

## RENASCOR RESOURCES LIMITED (RNU)

### Charging up Siviour for the EV market

Last week, we visited Renascor Resources' (RNU) Siviour Graphite Project on South Australia's Eyre Peninsula. RNU is planning to produce flake graphite from the mine and uncoated spherical graphite from a downstream processing plant potentially located at Port Adelaide.

The favourable ore geometry at Siviour allows for a low strip ratio and very low opex; one of the lowest among the global graphite developers, at US\$333/t over the 30-year LOM. When fully ramped up and operational, the mine will produce ~130ktpa (Stage 2), ~95% TCG flake graphite with ~62ktpa sent downstream to produce ~30ktpa of 99.95% TCG uncoated spherical graphite per annum. The remaining product (~65ktpa) will be sold as flake concentrate. Initial Stage 1 capital could be less than US\$30M as per the March 2018 PFS, with a total pre-production capital requirement of US\$222M for the mine and spherical plant as per the recent Spherical PFS.

The project is located on marginal farming land close to the town of Arno Bay, with one landowner (the Siviour family) to be impacted by the project. Relationships are seemingly strong and discussions regarding compensation and relocation of the farm would appear to be well advanced. RNU has entered into an agreement, ensuring it will maintain access rights to the Siviour deposit and has appointed a member of the family to an advisory board that will assist in the sustainable development of the deposit.

### Spherical PFS improves on Scoping Study

Last month, RNU released its Prefeasibility Study (PFS) for downstream spherical graphite production. The PFS comes after a scoping study (SS) was released 12 months ago. The latest study evaluates a downstream scenario with feedstock from the Siviour mine. Total start-up capital for both mine and downstream is expected be ~A\$222M (same as in the SS). The PFS sees similar spherical production as before; 29ktpa over a 30-year project life. Operating costs have decreased 14% from the SS and are now expected to be A\$1,883/t net of by-product credits. RNU is now predicting spherical graphite sale prices of US\$3,600/t, a 350/t increase from the SS but expects to sell by-product for US\$550/t (A\$776/t) as opposed to US\$755/t in the SS, but overall, there is a net increase in pricing.

### Busy year ahead; maintain Speculative Buy

The Siviour project has appeal in the sense that it is low cost and in a favourable jurisdiction compared to many of the global graphite developers located in East Africa. Legislative changes to Tanzanian mining law in 2017 cast doubt over future development, impacting the share price of many juniors. A resolution would appear to be on the horizon but not without consequence.

RNU is currently progressing offtake and financing discussions and recently appointed BurnVoor to assist in the debt funding component. The Siviour DFS is underway and due by the SepQ 2019. The granting of the mining lease is expected very soon and construction could commence towards the end of this CY, with first production in mid-2020.

Our updated NAV is 11.9cps (from 10.9cps) and very much dependant on project financing. Our 12-month price target is therefore 4.1cps (from 3.7cps).

14 Mar 2019

Share Price	\$0.017
Prelim. Valuation	\$0.119
Price Target (12 month)	\$0.041

#### Brief Business Description:

An advanced stage mineral exploration and development company focussed on the Siviour Graphite Project in South Australia. RNU aims to produce flake graphite concentrate and uncoated spherical graphite for use in Evs

#### Hartleys Brief Investment Conclusion

Low cost graphite developer in South Australia. A low start up cost, which should be fundable through debt and equity, will pave the way for a large Stage 2 and downstream processing.

