

23 November 2015

## CHILALO GRAPHITE PROJECT PRE-FEASIBILITY STUDY RESULTS

IMX Resources Limited (**ASX: IXR**) ('**IMX**' or the '**Company**') is pleased to announce the results of the Pre-Feasibility Study (the '**PFS**' or the '**Study**') for its Chilalo Graphite Project ('**Chilalo**' or the '**Project**') located in south-east Tanzania. The results of the PFS confirm the emergence of Chilalo as a market-leading graphite project that on all objective measures compares highly favourably with other graphite projects. The PFS results strongly support the Company's strategy of focusing its efforts on advancing Chilalo as an outstanding near-term development opportunity.

### HIGHLIGHTS

- **Chilalo is technically sound with high margins, low capital intensity and attractive returns**
- **Pre-tax internal rate of return (IRR) of 62%**
- **Pre-tax NPV<sub>10</sub> of US\$200 million**
- **Average annual EBITDA of US\$47 million over 10 year mine life**
- **Life of Mine ('LOM') average operating cost of US\$490 per tonne FOB – lowest compared to similar scale projects and cost-competitive with Chinese graphite supply**
- **Metallurgical testing confirms high quality product in all respects: grade, flake size distribution, purity – delivering an attractive forecast basket price of US\$1,217 per tonne for the Base Case and US\$1,456 per tonne for the Alternative Case**
- **Pre-production capital expenditure of US\$74 million (including contingencies), pre-tax payback period of 1 year and 7 months,**
- **Open pit mining (on an owner operator basis) and conventional flotation processing**
- **Average annual production of 69,000 tonnes of graphite concentrate**
- **PFS results to enhance ongoing offtake and financing discussions**

### Cautionary Statement

The company advises the PFS referred to in this announcement is based on lower-level technical and preliminary economic assessments, and is insufficient to support estimation of Ore Reserves or to provide assurance of an economic development case at this stage, or to provide certainty that the conclusions of the Study will be realised. The Production Target referred to in this announcement is partly based on Inferred Mineral Resources (being 31%). There is a low level of geological confidence associated with the Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target or preliminary economic assessment will be realised.

**Mr Phil Hoskins, IMX's Managing Director commented,** *"Completion of the PFS is an important milestone for IMX and the Chilalo Graphite Project, with the strong outcomes giving us a great deal of confidence that Chilalo will be a highly competitive, low-cost, high-margin open-pit operation incorporating conventional processing. The results strongly endorse our commitment to continuing to progress the Project towards*

*production and will support due diligence work currently being carried out by several parties interested in Project offtake and financing. Our immediate priority is to conclude these discussions with potential offtake partners to secure binding agreements. We will also look to finalise the environmental certificate and mining licence, which will clear the way for the development of Chilalo.”*

## **KEY STUDY OUTCOMES**

The purpose of the Study was to assess the viability of an operation producing a high quality flake graphite product with a particular focus on low capital and operating costs and ease of execution.

The PFS Base Case producing 69,000 tonnes per year can be delivered for a total pre-production capital cost of US\$73.8 million, while the FOB operating costs of US\$490 per tonne ensure the Project is highly competitive with similar scale projects. These factors combine to generate excellent project economics, including:

- Pre-tax NPV of US\$200 million
- Pre-tax IRR of 62%
- Pre-tax payback period of 1 year and 7 months

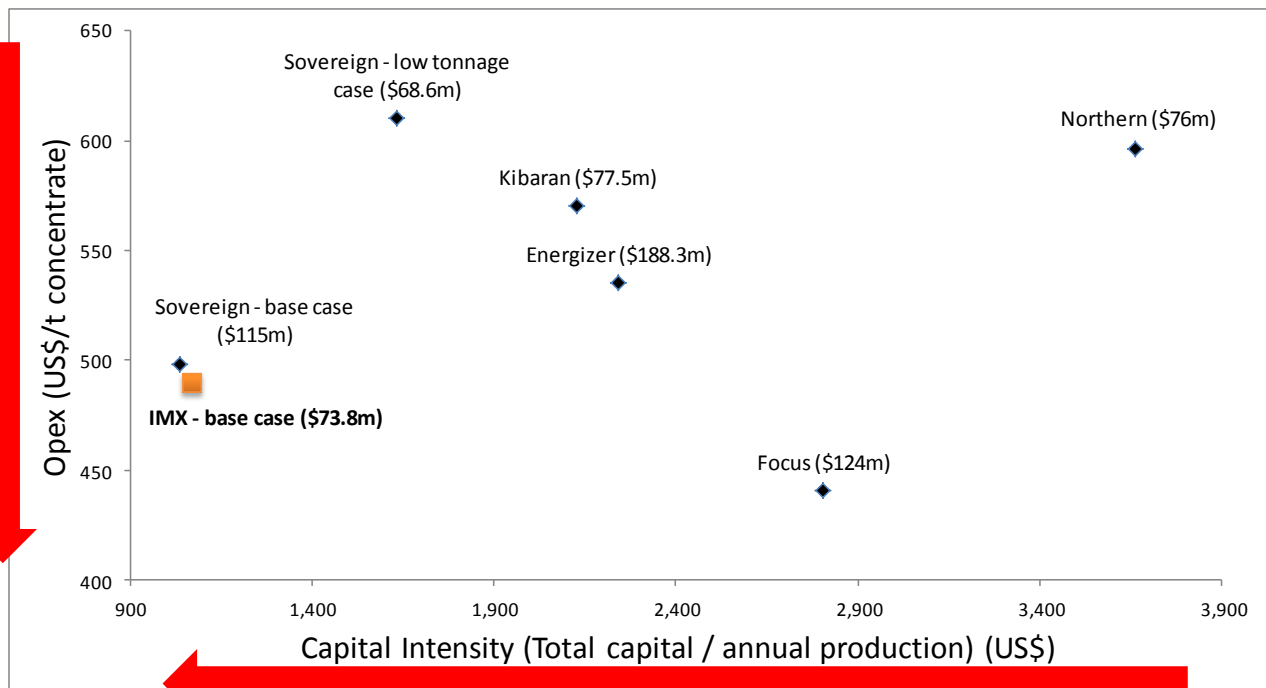
These results can be attributed to the high grade of the Chilalo Mineral Resource, close proximity to existing infrastructure and Chilalo’s outstanding product specifications, with significant proportions of large and jumbo flake graphite, which have yielded an attractive forecast basket price of US\$1,217 per tonne.

Figure 1 and Figure 2 below compare IMX’s Chilalo Project with other developing graphite projects and demonstrate the attractive operating and capital cost outcomes of the PFS. The comparisons have excluded projects in production and those projects targeting annual production of greater than 120,000 tonnes per year as they are not considered to be comparable to the Chilalo PFS base case.

Unit operating costs and capital intensity ratios are largely driven by production volumes. As a result, for the purposes of comparison, only projects with a similar scale to Chilalo have been used and larger scale projects proposed by companies such as Syrah Resources, Triton Minerals and Magnis Resources have been excluded.

