

High-grade graphite in Tanzania

Speculative Buy**Price:** 2.5p**Target Price** 4.4p**Sector:** Metals & Mining

Armadale Capital, the investment company focused on natural resource projects in Africa, continues to advance its 100% owned Mahenge Liandu graphite project in Tanzania. Mahenge Liandu is in an area of proven coarse flake, high-grade graphite resources and has a maiden Inferred resource estimate (JORC-2012 compliant) of 40.9Mt grading 9.41% total graphite content (TGC). Of this, at least 32Mt grades 10.47% TGC making Mahenge Liandu one of the highest-grade graphite deposits in Tanzania.

Share Price Performance

Source: London Stock Exchange

Armadale's strategy is to build a portfolio of valuable resource projects with near-term revenue generation. With increased demand for graphite expected to be driven by the anticipated growth in lithium-ion batteries, we expect Armadale to capitalise on this demand moving forward. We maintain a Speculative Buy rating on the stock and have a target price of 4.4p per share.

Maiden JORC-compliant mineral resource estimate

Mahenge Liandu is characterised by wide zones of graphitic schist up to 500m and >2km strike length. Armadale has recently completed a successful drill campaign where 18 of 21 drill holes intersected high-grade coarse flake graphite mineralisation. Based on these results, a maiden JORC-compliant resource (Inferred) returned 40.9Mt grading 9.41% total graphite content (TGC).

Graphite demand set to expand

The key graphite end uses are anodes in lithium-ion batteries (a high growth market), high-quality lubricants, high-voltage capacitors, photovoltaic cells and numerous other products. Global demand for commercial graphite is expected to increase, fuelled by increasing production of electric vehicles, smart phones and developments in the energy storage industry.

JV to develop and operate Mpokoto gold project

On 28 September 2016, Armadale entered into a binding Heads of Agreement (HoA) with Kisenge Mining (KMP), formerly African Mining Services (AMS), to develop the Mpokoto gold project in the DRC. Having recently completed its due diligence, KMP has decided to exercise its option and form a JV. Should KMP complete its earn-in obligations (see RNS 28 Sept. 2016) and bring Mpokoto into commercial production Armadale will maintain at least a 15% interest. The Mpokoto project comprises four mining licences and has a combined mineral resource estimate of 678,000oz grading 1.45g/t Au.

Relative valuation

With our Tanzania graphite peer group trading at an average EV/t (contained graphite) of US\$9.4/t, we calculate a risk-adjusted equity value of US\$13.1m (or 4.4p per share) for Armadale's Mahenge Liandu project.

Key Data

Market:	London (AIM)
TIDM:	ACP.L
1 Year Hi/Low:	4.438p/1.188p
Existing Shares:	208.5m
Market Cap:	£8.4m
ISIN:	GB00BYSY631
SEDOL:	BYMSY63
Co. Website:	armadalecapital.com

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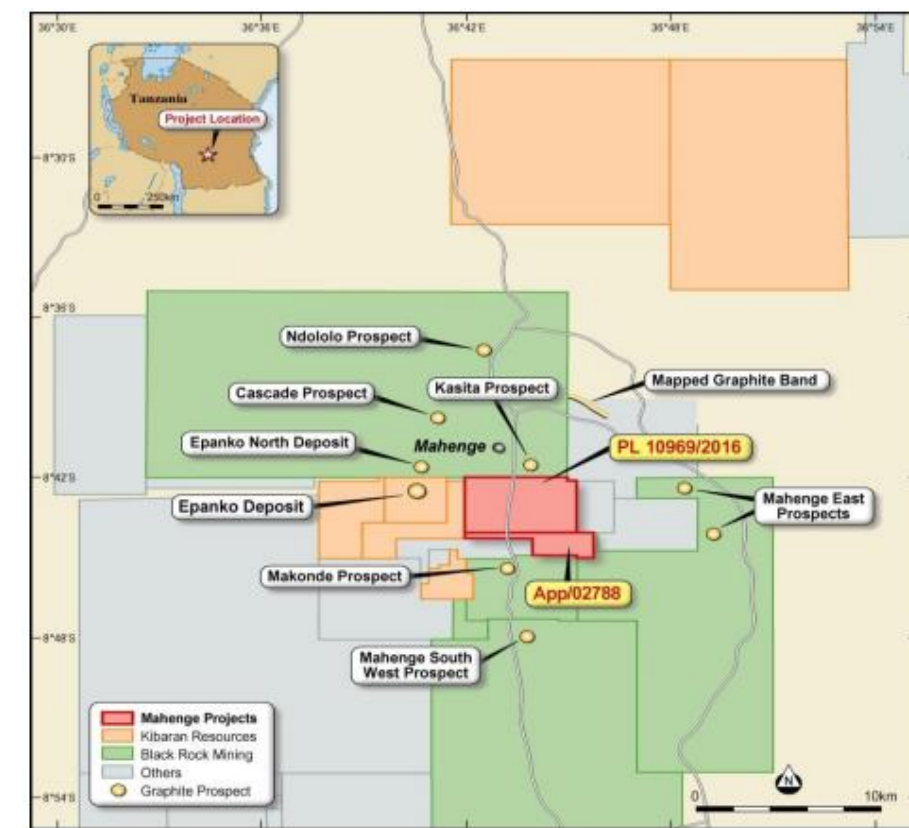
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Mahenge graphite project

