

ASX Release

November 11, 2019

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Siviour Definitive Feasibility Study

Renascor Resources Limited (ASX: RNU) (**Renascor**) is pleased to announce the results of the Definitive Feasibility Study (**DFS**) for its 100%-owned Siviour Graphite Project (**Siviour**) near the coast of South Australia's Eyre Peninsula.

The DFS confirms Siviour's potential as a low-cost, long-life graphite project that can achieve consistently attractive profit margins even in the current lower graphite price environment. A summary of highlights relating to the DFS is detailed below.

Highlights

- **World-class, low-OPEX project:** DFS results confirm Siviour's world-class potential, with a projected life of mine (**LOM**) operating cost of A\$508 or US\$355 per tonne (A\$471 or US\$330 per tonne over first ten years) – amongst the lowest projected operating costs globally (see Figure 12, page 27).
- **Staged development to reduce up-front capital cost:** DFS based on staged development, with average production of 80ktpa during first stage (years one to four), before expansion in year five to be funded through expected project cashflows. Average projected production in years five to ten is 144ktpa.
- **Revised, current pricing:** The DFS has been adjusted for current graphite market conditions with pricing from Benchmark Mineral Intelligence, resulting in a decrease from previous basket price through 2025 of 22% to A\$1,149 or US\$804¹.
- **Robust economics:** The results confirm compelling project economics, including:
 - **Post-tax NPV₁₀ of A\$388m or US\$271m;**
 - **Post-tax IRR of 33%;**
 - **Start-up capital requirement of A\$114m or US\$79m plus a mining pre-strip of A\$4m or US\$3m; and**
 - **Average EBITDA of A\$83m or US\$58m, EBITDA margin of 57%.**
- **Funding:** Up to 60% of the start-up capital requirement is expected to qualify for in-principle support from Atradius, the Dutch export credit agency (**ECA**), subject to finalising the procurement strategy in the front-end engineering design (**FEED**) phase.
- **Next steps:** Renascor's next immediate steps are expected to include securing binding offtake agreements, final project permitting and commencing financial due diligence.

¹ In May 2019, Renascor announced the results of the Optimised Development Plan (**ODP**), a scoping study level assessment of the development plan adopted in the DFS. The ODP adopted a fixed annual pricing model for each product specification. See Renascor ASX announcement dated 3 May 2019, page 20. If the pricing model from the ODP had been adopted in the DFS (which applies variable pricing by year based on forecast data supplied by Benchmark Mineral Intelligence), the DFS basket price would have been A\$1,470 or US\$1,029. See Section 13 of Appendix 1 for more detail on the basket price used in the DFS.

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Cautionary Statements

Consideration of the DFS discussed herein has been undertaken to determine the feasibility of a staged mine and graphite production plant constructed adjacent to the Siviour Graphite Deposit. The DFS is a technical and economic study of the feasibility of a revised, staged development of the Siviour Graphite Deposit. It is based on Ore Reserves estimated in the Siviour Prefeasibility Study (PFS) (See Renascor ASX announcement dated 14 March 2018), builds on mine design and engineering assessments of both single large scale and staged mining operations described in the PFS and, more recently, the ODP. The operating parameters of the DFS differ materially from the plan and assessments described in the PFS and ODP and are based on feasibility level technical and economic assessments. The DFS evaluation work and appropriate studies have provided feasibility level estimates of cost and rates of return to provide any assurance of an economic development based on the DFS.

The production target underpinning financial forecasts included in the DFS includes 25% Measured Resources, 58% Indicated Resources and 17% Inferred Resources.

There is a low level of geological confidence associated with Inferred Resources and there is no certainty that further exploration work will result in the determination of Indicated Resources or that the production target itself will be realised. There are no Inferred Resources included in the first ten years of the processing schedule. The DFS 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 the DFS will be achieved.

To achieve the range of outcomes indicated in the DFS, 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 the forward-looking statements included in this announcement 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 the DFS.

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A summary of the key results of the DFS is described below in Table 1. Additional information, including material assumptions, are included elsewhere in this announcement.

Parameter	Stage-one		Stage-two	
	years 1 to 4		years 5 to 40	
	A\$	US\$	A\$	US\$
Annual production	80,000t		144,000t (years 5 to 10)	
	105,000t (LOM)			
Plant throughput run of mine (ROM) ore	825,000t		1,650,000t	
Average feed grade of ROM ore (TGC)	10.7%		9.1% (years 5 to 10)	
	7.4% (LOM)			
Cash cost per tonne	A\$494	US\$345	A\$464 (years 5 to 10)	US\$325 (years 5 to 10)
	A\$508 or US\$355 (LOM)			
Basket sales price	A\$1,149 or US\$804 (over first five years) A\$1,321 or US\$925 (LOM)			
Life of mine	40 years			
Capital expenditure	A\$114m	US\$79m	A\$77m	US\$54m
Mining pre-strip	A\$4m	US\$3m	N/A	N/A
Sustaining capital	A\$8m	US\$5m	A\$22m	US\$15m
	A\$116m or US\$81m (LOM)			
Payback period	3.7 years ²		Not applicable	
NPV ₁₀ (after tax)	A\$388m or US\$271m			
IRR (after tax)	33%			
EBITDA	A\$49m	US\$34m	A\$87m	US\$61m
	A\$83m or US\$58m (LOM)			
Project cashflow	A\$2.1b or US\$1.5b (LOM)			

Table 1. Summary of key results of the Siviour DFS

² Reflects period of time to payback development capital for stage-one as calculated from first production, assuming cashflow from stage-one is not used to pay stage-two development capital.

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Commenting on the DFS, Renascor Managing Director David Christensen stated:

“The DFS confirms Siviour’s status as a low-cost, tier one graphite project that can achieve consistently attractive profit margins even in the current lower graphite price environment.

We believe this cost advantage, coupled with our location in the low sovereign risk jurisdiction of South Australia, will enable Siviour to become a premier provider of graphite for the growing lithium-ion battery market, as this sector becomes the dominant end-user of natural flake graphite.

With the DFS now complete, we look forward to advancing towards securing binding offtake agreements and working with our finance partners to secure funding for Siviour’s stage-one development.”

Overview of the DFS

Royal IHC, an international engineering, procurement and construction (EPC) contractor, in partnership with Wave International, an independent resource consulting group, acted as the study manager and supervising engineers of this study. In its capacity as study manager, Royal IHC oversaw the compilation of the technical study work, preliminary assumptions and conceptual financial models using information provided by Renascor, Wave International, and the specialist consultants, including those noted in Table 2, who have consented to the information used in the context in which it appears in this announcement.

Scope of work	Consultant
Mineral Resource estimate	Optiro Pty Ltd
Metallurgical test work	Goudie Hall Consulting Pty Ltd
Mining and mine design	Optima Consulting and Contracting Pty Ltd
Mineral processing and plant engineering	Royal IHC and Wave International
Geotechnical	AMC Consultants Pty Ltd (mine) Wave International (plant and tailings)
Infrastructure	Wave International
Tailings	Wave International
Hydrogeology	Groundwater Science Pty Ltd
Marketing	Benchmark Mineral Intelligence
Environmental permitting	JBS&G Australia Pty Ltd
Logistics	George Wilby
Financial analysis	BurnVoir Corporate Finance Limited and Wave International

Table 2. Consultants contributing to the DFS

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Next steps

Over the next six months, Renascor will continue to focus on offtake, permitting and financing, with work expected to include:

- **Offtake.** The results of the DFS support Renascor's marketing strategy to provide a market-leading product offering into the growing lithium-ion battery market by producing at a globally competitive low cost from the secure, low sovereign risk mining jurisdiction of South Australia. With the DFS complete, Renascor intends to advance discussions with potential purchasers and strategic partners, with a focus on the lithium-ion battery market. Work is also expected to include qualification of samples of Siviour graphite concentrates with established end-users.
- **Permitting.** Earlier this year, the South Australia Minister for Energy and Mining granted a Mineral Lease for the Siviour Graphite Project. See Renascor ASX announcement dated 8 April 2019. The Mineral Lease details the conditions that must be addressed in a Program for Environment Protection and Rehabilitation (**PEPR**), which is the second step in the Government's two-stage assessment and approval process. Renascor is currently preparing the PEPR, which it expects to lodge this year.
- **Financing.** In April 2019, following a preliminary assessment of Siviour, Atradius Dutch State Business (**Atradius**), the Government of the Netherlands official ECA, issued a Letter of Interest (**LOI**) confirming in-principle project finance support under the Dutch export credit guarantee scheme (**ECA Cover**). See Renascor ASX announcement dated 10 April 2019. Renascor has estimated that up to approximately 60% of stage-one capital expenditure is expected to qualify under the Atradius ECA Cover after finalising the ECA procurement strategy in the FEED phase. The LOI represented the first milestone in Renascor's engagement with Atradius. The next step in obtaining ECA Cover involves further due diligence by Atradius and, assuming a satisfactory outcome, a positive decision from the relevant committees of Atradius can be secured. It is common to work with one or more financial institutions in parallel with Atradius with the intention to fund the transaction supported by credit insurance cover from Atradius. With the DFS now complete, Renascor expects to commence financial due diligence with Atradius and other financial institutions.

Additional work programs are expected to include working to secure an EPC proposal and completing the FEED phase. Renascor also plans to collect a bulk sample for additional customer sampling and undertake confirmatory and optimisation metallurgical testing in connection with FEED.

Concurrently, following the successful completion of the Spherical Graphite Pre-Feasibility Study (**Spherical PFS**) earlier this year (see Renascor ASX announcement dated 21 February 2019), Renascor intends to advance its downstream graphite strategy. This includes preparing additional spherical graphite market samples and continuing optimisation advanced process design tests in preparation for advanced study work on the viability of a vertically integrated downstream operation to produce spherical graphite for direct sale to lithium-ion battery anode producers.