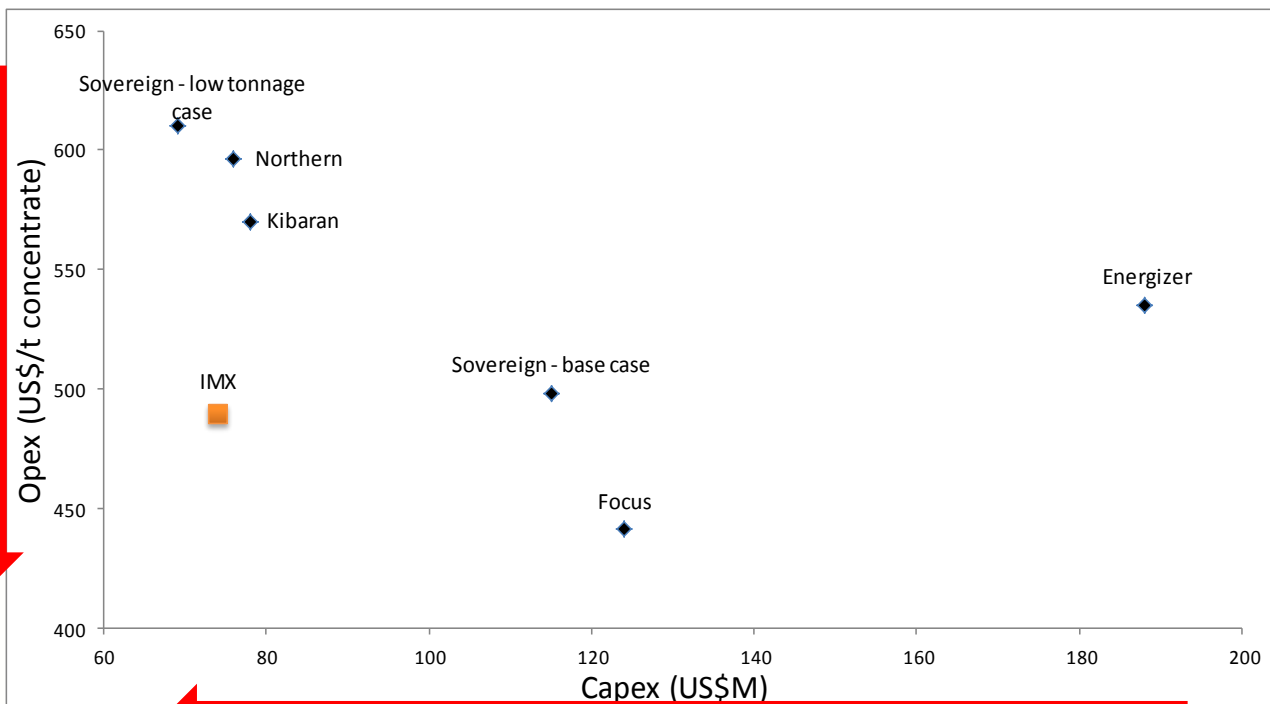
IMX is confident that it can generate unit operating costs and a capital intensity ratio that are comparable to such larger scale projects should it seek to increase its scale of production at Chilalo. The Company believes that the proposed size of the Chilalo Project would have a number of advantages over a larger scale development, including a lower capital cost, a more rapid timeline to production, greater ease of selling all the product and increased ability to raise project finance.

**Figure 1. Capital Intensity v Operating Cost per tonne (<120kpta Projects, Total Capital in Brackets)**



Amounts are in US\$. Exchange rates for TSX listed companies with CAD figures was 1:0.75.

**Figure 2. Total Capital Cost Vs Operating Costs per tonne (<120kpta Projects)**



Amounts are in US\$. Exchange rates for TSX listed companies with CAD figures was 1:0.75.

## NEXT STEPS

The Company sought to move quickly from the high-level study completed in March this year to a PFS that would enable a smooth transition to a Definitive Feasibility Study ('DFS'). This has allowed for a significant amount of information to be gathered that will allow for a DFS to be more readily finalised.

Study Manager BatteryLimits' Managing Director Phil Hearse said, *"The PFS is supported by a rigorous metallurgical testwork program on the fresh and transition ores in particular. The operating costs have been estimated to a high level of detail for a PFS, and there is high confidence in the PFS outcomes. The joint experience of BatteryLimits on Tanzanian projects, together with IMX's Project Manager Greg Entwistle's African experience, has resulted in delivering a PFS with competitive capital and operating cost estimates. The nature of the PFS and the information obtained during the Study means that IMX is well placed to efficiently complete a DFS."*

There is an opportunity to significantly improve project economics with further metallurgical testwork, not only on optimisation of work already completed, but on low-grade and oxide ore which is expected to confirm the amenability of such material to commercial processing and enable improved recoveries and product specifications. Completion of this testwork would then allow for design enhancements and DFS engineering work.

Given the future direction of the Project is dependent on offtake and financing, the Company will continue its efforts to secure binding agreements, the completion of which will significantly de-risk the Project and largely ensure the development of Chilalo. A visit to China is planned in the coming week, the purpose of which is to progress discussions that are already at an advanced stage.

The Company expects to receive the Environmental Certificate for development of the Project before year end and together with the Study, paves the way for submission of a mining licence application. The application is expected to be submitted in the coming weeks and the mining licence granted early in 2016.

Further details on the Study are included in the following pages.



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## **CHILALO GRAPHITE PROJECT: DETAILS OF PRE-FEASIBILITY STUDY**

### **BACKGROUND TO THE PFS**

The Project is located on the Company's Nachingwea Property, a 5,400 km<sup>2</sup> tenement package located in south-east Tanzania. The climate in south-east Tanzania is described as a tropical climate. The dry season lasts from May to November, with a wet season of five months from December to April. Rainfall in the wet season is typically 50-200 mm per month, but varies greatly depending on climatic conditions. It is not expected that the wet season will have any adverse effect on construction activities or operational activities compared to normal climatic conditions.

Perth-based processing engineering consultancy BatteryLimits Pty Ltd ('**Battery Limits**') completed the PFS based on the upgraded Mineral Resource estimate ('**MRE**') for the Shimba deposit at Chilalo completed by CSA Global Pty Ltd ('**CSA**') in October 2015 and on outstanding results of metallurgical testwork results that revealed a significant portion of large and jumbo flake graphite and attractive concentrate purity.

The PFS considered two scenarios:

- Producing 69,000 tonnes of graphite concentrate per year (the '**Base Case**'); and
- Producing 51,000 tonnes of premium graphite concentrate per year, which excludes material that is < 75 microns (the '**Alternative Case**').

In its discussions with end users, the Company has established the saleability of the <75 micron material, when sold with the premium product and as a result, this has emerged as the Base Case. Unless otherwise stated, the results reported relate to the Base Case.

The PFS proposes a high-grade open-pit operation utilising conventional mining methods and a plant that applies simple flotation processing. Graphite concentrate will be transported to and shipped from the deep water commercial port of Mtwara, which is located approximately 220 kilometres by road from Chilalo, the majority of which is a sealed main road.

### **Study Team**

IMX would like to acknowledge the Study team, which included:

BatteryLimits	Study Manager, Engineering Design and Metallurgy
CSA Global	Mineral Resource and Geology
ATC Williams	Tailings Storage Facility
Benchmark Minerals Intelligence	Graphite Market

Greg Entwistle was engaged by the Company as the IMX Project Manager. Mr Entwistle has successfully delivered projects in remote areas of Australia, Asia and Africa and most recently completed a copper project in the Democratic Republic of Congo.

## OPERATING AND FINANCIAL METRICS

The Study reveals a strong cash flow and short payback period underpinned by very low capital intensity, a high quality product and highly competitive operating costs. The project is forecast to generate:

- LOM revenue of US\$838 million;
- Net operating cash flow of US\$391 million pre-tax;
- LOM average annual EBITDA of US\$47 million; and
- A short pre-tax payback period of 1 year and 7 months.

Average annual production is expected to be 69,000 tonnes of graphite concentrate over 10 years. Refer to the cautionary statement on page 1 and to the notes on forward looking statements on pages 21-22 relating to production targets.

Table 1 summarises the key operating and financial metrics over the LOM.

