 2010, Avalon commenced a 2,000 meter diamond drilling program on its exploration licenses in the East Kemptville area. Ten holes will be drilled to test three target areas for tin-indium-copper-zinc mineralization. Drilling commenced on January 18th and continues for about three weeks. The Company is also re-evaluating the potential for renewed tin-indium production at the East Kemptville mine. Wardrop Engineering is preparing a Preliminary Economic Assessment.

#### **Updated Nechalacho Resource Estimate**

In mid-January 2010, Avalon announced an update in Indicated Resources estimates for the Basal Zone of the Nechalacho deposit. The Basal Zone has a particularly rich mineralization and is Avalon's primary development target. Results of the summer drilling program led to an increase in Basal Zone indicated resources to 9.0 million tonnes grading 1.86% TREO with an unusually rich 23.1% HREO/TREO at the 1.60% TREO cut-off. The updated estimate doubles the tonnage that was defined in the southern part of the deposit and was disclosed in an August 2009 report. The new estimate also doesn't include 2.0 million tonnes defined earlier in the central part of the zone

#### **New Financing Secured**

Avalon completed a private placement of warrants and flow-through special warrants in September 2009 that generated gross proceeds of \$17.5 million, including the full underwriters' option of \$5.0 million. The underwriters, led by CIBC World Markets Inc., included Cormark Securities Inc. and Research Capital Corporation. The

Avalon recently secured \$17.5 million in new financing, which management plans to use to continue exploration and development of its Nechalacho mine.

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Company has been using the proceeds to continue exploration and development of the Nechalacho REE deposit and for general corporate purposes.

### **OTCQX** Exchange Listing

In addition to maintaining it's listing on the Toronto Stock Exchange ("AVL"), Avalon recently secured a listing in the U.S. on the new OTCQX Exchange under the symbol AVARF. The OTCQX was created for international companies already listed on a qualified exchange and interested in increasing their visibility with U.S. investors.

#### **Preliminary Metallurgical Test Results Completed**

Avalon released preliminary metallurgical test results for the Nechalacho REE deposit demonstrating that approximately 80% of REE- containing minerals can be recovered into a mineral concentrate by flotation type methods. Minerals in the concentrate are "cracked" to get the REEs into solution. The Company has identified two alternative methodologies for getting the REEs into solution and current work is focused on determining the most cost-efficient method.

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### **Investment Risks**

REE production is a highly technical undertaking, required an experienced management team to guide the process and significant access to capital. Some of the major risk factors associated with developing REE sources are discussed below.

#### **Exploration and Development Risk**

Exploration for REE is highly speculative, involves many risks and is frequently unsuccessful. There is no guarantee that exploration efforts will result in the discovery of mineralization or that mineralization discovered will result in reserves. If reserves are developed, it may take several years and substantial expenditures to reach production. The economic feasibility of the project may change at any time during the development period. No assurance can be given that Avalon's exploration program will result in reserves or that its reserves can be economically mined.

Avalon and other mining companies provide mineral resource estimates, but this doesn't guarantee reserves will be discovered or a particular level of recovery will be realized. Also, the mineral grades Avalon ultimately mines may differ from grades indicated by drill test results.

#### Risk Associated with Estimating Mineral Resources

Avalon and other mining companies provide mineral resource estimates which are estimates only. There is no guarantee that any proven or probable reserves will ultimately be discovered or that any particular level of recovery will be realized. There is no assurance that identified reserves or resources will be commercially mineable (or viable) or that they can be legally and economically exploited. In addition, the mineral grades which are ultimately mined may differ from grades indicated by drilling test results. The mineral resource estimates provided by Avalon should not be interpreted as assurances of commercial viability and/or indicative of profitability of future operations.

#### **Environmental Legislation Risks**

All phases of the Company's operations are subject to environmental regulation in the various jurisdictions in which it operates. Trends in environmental legislation favor stricter standards and enforcement, increased fines and penalties for non-compliance, more stringent environmental assessments of proposed projects, and greater responsibility assumed by companies and their officers, directors and employees. Future changes in environmental regulation could adversely affect Avalon's operations or result in substantial costs, fines and liabilities. There is also a risk that environmental hazards presently unknown to the Company may be uncovered as development work advances.

#### REE prices are affected by many factors beyond Avalon's control such as economic and political conditions, inflation, interest and exchange rates, consumption, speculation, substitute costs and ore inventories.

#### Risks Associated with Claims, Titles and Aboriginal Rights

The Company's property titles may be subject to disputes or other claims including Aboriginal land title claims. Avalon has exercised due diligence in determining title to properties, but there is no guarantee its titles won't be challenged or impugned. There may be valid challenges to Avalon's titles, which, if successful, could impair the Company's ability to explore, develop and/or operate its properties. In addition, its properties may be subject to prior unregistered agreements or transfers or land claims by Aboriginal peoples.

