Equity Research
For Wholesale Clients only

Triton Minerals[4,2,1*]

BUY

TON-ASX

10 May 2017

Last: **A$0.08**
▲ Target: **A$0.28**

Ancuabe Scoping Study outlines peer beating project as expected

Ancuabe study indicates peer leading project with high margins

The study represents a major step towards production at Ancuabe. The resource could support a 26-year mine life with average concentrate production of ~55ktpa. The scoping study outlines pre-production capital at a relatively low US$83m and indicates upside on modelled assumptions. The quality product is expected to sell for a premium (S&Pe: US$1,500/t CIF (cost, insurance, freight)). The study outlines a competitive FOB (free on board) cost of US$601/t positioning Ancuabe for peer leading margins in the region of US$850/t FOB.

Improved grade and processing costs favourably impact FOB costs

The scoping study indicates the operation will commence mining the higher grade T16 deposit before the T12 deposit. Our assumed production profile results in more rapid cashflow generation in the early years of the project from higher grades at T16. Unit costs for mining and processing are better than expected. Back calculating on an average production rate of 1.02mtpa shows average processing and mining costs of US$29.50/t ore. This is a substantial improvement on our assumption of US$36.30/t ore, despite considerably higher strip ratios in the study. The vastly superior production costs offset higher than expected transport costs, and are the main reason for lower than expected costs of US$601/t FOB (S&Pe: US$756/t FOB).

Feasibility study & offtake/funding discussions commenced

TON is looking to fast track the Ancuabe project to production and expects to complete a feasibility study this year. We see the news that TON has commenced discussions on offtake and marketing with its supportive cornerstone investor, Shandong Tianye, as extremely encouraging. Shandong Tianye has deep pockets and is well connected in China. Achieving binding offtake will be a key deliverable and TON is expected to re-rate very favourably should offtake and funding be announced. We assume construction in 2018.

Maintain BUY rating and price target of A$0.28/share

Our SOTP valuation based price target is has lifted 1c/sh. The longer mine life, more rapid production ramp-up and lower cost assumptions, balanced against a more rapid capex spend, results in a significant increase in our valuation to 37c/share. We have also lowered our risking of the project post study from 0.5x NAV to 0.7X NAV. However, we have chosen to reduce our basket price assumptions for Ancuabe inline with current consensus from US$1,800/t CIF to US$1,500/t CIF. We assume project funding from US$65m in relatively high cost debt and assume dilution for a US$30m equity raise. We maintain our BUY rating and our view that Ancuabe is a peer leader.

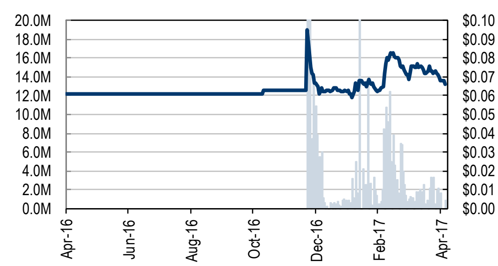
What's changed?	Last	Current
Rating	BUY	n.c
Target (A$)	$0.27	$0.28
Graphite Production 2017E (kt)	0.00	0.00
Graphite Production 2018E (kt)	0.00	0.00
Graphite Production 2019E (kt)	11.42	58.12

Share Data	
Share o/s (mm, basic/f.d. itm)*	657.8
52-week high/low (A$)	0.097/0.058
52-week volume average	2.01 M
Market cap (A$m)	$50.65
EV (A$m)	$44.33
Net debt (m)	-$6.32
Projected return	258%
NAV0%/share	$0.68
NAV10%/share	$0.28
P/NAV0%	0.11
P/NAV10%	0.28

Financial Data YE Dec. 31	FY17E	FY18E	FY19E
Graphite production (kt)	0	0	58
Cash costs (US$/t)	$0	$520	$520
Capex (A$m)	-$3	-$108	-$8
Free cashflow (A$m)	-$6	$5	$43
EPS	-$0.00	-$0.02	$0.05
CFPS	-$0.00	-$0.02	$0.06
P/E	-26.56	-5.13	1.49
P/CF	-26.56	-6.46	1.03
EV/EBITDA		-3.22	0.68

A$ unless otherwise noted.