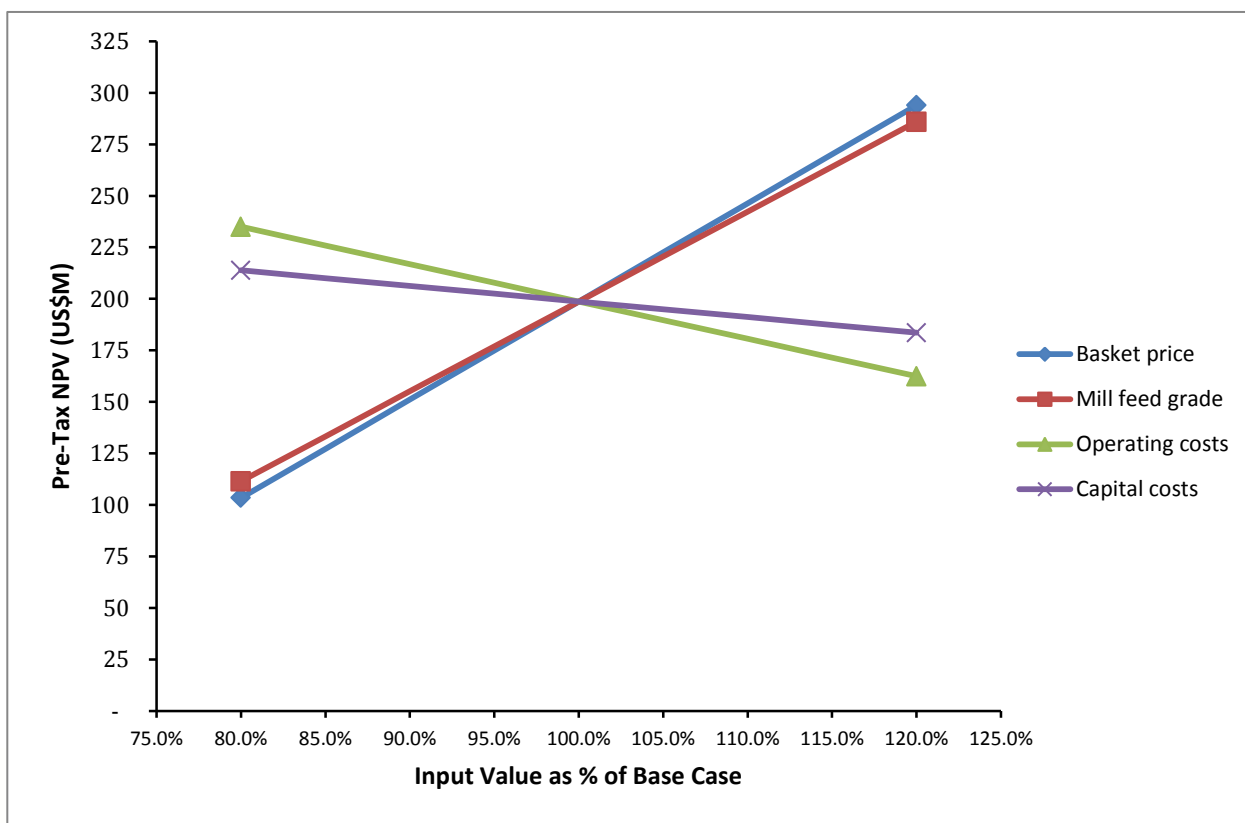
**Table 1. Operating and Financial Metrics**

Items		Base Case	Alternative Case
Life of Mine	Yrs	10	10
Average annual production (LOM)	tpa	69,123	51,272
Plant feed rate	tpa	630,000	630,000
Average head grade (LOM)	% TGC	10.85	10.85
Average recovery	%	94	94
Average concentrate grade	% TGC	94	94
LOM Revenue	US\$m	838	748
LOM Pre-tax Net Cashflow	US\$m	391	322
Average annual EBITDA	US\$m	47	40
Basket sales price	US\$/t	1,217	1,456
Operating cost per tonne of concentrate	US\$/t	490	626
Operating margin	US\$/t	727	830
Pre-production capital cost	US\$m	74	74
Pre-tax payback period	Yrs	1 year 7 months	1 year 11 months
Pre-tax NPV (10% discount rate)	US\$m	200	159
Pre-tax IRR	%	62	52

## SENSITIVITY ANALYSIS

Figure 3 presents the sensitivity of the NPV to movements of +/- 20% in the graphite price, operating costs, capital costs and the mill feed grade.

Figure 3. Sensitivity analysis



Analysis of the sensitivity of the Project NPV to changes in key assumptions or estimates used in the financial model (Base Case) shows that the NPV is most sensitive to a movement in the basket sales price. The driving factor of the basket sales price is the flake size distribution of the Chilalo product and the prevailing market price of each of the size categories produced by the Project. As a result, the Project is sensitive to changes to either of these underlying factors. The Company expects that further metallurgical optimisation of the product specifications currently under way will accordingly make significant improvements to the Project's economics.

## MINERAL RESOURCE ESTIMATE

An initial Inferred MRE for the Shimba deposit at Chilalo was estimated by CSA in April 2015 based on a drilling program carried out in the December Quarter of 2014 that comprised 3,810 metres of Reverse Circulation drilling and 1,379 metres of diamond drilling.

Following a 1,461 metre diamond drilling program that was completed in the June Quarter of 2015, a significant proportion of the Inferred MRE was upgraded in October 2015 to Indicated status. The upgraded MRE (see Table 2), which was also completed by CSA, is a high-grade Indicated and Inferred Mineral Resource of 9.2 Mt grading 10.7% Total Graphitic Carbon ('TGC') for 984,100 tonnes of contained graphite within the >5% high-grade TGC zone.



The MRE is comprised of:

- Indicated Resource of 5.1 Mt grading 11.9% TGC for 613,800 tonnes of contained graphite; and
- Inferred Resource of 4.1 Mt grading 9.1% TGC for 370,300 tonnes of contained graphite.

The high-grade resource is part of the total Indicated and Inferred MRE of 25.1 Mt, which includes a low-grade Inferred Resource of 15.9 Mt grading 3.3% TGC for 523,000 tonnes of contained graphite.

The upgraded MRE confirms the quality of the Shimba deposit, which not only has the highest grade of any of the current resources in Tanzania reported under the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code 2012), but also has a high percentage of large and jumbo flake sized graphite.

Approximately 69% of the tonnes included in the mining inventory are in the Indicated category. As such, the dependence of the Study outcomes and guidance provided in this announcement on the proportion of lower confidence Inferred category mining inventory material is relatively minor.

**Table 2. Shimba Deposit Mineral Resource – October 2015**

Domain	Classification	Tonnes (Mt)	TGC%	Contained Graphite (Kt)
High-grade zone	Indicated	5.1	11.9	613.8
High-grade zone	Inferred	4.1	9.1	370.3
<b>Total high-grade resource</b>	<b>Indicated and Inferred</b>	<b>9.2</b>	<b>10.7</b>	<b>984.1</b>
Low-grade zone	Inferred	15.9	3.3	523.0
<b>Total resource</b>	<b>Indicated and Inferred</b>	<b>25.1</b>	<b>6.0</b>	<b>1,507.2</b>

*\*Note: The Mineral Resource was estimated within constraining wireframe solids using a core high-grade domain defined above a nominal 5% TGC cut-off within a surrounding low-grade zone defined above a nominal 2% TGC cut-off. The resource is quoted from all classified blocks within these wireframe solids. Differences may occur due to rounding.*

The metallurgical flake size distribution and grades in the concentrate supporting the MRE are shown further below.

The 2015 diamond drilling program was designed to upgrade 50% of the Inferred Resource to a higher category and to provide additional material for metallurgical and geotechnical testwork. CSA has advised that the completion of additional metallurgical testwork is expected to enable conversion of the majority of the Indicated Resource to the Measured category, without any further drilling.

The deposit is separated into domains based on oxidation. The uppermost oxide domain extends to a vertical depth of approximately 20 metres from surface and this then becomes a transitional horizon to a depth of approximately 60 metres, where the mineralization becomes fresh. The required metallurgical testwork to convert the Indicated MRE to Measured status involves analysis of a representative composite of drill core from the oxide zone, using similar methods to those adopted for the transitional and fresh composites.