#### **Financing Risks**

The Company has limited financial resources and there can be no assurance that additional funding will become available when needed to finance future exploration and development activities. Failure to obtain sufficient financing could delay or indefinitely postpone Avalon's development of its Nechalacho mine.

#### **Volatility of Metal Prices**

Pricing of metals including REE, fluctuate widely and are affected by numerous factors beyond the Company's control, such as international economic and political conditions, inflation expectations, currency exchange rates, interest rates, global or regional consumption patterns, speculative activities, supply and demand, new mine

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development, improved mining and production methods, availability and costs of metal substitutes and mine inventories.

### **Infrastructure Requirements**

Mining, processing, development and exploration activities require adequate roads and other infrastructure. Roads and bridges must be constructed and power sources and water supplies must be secured. Unusual weather, sabotage, or other interference in maintaining or providing infrastructure could adversely affect the Company's operations.

#### **Early Development Stage**

Avalon is in the process of developing its mineral resources and is several years away from generating meaningful revenues. To reach profitable operations, Avalon must locate economically recoverable reserves, obtain financing and develop its resources in an economic and cost-effective manner.

#### Mining Hazards and Risks

Mineral exploration and mining involves many risks, which even a combination of experience, knowledge and careful evaluation may not be able to overcome. The Company's work is subject to the typical hazards and risks associated with mineral exploration, development and production, any of which could result in work stoppages, damages and legal liability. Fires, power outages, labor disruptions, flooding, explosions and cave-ins are some of the risks associated with mining. Although Avalon has secured liability insurance, liabilities could exceed policy limits. The Company could incur significant costs or uninsured losses that adversely impact its financial condition

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### **Summary**

REE products were a \$1.25 billion market in 2008 and this market is forecast to grow to \$2-3 billion by 2014, with new demand fueled by expanding applications for REE in hybrid vehicles, wind turbines and other green energy technologies. At present, 95% of global REE demand is supplied by China but that is expected to change as China reduces and may even ban some HREE exports. New applications are driving worldwide demand whileChina continues to curtail supplies, and mining companies outside China are scrambling to develop new REE resources, which will enable them to capitalize on supply/demand imbalances and rising REE prices.

At current REE prices, Avalon has the potential to produce \$200 million in annual revenue and \$80-100 million in operating income from the Nechalacho mine.

Avalon is uniquely positioned to capitalize on growing REE demand. The Company owns the largest REE deposit in the world outside of China, has an accessible, high quality mineral resource, and has confirmed positive economics for the project through a Prefeasibility Study conducted by an independent consultant. Avalon expects to commence production from its Nechalacho mine within five years. In addition, drill testing of Nechalacho mineralization indicates an unusually high concentration of valuable HREE in the ore. HREE are relatively scarce compared to LREE, command premium pricing and are increasingly in demand for high-tech applications. Avalon has one of the world's only sizable undeveloped HREE resources. Most of the REE resources being developed by other mining companies are mainly LREE deposits.

In June 2010, Avalon updated mineral resource estimates for its Basal Zone and Upper Zone targets in the Nechalacho deposit. Estimated were updated to 12.0 million tonnes grading 1.70% TREO. This amounts to a 100% increase in contained TREO from Avalon's resource estimate done just five months earlier. The Company has completed a Prefeasibility Study on the project confirming positive returns on invested capital and acceptable levels of risk, and has begun work on a final Feasibility Study and project permitting. In addition, in late 2009, the Company secured \$17.5 million in new financing which provides capital for additional drill work and studies. Avalon has also successfully developed a flotation process for producing REE mineral concentrate from extracted ore and a hydrometallurgical process for further upgrading the REE into a chemical concentrate.

Avalon expects to commence REE production at 5,000 tonnes annually by 2015 and gradually increase production to 10,000 tonnes annually. At full production, Avalon has the ability to generate as much as \$200 million in annual revenue and \$100 million in annual operating income, based on today's REE prices and market dynamics. In addition, this revenue estimate assumes no increase in REE prices. A more realistic scenario entails REE prices rising as China curtails exports and demand for REE in hybrid cars and other technology applications continues to expand.

A Discounted Cash Flow analysis prepared by independent consultants as part of the Prefeasibility Study assigns a pre-tax Net Present Value to the Nechalacho project of \$385 million at a conservative 8.0% discount rate. The analysis also assumes total capital costs for the project of \$810 million, and average operating costs over the 18 year life of the project of \$240 per ton of ore mined. The pre-tax Net Present Value of \$385 million is more than twice the Company's current \$185 million market capitalization. In addition, this Net Present Value calculation considers only the value of the Nechalacho mine and assumes no revenue contribution from Avalon's Separation Rapids, East Kemptville or Warren Township projects. While these projects are not as advanced as Nechalacho, each is believed to contain economically viable mineral resources.

