# A Globally Significant *Australian* Graphite Project

Rapidly Progressing a
Globally Significant
Graphite Project



Presented to the South Australian
Resources & Energy Investment Conference
Adelaide
9 April 2019
David Christensen, Managing Director





## **Siviour Project Summary**

#### **World-Class Project Credentials**

One of the world's largest graphite resources

Flat-lying orientation underpins lowest quartile cost of production -- OPEX of US\$335/t\*

Proximity to established infrastructure permits low start-up capital cost -- US\$29 million\*\*

#### **High Quality Graphite Product**

Favourable flake size distribution and easily upgradable to high purity for lithium-ion battery and other high growth markets

#### The Best Location

Located in Australia, one of the world's most stable jurisdictions

7km from highway – simple transport to established port



<sup>\*</sup> OPEX at full production

<sup>\*\*</sup> CAPEX for start-up small-scale operation



## Why graphite in Australia?

## Renascor offers secure supply from Australia

#### Low sovereign risk jurisdiction

Secure, established regulatory framework increasingly important in graphite supply chain

#### **Established infrastructure**

Lower capital and operating costs and increased certainty of project delivery

## Supportive government

Established, mine-friendly jurisdiction that has encouraged new mine developments





## **Mineral Lease Granted**

#### **Consistent with Mineral Lease Application (MLA)**

Terms and conditions consistent with MLA lodged in August 2018

## Extensive environmental review

Three-year period of preparation and review of all potential environmental, social, economic and technical aspects of the Siviour Graphite Project

#### **Development on schedule**

PEPR to be submitted later this year





## **Corporate Overview**

## **Capital Structure**

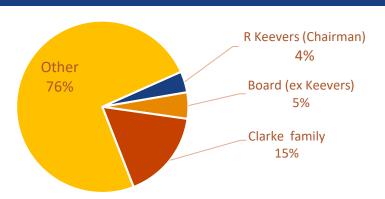
Shares on issue	1,153m
Performance rights	18m
Listed options	114.76m
Unlisted options	15m
Share price (5 Apr 19)	\$0.018
Market Cap (at \$0.018/sh)*	\$20.8m
Cash*	\$5.2m
Debt*	Nil
EV	\$15.6m

<sup>\*</sup> As of 31 December 2018

## **Share Chart**



#### **Shareholder Breakdown**



#### **Board**

Non-Executive Chairman	Richard Keevers
Managing Director	David Christensen
Non Executive Director	Geoffrey McConachy
Non Executive Director	Stephen Bizzell



## **Siviour Graphite Project**

One of world's largest high-grade flake graphite deposits

Mineral Resource: 80.6 Mt at 7.9% TGC for 6.4 Mt of contained graphite

Ore Reserve: 45.2 Mt at 7.9% TGC for 3.6 Mt of contained graphite

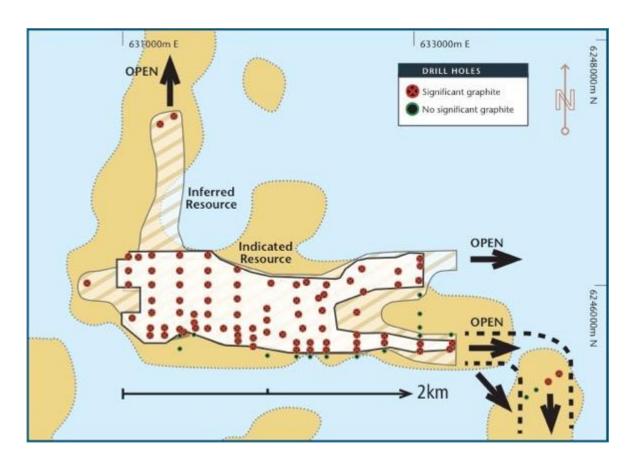


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## **Siviour Resource**

Siviour is one massive ore body, offering a <u>consistent</u> supply of high-quality graphite





## **Development Summary**

#### Siviour can be developed in stages

Access to established infrastructure in coastal South Australia permits low capital, fast-start potential Staged approach has low start-up CAPEX and allows Renascor to develop customer base Project financing potential will inform DFS development plan



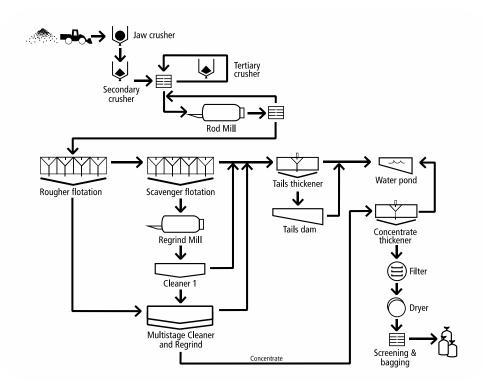




## Metallurgy

Metallurgical testing has established ability to produce high quality graphite products at low OPEX using conventional (non-chemical, non-thermal) flowsheet

