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# NEWS RELEASE

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## Avalon Announces Thor Lake REE Resource Estimates

**Avalon Ventures Ltd.** TSX-V: AVL (the "Company") is pleased to announce announce new NI 43-101 compliant mineral resource estimates for its wholly owned Thor Lake, NWT, rare metals project. These were prepared by independent consultants, Wardrop Engineering Inc. ("Wardrop") as part of a scoping study of the rare earth element ("REE") development potential of the Thor Lake deposits. The full scoping study will be finalized in February and will include a preliminary economic model for the project based on these resource estimates. Wardrop generated new resource estimates for two of the six mineralized zones at Thor Lake that are known to contain significant REE mineralization and for which there was sufficient historic drilling information.

These two zones are the North T beryllium-REE-niobium deposit and the Lake Zone REE-tantalum-niobium-zirconium deposit. The mineral resource estimates are based on a database of 84 drill holes for the North T Zone and 52 drill holes for the Lake Zone. The work was done using ordinary kriging techniques for the interpolation of assay composites into block models for each deposit.

**Highlights**

Highlights of the new resource estimate are:

1. confirmation that the Lake Zone represents a very large Inferred Mineral Resource of some 375,410,000 tonnes using a relatively low yttrium cut-off grade as detailed below, and

2. quantification of a 593,000 tonne resource of high quality yttrium plus REE mineralization in the North T deposit, additional to the previously-disclosed estimate (the Company's News release of March 22, 2005) for the beryllium-rich resource, bringing the total Indicated Mineral Resource for this deposit to 1,136,000 tonnes at the grades detailed below.

**North T Deposit**

The North T is a bowl-shaped deposit exposed at surface which is readily amenable to development by open pit, and exhibits a concentric mineralogical zonation. Five distinct sub-zones (C,D,E,F & Y) were defined by previous workers. The C, D, and E-zones comprise the beryllium-dominant resource defined previously. The F-zone is a distinct lens of dominantly light rare earth ("LREE") mineralization characterized by relative high levels of enrichment of neodymium in the mineral bastnaesite. The Y-Zone is a larger lens of dominantly yttrium plus heavy rare earth ("HREE") mineralization contained in the mineral xenotime, and accompanied by accessory thorium mineralization.

Significant niobium occurs in the C, D and Y zones, but recovery of the niobium mineralization is not contemplated at this time. The North T deposit also contains a feldspar-dominant outer shell called the

Wall zone which contains significant gallium mineralization. Insufficient data is available at present to quantify this resource and it is therefore excluded from the present resource estimate.

Using historical drilling data to construct a new block model of the North T deposit and new data on rock densities, Wardrop generated the following Indicated Mineral Resource estimate for the North T deposit using selected beryllium, yttrium or cerium cut-off grades, as appropriate for the relevant sub-zone:

| CUTOFF | CUTTING ELEMENT | SUBZONE | TONNES | %Y2O3 | %BeO | %Ce2O3 | %Nb2O5 | %Nd2O3 |
|---|---|---|---|---|---|---|---|---|
| 0.40 | %BeO | C | 200,352 | 0.14 | 0.88 | 0.14 | 0.96 | 0.027 |
| 0.40 | %BeO | D | 155,108 | 0.23 | 0.87 | 0.18 | 0.29 | 0.020 |
| 0.40 | %BeO | E | 142,949 | 0.03 | 1.23 | 0.09 | 0.10 | 0.004 |
| 0.10 | %Ce2O3 | F | 43,877 | 0.06 | 0.16 | 3.14 | 0.01 | 1.552 |
| 0.04 | %Y2O3 | Y | 593,815 | 0.15 | 0.08 | 0.09 | 0.59 | 0.008 |
| Total | | | 1,136,101 | 0.14 | 0.48 | 0.23 | 0.53 | 0.07 |

*Y2O3 = yttrium oxide, BeO = beryllium oxide, Ce2O3 = cerium oxide, Nb2O5 = niobium oxide, Nd2O5 = neodymium oxide*

Rare earth element deposits will contain amounts of all 14 of the rare earth elements (or lanthanide elements) plus yttrium in proportions that are constant on a deposit scale. Accordingly, once these relative proportions are established through detailed analytical and mineralogical work, then assaying can be confined to a few diagnostic rare earth elements and the content of the others interpolated by applying the known ratio. In this case, the diagnostic elements historically analyzed for routinely were yttrium, cerium, lanthanum and neodymium. Knowledge of the relative proportions of each contained REE is of fundamental importance in evaluating the economic potential of rare earth element deposits.