Daily Volume (LHS) and Share Price (RHS)



Source: ASX Warning: Past performance is not indicative of future performance

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**See important disclosures on the last page of this report*

Ancuabe scoping study considerably better than expected

The release of the scoping study underpins a high-quality graphite project. The scoping study has indicated a longer life (based on indicated and inferred resources) and substantially lower cost project than previously assumed at Ancuabe. Free on board costs (FOB) have fallen an impressive US$155/t on our initial expectations.

The scoping study represents a major step towards production at Ancuabe. The study indicates a 26-year mine life with average concentrate production of ~55ktpa with pre-production capital at a relatively low US$83m and considerable upside expected on modelled assumptions. The quality of the product is expected to sell for a premium, and despite a slightly higher cost than some peers, Ancuabe looks set for peer leading margins in the region of US$850/t FOB.

Net impact of this is an increase in our Ancuabe valuation from A$143m to A$161m (18c/sh)

The key differences between the company scoping study and our previously modelled assumptions are outlined in the table below. The net impact of these study results is an increase in our Ancuabe valuation from A$143m to A$262m at our previously assumed basket price of US$1,761/t FOB. However, a recent fall in consensus price forecasts has led to us revising down our assumed Ancuabe basket price to US$1,500/t. As a result, our valuation for Ancuabe has risen to just US$161m despite the substantial improvement in costs. Ancuabe reflects 75% of our TON valuation.

Figure 1. Key differences between our previous assumptions and scoping study

Assumption	Scoping Study	Our Assumption
LOM ore tonnes processed (Mt)	17	15.0
Mining Strip Ratio (w/o)	2.7	1.0
LOM TGC grade (%)	6.1	6.0
LOM Concentrate (Mt)	0.95	0.90
Average Annual Concentrate production (Kt)	<60	66
Mine life (years)	17	13
Basket Price (US$/t FOB)	**1,369**	1,761
Production Cost (US$/t)	29.50	36.30
Product logistics (US$/Dmt)	66.00	52.5
Costs FOB (US$/t)	**601.00**	756.00
Purity (%)	**97.5**	96.0
Sustaining Capex (US$mpa)	2.4	1.0
Initial Construction Capex (US$m)	83.00	95.00
Government Royalty (%)	3.00	3.00
Tax (%)	n/a	30.00
Government Free Carry (%)	-	-
Corporate cost (US$m)	1.00	2.00

Source: Somers & Partners

We model, 26 year mine life at ~55ktpa

Annual Production rate slightly lower, ramp-up likely sooner and longer minelife

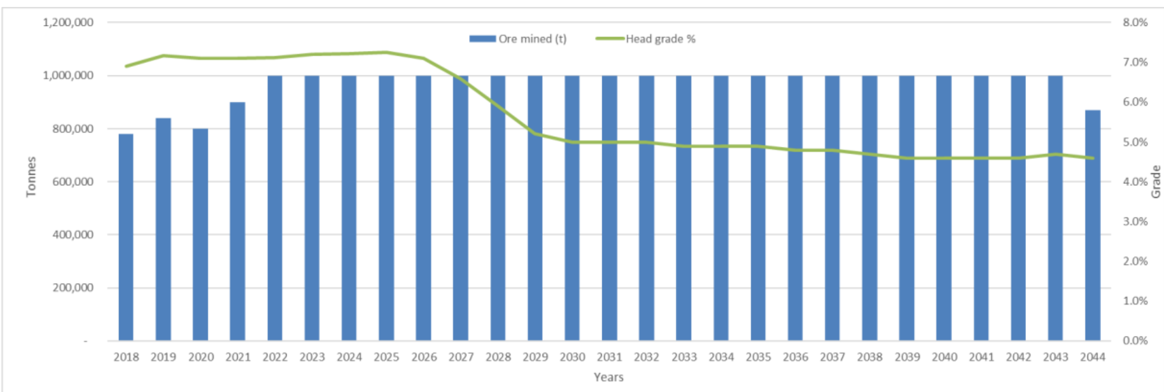
Our assumed minelife based on the study (17 years) and current resources is 26 years, considerably higher than our initial assumption of 13 years and reflects the recent growth in resources at Ancuabe.The average annual production rate of up to ~55ktpa of concentrate is slightly lower than our assumed production profile that started at a lower rate of ~25ktpa but lifted to 80ktpa after 2024. We anticipate a more rapid ramp up inline with the outlined initial capital expenditure from the study, as outlined below.

