ASX / MEDIA RELEASE

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ASX: MNS | OTCQX: MNSEF | FSE: U1P

Bankable Feasibility Study Update Confirms Strong Financial and Technical Viability for the Nachu Graphite Project

- Update to the 2016 BFS confirms the Nachu Project as a world class graphite project with strong technical and financial viability combined with impactful sustainability outcomes
- The update optimises process plant design to produce a higher-grade product and protect flake size during processing
- The Project's unique combination of larger flake sizes and high purity concentrate positions it as a leading future supplier to meet the rapidly growing demand by the Lithium-ion battery market
- Post-Tax Life of Mine (**LOM**) Project NPV_{10} of US$1.2bn[1] (A$1.8bn) and Project IRR of 51%[1] with a payback period of 19 months[1]
- Nachu is the only graphite project to be awarded a Special Economic Zone licence in Tanzania to produce advanced graphite products, including very high purity Jumbo and Super Jumbo Flakes as well as downstream products for Lithium-ion batteries

Magnis Energy Technologies Ltd ("**Magnis**", or the "**Company**") (**ASX: MNS; OTCQX: MNSEF; FSE: U1P**) is pleased to announce that it has completed an update to the 2016 Bankable Feasibility Study (**BFS**) for its Nachu graphite project in Tanzania (the **Nachu Project** or the **Project**) and confirms that the Project continues to demonstrate strong financial and technical viability.

Commenting on the completion of the BFS update, Magnis Energy Technologies, CEO, David Taylor stated:

"The update to the BFS demonstrates that the Nachu Graphite Project represents one of the best graphite production opportunities in today's market. The project will produce a high quality, sustainable product that requires minimal purification, placing Magnis in a strong competitive position relative to others in the market. Our high purity graphite concentrate will provide lithium-ion battery manufacturers and other industrial customers with an attractive and competitive alternative to current sources in the global graphite market.

The update to the BFS has focused on improving the plant process design to ensure it maintains our product quality advantage, utilizing a more sustainable and efficient power supply, and reviewing the overall capital and operating costs of the project. As expected, and consistent with the mining industry as a whole, we have seen increases in capital costs from 2016, although opportunities remain to improve the current capital cost estimates as part of the next stage of optimization and detailed engineering. Pleasingly, operating costs have remained relatively stable and position Magnis well in terms of expected margins.

[1] AUD/USD Exchange rate used 0.66 For more information refer to "Forward-looking Statements"

With existing offtakes in place, and discussions with other major offtakers in key sectors well advanced, we are confident that the project will be strongly supported by project funders. Initial discussions with funders have commenced, and we have received positive responses in relation to the overall bankability and attractiveness of the project. A rigorous financial risk management strategy will be put in place to ensure that Magnis can protect and enhance project returns as economic circumstances undoubtedly change over the course of the project life.

I would like to thank the Magnis team and all our partners involved in the update to the BFS for the extensive work that has been completed. Given the financial results demonstrated by the update, and the continued strength in the lithium-ion battery market driven by the growth of the electric vehicle and energy storage sectors, we are looking forward to advancing the project as quickly as possible. Our next milestones are making a Final Investment Decision (FID) and achieving financial close, which we are targeting to achieve by end Q2 2023. This is an exciting period of growth for the company, and we look forward to working with all stakeholders to supply high quality materials that will generate positive economic, social, and environmental outcomes."

Key Highlights of the Nachu Graphite Project[2]

Project Metrics	Units	Value
Project NPV_{10} LOM (Post Tax)	US$	$1.2bn
Project IRR LOM (Post Tax)	%	51%
Payback Period[3]	Months	19
Operating Expenditure[4]	US$/t	$639
Initial Project Capital Cost[5]	US$	$324mn
Special Economic Zone Period[6]	Years	10
Concentrate Total Graphitic Carbon[7] (TGC)	%	98.5% - 99%
Concentrate Basket FOB Mtwara[8]	US$/t	$1847
Process Plant Capacity	t/year	5,000,000
Steady State Graphite Production[9]	t/year	~236,000
Recovery Rate	%	89.6%
Ore Reserve	t	76M @ 5.2%
Mineral Resources	t	174M @ 5.4%
Mine Life	Years	15.5

[2] Please refer to page 4 for more information around the nature of forward-looking statements
[3] Payback period is at the Project (unlevered) level and thus does not consider financing costs
[4] Average Annual Operating Costs during steady state production from Year 2 to Year 12. Operating costs include all mining, processing, product Logistics FOB and Miscellaneous and General Admin. Excludes sustaining capital and industrial mineral royalties of 3%. Refer to Key Additional Information and Evaluation section below for more information
[5] Additionally, there are contingency costs of US$39.6m and pre-production mining costs of US$33.7m
[6] Exemption from corporate tax and royalties for 10-years. This was recently renewed in May 2021. International arbitration available if dispute resolution required and revenues from product sales will be paid into foreign accounts. Applies to Magnis Technologies Tanzania Limited (MTT) only, a subsidiary of Magnis Energy Technologies Ltd. MTT will operate the processing plant and produce and export advanced graphite products. Refer to Licensing and Permits below for more information
[7] Jumbo and Super Jumbo Flakes at 98.5% and 99% for large flakes and below. Average TGC 98.8%
[8] Please see the marketing section below for Nachu's Graphite Product Basket and its potential use cases
[9] Steady state production from Year 2 to Year 12