#### Chairman & Executives

Richard Keevers (Non-Exec Chairman)  
David Christensen (MD)

#### Major Shareholders

Mr Richard Edward Keevers (Chairman) 3.4%  
Directors & Management 1.9%

#### Company Address

36 North Terrace  
Kent Town n, SA 5067

**Issued Capital** 1153.4m  
- fully diluted 1301.2m

**Market Cap** A\$19.6m  
- fully diluted A\$22.1m

**Cash (31 December 2018)** A\$5.2m

**Debt (31 December 2018)** A\$0.0m

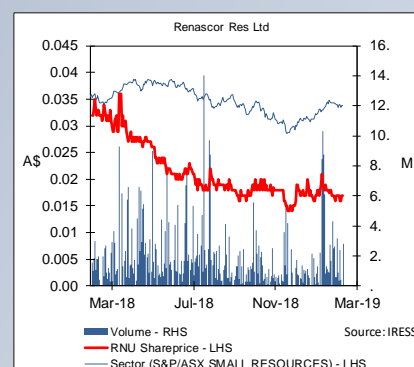
**EV** A\$14.4m

**EV/Resource** A\$2.3/t

**EV/Reserve** A\$4.0/t

	Prelim. (A\$m)	FY19e	FY20e	FY21e
Prod. 95.5% Flake (kt)	0.0	9.5	22.3	
Op Cash Flw	-0.7	1.3	6.5	
Norm NPAT	-2.4	-2.5	1.2	
CF/Share (cps)	0.0	0.1	0.2	
EPS (cps)	-0.1	-0.1	0.0	
P/E	-11.4	-17.7	35.9	

	Mt	TGC nt. Graph.
<b>Resources</b>	80.6	7.90% 6.4 Mt
<b>Reserve</b>	45.2	7.90% 3.6 Mt



Paul How ard

Resources Analyst

Ph: +61 8 9268 3045

E: paul.howard@hartleys.com.au

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## SIVIOUR SITE VISIT

Fig. 1: Click below to view our Site Visit video



Source: Hartleys' Research

*We visited RNU's Siviour Project last week*

## STRATEGIC PARTNERSHIP WITH EPC CONTRACTOR

*RNU has signed a strategic partnership agreement with international EPC contractor Royal IHC Australia*

RNU has signed a strategic partnership agreement with international EPC contractor Royal IHC Australia. The partnership, in collaboration with Wave International, will accelerate the development of the Siviour Graphite Project. Royal IHC, best known for its dredging works and wet mining, has committed \$1M to undertake early project works including met testing and detailed engineering and design work. Royal IHC will also assist RNU in obtaining project finance and the intention is for Royal IHC to become EPC contractor for the development of the project.

## DFS INPUTS – TESTWORK & DRILLING

*RNU has undertaken a series of testwork programs as inputs ahead of the DFS, to be released by JunQ CY19*

Siviour ore has produced high grade (95% TGC) concentrate in an independent, Chinese pilot plant production program. RNU supplied ~18t of Siviour ore, grading 8.5% TGC for processing through a 200kg/hr plant. Flowsheet parameters were adopted based on previous test work undertaken for the Siviour PFS. Following the positive results, RNU has now replicated initial PFS grade and recovery in increasing scale test programs undertaken by five independent laboratories, including laboratory bench scale tests in Australia, Germany and Canada, lock-cycle tests in Australia, and, with this current program, pilot scale testing in China. The 95% TGC graphite concentrates produced from the pilot production will be used for additional DFS and downstream metallurgical testing and as marketing samples for on-going offtake negotiations.

Independent tests have upgraded RNU's graphite concentrate to 99.96% TGC purity through caustic roasting. This high purity graphite is a key component of lithium ion battery anodes and attracts a price premium. RNU believes the use of caustic roasting over hydrofluoric acid (which was previously used for RNU's test work) will result in a material cost-saving, lowering opex. The use of caustic roasting is more environmentally friendly than traditional hydrofluoric acid purification and sees

concentrates combined with a caustic solution and then roasted at low temperature before being leached with hydrochloric acid. The new purification process has contributed to the 14% reduction in spherical opex in the PFS compared to the SS.

*RNU has completed a 99-hole RC and 15 diamond hole drilling program at Siviour ahead of the DFS*

RNU has completed a 99-hole RC and 15 diamond hole drilling program at Siviour ahead of the DFS. Drilling was carried out a 50m grid spacing, infilling the area earmarked for the commencement of mining operations in the Siviour PFS, over which drilling had previously been completed over a 200m x 100m grid. RNU has reiterated that the results demonstrate potential for improved mining schedule in the upcoming Siviour DFS with multiple wide intersections of near-surface and high-grade graphite recorded in between and at the margins of initial pit designs from Siviour PFS. The thick, high-grade intersections will assist in confirming the indicated resource at Siviour, which will support a reserve in the DFS. The diamond drilling data will be used for metallurgical and geotechnical work, also feeding in to the DFS.

