

### ASX Release

February 8, 2018

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## Developing Australia's Largest Graphite Deposit



## Spherical Graphite Scoping Study Further Improves Siviour Economics through Downstream Development Opportunity

- **Positive Scoping Study confirms opportunity to unlock further value from Siviour through the production of spherical graphite in Australia**
- **Results suggest potential for value uplift through vertically integrated development of mine and flake graphite concentrate operation, plus downstream production of spherical graphite**
- **Production of high value, spherical graphite for use in lithium ion battery anodes provides Siviour with more direct exposure to growing lithium ion battery market**

### Study Parameters – Cautionary Statements

*This study assesses the viability of producing spherical graphite from Renascor's proposed Siviour Graphite Project. It is a preliminary technical and economic study based on low level technical and economic assessments that are not sufficient to support the estimation of ore reserves. Further evaluation work and appropriate studies are required before Renascor will be in a position to estimate any ore reserves or to provide any assurance of an economic development.*

*This study is based on the material assumptions outlined elsewhere in this announcement. These include assumptions about the availability of funding. While Renascor considers all of the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by this study will be achieved.*

*To achieve the range of outcomes indicated, additional funding will likely be required. Investors should note that there is no certainty that Renascor will be able to raise that amount of funding when needed. It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of Renascor's existing shares. It is also possible that Renascor could pursue other 'value realisation' strategies such as a sale, partial sale or joint venture of the project. If it does, this could materially reduce Renascor's proportionate ownership of the project.*

*This announcement contains forward-looking statements. Renascor has concluded it has a reasonable basis for providing these forward-looking statements and believes it has reasonable basis to expect it will be able to fund development of the project. However, a number of factors could cause actual results or expectations to differ materially from the results expressed or implied in the forward-looking statements. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of this study.*

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**Highlights.** Estimated values of key parameters of the Spherical Graphite Scoping Study (the "Spherical Scoping Study") are shown below.

Annual production of spherical graphite		30,000t	
Annual throughput of Siviour graphite concentrates as feedstock		60,000t	
Start-up capital cost of spherical operation	AU\$77.1m		US\$57.8m
NPV <sub>10</sub> (after tax) of spherical operation	AU\$307.5m		US\$230.6m
IRR (after tax) of spherical operation		59.9%	
Average spherical graphite cash operating cost (net of recarburiser product credit) <sup>1</sup>	AU\$2,199/t		US\$1,649/t
Projected spherical graphite sales price	AU\$4,333/t		US\$3,250/t

**Consolidated operation.** Set forth below is a summary of estimated economic results from the Spherical Scoping Study on a stand-alone basis and a consolidated summary of an integrated operation that produces 123,000t per annum of graphite concentrates (as contemplated in Renascor's Concentrate Scoping Study – see Renascor ASX release dated 23 May 2017), of which 60,000t per annum are processed into spherical graphite (as per the Spherical Scoping Study) and the balance is sold as graphite concentrates.

Parameter	Spherical Graphite Scoping Study (stand-alone)		Consolidated findings (graphite concentrates and spherical graphite)	
	Estimated values			
Currency <sup>2</sup>	AU\$	US\$	AU\$	US\$
NPV <sub>10</sub> (after tax) (life of mine)	307.5m	230.6m	740.5m	555.4m
IRR (after tax) (life of mine)	59.9%		53.5%	
Start-up capital	77.1m	57.8m	221.0m	165.7m
Payback of start-up capital	1.7 years		1.9 years	
Net revenue	2.5b	1.9b	5.6b	4.2b
EBITDA	1,246m	935m	3.1b	2.3b
Net profit after tax	818m	614m	2.0b	1.2b

<sup>1</sup> Assumes sale of 30,000t per annum of recarburiser product at sales price of AU\$933/US\$700 per tonne. Siviour graphite concentrates are assumed to be procured at production costs contemplated by the Concentrate Scoping Study (Renascor ASX release dated 23 May 2017).

<sup>2</sup> The Spherical Scoping Study and the consolidated findings adopt an exchange rate of AU\$1.00 = AU\$0.75. The Concentrate Scoping Study adopted an exchange rate of AU\$1.00 = US\$0.74.

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Commenting on the results of this study, Renascor Managing Director David Christensen stated:

*“This study further highlights the value of Siviour by confirming the potential to produce high-quality spherical graphite at competitive prices.*

*Given the growing importance of spherical graphite in the lithium ion battery supply chain, this represents a high value market for extracting maximum value from Siviour.*

*Nearly all spherical graphite used in lithium ion battery anodes is currently sourced from China. These results demonstrate Siviour’s potential to offer strategic diversification of supply of this globally important commodity by offering a high quality spherical product mined and processed in Australia.”*

### Small-scale start-up option

The consolidated financial metrics for the production of graphite concentrates and spherical graphite presented in this release (previous page) are based on the 1.65mt per annum throughput concentrate plant contemplated in the Concentrate Scoping Study (Renascor ASX release dated 23 May 2017).