About Magnis

Magnis Energy Technologies Ltd (ASX: MNS; OTCQX: MNSEF; FSE: U1P) is a vertically integrated lithium-ion battery technology and materials company with strategic assets, investments and partnerships in the electrification supply chain. The company's US based subsidiary Imperium3 New York, Inc ("**iM3NY**") operates a Gigawatt scale Lithium-ion battery manufacturing project in Endicott, New York. Magnis along with its joint venture and technology partner Charge CCCV LLC ("**C4V**") are the major shareholders in iM3NY which has recently commercialised C4V's patented technology to produce green credentialed lithium-ion battery cells. Magnis also has a minority stake in C4V and has exclusively licensed their anode processing technology with an aim to produce high performance anode materials utilising very high purity natural flake graphite from the Nachu Project. The Company's vision is to enable, support and accelerate the green energy transition critical for the adoption of electric mobility and renewable energy storage.

FOR FURTHER INFORMATION

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BFS 2022 update

MAGNIS
ENERGY TECHNOLOGIES

Concept images subject to final design

Competent Person Statements

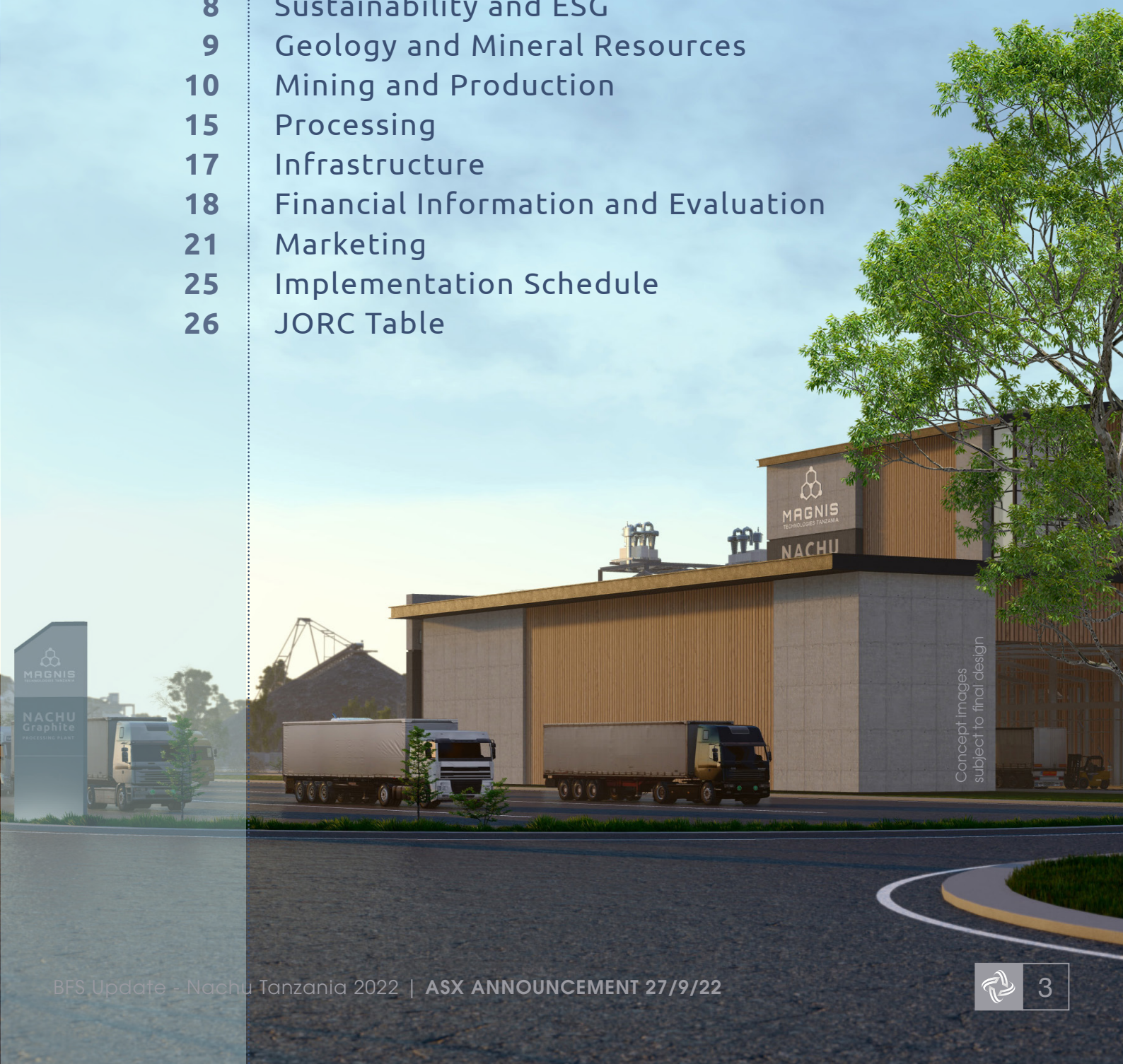
The information in this report that relates to the Mineral Resources is based on information compiled by Mr A Proudman, a Competent Person who is a Fellow and Chartered Professional Geology of the Australasian Institute of Mining and Metallurgy. Mr Proudman is employed by AMC Consultants Pty Ltd. Mr Proudman has no financial interests in Magnis Energy Technologies Ltd and is independent of the company. Mr Proudman has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr A Proudman consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to Ore Reserves is based on information reviewed or work undertaken by Mr Ross Cheyne, a Competent Person who is a Fellow of The Australasian Institute of Mining and Metallurgy. Mr Cheyne is a Principal Engineer employed by Orelogy Consulting Pty Ltd. Mr Cheyne has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the preparation of mining studies to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Cheyne consents to the inclusion of this information in the form and context in which it appears in this report.

