Swedish graphite proves ideal for lithium-ion battery market

18 February, 2016 **Ben Hagemann** **0 comments**

Image: Talga Resources

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Graphite producer Talga Resources announced testwork on its Swedish product has shown reduced need for processing before use for battery manufacture.

The Australian company has shown that material from the Vittangi graphite deposit in Sweden does not require certain processing steps for use in lithium-ion batteries, the same type that are used in the production of the Tesla Powerwall.

Independent testing showed that Vittangi graphite ore did not require milling, purification, spheronisation or coating before use as active material for a lithium-ion battery with first charge capacity of 375mAh/g, a first discharge capacity of 481mAh/g and average charge capacity over 100 cycles of 357mAh/g.

Testing was carried out using Vittangi feedstock by the Max Planck Institute of Polymer Research and the Dresden Technical University in Germany.

Conventional graphite ore cannot be used for anode material in lithium-ion batteries without extensive physical and chemical refining.

Talga Resources managing director Mark Thompson said the results were significant because the charge capacity results matched and even surpassed those from batteries reliant on industry standard spherical graphite anodes.

“Talga’s sample came in a relatively raw natural state and did not require energy hungry milling and toxic refining steps,” he said.

“Aside from operational cost reductions without micronizing and spheronising, any opportunity to avoid significant capital outlay on complicated spherical graphite plant and equipment is a huge bonus.

“These results highlight the benefit of owning 100 per cent of a very special resource that affords a truly new opportunity in the fast growing lithium-ion battery market.”

Typical graphite ore requires intense refining into spherical particles less than 15 microns in size for use in lithium-ion batteries, which increases processing costs for a product worth in excess of $US3500 per tonne for uncoated product.

Processes for shaping conventional graphite particles include flotation, leaching using toxic chemicals, micronisation, shaping, and coating with chemicals.