Renascor also has an option to commence the development of the graphite concentrate plant through a low start-up capital, staged development. See Renascor ASX releases dated 27 October 2017 and 13 December 2017. In this scenario, the capital requirements of a larger scale graphite concentrate operation, as well as a spherical plant, could be supported by the development of customer relationships and the generation of surplus cash from the stage one operation. Renascor is also investigating the viability of a staged development approach to the production of spherical graphite, where the graphite concentrates could be sourced from the smaller stage-one production of graphite concentrates.

### Overview of Spherical Graphite Scoping Study

In May 2017, Renascor completed the Concentrate Scoping Study, which assesses the potential viability of producing graphite concentrates from a proposed open pit mine and graphite production plant at the Siviour Graphite Deposit in South Australia. See Renascor ASX release dated 23 May 2017.

This study was followed by a subsequent Options Study that identified a low start-up capital, staged-development approach to developing Siviour. See Renascor ASX release dated 27 October 2017.

In October 2017, Renascor commissioned this Spherical Scoping Study to assess the potential viability of building a downstream processing facility in South Australia to produce spherical graphite from a portion of the graphite concentrates expected to be produced at Siviour.

Wave International, an independent resource development consulting group with specific expertise in the downstream processing of industrial minerals, acted as the study manager and supervising engineer of this study. In its capacity as study manager, Wave International compiled the technical study work, preliminary assumptions and conceptual financial models using information and assumptions provided by Renascor and specialist consultants who have consented to the information used in the context in which it appears in this announcement.

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### Next Steps

Renascor intends to continue the accelerated development of Siviour, with planned upcoming work programs expected to include:

- The completion of the graphite concentrates Pre-Feasibility Study (expected later this quarter)
- Offtake discussions with potential end-users of Siviour graphite products (including graphite concentrates and spherical graphite)
- Further graphite concentrates and spherical test work, including detailed graphite purification and battery anode testing
- Advanced feasibility planning regarding the production of both graphite concentrates and spherical graphite
- The completion of the Siviour mineral lease application



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### Bibliography

1. Renascor ASX announcement dated 17 March 2017, "Siviour Now Among Ten Largest Graphite Deposits in the World"
2. Renascor ASX announcement dated 23 May 2017, "Siviour Graphite Scoping Study Demonstrates Robust Economics"
3. Renascor ASX announcement dated 27 October 2017, "Development Options for Siviour Graphite Project"
4. Renascor ASX announcement dated 13 December 2017, "Siviour Project Update"
5. Renascor ASX announcement dated 25 January 2018, "Battery Grade Spherical Graphite Produced from Siviour"

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.

### Competent Person Statement

**Metallurgical Results.** The information in this document that relates to metallurgical test work results is based on information compiled and reviewed by Mr Simon Hall, who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Hall is a consultant to the Company. Mr Hall has sufficient experience relevant to the mineralogy and type of deposit under consideration and the typical beneficiation thereof 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 Hall 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 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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## Appendix 1

### Key Components of Spherical Graphite Scoping Study

#### 1. Background

In May 2017, Renascor released the results of the Concentrate Scoping Study (See Renascor ASX release dated 23 May 2017) presenting positive economics for the development of the Siviour Graphite Deposit. The Concentrate Scoping Study was based on the production of natural flake graphite products, to be exported from Australia to various markets, including the market for downstream manufacturing of spherical graphite products for end use in the expanding lithium ion battery market.

The Concentrate Scoping Study was followed by a subsequent Options Study that identified a low start-up capital, staged-development approach to developing Siviour. See Renascor ASX release dated 27 October 2017.

In considering options to extract further value for shareholders from Siviour, Renascor identified the potential to manufacture spherical graphite using Siviour graphite concentrates. Potential upside benefits from this option include:

- A spherical graphite product is considered to be a highly sought-after product which could be the subject of a robust sales contract. This would in turn underpin the mining project by securing offtake for a significant portion of the flake production.
- An Australian-based source of spherical graphite, directly connected to an Australian mine, could be considered a reliable source of supply for anode material producers offering potentially valuable diversity of supply.
- Greater sales revenue for the volume of concentrate spheronised.

On this basis, Renascor commissioned the completion of this Spherical Scoping Study for a downstream spheronisation plant in Australia using graphite concentrates to be produced from the Siviour Graphite Deposit.

This study adopts the technical parameters and assumptions included in the Concentrate Scoping Study (see Renascor ASX release dated 23 May 2017) and assumes that approximately 60,000t per annum of fine flake (<150  $\mu\text{m}$ ) graphite concentrates will be procured from the Siviour Graphite Deposit. Later studies will consider the viability of producing spherical graphite in smaller scale development scenarios being considered for the production of graphite concentrates from Siviour. See RNU ASX releases dated 27 October 2017 and 13 December 2017.