Forward-looking Statements

All statements in this announcement, which address or could be inferred to address future economic returns, production, reserve or resource potential, exploration drilling, exploitation activities and events or developments that the Company expects to occur, and could be construed as forward-looking statements, such statements are not guarantees of future performance and actual results or developments may differ materially from those in forward-looking statements.
Forward-looking statements by their very nature are subject to known and unknown risks, uncertainties and other factors which may cause the actual results, performance, or achievements of the Company and/or its subsidiaries to be materially different from those expressed or implied by the forward-looking statements. There are several risks and factors that could materially change the forward-looking estimates made in this document. Whilst not an exhaustive list of risks/factors, to name a few, this could include general business, economic, political, the actual results of the feasibility study being different; assumptions in economic valuations which prove to be inaccurate, delay or refusal in obtaining governmental approvals or financing or delays or inability to complete the development of related activities. Furthermore, we make such forward-looking statements pursuant to the safe harbour provisions of the Private securities Litigation Reform Act of 1995 and other federal security laws of the US.
Magnis and its affiliates and their directors, officers, employees, associates, advisers and agents to the maximum extent permitted by law, accepts no responsibility or liability for any losses or damages of any kind arising out of the reliance or use of any information contained in this document and disclaim any obligations or undertaking to release any updates or revisions to the information in this document to reflect any change in expectations or assumptions; do not make any representation or warranty, express or implied, as to the accuracy, reliability or completeness of the information in this document and/or any accompanying verbal repetition of the likelihood of fulfilment of any forward-looking statement or any events or results expressed or implied in any forward-looking statement; and disclaim all responsibility and liability for these forward-looking statements (including, without limitation, liability for omission and negligence in making them).

Key Additional Information



Study Scope & Contributors

Magnis Energy Technologies Limited ("**Magnis**") is currently developing the Nachu Graphite Project (Nachu) in Tanzania and has engaged Ausenco Services Pty Ltd ("**Ausenco**") and various other parties to update the previous Bankable Feasibility Study ("**BFS**") published in 2016. The consultants engaged for the 2022 Feasibility Study were contracted by and managed by Magnis. Where practical, the same consultants and contributors to the 2016 Bankable Feasibility Study have been retained for the 2022 Feasibility Study update to leverage previous project knowledge and to enable efficient updates to the existing work. Ausenco was responsible for assembling the overall Feasibility Study report and including the contributions of Magnis and other consultants.

Table 1 **Key contributors/consultants to the Project & Feasibility Study update**

CONTRIBUTOR	SCOPE
Ausenco	Feasibility Study Coordination, Infrastructure, Process Plant, Process Plant Capex & Opex, Implementation & Operations Plan
Orelogy Consulting	Mineable Reserve, Mine Development & Infrastructure, Mining Capex and Opex
AMC Consultants	Mineral Resource Estimate
Knight Piesold	Site Water Balance, Tailings Storage & Management, Surface Water Dam designs, Geotechnical Studies

The purpose of this Feasibility Study is to:

- Update the previous BFS
- Incorporate process design updates that have been in development with Ausenco since 2016, relating to higher grade product production and protection of product flake size during processing
- Optimise the plant layout to improve operational performance, reduce operating costs and reduce construction costs

Project Background

The Nachu Project is approximately 20 km from the major regional town of Ruangwa, in the Ruangwa District, Lindi Region of Southern Tanzania. The Project is approximately 220 km by road from the port of Mtwara and approximately 600 km by main road from the major port city of Dar Es Salaam.

The Nachu tenement was originally a Tenement Application held by Uranex Tanzania Ltd.(UTL) when the first indications of graphite were discovered. The application was granted as a Prospecting Licence PL9076/2013 on the 8th of April 2013, covering an area of 198.57 km^2.

FIGURE 1 >

Project location

The Prospecting Licence is held by UTL and is not subject to joint venture agreements, third party rights, royalties or partnerships. The surface area is administered by the Government as native title. The Prospecting Licence is in good standing with no known impositions. Tanzania applies a mineral royalty of 3% of gross value for industrial minerals (graphite). The Special Mining Lease covers an area of 29.77 km^2.

The Nachu Project is a coarse flake graphite operation, designed to treat 5 Mt/y run of mine (ROM) ore with an average feed grade of 5.2% total graphitic carbon (TGC). The graphite ore will be hauled from an open pit mine to the concentrator to produce an average life of mine (LOM) 236,000 t/y of graphite flake concentrate at 98.5% (concentrate over 300 microns size) to 99% (Concentrate under 300 micron size) TGC grades.

