RENASCOR RESOURCES

ASX: RNU

ASX Release

28 July 2021

Graphite Concentrate Purities of up to 97.5% TC from Large Scale Pilot

Improved Graphite Concentrate purities offer increased efficiencies in downstream Purified Spherical Graphite production

Highlights:

- Large scale pilot trials at an independent commercial graphite production facility have produced bulk quantities of high purity Graphite Concentrates from ore samples from Renascor's Siviour Graphite Deposit in South Australia.
- The +60 tonne bulk pilot trial is being undertaken to produce large scale samples of Siviour Graphite Concentrates and to test adjustments to the flotation circuit to optimise the production of high purity Graphite Concentrates in the upstream component of Renascor's planned vertically integrated graphite mine and battery anode material manufacturing operation in South Australia.
- The on-going pilot trials have achieved graphite purities of up to 97.5% total carbon ("**TC**") with graphite recovery of 93.2% by adjusting regrind times in the flotation circuit. This compares favourably to Renascor's previous results from locked cycle tests, which achieved purities of 94.6% TC with graphite recovery of 94.5%[1].
- The increased purity of Siviour Graphite Concentrates, which Renascor plans to use as feedstock in a downstream manufacturing facility to produce Purified Spherical Graphite ("**PSG**"), offers the potential for increased economic efficiencies in the downstream production of PSG, as less reagents and energy would be required in the downstream purification stage to achieve lithium-ion battery grade purities of +99.95% TC.
- **Renascor intends to leverage off the comparatively low OPEX of the planed Siviour Graphite Concentrate operation[2] by co-locating a downstream advanced manufacturing facility in Australia to produce low-cost, high-quality, 100% Australian-made PSG with leading ESG[3] credentials in the first integrated in-country mine and battery anode material operation outside of China**.
- Renascor plans to use the results from the pilot trials to optimise the Graphite Concentrate operation. Graphite Concentrates produced from the pilot will also be used for downstream equipment selection trials and large-scale customer sample testing to support the progression to binding offtake agreements.

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Renascor Resources Limited (ASX: RNU) (**Renascor**) is pleased to announce results from large scale pilot trials at an independent commercial graphite production facility that have produced bulk quantities of high purity Graphite Concentrates from ore samples from Renascor's Siviour Graphite Deposit in South Australia.

The on-going pilot trials have achieved graphite purities of up to 97.5% TC with graphite recovery of 93.2% by adjusting regrind times in the flotation circuit. This compares favourably to Renascor's previous results from locked cycle tests, which achieved purities of 94.6% TC with graphite recovery of 94.5%[4].

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

> *"The successful pilot production of large quantities of graphite is an important step in advancing toward downstream equipment selection and providing large scale sample of Siviour graphite to support our progression to binding offtake agreements.*
>
> *The potential for increased purities is another significant contribution from our technical team that offers a further advantage to our Siviour project and our plans to offer high-quality, low-cost battery anode material for the lithium-ion battery market.*
>
> *We intend to use these results to support our on-going offtake discussions with lithium-ion battery anode manufacturers, as well to advance detailed engineering plans."*

Graphite Concentrate Pilot Trial

The bulk pilot production trials are being undertaken to produce large scale samples of Siviour Graphite Concentrates and to test at scale adjustments to the flotation circuit to optimise the production of high purity Graphite Concentrates in the upstream component of Renascor's planned vertically integrated graphite mine and battery anode material manufacturing operation in South Australia.

The on-going trials are being undertaken at an independent commercial graphite facility in China to produce Graphite Concentrates via conventional froth flotation. In 2018, Renascor undertook an 18 tonne pilot production trial at the same graphite facility[5]. Sample for the current trials consists of approximately 63 tonnes of ore collected from reverse circulation drilling at Renascor's Siviour Graphite Deposit and transported to the graphite facility earlier this year.

The sample ore was processed through a large-scale continuous pilot flotation circuit with a through-put capacity of up to 800kg per hour.

Flowsheet parameters were adopted based on those used in recent locked-cycle tests[6], with the results of the production trials to date achieving average purity of 95.5% TC and average graphite recovery of 94.9%.

A separate 3.5 tonne trial, undertaken with an adjustment made to increase re-grind times in the flotation circuit, achieved purity of 97.5% TC with graphite recovery of 93.2%.

The results from the current production trials compare favourably to Renascor's previous results from locked cycle tests, which achieved purities of 94.6% TC with graphite recovery of 94.5%[7], as well as the Siviour Graphite Concentrate Definitive Feasibility Study ("**DFS**"), which adopted average purity of 94% to 96% total graphitic carbon and graphite recovery of 91%[8].