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Bibliography

Set out below is a list of announcements referenced in in the main text of this announcement and the attached appendices:

1. Renascor ASX announcement dated 31 March 2017, "High Purity Coarse Flake Graphite from Metallurgical Tests"
2. Renascor ASX announcement dated 14 March 2018, "Siviour Prefeasibility Study and Maiden Ore Reserve"
3. Renascor ASX announcement dated 31 August 2018, "Successful Locked-Cycle Tests & Bulk Concentrate Production"
4. Renascor ASX announcement dated 16 October 2018, "DFS Drilling Update"
5. Renascor ASX announcement dated 22 November 2018, "100% Acquisition of Siviour Graphite Project Complete"
6. Renascor ASX announcement dated 28 November 2018, "Breakthrough to Drive Lower Spherical Graphite OPEX"
7. Renascor ASX announcement dated 21 February 2019, "Spherical PFS Demonstrates Increased Returns for Siviour"
8. Renascor ASX announcement dated 4 March 2019, "BurnVoir Appointed as Financial Advisor for Siviour"
9. Renascor ASX announcement dated 8 April 2019, "Mineral Lease Granted for Siviour"
10. Renascor ASX announcement dated 10 April 2019, "In Principle Project Finance Support from Dutch ECA"
11. Renascor ASX announcement dated 30 April 2019, "High-Grade Measured Resource in Upgraded JORC Resource"
12. Renascor ASX announcement dated 3 May 2019, "Optimised Development Plan for the Siviour Graphite Project"
13. Renascor ASX announcement 12 August 2019, "Positive Results from Spherical Graphite Tests"

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.

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**Competent Persons Statements****Mineral Resource**

The information in this document that relates to Mineral Resources is based upon information compiled by Mrs Christine Standing who is a Member of the Australasian Institute of Mining and Metallurgy and a Member of the Australian Institute of Geoscientists. Mrs Standing is an employee of Optiro Pty Ltd and has sufficient experience relevant to the style of mineralisation, the type of deposit under consideration and to the activity undertaken to qualify as a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code 2012 edition). Mrs Standing consents to the inclusion in the report of a summary based upon her information in the form and context in which it appears.

Exploration Results

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.

Ore Reserve

The information in this document that relates to Ore Reserves is based on information compiled and reviewed by Mr Ben Brown, who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Brown is an employee of Optima Consulting and Contracting Pty Ltd and a consultant to the Company. Mr Brown has sufficient experience relevant to the type of deposit under consideration 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 Brown 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 the DFS

1. Overview of Study

The DFS considers the viability of producing flake graphite concentrates from Renascor's Siviour Graphite Project (**Siviour**) through a proposed open-pit mine with an adjacent graphite production plant.

The development plan for the DFS is based on a staged construction of two substantially identical processing plants, each with an ore through-put capacity of 825,000 tonnes per annum (**825ktpa**) for a combined capacity of 1,650,000 tonnes per annum (**1,650ktpa**).

The development scenario of the DFS was adopted after considering multiple mine option plans for Siviour. Based on discussions regarding potential project financing and market requirements, Renascor determined that two-stage production offered a financeable production scenario by minimising the up-front capital requirement, while still maintaining a low projected operating cost.

Stage-one of the two-stage approach has received in-principle project finance support from the Dutch export credit agency (**ECA**), Atradius Dutch State Business (**Atradius**), the official Dutch ECA. Renascor has estimated that up to approximately 60% of project capital expenditure for the first stage plant projected is expected to qualify under the Atradius ECA cover after finalising procurement strategy in the FEED phase. See Renascor ASX announcement dated 10 April 2019.

The DFS builds upon previous studies, including an optimised scoping study level assessment of the development scenario that has been adopted for the DFS in the form of an Optimised Development Plan (**Optimised Development Plan**). See ASX announcement dated 3 May 2019. The Optimised Development Plan was in part based on a PFS completed in 2018. See Renascor ASX announcement dated March 14, 2018. The PFS considered a large-scale development option based on a single stage 1,650ktpa plant, as well as an initial smaller-scale option based on a 200ktpa plant expanding to 1,850ktpa. Both the Optimised Development Plan and the Prefeasibility Study (**PFS**) concluded that the project is technically viable and has the potential to deliver robust financial returns³.

The cost estimates for the DFS have been prepared to Class 3 standard in accordance with the Association for the Advancement of Cost Engineering (**AACE**) International standards, suitable for a DFS in accordance with the Australian Institute of Mining and Metallurgy

³ Renascor has also completed a prefeasibility study considering the viability of a downstream spherical graphite plant in Australia using graphite from the Siviour Graphite Deposit (**Spherical PFS**). See Renascor ASX announcement dated 21 February 2019. The DFS is related solely to the production of graphite concentrates from a mining and processing operation at the Siviour mine site; it does not consider downstream options.

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(AusIMM) guidelines⁴ (with an accuracy level within +/-15%) and are subject to the cautionary statements relating to DFS parameters on page 2 of this announcement.

2. Location and ownership

Siviour is part of Renascor's Arno Project. The project is located on South Australia's Eyre Peninsula, approximately 15 km west of the coastal township Arno Bay, 120 km northeast of Port Lincoln and 150 km southwest of Whyalla (Figure 1).

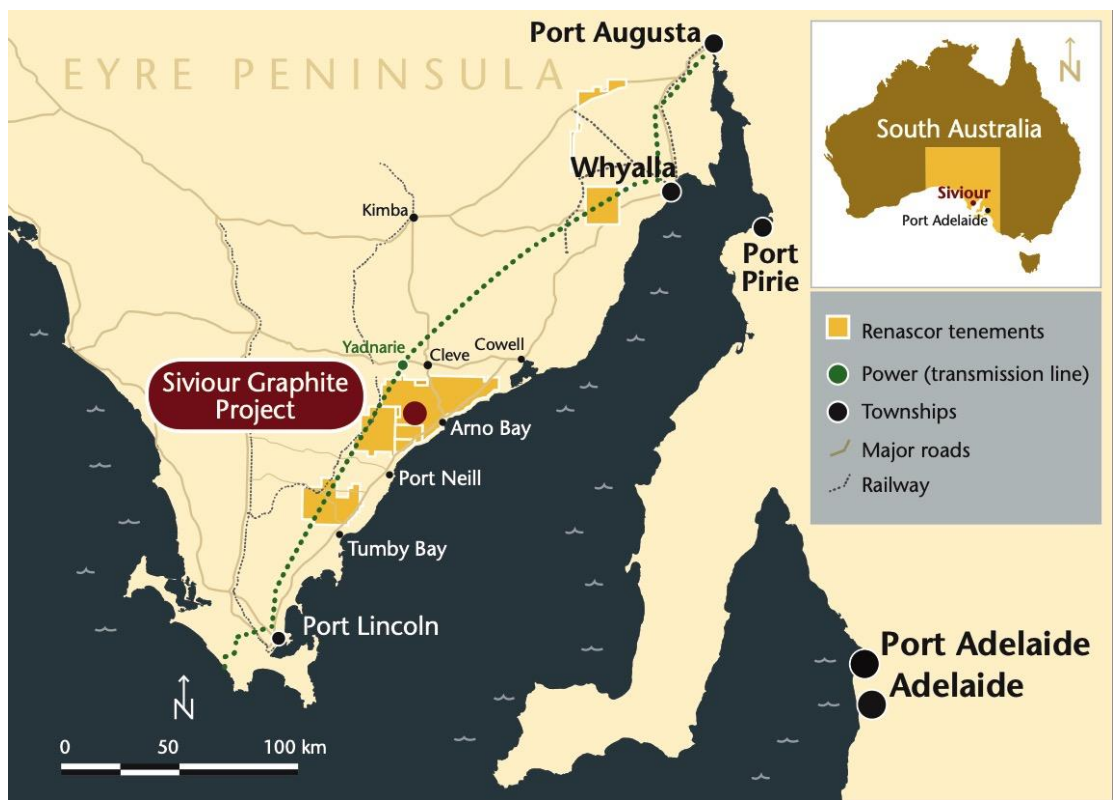


Figure 1. Project location

Renascor, through its wholly-owned subsidiary Ausmin Development Pty Ltd (Ausmin), owns a 100% interest in Siviour, subject to a 1% gross overriding royalty held by the former shareholders of Ausmin⁵.

⁴ Auslmm 2012. Cost Estimation Handbook. 2nd Edition, Monograph 27. The Australian Institute of Mining and Metallurgy.

⁵ Renascor acquired Ausmin in November 2018. See Renascor ASX announcement dated 22 November 2018.

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3. Tenure

Ausmin is the registered licence holder of Mineral Lease (ML) 6495, which encompasses Siviour. In addition to its interest in ML 6495, Ausmin is the registered licence holder of five exploration licences (ELs) in the vicinity of Siviour, specifically EL 5618, EL 6032, EL 6197, EL 6423 and EL 5714 (Figure 2).

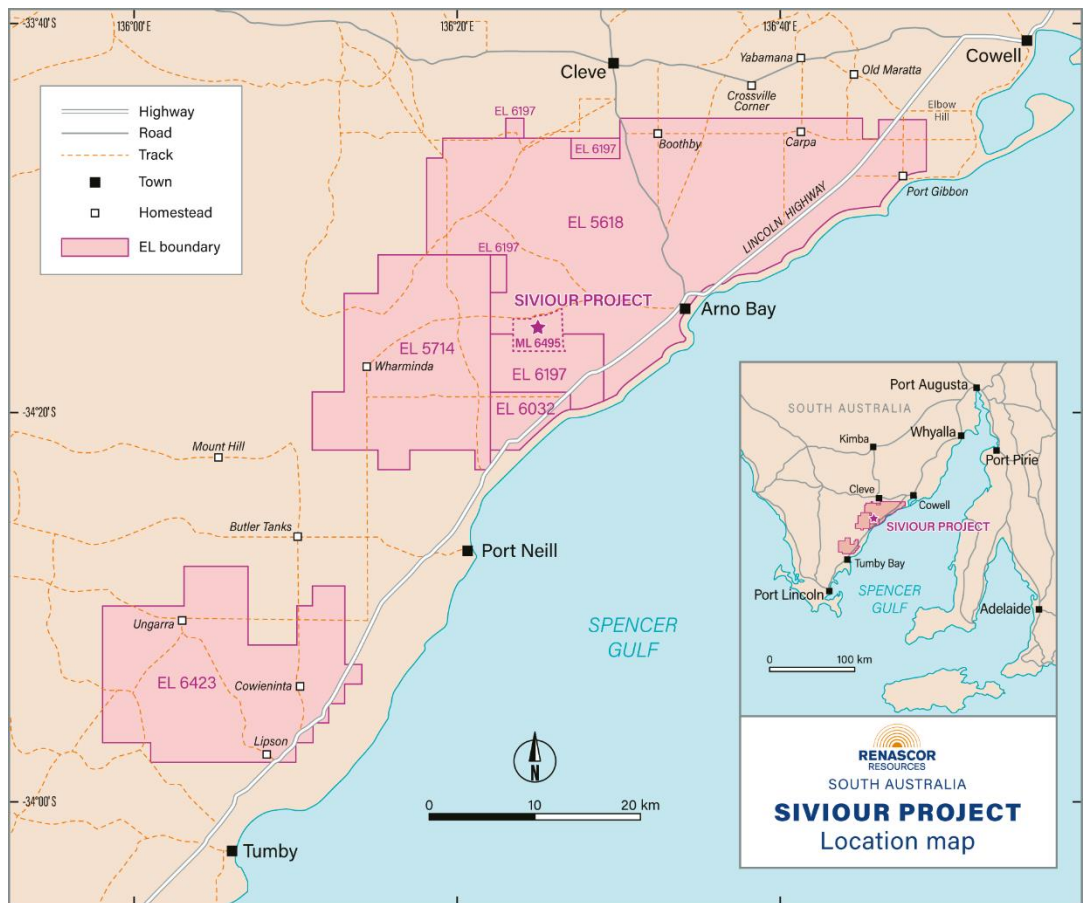


Figure 2. Project tenements

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Tenement Name	Tenement Number	Area km ²	Registered Holder	Interest %	Grant Date	Expiry Date
Malbrom	EL 6197	81	Ausmin	100%	05-Apr-18	04-Apr-20
Lipson Cove	EL 6423	329	Ausmin	100%	29-Sep-19	28-Sep-21
Verran	EL 5618	690	Ausmin	100%	29-Jan-15	28-Jan-20
Malbrom West	EL 5714	270	Ausmin	100%	05-Feb-16	04-Feb-20
Dutton Bay	EL 6032	31	Ausmin	100%	26-Oct-17	25-Oct-21
Siviour	ML 6495	16	Ausmin	100%	05-Apr-19	04-Apr-20

