

# Triton Minerals

## Ancuabe accelerating towards development

Initiation of coverage

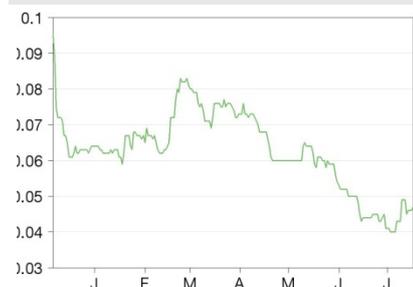
Metals & mining

18 July 2017

**Price** **A\$0.05**  
**Market cap** **A\$31m**

Net cash (A\$m) at 31 March 2017	5.7
Shares in issue	657.8m
Free float	88%
Code	TON
Primary exchange	ASX
Secondary exchange	N/A

### Share price performance



%	1m	3m	12m
Abs	6.8	(30.9)	(22.7)
Rel (local)	7.0	(29.4)	(26.6)
52-week high/low	A\$0.10	A\$0.04	

### Business description

Triton Minerals is an exploration and development company. Its main focus is the development of its graphite exploration licences in Mozambique, initially the Ancuabe graphite project, which is being developed to feed into the high growth expandable graphite and nascent, but high-growth, lithium-ion battery sector.

### Next events

DFS	End-2017
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**Triton Minerals is a research client of Edison Investment Research Limited**

Triton Minerals plans to develop its Ancuabe graphite project in Mozambique to feed the established and high-growth expandable graphite market. In our view, this is a prudent way forward in a sector dominated by graphite companies tussling with the vagaries of battery-ready graphite production and an end-market yet to mature. With East African graphite deposits already advancing in many cases (AMG's Ancuabe mine is now commissioned, Syrah's Balama is under construction, Volt Resources is securing off-takes), it is clear the region's graphite is suitable for industrial uses. An important constituent is China, where some producers are aiming to outsource raw graphite in order to clean up old, inefficient graphite mines as well as secure expandable graphite for the recently revised (2015) fire-retardant cladding regulations.

Year end	Revenue (A\$m)	PBT* (A\$m)	EPS* (c)	DPS (c)	P/E (x)	Yield (%)
12/15	0.0	(5.2)	(3.6)	0.0	N/A	N/A
12/16	1.8	(2.1)	(0.5)	0.0	N/A	N/A
12/17e	0.0	(2.5)	(0.4)	0.0	N/A	N/A
12/18e	0.0	(4.6)	(0.5)	0.0	N/A	N/A

Note: \*PBT and EPS are normalised, excluding amortisation of acquired intangibles, exceptional items and share-based payments.

## Ancuabe is a great location for a graphite deposit

Triton has completed a scoping study over its Ancuabe licences in Mozambique. The flagship project is located in a proven graphite-producing region, near excellent infrastructure, including the port of Pemba. Perhaps even more importantly, Ancuabe is adjacent to a graphite processing plant being re-commissioned by German chemical company AMG, which could be a natural off-taker of graphite feed.

## Ancuabe scoping study looks positive

The scoping study highlights annual production of 60,000 tonnes of graphite, at a cost of \$601/t and an estimated realised price of \$1,369/t. The study explored several scenarios that have a payback period of less than five years. We assume all currently defined Ancuabe resources are mined over a 35-year period.

## Valuation: Share price assumption to raise equity key

Our SOTP base case valuation is 22c per share, based on the Ancuabe scoping study (60% of our SOTP value or 13c) with a further 9c (the remaining 40% of our SOTP valuation) added based on a discounted valuation of the company's very large additional resources at Balama and Nicanda Hill/West. Our base case valuation uses a notional 75/25 debt/equity structure to fund Ancuabe's development, assuming equity at the current share price (5c). However, our valuation is sensitive to the share price assumption of the equity component: at a 10.0c share price, our base case valuation becomes 26c; at 15c it becomes 28c. Our Ancuabe valuation uses a weighted graphite concentrate basket price of US\$1,369/t and a 10% discount rate to reflect general equity risk.

## Investment summary

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### Company description: Focus on graphite in Mozambique

Triton's Ancuabe project is located in the Cabo Delgado province of Mozambique, which is a region currently under the exploration lens of several successful listed junior companies. One of three interesting prospects being developed by Triton, Ancuabe is closest to infrastructure and has been identified as having attractive graphite metallurgy for the expanded graphite market. As mentioned in our previous Triton Minerals [QuickView note](#) (3 February 2017), the company changed focus in 2016. After a change of management, voluntary administration and recapitalisation, the company now views Ancuabe as its highest priority asset. Under the conditions of the study, the proposed mine has:

- positive returns for all scenarios,
- annual production of up to 60,000 tonnes per annum of graphite concentrate,
- a payback period of between 2.7 and 4.8 years,
- a net present value between US\$128m and US\$246m, and
- indicated resources for at least nine years' operation, with a broader potential mine life of 35 years.

Triton's focus is to bring the Ancuabe project online quickly, to produce a low-cost, high-margin, premium graphite concentrate. Further development of its additional assets (eg Nicanda resources) in the area will continue, but those assets are behind Ancuabe in the pipeline.

