

IMX Resources Limited: Testwork to Confirm Target Markets for Chilalo Graphite

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West Perth WA (FSCwire) - [IMX Resources Limited](#) (ASX: IXR) ('IMX' or the 'Company') is pleased to provide an update on progress it has made in determining the suitability of graphite concentrate from its Chilalo Graphite Project ('Chilalo Graphite') to particular target markets and applications.

Over the past 8 months, the Company has undertaken a program of product marketing activities in China which has included close engagement with various end users, manufacturers, industry bodies and potential offtake partners. This has substantially improved the Company's understanding of the specific product requirements of end users, the size of the various graphite markets and likely future demand.

The product specifications of Chilalo Graphite will ensure that IMX has exposure to not only the high-growth lithium-ion battery market, but also the higher-margin expandable graphite market and the stable refractory market, which is currently the largest market for graphite.

The information obtained has confirmed the analysis of graphite industry experts, Benchmark Mineral Intelligence, in their strategic marketing study completed for the Company in July 2015.

Based on this knowledge, a bulk sample has recently been provided to Wuhan Technology Institute (WTI) in China to conduct testwork to confirm the suitability of Chilalo Graphite to the markets and applications that IMX intends to target. WTI is a respected and well recognised independent Chinese laboratory with significant graphite expertise in providing independent testing, analysis and advice to both graphite miners and end users.

The target markets for Chilalo Graphite are shown in the table below.

<http://www.fscwire.com/newsrelease/testwork-confirm-target-markets-chilalo-graphite>

Key objectives of WTI testwork

Testwork previously conducted in Australia has confirmed that Chilalo Graphite is coarse flake, with up to 68% in the large and jumbo flake categories (ASX announcement 9 September 2015). Notwithstanding these results, WTI's initial testwork will establish a baseline of raw ore characteristics that will enable the maximum achievable flake size to be ascertained. This will set the upper limits of flake size distribution following conventional crushing, grinding and flotation.

Stage 2 testwork will entail a series of tests aimed at producing the highest quality product – maximising flake size distribution whilst preserving targeted purity levels.

Stage 3 testwork will focus on the use of Chilalo Graphite for the production of expandable graphite, spherical graphite for use in lithium-ion batteries, graphene and a range of other graphite consumer products.

Expandable Graphite Market (Chilalo jumbo and super jumbo flake)

Chilalo Graphite has a significant portion of jumbo and super jumbo flake material which is especially suited to the production of expandable graphite, a high-margin market which is expected to be the cornerstone of IMX's graphite business.

Expandable graphite (shown in Figure 1 below) is flake graphite that has been washed in acid and then heated, causing rapid expansion to 250 – 1,000 times its original size (the expansion ratio). The Company has received feedback from end users who have conducted their own expandability testwork that the expansion ratio of Chilalo Graphite is world class. The WTI testwork is expected to confirm the suitability of Chilalo Graphite to this market.

Figure 1: Expandable Graphite

http://www.fscwire.com/sites/default/files/NR/740/8673_imximage1.png

Expandable graphite is one of the fastest growing markets for graphite and has multiple uses, including the production of high-value graphite foils as shown below in Figure 2 (market price of ~US\$ 50,000/t) which are used as heat shields in electronic devices, graphite paper used in the manufacturing sector, heat shield gaskets and other products such as fire and thermal seals for machinery and electronic parts.

Figure 2: Graphite foil produced from expandable graphite
http://www.fscwire.com/sites/default/files/NR/740/8673_imximage2.jpg

There is also a strong and rapidly growing market for its use in the manufacture of flame retardant and thermally efficient building materials, with these products containing approximately 10% expandable graphite. The Chinese government is currently reviewing proposed legislation which would require expandable graphite based products to be used in all future construction. IMX's discussions with industry participants in China indicate that the demand for flame retardant building materials is currently 3Mtpa, which equates to an expandable graphite demand of 300,000 tpa. Given China's diminished reserves of coarse flake graphite, there is a substantial shortage of coarse flake graphite capable of producing that quantity of expandable graphite which represents a substantial opportunity for IMX.

Refractory Graphite Market (Chilalo large flake)

The refractory market is the leading consumer of flake graphite and consumed 180,000 tonnes of large and medium flake graphite in 2014 (source: Benchmark Minerals Intelligence 2015) with most of the product used in high-temperature resistant linings for steel furnaces, ladles and other products that come into contact with molten metal.

While there are no special product specifications required for the refractory market, the current market uses 94% Total Graphitic Carbon ('TGC') large flake graphite. IMX will target a 95% TGC flake product which, based on discussions with Chinese end users, is expected to be in demand as Chinese refractory manufacturers are seeking to increase the quality of their raw materials.

Battery-Grade Spherical Graphite (Chilalo fine and medium flake)

IMX is in the process of organising a testwork program with a laboratory in the United States that specialises in graphite spheritisation testwork, which will determine the capacity of Chilalo Graphite to produce battery-grade spherical graphite. While IMX is pleased to have exposure to the upside of the lithium-ion battery market, it expects it to be a lower margin market than the expandable graphite market, which will remain the Company's key focus.

There appears to be a general misconception that lithium-ion battery production requires large flake graphite. In fact, the majority of graphite used for these applications is fine and medium flake graphite which has been purified using a chemical process (acid) to upgrade to >99.95% TGC, milled (spheritised) into spheres of between 5-20 microns and then carbon coated for use as anodes in lithium-ion batteries.

China currently produces 95% of the world's uncoated spherical graphite (source: Benchmark Minerals Intelligence 2015) and therefore represents a substantial target market for IMX's fine and medium flake graphite.

Graphene

Testwork will also be conducted to confirm that Chilalo Graphite is capable of producing industry grade graphene. Whilst Chilalo's economics will not rely on the production of commercial quantities of graphene, the Company views graphene as a strategic commodity with an exciting future and at an appropriate time will explore potential alliances to leverage into that industry. This may include partnering with a product manufacturer that could apply IMX graphene in their manufacturing process.

Results

Results from this testwork will be released over the coming months and satisfy important due diligence criteria required by IMX's targeted end users.

Next steps

Discussions with a potential offtake partner are at an advanced stage and the Company is confident of concluding an agreement in this quarter.

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About IMX

IMX Resources is an Australian minerals exploration company that holds a 5,400 km² tenement package at the Nachingwea Property in south-east Tanzania. The Nachingwea Property hosts the Chilalo Graphite Project, the Ntaka Hill Nickel Project and the Kishugu and Naujombo Gold Prospects. IMX's primary focus is on high quality graphite and it is rapidly advancing development of the Chilalo Graphite Project, where there is a high-grade Indicated and Inferred JORC Mineral Resource of 9.2 Mt grading 10.7% Total Graphitic Carbon, comprised of an Indicated Resource of 5.1 Mt grading 11.9% TGC for 613,800 tonnes of contained graphite and an Inferred Resource of 4.1 Mt grading 9.1% TGC for 370,300 tonnes of contained graphite. Chilalo is located approximately 220 km by road, from the deep water commercial Mtwara Port, the majority of which is a sealed main road. IMX aims to become a respected supplier of high quality graphite.

To find out more, please visit www.imxresources.com.au.

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