On 2 June 2016, Armadale signed an agreement to acquire the Mahenge Liandu graphite project located in the Ulanga District in south east Tanzania from Graphite Advancement Tanzania (GAT). The announced share purchase agreement acquired 100% of the issue share capital of GAT for total consideration of 57.5M ordinary shares of Armadale and £450,000 of unsecured convertible loan notes.

The highly prospective Liandu project is located in an area of proven coarse flake, high-grade graphite resources as demonstrated by operators whose projects are contiguous with Mahenge Liandu (i.e. Kibaran Resources and Black Rock Mining). Armadale's two tenements cover an area of 29.9km² with previous drill campaigns confirming high-grade mineralisation from surface intersecting 60m grading 10.7% TGC, including 24m grading 12.9% TGC and 5m grading 21.5% TGC.

Mahenge Liandu graphite location



Source: Company report.

Geology

Graphite mineralisation at Mahenge Liandu is characterised by schist-hosted flaky graphite within a sedimentary package that has been subject to upper amphibolite-grade metamorphism. The high-grade metamorphic grade is likely responsible for the low impurities such as vanadium. Mineralisation occurs within one continuous ore body, near surface which implies a low strip ratio.

Maiden JORC-compliant mineral resource estimate

On December 8 2016, Armadale released its maiden JORC (2012) compliant Inferred mineral resource estimate of 40.9Mt grading 9.41% TGC for its 100% owned Mahenge Liandu graphite. Of note, 32Mt of this resource has an average grade of 10.47% TGC, representing one of the highest-grade resources in Tanzania.

Metallurgical testwork

ACP announced results of the first round of metallurgical testwork from a 10kg bulk sample. This sample produced high concentrate grades of 99.1% TGC for large size fraction. Furthermore, distribution of flake size reported 61% within the super jumbo, jumbo and large flake categories. The following table illustrates the excellent flake size distribution with 28.1% in the jumbo and super jumbo categories. Further testwork is required to demonstrate the potential for commercial grade graphite concentrates suitable for use in the production of spherical and expandable graphite.