Higher grade T16 will lower initial opex costs

Higher grade profile expected from T16 at start

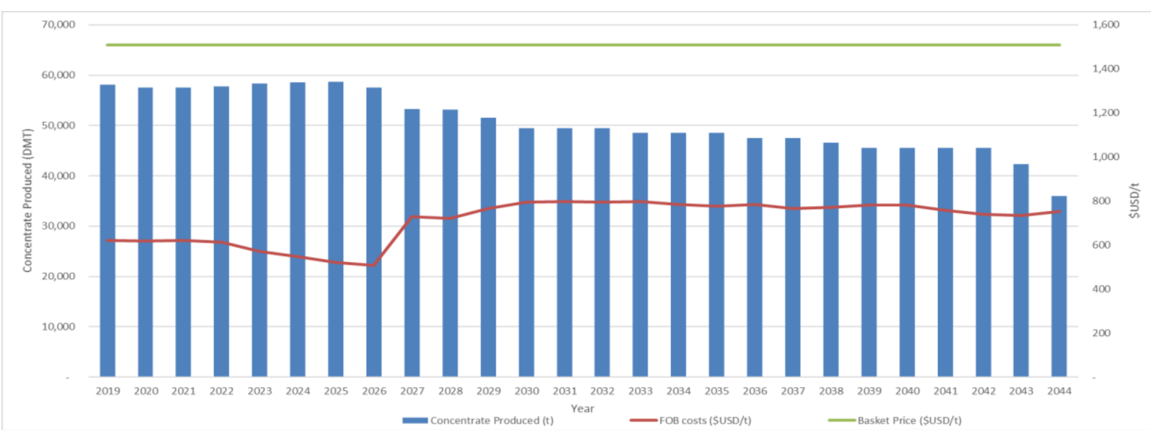
The scoping study indicates the operation will commence mining the higher grade T16 deposit before the T12 deposit. Our assumed production profile (fig.2) reflects this assumption and results in more rapid cashflow generation in the early years of the project from higher grades at T16. The study also states lower strip ratios can be expected initially from T16 which will also favourably impact costs. Our assumed impact on concentrate output and costs is shown in figure 3 below.

Figure 2. Assumed production and grade profile at Ancuabe



Source: Somers and partners

Figure 3. Assumed concentrate production and cost profile



Source: Somers and partners ** our FOB costs include added royalty, corporate, debt and exploration charges*

Process recoveries as expected, concentrate grade better than modelled

Test work has confirmed greater purity than initially modelled

Metallurgical test work has shown average purity of 98% TGC. The higher concentrate grades support our view of premium pricing for the Ancuabe product. The study assumes concentrate grades of 97.5%. processing recoveries were largely as modelled.

Improved mining and processing unit costs result in substantially better FOB costs

Unit costs for mining and processing are better than expected

Unit costs for mining and processing are better than expected. The study does not provide an accurate breakdown, however back calculating on an average production rate of 1.02mtpa shows average processing and mining costs of US$29.50/t ore. This is a substantial improvement on our assumption of US$36.30/t ore, despite considerably higher strip ratios in the study. The vastly superior production costs offset higher than expected transport costs and are the main reason for lower than expected costs of US$601/t FOB (S&Pe: US$756/t FOB).

Project capex lower than expected but upfront rather than staged

Initial capex is lower than we had anticipated

Initial capital is considerably lower than expected, although life of mine capital (sustaining and initial capital) is at US$124m comparing well with our assumption of US$121m. We had assumed a staged capital spend and staged ramp up to a greater annual production rate. However, it appears that TON anticipates starting at, and maintaining a LOM rate of up to 60ktpa. Because of the higher initial capital, we assume additional initial funding is required.

Peer leading infrastructure including shortest distance to port and grid power

As outlined previously, the study outlines the benefits to Ancuabe's proximity to port (80km), power and infrastructure (roads and GK's Ancuabe mine). We see considerable upside on the assumptions made in the scoping study as the company progresses towards production. In particular, we see the assumed transport costs as having considerable scope to shrink.

Flake size and purity to attract a premium basket price and better margins than peers

Ancuabe has some of the best flake size distribution and best purity in the world

Ancuabe has some of the best flake size distribution and best purity in the world. This makes the product extremely saleable to the growing Lithium-ion battery (LiB) and expandable graphite markets. We assume a basket price for Ancuabe of US$1,500/t based on a review of consensus pricing forecasts. This basket price assumption is US$278/t lower than our previous pricing assumption and reflects a sector wide fall in pricing assumptions. As shown in the peer review table (fig.5), Ancuabe product is expected to sell at a premium with Ancuabe offering some of the highest FOB margins in the sector.