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## GRAPHITE PEERS & MARKET OUTLOOK

There is commentary to suggest that China is currently a net exporter of fine flake graphite and in order to break into the Chinese market, producers, such as SYR.asx, are required to sell at a discount to entice offtake (qualification shipments). Only then will it demonstrate its superior product and secure longer-term deals. However, by the time RNU is in production (mid-2020), China may have transitioned to a net importer.

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In the DecQ 2018 Report, SYR.asx notes that pricing for its first year of production is being impacted by a mixed spec of flake distribution (currently 80% fines (<180µm) and trying to achieve 70% fines through 2019). It has also experienced issues with grades and price discounts on account of the above-mentioned qualification shipment process. It is having to compete with Chinese domestic producers and its price must be competitive with the ex-VAT domestic fines price on a transport parity basis. It will continue to sell at a discount until quality, reliability and performance differentials can be established, showing the quality of East African product, which may shift the market balance. We note the SYR expects MarQ CY19 graphite prices to be US\$500-600/t for a 96%+ TGC, 80% (flake distribution) fines product.

The sentiment has been echoed by Madagascan producer, BSM.asx, who is yet to produce a basket which is representative of its flake size distribution as per pre-mining testwork. BSM is aiming to receive US\$900/t for its product in CY2019, which is comparable to SYR as BSM has a greater amount of premium jumbo and large flake in its basket makeup.

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## VALUATION

*We have updated our valuation as per the recent Spherical PFS*

Since our last note, RNU has completed the 100% acquisition of Ausmin, which held the rights to the Siviour Graphite Project. We had been expecting this acquisition to complete and had already included the 187.6M RNU shares to be issued to Ausmin in our model.

Our sum of parts valuation for RNU is based on discounted cashflows for the Siviour Graphite Project and downstream Spherical Project. We model cashflows for the projects with discount rates appropriate for the stage of development, and based on Company guidance and studies. Given the low pre-production capital for Stage 1

(US\$30M), we now assume Siviour will be funded 70% through equity with significant dilution and 30% through a debt provider or strategic partner. Our model now assumes operations (Stage 1) commence in early CY20 with 23ktpa concentrate produced, ramping up to ~130ktpa (Stage 2) over 4 years. We note challenges experienced by recent ASX producers in ramping up newly commissioned African mines, both in terms of achieving recoveries and also on-spec flake distributions.

We model Stage 1 pre-production capital at A\$47M (US\$30M) and add A\$18M of additional working capital during the Stage 1 ramp up phase. We model Stage 2 expansion capital at A\$130M and assume this is funded through a mix of cashflow, debt and equity, as the downstream spherical plant funding is required at the same time. Funding 100% through cashflow is not achievable in our view.

We model the downstream Spherical Project in line with the February 2019 PFS, with an added contingency for capital. We model commencement of production in early CY23, commensurate with Stage 2 at the Siviour Mine.

We ascribe a nominal A\$50M for exploration upside across RNU's portfolio and note that its ground holding to heavily underexplored.

We assume in our modelling, new equity funding of ~3,200M new shares issued over two placements; one in CY19 and one in CY22. We consider this assumption to be conservative.

We assume Stage 2 at Siviour occurs. However, given the financing challenges, we view this as high risk. We assume Stage 1 demonstrates the capabilities of Siviour and allows for the financing of Stage 2, which is the key driver of our valuation.