To date, approximately 30 tonnes of Siviour ore has been processed in the pilot trials. Additional production runs are on-going, with the program expected to be completed early next month.

Significance

The results from the pilot trials suggest the potential for Renascor's Graphite Concentrate flowsheet to meet or exceed the results from previous mineral processing work, including the parameters adopted in the Siviour DFS[9].

Further, the results from the production run with increased re-grind times suggest there is potential to improve the purity of Siviour Graphite Concentrate feedstock to the downstream PSG plant above the levels suggested from Renascor's previous test work.

This increase in purity offers the potential for increased economic efficiencies in the downstream production of PSG, as less reagents and energy would be required in the downstream purification stage to achieve lithium-ion battery grade purities of +99.95% TC.

Next steps

Renascor plans to continue with the current pilot trials to produce additional Graphite Concentrates, with program expected to be completed early next month.

Graphite Concentrates produced from the pilot will also be used for downstream equipment selection trials and large-scale customer sample testing to support the progression to binding offtake agreements.

Renascor also plans to incorporate the results from the pilot operation into flotation optimisation and more detailed engineering on the Graphite Concentrate operation.

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.

Competent Person Statements

The information in this document that relates to exploration activities and exploration results is based on information compiled and reviewed by Mr G.W. McConachy who is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr McConachy is a director of the Company. Mr McConachy has sufficient experience relevant to the style of mineralisation and type of deposits being considered to qualify as a Competent Person as defined by the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code, 2012 Edition). Mr McConachy consents to the inclusion in the report of the matters based on the reviewed information in the form and context in which it appears.

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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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 Africa[10], 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.

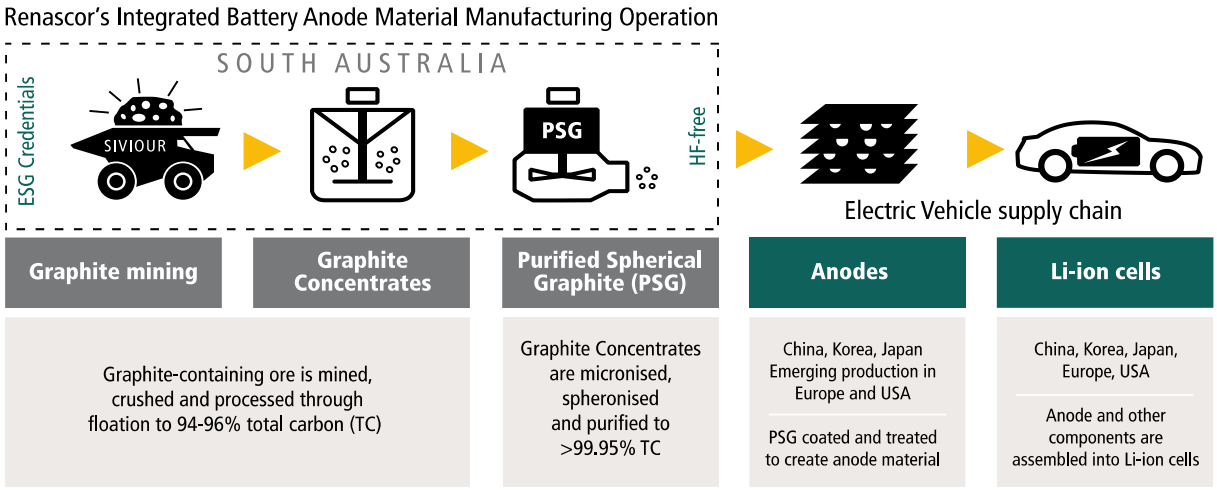

Figure 1: Renascor's vertically integrated Mine and Concentrator and Downstream PSG production facility within the Electric Vehicle supply chain

[1] See Renascor ASX release dated 12 July 2021.
[2] The Siviour DFS estimates a life of mine operating cost per tonne of Graphite Concentrate of A$508 or US$355 per tonne, amongst the lowest reported projected operating cost of any graphite development globally. See Renascor ASX release dated 11 November 2019, Figure 12, page 27.
[3] Environmental, social and corporate governance.
[4] See Renascor ASX release dated 12 July 2021.
[5] See Renascor ASX announcement dated 31 October 2018. Graphite concentrates produced from the 2018 pilot program were used both for test work supporting the processing of Graphite Concentrates into PSG and for subsequent testing by existing and potential PSG offtake partners.
[6] See Renascor ASX release dated 12 July 2021.
[7] See Renascor ASX release dated 12 July 2021.
[8] For purposes of the Siviour DFS, Renascor reported Graphite Concentrate in total graphitic carbon. See Renascor ASX release dated 11 November 2019, p 17. Renascor has subsequently adopted the convention of reporting Graphite Concentrate purities in total carbon, which is more widely used by perspective purchasers of Siviour Graphite Concentrates and Purified Spherical Graphite.
[9] Renascor ASX release dated 11 November 2019, p 19.
[10] See Renascor ASX release dated 21 July 2020.