Of the Shimba high-grade resource, 1.3 Mt grading 11.1% TGC for 144,300 tonnes of contained graphite is hosted in the higher grade near-surface oxide zone, comprised of the following:

- Indicated Resource of 0.8 Mt grading 12.4% TGC for 103,500 tonnes of contained graphite; and
- Inferred Resource of 0.5 Mt grading 8.7% TGC for 40,800 tonnes of contained graphite.

Figure 4 shows a surface projection of the Shimba deposit with the MRE classification and Figure 5 shows a cross section of drill holes through the Shimba deposit.

**Figure 4. Surface projection of the Shimba deposit showing MRE classification**

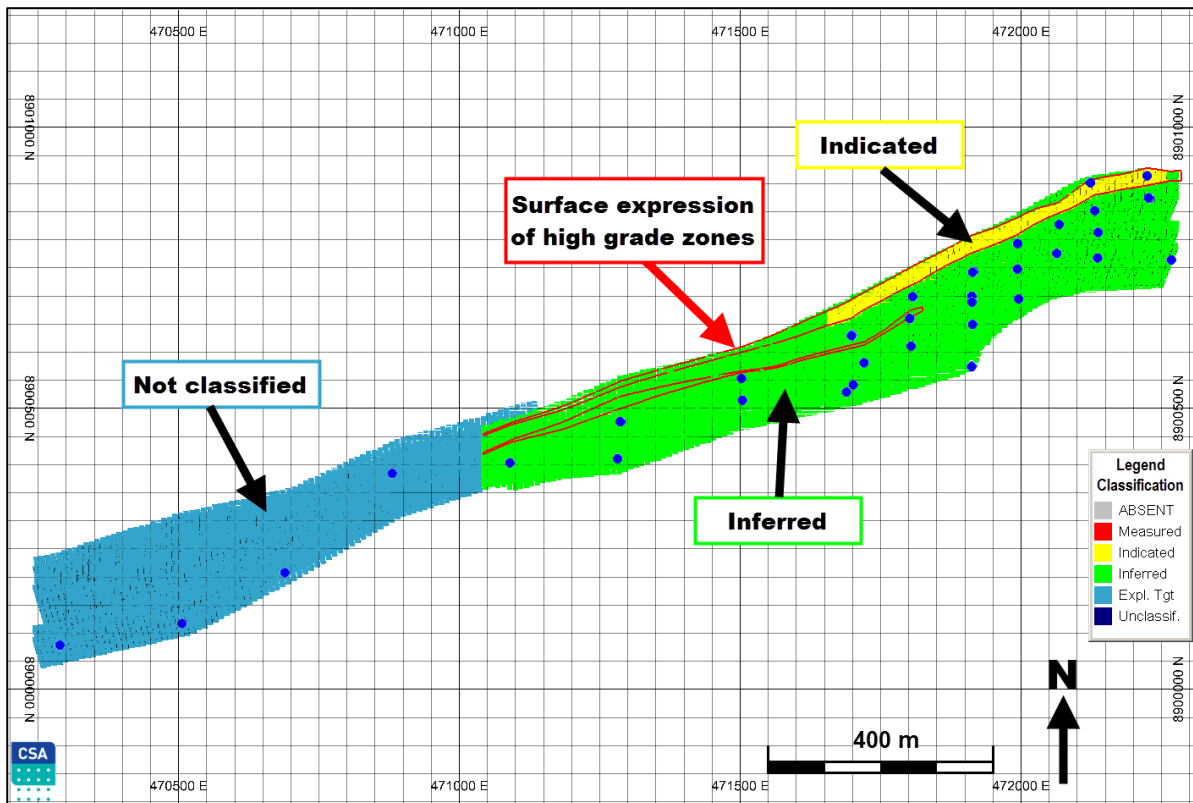
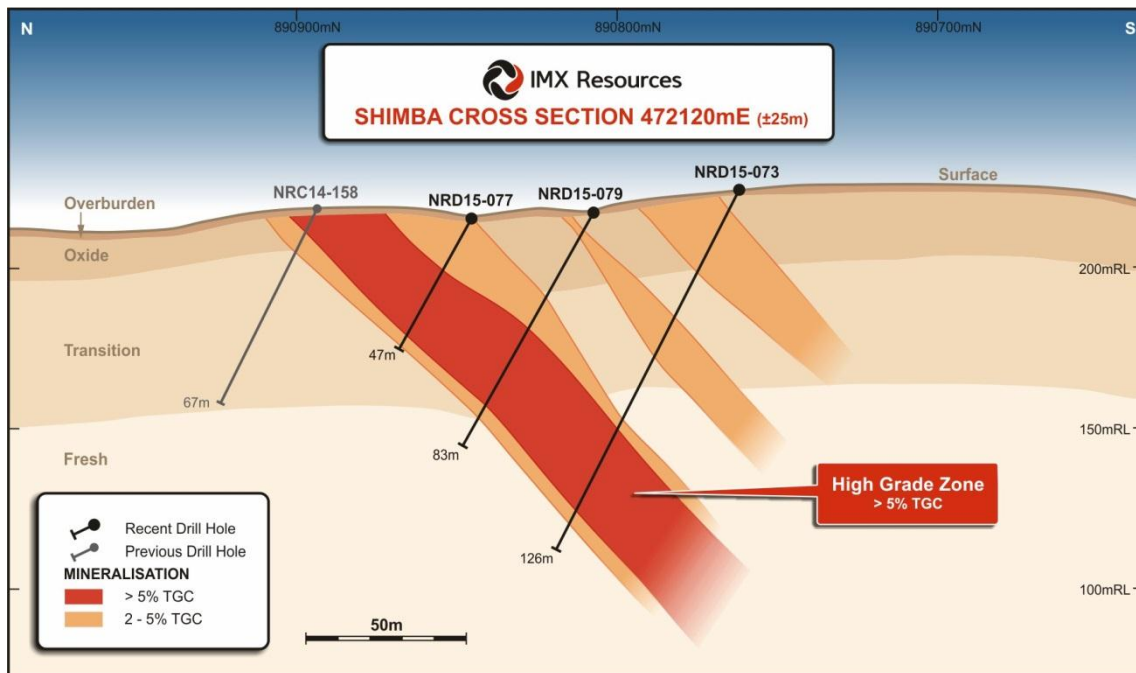


Figure 5. Cross-section of drill holes from Shimba deposit



## OPERATING COST ESTIMATE

The Study has confirmed that Chilalo is a low-cost operation, with cash operating costs of US\$490 per tonne of graphite concentrate produced FOB from the Mtwara Port over the LOM. A breakdown of the operating costs is shown in Table 3.

Table 3. Breakdown of operating costs

Operating cost item	Base Case		Alternative Case	
	\$/t feed	\$/t conc.	\$/t feed	\$/t conc.
Mining	13.49	122.85	13.48	165.63
Labour	11.42	104.05	11.42	140.28
Product logistics (FOB)	8.22	74.94	6.10	74.94
Power	8.20	74.73	8.20	100.74
Reagents, consumables and water	5.97	54.45	5.29	65.03
Miscellaneous and G&A	4.91	44.77	4.91	60.36
Maintenance	1.52	13.86	1.52	18.69
<b>Total</b>	<b>53.72</b>	<b>489.65</b>	<b>50.93</b>	<b>625.67</b>

## CAPITAL COST ESTIMATE

The capital expenditure, inclusive of a 10% contingency, required for commencement of graphite concentrate production is estimated to be US\$73.8 million as shown in Table 4. The estimated capital cost of US\$73.8 million applies to both the Base Case and the Alternative Case.