*Our valuation for RNU is 11.9cps*

*We assume new equity funding of ~3,200M new shares issued over two placements; one in CY19 and one in CY22. We consider this assumption to be conservative*

**Fig. 2: Hartleys Sum of Parts Valuation for BAT**

Valuation		\$/shr
100% Siviour (pre-tax NAV at disc. rate of 12%)	443.9	0.097
100% Spherical (pre-tax NAV at disc. rate of 12%)	271.3	0.059
Other Assets/Exploration	50.0	0.011
Forwards	0.0	0.000
Corporate Overheads	-5.2	-0.001
Net Cash (Debt)	5.2	0.001
Tax (NPV future liability)	-225.4	-0.049
Options & Other Equity	3.6	0.001
<b>TOTAL</b>	<b>543.4</b>	<b>0.119</b>

Source: Hartleys' estimates

## PRICE TARGET

Our 12-month price target is now 4.1cps (up from 3.7cps) and is made up of a blend of possible scenarios. Like other graphite developers, at present we give the project a 60% chance of being funded. We model a number of scenarios including base case, and spot commodity and fx prices, as well as scenarios where either Stage 1 only eventuates, or where Stage 1 and 2 eventuates but no downstream. Given the risk of financing, we have been conservative in our assumptions ahead of the DFS. There is a re-rating potential if financing becomes more certain.

Our 12-month price target for RNU is 4.1cps

**Fig. 3: Price Target**

Price Target Methodology	Weighting	Spot	12 mth out
NPV base case, assuming significant equity dilution	15%	\$0.12	\$0.13
NPV at spot commodity and fx prices	5%	\$0.10	\$0.11
Stage 1 mine only - 30 year LOM (no spherical)	10%	\$0.02	\$0.02
Stage 1 + 2 Mine only - 30 year LOM (no spherical)	15%	\$0.06	\$0.07
Exploration Value - no development	15%	\$0.01	\$0.01
Net cash/failure to secure funding	40%	\$0.00	\$0.00
<b>Risk weighted composite</b>			<b>\$0.03</b>
<b>12 Months Price Target</b>			<b>\$0.041</b>
Shareprice - Last		\$0.017	
<b>12 mth total return (% to 12mth target + dividend)</b>			<b>144%</b>

Source: Hartleys' estimates

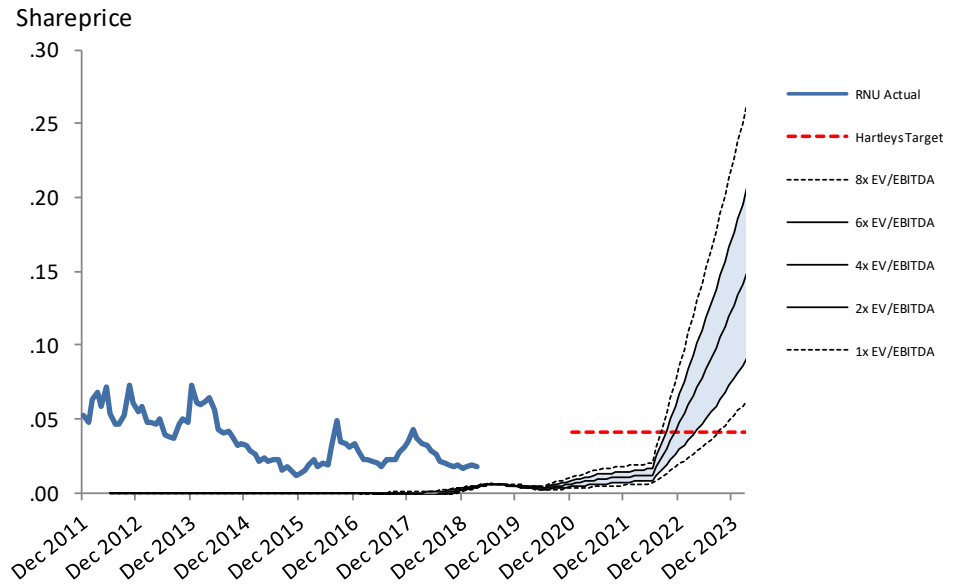
**Fig. 4: Key assumptions and risks for valuation**