### Valuation: A\$0.22 per share, fully-diluted, first production CY19

Based on the supportive results of the scoping study, the board is confident that the Ancuabe Project should progress to the next stage of development. Contracts have been awarded for a definitive feasibility study, scheduled for completion by the end 2017. The company is actively seeking an off-take or strategic partner, which it hopes to have in place by the end of 2017. The scoping study has helped to shed some of the technical risk from Ancuabe. We feel that an off-take or strategic partner would reduce the remaining financial risk and give investors a clear view to Ancuabe's potential as a profit centre for the company. We also note that the flow sheet design underpinning the current understanding of Ancuabe's graphite purity and size characteristics is currently un-optimised. Based on the construction timeline from the scoping study (production beginning H219) and funding for mine construction on a 75/25 debt/equity basis, we suggest an NPV of forecast earnings at Ancuabe of A\$0.13/share; to this can be added a further 9c for a discounted valuation of Triton's additional resource bases at Balama, and Nicanda Hill/West.

### Financials: Cash enough to get through feasibility stage

According to Triton's most recent quarterly cash flow and activities report, at 31 March 2017, the company had no debt and A\$5.7m in cash. Based on a 75/25 debt/equity split and to maintain maximum financial leverage of 75%, and at Triton's prevailing share price, this would result in the issuance of 505m new shares. This would raise A\$25m (excluding share issue costs), leaving a residual maximum funding requirement, to be satisfied by debt, of A\$83m in 2018.

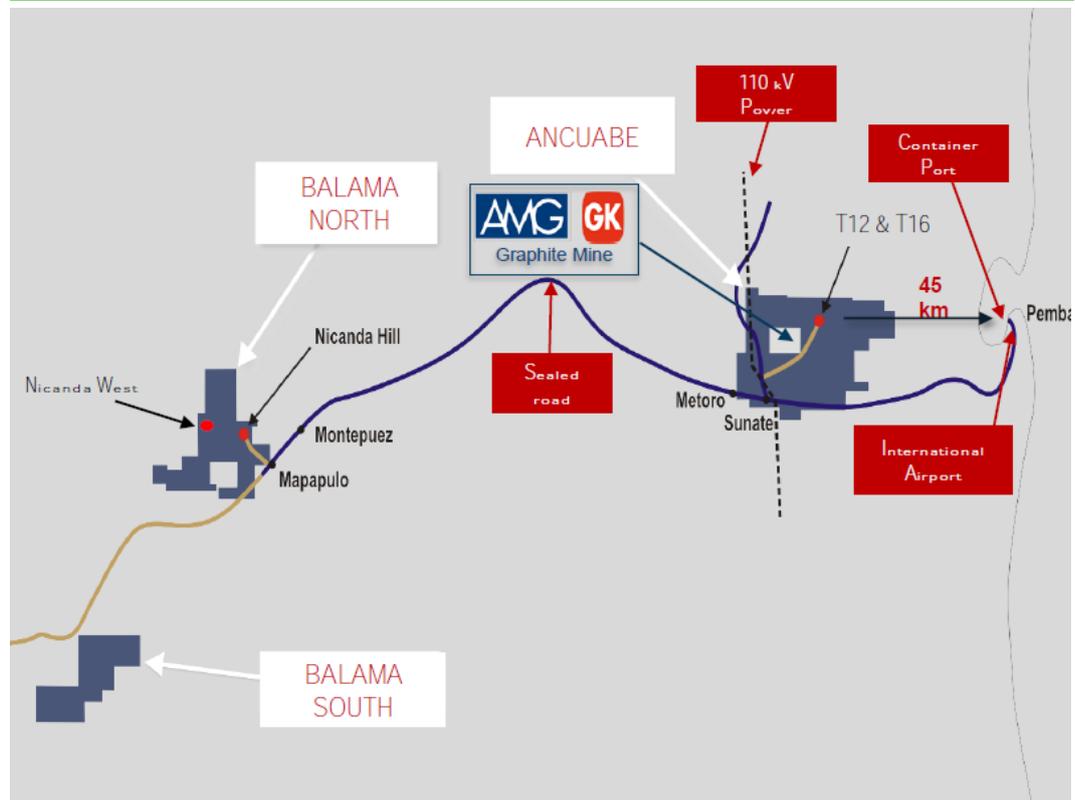
### Sensitivities: Off-take agreements needed to secure revenues

The key to unlocking Ancuabe's value is the nature of any agreement Triton is able to secure in order to finance the next stage of development. In contrast to the 75/25 debt/equity arrangement we have assumed in our base case, if the company were to finance a mine at Ancuabe entirely with debt, the NPV/share of the earnings would rise to 23c, and our base case would increase to 32c.

## Company description: Graphite in Mozambique

Triton is an ASX-listed mining company with assets in Mozambique. The company holds six exploration licences and has two more in application. The licences comprise the Balama North and Ancuabe project areas, with the latter the main focus of Triton's current investigations.