Run of mine ore is crushed in a 3-stage crushing circuit, followed by rod mill grinding and flotation, several stages of regrinding and cleaner flotation dewatering, drying, product handling, and tailings disposal. The final graphite flake (saleable product) is screened into three product size fractions (+500 µm, -500 +300 µm, and -300 µm) and bagged for transportation by truck to a warehouse located at the Mtwara Seaport. A key objective of the project is to produce a high-grade graphite concentrate preserving the largest possible graphite flake size to maximise product value.

Current Company Structure in Tanzania

Magnis Energy Technologies Ltd. has two subsidiaries in Tanzania:

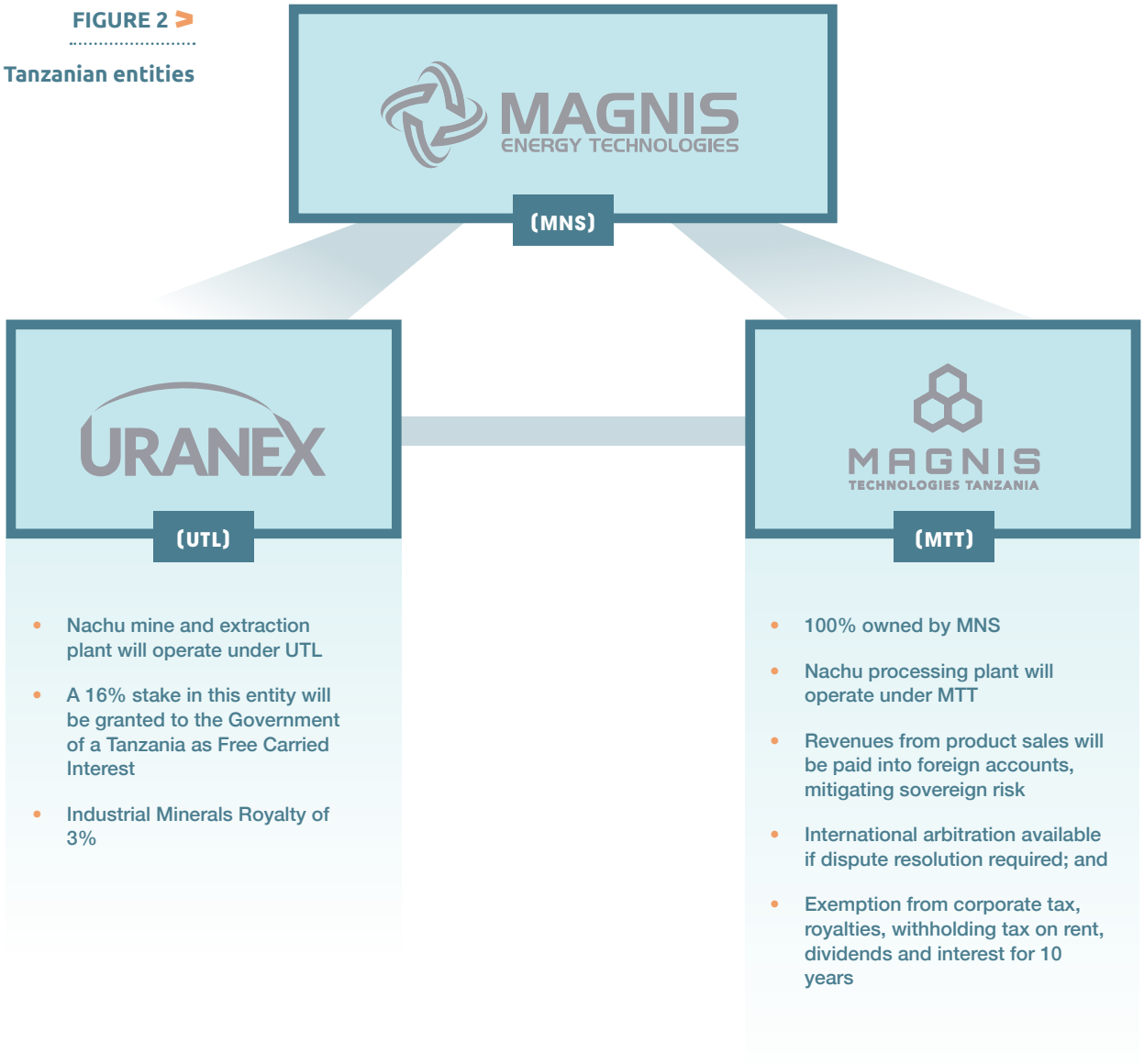
- UTL
- Magnis Technologies (Tanzania) Ltd (MTT)

UTL is the company under which the discovery of the extensive graphite mineralization on the tenement (PL9076/2013) was made and which holds the Special Mining Lease (SML550/2015). UTL will operate the mining operations, tailings dam and water supply facilities. UTL falls under the jurisdiction of the Ministry of Minerals.

MTT is the company that holds the SEZ (Special Economic Zone) license for production of the advanced graphite products through the production process developed by Magnis. The original application for the SEZ was made in November 2016 which resulted in the granting of the SEZ license. Following discussions with the EPZA (Export Processing Zone Authority), a revised application with an amendment proposal was made April 2018. MTT falls under the jurisdiction of the Ministry of Industry and Trade and the relevant authority is the EPZA.

FIGURE 2 >

Tanzanian entities



Licensing and Permits

Environmental Impact Assessment Certificate (EIAC), dated 18/08/2015, issued by the United Republic of Tanzania

Magnis submitted an Environmental and Social Impact Assessment (ESIA) in 2015 which was completed to Tanzanian Government standards by MTL consulting in Tanzania and Digby Wells from South Africa.