Table 1. Project tenements

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4. Mineral Resource and Ore Reserve

The DFS considers the development of a single graphite deposit, the Siviour Graphite Deposit, to produce up to an estimated 144ktpa of graphite concentrates through a staged development.

The graphite mineralisation at Siviour is hosted within a sequence of schist, micro-gneiss and metasedimentary rocks. The mineralised zone has a simple tabular geometry and the main portion of the deposit is oriented east-west.

The DFS relies on the Mineral Resource Estimate first reported on 30 April 2019 (see Renascor ASX announcement dated 30 April 2019) and presented in Table 2 below; and a Probable Ore Reserve estimate first reported in the Siviour Prefeasibility Study (see Renascor ASX announcement dated 14 March 2018) and as set out in Table 3 below.

The Mineral Resource and Probable Ore Reserve estimates were prepared by Competent Persons in accordance with the 2012 JORC Code.

Resource Category	Resource (Mt)	TGC (%)	Contained Graphite (Mt)
Measured	15.8	8.8%	1.4
Indicated	39.5	7.2%	2.8
Inferred ⁶	32.1	7.2%	2.6
Total	87.4	7.5%	6.6

Table 2. Siviour Mineral Resource estimate as of 29 April 2019 reported above a cut-off grade of 2.3% Total Graphitic Carbon (TGC)

Reserve Category	Ore (Mt)	TGC (%)	Contained Graphite (Mt)
Proven	-	-	-
Probable	45.2	7.9%	3.6
Total	45.2	7.9%	3.6

Table 3. Siviour Ore Reserve as of 14 March 2018

In connection with work undertaken in preparing the mining schedule for the DFS, Renascor has commissioned a Competent Person to prepare a revised Ore Reserve estimate. It is expected that this revised estimate will result in a restatement of the Ore Reserve.

⁶ There is a low level of geological confidence associated with Inferred Mineral Resources, and there is no certainty that further exploration work will result in the upgrading of an Inferred Resource to an Indicated Resource or that a portion of the production target that includes Inferred Resources will be realised. Please refer to the cautionary statement on page 2 regarding Inferred Resources.

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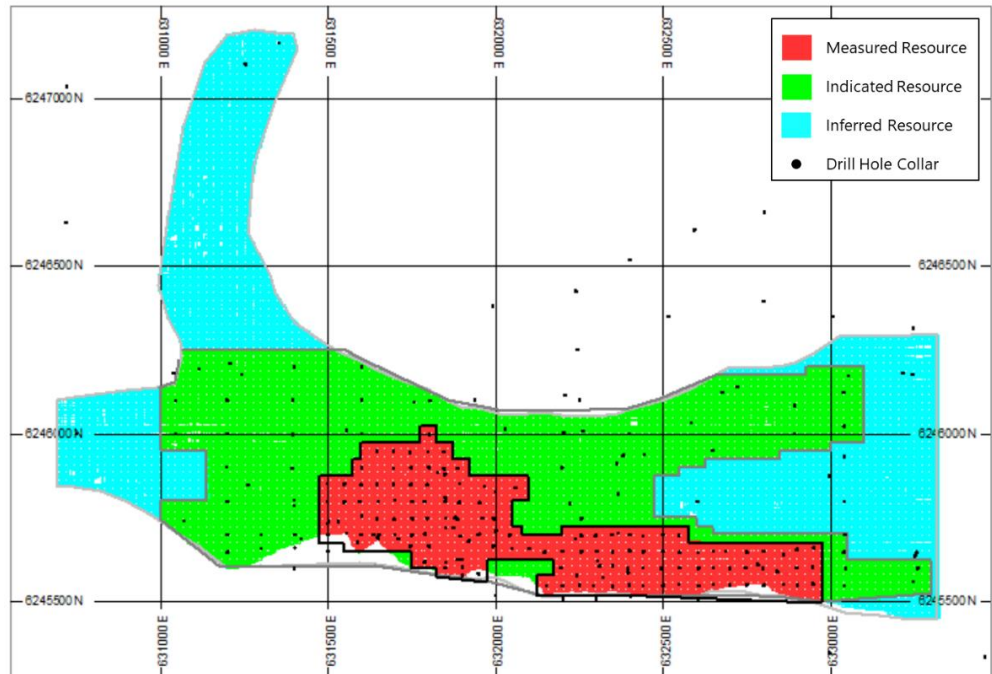


Figure 3. Plan view of the Siviour deposit showing the distribution of Resource classifications and drill hole locations

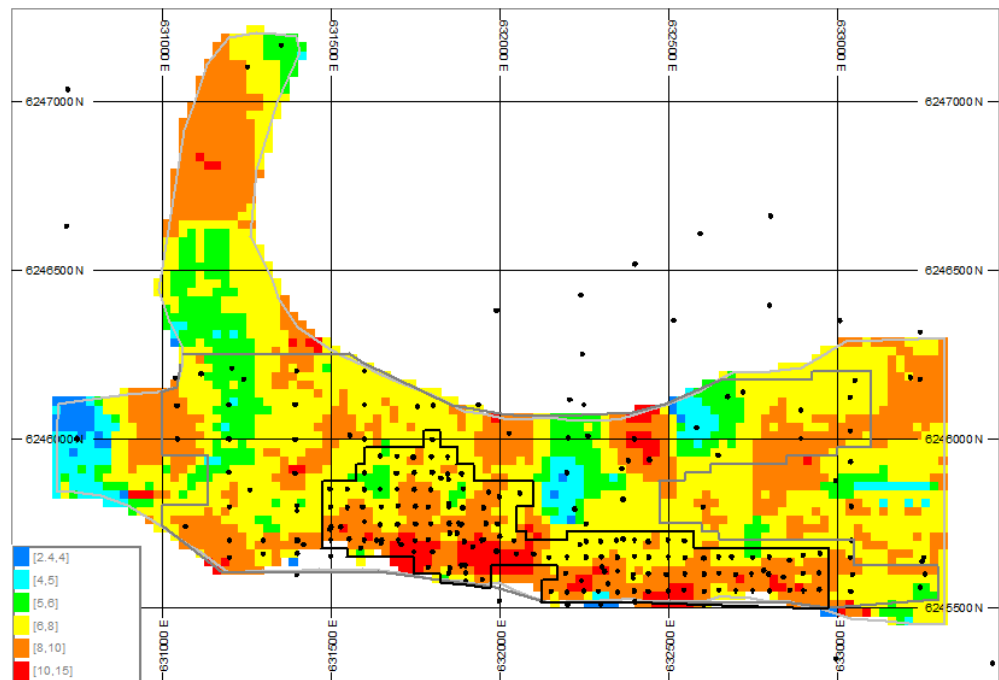


Figure 4. Plan view of the Siviour showing average TGC grade overlain with the outlines of Mineral Resource classifications and drill hole locations

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5. Mining and Mine Design

The geometry of the Siviour Graphite Deposit is generally flat-lying, with thick, flat, gently folded graphite mineralisation sitting from within 5 m to 15 m of surface. This orientation facilitates a single shallow mining design that can be mined via conventional open pit mining methods.

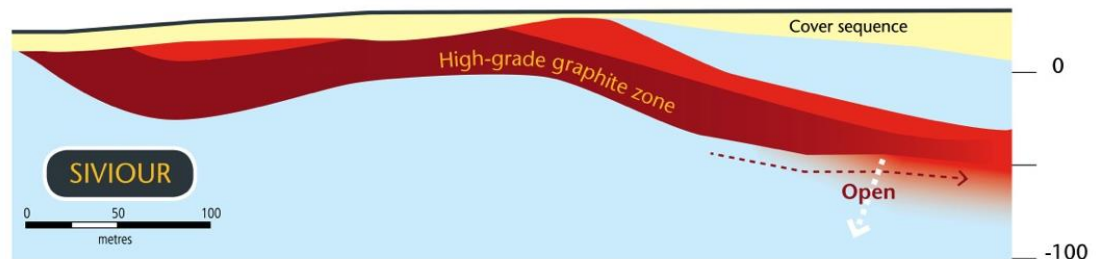


Figure 5. North-south cross-section (631800E) – Looking west

The DFS pit optimisation and mining study resulted in a mining schedule conducted in 14 stages mined over a period of 26 years. Mining commences in the southern portion of the orebody to permit mining of a higher-grade corridor in the mine's first year.