Figure 4. Ancuabe flake size distribution assumptions and pricing assumptions

Flake Size	Announced Metallurgy (%)	Consensus pricing (US$/t)	Ancuabe Price (US$/t)
Super Jumbo (>500µm)	7	3,022	211
Jumbo (>300µm)	25	2,232	558
Large (>180µm)	26	1,574	409
Medium (>150µm)	11	1,050	116
Small (>75µm)	16	773	124
Fine (<75µm)	15	600	90
Total	100		1,500

Source: Somers & Partners

Straight forward processing using proven technology

The processing plant and flow sheet are essentially the same as those designed by peers. The technology is tried and tested grinding and flotation.

Funding

In our model, we assume the initial capital expenditure and working capital is funded from a combination of debt US$65m and equity US$30m. We dilute our target price to reflect the equity raise at an assumed price 14c/share in 2018.

Upside

We see considerable upside on the scoping study results as outlined below;

Upside includes higher grades, coarser grind and lower strips

- Additional high grade ore from T16 will lower costs – exploration drilling planned
- Improved metallurgical processing – expect improved grind size test work to increase flake size (increasing the price premium) and lower operating costs (from lower power costs)
- Lower strip ratios through refined pit design – we expect the ongoing feasibility study to better design pit slopes to decrease strip ratios.
- Grid power is likely at the project with power at Ancuabe town – this will greatly reduce processing costs
- We see increased demand after 2022 driving a further ramp up of production and associated economies of scale

Offtake discussions with cornerstone investor

We see the news that TON has commenced discussions on offtake and marketing with its supportive cornerstone investor, Shandong Tianye, as extremely encouraging. Shandong Tianye has deep pockets and is well connected in China. Achieving binding offtake will be a key deliverable and TON is expected to re-rate very favourably should offtake and funding be announced.

Peer Comparison

In the table below we compare TON's Ancuabe scoping study outcomes with peers. As shown in the table, Ancuabe hosts significantly better product than most peers with coarser flake size and greater purity. The product will sell at a premium and thus TON can expect better margins per tonne of concentrate. The project looks set to be linked to grid power and is situated closer to port than peers. The only peer that competes on product quality is MNS, however MNS' Nachu project requires 3.25x the initial capital expenditure and MNS is currently valued at 9x TON on the ASX.

Figure 5. Ancuabe scoping study compared with peers' studies

Assumption/company	TON	MNS	KNL	GPX	BKT	VRC
Project Name	Ancuabe	Nachu	Epanko	Chilalo	Mahenge**	Namangle
LOM Concentrate (Mt)	1.4	3.3	0.9	0.7	2.6	3.7
Average Annual Concentrate (Kt)	53.0	220.0	36.4	69.1	83.0	170.0
Our assumed basket price (US$/t CIF)	1500	1600	1300	1200	1300	1200
Costs FOB (US$/t)	601	559	570	490	485	536
Assumed FOB margin (US$/t)*	899	1041	730	710	815	664
Purity (%)	97.5	98.2	96.3	94.0	98.5	95
Flake size >150 Micron (%)	69.0	71.0	55.4	54.4	63.8	56.7
Initial Construction Capex (US$m)	83.0	269.0	77.5	73.8	90.1	173
Study Level	Scoping	BFS	BFS	PFS	PFS	PFS
Distance to Port (km)	80	200	450	220	450	150
Gridpower Option?	Yes	Yes	?	No	Yes	No
Enterprise value (A$m)	44.0	335.3	34.0	19.9	32.5	33.1

**Margin uses FOB costs (as this is a commonly quoted comparable) and our assumed CIF China price. Actual margins on a FOB basis will be slightly lower across the sector. * mahenge stage 1*

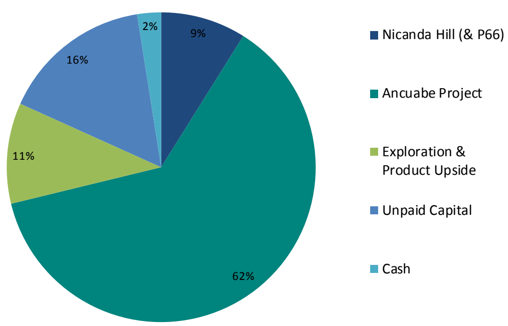
Ticker	TON
Recommendation	**BUY**
Target Share price (A$)	0.28
Current Share price (A$)	0.08
Implied Return (%)	258%
P/NAV (x)	0.11