Following issue of the Environmental Impact Assessment Certificate, Magnis engaged international consultants Digby Wells to update the ESIA and prepare an Environmental Impact Assessment (EIS) to meet the International Finance Corporation (IFC) standards and ensure conformance with necessary permitting and funding requirements for the Project.

Special Mining Licence (SML), dated 09/09/2015, granted by Minister for Energy and Minerals

The SML was granted for the project area (approximately 30 km2) on 7th September 2015. The mining lease Number is SML 550/2015 and the company retains the remainder of the Nachu Tenement as the Prospecting Licence PL9076/2013. The SML has been granted to Uranex Tanzania Ltd, the 100% owned Tanzanian subsidiary of Magnis. An SML is a superior licence to a Mining Licence (ML) as it encompasses projects with an investment over US$100 million. The Company applied for an SML in preference to a standard ML for the following reasons:

- An SML allows for a larger area to be approved than an ML. An ML is restricted to an area of 10km^2. Magnis has been granted an area of approximately 30km^2.
- An SML grants tenure for the period of the development or for a maximum period of 25 years. An ML only allows for a 10-year period.

Special Economic Zone (SEZ) licence, dated 12/08/2021, granted by the Export Processing Zones Authority

Based on the results of its research into producing higher grade products and chemical free anode material, the Company applied for an SEZ licence in February 2017.

The SEZ legislation was introduced in Tanzania in 2006. The legislation provides incentives for companies to create value addition and advance employment and development in the country. SEZ licences are issued by the Ministry of Industry and Trade with key benefits including an exemption from payment of corporate tax for up to 10 years, exemption of taxes and duties for machinery, equipment and construction materials for the development of SEZ infrastructure and an exemption from payment of withholding tax on rent, dividends and interest for 10 years.

MTT, a wholly owned subsidiary of Magnis, was provided approval by the Export Processing Zones Authority (EPZA) in March 2017 to operate within an SEZ in Tanzania which will allow the Company to apply the advanced technologies it has been developing to produce value enhanced graphite products. This was recently renewed in May 2021. Historically, the majority of existing SEZ licence owners come from the agriculture processing, assembly, engineering, textile and apparel sectors.

The SEZ falls under the jurisdiction of the Department of Industry, Trade and Investment

The SEZ is sited over the original SML plant infrastructure location, allowing for continued best case economics for ore transportation. The SEZ area covers 206 hectares which was excised from the original Nachu SML.

Remaining Requirements

As part of the granting of the SEZ, a separate ESIA is required by the EPZA to be submitted for the SEZ. This document will utilize all the base line monitoring data and studies conducted previously for the original ESIA (2015).

UTL and MTT have engaged Paulsam Geo-Engineering Company (PSG) to apply for the variation of the current ESIA certificate.

PSG engaged with the NEMC to detail the Project variations in relation to the granting of the SEZ. The response from the NEMC was that;

- For UTL, a variation certificate was granted to exclude the SEZ area from the UTL ESIA and required the ESIA document to be re-drafted with the exclusion of the Processing plant area. The UTL ESIA will then only reflected the activity within the SML
- The NEMC has also requested an update to the Environmental Management Plan EMP, to include additional monitoring data completed since 2016. This update is currently being drafted
- For MTT, NEMC requires a separate ESIA to be submitted which will also include updated monitoring data and focus on the SEZ area only. This document is near completion and the approval is expected from NEMC in November 2022

Sustainability – Community & Environment

Magnis is undertaking a sustainability driven approach to developing the Nachu Project. Enhanced environmental, social and governance performance, together with sustainability principles ensures that the Project has a positive impact on the local communities, the environment and the stakeholders whilst delivering strong returns to Magnis's investors. The following are some of the key sustainability measures Magnis has undertaken or plans to undertake in respect to the Nachu Project;

FIGURE 3 >

Chunyu Mtumbuni Primary School Project

- Key environmental studies approved. An Environmental Certificate by the National Environmental Management Committee for the Nachu Project was awarded in 2015. The ESIA was completed by two consultancies, MTL (Tanzania) and Digby Wells Environmental (international) The document was completed to Tanzanian standards for approval in Tanzania and then updated to international standards by Digby Wells such that it meets both IFC and Equator Principles requirements
- In the 2022 FS update there has been a strategic shift away from heavy fuel oil to natural gas for power supply and process uses. This is expected to reduce the calculated annual GHG emissions by up to 49,943 tCO2-e per annum, which represents an approx. 34% reduction[10] from the BFS

10 Digby Wells carried out the Nachu Graphite Mine Greenhouse Gas Emissions Impact Assessment in February 2016. The estimated GHG footprint for the Project was developed in accordance with the World Resource Institute (WRI) and World Business Council for Sustainable Development (WBCSD) GHG Protocol: Corporate Accounting and Reporting Standard (2004), and ISO 14064- 2.