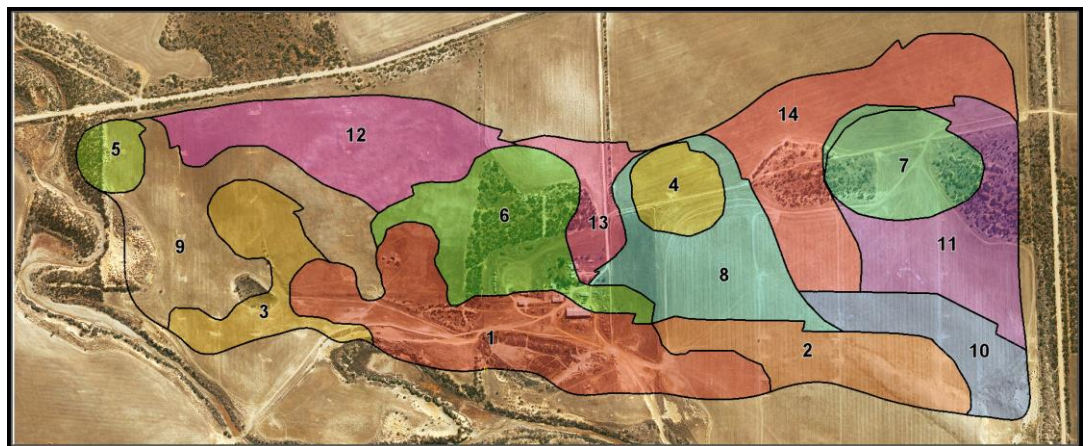


Figure 6. Surface footprint of mining stages

The proposed mining method is conventional truck and shovel open pit bench mining. Free digging in alluvial material makes up around 15% of all overburden, while drill and blast is required for all other lithologies.

The DFS has adopted a mining fleet comprising a Komatsu PC2000 200t excavator, HD785 haul trucks with a 60m3 standard tub capacity and a Komatsu WA500-7 wheeler loader. Komatsu HD785-7 trucks were selected as they are an efficient match with the PC2000 excavator, with 5 passes required for a full load.

The DFS has assumed that the mining fleet, along with a Komatsu GD655_5 Grader, Komatsu HM400_3MO Water truck, Komatsu WA 320PZ IT tool carrier and Komatsu

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D275AX Dozer will be acquired under a hire purchase agreement. Additional ancillary equipment will be purchased outright.

Initially, mining will be conducted on a 24-hour basis in order to access high grade ore as soon as possible, before dropping to day-shift only in years 2 and 3. Mining will return to a 24-hour operation in Year 5, coinciding with the process plant expanding to 1,650ktpa capacity.

Total material movement by year and Resource Category is shown in Figure 7.

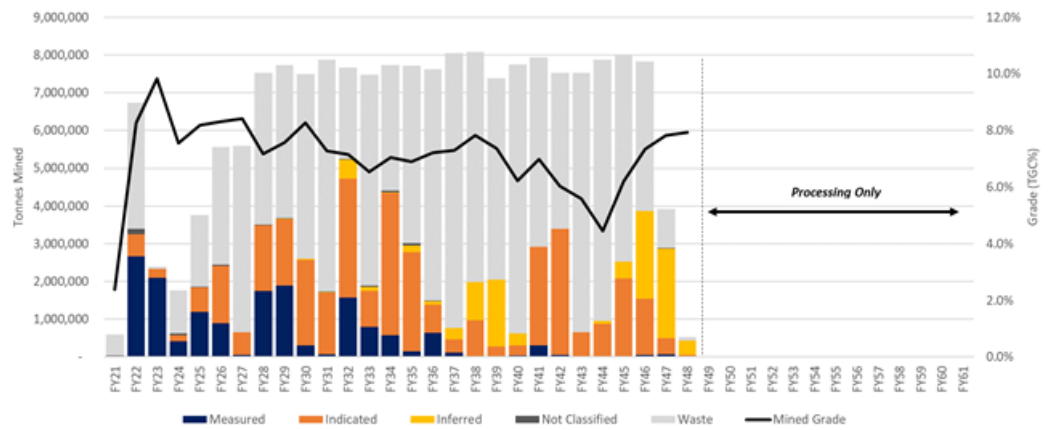


Figure 7. Total material mined by Resource Category

Over the 26-year mining period, approximately 25% of the material mined is within the Measured Resource category, approximately 58% is within the Indicated Resource category, and approximately 17% is within the Inferred Resources⁷ category.

During the first 10 years of mining, approximately 46% of the material mined falls within the Measured Resource category, approximately 51% is within the Indicated Resource category, and approximately 3% is within the Inferred Resources category.

⁷ There is a low level of geological confidence associated with Inferred Mineral Resources, and there is no certainty that further exploration work will result in the upgrading of an Inferred Resource to an Indicated Resource or that a portion of the production target that includes Inferred Resources will be realised. Please refer to the cautionary statement on page 2 regarding Inferred Resources. The DFS does not consider any costs associated with further exploration drilling to upgrade the Indicated or Inferred Resources.

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6. Metallurgy

The DFS relies on previous metallurgical test work undertaken and reported in relation to the Optimised Development Plan, the Siviour Prefeasibility Study and in subsequent announcements (see Renascor ASX announcements dated 31 March 2017, 31 August 2018 and 16 October 2018) as well as additional work programs undertaken in relation to the DFS.

For the DFS, mineral processing parameters are based on composite samples from 13 diamond-core holes drilled within the Siviour Probable Reserve. The core samples were selected on the basis of being representative of the typical mineralised zone within each core hole and different lithologies.

Metallurgical investigations were undertaken to assess the ore's amenability to different grind sizes, beneficiation by froth flotation and regrind and to provide a basis of design for process engineering. Investigations included variability testing based on grade and lithology. Examination of final concentrates via size assay analysis has demonstrated continuity of the quality of the graphite.

The DFS flowsheet was optimised to maximise recovery of coarse flake whilst maintaining 94% to 96% TGC across all size fractions, including small flake (-150 µm), which Renascor's test work has identified as amenable to further processing into spherical graphite, which can be sold for premium prices for use in lithium-ion battery anodes. See Renascor ASX announcements dated 28 November 2018 and 12 August 2019. Renascor has completed a PFS assessing the viability of producing spherical graphite from Siviour graphite concentrates (see Renascor ASX announcement dated 21 February 2019) and is undertaking additional work programs assessing the viability of producing spherical graphite.

A final flowsheet was adopted to optimise purity, flake size and recovery. See Section 7 (Process Plant) for a discussion of the flowsheet parameters adopted for assessing the process plant design in relation to the DFS.

The flake size distribution has been updated from the latest metallurgical testwork results and is summarised in Table 4. These results were achieved at a weighted average graphite concentrate grade of approximately 94% TGC and a recovery of 91%.

Flake category	Particle size		Purity (TGC)	Distribution
	Microns (µm)	Mesh (#)		
Jumbo	+300	+50	94%	3.5%
Large	-300 to +180	-50 to +80	95%	17.2%
Medium	-180 to +150	-80 to +100	96%	6.9%
Small	-150	-100	94%	72.4%

Table 4. Summary of Siviour concentrate size distribution

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7. Process Plant

The DFS considers the construction of two 825ktpa processing plants, for a total processing capacity of 1,650ktpa, with the construction of the second plant to potentially be funded from projected cash-flows derived from graphite sales from the first plant. The plants are based on identical designs.

Processing Schedule

The processing schedule adopted for the DFS is shown in Figures 8 and 9.

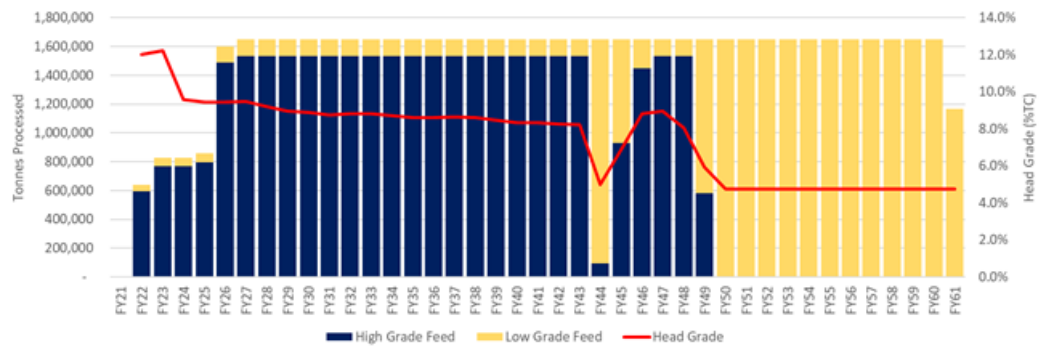


Figure 8. Production Schedule by Resource Category showing feed type and head grade

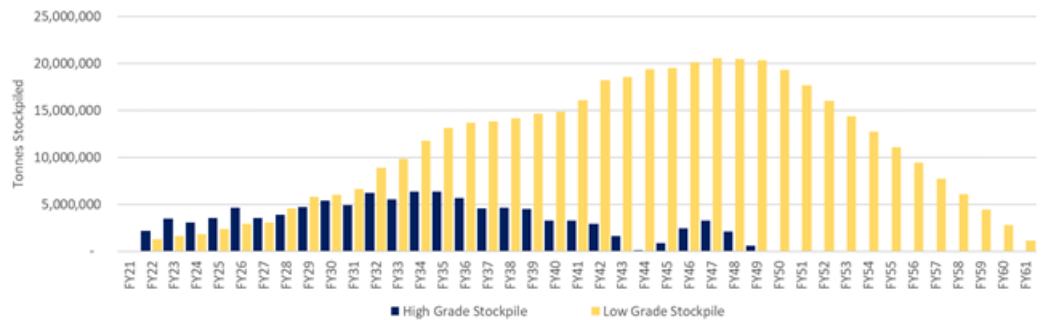


Figure 9. Build-up of high-grade and low-grade Stockpiles

Processing begins after a 3-month pre-strip (Year 0) and ramps up to 825ktpa over a 6-month period in Year 1. Following the construction of the Stage 2 process plant, the processing capacity increases to 1,650ktpa.

The average processed grade during years 1 to 4 is 11% TGC whilst over years 5 to 10 and years 11 to 27 processed grade averages 9% and 7%, respectively. From year 28 onwards, 100% of the ore is sourced from a low-grade stockpile at an average processed grade of 4.7%.

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8. Flowsheet

The flowsheet parameters for both plants are based on metallurgical test work undertaken from composite samples which take into account grade and lithology. The flowsheet adopted for the DFS is based on the metallurgical parameters discussed in Section 6 (Metallurgy).

Each of the process plants have been designed to recover graphite concentrate by froth flotation. Ore from the mine will be crushed in stages, followed by grinding, flotation, filtering, drying and sizing, before being bagged and containerised for shipment.

A simplified flow sheet is shown in Figure 10.