The technical focus of this study involves the production of uncoated spherical graphite for sale to anode manufacturers. Future studies may consider further processing of uncoated spherical graphite from Siviour into a coated spherical product.

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## 2. Spherical graphite testwork

Spherical graphite test work has included tests undertaken by a European graphite specialist<sup>3</sup> with expertise in laboratory testing and analysis of natural graphite products, including the spheroidisation and purification of natural flake graphite for use in the manufacture of lithium ion battery anodes. See Renascor ASX release dated 25 January 2018.

Test programs have included testing the ability of Siviour concentrates to be processed into high purity spherical graphite meeting industry specifications for the lithium ion battery anode market.

Renascor provided a 25kg composite core sample from the Siviour Indicated Resource, which was processed to produce graphite concentrates through standard milling and flotation techniques. The graphite concentrates were micronised, spheronised and purified, before being tested for key performance criteria. The results of this work are shown below in Table 1.

Parameter	Test 1	Test 2
Fixed carbon	99.97%	99.98%
Ash content	0.03%	0.02%
D10 size fraction (-10% finer than this size)	9.8 microns	11.3 microns
D50 size fraction (-50% finer than this size)	16.3 microns	18.4 microns
D90 size fraction (-90% finer than this size)	27.5 microns	29.7 microns
Ratio D10 to D90 sizes	2.8	2.8
Tap density (measure of density of spherical graphite powder settled in test cylinder)	0.93 g/cm <sup>3</sup>	0.95 g/cm <sup>3</sup>

**Table 1. Test results for spheronised purified graphite from Siviour Graphite Deposit**

<sup>3</sup> For confidentiality purposes, the identity of the European graphite specialist is not disclosed.

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The results of this test work suggest Siviour graphite concentrates are suitable for the production of spherical graphite. The Siviour spherical graphite meets or exceeds industry specification across key performance metrics, including purity (in excess of the industry standard of 99.95%), as well as particle size distribution (D10, D50 and D90) and tap density.

In addition, first pass yields were achieved from 51% to 60%, which suggests a significant proportion of spherical graphite can be produced from Siviour concentrates. For purposes of this study, Renascor has assumed that 50% of Siviour concentrates will be processed into spherical graphite.

### 3. Spherical Graphite Plant Design

The spherical graphite plant is designed to process graphite concentrates into an uncoated purified spherical graphite for sale into the market for anode material used in the manufacture of lithium ion batteries. Graphite concentrates obtained from Siviour will be micronized, spheronised and purified before being bagged and containerised for shipment. The design process results in the manufacture of two products: an uncoated spherical graphite product, and a fine by-product from the spheronisation process, which is typically sold into the recarburiser market

The results presented are based on an annual spherical graphite plant treatment of 60,000t of flake graphite concentrate obtained from Siviour with a nominal purity of 94% total graphitic carbon (TGC) and flake size of <math><150\ \mu\text{m}</math> (microns) or 200 mesh.

The proposed spherical graphite plant incorporates facilities for the following unit process operations:

- Graphite concentrate offloading and dry storage
- Micronization
- Spheronisation
- Caustic roast thermal purification
- Purified spherical graphite drying and bagging

A simplified flow sheet is shown in Figure 1 (next page).

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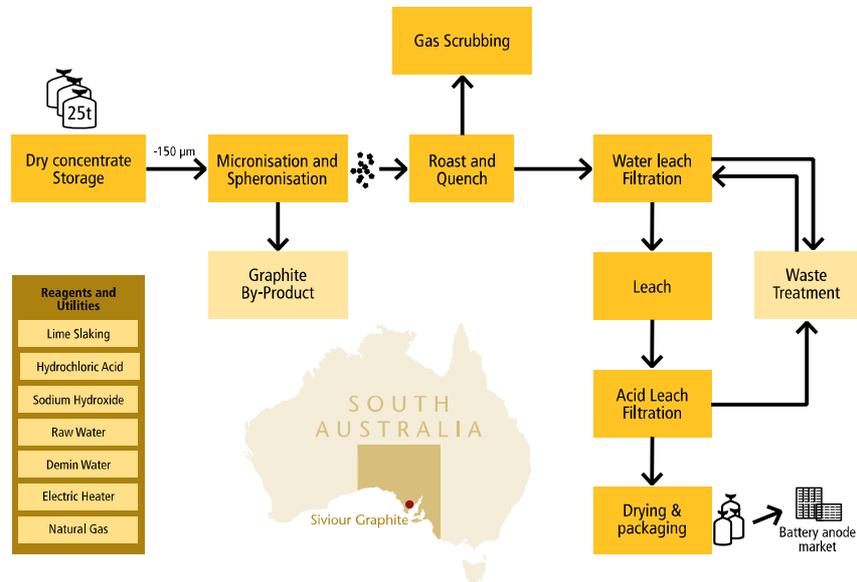
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**Figure 1. Process flow sheet**

As noted above in Figure 1, the production of spherical graphite involves micronisation followed by spherisation. This process step is common to all flowsheet options.