- Renewable power from solar and battery storage to form part of the future power supply/energy mix for the Project
- Basic design philosophy of the tailing storage facility is to dispose of tailings in such a manner that minimises the impact on the surrounding environment and community whilst ensuring it is structurally sound, safe to operate and economically viable. International design standards will be used, and an Internationally recognised consultancy will supervise final design and construction
- The Valuation and Compensation phase was conducted using consultants Paulsam (Tanzania) & Digby Wells (international). A resettlement action plan was developed prior to the valuation and compensation process and included extensive stakeholder engagement. The process complied with Tanzanian legislation and was in accordance with international standards. The compensation process is complete apart from the completion of the resettlement village for the 59 displaced families and 11 people identified as vulnerable during the valuation process. The construction of the resettlement village is underway[11] and is expected to be completed in Q4 2022
- Magnis continues to place significant importance on corporate social responsibility and has been engaged in several social infrastructure projects for the last 10 years
- Magnis has committed to local communities and the Government of Tanzania to maximize local employment through the employment of skilled people and also training of the un-skilled
- A full sustainability framework will be established to support and drive future operations

Mineral Resource Model & Estimate

AMC Consultants Pty Ltd **(AMC)** developed the resource models in 2016. Since then, there has been no further exploration or drilling to affect a change to the resource model.

The Nachu graphite deposit is split into five deposits **(Blocks)**, namely Blocks B, D, F, FSL and J. Mineralisation is hosted in graphitic schists within a sequence of met-sedimentary schists with minor unmineralised dolomitic marble and gneisses within the greater Mozambique Metamorphic Belt. All Blocks have mineralisation at or near surface. The modelled Mineral Resource depths vary between Blocks with over 85% of the total Mineral Resource less than 150 m from the surface and no greater than 250 m maximum depth. Figure 4 shows the location of the five deposits, with the overlying 2014 Ground EM Response Pattern (hot-pink to cold-blue, high EM response to low EM response).

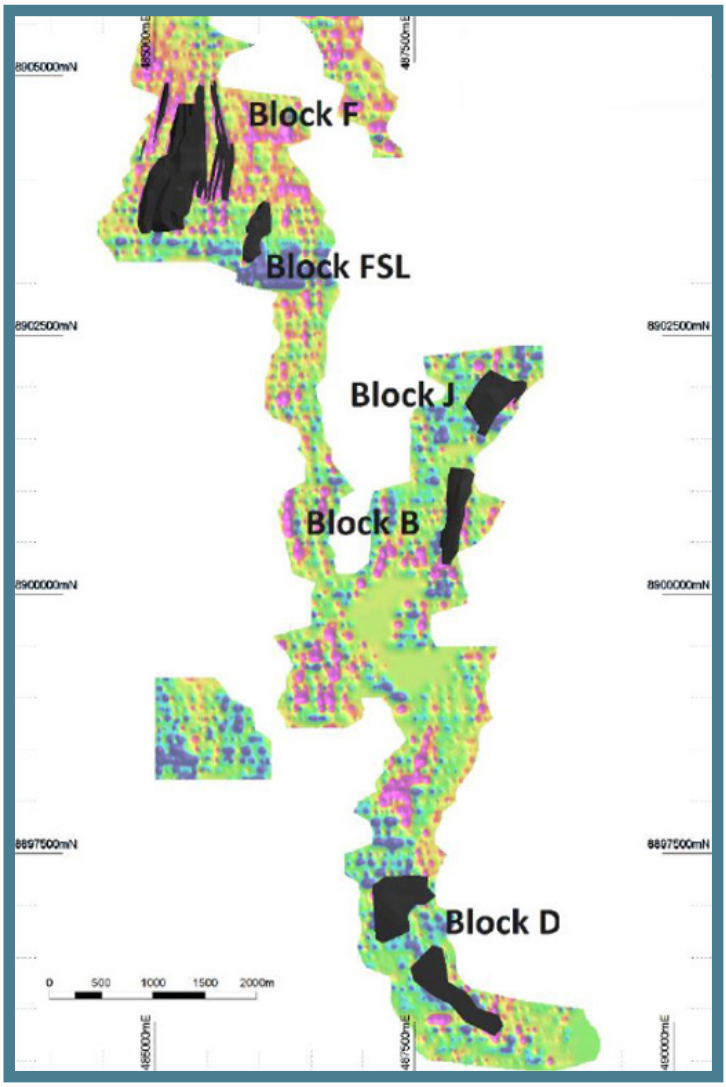


FIGURE 4 >

Location of the Mineral Resource Deposits Block B, D, F, FSL & J

11 Please refer to our ASX Announcement Quarterly Report/Appendix 5B on 29th July 2022 for further information regarding the Eco-village resettlement program

Nachu Mineral Resource Estimate

The Global Nachu Graphite Project Mineral Resource Estimate as of 1st February 2016 included a global 174 Million Tonnes at 5.4% graphitic carbon (Cg) at a 3% Cg cut-off grade, classified as either Measured, Indicated or Inferred resources and reported in accordance with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012). The Mineral Resource Estimate is summarised in Tables 2 & 3.