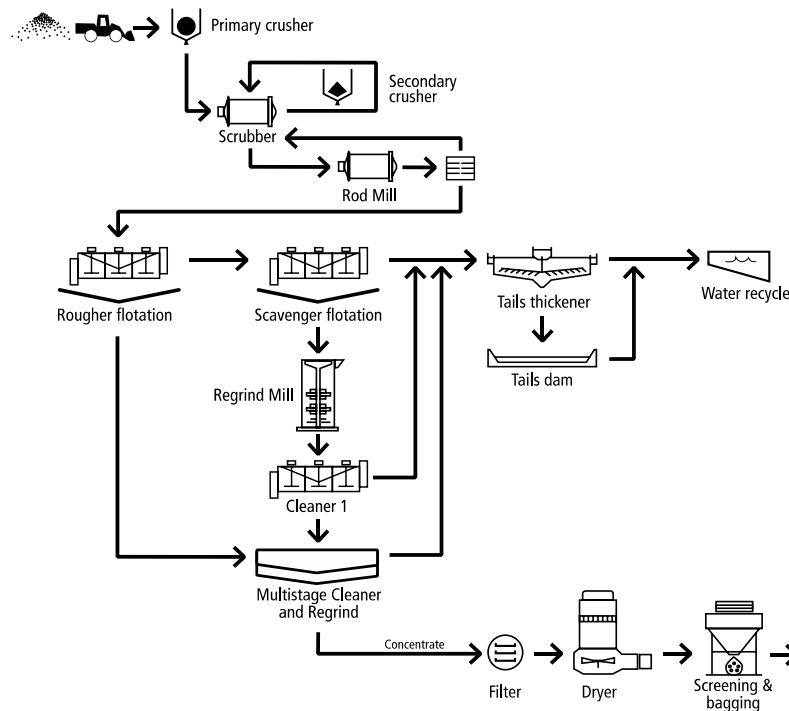


Figure 10. Process plant flowsheet

Crushing

Crushing will occur in two stages. In the first stage, a primary jaw crusher will crush ore from the pre-blended ROM pad, and crushed product will be conveyed to a scrubber. The scrubber oversize will be crushed in a secondary pebble crusher and conveyed back to the scrubber feed. The primary crushing circuit operates at higher capacity than the mill to allow for a crushed ore stockpile.

Grinding

Crushed, scrubbed ore will be conveyed to a primary rod mill to achieve flotation feed of P₉₉ 425 µm. The mill discharge will be collected in a hopper before being pumped to a

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vibrating screen, with oversized material recycled back to the rod mill. The fine material bypasses the primary mill to avoid overgrinding.

Flotation and Regrind

Flotation and regrind circuits contain desliming, roughing, scavenging, seven stages of cleaning and four stages of regrind. The cleaning circuit includes screening of concentrate at 300µm after the second cleaning, with the coarser flake material reporting direct to filtration and drying. The finer material will pass through additional regrind and cleaning to increase purity. The circuit is designed to optimise coarse flake graphite retention at a minimum purity of 94% to 96% TGC.

Dewatering and Product Handling

The final concentrates will be filtered, dried and screened into five size fractions (+300 µm, +180 µm, +150 µm and -150 µm). Concentrates will then be directed to bins and bagged into one tonne bulka bags by product specification.

Tailings

Tailings, including slimes and flotation circuit tailings, will be directed to a tailings thickener for dewatering prior to being pumped to the tailings storage facility. Tailings thickener overflow will report to a process water tank for water recovery and reuse.

A site layout plan showing the processing plant, infrastructure and the life of mine pit shell and orebody appears in Figure 11.



Figure 11. Site layout plan

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9. Infrastructure and Logistics

Infrastructure will include:

- a mining services area;
- a tailing storage facility;
- office and workshop facilities;
- analytical and metallurgical laboratories;
- communications infrastructure;
- raw water and process dams; and
- access roads to the plant and project site.

Electricity. Electricity will be supplied from the existing 33kV grid system owned and operated by SA Power Network. An allocation has been made to augment and extend the existing power transmission line by approximately 12.5 km.

Water supply and management. Water will be supplied from a reverse osmosis plant and associated infrastructure at the coast approximately 12 km from the Siviour site. This proposed position on the Spencer Gulf (subject to planning and approvals) will be approximately 11 km south of Arno Bay township and will be remote from local residential, tourism and aquaculture.

Transport. Concentrates will be bagged and loaded for transport from the project site to for road transport to port. For the DFS, Lucky Bay, the nearest port to the project site (approximately 60 km road distance), was selected as the preferred port. The port of Lucky Bay is currently being developed and is expected to be fully operational when production commences at Siviour. In the event that Lucky Bay is not operational, concentrates will be sent by road transport to Port Adelaide (approximately 500 km by road distance), which would result in a net increase in transport costs (due to higher road haulage costs, but reduced shipping costs) of approximately A\$10 per tonne of concentrates. The transport route from the project site to both Lucky Bay and Port Adelaide consists of roads that are generally approved for use by restricted access vehicles, such as road trains, with the exception of approximately 8 km of road covering the distance from the project site that connects to the Port Lincoln Highway. An allocation has been made to upgrade these roads to ensure the maintenance of safe traffic conditions.

Workforce. Renascor expects to employ the majority of personnel from local communities 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. The conditions of employment (hours of work, rosters, rates of pay, training and facilities) will be competitive and designed to attract a highly skilled and flexible workforce. Accommodation and messing will not be provided on site, with personnel residing in

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existing facilities in Arno Bay and other nearby townships. Considering the project's location adjacent to established coastal communities offering lifestyle benefits such as rural environment, beaches, fishing and camping spots, and its proximity to major population centres, applications for vacancies are expected to be well supported. Medical support facilities, including hospitals and doctors, are located in the region in Cleve, Tumby Bay, Whyalla and Port Lincoln, with emergency services available locally. Allocation has been made for emergency response and first aid facilities at the project site to complement these local services.

10. Permitting and Environment

Permitting

Renascor, through its 100%-owned subsidiary company, Ausmin Development Pty Ltd, has been granted a Mineral Lease for the Siviour Graphite Project by the South Australia Department for Energy and Mining. See Renascor ASX announcement dated 8 April 2019.

The Mineral Lease is the primary Government approval for mining operations and sets conditions applicable to construction, mining and rehabilitation phases. With the grant of the Mineral Lease, the terms that Renascor must follow during the construction, mining and operation phases are now established.

The Mineral Lease also details the conditions that must be addressed in a Program for Environment Protection and Rehabilitation (**PEPR**), which is the second step in the Government's two-stage assessment and approval process. The PEPR, which must be approved before mining operations may commence, is intended to establish how the conditions outlined in the Mineral Lease will be met. Prior to approval, the PEPR must be evaluated by the Department for Energy and Mining against the conditions of the Mineral Lease, as well as applicable legislation and Department regulations and guidelines. Renascor expects to submit a PEPR to the Department later this year.

Renascor has entered into an agreement with the owners of the property that grants Renascor the right to acquire an option to purchase the land, with the price to be set following an independent appraisal.

Environment

Environmental assessment for the Siviour Graphite Project's DFS was conducted as part of the compliance and permitting process to establish baseline characteristics and the project's impact on the environment.

These studies supported a Mining Lease Proposal (**MLP**) under Section 35 of the Mining Act which resulted in the grant of Mineral Lease (**ML**) 6495 on 5 April 2019.

The current land use of the area to be subject to the Mineral Lease is primarily agricultural and has been extensively cleared of native vegetation for cropping purposes. The company has adopted an integrated planning approach, feeding results from stakeholder engagement and environmental studies into the project's development to minimise

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impact on the surrounding environment and community, as well as reducing the regulatory risk. Relevant studies have not indicated any material impediments to the proposed development of the project.

11. Capital Costs

The capital cost estimate for the processing plants and related plant infrastructure has been compiled by consulting engineers Royal IHC and Wave International. The capital cost estimate for capital items relating to mining costs has been compiled by consulting mining engineer Optima. Renascor has obtained cost estimates for the remaining capital items from consultants (see Table 2 on page 4), with input from Royal IHC, Wave International and Optima. The capital cost estimate also takes into consideration Renascor’s procurement strategy, which focuses on procurement of high quality equipment to ensure reliability of performance, reduced maintenance expenditures and higher confidence in the production processes.

Category	Stage-one		Stage-two	
	years 1 to 4		years 5 to 40	
	A\$	US\$	A\$	US\$
Total process plant	\$50m	\$35m	\$42m	\$29m
Infrastructure and owners’ costs	\$36m	\$25m	\$10m	\$7m
EPC	\$19m	\$13m	\$18m	\$13m
Contingency	\$9m	\$6m	\$7m	\$5m
Total	\$114m	\$79m	\$77m	\$54m
Mining Pre-Strip	\$4m	\$3m	N/A	N/A

Table 5. Pre-production capital cost estimate summary

Process Plant

The capital cost estimate for the process plant includes all capital costs for the establishment of a functioning process plant plus plant specific infrastructure. The battery limits for the processing plant for the DFS are:

- ROM bin feed to the processing plant (prior to the crushing circuit);
- incoming transmission line, main site circuit breaker output terminal where grid supply is utilised;
- discharge spigot of the tailings pipeline at the tailings storage facility;
- final product bagging station and concentrate loadout area; and
- a pipe connection and pipeline outlet of the raw water feed pipeline.

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Infrastructure and Owners Costs

Capital costs for infrastructure and owners costs include:

- Establishment of mining infrastructure (major mining fleet equipment has been assumed to be leased with ancillary and support equipment purchased);
- Tailings Storage Facility (TSF);
- Administrative and non-mining equipment;
- Power supply augmentation and transmission line;
- Reverse osmosis plant and raw water supply system (desalination plant);
- Groundwater disposal;
- Site buildings and facilities;
- Site access and road upgrades;
- Land acquisition costs;
- Earthworks, fencing and landscaping; and
- Ecological offsets.

EPC

EPC costs for the capital estimate were developed on the basis of the process plants being delivered by a single EPC contractor and include EPC indirect costs.

Note that all capital cost estimates for the DFS have been prepared to AACE Class 3 standard, suitable for a DFS in accordance with the AusIMM guidelines (with accuracy level within +/-15%) and are subject to the cautionary statements relating to DFS parameters on page 2 of this announcement.

Pre-Strip Mining

Pre-production costs include 3 months of pre-strip mining incurred to ensure access to high grade ore at the commencement of processing.

Sustaining Capital

Life of mine sustaining capital costs have been estimated to be A\$116m or US\$81m, comprising:

- A\$73m or US\$51m for ongoing process plant and infrastructure refurbishment being between 1% to 2% of construction capital cost per annum;
- A\$20m or US\$14m for a major plant refurbishment 26 years from the start of operations;

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- A\$19m or US\$13m for tailings dam lifts over the life of mine; and
- A\$4m or US\$3m for the replacement of mining equipment.

