



AVALON
ADVANCED MATERIALS INC.



公司概要

As at July 12, 2016

TSX: AVL & OTCQX: AVLNF

公司簡介

Avalon Advanced Materials 是一家礦產開發公司，總部位於加拿大多倫多，公司側重於特殊礦物礦藏的勘探和開發。Avalon 擁有 6 個礦藏項目，現正開拓其中 2 個項目。

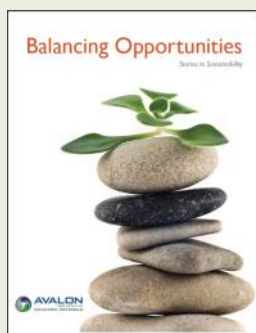
可持續性地發展原則是公司的核心價值，這價值可以從公司每年度發表的可持續性發展報告體現出來。Avalon 是小型礦業公司中，着重採用最佳做法去減低對環境的影響；鼓勵社區參與及諮詢，和極力保護其職工的健康安全的領導者。

投資亮點

- Avalon 擁有多樣的稀有金屬和礦產物的礦藏項目，提供多元化的投資機會，包括鋰，錫，銻，鉍，鉛，鈷，鈾，鈾，鎳，鎳，鎳和稀土元素。
- Separation Rapids 礦藏擁有世界上最大的以知的未開發的罕有的鋰礦透鋰長石資源。透鋰長石的價值在於它的特高純度並用於生產某些玻璃陶瓷的工業礦物。Avalon 現正在研究生產高純度的鋰化物的可能性，希望可以供應於現正快速擴大的鋰離子電池市場。
- 位於 Nova Scotia 省 East Kemptville 礦藏項目含有豐富而且未開採的錫-銻(+銅-鋅-銀)資源。Avalon 現進行各項工作，希望可以在 East Kemptville 重新生產錫。近年來電子行業對錫的需求增長創造了一個好機會去重新開發這個項目，從而可成為一個非衝突錫的北美生產商。
- Nechalacho 稀土項目已完成可行性研究報告，並具有核准的環境影響評估，令其擁有獨特的優勢可成為較為缺乏的重稀土的新供應商。

可持續性報告

在 2015 年 12 月，Avalon 發佈了第四年度的可持續性發展報告，其中包括一份根據與 the Global Reporting Initiative G4 core level 和 The Mining Association of Canada's Towards Sustainable Mining 為標準的可持續性績效的自我評估。該報告可在 Avalon 網站中下載。



資本結構

證券代碼	AVL
交易所	TSX; OTCQX
已發行股票	179,000,000 (大約)
全面攤薄	215,000,000 (大約)
市值	4100 萬加元 (S/O @\$0.23)
年 高/低	0.475 加元 - 0.10 加元
機構控股	UBS, Empery, CPP, Global X, Carnegie, Hancock, DFA, Chilton, Marquest 和其他機構

高級先進物料

- 以 2014 年為終的過去五年內，全世界對鋰的需求增長超過了 80%。用於電池產品中的鋰消耗量在同一時期內增長了 166%。超過三分之一的鋰用於生產電池，市場估計鋰用於電池中的年增長率在 2014 年到 2025 年內將超過 7.4%，而鋰的總需求量在同一時期內將至少加倍。
- 由於鉛毒性問題，錫現普遍用於無鉛焊接的電子電路板中。此用途佔全球錫需求量的 50% 以上。
- 由於稀土元素是生產高強度永磁鐵（用於汽車技術的關鍵材料），風力渦輪機和許多其他消費電子產品的重要材料，稀土的需求現在快速增長。

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項目簡介

Avalon 的主要礦產都是全權擁有，並且都位於加拿大。

在位於加拿大安大略省靠近 Kenora 市的 **Separation Rapids**, Avalon 正在開發一個巨大的**鋰礦物**礦藏。這礦藏含豐富的罕有的透鋰長石(**Lithium Mineral Petalite**)。透鋰長石應用於玻璃工藝中，用於製造抗熱防震玻璃陶瓷。Avalon 已於 2014 年從大量樣品中成功生產出高純度的透鋰長石濃縮品 (**Petalite Concentrate**)。並已得到玻璃業潛在客戶的初步認准。Avalon 還在初步的浸出實驗中成功證明了從這些濃縮品中可提煉出適用於生產可再充電電池的高純度鋰化學物。接下來的步驟包括開採大量樣品用於生產透鋰長石濃縮品以供玻璃陶瓷生產商作生產試驗，並進行進一步的冶金試驗提取鋰化物的發展工程，和計劃在 2016 內完成初步經濟評估 (**Preliminary Economic Assessment**)。

在位於加拿大 Nova Scotia 省 Yarmouth County 的 **East Kemptville**, Avalon 正在對這個過去曾生產錫的礦藏做重新評估，從而判斷將這礦藏重新開發成錫，加上銅、鋅和銻的新生產商的可能性。Avalon 在 2014 年完成了一個一千米的確認鑽探工程，並公佈了符合 NI43-101 標準的礦產資源評估。繼

後在 2015 年 2 月完成了一份重新開發概念計劃。更隨後在 2015 年的下半年進行了一項耗資一百三十萬元的發展工程，包括冶金試驗和鑽石鑽探等工作。鑽探工作的目標是包括更好地確定錫的已知資源量和測評錫資源在礦底深處延伸的潛在性。此外，公司正在進行初步環境研究，為完成全面性環境評估報告做準備。

位於 Thor Lake, Northwest Territories 的 **Nechalacho** 稀土礦藏被開發的主要原因是它具有較大的潛力可生產出大量的重稀土元素 (**Heavy Rare Earth Elements**)。從項目開始至 2013 年 4 月完成了全面可行性研究報告，Avalon 至今在該項目的投資已經超過 1 億元。可行性研究報告指出稅前內部回報率約為 22.5%，而根據以 15.75 億元建設資本估算，稅前淨現值(NPV)則為 13.51 億元(以 10%的折現率計算)。

在 **Nechalacho** 礦藏的巨大的基部地帶區，以根據冶煉回報淨值每噸 345 美元的邊界品位為基準計算，擁有大約 6190 萬噸的測定 (**Measured**)和指示 (**Indicated**)資源量。這些資源含有 1.64% 的總稀土氧化物 (**Total Rare Earth Oxides**)，其中重稀土氧化物對總稀土氧化物的比例為 21.53%。在這巨大的基部地帶區中更擁有 2127 萬噸測定和指示資源(用根據冶煉回報淨值每噸 800 美元的邊界品位計算)。這些資源含有 2.20% 的總稀土氧化物，而且重稀土氧化物對總稀土氧化物的比例則為 25.19%，從而顯示出這礦藏內擁有巨大的、高品位的礦物分區。

加拿大聯邦政府已於 2013 年 11 月審批通過環境評估。Avalon 現在繼續關注稀土市場的動向，以及稀土提煉的新技術研究。希望在不久的將來有新發明的提取技術可減低運營成本和基建成本。是否恢復這項目的發展工作將取決於稀土元素需求和價格的回升以及基建成本的下降。



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

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