Assumption	Risk of not realising assumption	Downside risk to valuation if assumption is incorrect	Comment
Graphite prices are initially lower than RNU's estimates	Med	High	Our valuation is sensitive to commodity price assumptions.
We assume Stage 2 at Siviour occurs	High	Extreme	We assume Stage 1 allows for the financing of Stage 2. Stage 2 is the key driver of our valuation.
Offtake agreements not yet in place but assumed	Med	Extreme	Without binding offtake, the project may not get off the ground.
Economic mine life of 30 years	Low	Med (although also could be upside)	We believe our mine life assumptions are realistic based on current resources. Mine life could be decreased to obtain higher grades.
Debt funding	High	Extreme	We assume Stage 2 of the project can be debt funded. We assume an interest rate of 12%.
Equity funding	High	Extreme	We assume RNU can raise the equity to fund Stage 1.
First production	High	Moderate	We assume Stage 1 production in mid-CY20 and Stage 2 + Spherical in mid-CY23.
<b>Conclusion</b>	<i>Given the lack of transparency in graphite pricing and financing risk, we view RNU as a high risk. Funding, no binding offtake agreement, transition from Stage 1 to Stage 2 and graphite pricing are the biggest threats to our valuation, in our view.</i>		

Source: Hartleys Research

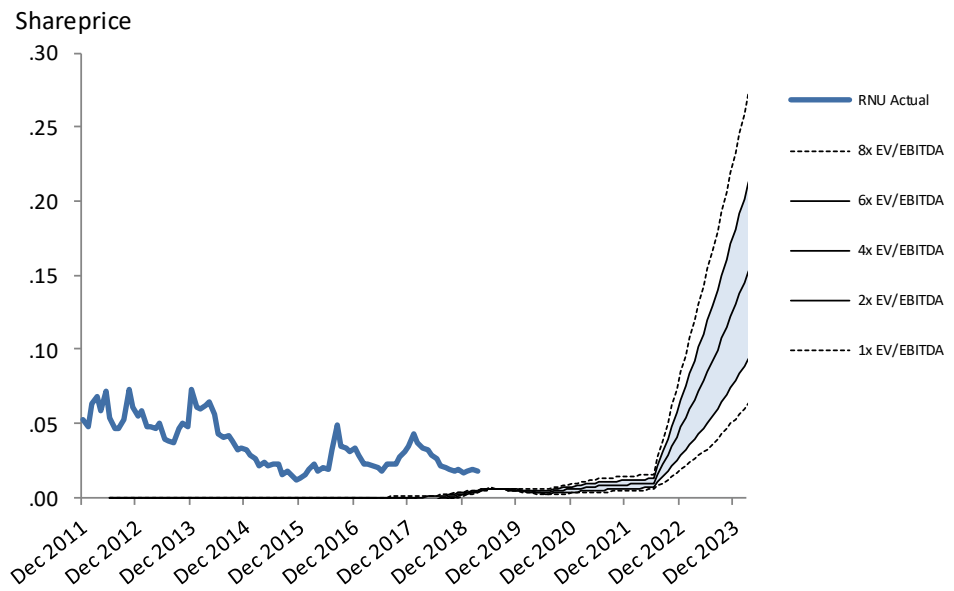
## EV/EBITDA BANDS

**Fig. 5:** *Using Hartleys base case commodity forecasts*



Source: Hartleys' Estimates, IRESS

**Fig. 6:** *Using spot commodity prices*



Source: Hartleys' Estimates, IRESS

# HARTLEYS CORPORATE DIRECTORY

## Research

Trent Barnett	Head of Research	+61 8 9268 3052
Mike Millikan	Resources Analyst	+61 8 9268 2805
John Macdonald	Resources Analyst	+61 8 9268 3020
Paul Howard	Resources Analyst	+61 8 9268 3045
Aiden Bradley	Research Analyst	+61 8 9268 2876
Oliver Stevens	Research Analyst	+61 8 9268 2879
Michael Scantlebury	Junior Analyst	+61 8 9268 2837
Janine Bell	Research Assistant	+61 8 9268 2831