**Table 4. Breakdown of initial capital expenditure**

Capital item	(\$m)
Mining equipment	7.0
Process plant	32.7
Infrastructure	11.9
Pre-development works	6.9
EPC	3.3
Owner's cost	6.9
Contingency	5.1
<b>Total</b>	<b>73.8</b>

The nameplate capacity of the processing plant is 670,000 tonnes per year estimated to be utilised at 630,000 tonnes per year and provides capacity for expansion. Average annual sustaining capital expenditure over the LOM is estimated at US\$0.8 million.

## MINING

The Chilalo open pit mine is planned as a conventional truck and shovel operation, using 40-tonne articulated trucks and matching excavators. Early stages of the open pit are expected to be free-dig, with the remainder to be mined using standard drill and blast techniques. Mining operations will be undertaken on an owner operator basis, supported by a fleet of ancillary equipment.

The open pit has been designed on geotechnical parameters determined by specialist logging and testing of drill core and on dimensions that match the planned equipment capability. The open pit mining activities have been sequenced and scheduled in stages to manage cashflow and to provide a continuous feed of ore to the processing plant. Stockpiles have been kept to a maximum of three-months of run-of-mine feed in front of the processing plant.

Initial waste generated from mining is to be used for construction of the Tailings Storage Facility ('TSF') and thereafter to be dumped in a designed location outside of the pit.

The mining costs have been developed by CSA based on a detailed mining model and by using budget estimates from equipment suppliers and reliable operating cost estimates.

## METALLURGY

Initial optimisation testwork has demonstrated high graphite recovery and a high grade coarse concentrate can be achieved using separate coarse and fine flotation streams. This can be further enhanced by separation and production of a secondary lower grade -75 µm graphite fines product.

Additional variability testwork on an oxide sample composite using a standard flotation procedure has demonstrated high graphite recovery to a saleable grade coarse concentrate is achievable, and has confirmed that the ore is quite consistent in metallurgical performance to the fresh and transition samples. The process design and engineering in the PFS is considered appropriate for the entire orebody.

Overall, the testwork program demonstrated that the ore is amenable to the production of high-grade graphite concentrates, at coarse flake sizes, using simple flotation processes.

The extractive metallurgical results are corroborated by petrographic examination of thin sections from three boreholes across the deposit, which indicate that graphite flakes in the >5% TGC high-grade zone are generally + 0.5 mm in length and several hundred microns thick. The flakes are generally free of significant mineral contaminants, which is believed to be a key contributing factor to the very high concentrate grades of 96.8–97.4% achieved from recent metallurgical flotation testwork.

**Table 5. Chilalo product specifications**

Flake Size	Sieve Size		Base Case		Alternative Case	
	Microns	Mesh	Mass (%) <sup>1</sup>	TGC (%)	Mass (%) <sup>2</sup>	TGC (%)
Super Jumbo	> 500	+35	1.9	94-97	2.5	94-97
Jumbo	300 – 500	+50	24.0	94-97	32.0	94-97
Large	180 – 300	+80, -50	22.5	94-97	30.0	94-97
Medium	150 – 180	+100, -80	6.0	94-97	8.0	94-97
Small	75 – 150	+200-100	20.6	94-97	27.5	94-97
Fines	– 75	-200	25.0	90		

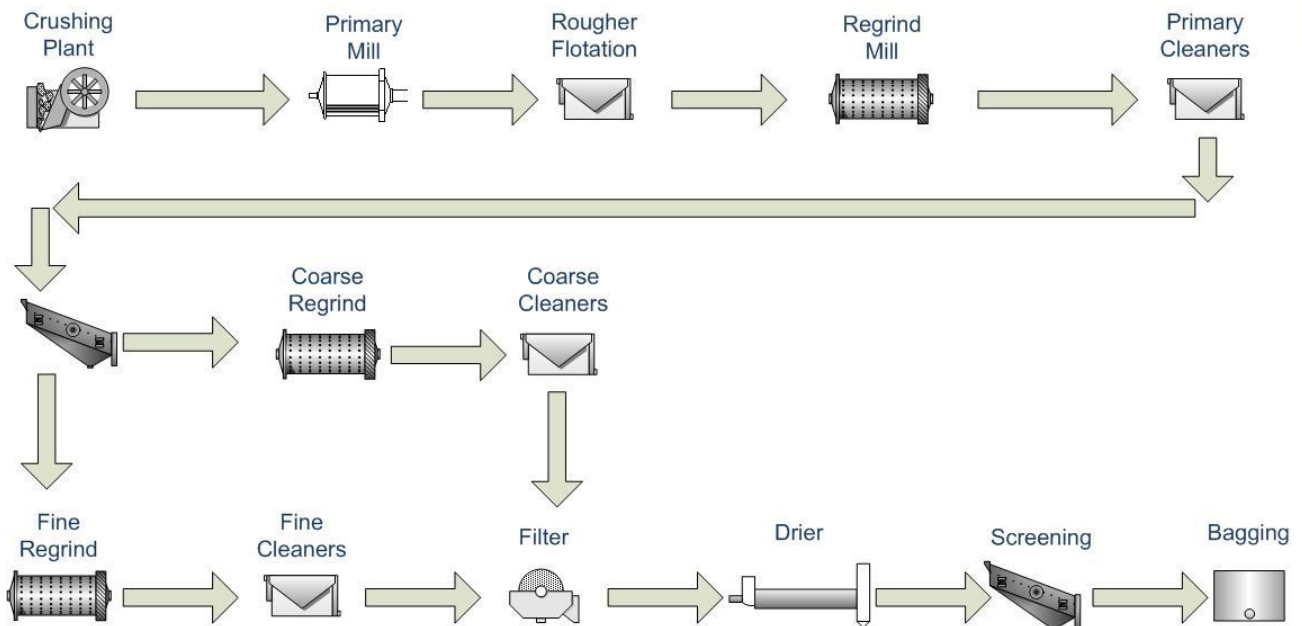
1. Mass based on % of total graphite concentrate produced

2. Mass distribution based on the removal of -75µm fines fraction

As a result of the testwork program, the basis of the proposed process flowsheet is as follows:

- ROM ore will be crushed in two stages;
- Grinding comminution will take place using a rod mill at a target grind  $P_{80}$  of 600 µm;
- Rougher and scavenger flotation concentrates will go through multi-stage cleaning with polishing mill regrind prior to each cleaner step;
- Final concentrate will be dewatered prior to being dried, sized and packaged; and
- Tailings to be thickened for water recovery with tailings discharged to a tailings storage facility.

**Figure 6. Schematic of process design**



### Process Plant

The processing plant design includes a two stage crushing circuit, with product conveyed to a crushed ore stockpile. Ore is then reclaimed from the stockpile by front-end loader and delivered to a single stage rod mill in closed circuit with a double deck vibrating screen. The rod mill screen undersize is pumped to the flotation conditioning tank where reagents are added and the slurry is then pumped to the flotation circuit to recover the graphite using a circuit comprising rougher, scavenger and primary and secondary cleaner flotation stages.

Graphite concentrate is filtered and dried and then discharged on to a line-up of five vibrating screens to separate the graphite in to multiple-sized products as follows:

- Super Jumbo Flake            +500  $\mu\text{m}$
- Jumbo Flake                    -500+300  $\mu\text{m}$
- Large Flake                    -300+180  $\mu\text{m}$
- Medium Flake                 -180+150  $\mu\text{m}$
- Small Flake                    -150  $\mu\text{m}$ +75  $\mu\text{m}$
- Fines                            -75  $\mu\text{m}$

The different product sizes are discharged into 1 tonne capacity bags.

