

ASX Release

July 14, 2020

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ASX CODE

RNU

 Developing
 Australia's Largest
 Graphite Deposit


Independent Purification Tests Confirm Low-Cost Battery-Grade Purified Spherical Graphite from Siviour Graphite

Highlights

- Renascor's recently completed Battery Anode Material Study¹ confirmed that Siviour is able to produce Purified Spherical Graphite at amongst the lowest cost of any graphite development in the world.
- Independent purification tests have now confirmed the ability to process Siviour graphite into high-value Purified Spherical Graphite (**PSG**) through the more environmentally-friendly caustic roast purification method.
- Tests undertaken by German graphite specialist ProGraphite GmbH (**ProGraphite**) have successfully upgraded Siviour spheronised graphite into lithium-ion battery-grade, 99.97% carbon PSG using caustic roast purification technique.
- Renascor's Battery Anode Material Study adopted caustic roast purification as a more sustainable alternative to producing Purified Spherical Graphite than the hydrofluoric acid method generally used in Chinese PSG operations.
- PSG is experiencing significant demand growth, with a forecasted annual growth rate of up to 29% per year through 2030².
- The test results validate Renascor's plan to be a low-cost supplier of Purified Spherical Graphite in the first integrated in-country mine and battery anode materials operation outside of China.
- The results will be used to support continuing offtake and finance discussions.

Renascor Resources (ASX: RNU) is pleased to announce the results of independent tests that processed Siviour graphite into high-value PSG through the more environmentally-friendly caustic roast purification method.

The results further support Renascor's recently completed Battery Anode Material Study which adopts caustic roast purification as a more sustainable alternative to producing PSG than the hydrofluoric acid method often used in Chinese PSG operations.

Commenting on the results, Managing Director David Christensen stated:

"Our Battery Anode Material Study found that Siviour is able to produce Purified Spherical Graphite at amongst the lowest cost of any graphite development in the world.

The results today further support Renascor's goal of becoming a major source of PSG for lithium-ion battery anode makers by validating our more eco-friendly purification process that satisfies sustainability requirements of end-users and financiers.

We look forward to using the results of these tests to assist in securing offtake commitments to permit Siviour's financing and development."

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**Discussion**

Renascor's Battery Anode Material Study proposes a vertically integrated battery anode material operation in South Australia that combines a mining operation at Renascor's 100%-owned Siviour Graphite Project with a downstream processing operation to produce PSG for use in lithium-ion battery anodes.

By leveraging off the comparatively low-cost of Siviour Graphite Concentrates as feedstock for PSG production, and co-locating the downstream operation in Australia, the Battery Anode Material Study shows a globally competitive gross operating cost of US\$1,989 per tonne of PSG³.

For the Battery Anode Material Study, Renascor adopted a caustic roast purification technique for upgrading Siviour Graphite Concentrates to +99.95% carbon (C) PSG, the minimum purity level generally accepted for incorporation of PSG into lithium-ion battery anodes.

Caustic roasting offers a more environmentally friendly process to purify graphite to battery-grade than the purification technique generally used in China, which uses hydrofluoric acid.

The selection of the caustic roast method, following extensive purification testwork in 2018 and 2019,⁴ was influenced by its comparative environmental benefits.

Following the Battery Anode Material Study, Renascor has continued purification tests to optimise and validate the caustic roast circuit used in previous testwork and adopted in the study.

The test results reported today were undertaken by ProGraphite, an independent specialist graphite company with expertise in laboratory testing and analysis of natural graphite products.

ProGraphite applied the caustic roast purification method adopted in the Battery Anode Material Study, in which Siviour graphite is combined with a caustic solution and then roasted at low temperature before being leached with hydrochloric acid.

Two tests were performed on samples of Siviour Graphite Concentrates that had been spheronised to approximately 16 microns, a size specification common for lithium-ion battery anode manufacturers.

The first test adopted the caustic roast circuit used in the Battery Anode Material Study, with a second test undertaken to assist in optimising the purification circuit by limiting reagent consumption.

In both cases, the caustic process successfully produced samples of battery-grade purity graphite, achieving 99.97% C in both cases (both higher than 99.95% C used in the Battery Anode Material Study).

Significance

The results of these caustic roast purification tests are significant because they provide independent validation of the ability to produce battery-grade PSG from Siviour Graphite Concentrates using the operating parameters adopted in the Battery Anode Material Study.

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The results also confirm the potential to optimise the caustic roast circuit by lowering reagent consumption and thereby potentially reducing operating costs.

The recent testwork is also significant because it offers further support for Renascor's more environmentally friendly purification technique that does not use hydrofluoric acid.

As Renascor continues to advance offtake and finance discussions, the use of the more eco-friendly caustic roast method is likely to assist in meeting increasingly important sustainability requirements.

Next steps

Renascor plans to continue on-going caustic testing, with upcoming programs to include optimisation tests to achieve maximum purity at minimal cost by continuing to limit reagent consumption and roasting and leaching.

The results from these recent tests will be used to support continuing offtake and finance discussions.

Bibliography

1. Renascor ASX announcement dated 28 November 2018, *"Breakthrough in Purification Expected to Drive Lower OPEX for Siviour Spherical Graphite Production"*
2. Renascor ASX announcement dated 12 August 2019, *"Positive Results from Spherical Graphite Tests"*
3. Renascor ASX announcement dated 18 November 2019, *"Battery-Grade Graphite Produced via Low-Cost Purification"*
4. Renascor ASX announcement dated 1 July 2020, *"Renascor Announces Battery Anode Material Manufacturing Operation"*

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.

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

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¹ See Renascor ASX announcement dated 1 July 2020.

² Source: Benchmark Mineral Intelligence dated November 2019.

³ See Renascor ASX announcement dated 1 July 2020, pp 3-4.

⁴ See Renascor ASX announcements dated 28 November 2018, 12 August 2019 and 18 November 2019.