## Corporate Finance

Dale Bryan	Director & Head of Corp Fin.	+61 8 9268 2829
Richard Simpson	Director	+61 8 9268 2824
Ben Crossing	Director	+61 8 9268 3047
Ben Wale	Director	+61 8 9268 3055
Stephen Kite	Director	+61 8 9268 3050
Scott Weir	Director	+61 8 9268 2821
Scott Stephens	Associate Director	+61 8 9268 2819
Rhys Simpson	Associate Director	+61 8 9268 2851
Michael Brown	Executive	+61 8 9268 2822

## Registered Office

### Level 6, 141 St Georges Tce Postal Address:

Perth WA 6000	GPO Box 2777
Australia	Perth WA 6001
PH:+61 8 9268 2888	FX: +61 8 9268 2800
www.hartleys.com.au	info@hartleys.com.au

*Note: personal email addresses of company employees are structured in the following manner: firstname.lastname@hartleys.com.au*

## Hartleys Recommendation Categories

Buy	Share price appreciation anticipated.
Accumulate	Share price appreciation anticipated but the risk/reward is not as attractive as a "Buy". Alternatively, for the share price to rise it may be contingent on the outcome of an uncertain or distant event. Analyst will often indicate a price level at which it may become a "Buy".
Neutral	Take no action. Upside & downside risk/reward is evenly balanced.
Reduce / Take profits	It is anticipated to be unlikely that there will be gains over the investment time horizon but there is a possibility of some price weakness over that period.
Sell	Significant price depreciation anticipated.
No Rating	No recommendation.
Speculative Buy	Share price could be volatile. While it is anticipated that, on a risk/reward basis, an investment is attractive, there is at least one identifiable risk that has a meaningful possibility of occurring, which, if it did occur, could lead to significant share price reduction. Consequently, the investment is considered high risk.

## Institutional Sales

Carrick Ryan	+61 8 9268 2864
Justin Stewart	+61 8 9268 3062
Simon van den Berg	+61 8 9268 2867
Digby Gilmour	+61 8 9268 2814
Jayne Walsh	+61 8 9268 2828
Veronika Tkacova	+61 8 9268 3053

## Wealth Management

Nicola Bond	+61 8 9268 2840
Bradley Booth	+61 8 9268 2873
Adrian Brant	+61 8 9268 3065
Nathan Bray	+61 8 9268 2874
Sven Burrell	+61 8 9268 2847
Simon Casey	+61 8 9268 2875
Tony Chien	+61 8 9268 2850
Tim Cottee	+61 8 9268 3064
David Cross	+61 8 9268 2860
Nicholas Draper	+61 8 9268 2883
John Featherby	+61 8 9268 2811
Ben Fleay	+61 8 9268 2844
James Gatti	+61 8 9268 3025
John Goodlad	+61 8 9268 2890
Andrew Gribble	+61 8 9268 2842
David Hainsworth	+61 8 9268 3040
Murray Jacob	+61 8 9268 2892
Jack Johns	+61 8 9268 3048
Will Langley	+61 8 9268 3060
Gavin Lehmann	+61 8 9268 2895
Shane Lehmann	+61 8 9268 2897
Steven Loxley	+61 8 9268 2857
Andrew Macnaughtan	+61 8 9268 2898
Scott Metcalf	+61 8 9268 2807
David Michael	+61 8 9268 2835
Jamie Moullin	+61 8 9268 2856
Chris Munro	+61 8 9268 2858
Michael Munro	+61 8 9268 2820
Ian Parker	+61 8 9268 2810
Matthew Parker	+61 8 9268 2826
Charlie Ransom	+61 8 9268 2868
Heath Ryan	+61 8 9268 3053
David Smyth	+61 8 9268 2839
Greg Soudure	+61 8 9268 2834
Sonya Soudure	+61 8 9268 2865
Dirk Vanderstruyf	+61 8 9268 2855
Samuel Williams	+61 8 9268 3041

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