Financial Yr. End	31 - Dec
Shares on issue (m)	657.8
Shares on issue (incl. unpaid capital)(m)*	916.7
Market Cap (A$)	50.7
Enterprise Value (A$)	44.3
Cash (A$)	6.3

Valuation

Asset	Discount rate	NAV "X" Factor	NAV Target (A$)	Target Price (A$)
Nicanda Hill (& P66)	10%	0.15 X	$22.5	$0.02
Ancuabe Project	10%	0.70 X	$157.4	$0.17
Exploration & Product Upside	n.a	n.a	$26.6	$0.03
Unpaid Capital	n.a	n.a	$39.9	$0.04
Cash	n.a	n.a	$6.3	$0.01
Total NAV			**$252.7**	**$0.28**

Valuation Split (%)



Profit & Loss (A$m)

A$M	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024
Revenue	$0.0	$0.0	$111.2	$110.0	$110.0	$110.4	$111.5	$111.9
Cost of Sales	$0.0	$13.1	$41.2	$40.5	$40.8	$40.2	$37.3	$35.7
Gross Profit	**$0.0**	**(-$13.1)**	**$70.0**	**$69.5**	**$69.2**	**$70.2**	**$74.3**	**$76.2**
EBITDA	(-$2.7)	(-$13.8)	$65.3	$64.8	$64.6	$65.5	$69.6	$71.5
Net Profit before tax	(-$2.7)	(-$13.8)	$61.1	$60.4	$54.5	$56.6	$62.0	$65.2
Tax Payable	$0.0	$0.0	(-$13.7)	(-$18.1)	(-$16.3)	(-$17.0)	(-$18.6)	(-$19.6)
Profit after tax	**(-$2.7)**	**(-$13.8)**	**$47.4**	**$42.2**	**$38.1**	**$39.7**	**$43.4**	**$45.6**

Balance Sheet

	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024
Assets								
Cash	$1.0	$5.8	$49.2	$81.8	$103.7	$127.3	$154.6	$184.2
Total Current Assets	$2.4	$7.2	$50.6	$83.2	$105.1	$128.6	$156.0	$185.6
PPE & Exp. & Dev.	$12.1	$122.0	$134.8	$249.3	$244.9	$239.9	$273.4	$328.5
Total Non Current Assets	$12.2	$122.3	$135.0	$249.4	$245.0	$240.0	$273.5	$328.6
Total Assets	**$14.6**	**$97.4**	**$139.7**	**$250.3**	**$263.5**	**$277.4**	**$323.2**	**$387.0**
Liabilities								
Senior Debt	$0.0	$86.4	$86.4	$86.4	$68.2	$50.0	$31.8	$13.6
Total Current Liabilities	$0.7	$87.0	$87.0	$87.0	$68.8	$50.6	$32.4	$14.2
Total Non Current Liabilitie	$6.8	$6.8	$6.8	$6.8	$6.8	$6.8	$6.8	$6.8
Total Liabilities	**$7.4**	**$93.8**	**$93.8**	**$93.8**	**$75.6**	**$57.4**	**$39.2**	**$21.0**

Cashflow Generation

	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024
Cashflow generated	(-$2.7)	(-$13.8)	$51.6	$46.7	$42.8	$44.4	$48.2	$50.5
Equity Placement	$0.0	$39.9	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Debt Funding	$0.0	$86.4	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Capital Expenditure	(-$3.3)	(-$107.7)	(-$8.2)	(-$14.2)	(-$2.7)	(-$2.7)	(-$2.7)	(-$2.7)
Debt repayment	$0.0	$0.0	$0.0	$0.0	(-$18.2)	(-$18.2)	(-$18.2)	(-$18.2)
Free cashflow	**(-$6.0)**	**$4.8**	**$43.4**	**$32.6**	**$22.0**	**$23.5**	**$27.3**	**$29.6**

