

ASX Release

28 May 2021

Renascor's HF-Free Technology Achieves 99.99% Purity

Results Further Validate Renascor's Eco-Friendly Purification Process and Leading ESG Credentials

Highlights:

- Advanced mineral processing trials of Renascor's eco-friendly purification process undertaken by leading German independent battery mineral consultancy group Dorfner ANZAPLAN have achieved results of 99.99% Carbon (C) (versus anode industry standard of 99.95% C).
- The current trials, which are being conducted to optimise the purification circuit prior to detailed engineering design for construction of Renascor's planned Purified Spherical Graphite ("PSG") manufacturing facility in South Australia, have achieved the highest purity levels to date¹ and have also confirmed that Renascor's purification process can achieve purity that meets or exceeds lithium-ion battery anode specifications.
- Renascor's purification technique avoids the use of hydrofluoric acid (HF) and instead uses an environmentally friendly and cost-effective method for purification of Renascor's Siviour natural flake graphite for use in lithium-ion battery anodes.
- Renascor's HF-free purification process has already been used to produce PSG that meets anode industry quality specifications, including having achieved first stage qualification with two world-class anode company offtakers that account for up to two-thirds of Renascor's stage one production². Additional purification trials with other potential offtakers are currently underway.
- **Renascor intends to use its purification technology to create a competitive advantage in the production of high-quality, 100% Australian-made PSG with leading ESG³ credentials in the first integrated in-country mine and battery anode material operation outside of China.**
- The results of the current purification trials will be used for detailed engineering design for construction of Renascor's planned manufacturing facility in South Australia, as well as to support on-going offtake and finance discussions.



Renascor Resources Limited (ASX: RNU) (**Renascor**) is pleased to announce the results of recent independent mineral processing trials undertaken by leading German battery mineral consultancy group Dorfner Analysenzentrum und Anlagenplanungsgesellschaft mbH (**Dorfner ANZAPLAN**) that have achieved results of up to 99.99% C (versus anode industry standard of 99.95% C).

Commenting on the recent results, Renascor Managing Director David Christensen stated:

“Over the past five years, the Renascor technical team has developed an environmentally-friendly and cost-effective technology to purify Siviour graphite to meet the demanding requirements of lithium-ion battery anode manufacturers.

The results today demonstrate that, not only can we produce ultra-high purity graphite, but we can achieve these results whilst also delivering positive ESG outcomes.

We expect these results to further support our plans for our 100% Australian-made Siviour Purified Spherical Graphite to become a world-leader in sustainable and ethically-sourced battery anode material for the lithium-ion battery market.”

Purification trials

Over the past five years, Renascor has undertaken comprehensive mineral processing tests on Siviour graphite and has adapted an HF-free caustic roasting technique to produce Siviour graphite concentrates to +99.95% C, the minimum purity level generally accepted for incorporation of natural flake graphite into lithium-ion battery anodes.

Caustic roasting involves using a caustic solution before roasting at low temperature and leaching. An important advantage of our caustic roasting process is that it offers an environmentally friendly process to purify graphite to battery-grade. In contrast, the purification technique generally used in China uses more environmentally harmful HF.

Since the completion of the Siviour Battery Anode Material Study in July 2020, Renascor has continued to develop and refine its HF-free purification technique through programs designed to optimise both the quality of the graphite produced through its use, as well as the projected cost at commercial scale⁴.

Recent tests have included purification trials undertaken by Dorfner ANZAPLAN, in collaboration with Renascor’s external engineering advisors Wave International.

Dorfner ANZAPLAN is a leading consultancy and engineering company with particular experience in battery minerals. Dorfner ANZAPLAN’s graphite expertise includes testing, developing, piloting and adapting mineral processing parameters to purify graphite concentrates to lithium-ion battery grade levels of +99.95% C. Wave International is an Australian-based resource development and engineering consultancy with extensive experience in the battery minerals sector, including acting in the capacity of external study manager and supervising engineers of Renascor’s Battery Anode Material Project⁵.

Renascor’s program with Dorfner ANZAPLAN is designed to utilise Renascor’s historical work and parameters for producing PSG from Siviour graphite concentrates, validate its suitability for producing battery-grade anode material and optimise its application for use at commercial scale.

Initial production trials at ANZAPLAN successfully produced high-purity graphite from Siviour graphite concentrates, with results up to 99.98% C, in excess of the industry standard of 99.95% C⁶.

The most recent trials, which have included parameters designed to optimise reagent consumption, have achieved results of up to 99.99% C and have also confirmed that Renascor’s purification process can produce graphite that meets or exceeds lithium-ion battery anode purity specifications.