### INFRASTRUCTURE

#### Power

The Project will utilise diesel generated power from a 4 MW power station comprising four 1 MW diesel gensets at an estimated cost of US\$0.27/kWh. One of the four gensets is additional to the power generation requirements, for operation during maintenance / standby. The power station will be supplied

as a vendor package with gensets and ancillary equipment housed in shipping containers to facilitate fast installation and commissioning.

## Water

A borefield will supply process water. Previous exploration drilling campaigns in lower lying areas have encountered water at shallow depths, indicating plentiful ground water for the borefield.

The plant will have a tails and concentrate high-rate thickeners where overflow from both thickeners will gravitate to the process water pond for re-use within the process plant. Tailings will be pumped to a down-valley tailings storage facility and deposited on a rotational spigot discharge basis at the top of the valley. Currently it is estimated that an average of 20% of water pumped to the tailings storage facility ('TSF') will be recovered and returned to the process water pond via a decant water system.

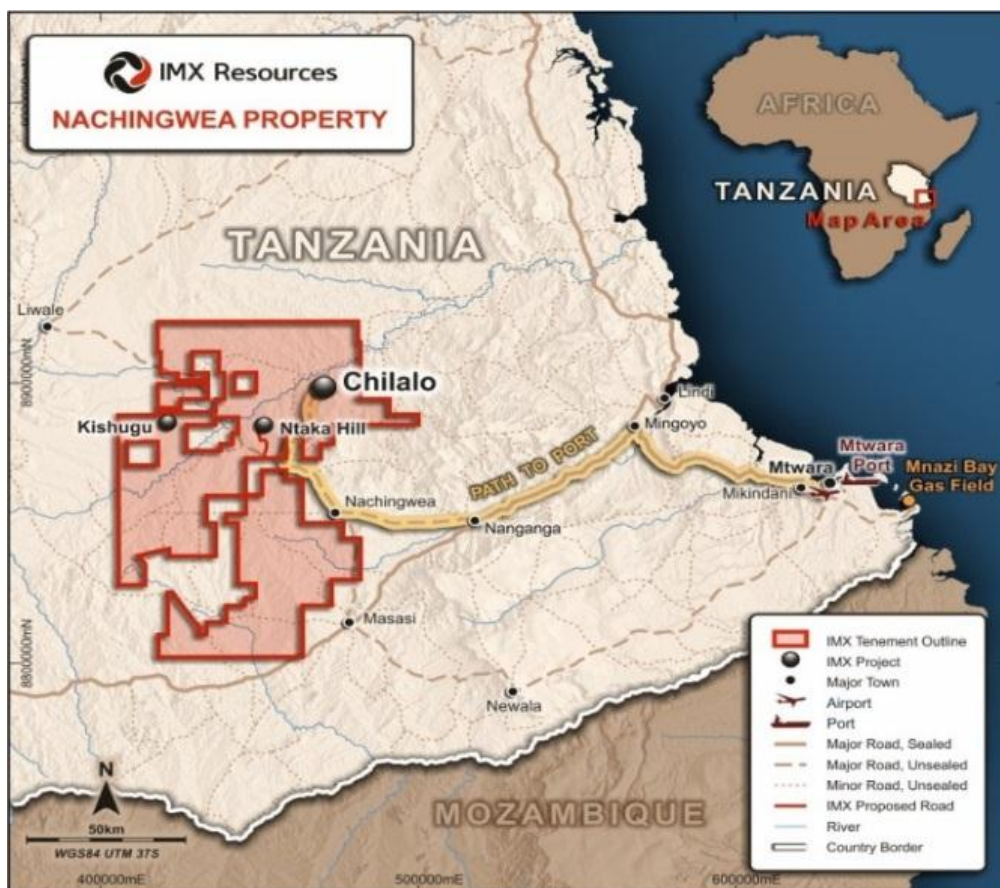
## Transport

The PFS proposes road transport from Chilalo to the Mtwara Port, where bagged product will be stored in a storage facility prior to shipping. The route from Chilalo to the Mtwara Port is 220 kilometres by road, the majority of which is a sealed main road.

The access road to the site will be upgraded, with most of the work relating to the 5 kilometre section immediately adjacent to the Chilalo site. An allowance for this work has been included in the Study and is based on the costs of other road upgrade projects that have been completed in the area.

Figure 7 shows the proposed route from Chilalo to the Mtwara Port.

**Figure 7. Route to the Mtwara Port**





Following a site visit to review the Mtwara Port and the transport route from Chilalo to the port, BatteryLimits developed a cost model that generated transport and logistics costs of US\$74 per tonne, comprised of road transport (US\$34 per tonne) and container stuffing and port handling (US\$40 per tonne).

These costs assume the packaging of concentrate into 1 tonne bags on site; trucks loaded to their capacity of 30 tonnes; port costs, tariffs and customs export documents are managed by a dedicated shipping agent and containers loaded onto ships using on-board gear.

An existing airport at Nachingwea, located approximately 47 kilometres from Chilalo allows for the ready transport of people and consumables to and from Dar es Salaam, Tanzania's major city.

### **Mtwara Port**

The Mtwara Port is a deep water port with sufficient capacity to accommodate the export of Chilalo product. The Mtwara Port has a quay dredged to 9.8 metres, a quay wall of 385 metres that can accommodate two ships and one coastal vessel at any one time and there are no tidal restrictions on vessels entering and leaving the harbour.

The Mtwara Port is capable of handling 400,000 metric tonnes of imports and exports per year and is currently handling volumes well short of that capacity. According to the Tanzania Ports Authority, the Mtwara Port has a potential upgraded capacity of 750,000 metric tonnes utilising the existing berths if additional equipment is put in place for handling containerised traffic.

At the Mtwara Port, graphite concentrate is planned to be housed in a storage facility until loading onto a ship. The Study has assumed that the Company will lease the concentrate storage facility.

**Figure 8. Mtwara Port**





## Tailings Storage Facility

ATC Williams (ATCW) was commissioned to carry out a Pre-Feasibility Study report for a Tailings Storage Facility (TSF). The study completed a:

- TSF capacity modelling;
- Preliminary water balance assessment;
- Schedule of quantities for the first two years of operation;
- Sensitivity analyses on the TSF storage capacity;
- Scoping geotechnical work for next phase; and
- List of assumptions, unknowns and associated risks.

Although the TSF design was for the first 2 years of operation only, the LOM storage has been modelled to correctly place the starter embankment and to consider long-term storage optimisation.

## GRAPHITE MARKET AND MARKETING

Product specifications and general product marketability were considered to support the MRE for Industrial Minerals, in accordance with Clause 49 of the JORC Code 2012. Independent testwork programs have demonstrated that Chilalo high-grade mineralisation can produce a graphite concentrate containing a significant proportion of large and jumbo flake graphite.

Table 6 shows the percentage of Chilalo product in each flake size category.

**Table 6. Chilalo product specifications**

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Medium	150 – 180	+100, -80	6.0	94-97	8.0	94-97
Small	75 – 150	+200-100	20.6	94-97	27.5	94-97
Fines	– 75	-200	25.0	90		

1. Mass based on % of total graphite concentrate produced

2. Mass distribution based on the removal of -75µm fines fraction

## Jumbo and Super Jumbo Flake

Chilalo Product has a high portion of Super Jumbo flake graphite (+35 mesh or >500 micron) and Jumbo flake graphite (+50 mesh or 300-500 micron) 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 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). It has multiple uses including the production of high-value graphite foils 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.

There is also a strong and rapidly growing market for its use in the manufacture of flame retardant and thermally efficient building materials. 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.

### **Large flake**

Large flake graphite (+80 mesh or 180-300 micron) is primarily sold direct as a concentrate to the world's leading refractory producers. Refractories are high temperature resistant linings for steel furnaces, ladles and other products that come in contact with molten metal and are the leading consuming market for flake graphite, consuming 180 ktpa of large and medium flake graphite in 2014 (*source: Benchmark Mineral Intelligence*). There is a market trend towards producing higher quality, longer lasting refractories requiring better quality raw materials. It is expected that demand for large flake graphite will strengthen in coming years, particularly as Chinese refractory manufacturers increase the quality of their raw materials.