Flate	Particle	Size	Percentage	Americal
Flake Category	Microns (μm)	Mesh		Annual Production
Jumbo	>300	+48	6%	8,520t
Large	180 to 300	-48 to +80	20%	28,400t
Medium	150 to 180	-80 to +100	10%	14,200t
Small	75 to 150	-100 to +200	43%	61,060t
Fine	<75	-200	21%	29,820t





# Spherical Graphite

Independent tests confirm Siviour concentrates can be processed into up to 99.99% spherical graphite suitable for use in Lithium-ion battery anodes

Parameter	Test 1	Test 2
Fixed Carbon	99.97%	99.99%
Ash content	0.03%	0.02%
D10 Size Fraction (-10% finer than this size)	9.8 μm	11.3 μm
D50 Size Fraction (-50% finer than this size)	16.3 μm	18.4 μm
D90 Size Fraction (-90% finer than this size)	27.5 μm	29.7 μm
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/cm³

Further test work to optimise product offering (size and purity) on-going



# **Expandable Graphite**

Independent tests confirm Siviour concentrates are suitable for expandable graphite in excess of the typical industry expansion coefficient requirements

Expansion Coefficient for Siviour Graphite Concentrations			
	Siviour Samples		
Parameter	+50 mesh ( >300 μm )	+80 mesh ( >180 μm )	Industry Standard
Expansion Coefficient (ml/g)	320	275	230

Both samples were tested for expansion using sulfuric acid based interaction agents and by heating to 1,000°C.

Both samples of Siviour graphite concentrates expanded at rates in excess of the typical industry standard for high-quality expandable graphite created from Chinese flake graphite concentrates

Expandable graphite is created by heating graphite to a temperature that causes exfoliation (expansion) of individual flakes of graphite

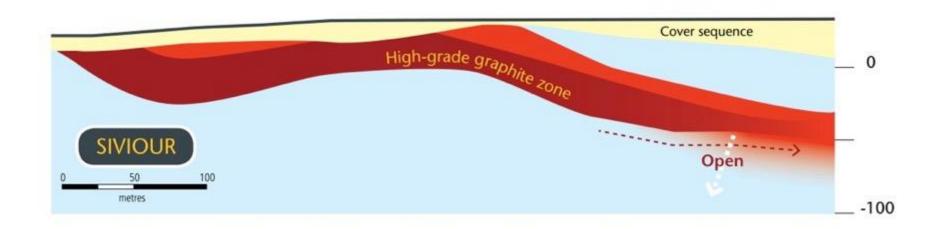
Expandable graphite is increasingly sought-after for several applications including flame retardant building materials and textiles

Graphite concentrates that expand at high rates selling at a significant premium to typical graphite concentrates



## **Near-surface, Flat-lying Ore Body**

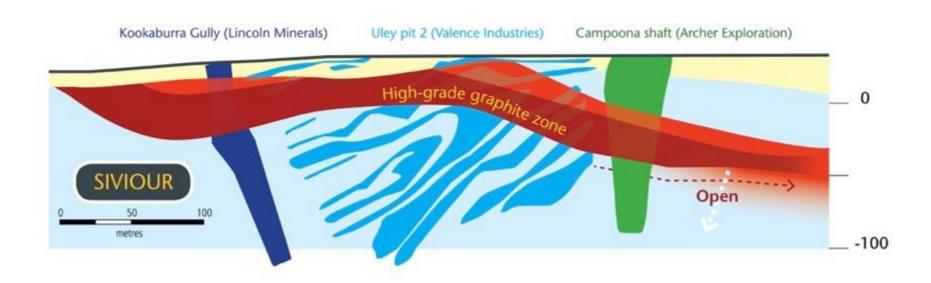
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## **Near-surface, Flat-lying Ore Body**

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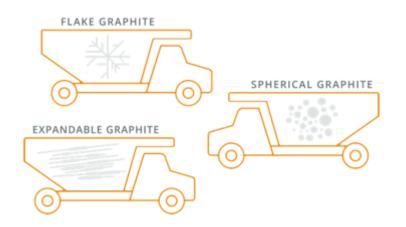
## Mine to Market

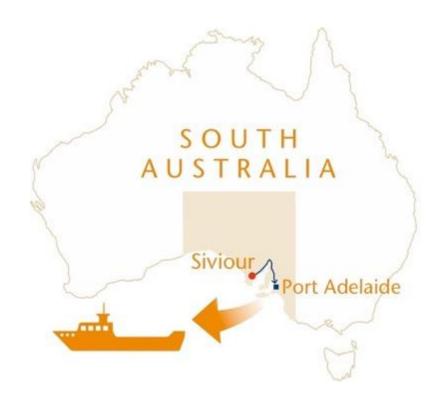
Simple, safe and reliable transport from our Australian graphite resource

Road transport from Arno Bay to Port Adelaide

Initial mining planned for Q4, 2019, with production in Q1 2020

Possibility to further process in-country and value add to spherical grade and/or expandable graphite