Micronisation utilises rotary mills to reduce the overall size distribution of the graphite in preparation for spherisation. Spherisation utilises similar, smaller rotary mills to shape the individual particles. The particles are classified by size with the required size fraction progressing to the purification stage. Undersize and oversize material is considered a by-product and is packaged separately. For purposes of this study, the micronisation and spherisation equipment have been selected from established vendors with units currently in operating facilities. The equipment is available as a standard design and has been assessed against a number of potential other experienced vendors.

Following spherisation, Siviour graphite will be purified in a caustic roast thermal process. Renascor considered the two general process options that are generally used for the purification of spherical graphite to meet nominal impurity specifications for battery anode material manufacture: chemical purification and thermal purification.

Chemical purification is typically utilised in China for the purification of spherical graphite. Whilst various options for chemicals exist, typically hydrofluoric acid is utilised in conjunction with other acids to complete the purification process. Thermal purification is aimed at removing the need for potentially harmful and toxic acids (such as hydrofluoric acid) and has been proposed by a number of potential spherical graphite producers.

As part of this study, operating and capital cost estimates were calculated for both chemical and thermal processes. The caustic roast thermal process was selected as both the most cost effective and most environmentally practical process (primarily due to the avoidance of handling hydrofluoric acid), as well as being based on mature technologies that are not subject to any existing intellectual property barriers.

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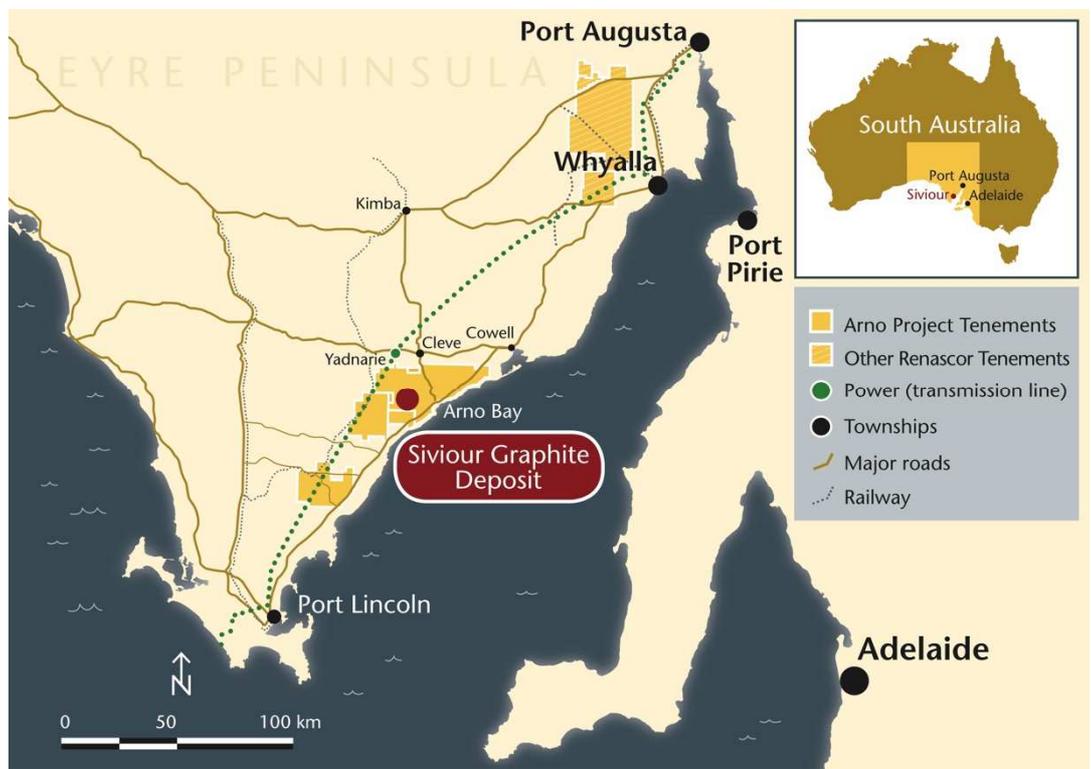
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**4. Spherical Graphite Plant Location and Infrastructure**

**Location**

This study assumes that the spherical plant will be located in an existing industrial precinct situated in near proximity to the proposed Siviour mine site. Potential locations have been identified in Whyalla (located approximately 150km from Siviour), Port Augusta (230km) and Port Pirie (320km). See Figure 2.