12. Operating costs

Operating costs have been estimated by Wave International, Optima and Renascor based on the following sources:

- Information developed during the DFS;
- Estimates built from first principles referencing databases and information from similar projects;
- Budget quotations and supplier recommendations;
- Reagent consumptions based on metallurgical test work derived consumptions and reagent supply costs;
- Power demand developed from the equipment list installed power (with service factors applied);
- Power costs from South Australia energy market supplier quotes (inclusive of transmission charges); and
- Product logistics costs derived from logistic and port service providers.

Category	Stage-one		Stage-two		LOM	
	years 1 to 4		years 5 to 10			
	A\$/t	US\$/t	A\$/t	US\$/t	A\$/t	US\$/t
Mining	162	113	145	101	135	94
Processing	187	131	192	135	239	167
General and administration ⁸	39	27	23	16	30	21
Product logistics	105	73	104	73	104	73
Total	494	345	464	325	508	355

Table 6. Operating cost per tonne of concentrate produced estimate summary

Note that all operating cost estimates for the DFS have been prepared to Class 3 standard, suitable for a DFS in accordance with the AusIMM guidelines (with accuracy level within +/- 15%) and are subject to the cautionary statements relating to DFS parameters on page 2 of this announcement.

⁸ Cost of personnel for mining, processing and product logistics are separately accounted for within operating cost in respective categories in Table 6.

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13. Marketing

Product Specifications

Renascor has adopted four product specifications based on flake size and purity on the basis of market feedback that this product offering is likely to attract interest across the lithium-ion battery anode market and other key graphite applications using a relatively simple process flowsheet facilitating low cost production and consistent product quality.

In adopting product specifications, Renascor has adopted the following general parameters:

- **Purity.** Renascor has received market feedback that graphite concentrates produced to a minimum purity of 94% TGC will be attractive to potential customers at premium pricing levels.
- **Flake size.** Renascor has adopted a process flow sheet that is designed to produce a majority of graphite concentrates from Siviour at $-150\ \mu\text{m}$, as is required for the lithium-ion battery market. Approximately 28% of graphite concentrates are expected to be produced at flake sizes $+300\ \mu\text{m}$, $+180\ \mu\text{m}$ and $-150\ \mu\text{m}$ (see Section 6).

Product Pricing

Natural flake graphite pricing is generally determined based on negotiated sales agreements between and among suppliers, end-users and intermediaries, rather than by reference to a recognised benchmark price. While these transactions are not generally publicly available, price reporting services issue graphite price reports based on information they gather.

For the purposes of project valuation and product pricing, Renascor commissioned Benchmark Mineral Intelligence (**Benchmark**), an independent marketing consultant with expertise in graphite pricing, to prepare a market report, including a ten-year forecast for graphite pricing, which has been adopted for the DFS as shown in Table 7.

Key factors evidenced from Benchmark's pricing and market report that impact Siviour include:

- the graphite market is projected to experience continued pricing pressure and a falling price in all flake size fractions through 2024;
- commencing in 2024, prices are projected to increase, with the largest increase (25%) over the five-year period through 2029 expected to occur in the $-150\ \mu\text{m}$ category. Significant increases of 19% in the $+150\ \mu\text{m}$ category and 19% in the $+180\ \mu\text{m}$ are expected, with a more modest 3% increase projected in the $+300\ \mu\text{m}$ category;
- the relative strength of the $-150\ \mu\text{m}$ category is due in large part to projected increases in the use of graphite in lithium-ion batteries, which require $-150\ \mu\text{m}$ as

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natural flake graphite feedstock. Presently, approximately one-quarter of total graphite demand is attributed to the lithium-ion battery market. As a result of projected increases in the lithium-ion battery market, the lithium-ion battery market's share of projected total graphite demand is expected to exceed one half of all demand by 2023 and three-quarters of all demand by 2028;

- the market is currently in near equilibrium in the +300 µm, +180 µm, and +150 µm categories and in modest (approximately 100kt for 2019) over-supply in the -150 µm category;
- from 2022, the +300 µm, +180 µm, and +150 µm categories are projected to be in oversupply, with the oversupply growing each year from 2022 to 2028; and
- without significant new supply sources, the -150 µm category is projected to be in under-supply from 2021, with the size of the undersupply growing to approximately 400kt in 2026 and over 1,000kt in 2028.

Graphite cost curve

The DFS projects mine operating cost of A\$494 or US\$345 per tonne during stage-one (years 1 to 4) and A\$464 or US\$325 per tonne during stage-two (years 5 to 10), amongst the lowest operating cost globally. See Figure 12.

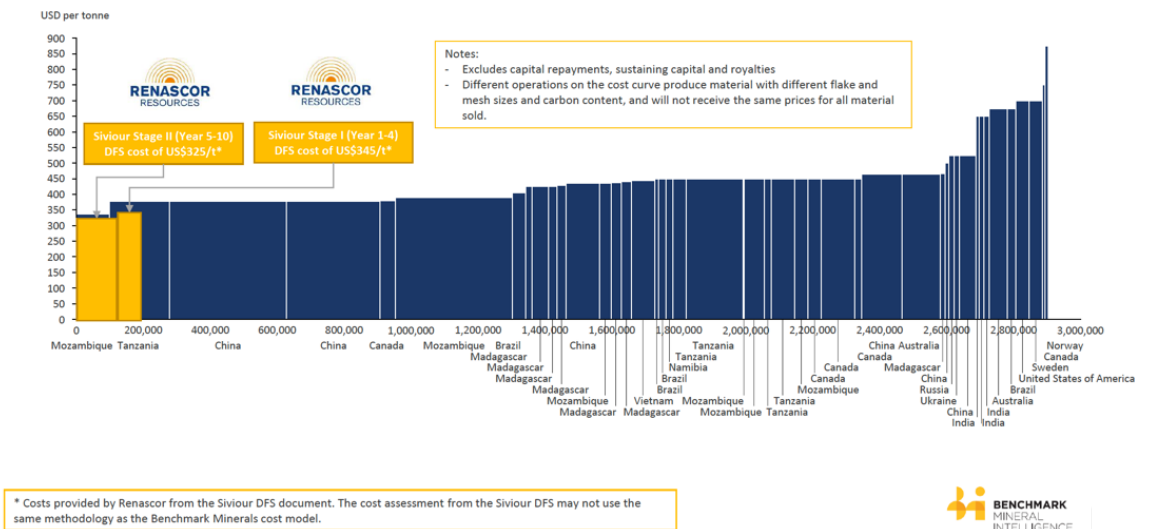


Figure 12. Graphite industry cost curve 2025 (Source: Benchmark Mineral Intelligence)

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Flake category	Particle size		Price (US\$ per tonne)									
	Microns (µm)	Mesh (#)	2021	2022	2023	2024	2025	2026	2027	2028	2029	LOM average
Jumbo	+300	+50	\$1,450	\$1,354	\$1,309	\$1,232	\$1,254	\$1,258	\$1,262	\$1,266	\$1,270	\$1,270
Large	-300 to +180	-50 to +80	\$1,017	\$930	\$893	\$879	\$877	\$922	\$1,065	\$1,056	\$1,047	\$1,047
Medium	-180 to +150	-80 to +100	\$963	\$903	\$868	\$839	\$908	\$915	\$904	\$952	\$999	\$999
Small	-150	-100	\$830	\$770	\$736	\$716	\$751	\$789	\$827	\$863	\$898	\$898
Basket price			\$842	\$809	\$781	\$786	\$819	\$863	\$902	\$930	\$944	\$925

Table 7. Siviour price forecast

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14. Financial Evaluation

A summary of the key financial results of the DFS is described below in Table 8.

Parameter	Stage-one		Stage-two	
	years 1 to 4		years 5 to 40	
	A\$	US\$	A\$	US\$
Annual production	80,000t		144,000t (years 5 to 10)	
	105,000t (LOM)			
Plant throughput ROM ore	825,000t		1,650,000t	
Average feed grade of ROM ore (TGC)	10.7%		9.1% (years 5 to 10)	
	7.4% (LOM)			
Cash cost per tonne	A\$494	US\$345	A\$464 (years 4 to 10)	US\$325 (years 5 to 10)
	A\$508 or US\$355 (LOM)			
Basket sales price	A\$1,149 or US\$804 (over first five years) A\$1,321 or US\$925 (LOM)			
Life of mine	40 years			
Capital expenditure	A\$114m	US\$79m	A\$77m	US\$54m
Mining pre-strip	A\$4m	US\$3m	N/A	N/A
Sustaining capital	A\$8m	US\$5m	A\$22m	US\$15m
	A\$116m or US\$81m (LOM)			
Payback period	3.7 years ⁹		Not applicable	
NPV ₁₀ (after tax)	A\$388m or US\$271m			
IRR (after tax)	33%			
EBITDA	A\$49m	US\$34m	A\$87m	US\$61m
	A\$83m or US\$58m (LOM)			
Project cashflow	A\$2.1b or US\$1.5b (LOM)			

Table 8. Summary of key results of the Siviour DFS

⁹ Reflects period of time to payback development capital for stage-one as calculated from first production, assuming cashflow from stage-one is not used to pay stage-two development capital.

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15. Financial Sensitivities

A sensitivity analysis was completed to assess the impact of a range of key parameters to the project net present value (NPV) (using a 10% discount rate, after-tax, and expressed in Australian Dollars) and to IRR (shown in the bottom image below). These parameters include operating expenditure, capital expenditure, Australian/US exchange rate and product basket price¹⁰.

Results of the sensitivity analysis are shown in Figure 13 (top image shows changes in A\$).