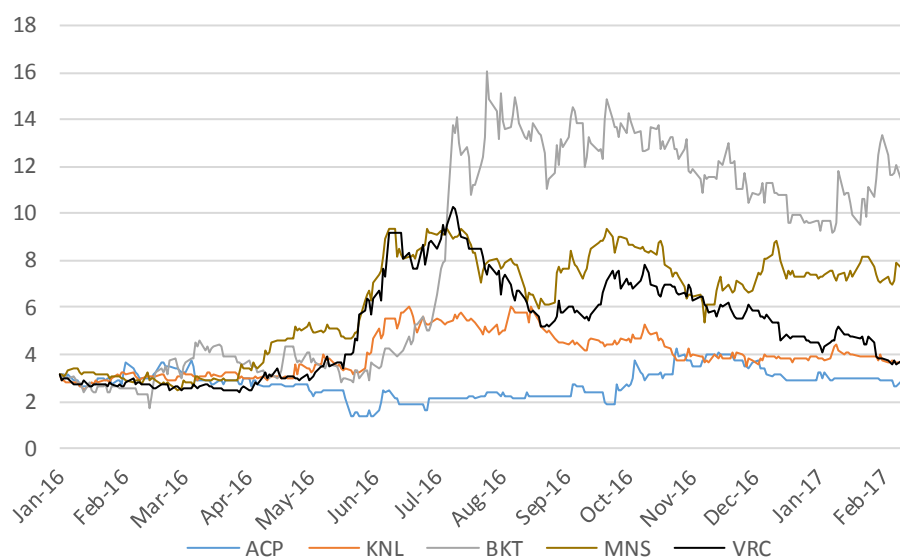
Natural flake graphite size fractions at Mahenge Liandu					
Flake	Microns	Mesh size	Weight %	Grade TGC	
Super jumbo	>500	>35	3.7	98.4	
Jumbo	300 - 500	>50	24.4	98.5	
Large	180 - 300	>80	32.9	99.1	
Medium	150 - 180	>100	11.7	98.9	
Small	75 - 150	>200	11.9	98.7	
Fine	<75	<200	15.4	88.4 -98.7	

Source: Company data.

Valuation

When considering our Tanzania graphite explorers/developers peer group, we note that Armadale has underperformed its peers.

Armadale share price (GBP) versus peers (rebased)



Source: Bloomberg, Beaufort Securities. As at 17/02/2017.

Tanzania graphite peer comparison

Company	Project	Stage	Market Cap USDm	Cash USDm	EV USDm	Resource Mt	Grade % TGC	Contained graphite Mt	EV/resource US\$/t
Graphex	Chilalo	PFS	19.1	3.8	15.3	25.1	6.0	1.5	10.2
Magnis Resource	Nachu	BFS	241.8	5.4	236.5	174.0	5.4	9.4	25.2
Volt Resources	Nachingwea	PFS	30.7	5.7	25.0	446.2	5.0	22.4	1.1
Black Rock Mining	Mahenge	Scoping	31.8	1.8	30.0	162.5	7.8	12.7	2.4
Kibaran Resources	Epanko/Merelani	BFS	28.8	1.5	27.3	40.2	8.2	3.3	8.3
average									9.4
Armadale Capital	Mahenge Liandu	Scoping	7.8	1.2	6.6	40.9	9.4	3.8	1.71

Source: Company data, Bloomberg as at 17/02/2017.

Given the early stage exploration and lack of detailed feasibility studies on Mahenge Liandu, we apply a relative valuation approach. We have compiled a peer group of Tanzanian graphite explorers/developers and derived a EV/resource multiple which we then apply to Armadale's resources. The average EV/total contained graphite is US\$9.4/t. Secondly, we have applied a 65% haircut to our implied equity value to account for risks associated with execution, further dilution, uncertainty with future equity financing and off-take agreements. Our risk-adjusted equity value is US\$13.1M or 4.4p per share. At this stage, we haven't attributed any value for Armadale's share of the Mkopoto gold project while the project continues with development through the JV agreement.

Armadale base-case valuation

Contained graphite	Mt	3.8
Applied multiple	US\$/t	9.4
less net debt/(cash)	US\$m	-1.2
Implied equity	US\$m	37.4
risk-adjusted value	65%	13.1
Number of shares	M	238.3
Value of shares	US\$	0.1
Value of shares	GBp	4.4
Current value	GBp	2.6
upside	%	68.9

Mining and infrastructure in Tanzania

Tanzania is a politically stable country that uses the British Common Law System and is supportive of a well-established mining industry. Internationally, Tanzania rates 67 out of 107 for mining investment attractiveness, according to the 2015 Fraser Institute survey. In terms of infrastructure, the Mahenge Liandu graphite project is located 76km from the Tanzania-Zambia railway line to Der es Salaam port, a major port for East and Central Africa.

Summary

Armadale offers investors exposure to the expanding global graphite market. With the demand for battery-grade spherical graphite set to grow significantly, we expect Armadale's stock to perform well as the company continues to de-risk its Mahenge Liandu graphite project through continued metallurgical test-work and potential off-take agreements for its high-quality and high-grade graphitic ore.

Recommendations

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Company Name	Disclosure
Armadale Capital	1,2, 7

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