**Exhibit 1: Project and infrastructure locations**



Source: Triton Minerals

Under previous management, Triton's focus had been on its two Balama North deposits: Nicanda Hill and Cobra Plains. However, they are not as optimally aligned to feed into the highest-growth end-markets (LiB and expandable graphite) as the Ancuabe (and especially its T16 deposit) graphite project, which is the focus of Triton's realigned development strategy. Ancuabe deposits contain the graphite most applicable to these high-growth markets (ie providing the highest purity products) as well as being close to existing infrastructure. Management is consequently expediting the Ancuabe project, which is located favourably in terms of infrastructure, being only c 80km west inland by sealed road off the coastal port of Pemba, northern Mozambique, and serviced by high-voltage power lines.

### Ancuabe central to a historic graphite camp

The flake graphite mineralisation at Ancuabe is hosted within a sequence of gneissic rocks. These metamorphic rocks form by high-temperature/pressure deformation of sedimentary rocks. During metamorphism, organic carbon within the sedimentary rocks is transformed into graphite. Because of the large extent of sedimentary depositional systems, the potential for large deposits hosted within these rock types is very good – if the conditions exist in one part of the system, the odds are they continue throughout the system. The company's consultant geologists feel that the Ancuabe project is "particularly significant, as it appears to form a potential satellite mineralised body along strike north east from the historic Ancuabe graphite mine."

Regionally, this part of Mozambique is currently home to several exploration and development companies targeting the graphite deposits hosted within these metamorphosed sedimentary rocks.

Of the land positions held by Triton, the Ancuabe project is the closest to existing infrastructure, and hence why it is being developed first.

The land position of Triton's Ancuabe project consists of licences that surround the historic Ancuabe mine. The historic Ancuabe mine also has a graphite processing plant formerly owned by Kenmare Resources. The plant has been recently refurbished by German chemical company AMG, which could provide Triton with a ready off-taker already familiar with the products of the region.

## **Expanding to flame-retardants increases flexibility**

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Because the graphite market is driven by product quality, Ancuabe's recent metallurgical results should cheer investors. The graphite material from Ancuabe has been determined so far to produce a high-purity product, and has good flake size distribution for the end-markets it looks to feed into. Metallurgical testing has shown it to be highly expandable, which is key to Ancuabe material being used for expandable graphite purposes.

Battery manufacturers pay a premium for certain graphite size and purity characteristics because they need to get graphite of exact specifications for their particular application. In the fire-retardants market however, flake-size, which is still important; is currently viewed as secondary to the purity of the concentrate and the expansion properties of the graphite.

Expandable graphite is used in high-tech applications like graphite foils, circuit boards, high-pressure gaskets and laptop heat sinks. As a flame-retardant additive for construction materials, expandable graphite is present in products ranging from paint to insulating foam to MDF boards. While the market for graphite in general is growing at ~2-4%% per annum (excluding battery anode demand), the expandable graphite market is tied to so many different growing industries (hence its absence as a distinct category in Exhibit 2) that predicting the demand growth is nearly impossible. As a case in point, China banned bromide flame-retardant products in 2016, and mandated expandable graphite for use in flame-retardant construction materials. Clearly, that is a massive market but how quickly demand for graphite will grow because of that market is difficult to say. In the electric car market, where graphite is used in batteries as well as circuit boards and foils, the market has grown at 32% (CAGR) in the US alone over the last four years.

Importantly for Triton, the market for expandable graphite, its primary focus, is far more flexible in terms of the specification of the graphite a given deposit can produce. While many of Triton's peers are targeting only one market (construction materials or LiB, or producing a particular flake size for a given customer), the fact that Triton will not be solely dependent on the battery market allows extraction of the Ancuabe deposit to be optimised for volume of production instead of only those factors that govern graphite's suitability for specific market uses.

## **Un-optimised flowsheet design still gives great values**

The scoping study makes use of metallurgical test-work completed in February 2017. Using a simple un-optimised flotation process, the following results were achieved:

- Concentrate grades of between 97.2% and 99.6% Total Carbon (TC) were realised. Individual size fractions achieved purity levels of 99.6%.
- Circa 32% of flakes were coarser than 300 microns, equivalent to the 'jumbo' size fraction in the graphite sector, and generally valued higher than -150 micron sizes. Head grades of between 3.5% and 9.0% total graphitic carbon (TGC).
- 59% of graphite flakes >180 microns (no purity data for this size fraction was given).

- No discernible difference in graphite purity from oxidised, transitional or fresh weathering domains.

The metallurgical work shows that the graphite concentrate Triton is capable of producing from Ancuabe is suitable for the two rapidly growing markets for graphite: lithium-ion batteries (LiB) and flame-retardant building materials, with the latter prioritised. The company will need to produce large samples of product to show to potential off-takers.

### T16 deposit will likely become the jewel in Ancuabe’s crown

Further testing of Ancuabe T16 (discovery early 2017) graphite has also indicated very favourable expandable graphite characteristics:

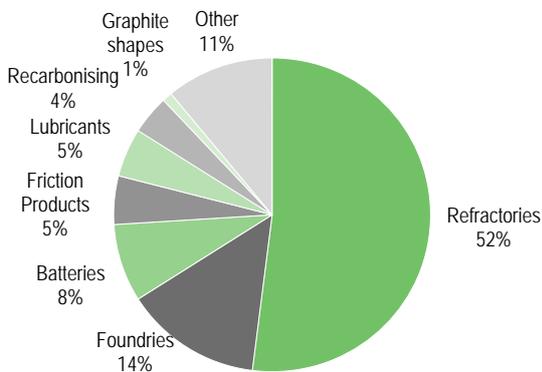
- Expansion rates range from 429-500ml/g and are said to exceed current end product requirements.
- Test results indicate Ancuabe graphite is superior to Chinese graphite used for flame retardants.
- Results confirm that Ancuabe graphite is ideally suited for expandable graphite, flame-retardant foams and high-value graphite foils.