Deposit	Category	Oxidation	Mt	%Cg
All Blocks >3% Cg	Measured	Oxide	1.9	4.9
		Primary	61.6	4.7
	Indicated	Oxide	2.4	6.3
		Primary	58.6	5.7
	Inferred	Oxide	2.6	5.3
		Primary	47.0	5.8
Sub Total	All Categories	Oxide	7.0	5.5
			167.0	5.4
All	**All Categories**	**All**	**174.0**	**5.4**

Table 2: Nachu Mineral Resource Estimation, 1 February 2016

Block			B		D		F		FSL		J	
		COG	Tonnage	Grade	Tonnage	Grade	Tonnage	Grade	Tonnage	Grade	Tonnage	Grade
		%Cg	Mt	%Cg	Mt	%Cg	Mt	%Cg	Mt	%Cg	Mt	%Cg
Measured	Oxide	3.0	-	-	-	-	1.7	4.9	0.2	5.2	-	-
	Primary	3.0	-	-	-	-	57.8	4.6	3.8	5.6	-	-
Indicated	Oxide	3.0	0.2	6.5	-	-	1.3	5.4	0.2	5.4	0.7	8.3
	Primary	3.0	6.6	6.3	-	-	38	5.1	5.0	5.1	9	8.1
Inferred	Oxide	3.0	0.1	5	0.7	5.9	1.7	5.0	0.01	3.2	0.04	10.1
	Primary	3.0	0.8	5	19.5	5.9	22.5	5.2	1.0	3.5	3.2	10.2
Sub Total			**7.6**	**6.1**	**20.2**	**5.9**	**123.1**	**4.9**	**10.2**	**5.1**	**12.9**	**8.6**

Table 3: Nachu Mineral Resource Estimate by Block

Mining

Orelogy Consulting (Orelogy) completed a mine planning study in August 2022, largely updating the work performed by Orelogy for the BFS. The updated parameters included:

- costs of processing, sales and mining
- processing recovery
- concentrate grade; and
- product pricing

The mining scope included pit optimisation, mine design, scheduling and cost estimation.

Pit Optimisation

One of the main assumptions in the previous 2016 pit optimisation study was the aim to produce approximately 240kt of concentrate per annum from a 5Mtpa plant. Hence the optimisation was undertaken with an elevated cut-off grade to target ores with a sufficiently high plant feed grade to produce the required amount of concentrate. Because of the elevated cut-off grade, the 2016 optimisation study provided shells underpinning a very robust project.

The 2016 elevated cut-off grade value was also utilised in the 2022 study. The 2022 update assessed the impact of a reduced concentrate price assumption, lower concentrator recovery and higher operating costs.

The 2022 optimisation analysis demonstrated that the 2016 F and FS shells were still valid (i.e. demonstrated sufficient value) and therefore the 2016 mine plan (pit designs, mining and processing schedules, ore reserves) could be adopted for the current 2022 study.

Mine Design

Pits, waste dumps and haul roads were designed for the life of the Project as part of the 2016 BFS and these were carried over into the 2022 update. The design criteria governing slope designs, ramp widths and minimum mining widths remained valid. Locations for Run of Mine (RoM) and low grade ore stockpiles were also allocated.

Pit inventories are shown in Table 4 and Table 5 and the final (end of mine life) site layout is shown in Figure 5.

Material				F	
				Quantity	Grade
				MT	%Cg
Ore	Proved	HG	fresh	21.88	5.36
		MG	fresh	11.37	4.31
		LG	fresh	13.44	3.55
	Total			46.99	4.58
	Probable	HG	fresh	13.40	5.86
		MG	fresh	3.71	4.30
		LG	fresh	4.35	3.54
	Total			21.47	5.12
	Total Proved + Probable			68.46	4.75
Waste	oxide			15.93	-
	fresh			85.03	-
Total Ore & Waste			oxide	15.93	-
			fresh	153.48	-
Stripping Ratio				1.5	