**Figure 2. Location of Siviour Graphite Deposit and potential location for spherical graphite plant**

By siting the plant in an existing industrial precinct in Australia, several advantages are made available to the spherical graphite plants, including:

- **Supply chain security from Australia.** Presently, nearly all uncoated spherical graphite that is used in anodes for lithium ion batteries is sourced from Chinese locations that procure graphite concentrates from within China. Some graphite developers have proposed new spherical graphite facilities in other locations, including developers of African graphite deposits that propose downstream spherical graphite plants either in Africa or the United States. By offering a spherical product mined and processed into spherical graphite in Australia, Renascor believes it may have an advantage in offering potential buyers diversity of supply from a low sovereign risk jurisdiction.
- **Infrastructure availability to reduce capital requirements.** Each of the potential industrial precincts provides ready availability to necessary supplies of electricity and water, as well as easy road access for receipt of raw materials and transport of spherical graphite and recharger products to port for shipment to customers. Accordingly, limited capital is required.

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- **Regulatory and environmental.** Each of the potential sites are zoned for heavy industrial use in a manner that would permit the commissioning and operation of the proposed spherical graphite plant. The potential sites have also been selected based on offering more limited risk of issues associated with heritage protection, water contamination and other community standards.
- **Operational cost savings.** Transport costs are minimized, as the Siviour Graphite Deposit is located a relatively short distance from the potential spherical plant location. Relative to other potential operations that propose exporting graphite concentrates to third-countries for processing, Renascor expects a comparative cost savings by avoiding export duties that may apply on graphite concentrates.

### Spherical plant infrastructure

The spherical graphite plant and infrastructure includes a site access road to the plant, a workshop and warehouse facility, site water and sewage services, office facilities and the spherical graphite plant, including complementary equipment.

### Transport

Spherical graphite and recarburiser products will be bagged and containerised for road transport from the project site to Port Adelaide. It is proposed that concentrates will be packed, bagged and loaded at the plant. The transport route from the project site to Port Adelaide is generally approved for use by restricted access vehicles, such as road trains.

### Workforce

It is expected that Renascor will employ the majority of personnel from the local community within the vicinity of the project site, with personnel not based in the district having access to air service from Adelaide to either Port Lincoln or Whyalla.



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## 5. Product Pricing

The study contemplates the sale of a spherical graphite product for sale into the market for lithium ion battery anodes and a by-product for sale into the recarburiser market.

Based on discussions with potential end-users and market professionals, as well as investigations into prices adopted by peer companies, Renascor has adopted a price for spherical graphite of US\$3,250/t and a price for the recarburiser product of US\$700/t.

## 6. Capital Costs

Estimated pre-production capital costs are provided below in Table 2.

Parameter	Estimated value	
	AU\$	US\$
Spherical graphite plant	43.4m	32.5m
Engineering and project management	7.5m	5.6m
Site Infrastructure	2.7m	2.0m
Pre-production costs	1.3m	1.0m
Indirect costs	11.1m	8.3m
Contingency	11.2m	8.4m
<b>Total</b>	<b>77.1m</b>	<b>57.8m</b>

Table 2. Pre-production capital cost estimate summary

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## 7. Operating Costs

Estimated operating costs are provided below in Table 3.

Parameter	Estimated value			
	AU\$/year	AU\$/tpa of spherical graphite	US\$/year	US\$/tpa of spherical graphite
Graphite concentrate feedstock <sup>4</sup>	27.1m	1,085	20.3m	814
Energy	8.7m	350	6.6m	263
Reagents and consumables	32.9m	1,316	24.7m	987
Maintenance	1.0m	42	0.8m	32
Labour	3.5m	141	2.6	106
General and administration <sup>5</sup>	0.5m	21	0.4m	16
Product packing	1.6m	64	1.2m	48
Product logistics FOB	4.6m	186	3.5m	140
Sub-total	80.1m	3,205	60.1m	2,404
Recarburiser product credit	25.1m	1,006	18.9m	755
<b>Total</b>	<b>AU\$55.0m</b>	<b>AU\$2,199</b>	<b>US\$41.2m</b>	<b>US\$1,649</b>

Table 3. Operating cost estimate summary

<sup>4</sup> Assumes 60,000t of graphite concentrates obtained from Siviour at cost of AU\$450 or US\$333 (operating cost per tonne of concentrate, as contemplated in Concentrate Scoping Study, Renascor ASX release dated 27 May 2017) and losses in upgrading 94% TGC graphite concentrate to 99.95% C spherical graphite.

<sup>5</sup> Assumes general and administration costs will be shared with mine and graphite concentrate processing plant (which is estimated at AU\$2.4m as per Concentrate Scoping Study).