In 2005 and 2006, the Company retained Dr. A. N. Mariano, Carlisle, MA, an international expert in the field of rare earth deposit geology and mineralogy, to perform detailed analytical and mineralogical work to determine the distribution of REE mineralization in both the North T and Lake Zone deposits at Thor Lake. In the C, D and Y sub-zones of the North T, Dr. Mariano determined that yttrium and HREE mineralization is contained in the mineral xenotime, a traditional source of heavy rare earth elements (HREE). Yttrium and the HREEs occur in the North T xenotime in the following proportions:

| Element | Y | La | Ce | Pr | Nd | Sm | Eu | Gd | Tb | Dy | Ho | Er | Tm | Yb | Lu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Oxide % | 55.31 | 0.10 | 0.02 | 0.10 | 0.20 | 1.80 | 0.70 | 11.6 | 2.50 | 15.6 | 3.10 | 5.41 | 0.60 | 2.20 | 0.70 |

For the LREE (bastnaesite) mineralization in the F-zone, Dr. Mariano determined the following relative proportions which are notable for their high relative neodymium oxide content at 20.2%. For comparison, Mariano reports that two other commercially available bastnaesite concentrates contain 12.0 and 15.4% neodymium oxide respectively.

| Element | Y | La | Ce | Pr | Nd | Sm | Eu | Gd | Tb | Dy | Ho | Er | Tm | Yb | Lu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Oxide % | 0.40 | 23.4 | 46.3 | 5.58 | 20.2 | 2.19 | 0.19 | 1.02 | 0.06 | 0.12 | 0.02 | 0.07 | trace | 0.01 | 0.40 |

Reporting of REE analytical data is typically done as the sum of the rare earth elements plus yttrium in oxide form and reported as TREOs + Y2O3 (total rare earth oxides + yttrium oxide). Applying this to the Thor Lake deposit, results in the following more general summary of Indicated Mineral Resources for the North T deposit, as calculated internally by the Company:

**North T Zone: Summary of Indicated Resources**

| SUBZONE | CUTOFF % | TONNES | TREO + Y2O3% | BeO% | Nb2O5% |
|---|---|---|---|---|---|
| C,D,E | 0.40 BeO | 498,409 | 0.72 | 0.98 | 0.50 |
| F | 0.10 Ce2O3 | 43,877 | 6.50 | 0.16 | 0.01 |
| Y | 0.04 Y2O3 | 593,815 | 0.45 | 0.08 | 0.59 |
| TOTAL | | 1,136,101 | 0.71 | 0.48 | 0.53 |

The aggregate resource for the C, D and E zones compares with historic beryllium resource estimates of 551,000 tonnes @ 1.06% BeO, the difference in tonnage being mainly attributable to the use of a lower calculated rock density in the present resource estimate.

Future work on the North T deposit will focus on mineralogical studies and metallurgical testwork to design a flow sheet to concentrate the xenotime (HREE) mineralization and recover the beryllium mineralization as a by-product concentrate. Additional definition drilling may be required to better define the Y+ HREE mineralization in the Y zone. Grab samples collected from dump material from the C Zone, collected by Avalon in 2005 yielded assays ranging from 4.58 to 9.31% TREO + Y2O3 (previously disclosed on September, 2005) indicating potential for higher grade HREE sub-zones.

Present indications are that traditional sources of supply of yttrium + heavy rare earth mineral concentrates from southern China are increasingly constrained and that demand exists for alternative supply sources of HREE concentrates, such as a xenotime concentrate that could potentially be produced at Thor Lake. Relatively scarce heavy rare earths such as terbium and dysprosium are in increasing demand for their use in new hi-intensity magnet technology. Terbium oxide has sold recently for as much as US $500/kg, while dysprosium oxide has been selling recently for US $75/kg.

Beryllium mineralization in the North T deposit occurs in the silicate mineral phenacite ($Be_2SiO_4$) which has more than double the beryllium content of the more common beryllium ore mineral beryl ($Be_2Al_2Si_6O_{18}$). The phenacite can be concentrated by conventional froth flotation techniques and products with grades exceeding 20% BeO have been produced historically. Preliminary investigations indicate good market potential to sell such a high grade beryllium concentrate directly to an established secondary processor. Beryllium markets are growing because of its use in reflectors and moderators in nuclear reactors and the worldwide growth in nuclear power generation.

**Lake Zone Deposit**

The Lake Zone is a large, flat-lying tabular body, exposed at surface, having an average thickness of approximately 150 metres and a surface area of over 1.2 $km^2$. Its vertical and lateral extent is well-constrained from geological and geophysical data but, because the surface area is so large, and the 52 historic drill holes so widely-spaced, the resource can only be classified as Inferred until further drilling is completed. Recent detailed geological studies indicate that the Lake Zone is geochemically and mineralogically zoned but, as mentioned, existing drill information is too widely-spaced to define distinct sub-zones for resource estimation purposes. Consequently the resource estimates are defined only on the basis of yttrium cut-off grades and no attempt has been made to sub-divide resources based on internal zoning, as done with the North T Zone.

