ASX: EV1 | 29 April 2024

ASX ANNOUNCEMENT

Successful Anode Product Testwork

Highlights

- **Positive results received from testwork and performance evaluation conducted by BTR on battery anode materials made from Chilalo bulk concentrate samples.**
- **This anode testwork advances the product testing beyond that previously undertaken by BTR as part of its due diligence program prior to becoming a shareholder, including comprehensive evaluation of electrochemical performance of an actual lithium-ion battery containing an anode derived from Evolution's Chilalo concentrate.**
- **Testwork has confirmed the ability for Chilalo graphite to replicate BTR's existing premium quality anode materials which are mass produced by BTR and qualified by the world's leading lithium-ion battery producers.**
- **BTR will continue to undertake large scale testing on Chilalo ore all the way through to production of natural graphite battery anodes – shortening lengthy qualification timeframes.**
- **Demonstrating a vertically integrated supply chain from mine to lithium-ion battery anode is expected to play a crucial role in EV1 securing a strategic investor / partner for progressing a downstream anode material processing strategy.**

Evolution Energy Minerals Limited (**Evolution** or the **Company**) **(ASX: EV1, FSE: P77)** is pleased to announce that its technology partner and strategic shareholder BTR New Material Group Co Ltd (**BTR**) has received positive performance results from battery anode and lithium-ion battery testwork conducted on bulk Chilalo samples.

The testwork is further progress beyond the due diligence conducted by BTR prior to its commitment to the binding offtake agreement and investment in Evolution, where it produced a high quality spheronised graphite precursor product with competitive yields. It is also a positive signal that Chilalo graphite will become an ideal feedstock for premium quality anode materials to be produced by the joint downstream anode facility being contemplated by both BTR and Evolution.

This ongoing anode product development program is an important part of the planned feasibility studies to assess the potential for the establishment of an anode processing facility in North America utilising BTR's world-leading technology and strong marketing access to the world's Tier 1 leading battery manufacturers.

Evolution's Managing Director, Phil Hoskins, commented:

"Following the successful due diligence testwork by BTR, this program has sought to advance into the next phase – qualifying Chilalo anode materials into BTR's premium quality product specifications. Results of this testwork will determine the anode specifications most suitable to Chilalo concentrate. Given the promising signs to date and BTR's expertise in anode processing, we are confident that anodes derived from Chilalo graphite can qualify into the supply chains of major battery and electric vehicle companies.

"With several recent downstream transactions being announced, we are seeing greater interest from battery and car makers in investing further upstream, particularly if a vertically integrated 'mine to anode' supply chain can be demonstrated. This testwork will be important for end users to confirm that Chilalo derived anodes meet their requirements."

Results of Testwork

BTR produced lithium-ion battery anode products using Evolution's Chilalo graphite concentrate and conducted detailed analysis of their performance compared with BTR's current mass production anodes. Then, the Chilalo anode products were used to produce lithium-ion batteries for comprehensive analysis and comparison of electrochemistry and electrophysics. An example of the results is reported below with all indicators meeting qualification criteria.

Product	Dmin	D10	D50	D90	Tap	SSA	Capacity	Initial Effect
	µm	µm	µm	µm	g/cc	m2/g	mAh/g	%
EV1-2	5.9	10.9	17.6	27.6	1.102	2.657	363.9	94.7

Source: BTR New Material Group

Comments on Processing Properties

Below are some comments around key processing properties of Chilalo derived anode materials:

- Ultimate compaction and exfoliation strength of Chilalo anodes are higher than reference products.
- Compared with reference products, electrode plate rebound of Chilalo anodes is comparable.
- Compared with reference products, short-term rebound of Chilalo electrode plate performs favourably, with long-term performance being optimised.

Comments on Battery Performance

Compared with reference products, Evolution anodes had similar multiplied charging capacity and high-temperature storage capabilities with retention rates being comparable after 200 cycles. Long term cycling is continuing.

Next steps

To facilitate continued anode product qualification and development, Evolution plans to ship a 400 tonne bulk sample of Chilalo ore to China for testing. BTR intends to undertake comprehensive testwork on the bulk sample, optimize the production of the graphite anode product, followed by battery performance evaluation and customer qualification. Working with a proven producer such as BTR is expected to shorten the lengthy qualification timeframes for battery anode materials.

Evolution is working with BTR on continuing to optimise the anode product but also to optimise the fine flake feedstock out of Chilalo for eventual anode performance. This will result in the highest end-to-end value being received for Chilalo's graphite.

This announcement has been approved for release by Evolution's Board of Directors.

For further information please contact:

Phil Hoskins
Managing Director
phoskins@ev1minerals.com.au
T: +61 8 9200 4960

Andrew Rowell
White Noise Communications
andrew@whitenoisecomms.com
T: +61 400 466 226

ABOUT EVOLUTION (ASX:EV1)



Development ready
Chilalo Graphite Project in Tanzania

Chilalo Project
High margin, low capex

BTR strategic partnership
Transformational offtake, funding and downstream collaboration

Battery suitability
Premium quality CSPG produced from fines

Vertically integrated strategy
Accelerated and de-risked partnership model with proven technology

Evolution's vision is to become a vertically integrated company that will only supply sustainably sourced graphite products and battery materials.

This will be achieved by combining our unique graphite source with industry-leading technology partners, working closely with customers and producing diversified downstream products in both Tanzania and strategically located manufacturing hubs around the world. Evolution is committed to being global leaders in ESG and ensuring its operations support the push for decarbonisation and the global green economy.

EVOLUTION ENERGY MINERALS

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