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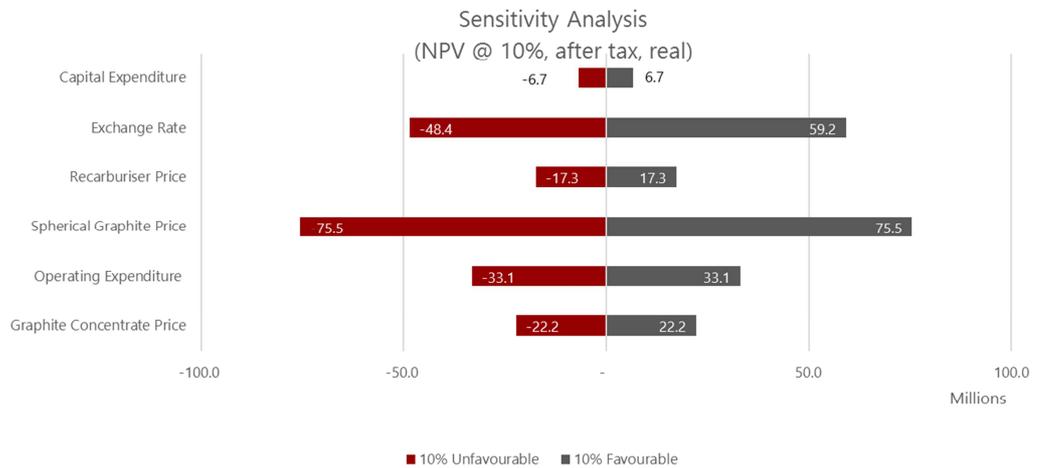
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**8. Financial Sensitivities**

The sensitivity of the net present value (10% discount rate, after-tax) as expressed in Australian Dollars to changes in the capital expenditure, operating expenditure, spherical graphite price, recarburiser product price, exchange rate and graphite concentrate feedstock price in Figure 4 (below) and Figure 5 (next page).

Variable	-10% unfavourable		+10% favourable	
	AU\$	US\$	AU\$	US\$
Capital expenditure	-6.7m	-5.0m	6.7m	5.0m
Operating expenditure	-33.1m	-24.8m	33.1m	24.8m
Spherical graphite price	-75.5m	-56.6m	75.5m	56.6m
Recarburiser price	-17.3m	-13.0m	17.3m	13.0m
Exchange rate	-48.4m	-36.3m	59.2m	44.4m
Graphite concentrate price	-22.2m	-16.7m	22.2m	16.7m



**Figure 4.** Net present value sensitivity

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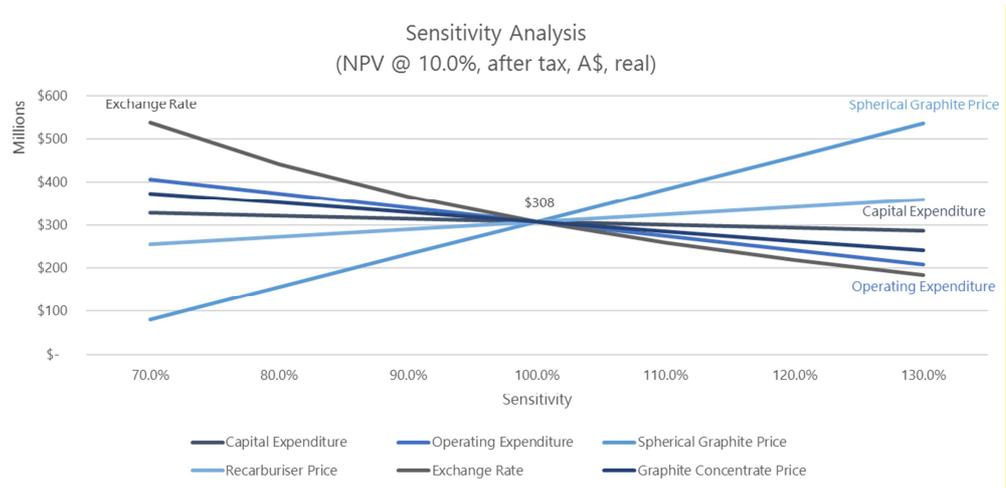
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**Figure 5. Net present value sensitivity**

## Material Assumptions

Material assumptions used in the estimation of the production targets and associated financial information relating to the study discussed in this announcement are set out in the following table.

Criteria	Commentary
<b>Study status</b>	The production target and financial information in this study are based on a scoping study level assessment. The study referred to in this announcement is based on low-level technical and economic assessments and is insufficient to support the estimation of Ore Reserves or to provide assurance of an economic development case at this stage or to provide certainty that the conclusions of the study will be realised. For all matters relating to the production of graphite concentrates, this study adopts the assumptions of Renascor's scoping study on the viability of producing graphite concentrates (the Concentrate Scoping Study. See Renascor ASX release dated 23 May 2017.
<b>Mineral resource estimate underpinning the production target</b>	The Mineral Resource estimate for Siviour declared in March 2017 (see Renascor ASX announcement dated 17 March 2017) underpins the production target related to the graphite concentrates that are processed into spherical graphite as contemplated by this study. This Mineral Resource estimate was prepared by a Competent Person in accordance with JORC Code 2012 (the JORC Code). The JORC Code (Clause 49) requires that industrial minerals must be reported "in terms of the mineral or minerals on which the project is to be based and must include the specification of those minerals" and that "it may be necessary, prior to the reporting of a Mineral Resource or Ore Reserve, to take particular account of certain key characteristics or qualities such as likely product specifications, proximity to markets and general product marketability." The likelihood of eventual economic extraction was considered in terms of possible open pit mining, likely product specifications, possible product marketability and potentially favourable logistics to port.
<b>Mining factors or assumptions</b>	This study is based on processing graphite concentrates that are obtained from the Siviour Graphite Deposit, as contemplated in the Concentrate Scoping Study. The Concentrate Scoping Study contemplates mining based on an open cut operation utilising conventional drill and blast, load and haul and crusher feed, with mining to be undertaken by experienced mining contractors. It is expected that wet or paste tailing would be disposed in-pit.
<b>Metallurgical factors or assumptions</b>	The mineral processing parameters for the processing of graphite concentrates into spherical graphite are based on test work completed in January 2018 by a European graphite specialist. See Renascor ASX release dated 25 January 2018. The graphite concentrates used in this test work are considered representative of the type of graphite concentrates that would be produced at Siviour.