We note from our discussions with other industry participants that flake size is starting to be seen as an important factor concerning expandable graphite products as it relates to expansion. And it could be that protection of the flake size is of at least equal importance to the purity of the graphite concentrate being produced. Electricity consumption for grinding material down to a particular size is a major component of a mine’s cost base, and electricity consumption rises logarithmically with the reduction in particle size. Therefore, removal of graphite earlier in the grinding process may well have a material positive impact on processing costs. While anecdotal at present, we will continue to monitor these developments and issue qualitative data to support this view as it becomes available.

## Graphite market data

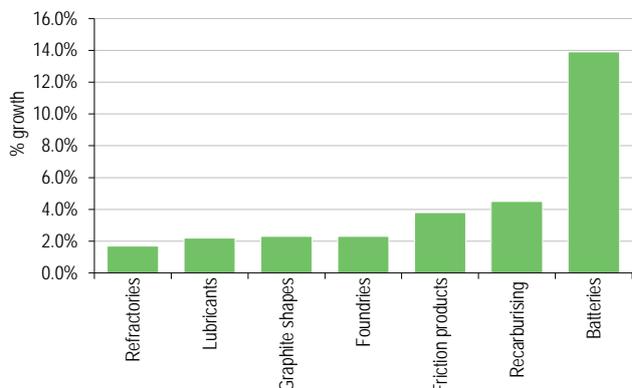
The following exhibits were created from a Roskill presentation by Suzanne Shaw, titled *Natural graphite: Raw material trends to 2020*. They provide a succinct view of graphite usage and growth rates per end sector.

**Exhibit 2: Graphite uses**



Source: Roskill presentation by Suzanne Shaw, *Natural graphite: Raw material trends to 2020*

**Exhibit 3: Graphite % growth per annum, by use**



Source: Roskill presentation by Suzanne Shaw, *Natural graphite: Raw material trends to 2020*

Expandable graphite usage is contained across many of the categories given in Exhibit 2 above and that is why an accurate growth rate in the expandable graphite market is difficult to determine. Anecdotal findings indicate that the market for flame retardant construction materials is c 5Mtpa

worldwide, **of which 5-50% contains graphite** depending on the standard of flame retardant being produced (c 50% graphite retardants would be used in high-rise apartment buildings for instance, with lower graphite contents being used for smaller, low-rise buildings). Traditionally refractory products provide the main demand driver for graphite; however, a push towards greater health and safety regulation in the construction industry in developing nations (and now with the Grenfell Tower tragedy in London likely to bring forth UK revisions) will become a key growth market for expandable graphite products.

## Nearby graphite mine being refurbished

The nearby historic Ancuabe mine and plant are owned by AMG GK. Graphit Kropfmühl (GK) has been a public limited graphite mining and processing company for more than 100 years. The company started mining graphite in Bavaria in 1870, filed a patent for a unique graphite purification process in 1877, and listed as a public company in 1916. In 2008 Advanced Metallurgical Group (AMG) acquired a 60% interest in GK, and gradually increased the stake to complete ownership in 2012. AMG GK is now the graphite arm of a global specialty metals company headquartered in Germany. AMG GK is the world's largest producer of end-user graphite products.

In May 2017, parent company AMG announced that AMG GK had “successfully completed the commissioning process at its Ancuabe graphite mine in the Cabo Delgado province of Mozambique” – the mine and processing plant that are completely surrounded by Triton's Ancuabe project.

The stated production capacity of the plant is 9,000tpa of graphite concentrate. Commercial production at the site makes AMG GL the first and currently only operation that is producing graphite in this area of Mozambique. Management of Triton feel that the operating AMG GK plant is a possible off-taker for product from the proposed Triton Ancuabe mine, given that the material is very similar (coming from the same deposit) and Triton's will probably have a lower operating cost.

## Valuation

As Triton makes the transition from exploration to development and production, the opportunity presented to investors is clear. With the results of the scoping study of Ancuabe in mind, the NPV of the proposed mine also makes the current valuation of the company's shares look attractive.

## Assumptions

We have based our revenue forecast on the Ancuabe scoping study. Broadly, the headline results of the study are as follows:

Exhibit 4: Project assumptions	
Variable	Assumption
Graphite concentrate basket price	US\$1,369/t
Payback period	Between 2.7 and 4.8 years
Discounted NPV (10)	US\$128m to US\$246m (or US\$75m on indicated resource alone)
Life of mine	35 years (entire resource base)
Pre-production capex	US\$83m
Operating cost	US\$601/t
Annual production	Up to 60,000 tpa

Source: Triton Minerals, Edison Investment Research

The following table provides the basket price breakdown for one tonne of Ancuabe graphite concentrate free-on-board (FOB) at the port of Pemba.