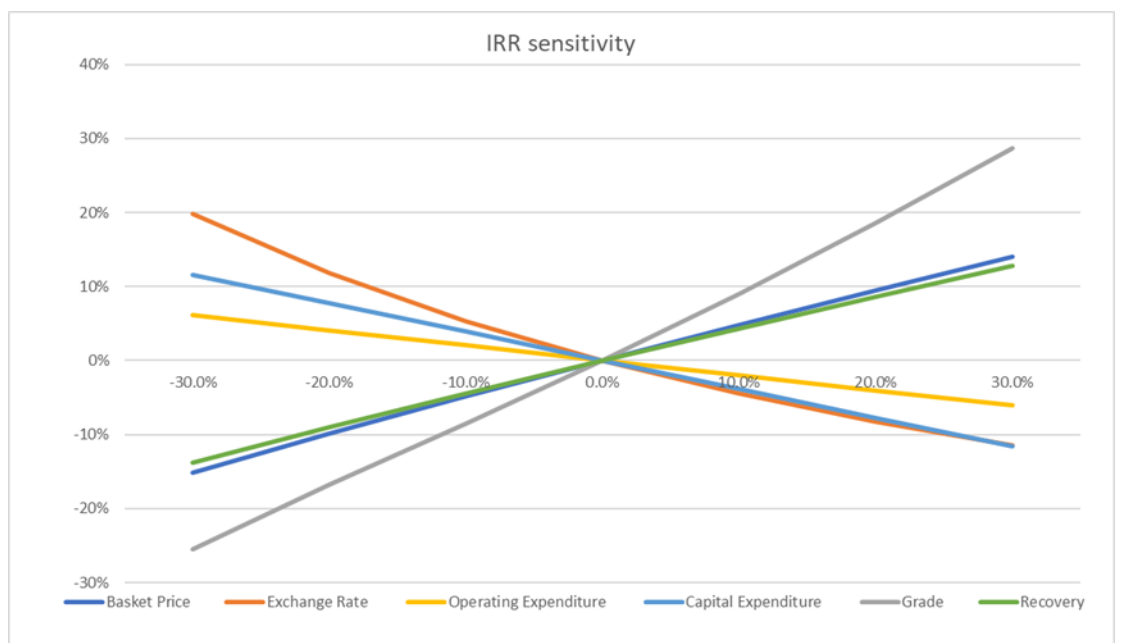
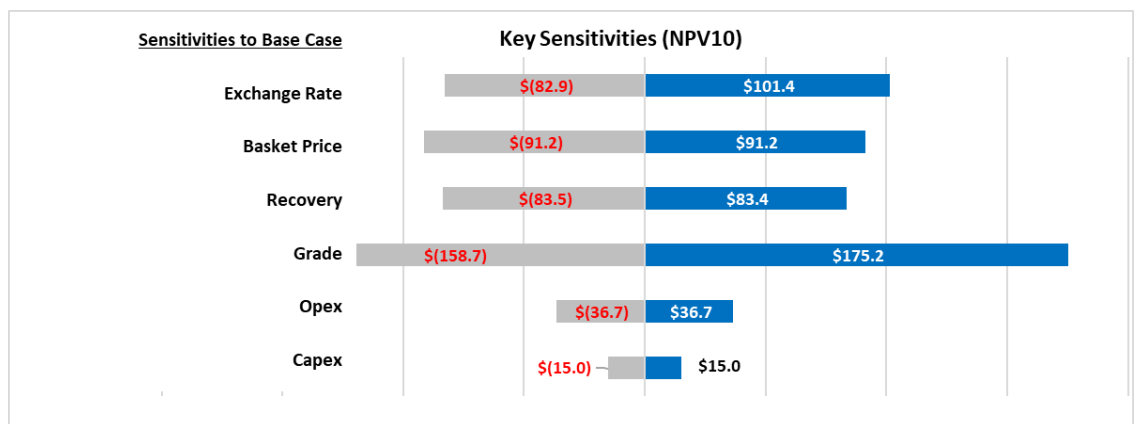


Figure 13. Sensitivity analysis

¹⁰ Renascor has adopted different pricing forecasts for its four product specifications (see Section 13 for more details). The product basket price represents the weighted average price of the four product specifications.

ASX Release

November 11, 2019

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16. Funding

The DFS is based on the adoption of a staged operation and production schedule that is considered likely to attract project debt financing.

Stage-one of the DFS has received in principle support from Atradius, the official Dutch ECA. Renascor has estimated that up to approximately 60% of upfront stage-one project capital expenditure projected under the DFS is expected to qualify under the Atradius ECA Cover, subject to finalising the procurement strategy in the FEED phase. See Renascor ASX announcement dated 10 April 2019.

The ultimate funding mix for construction and operational start-up, together with other costs associated with the project (such as environmental bond) will be determined prior to final investment decision and will be dependent on final estimates for capital cost, construction and ramp-up period, market outlook, debt availability and cost, and funding scope of any strategic offtake partner or strategic investor at the time. Renascor believes it is well placed to secure necessary funding for the DFS, with options being actively pursued including:

- equity and debt instruments from existing and potential shareholders;
- project finance;
- offtake-related finance;
- bond;
- strategic investment;
- equipment and contractor finance; and
- access to government grants.

To aid the securing of funding for the project, Renascor has appointed BurnVair Corporate Finance, a leading independent advisory firm with a strong record of arranging debt and equity finance for small to mid-tier single mine mining companies. See ASX announcement dated 4 March 2019.

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17. Implementation Schedule

The execution phase of the project incorporates engineering, procurement, construction and commissioning of a mine, process plant and associated on-site and offsite infrastructure in order to generate saleable products. The main project areas include:

- Open pit mine;
- Process plant;
- Associated on-site infrastructure;
- Waste rock dumps and ore stockpiles;
- Tailings storage facility;
- Site access;
- Desalination plant at the coast;
- External power supply to the grid; and
- On-site office and ancillary buildings.

Subject to project approvals, board approval, funding and commercial agreements, Renascor intends to engage an EPC Contractor to deliver the process plant and associated on-site infrastructure. The EPC Contractor will be responsible for all aspects of design, procurement and construction of the process plant and on-site infrastructure.

This DFS has proposed a modularised plant design as far as practically and economically appropriate. The selection of a modular approach allows the transfer of works to countries with lower materials, labour and permitting costs, and allows works to be performed as much as possible in workshops, minimising time on-site and pre-commissioning testing on modules in workshops. This will reduce execution risk and time spent on-site, as well as providing construction safety benefits. The east coast of South Africa has been selected as the location for module production for the DFS based on the high quality of mine process plant capabilities, and an established track record delivering highly modular facilities.

The implementation schedule for stage-one calls the final investment decision to occur in the third quarter of 2020, to be immediately followed by detailed engineering and procurement. Construction is scheduled to commence in the fourth quarter of 2020, with commission and ramp-up scheduled for third quarter 2021. Stage two construction is scheduled to commence in 2023, with commission and ramp-up scheduled for the third-quarter of 2024.

A summary schedule for stage-one is shown in Figure 14.

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Year	2019				2020				2021				2022			
Calendar Quarter	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Mineral Lease																
DFS																
Marketing and offtake																
Early work engineering																
Long lead time procurement																
Project financing and financial due diligence																
Final regulatory approvals																
Final investment decision																
Detailed design and procurement																
Construction																
Process plant commissioning/handover																
Production ramp-up																
Full production																

Figure 14. Summary project schedule

Appendix 2

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
Study status	The production targets and financial information in this study are based on Class 3 standard, suitable for a DFS in accordance with the AusIMM guidelines (<i>AusIMM 2012. Cost Estimation Handbook. 2nd Edition, Monograph 27. The Australian Institute of Mining and Metallurgy</i>) (with accuracy level of not less than +/-15%) and are subject to the cautionary statements relating to DFS parameters on page 2 of this announcement.
Cut-off factors	Cut-off grade was based on the processing plant feed grade that produced the breakeven point of product revenue less all associated costs except mining costs on a block by block basis in the resource model. Cut-off grade was calculated at 2.7%, 2.8% and 3.15% TGC for Metcodes 1, 2 and 3, respectively. Metcode categories were created to represent different 'ore types' within the deposit - 88% of the ore processed is Metcode 1.
Mining factors or assumptions	This study is based on mining and processing of graphite ore that is obtained from the Siviour Graphite Deposit, as contemplated in the Siviour DFS. The Siviour DFS contemplates mining based on an open cut operation utilising conventional drill and blast, load and haul and crusher feed. Whittle LG shell optimisation was carried out on Measured, Indicated and Inferred Resources to identify the mining sequence and location of economic shells. The optimisation was constrained by the Driver River in the west and south and constrained by public unsealed roads to the north and east. The optimised selected shells were then used to base detailed mine designs. The mine designs were then scheduled with the results placed in a cost model to evaluate the feasibility of mining these designs. The mining method to be used is conventional truck and excavator mining with drill and blast for fresh, partially weathered rock and all ore. Alluvium and weathered rock is assumed to be free dig with some minor ripping expected in weathered rock. This is supported by drill core samples and the geotechnical rock strength analysis in the PFS. This mining method suits the thick flat lying shallow nature of mineralisation and results in a low stripping ratio of 1.5 over the first ten years of mine life and 1.9 over the life of mine. Other

	<p>bulk mining methods were assessed with truck and excavator conventional mining clearly found to be the most suitable mining method. Pit wall slope angles used an overall slope wall angle of 45 degrees which is at least 5 degrees less than the advised values, from geotechnical parameters provided by Mining One Pty Ltd. The cut-off grade was applied to the resource model to flag possibly economic blocks. A 1m skin was placed around these blocks and flagged to represent dilution from mining on each bench and projected up 2m to represent bench recovery. The resource model was then transferred into a 10x10x2m mining model to create a diluted mining model. Overall resource recovery is around 98% with around 3% dilution. Minimum mining width is 20m but due to the flat lying nature of mineralisation is not a constraint on mining. Over the 40-year life of mine, approximately 25% of the ore processed is within the Measured Mineral Resource category, approximately 58% is with the Indicated Mineral Resource category, and approximately 17% is within the Inferred Resources category. Removing Inferred material makes no material difference to project economics. Inferred material is generally at the indicated boundary and part of the Indicated only Whittle shell and mine design volumes and is mined incidental to Indicated material. Infrastructure requirements are modest for the selected mining method with no upgrade of nearby services and infrastructure required.</p>
<p>Metallurgical factors or assumptions</p>	<p>The metallurgical process is to crush, grind and float which is common for this style of mineralisation and is commonly used in mine sites globally. Metallurgical test work was conducted on composite samples which included lithological variations with a range of head grades; acceptable grade and recovery was achieved. The understanding of recovery in completely weathered material requires further test work but represents a small amount of the mineralisation. No deleterious elements have been identified. Product specifications are dependent on the end use and customer. The concentrate produced from test work is at the benchmarked 94% TGC purity.</p>
<p>Environmental</p>	<p>Ongoing environmental assessment is based upon studies initiated as part of the compliance and approvals process to establish baseline characteristics, including geology, water, air, noise, flora, fauna, socio-economic, traffic and transport, cultural heritage and visual amenity, including historical and recorded data. These studies supported a Mineral Lease grant under Section 35 of the <i>Mining Act, 1971</i> (SA). An approved PEPR will be required to enable operations to commence. Renascor has adopted an integrated planning</p>