	<p>A process flowsheet has been adopted which is similar to flowsheets that have been adopted by similar spherical graphite operations. For the production of the graphite concentrates, this study adopts mineral processing parameters of the Concentrate Scoping Study, which is based on test work completed in March 2017 on three composite samples obtained from core samples from 16 diamond holes drilled within areas of the Siviour mineralised body which achieved average purity of 94% TGC and recovery of 87% TGC. The samples for this test work were selected on the basis of being representative of the typical mineralised zone within each core hole. Examination of these samples has demonstrated continuity of the quality of the graphite. A process flowsheet for the production of graphite concentrates has been adopted which is similar to flowsheets that have been adopted by similar flake graphite concentrate operations.</p>
<p><b>Infrastructure and logistics</b></p>	<p>The infrastructure required to support the spherical graphite plant includes a site access road; earth works, laydowns, hardstands and roadways; administration including first aid Room, change house and amenities facilities; light vehicle car parking; workshop and warehouse facility; container storage compounds (as required); power supply and motor control centre; lighting; site communications; site wide water and sewage services; site water capture; site water containment dam; security facility and security fencing; and other miscellaneous items. The spherical graphite study is based on siting the plant in an industrial location with existing access to high voltage power and water. This study assumes that spherical graphite product will be bagged into 1t bulk bags and then packed into 40-foot sea containers. Based on previous logistics studies, the 40-foot sea containers can be loaded with approximately 25t of cargo. The sea containers will be transported to the nearby Port of Adelaide (as per the Concentrate Scoping Study for the mine) for export. This study adopts the assumptions of the Concentrate Scoping Study for all matters relating to the production of graphite concentrates, including infrastructure and logistics assumptions.</p>
<p><b>Capital costs</b></p>	<p>The capital cost estimate for the spherical graphite has been compiled by Wave International based on a high level preliminary process design, for the design, supply, fabrication, construction and commissioning of the spherical graphite facility. The high-level process flowsheet prepared by Wave International underlie the basis of this estimate. The estimate has been prepared based upon equipment quotations, current in-house data from recent projects, industry standard estimating factors and benchmarking against other projects, and excludes duties and taxes, working capital, financing costs, relocation and resettlement costs, rehabilitation and closure costs. A project contingency allowance of 17% has been applied to the estimate for direct and indirect costs, based on a risk based analysis of each estimate line item. The plant cost estimate was compiled in AU\$ with a base date of Q4 2017 with no allowance for escalation to an accuracy of +/-35%. EPCM refers to engineering, procurement and construction management costs and is applied at a rate of 15% of direct costs. The estimated owners'</p>

	<p>costs were prepared by Renascor based on allocations for land acquisition and other requirements. All capital costs relating to the production of graphite concentrates are based on estimates included in the Concentrate Scoping Study.</p>
<b>Operating costs</b>	<p>The operating cost estimate for this study includes all costs associated with processing, infrastructure, and site-based general and administration costs. The operating cost estimate is presented on an annualised basis and there has been no allowance for initial ramp-up periods or contingencies applied. The operating costs have been developed in AU\$ by Wave International with input from Renascor. The cost Siviour graphite concentrates is set at the production costs contemplated by Concentrate Scoping Study. Renascor ASX release dated 23 May 2017. Renascor provided labour force estimates based on industry standards from similar operations. The estimate for product logistics was taken from the Concentrate Scoping Study. All operating costs relating to the production of graphite concentrates are based on estimates included in the Siviour Scoping Study. In all cases, the operating cost estimates exclude exchange rate variations, price escalation and interest charges.</p>
<b>Revenue factors</b>	<p>Revenue from the project is derived from the sale of spherical graphite concentrates and re-carburiser product. Renascor has established the characteristics of expected final products of spherical graphite through test programs undertaken on composite samples from Siviour core. Renascor has received market feedback that graphite concentrates produced to a minimum purity of approximately 99.95% C will be attractive to potential customers. The characteristics of re-carburiser products in based on typical specifications for various graphite and other carbonaceous material used in re-carburisers. Product prices are based on discussions with end-users and market professionals and examination of other studies. Risks associated these assumptions used in product pricing include that the product split is not achieved and that the price assumptions are not met by the prevailing markets. Revenue factors relating to the production of graphite concentrates are based on estimates included in the Siviour Scoping Study.</p>
<b>Schedule and timeframe</b>	<p>The project development schedule is based on a definitive feasibility study without material modification and having funding readily in place to commence construction of in 2021. The schedule assumes a likely EPC implementation strategy. The project implementation schedule estimates a timeline of approximately 30 months from funding approval to operation. The schedule assumes that permitting progresses concurrently with the schedule. The project development schedule in this study is based on the spherical graphite plant becoming operational at the same time as the graphite concentrate mine and processing plant, as contemplated in the Siviour Scoping Study.</p>
<b>Market assessment</b>	<p>Spherical graphite is considered a key growth market, as this product is utilised in the manufacture of negative anode material of the lithium ion battery. There is perceived to be a current market shortfall in spherical graphite supply, and as such prices have risen</p>