**Exhibit 5: US\$1,369/t basket price breakdown (US\$/t)**

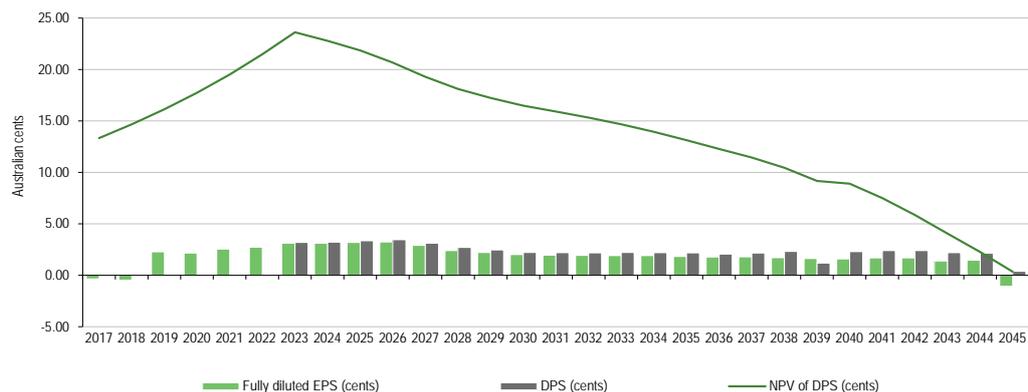
Annual production	Up to 60,000 tpa graphite concentrate
Production per size fraction	
+500 micron	2,710-3,780 tpa
-500+300 micron	10,150-15,360 tpa
-300+180 micron	11,010-15,360 tpa
-180+150 micron	4,515-6,300 tpa
-150+75 micron	7,310-10,200 tpa
-75 micron	7,310 0 10,200 tpa
Product pricing	
	US\$/t
+500 micron	2,877
-500+300 micron	2,125
-300+180 micron	1,499
-180+150 micron	1,000
-150+75 micron	736
-75 micron	571
Basket price	US\$1,369 FOB Pemba

Source: Triton Minerals, Edison Investment Research

Our model assumes that Triton develops Ancuabe as outlined in the scoping study, which states a capex figure of US\$83m (A\$110m at a A\$/US\$ forex rate of 1.32) plus a further A\$9m two years later. We further assume that the company will pay for the development and construction of the mine on a 75/25 debt/equity basis. For the purposes of our model, to maintain maximum corporate financial leverage (net debt/[net debt + equity]), we consequently make the assumption that Triton will have to raise A\$25m in equity. Again, for the purpose of our model, we calculate the equity portion to be raised at the prevailing share price (equating to 74% dilution), upon completion of the DFS at the end of 2017. We assume an interest charge on the debt portion of the financing of 9%.

## Net present value of dividends

On the basis outlined above, we have estimated the DPS, EPS and dividends from the model Ancuabe mine, from the proposed start-up in 2018 through commercial production to closure at the end of the full modelled mine life in 2045.

**Exhibit 6: Valuation of dividend stream**


Source: Edison Investment Research

Once financed, Ancuabe's value to shareholders of Triton is 13.3 cents in 2017, rising to 17.7 cents in 2020, and peaking at just over 23 cents in 2023. The peak at 2023 is a function of discounting the cash flows, and has nothing to do with the scheduling of the mine or peak estimated revenue.

## In-situ graphite resource valuation

The scoping study was based on the increased JORC-compliant resource at Ancuabe released by the company in April 2017.

<b>Exhibit 7: Ancuabe resources</b>				
Ancuabe resource – April 2017 for T12 and T16 deposits	Classification	TGC (%)	Million tonnes	Contained graphite (Mt)
	Indicated	5.9	9.2	0.6
	Inferred	6.5	18.6	1.1
Total	Indicated & Inferred	6.04	27.9	1.7

Source: Triton Minerals

On the basis of Edison's average global in-situ valuation attributed to undeveloped graphite resources (US\$11.38/t of "indicated"; US\$2.01/t of "inferred"), the in-situ value of the resource at Ancuabe alone is US\$8.5m (A\$11.2m), which equates to A\$0.013 per share.

## Triton's non-core resources offer upside for later

Ancuabe is Triton's initial focus, but the company has code-compliant (JORC 2012) resources for its two Balama North deposits, Cobra Plains and Nicanda Hill, and for Nicanda West. They are outlined in the exhibits below for reference only; they are not the initial focus of Triton's new battery and expandable graphite development strategy. It is worth noting that they are some of the largest graphite resources (by tonnage) in the world and if the fire-retardant building materials (FRBM) and LiB markets develop in line with forecasts, Triton's management says it will revisit these deposits to understand their future viability for development.