### **Medium flake**

Medium flake graphite (+100 mesh or 150-180 micron) is also used in the production of refractories and also as a feedstock into a number of value-added products such as uncoated spherical graphite and micronised graphite. Micronised graphite is finely milled (<75 micron) graphite powder that can be sold into a variety of end markets including: lubricants, coatings, fuel cells, carbon brushes, pencils and plastics.

### **Small flake**

Small flake graphite (+200 mesh or 75-150 micron) is also used in the manufacture of uncoated spherical graphite and where it can be purified to >94% TGC, as a feedstock into purified graphite and micronised graphite.

### **Fines**

Fines (-200 mesh or <75 micron) can be used to produce industrial lubricants, recarburisers and where it can be purified to >94% TGC, micronised graphite.

The Base Case in this Study assumes that fines graphite is sold, and the Alternative Case assumes that it is unsold, stockpiled separately in the Tailings Storage Facility.

### **Pricing**

The significant portion of large, jumbo and super jumbo size flake and high TGC grades provide a significant advantage as a shortage of this high quality product currently exists in the market. The weighted average basket price for Chilalo product used in the PFS is \$1,216.70 per tonne of concentrate, which is based on the value of each flake size as shown in Table 7. The Base Case assumes sale of all of the fractions produced including the -75 micron material.

**Table 7. Weighted average basket price**

Flake Size	Microns	Mesh	Mass Dist. %	Grade TGC %	Price (US\$/t) <sup>1</sup>	Basket Sales Price (US\$/t)
Super Jumbo	> 500	+35	1.9	94-97	2,500	47.50
Jumbo	300 – 500	+50	24.0	94-97	2,200	528.00
Large	180 – 300	+80	22.5	94-97	1,400	315.00
Medium	150 – 180	+100	6.0	94-97	950	57.00
Small	75 – 150	+200	20.6	94-97	700	144.20
Fines	<75	-200	25.0	90	500	125.00
<b>Weighted Basket Sales Price (Mass Dist. % x Price)</b>						<b>1,216.70</b>

1. Source: Benchmark Mineral Intelligence and market sources

The Alternative Case assumes that -75 micron material is not sold. The weighted average price per tonne of Chilalo product for the Alternative Case is \$1,456/t of concentrate.

#### **Status of Sales Contracts**

Considerable effort has been committed to securing offtake for the Chilalo Project, with a particular focus on China. A number of strong relationships have been established in China, one of which has resulted in the execution of a Memorandum of Understanding (MOU) with international commodities trader China-Base Ningbo Foreign Trade Co. Ltd. The MOU envisages execution of a binding offtake agreement for at least 25,000 tpa of graphite concentrate per year for 5 years, with a pricing mechanism that will be determined by reference to market prices.

IMX is also in advanced discussions with other potential offtakers in China and has developed relationships in the other major graphite markets of Europe and the US.

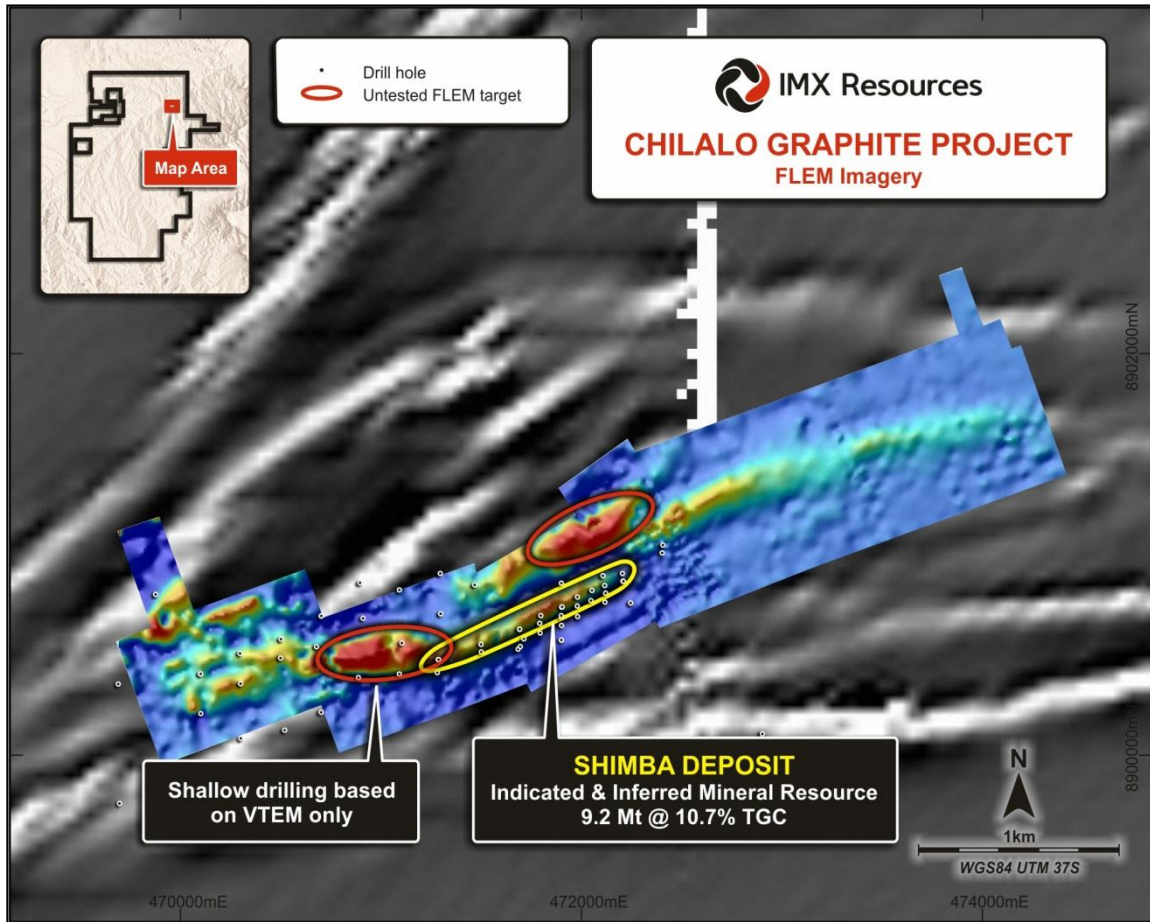
#### **VALUE ENHANCEMENT OPPORTUNITIES**

The focus of the PFS was to produce a smaller scale project that had a low capital cost and competitive operating costs. Notwithstanding that the PFS has delivered on those objectives, a number of opportunities to significantly improve project economics have been identified. The most significant of these are shown in Table 8.

**Table 8. Summary of value enhancement opportunities**

<b>Value Enhancement Opportunity</b>	<b>Project Impact</b>
Further optimisation of Chilalo product specifications currently under way at the Wuhan Technology Institute to deliver a larger portion of premium priced jumbo flake material.	Increase the weighted average sales revenue received per tonne of graphite concentrate.
It is generally accepted that flake size is primarily determined by the metamorphic grade, and evidence from other graphite projects around the world suggests that lower grade material is coarser flake. There is an opportunity to conduct metallurgical testwork on lower grade material (~3% TGC) at Shimba to establish if the lower grade material is coarser flake.	Optimise project economics to determine the right balance between lowering the feed grade to the processing plant which increases operating costs and capital intensity versus improvements in sales revenue per tonne and a longer mine life.
There are several near mine, high conductance targets shown below in Figure 9 which, subject to successful drill testing, have the capacity to increase the size of the high-grade Shimba resource. Given that the targets have stronger conductivity than the existing Shimba resource, they could potentially be thicker or higher grade deposits.	Lower operating costs from an increased feed grade to the processing plant (project economics are sensitive to increase in feed grade, see sensitivity analysis on pages 5-6) and an extension of mine life would also improve the project economics.
The PFS currently assumes owner-operated mining, which could be replaced by contractor mining.	Reduce the pre-production capital cost estimate from US\$74 million to US\$67 million.
Access to grid connected power which is being delivered to Ruangwa during 2016 but has not been relied upon in the PFS. There are also a number of potential power projects being planned for southern Tanzania, including the Southern Electrification Project, a Public Private Partnership between Symbion Power and Tanesco (Tanzania's state owned power authority) consisting of a 600MW gas fired power plant at Mtwara and supporting transmission infrastructure, which has the potential to materially improve the economics of the Project. IMX maintains a close relationship with Tanesco about the status of the various power projects that are planned.	Lower operating costs and improved project economics.