Appendix 1

JORC Table 1

Section 1: Sampling Techniques and Data **(criteria in this section apply to all succeeding sections)**		
Criteria	**JORC Code explanation**	**Commentary**
Sampling techniques	• *Nature and quality of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*	• In 2018, Renascor undertook reverse circulation (RC) drilling. Based on visual analysis, approximately 50% of drill samples were considered mineralised with graphitic carbon. • All graphitic intervals were collected for assaying at one-metre intervals, with the remaining samples transferred to bulka bags. • The graphitic assay samples were submitted for analyses at Bureau Veritas laboratory in Adelaide for preparation and for Total Graphitic Carbon (TGC) analyses. • Duplicate and standards were submitted. • The assay samples were pulverised using an LM5 mill, 90% passing 75µm. • Sampling was guided by Renascor Resources Limited's protocols and QA/QC procedures. • The samples used in the pilot plant testing consists of the composited one metre drill sample material collected from the following drill holes: 18SIVAC140 to 18SIVAC150, 18SIVAC152, 18SIVAC154 to 18SIVAC171, 18SIVAC175 to 18SIVAC176, 18SIVAC179 to 18SIVAC181, 18SIVAC183 to 18SIVAC192, 18SIVAC194 to 18SIVAC217, 18SIVAC219 to 18SIVAC222, 18SIVAC172A to18SIVAC174A, 18SIVAC223 to 18SIVAC227, 18SIVAC230 and 8SIVAC232, all of which are located within areas that Renascor considers likely to be mined in the first ten years of Siviour's mine life. • Sample material was collected for daily production runs in quantities of between approximately three to five tonnes and fed to the primary mill prior to processing in accordance with the DFS flowsheet, with the exception that a separate 3.5 tonne production trial, was undertaken with an adjustment made to increase re-grind times in the flotation circuit,

Section 1: Sampling Techniques and Data (criteria in this section apply to all succeeding sections)		
Criteria	**JORC Code explanation**	**Commentary**
		• Refer to Renascor ASX releases, 7 November 2018, 14 November 2018 and 7 December 2018 for drillhole locations. Renascor confirms that the form and context in the Competent Persons' findings are presented have not materially changed from the original announcement.
Drilling techniques	• *Drill type (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g., core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	• RC drilling using 4 3/4" RC Hammer was undertaken by Bullion Drilling.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	• One-metre drill chip samples, weighing approximately 3 kg were collected throughout the RC drill programme in sequentially numbered bags. Samples were generally collected from the drill rig and riffle split however in some instances samples were collected by spear technique. • Every interval drilled is represented in an industry standard chip tray that provides a check for sample continuity down hole.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• All drill samples were geologically logged by experienced geologists at the drill rig. The geological logs were checked by re-logging of the drill core in Adelaide. • Primary data was captured into spreadsheet format by the supervising geologist, and subsequently loaded into the Renascor's database. • No adjustments have been made to any assay data. • Primary data was captured into spreadsheet format by the supervising geologist, and subsequently loaded into the Renascor's database.

Section 1: Sampling Techniques and Data (criteria in this section apply to all succeeding sections)		
Criteria	**JORC Code explanation**	**Commentary**
Sub-sampling techniques and sample preparation	• *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• All samples were marked with unique sequential numbering as a check against sample loss or omission. • At the Bureau Veritas laboratory sample preparation involved the original sample being dried at 105° for up to 24 hours on submission to laboratory. • Sample is split to less than 3 kg through linear splitter and excess retained. • Pulverising was completed using LM5, 90% passing 75 µm in preparation for analysis using the Bureau Veritas network. • All the samples are marked with unique sequential numbering as a check against sample loss or omission. • For pilot production work, the ore was fed to the primary mill prior to processing in accordance with the DFS flowsheet, with the exception that a separate 3.5 tonne production trial, was undertaken with an adjustment made to increase re-grind times in the flotation circuit • Final concentrate grade were assayed for total carbon, with recoveries measured in fixed carbon.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.*	• All samples were sent to Bureau Veritas laboratory in Adelaide for preparation and for TGC analysis using a mixed acid digest. • Sampling was guided by Renascor Resources Limited's protocols and QA/QC • For TGC analysis a portion of the sample is dissolved in weak acid to liberate carbonate carbon. The residue is then dried at 420°C driving off organic carbon and then analysed by its sulphur-carbon analyser to give TGC. • Bureau Veritas Minerals has adopted the ISO 9001 Quality Management Systems. All Bureau Veritas laboratories work to documented procedures in accordance with this standard.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.*	• Primary data was captured into spreadsheet format by the supervising geologist, and subsequently loaded into the Renascor's database applying