Ratios and Key Financial Data

	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024
EPS (AUDc)	-0.3c	-1.5c	5.2c	4.6c	4.2c	4.3c	4.7c	5.0c
CFPS (AUDc)	-0.3c	-1.5c	5.6c	5.1c	4.7c	4.8c	5.3c	5.5c
FCFPS (AUDc)	-0.7c	0.5c	4.7c	3.6c	2.4c	2.6c	3.0c	3.2c
P/E ratio (x)	-26.56 X	-5.13 X	1.49 X	1.67 X	1.85 X	1.78 X	1.63 X	1.55 X
P/CF ratio (x)	-26.56 X	-5.13 X	1.37 X	1.51 X	1.65 X	1.59 X	1.47 X	1.40 X
P/FCF (x)	NM	14.82 X	1.63 X	2.17 X	3.21 X	3.00 X	2.58 X	2.38 X
EV/EBITDA (x)	-16.68 X	-3.22 X	0.68 X	0.68 X	0.69 X	0.68 X	0.64 X	0.62 X
Current ratio (x)	0.35 X	0.08 X	0.58 X	0.96 X	1.53 X	8.00 X	4.81 X	13.06 X
Shares on Issue (M)	916.7	916.7	916.7	916.7	916.7	916.7	916.7	916.7

Reserve and Resources Statement (100% of Ancuabe Project)

Status	Tonnes (Mt)	Grade (%)	TGC (t)	EV / t
Total Reserves	-	-	-	-
M&I only	9.2	6.0%	552,920	$80.2
Total Resource	27.8	6.0%	1,679,104	$26.4
Production	26.4	5.6%	1,464,338	$30

Production Profile (TGC tonnes) (100% of Project)

Operation	FY2017	FY2018	FY2019	FY2020
Ancuabe Project	0	0	58,118	57,510
Total	**0**	**0**	**58,118**	**57,510**

Basket Price Dynamics(US$)

Flake size/project	Jumbo (>300mu)	Large(>180mu)	Medium(>106mu)	Small(>75mu)
Flake Size (Balama North)	3%	3%	20%	15%
Flake Size (Ancuabe)	25%	26%	11%	16%
Long Term (US$/t)	$2,500	$1,600	$950	$806

Ancuabe Cash Cost (US$)

USD / t	FY2017	FY2018	FY2019	FY2020
Basket Price	$0	$1,508	$1,508	$1,508
C1 Cash costs	$0	$520	$520	$519
C3 Production Cost	$0	$595	$595	$595
FOB Pemba Cost	$0	$620	$620	$620
Landed Cost	$0	$662	$662	$662

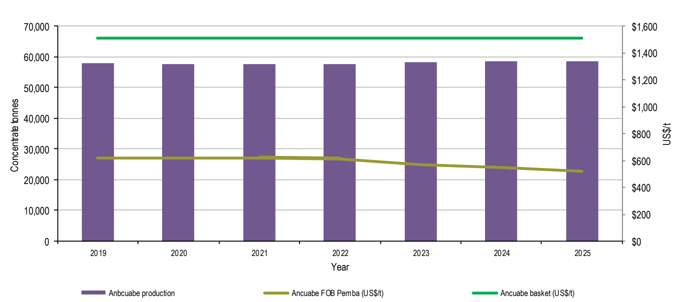
Directors & Management

Non-Exec. Chairman	Xingman Ji
Managing Director	Peter Canterbury
Non-Exec. Deputy Chairman	Patrick Burke
Non-Exec. Director	Paula Ferreira
Non-Exec. Director	Guanghui Ji

Major Shareholders

Shandong Tianye Mining	20.0%
Citicorp Noms	12.5%
HSBC Custodians	4.8%
JPM Noms	2.1%
Total	**39.4%**

Forecast Graphite Production



* assumes US$30m in project equity funding

Warning: forward looking statements are uncertain and may not actually be achieved

Source: Somers estimates

About the analyst

Duncan Hughes, Director, Mining and Metals analyst

Duncan has over 17 years' experience in the mining sector. Duncan joined Somers and Partners in July 2014 from RFC Ambrian where he was Head of Research based in London and Perth. At RFC Ambrian Duncan was focussed on small to mid-cap mining stocks. Duncan holds a first-class honours degree in Geology and worked for 10 years as a geologist in Western Australia. As Exploration Superintendent at Jubilee Mines, he was actively involved in the discovery of a number of high grade nickel sulphide ore bodies that have since been mined. He has also spent time exploring for base metals and gold with Lion Ore Australia and was involved in the discovery of the Deep South Gold Mine whilst at Sons of Gwalia.

On completion of an MBA on investment and risk from Imperial College London, Duncan spent three years as a fund manager investing in small cap resources companies in Australia with the LinQ Resource fund and in London at CD Capital.

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