Figure 9. Potential resource extensions



## TIMELINE TO PRODUCTION

IMX does not intend to commence a DFS until it has negotiated binding offtake commitments to underwrite the Project. First production could then commence 16 months from the completion of project financing. The indicative timeline to production is shown below.

Table 9. Indicative timeline to production

	Month																				
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
DFS Funding	█																				
DFS		█	█	█	█	█	█	█													
Project Financing					█	█	█	█	█												
FEED						█	█	█													
Strategic procurement						█	█	█													
Early works programme								█	█	█											
Main construction program										█	█	█	█	█	█	█	█	█	█	█	
Pre-operating mining																█	█	█	█	█	█
TSF & ROM construction																█	█	█	█		
Plant commissioning																				█	█
Operator training & labour ramp-up																█	█	█	█	█	
Operations commerce																					█

## Cautionary Statement

The Pre-Feasibility Study referred to in this news release is based on low-level technical and economic assessments, and is insufficient to support estimation of Ore Reserves or to provide assurance of an economic development case at this stage, or to provide certainty that the conclusions of the PFS will be realised. There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised. The Company advises that the Study results and production target reflected in this news release are preliminary in nature as conclusions are partly drawn from Inferred Resources (which comprises approximately 31% of the total resource tonnes and the nickel metal in the mining inventory). The Study outputs contained in this news release relate to 100% of the mine. The Company has concluded it has a reasonable basis for providing the forward looking statements included in this news release. The detailed reasons for that conclusion are outlined throughout this announcement and in particular the section headed "Forward Looking Statements".

## Competent Persons Consents

Information relating to exploration results at the Chilalo Project, located on the Nachingwea Property, is based on data collected under the supervision of Mr Nick Corlis, in his capacity as Executive Director, Exploration. Mr Corlis, BSc (Hons) MSc, is a registered member of the Australian Institute of Geoscientists and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and the activity being undertaken to qualify as a Competent Person under the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the '**JORC Code 2012**'). Mr. Corlis has verified the data underlying the information contained in this announcement and approves and consents to the inclusion of the data in the form and context in which it appears.

The information in this announcement that relates to in situ Mineral Resources for Chilalo, is based on information compiled by Mr. Grant Louw under the direction and supervision of Dr Andrew Scogings, who are both full-time employees of CSA Global Pty Ltd ('**CSA**'). Dr Scogings takes overall responsibility for the report. Dr Scogings is a Member of both the Australian Institute of Geoscientists and Australasian Institute of Mining and Metallurgy and has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity he is undertaking, to qualify as a Competent Person in terms of the JORC Code 2012. Dr Scogings consents to the inclusion of such information in this announcement in the form and context in which it appears.

## Forward Looking Statements

This news release includes certain "forward-looking statements". Forward-looking statements and forward-looking information are frequently characterised by words such as "plan," "expect," "project," "intend," "believe," "anticipate", "estimate" and other similar words, or statements that certain events or conditions "may", "will" or "could" occur. All statements other than statements of historical fact included in this release are forward-looking statements or constitute forward-looking information. There can be no assurance that such information or statements will prove to be accurate and actual results and future events could differ materially from those anticipated in such information. Important factors could cause actual results to differ materially from IMX's expectations.

These forward-looking statements are based on certain assumptions, the opinions and estimates of management and qualified persons at the date the statements are made, and are subject to a variety of risks and uncertainties and other factors that could cause actual events or results to differ materially from those projected in the forward-looking statements or information. These factors include, but are not limited to the inherent risks involved in the exploration, development and mining of mineral properties; geological, mining and processing technical problems; the inability to obtain mine licenses, permits and other regulatory approvals required in connection with mining and processing operations; competition for among other things, capital, acquisitions of reserves, undeveloped lands and skilled personnel; various events that could disrupt operations; the possibility of project cost overruns or unanticipated costs and expenses; and the ability of contracted parties to provide services as contracted.

IMX undertakes no obligation to update forward-looking statements or information if circumstances should change. Forward looking statements are provided as a general guide only and should not be relied on as a guarantee of future performance. The reader is cautioned not to place undue reliance on forward-looking statements or information. Readers are also cautioned to review the risk factors identified by IMX in its regulatory filings made from time to time with the ASX.



Statements regarding plans with respect to the Company's mineral properties may contain forward looking statements. Statements in relation to future matters can only be made where the Company has reasonable basis for making those statements.

The Company notes that an Inferred Resource has a lower level of confidence than an Indicated Resource and that the JORC Code 2012 advises that to be an Inferred Resource it is reasonable to expect that the majority of the Inferred Resource would be upgraded to an Indicated Resource with continued exploration. Based on advice from relevant Competent Persons the Company has a high degree of confidence that the Inferred Resource for the Chilalo Project will upgrade to Indicated Resources with further exploration work.

The Company believes it has a reasonable basis for making the forward-looking statements in this announcement, including with respect to any production targets, based on the information contained in this announcement and in particular:

- The PFS was completed by BatteryLimits Pty Ltd ('**BatteryLimits**'), which envisages the development of an operation producing 63,000 tonnes of graphite concentrate per year based on the Mineral Resource estimate provided by CSA. BatteryLimits has compiled the capital and operating costs estimates and provided sign-off for the PFS level cost estimates (excluding owner's costs) based on the mining schedule and estimated mine operating costs provided by CSA and capital and operating costs for the process plant compiled by BatteryLimits. Phil Hearse, the Study Manager from BatteryLimits, has visited the Chilalo site and held discussions with service providers in Tanzania for the Project.
- Additional capital and other operating costs including non-process infrastructure, product transportation and general and administration, were developed by BatteryLimits from internal databases and Tanzanian inquiries.
- The Production Target referred to in this announcement is partly based on Inferred Mineral Resources (being 31%). There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target or economic outcomes will be realised. Based on advice from relevant Competent Persons, the Company has a high degree of confidence that the Inferred Resource for the Chilalo Project will upgrade to Indicated Resources with further exploration work.
- The Study is sufficient to be considered PFS level with approximate accuracy of  $\pm 25\%$ .

#### About IMX

IMX Resources is an Australian minerals exploration company that holds a 5,400 km<sup>2</sup> 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 developing the high-grade and coarse flake Chilalo Graphite Project. The Pre-Feasibility Study ('**PFS**') released in November 2015 outlined a low cost, high margin operation at 69ktpa with capex of US\$74M, operating costs of US\$490/t, payback in 1 year, 7 months, pre-tax NPV<sub>10</sub> of US\$200M and pre-tax IRR of 62%. The PFS is based on a high-grade Indicated and Inferred JORC Mineral Resource of 9.2 Mt grading 10.7% Total Graphitic Carbon ('**TGC**'), 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. The PFS confirmed the viability of a small scale open pit mining and conventional flotation processing operation at Chilalo. 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](http://www.imxresources.com.au)