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### **Publications**

Glossary: U.S. Department of the Interior Minerals Management Service Glossary at:

http://www.mrm.mms.gov/Stats/pdfdocs/glossary.pdf

http://www.chinadaily.com.cn/bizchina/2010-07/09/content 10088082.htm

#### 5-Year Chart: Canadian Dollar / \$1.00 USD:



Diversified Metals & Mining 56.86%

Gold 29.95%

Coal & Consumable Fuels 7.68%

S&P/TSX GLOBAL MINING INDEX SUB-INDUSTRY BREAKDOWN

Aluminum 3.23%
Precious Metals & Minerals 2.28%

As of 03/01/10: \$1.00 USD = \$1.05 CAD; \$1.00 CAD = \$0.95 USD

Source: Yahoo! Finance

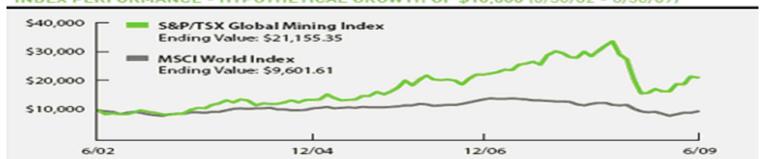
The Claymore S&P / TXS Global Mining ETF<sup>4</sup>: The Claymore S&P/TSX Global Mining ETF (The "Fund") seeks investment results that correspond generally to the performance, before the Fund's fees and expenses, of an equity index called the S&P/TSX Global Mining Index<sup>5</sup> (the "Index"). The Index comprises stocks selected based on the relative importance of the global mining industry within their business model and has a balanced representation from different segments of the mining industry.

#### HISTORICAL PERFORMANCE OF THE INDEX



Source: Bloomberg; as of 6/30/09. Return figures annualized.

#### INDEX PERFORMANCE - HYPOTHETICAL GROWTH OF \$10,000 (6/30/02 - 6/30/09)



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<sup>&</sup>lt;sup>4</sup> http://claymoreinvestments.ca/etf/fund/cmw/performance

<sup>&</sup>lt;sup>5</sup> http://www2.standardandpoors.com/spf/pdf/index/SP\_TSX\_Global\_Mining\_Factsheet.pdf

# **Income Statement**

		-		
For the Fiscal Period Ending Currency	Aug-31-2007 <i>USD</i>	Aug-31-2008 <i>USD</i>	Aug-31-2009 <i>USD</i>	LTM May-31-2010 USD
Revenue	<u>-</u>	-	_	_
Other Revenue	-	-	-	-
Total Revenue	-	-	-	-
Cost Of Goods Sold	_	_	_	_
Gross Profit	-	-	-	-
Selling General & Admin Exp.	1.34	1.852	2.154	3.662
Stock-Based Compensation	-	0.624	0.525	0.525
R & D Exp. Depreciation & Amort.	- -	-	-	-
Amort. of Goodwill and Intangibles	0.018	0.04	0.049	0.049
Impair. of Oil, Gas & Mineral Prop.	-	0.222	0.582	0.582
Other Operating Expense/(Income)	-	-	-	-
Other Operating Exp., Total	1.358	2.737	3.31	4.818
	(4.250)	(2.727)	(2.24)	(4.949)
Operating Income	(1.358)	(2.737)	(3.31)	(4.818)
Interest Expense	(0.048)	(0.079)	(0.019)	(0.007)
Interest and Invest. Income	0.09	0.348	0.156	0.087
Net Interest Exp.	0.042	0.269	0.136	0.08
Other Non-Operating Inc. (Exp.)	(0.07)	(0.229)	(0.093)	(0.22)
EBT Excl. Unusual Items	(1.387)	(2.698)	(3.266)	(4.959)
Impairment of Goodwill	-	-	-	-
Gain (Loss) On Sale Of Invest.	0.035	-	-	(0.01)
Gain (Loss) On Sale Of Assets	-	0.01	-	-
Other Unusual Items	<u> </u>	-	-	-
EBT Incl. Unusual Items	(1.352)	(2.688)	(3.266)	(4.968)
Income Tax Expense	(0.475)	(1.335)	(0.394)	(0.525)
Earnings from Cont. Ops.	(0.878)	(1.353)	(2.872)	(4.443)
Earnings of Discontinued Ops.	-	-	-	-
Extraord. Item & Account. Change  Net Income		<u>(1.353)</u>	(2.872)	
	<del>4********</del>	<del>(1122)</del>	<del>4====</del>	<del>4.1.1.2,</del>
Pref. Dividends and Other Adj.	-	-	-	-
NI to Common Incl Extra Items NI to Common Excl. Extra Items	(0.878) (0.878)	(1.353) (1.353)	(2.872) (2.872)	(4.443) (4.443)
Per Share Items				
Basic EPS	(\$0.017)	(\$0.022)	(\$0.042)	(\$0.059)
Basic EPS Excl. Extra Items Weighted Avg. Basic Shares Out.	(0.017) 50.462	(0.022) 61.658	(0.042) 67.604	(0.059) 75.636
Diluted EPS	(\$0.017)	(\$0.022)	(\$0.042)	(\$0.059)
Diluted EPS  Diluted EPS Excl. Extra Items	(\$0.017)	(\$0.022)	(\$0.042)	(0.059)
Weighted Avg. Diluted Shares Out.	50.462	61.658	67.604	75.636
Normalized Basic EPS	(\$0.017)	(\$0.027)	(\$0.03)	(\$0.041)
Normalized Diluted EPS	(0.017)	(0.027)	(0.03)	(0.041)
Dividends per Share	NA	NA	NA	NA