The trials are designed to include varying reagent regimes and to be performed on feedstocks of varying concentrate grade and type. This variation is considered critical to ensure that the processing parameters yield the production of qualifying PSG with all graphite concentrate feedstock expected to feed into the PSG processing plant. Results to date have achieved qualifying purity levels of each selected grade.



Significance

The results of the recent trials are significant because they provide further validation of Renascor's eco-friendly purification technique and its suitability to achieve ultra-high, battery-grade purity.

The results are also significant because they further support Renascor's leading environmental and social credentials, including the ability to achieve ultra-high purity, while using an eco-friendly, HF-free purification process.

Finally, the results offer further support for the efficiency of Renascor's purification technology and support Renascor's plans to optimise reagent consumption and produce PSG at globally competitive costs.

Next steps

The purification trials with Dorfner ANZAPLAN are scheduled to conclude in June 2021, with results to be used for detailed engineering design for construction of Renascor planned PSG manufacturing facility in South Australia.

This ASX announcement has been approved by Renascor's Board of Directors and authorised for release by Renascor's Managing Director David Christensen.

Disclaimer

Renascor confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. Renascor confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

This report may contain forward-looking statements. Any forward-looking statements reflect management's current beliefs based on information currently available to management and are based on what management believes to be reasonable assumptions. It should be noted that a number of factors could cause actual results, or expectations to differ materially from the results expressed or implied in the forward-looking statements.

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About Renascor

Renascor is committed to powering the clean energy transition through the development, in Australia, of a vertically integrated graphite mine and manufacturing operation to produce sustainable and ethically-sourced battery anode material for the lithium-ion battery market.

Renascor’s operation will combine:

- The Siviour Graphite Deposit in South Australia, the largest reported graphite Reserve outside of Africa⁷, and
- A state-of-the-art processing facility in South Australia to manufacture purified spherical graphite through Renascor’s eco-friendly purification process.

Renascor’s aim is to become a leading supplier of 100% Australian-made and low-cost purified spherical graphite for lithium-ion battery anode makers worldwide.

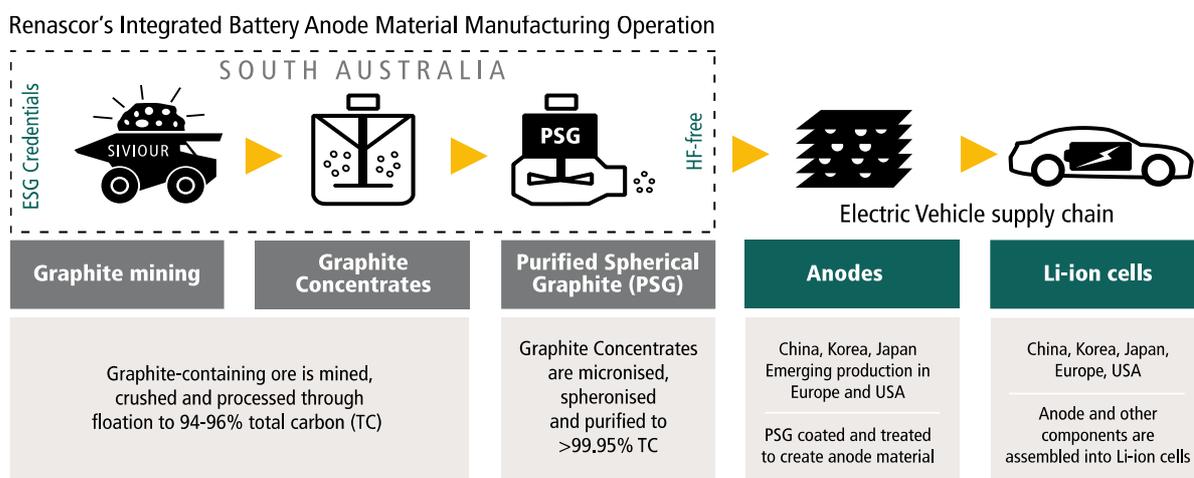


Figure 1: Renascor’s vertically integrated Mine and Concentrator and Downstream PSG production facility within the Electric Vehicle supply chain

¹ Previous trials have achieved purity levels of 99.98% C. See Renascor ASX release dated 22 February 2021.

² See Renascor ASX release dated 11 February 2021.

³ Environmental, social and corporate governance.

⁴ See Renascor ASX releases dated 14 July 2020, 12 August 2020 and 22 February 2021.

⁵ See Renascor ASX release dated 1 July 2020.

⁶ See Renascor ASX release dated 22 February 2021.

⁷ See Renascor ASX release dated 21 July 2020.