Port to Asia in 20 days

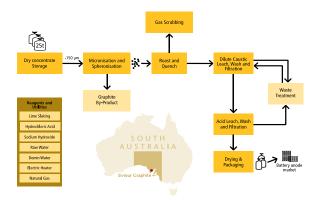


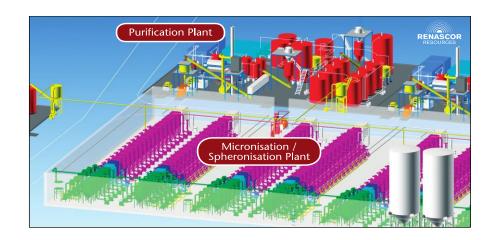
## **Advanced manufacturing**

Spherical graphite PFS shows potential for valued-added production of spherical graphite Direct exposure to lithium-ion battery supply chain

Leverages off of key comparative advantages of Siviour mine: low-cost and low-sovereign risk

Annual production of spherical graphite	29,085t	
Life of mine/project	30 years	
Capital cost of spherical operation	AU\$89.9m	US\$67.4m
Total capital (concentrate and spherical)	AU\$221.5m	US\$166.0m
NPV <sub>10</sub> (after tax) of spherical operation	AU\$487m	US\$365m
NPV <sub>10</sub> (after tax) of integrated operation	AU\$889m	US\$667m
IRR (after tax) of integrated operation	53%	
Average spherical graphite cash operating cost (net of by-product credit)	AU\$1,883/t	US\$1,412/t
Projected spherical graphite sales price	AU\$4,800/t	US\$3,600/t







## Strategic Engineering Partnership with Royal IHC

Landmark agreement with international ECP contractor, Royal IHC to accelerate development of Siviour

\$1 million committed by Royal IHC to undertake early project works, including metallurgical test work and detailed engineering and design work

Royal IHC will collaborate with Australian engineering firm, Wave International to assist in completion of the Siviour DFS

Royal IHC to assist Renascor with obtaining project finance to fund development

Intention for Royal IHC to become IPC contractor for development of Siviour







## **Siviour Timelines**

Definitive Feasibility Study (DFS) expected Q2 2019

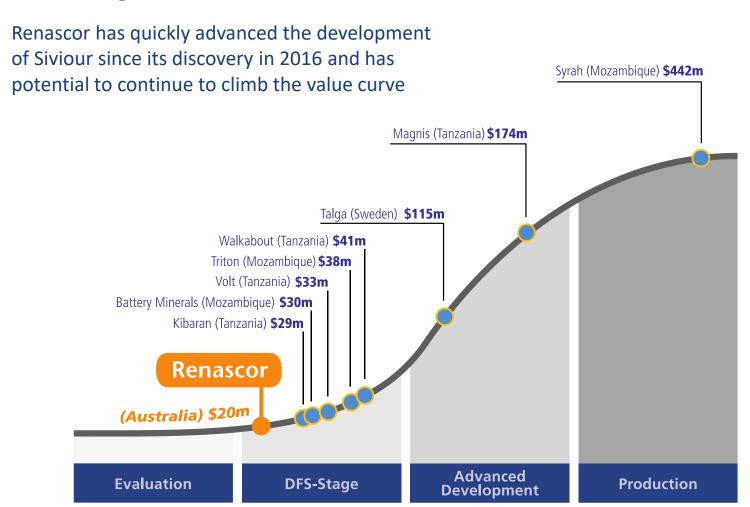
Mine Construction (pending financing) planned as early as Q4 2019

First production as early as 2020





## **Re-rating Potential**



Market capitalisations as of 6 March 2019

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## **Near-term Value Drivers**

#### Strong upcoming news flow expected to include:

**Offtake.** With completion of PFS and dispatch of customer samples, potential for additional offtake developments in 2019.

**Project improvements.** Upcoming metallurgical and technological programs and reserve-definition drilling offer potential to improve PFS project economics.

Regulatory. Mineral Lease granted. PEPR to be submitted later this year.

**Spherical graphite.** Completion of Spherical PFS offers potential for improved project economics and more direct involvement in lithium-ion battery supply chain.

**DFS.** Siviour DFS expected to be completed this quarter,

**Project finance**. As Renascor nears completion of DFS, focus will turn to project finance.



## **Summary**

## Siviour is a new discovery of a world-class graphite deposit

One massive ore body offers consistent high-quality supply

Globally competitive: Low OPEX and CAPEX

Fully-funded to Decision to Mine

Mining-friendly Australia



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#### **Forward Looking Statements**

This Presentation may include statements that could be deemed "forward-looking" statements. Although Renascor Resources Limited (the "Company") believes the expectations expressed in such forward-looking statements are based on reasonable assumptions, such statements are not guarantees of future performance and actual results or developments may differ materially from those expected in the forward-looking statements or may not take place at all.

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#### **Competent Persons Statement**

The results reported herein, insofar as they relate to exploration activities and exploration results, are based on information provided to and reviewed by Mr G.W. McConachy (Fellow of the Australasian Institute of Mining and Metallurgy) who 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.

The results reported herein, insofar as they relate to metallurgical test work results, are based on information provided to and reviewed by Mr Simon Hall, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy and 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. 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.

