

Avalon Further Defines Resource Potential at Separation Rapids Lithium Project, Kenora ON

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Toronto, Ontario--(Newsfile Corp. - July 18, 2017) - [Avalon Advanced Materials Inc.](#) (TSX: AVL) (OTCQX: AVLNF) ("Avalon" or the "Company") announces that the results from the Spring 2017 diamond drilling program have both expanded the lithium resource and provided better definition of the lithium mineralogical zoning in the total resource at the Company's Separation Rapids Lithium Project. Five holes totalling 1,470 metres were drilled on the east and west extensions of the resource, where previous drilling had identified a high proportion lepidolite-rich lithium mineralization.

The results confirm that high-grade lepidolite mineralization comprises approximately 20% of the known lithium resource and is open for expansion, with the balance having predominantly petalite as the principal lithium mineral. Metallurgical testwork done to date has demonstrated that these minerals can be separately concentrated and used to generate different lithium derivative products, including both lithium hydroxide and lithium carbonate, as well as technical grade lithium for glass applications. Avalon has identified markets for all of these lithium products, including an initial commitment on off-take for the lepidolite concentrate from Lepidico Ltd. (See news release of [February 6, 2017](#)). The results of the Spring drilling program will be incorporated into an updated resource estimate and Technical Report to be completed over the next two months.

Spring Drilling Program Details

The Spring diamond drilling program included three drill holes on the existing resource; one drill hole on the eastern extension of the deposit designed to intersect a series of parallel lepidolite-rich dykes; and one drill hole that was a step out geological exploration hole to the west. The main deposit consists of a large, zoned vertical pegmatite dyke averaging 20-30m in thickness that has been structurally flattened, accompanied by a swarm of narrower mineralized dykes of similar but variable lithium mineralogy. These dykes tend to be lepidolite-rich on both the east and west extensions. Lepidolite is a lithium mica typically containing 7-8% Li₂O content while petalite typically contains 4-4.5% Li₂O, but with no impurities.

The pegmatite dyke swarm at Separation Rapids is hosted by barren amphibolite: a dark coloured rock which can be easily segregated from white mineralized pegmatite after crushing using proven optical sorting technology. This makes the lithium in these dykes recoverable and at the same time increases feed grade into the mill.

All four of the drill holes around the known resource successfully intersected pegmatite mineralization with visible petalite and/or lepidolite content. The drill hole locations are provided in Table 1 below and significant intersections are summarized in Table 2. Drill hole SR17-73 intersected multiple zones of dominantly petalite mineralization. The widest was 1.55% Li₂O over a 20.02m true width.

The remaining three holes on the main deposit intersected dominantly lepidolite-rich pegmatite dykes with some subordinate petalite bearing zones. Drill hole SR17-71 intersected dominantly lepidolite mineralization averaging 1.18% Li₂O over a 15.40m true width. Drill hole SR17-72 contained a significant intersection of lepidolite-rich pegmatite averaging 1.11% Li₂O over a 22.03m

true width but containing 6.40m of barren amphibolite. Excluding the contained amphibolite, that same interval would average 1.34% Li₂O over 32.00m.

Drill hole SR17-74 intersected a series of five lepidolite-rich dykes ranging in drilled thickness from 1.20m to 6.20m. Average grades all exceeded 1% Li₂O, including 2.27% Li₂O over 1.37m true width and 1.48% Li₂O over 2.12m true width. The same drill hole also intersected petalite rich mineralization averaging 1.39% Li₂O over 12.00m true width. The cumulative drilled thicknesses in hole SR17-74 were 21.72m of lepidolite-rich mineralization and 38.15m of petalite mineralization.

In addition to lithium mineralization, the Separation Rapids deposit contains significant tantalum, cesium and rubidium mineralization, all of which offer by-product opportunities. All of these elements are higher in the lepidolite-bearing mineralization compared to the dominantly petalite mineralization. Rubidium is hosted in lepidolite and potassium feldspar. Tantalum is present as columbite-tantalite. Cesium may occur in lepidolite or less commonly in the rare cesium mineral pollucite. Examples of grades of these elements are in hole SR17-71, where from 186.35m to 204.48m, the average was 1.41% Li₂O, 0.47% Rb₂O, 0.011% Ta₂O₅ and 0.05% Cs₂O. In drill hole SR17-74, from 129.00m to 135.20m, the average was 1.48% Li₂O, 0.79% Rb₂O, 0.018% Ta₂O₅ and 0.02% Cs₂O.

All drill hole data is being brought into Avalon's database and resource block model in order to develop an updated resource estimate for the deposit. In addition to updating the resource based on average lithium grade, the Company has developed a protocol for quantifying the pegmatite mineralogy in the drill core. The protocol will involve a set of quantitative mineralogical techniques including hyperspectral scanning, Qemscan and X-Ray Diffraction of core chips as well as conventional thin section petrography.

This work will allow the generation of another resource model based on the relative proportions of the various mineral phases in the deposit. This is important to quantify because of the presence of distinct lithium mineral phases requiring different concentration processes to recover them and the presence of other valuable industrial mineral products in the resource, notably the feldspars which are also of exceptional purity and chemistry. Re-logging of archived drill core will be done as part of the summer work program to incorporate historical data into the new mineralogy-based resource model. President & CEO Don Bubar commented, "The importance of mineralogy is often overlooked in lithium pegmatite deposit evaluation. Relying only on lithium grade in economic modelling creates a risk factor since most pegmatites contain more than one lithium mineral phase, some of which may require differing recovery processes."