Following are the Inferred Mineral Resources estimated by Wardrop for the Lake Zone, using newly generated rock density data, and presented for selected Y2O3 cut-off grades:

| CUTOFF | CUTTING ELEMENT | TONNES | Y2O3% | La2O3 % | Ce2O3 % | Nb2O5 % | Ta2O5% | ZrO2% |
|---|---|---|---|---|---|---|---|---|
| 0.01 | %Y2O3 | 375,410,000 | 0.03 | 0.03 | 0.18 | 0.22 | 0.014 | 1.19 |
| 0.05 | %Y2O3 | 83,224,000 | 0.08 | 0.06 | 0.40 | 0.32 | 0.025 | 1.96 |
| 0.1 | %Y2O3 | 14,005,000 | 0.14 | 0.08 | 0.43 | 0.33 | 0.025 | 1.73 |

*La2O3 = lanthanum oxide, ZrO2 = zirconium oxide*

Both LREE and HREE mineralization are found in the Lake Zone. The LREE's mainly occur in bastnaesite and allanite while the HREE's plus yttrium mainly occur in a tantalum-niobium oxide mineral called fergusonite. They occur in an apparently zoned distribution still to be mapped out. There is no significant beryllium mineralization in the Lake Zone but there is widespread enrichment in zirconium in the form of zircon and this is a potential by-product. Niobium and tantalum also occur in columbite-tantalite, although this mineralization has historically proven difficult to recover.

As with the North T deposit, detailed analytical work was carried out by the Company on a suite of core sample to determine all 14 rare earths and establish their relative proportions focusing on the Y+HREE mineralization contained in fergusonite. Yttrium and the HREEs occur in fergusonite in the following proportions as determined by Mariano:

| Element | Y | La | Ce | Pr | Nd | Sm | Eu | Gd | Tb | Dy | Ho | Er | Tm | Yb | Lu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Oxide % | 29.05 | 0.30 | 4.40 | 1.70 | 15.6 | 10.4 | 1.60 | 14.3 | 1.80 | 9.80 | 1.20 | 4.10 | 0.70 | 4.40 | 0.7 |

Like the xenotime in the North T deposit, the fergusonite is of interest for its relatively high proportion of the more valuable heavy rare earths. But unlike the xenotime, it contains relatively high proportions of neodymium and less yttrium which is also an attractive characteristic, as neodymium is in very high demand for magnet applications. From this data, the average TREO+Y2O3 contents for the Lake Zone, as calculated by the Company, are as follows:

**Lake Zone: Summary of Inferred Mineral Resources**

| CUTOFF% | TONNES | TREO+Y2O3% | Ta2O5% | Nb2O5% | ZrO% |
|---|---|---|---|---|---|
| 0.10 Y2O3 | 14,005,000 | 1.23 | 0.025 | 0.33 | 1.73 |
| 0.05 Y2O3 | 83,224,000 | 0.99 | 0.025 | 0.31 | 1.96 |
| 0.01 Y2O3 | 375,410,000 | 0.41 | 0.014 | 0.22 | 1.19 |

Systematic re-assaying of archived drill cores from Thor Lake by the Company indicates the presence of higher grade subzones of fergusonite enrichment. For example, Drill Hole 81-1 from the Lake Zone returned 4.82% TREO +Y2O3 over a 17.0 metre core length. The recent compilation of data from the Lake Zone suggests that the southern half of the deposit holds the most potential for hosting high grade sub-zones of Yttrium + HREE mineralization. Most of this area has not been drill-tested and it will therefore be the priority target for the definition drilling program planned for the Lake Zone in 2007.

Further detailed mineralogical studies on historic drill core samples from the Lake Zone are in progress and metallurgical studies are planned to determine a process flowsheet for economic recovery of the yttrium + HREE (fergusonite) mineralization.

**Other Zones**

There are at least two other rare metal mineralized zones at Thor Lake that also warrant further exploration. These include the South T Zone, on which the Comapny will undertake a resource estimate once the historic drill data are organized, and the R Zone which has returned grab sample assay data as

high as 8.51% Y2O3 and 7.51% TREO. This zone requires further exploration drilling before a resource estimate can be prepared.

Kevin Palmer, P.Geo. was the qualified person from Wardrop Engineering Inc. responsible for this resource estimation. Tim Maunula, P.Geo. of Wardrop Engineering reviewed his work and assisted with the development of the estimation parameters. David L. Trueman, Ph. D., P.Geo., who has direct experience with the project dating back to 1982, reviewed the data on behalf of the Company and assisted with interpretation where requested by Wardrop.

**About Avalon Ventures Ltd**.

Avalon Ventures Ltd. (TSX-V: AVL) is a Canadian junior mineral exploration and development company, with a primary focus on rare metals and minerals with high technology applications or offering environmental benefits. Avalon currently holds a portfolio of five such projects, including three that are at the feasibility stage. To find out more about Avalon Ventures Ltd. (TSX-V: AVL), please visit our website at www.avalonventures.com. Shares Outstanding as at the date of this release: 50,342,248. Cash resources: $3.0 million

This news release is available on the Company's official on-line investor relations site for investor commentary, feedback and questions. Investors are invited to visit the "Avalon Ventures" IR Hub at http://www.agoracom.com/ir/avalon. In addition, investors are invited to e-mail their questions and correspondence to AVL@agoracom.com or phone Don Bubar, P.Geo. President, at 416-364-4938. Mr. Bubar is the Qualified Person responsible for the technical content of this news release.

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