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# **Balance Sheet**

Balance Sheet as of:	Aug-31-2007	Aug-31-2008	Aug-31-2009	LTM May-31-2010
Currency ASSETS	USD	USD	USD	USD
Cash And Equivalents	1.519	10.439	5.836	10.225
Total Cash & ST Investments	1.519	10.439	5.836	10.225
Accounts Receivable	-	-	-	-
Other Receivables	0.17	0.148	0.582	0.752
Total Receivables	0.17	0.148	0.582	0.752
Prepaid Exp.	0.062	0.127	0.115	0.068
Other Current Assets	-	-	-	-
Total Current Assets	1.75	10.714	6.533	11.045
Gross Property, Plant & Equipment	7.157	13.061	19.369	28.345
Accumulated Depreciation	(0.04)	(0.078)	(0.126)	-
Net Property, Plant & Equipment	7.117	12.983	19.243	28.345
Long-term Investments	0.003	0.004	0.003	-
Other Intangibles	0.006	0.004	0.003	-
Other Long-Term Assets	-	-	-	-
Total Assets	8.876	<u>23.704</u>	<u>25.781</u>	<u>39.39</u>
LIABILITIES				
Accounts Payable	0.609	0.826	1.363	0.664
Accrued Exp.	-	0.042	0.027	-
Other Current Liabilities	<u>-</u>	-	-	-
Total Current Liabilities	0.609	0.868	1.39	0.664
Other Non-Current Liabilities	-	-	-	-
Total Liabilities	0.609	0.868	1.39	0.664
Common Stock	24.93	38.916	43.578	56.41
Additional Paid In Capital	0.037	3.203	2.969	7.398
Retained Earnings	(17.922)	(19.274)	(22.147)	(25.082)
Treasury Stock	-	-	-	-
Comprehensive Inc. and Other	1.221	(800.0)	(0.009)	
Total Common Equity	8.267	22.836	24.392	38.726
Total Equity	<u>8.267</u>	22.836	24.392	38.726

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# **Cash Flow**

For the Fiscal Period Ending	Aug-31-2007	Aug-31-2008	Aug-31-2009	LTM May-31-2010
Currency	USD	USD	USD	USD
Net Income	(0.878)	(1.353)	(2.872)	(4.443)
Amort. of Goodwill and Intangibles	0.018	0.04	0.049	0.049
Impair. of Oil, Gas & Mineral Prop.	-	0.222	0.582	0.582
Depreciation & Amort., Total	0.018	0.262	0.631	0.631
Other Operating Activities	0.053	(0.682)	0.426	1.504
Change in Other Net Operating Assets	-	-	-	-
Cash from Ops.	(0.807)	(1.773)	(1.815)	(2.308)
Capital Expenditure	(2.3)	(5.949)	(6.621)	(12.065)
Cash Acquisitions	-	-	-	-
Divestitures	-	-	-	-
Invest. in Marketable & Equity Securt.	0.044	-	-	0.002
Net (Inc.) Dec. in Loans Originated/Sold	-	-	-	-
Other Investing Activities	-	0.01	-	0.128
Cash from Investing	(2.256)	(5.939)	(6.621)	(11.935)
Short Term Debt Issued	-	-	-	-
Long-Term Debt Issued	-	-	-	-
Total Debt Issued	-	-	-	-
Short Term Debt Repaid	-	-	-	-
Long-Term Debt Repaid	-	-	-	-
Total Debt Repaid	-	-	-	-
Issuance of Common Stock	2.501	16.633	3.931	17.765
Total Dividends Paid	-	-	-	-
Special Dividend Paid	-	-	-	-
Other Financing Activities	0.113	-	(0.097)	(0.097)
Cash from Financing	2.614	16.633	3.834	17.668
Net Change in Cash		<u>8.921</u>	(4.603)	<u>3.425</u>

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