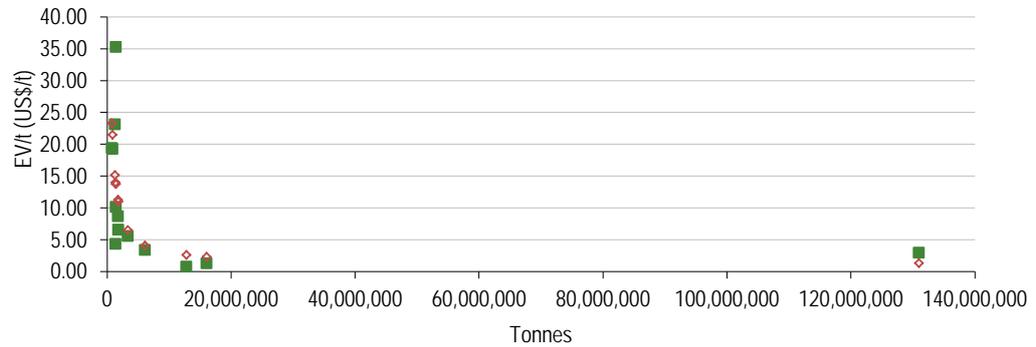
Valuing the total graphite resource the company has in inventory shows that in addition to the resource at Ancuabe, the company has a much larger graphite inventory in the region

<b>Exhibit 8: Triton Resources total company resources</b>				
Deposit	Classification	TGC %	Million tonnes	Contained graphite (Mt)
Ancuabe	Indicated	6	9.2	0.55
	Inferred	6	18.6	1.126
Nicanda West	Inferred	6.6	30	1.968
Balama North – Cobra Plains	Inferred	5.2	103	5.7
Balama North – Nicanda Hill	Indicated	11.3	369	41.7
	Inferred	11.1	1,061	117.8

Source: Triton Minerals

We have analysed the above additional graphite resources using company EV/t data viewed against resource size. The following exhibit demonstrates that as a company drills out more in-situ resources, the market, in general, applies a reducing value to them. Further background to this analysis can be found on pages 29-30 of our sector report [Normalisation augurs well for exploration](#), published October 2016.

**Exhibit 9: Graphite in-situ resource multiple (US\$/t) vs size (t) for a selection of graphite explorers (green squares). Red diamonds indicate trace of line-of-best-fit**



Source: Edison Investment Research

On the basis of the above analysis, we have applied a 9c valuation for the 165Mt of additional contained graphite (indicated and inferred) delineated at Balama and Nicanda Hill and Nicanda West.

## Nicanda Hill vanadium for free

Nicanda Hill is a combined graphite/vanadium deposit; which is to say that in addition to the graphite resource outlined above, the deposit also contains a world-class vanadium resource.

**Exhibit 10: Nicanda Hill vanadium resources**

Nicanda Hill vanadium resource	Classification	Million tonnes	Grade (V <sub>2</sub> O <sub>5</sub> %)	Contained V <sub>2</sub> O <sub>5</sub> (Mt)
	Indicated	369	0.26	0.96
	Inferred	1,061	0.27	2.86
Total	Indicated & Inferred	1,430		3.82

Source: Triton Minerals. Note: Vanadium grade and consequent contained V<sub>2</sub>O<sub>5</sub> figures are provided as a guide and reflect the October 2014 maiden mineral resource report. However, no vanadium figures were given in the restated September 2016 report as the metallurgical test work had not been completed.

Triton states it could not develop the Nicanda Hill prospect into a vanadium mine alone; in order to work, the project would have to be shown to be economically feasible as a combined graphite and vanadium operation. It is still staggering to observe that the Nicanda Hill resource contains almost 4mt (8.8bn lbs) of vanadium pentoxide (V<sub>2</sub>O<sub>5</sub>). Vanadium pentoxide currently sells in the range of \$4.50-6.20/lb with price increases of 11% YTD (Bloomberg). This is likely to have been driven by supply-side constraints out of China as vanadium derived from magnetite slags from the steel industry have been replaced by higher-quality haematite iron ores that yield no vanadium as a by-product. Further, this scenario has driven vanadium from a situation of structural oversupply to a commodity now undersupplied.

## Sensitivities

Although some technical risks remain (resource and reserve certainty, engineering, metallurgy, environmental), the company's recent scoping study has demonstrated that the proposed Ancuabe mine has the potential to be quite robust. As contracts have been awarded and feasibility study work is underway, we expect that these technical risks will fade further into the background over the course of 2017. A key de-risking event will be the release of the definitive feasibility study by the end of 2017.

### **Off-take agreement forthcoming?**

Triton's scoping study uses a basket of realised prices from the graphite market to estimate the price(s) that could be achieved for equivalent (or nearly equivalent) products produced out of Ancuabe. Until the company has reached an agreement with a customer however, those prices remain best-guess estimates.

Triton is in the process of trying to find an off-take partner or strategic partner for its Ancuabe material. The metallurgical testing undertaken in the scoping study highlights an attractive product that should be relatively easy to sell. Management has indicated that the structure of any off-take or strategic agreement is likely to take the form of a project stake (likely in the range of 20-50%) in exchange for arranging debt-financing of the capex necessary to build a mine at Ancuabe.

Management has suggested that off-take could come from one of its existing strategic relationships. AMG GK has a mine and plant completely surrounded by Triton's Ancuabe project; and Shandong Tianye Group owns a 20% stake in Triton.