	<p>approach, feeding results from stakeholder engagement and environmental studies into the project to minimise potential impacts on the surrounding environment and community, whilst reducing regulatory risk.</p>
Infrastructure and logistics	<p>The infrastructure required to support the mining and processing operation including a tailings storage facility, water supply pipeline, reverse osmosis plant, access roads within the plant and the project site, diesel generators, office and employees' facilities and upgraded roads as required for site access.</p>
Capital costs	<p>The capital cost estimate has been compiled by Royal IHC, Wave International, Optima and Renascor as noted below:</p> <ul style="list-style-type: none"> • Process plant and related infrastructure costs evaluated by Wave International based on flowsheets, mass balances and capital cost data developed during the DFS. • Owners' costs related to road and intersection upgrade costs are based on estimates provided by the Cleve Council. Power supply estimates and costs related to the reverse osmosis plant were obtained from contractor tender submission. The cost of the desalination plant and all other owners' costs were provided by Renascor with input from consultants and suppliers. • Pre-production development costs related to land purchase, ecological offsets and a rehabilitation bond as required by the State Government have been included in the funding consideration but have not been treated as capital expenditures. Working capital requirements for the period prior to final investment decision have not been included as capital costs or within the cashflow model. • EPC refers to engineering, procurement and construction management costs and includes engineering, project and construction management, commission and contractor margin and overhead recovery. • A contingency allowance of 10% has been applied the total process plant costs and EPC costs. The cost estimate was compiled in A\$ with a base date of Q3 2019 with no allowance for escalation to an accuracy of +/- 15%.
Operating costs	<p>The operating cost estimate for this study includes all costs associated with mining, processing, infrastructure, and site-based general and administration costs. Mining costs were developed by Optima Consulting based on a mine optimisation and design and the development of a mining schedule and equipment selected. Processing costs were evaluated by Royal</p>

	<p>IHC and Wave International based on operating costs and a combination of enquiry and quotes from suppliers, benchmark projects and consultants databases. General and administration costs were developed by Renascor supported by its consultants and suppliers. The operating cost estimate is presented on an annualised basis in Q3 2019 A\$ to an accuracy of +/-15%. There has been no contingency applied to operating costs. Labour force estimates were developed by Royal IHC, Wave International and Renascor based on industry standards from similar operations. The estimate for product logistics was made by Renascor and is based on quotes from logistic service providers and port costs. In all cases, the operating cost estimates exclude exchange rate variations, price escalation and interest charges. Operating costs reported have been based on design criteria adjusted to reflect ore grade and mining schedule.</p>
<p>Revenue factors</p>	<p>Revenue from the project is derived from the sale of graphite flake products. Renascor has established the characteristics of expected final products through test programs undertaken on composite samples from Siviour core. Renascor has received market feedback that graphite concentrates produced to a minimum purity of 94% TGC will be attractive to potential customers. Product prices are based on a marketing report prepared by Benchmark Mineral Intelligence. Risks associated with 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. Sensitivity analysis has been completed with key parameters assessed, with the project maintaining a positive net present value in all cases.</p>
<p>Schedule and timeframe</p>	<p>The project development schedule is based on having funding and approvals in place to commence construction in Q3 2021. The schedule was developed by Royal IHC and Wave International with input from Renascor and its consultants. The schedule assumes a likely EPC implementation strategy. The project implementation schedule estimates a timeline of approximately 15 months from funding approval to commissioning. The schedule assumes that permitting progresses concurrently with the schedule.</p>
<p>Market assessment</p>	<p>Natural flake graphite is generally sold on a directly negotiated basis between suppliers, end-users and intermediaries. While there is not a recognised benchmark for pricing and qualifying graphite for sale, purity and flake size are the most frequently adopted parameters use. Generally, increased prices are available to graphite with higher purity and coarser flake size. In addition, other parameters, including the levels of impurities or contaminants, can impact the desirability of natural flake graphite. Renascor has adopted four product specifications</p>

	<p>based on flake size and purity on the basis of market feedback that suggests this will give Renascor a product offering likely to attract interest across a variety of graphite applications using a relatively simple process flowsheet facilitating low cost production and consistent product quality.</p>
<p>Funding</p>	<p>To achieve the range of outcomes indicated in the DFS, indicative funding in the range of A\$150m or US\$105m will likely be required for capital works, pre-production working capital and contingency required to construct the Siviour Graphite Project, together with costs associated with project financing. 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, as well as potential offtake financing arrangements. The Company has sufficient cash on hand at the date of this announcement to undertake the next stage of planned work programs, including continued metallurgical testing. 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"> • Renascor’s Board and executive team have a strong financing track record in developing resources projects; • Renascor has a proven ability to attract new capital; • Renascor’s Board believes this study demonstrates the project’s strong potential to deliver favourable economic return; and • Other companies at a similar stage in development have been able to raise similar amounts of capital in recent capital raisings. <p>In parallel with the DFS, Renascor is also actively seeking offtake arrangements for the project, with main focus on managing volume risk of the project.</p>
<p>Economic</p>	<p>A discount rate of 10% has been used for financial modelling. This number was determined to be prudent and suitable for a DFS based on a project located in Australia, and it was selected after considering the discount rates used by other companies in recent DFS releases. It is selected as a generic cost of capital and considered a prudent and suitable discount rate for project funding and economic forecasts. The model has been run as a life of mine model and includes sustaining capital and closure costs (in real terms). A ramp up curve has been applied to production output, with nameplate production being achieved after nine months. An operating cost ramp in curve has also been applied in the model, allowing for additional operating</p>

	costs during the ramp up phase. 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%.
Exchange rate	The exchange rate for the reporting of the results from this study is A\$1.00 = US\$0.70.
Social	This study contemplates siting the mine and processing plant in a greenfield location. There are no known community issues that Renascor has identified as being a likely material impediment to developing the project.
Other	There are several other material risks to this project including product price, competition, regulatory approval, social license, scheduling and other risks typical of projects of similar scale.
Classification	Mineral Resources converted to Ore Reserves as per JORC 2012 guidelines.
Audits or reviews	This study was internally reviewed by Royal IHC, Wave International and Renascor. No material issues were identified by the reviewers. All study inputs were prepared by Competent Persons identified in this announcement.

Appendix 3 – Financial Model

A summary of the financial model is shown below:

	Unit	Stage-one					Stage-two								LOM	
		Production year 1 to 4					Production year 5 to 10									Years 11 to 40
		FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33 – FY61		
AUD/USD	US\$/	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	
Basket sales price	US\$/t	-	842	809	781	786	819	863	902	930	944	944	944	944	925	
Cash Cost per tonne	A\$/t	-	610	427	480	524	423	414	469	492	473	491	491	524	508	
ROM mined	kt	33	3,402	2,336	623	1,866	2,452	653	3,504	3,678	2,607	1,729	5,242	33,892	62,015	
Grade %TGC	%	2.4%	8.3%	9.8%	7.6%	8.2%	8.3%	8.4%	7.2%	7.6%	8.3%	7.3%	7.2%	6.9%	7.4%	
Milled ore	kt	-	640	825	825	857	1,602	1,650	1,650	1,650	1,650	1,650	1,650	47,366	62,015	
Grade %TGC	%	-	12.0%	12.2%	9.6%	9.4%	9.4%	9.5%	9.2%	9.0%	8.9%	8.8%	8.8%	6.7%	7.4%	
Stockpile	kt	33	3,434	5,130	4,928	5,969	7,563	6,614	8,468	10,496	11,453	11,532	15,123			
Recovery rate	%	-	83%	91%	91%	91%	91%	91%	91%	91%	91%	91%	91%	91%	91%	
Flake distribution																
Jumbo	%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	
Large	%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	
Medium	%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	
Small	%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%	
Fine	%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	
Concentrate produced	kt	-	68.0	97.2	76.3	78.0	145.8	150.8	146.5	142.6	141.2	139.5	140.2	3,067.7	4,393.9	
Purity %C	%	94% - 96%	94% - 96%	94% - 96%	94% - 96%	94% - 96%	94% - 96%	94% - 96%	94% - 96%	94% - 96%	94% - 96%	94% - 96%	94% - 96%	94% - 96%	94% - 96%	

	Unit	Stage-one					Stage-two								LOM
		Production year 1 to 4					Production year 5 to 10								
		FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	Years 11 to 40	
													FY33 – FY61		
Gross Revenue	A\$'M	-	82	112	85	88	171	186	189	189	190	188	189	4,135	5,805
Royalties	A\$'M	-	(2)	(3)	(3)	(3)	(5)	(8)	(8)	(9)	(9)	(8)	(9)	(186)	(252)
Net Revenue	A\$'M	-	79	109	83	85	165	178	180	181	182	180	181	3,949	5,552
Mining	A\$'M	(1)	(18)	(12)	(10)	(14)	(16)	(16)	(22)	(24)	(21)	(23)	(23)	(396)	(598)
Processing	A\$'M	-	(13)	(16)	(16)	(16)	(27)	(28)	(28)	(28)	(28)	(28)	(28)	(796)	(1,050)
General & Admin	A\$'M	-	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(95)	(131)
Product logistics	A\$'M	-	(7)	(10)	(8)	(8)	(15)	(16)	(15)	(15)	(15)	(15)	(15)	(320)	(458)
Operating Expenditure	A\$'M	(1)	(41)	(42)	(37)	(41)	(62)	(62)	(69)	(70)	(67)	(69)	(69)	(1,607)	(2,236)
EBITDA	A\$'M	(1)	38	68	46	44	104	116	112	111	115	111	112	2,342	3,316
Working Capital	A\$'M	1	(14)	2	3	(2)	(10)	(2)	2	(1)	(0)	1	(0)	20	-
Tax	A\$'M	-	(9)	(18)	(11)	(9)	(27)	(31)	(30)	(30)	(31)	(30)	(30)	(646)	(903)
Post – tax Operating Cash Flow	A\$'M	-	15	51	38	33	67	83	83	80	84	82	81	1,716	2,413
Capital Expenditure															
First Plant	A\$'M	(99)	(15)	-	-	-	-	-	-	-	-	-	-	-	(114)
Second Plant	A\$'M	-	-	-	(10)	(66)	-	-	-	-	-	-	-	-	(77)
Sustaining capital cost	A\$'M	-	(3)	(3)	(3)	(3)	(4)	(3)	(3)	(3)	(3)	(4)	(3)	(83)	(116)
Project Free Cash Flow	A\$'M	(99)	(2)	49	25	(36)	63	79	80	77	81	78	78	1,633	2,107
NPV	A\$'M	388													
IRR	%	33%													

Note: all the numbers stated in this announcement are in real, unless otherwise stated. The summary above is presented based on 30 June financial year end.

Appendix 4 – Production Data Plots