	<p>in recent months. This is understood from various market analyst reports to come from the closing of a number of operations due to environmental concerns. Recarburising (also known as carburising or carburisation) is the process used to increase the carbon content of some irons and steels in solid form. It involves heating in the presence of a carbon bearing material so that carbon is absorbed by the metal. Graphite is highly suitable for use as a recarburiser because it comprises pure carbon and is soluble in the molten metal. The quantity of graphite used depends on the carbon content of the original metal and the recarburiser itself, as well as the type of product required and the type of furnace being used. Based on discussions with end-users and market professionals and examination of other studies, Renascor considers it reasonable to assume that there will be an adequate market for the recarburiser product it contemplated producing in this study. Market factors relating to the production of graphite concentrates are based on estimates included in the Siviour Scoping Study.</p>
<p><b>Funding</b></p>	<p>To achieve the range of outcomes indicated in the spherical graphite study, funding of in the range of AU\$85 or US\$64 will likely be required for capital works, pre-production working capital and contingency required to construct the spherical graphite plant and funding in the range of AU\$150m or US\$117m will likely be required for capital works, pre-production working capital and contingency required to construct the mine and graphite concentrate processing plant. It is anticipated that the finance will be sourced through a combination of equity and debt instruments from existing shareholders, new equity investment and debt providers from Australia and overseas. The Company has sufficient cash on hand at the date of this announcement to undertake the next stage of planned work programs, including the completion of a prefeasibility study for the production of graphite concentrates continued metallurgical testing, and the commencement of advanced mining, geotechnical, hydrogeological and other technical studies and completion of a mineral lease application.</p> <p>Renascor's Board believes that there is a reasonable basis to assume that funding will be available to complete all feasibility studies and finance the pre-production activities necessary to commence production on the following basis:</p> <ul style="list-style-type: none"> <li>• Renascor's Board and executive team have a strong financing track record in developing resources projects;</li> <li>• Renascor has a proven ability to attract new capital;</li> <li>• Renascor's Board believes this study demonstrates the project's strong potential to deliver favourable economic return; and</li> <li>• Other companies at a similar stage in development have been able to raise similar amounts of capital in recent capital raisings.</li> </ul>
<p><b>Economic</b></p>	<p>A discount rate of 10% has been used for financial modeling. This number was selected as a generic cost of capital and considered a prudent and suitable discount rate for project funding and economic</p>

	forecasts. The model has been run as a life of mine model and includes sustaining capital and closure costs. The study outcome was tested for key financial inputs including: basket price, capital and operating costs and US/AU exchange rate. All of these inputs were tested for variations of +/- 10%.
<b>Exchange rate</b>	The exchange rate for the reporting of the results from this study is AU\$1.00 = US\$0.75, except in the case of references to the Concentrate Scoping Study, which used an exchange rate of AU\$1.00 = US\$0.75.
<b>Social</b>	This study contemplates siting the spherical plant in an existing industrial precinct situated in near proximity to the proposed Siviour mine site. Potential locations have been identified in Whyalla (located approximately 120km from Siviour), Port August (300km) and Port Adelaide (320km). Renascor has commenced meetings with potential stakeholders within these areas, with further meetings expected to occur in the near term. There are no known community issues that Renascor has identified as being a likely material impediment to developing the project. Social factors relating to the production of graphite concentrates are based on estimates included in the Concentrate Scoping Study.
<b>Other</b>	There are several other material risks to this project including product price, competition, regulatory approval, social licence, scheduling and other risks typical of projects of similar scale.
<b>Audits or reviews</b>	This study was internally reviewed by Renascor. No material issues were identified by the reviewers. All study inputs were prepared by Competent Persons identified in this announcement.