### **Regulatory environment**

Mozambique has a mixed system of Portuguese law and local customary law. In the Fraser Institute's 2016 edition of the Economic Freedom of the World, Mozambique's "economic freedom" rates in the fourth quartile of the 159 countries surveyed. More than half of the countries on the continent of Africa are in this lowest quartile. Mozambique's rating seems most hampered by low scores for the country's legal system and property rights, while the country actually scores quite well in areas of sound money and freedom to trade internationally.

The government of Mozambique does not have a free-carried interest in mineral projects, and tax rates in Mozambique are reasonable, with 30% corporate tax and a 3% royalty on mineral production. Companies also have some scope to offset past losses against future gains.

Mozambique has had free elections every five years since 2004. More than 30% of the country's 29 million live in an urban environment. The country has a high rate of unemployment, but Mozambique also has a relatively high literacy rate for employment-aged males, which is to say there is a good pool of local workers who are competent, educated and available. The country has a long history of mining, and is presently home to many operating mines owned by listed companies. We feel that the large labour force and presence of existing extractive industries both bode well for a continued welcoming environment for resource companies.

### **Environmental**

Triton's environmental studies are already well underway. The company completed dry season studies in 2015, and wet season studies are slated for completion later this year (2017). Triton has submitted its EPDA (Environmental Pre-viability Report and Scope Definition) as of April 2017, and plans to submit its ESHIA (Environmental Social and Health Impact Assessment) before the end of Q317.

### **Valuation sensitivities**

We have performed a quantitative sensitivity analysis of our base case valuation. As can be seen, the greatest sensitivities lie in achieved revenues, and in the share price assumed in the event of a potential equity raise (our base case assumes the current share price – 5c).

**Exhibit 11: Valuation sensitivities**

Sensitivity to change in Revenue							
% change in revenue	-30	-20	-10	Base Case	10	20	30
NPV (\$A) cents/share	0.4	4.6	8.9	13.3	17.8	22.3	26.7
Delta	-97%	-65%	-33%	0%	34%	68%	101%
Sensitivity to change in Operating Cost							
% change in costs	-30	-20	-10	Base Case	10	20	30
NPV (\$A) cents/share	19.9	17.7	15.5	13.3	11.2	9.0	6.8
Delta	50%	33%	17%	0%	-16%	-32%	-49%
Sensitivity to change in Equity Raise							
Price of equity raise		0.015	0.025	0.05	0.10	0.15	0.20
NPV (A\$) cents/share		6.5	9.2	13.3	17.2	19.0	20.0
		-51%	-31%	0%	29%	43%	50%
Sensitivity to Debt/Equity Ratio							
Ratio			100% Debt	75/25	50/50	25/75	100% Equity
NPV (A\$) cents/share			23.1	13.3	10.1	8.5	7.5

Source: Edison Investment Research

## Financials

During FY16 Triton raised a total of A\$18.2m gross, of which A\$8m was at the end of November 2016 via the issue of 131.6m new ordinary shares at A\$0.06 each. These funds financed the completion of drilling and the completion of a scoping study on Ancuabe and left some cash for the feasibility study. End March 2017 cash was A\$5.7m.

The company has no debt and a total of 64,548,763 options with exercise prices of A\$0.1 to A\$1.0 each, expiring on dates from 23 July 2017 to 2 December 2019.

### Shandong Tianye Group – additional funds and raising stake

Shandong Tianye is a large Chinese private company involved in real estate, mining, energy and finance. Shandong raised its stake in Triton to 23% following its recent A\$1.23m strategic buy-in announced on 10 July 2017. Xingmin Ji, Triton's non-executive chairman, is also chairman of Minjar Gold and CEO of Tianye Australia, both of which are Shandong Tianye companies.

### Potential fund-raising

To develop Ancuabe the company will certainly need to take on a large debt in order to fund construction of the project upon completion of the definitive feasibility study (expected by end 2017). Until the structure of any financing is known, this presents some financing risk.

For the purposes of our valuation, we assume a conventional 75/25 debt/equity split to finance the Ancuabe project. To maintain maximum financial leverage of 75% and at Triton's prevailing share price, this would result in the issuance of 505m new shares. This would raise A\$25m (excluding share issue costs), leaving a residual maximum funding requirement, to be satisfied by debt, of A\$83m in 2018.