Future Work

With the benefit of the recent drilling program results and the revised geological model, the Company is now planning a follow-up drilling program for later this summer to continue testing the depth extension of the known resource. The deepest intersection to date in hole SR98-57 encountered 1.47% Li₂O over a true width of 31.70m at a depth of 180m to 270m, demonstrating the potential to rapidly expand the resource with depth. A minimum of 2,000m in five deeper holes is currently planned, subject to financing.

In addition, a summer geological mapping, prospecting and sampling program will be carried out to begin evaluation of numerous other known lithium pegmatite occurrences on the western part of the property. This will include the new [Paterson Lake claims](#), where three significant pegmatite occurrences are known but have never been drilled. These lithium pegmatite occurrences are between 5 and 6 kilometres away on trend with the Separation Rapids deposit along with a number of other, smaller less explored pegmatite occurrences. One of these, called the Glitter pegmatite, reportedly containing both petalite and lepidolite, has yielded assays of between 1.03 and 1.64% Li₂O over five successive 1m samples (Ontario Geological Survey Summary of Field Work, 1999).

The drilling program and other geological work at Separation Rapids is being supervised by the Company's Vice President, Exploration, Dr. Bill Mercer, P. Geo. (ON). Dr. Mercer is a qualified person for the purposes of National Instrument 43-101, who has reviewed and approved the technical information included in this news release.

About Avalon Advanced Materials Inc.

Avalon Advanced Materials Inc. is a Canadian mineral development company specializing in niche market metals and minerals with growing demand in new technology. The Company has three advanced stage projects, all 100%-owned, providing investors with exposure to lithium, tin and indium, as well as rare earth elements, tantalum, niobium, and zirconium. Avalon is currently focusing on its Separation Rapids Lithium Project, Kenora, ON and its East Kemptville Tin-Indium Project, Yarmouth, NS. Social responsibility and environmental stewardship are corporate cornerstones.

For questions and feedback, please e-mail the Company at ir@AvalonAM.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. Forward-looking statements include, but are not limited to, the statement that that minerals can be separately concentrated and used to generate different lithium derivative products, that the results of the Spring drilling program will be incorporated into an updated resource estimate and Technical Report to be completed over the next two months, that tantalum, cesium and rubidium offer by-product opportunities, that work will allow the generation of another resource model based on the relative proportions of the various mineral phases in the deposit, that re-logging of archived drill core will be done as part of the summer work program to incorporate historical data into the new mineralogy-based resource model, that the Company is now planning a follow-up drilling program for later this summer to continue testing the depth extension of the known resource, that a minimum of 2,000m in five deeper holes is planned, subject to financing, and that a summer geological mapping, prospecting and sampling program will be carried out to begin evaluation of numerous other known lithium pegmatite occurrences on the western part of the property. Generally, these forward-looking statements can be identified by the use of forward-looking terminology such as "potential", "scheduled", "anticipates", "continues", "expects" or "does not expect", "is expected", "scheduled", "targeted", "planned", or "believes", or variations of such words and phrases or state that certain actions, events or results "may", "could", "would", "might" or "will be" or "will not be" taken, reached or result, "will occur" or "be achieved". Forward-looking statements 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 market conditions, and the possibility of cost overruns or unanticipated costs and expenses 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.

Table 1: Drill hole locations

Drill Hole Number	Drill Size	Easting (NAD83)	Northing (NAD83)	Final depth (m)
SR17-70	HQ	387211	5569403	276
SR17-71	HQ	388200	5569172	243
SR17-72	HQ	388276	5569147	228
SR17-73	HQ	388454	5569131	387
SR17-74	HQ	388669	5569033	336
TOTAL				1,470

Table 2: Significant drill intersections

Drill hole	Geological Unit	From	To	Drilled width (m)
SR17-71(including)	Lepidolite	184.45	211.30	26.85
		186.35	204.48	18.13

SR17-72	Lepidolite	172.10	210.50	38.40
SR17-73	Petalite	260.40	304.49	44.09
SR17-74	Lepidolite	33.00	37.00	4.00
SR17-74	Lepidolite	129.00	135.20	6.20
SR17-74	Lepidolite	142.50	148.25	5.75
SR17-74	Lepidolite	160.48	165.80	5.32
SR17-74	Petalite	262.15	265.20	3.05
SR17-74	Petalite	282.70	317.80	35.10

Notes:

1. True widths are estimated assuming the mineralized zones are vertical. The near vertical nature is clearly apparent in drill sections.
2. All drill core was split by Avalon staff on site near Kenora and shipped to ALS Global in Thunder Bay for preparation and on to Vancouver for analysis by methods ME-4ACD81 and ME-MS81 for multielement analysis including Li, Ta, Cs and Rb. Samples over 5,000 ppm lithium were reanalyzed by Li-OG63, and lithium specific analytical method conducted by ALS Global.
3. Avalon inserted company certified lithium standards and blanks into the sample stream for QAQC purposes. The results of the Avalon and laboratory standards and blanks were reviewed by Avalon's QP, Vice President, Exploration, Dr. Bill Mercer, P. Geo. (ON), qualified person for the purposes of National Instrument 43-101, prior to accepting the laboratory results.
4. Lithium (Li) analyses in ppm were converted to Li₂O values by multiplying by 2.1527.
5. The Lepidolite unit also contains other lithium minerals including petalite. The Petalite unit contains dominantly petalite.
6. Hole SR17-70 is not concluded in this list because it was not completed and stopped short of the target.