Section 1: Sampling Techniques and Data (criteria in this section apply to all succeeding sections)		
Criteria	**JORC Code explanation**	**Commentary**
	• *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	Renascor's QA/QC protocols. • Field duplicates and standards were inserted at a rate of 5% and 3%, respectively. • No adjustments have been applied to the results.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• Drillholes were surveyed by a licenced surveyor. • The collar coordinates were entered into the drillhole database. • The degree of accuracy of drillhole collar location and RL is estimated to be within 0.1m for DGPS and 5m error level for the hand-held GPS. • The grid system for the project was Geocentric Datum of Australia (GDA) 94, Zone 53.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• Exploration results are not being reported. • RC Holes were drilled on sections on either, 50m, 100m or 200m spacing • Geological interpretation and mineralisation continuity analysis indicate that data spacing is sufficient for definition of a Mineral Resource. • All of the samples were taken over a 1m interval.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• Interpretation of the relationship between the drilling orientation and the orientation of key mineralised structures indicates that mineralisation is likely to be perpendicular to strike continuity. • The orientation of drilling is not expected to introduce sampling bias.
Sample security	• *The measures taken to ensure sample security.*	• Unique sample number was retained during the whole process.

Section 1: Sampling Techniques and Data (criteria in this section apply to all succeeding sections)		
Criteria	**JORC Code explanation**	**Commentary**
		• Samples were transported by a reputable transport company and sample bags and dispatch notice checked upon receipt at the laboratory and the pilot facility, respectively.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• All data collected was subject to internal review.

SECTION 2: REPORTING OF EXPLORATION RESULTS (criteria listed in the preceding section apply also to this section)		
Criteria	**JORC Code explanation**	**Commentary**
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• The Siviour deposit is located within Mineral Lease (ML) 6495 and Exploration Licence (EL) 6469, held by Ausmin Development Pty Ltd (Ausmin). Renascor, through its wholly-owned subsidiary Eyre Peninsula Minerals Pty Ltd (EPM), acquired 100% of Ausmin Development Pty Ltd (Ausmin) and its tenements in 2018. • The tenements are in good standing. • The drilling was carried out on agricultural freehold land.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Several companies have carried out historic exploration over many years, but without any focus on graphite prospectivity. Cameco Ltd, as part of a uranium exploration program, acquired EM data across the tenement in 2006 and 2007. Cameco drilled hole CRD0090, without testing for graphite. • During 2014, Eyre Peninsula Minerals Pty Ltd carried graphite-focused exploration and drilled a further six RC holes and one diamond core hole reporting graphite intersections in all holes.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The graphite mineralisation at Siviour is hosted within Meso-Proterozoic metasedimentary rocks sediments of the Hutchison Group. • The graphite mineralisation is within a nominally 30 m-thick band of pelitic schist that occurs within a thick calc-silicate sequence.
Drillhole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drillholes:* • *easting and northing of the drillhole collar* • *elevation or RL (elevation above sea level in metres) of the drillhole collar*	• Reported previously.

SECTION 2: REPORTING OF EXPLORATION RESULTS (criteria listed in the preceding section apply also to this section)		
Criteria	**JORC Code explanation**	**Commentary**
	• *dip and azimuth of the hole* • *down hole length and interception depth* • *hole length.*	
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g., cutting of high grades) and cut-off grades are usually Material and should be stated.*	• Exploration results are not being reported. • Metal equivalent values have not been used.
Relationship between mineralisation widths and intercept lengths	• *If the geometry of the mineralisation with respect to the drillhole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect.*	• Renascor considered the undulating nature of the mineralisation and all drillholes intersected mineralisation at near perpendicular to the dip orientation of the host lithologies and mineralisation. • Exploration results are not being reported.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• Exploration results are not being reported.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• Exploration results are not being reported.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating*	• Exploration results are not being reported.

SECTION 2: REPORTING OF EXPLORATION RESULTS (criteria listed in the preceding section apply also to this section)		
Criteria	**JORC Code explanation**	**Commentary**
	substances.	
Further work	• *The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).*	• Additional drilling may be undertaken to follow-up EM anomalies within areas adjacent to the Siviour deposit. • Ongoing metallurgical work may include optimisation and variability test work.