**Exhibit 12: Financial summary**

	A\$'000s	2015	2016	2017e	2018e	2019e
December		IFRS	IFRS	IFRS	IFRS	IFRS
<b>PROFIT &amp; LOSS</b>						
Revenue	1	1,769	0	0	0	109,565
Cost of Sales	0	0	0	0	0	(54,999)
Gross Profit	1	1,769	0	0	0	54,566
EBITDA	(5,227)	(2,073)	(2,523)	(4,558)	(4,558)	49,808
Operating Profit (before amort. and except.)	(5,257)	(2,102)	(2,552)	(4,587)	(4,587)	49,229
Intangible Amortisation	0	0	0	0	0	0
Exceptionals	(93)	(32,389)	0	0	0	0
Other	(7,451)	(428)	100	200	200	0
Operating Profit	(12,800)	(34,919)	(2,452)	(4,387)	(4,387)	49,229
Net Interest	52	5	35	32	32	(9,167)
Profit Before Tax (norm)	(5,205)	(2,098)	(2,517)	(4,554)	(4,554)	40,062
Profit Before Tax (FRS 3)	(12,749)	(34,915)	(2,417)	(4,354)	(4,354)	40,062
Tax	0	0	0	0	0	(12,019)
Profit After Tax (norm)	(12,656)	(2,525)	(2,417)	(4,354)	(4,354)	28,043
Profit After Tax (FRS 3)	(12,749)	(34,915)	(2,417)	(4,354)	(4,354)	28,043
Average Number of Shares Outstanding (m)	355.3	517.2	670.1	935.2	935.2	1,187.9
EPS - normalised (c)	(3.6)	(0.5)	(0.4)	(0.5)	(0.5)	2.4
EPS - normalised and fully diluted (c)	(3.6)	(0.5)	(0.3)	(0.4)	(0.4)	2.3
EPS - (IFRS) (c)	(3.6)	(6.8)	(0.4)	(0.5)	(0.5)	2.4
Dividend per share (c)	0.0	0.0	0.0	0.0	0.0	0.0
Gross Margin (%)	N/A	N/A	N/A	N/A	N/A	49.8
EBITDA Margin (%)	N/A	N/A	N/A	N/A	N/A	45.5
Operating Margin (before GW and except.) (%)	N/A	N/A	N/A	N/A	N/A	44.9
<b>BALANCE SHEET</b>						
Fixed Assets	39,634	9,013	8,984	118,183	118,183	123,103
Intangible Assets	16,522	8,765	8,765	8,765	8,765	8,765
Tangible Assets	95	138	109	109,307	109,307	114,227
Investments	23,016	110	110	110	110	110
Current Assets	946	8,354	6,554	68	68	16,703
Stocks	0	0	0	0	0	9,130
Debtors	545	1,319	0	0	0	7,504
Cash	344	6,968	6,487	0	0	0
Other	58	68	68	68	68	68
Current Liabilities	(3,740)	(641)	(224)	(83,730)	(83,730)	(77,242)
Creditors	(3,740)	(641)	(224)	(392)	(392)	4,112
Short term borrowings	0	0	0	(83,339)	(83,339)	(81,354)
Long Term Liabilities	(6,648)	(6,741)	(6,741)	(6,741)	(6,741)	(6,741)
Long term borrowings	0	0	0	0	0	0
Other long term liabilities	(6,648)	(6,741)	(6,741)	(6,741)	(6,741)	(6,741)
Net Assets	30,192	9,986	8,573	27,780	27,780	55,823
<b>CASH FLOW</b>						
Operating Cash Flow	(4,528)	(6,862)	(1,620)	(4,390)	(4,390)	28,669
Net Interest	52	5	35	32	32	(9,167)
Tax	0	0	0	0	0	(12,019)
Capex	(10,490)	(2,145)	0	(109,228)	(109,228)	0
Acquisitions/disposals	0	0	0	0	0	0
Financing	13,808	15,650	1,156	23,760	23,760	0
Dividends	0	0	0	0	0	0
Net Cash Flow	(1,158)	6,649	(429)	(89,825)	(89,825)	7,484
Opening net debt/(cash)	(1,497)	(344)	(6,968)	(6,487)	(6,487)	83,339
HP finance leases initiated	0	0	0	0	0	0
Other	52	0	(51)	0	0	(0)
Closing net debt/(cash)	(391)	(6,993)	(6,487)	83,339	83,339	75,855

Source: Triton Minerals' accounts, Edison Investment Research

<b>Contact details</b>	<b>Revenue by geography</b>
Ground Floor 10 Outram Street West Perth Perth, WA 6005 Australia +61 8 6489 2555 www.tritonminerals.com	N/A
<b>Management team</b>	
<b>Non-executive Chairman: Xingmin (Max) Ji</b>	<b>Managing Director: Peter Canterbury</b>
Mr Ji is an MBA, with over 20 years of experience in the finance and investment fields. He is also chairman of Minjar Gold as well as CEO for Tinaye Australia Group.	Mr Canterbury is a senior mining executive with experience in project development and operations in Australia, Europe and Africa. He was previously CEO of Bauxite Resources, and CFO of Sundance Resources.
<b>CFO &amp; Secretary: David Edwards</b>	<b>Non-executive Director: Paula Ferreira</b>
Mr Edwards has experience in both the resource and the construction sectors. He was previously GM finance with Clough Ltd., and group financial controller for Fortescue Metals Ltd.	Ms Ferreira is a Mozambican citizen and chartered accountant. She has 27 years' experience in audit, including as managing partner of Deloitte & Touche in Mozambique.
<b>Principal shareholders</b>	<b>(%)</b>
Shandong Tianye	23.0
Jenks, Alan Gordon	4.8
Correze Pty Ltd.	3.3
SG Hiscock & Co Ltd.	2.8
Somers and Partners	2.8
Rodgers, John Andrew	2.3
Woodroffe Invest	1.2
<b>Companies named in this report</b>	
Syrah Resources (SYR), Volt Resources (VRC)	

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