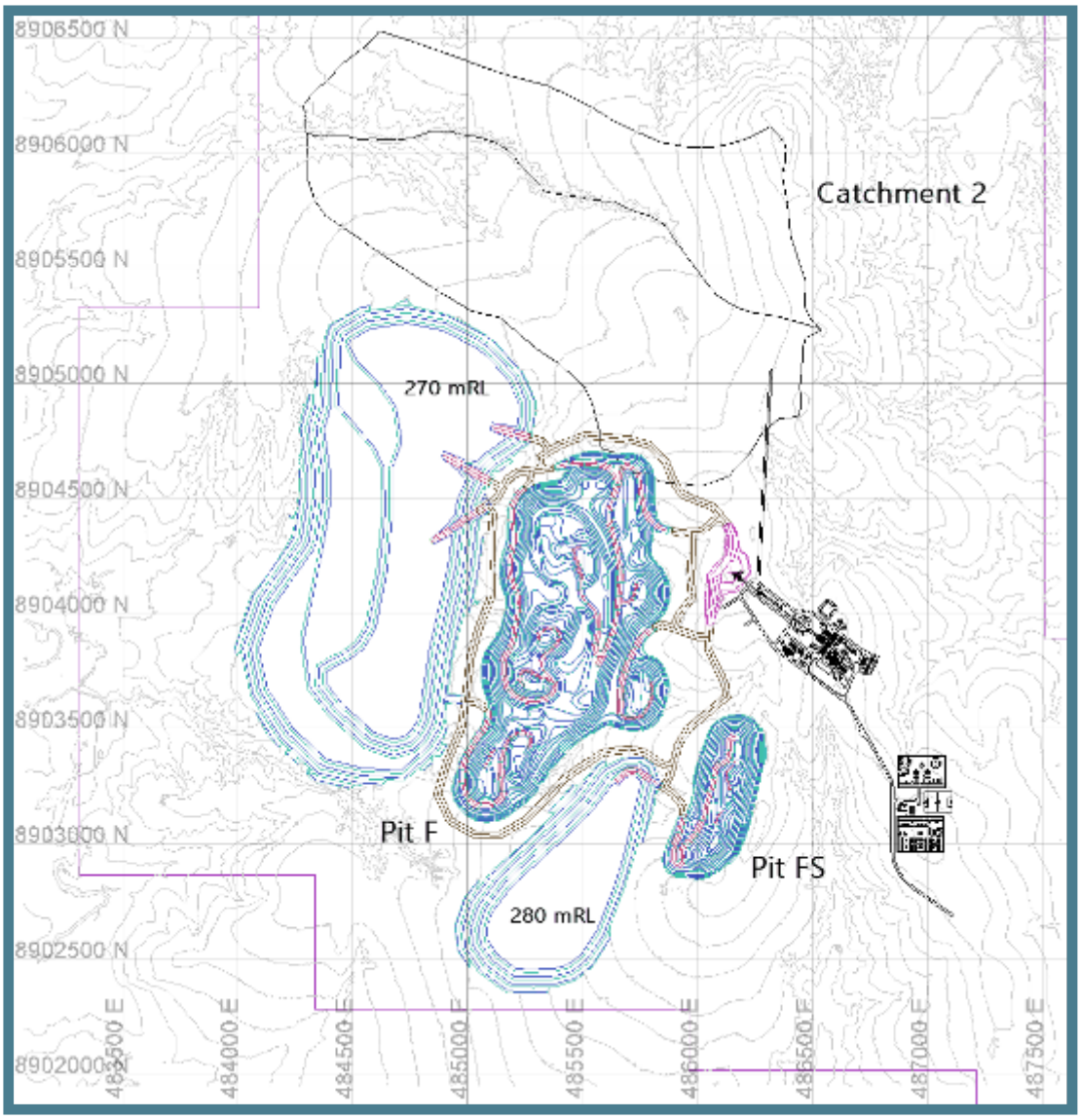
Table 4: F Pit Inventory

Material			FS	
			Quantity	Grade
			MT	%Cg
Ore	HG	fresh	6.810	5.40
	MG	fresh	1.011	3.66
	LG	fresh	0.000	0.00
	Total		7.822	5.17
Waste	All	oxide	3.090	
		fresh	11.440	
	Total		14.529	-
Total Ore & Waste		oxide	3.090	-
		fresh	19.261	-
Stripping Ratio			1.9	

Table 5: FS Pit Inventory

FIGURE 5 >

End of life site plan



Mine Scheduling

The mine schedule is mostly unchanged from the 2016 BFS. The only update required was the concentrate production as it had changed with new concentrator recovery and concentrate grade. The schedule was based on:

- the pit inventories described above
- a fleet and associated productivities in line with the 2016 schedule assumptions
- mining productivity assumptions
- a production target of 240ktpa of concentrate, and
- general considerations to delay costs

Postponing costs was achieved by delaying waste mining and always selecting the shortest possible haulage routes to and on the dumps.

Year	High Grade Ore	Medium Grade Ore	Low Grade Ore	Mineralised Waste	Waste Tonnes	Total Tonnes	Strip Ratio	Max Trucks	Max Excavators
	(kt)	(kt)	(kt)	(kt)	(kt)	(kt)	(t:t)		
								#	#
-1	4,46.7	96.1	155.5	112.6	3,217.5	4,028.3	4.77	12	3
1	3,433.4	1,747.4	13,602.0	842.2	3,057.9	10,441.0	0.60	16	3
2	3,939.7	1,394.8	1,308.3	1,053.7	4,841.5	12,538.0	0.89	18	4
3	3,707.9	1,594.4	1,854.9	1,517.3	4,879.6	13,554.0	0.89	22	4
4	2,954.5	713.0	662.2	722.2	12,325.3	17,377.3	3.01	24	5
5	3,837.7	1,170.9	1,102.9	1,307.3	9,226.6	16,645.4	1.72	25	5
6	39,743.0	1,110.6	14,869.0	1,781.5	10,923.7	19,277.0	1.93	30	6
7	37,758.0	1,447.4	2,254.7	3,081.8	9,220.9	197,806.0	1.65	29	6
8	3,524.4	1,460.1	2,163.8	2,284.2	11,329.8	20,762.4	1.90	35	6
9	3,518.0	11,714.0	1,418.5	18,418.0	13,099.9	21,049.6	2.45	34	6
10	3,267.0	17,085.0	1,602.1	2,610.8	9,757.9	18,946.3	1.88	34	6
11	3,770.6	1,573.8	14,249.0	1,082.7	4,067.5	11,919.4	0.76	22	4
12	1,939.1	1,209.1	997.8	469.1	829.0	5,444.0	0.31	14	2
Total	**42,089**	**163,975**	**17,792**	**18,707**	**96,777**	**191,763**	**1.51**		

Table 6 Nachu Mining Schedule

Figure 6 and Table 7 below show the processing profile and indicate that low grade ore will be processed only after all high grade and medium grade ore supplies has been exhausted. Figure 7 forecasts concentrate production of 235ktpa for the first 11.7 years. Production levels then drop as low-grade ore is processed for another 3.5 years.

FIGURE 6 >

Annual Ore Processing

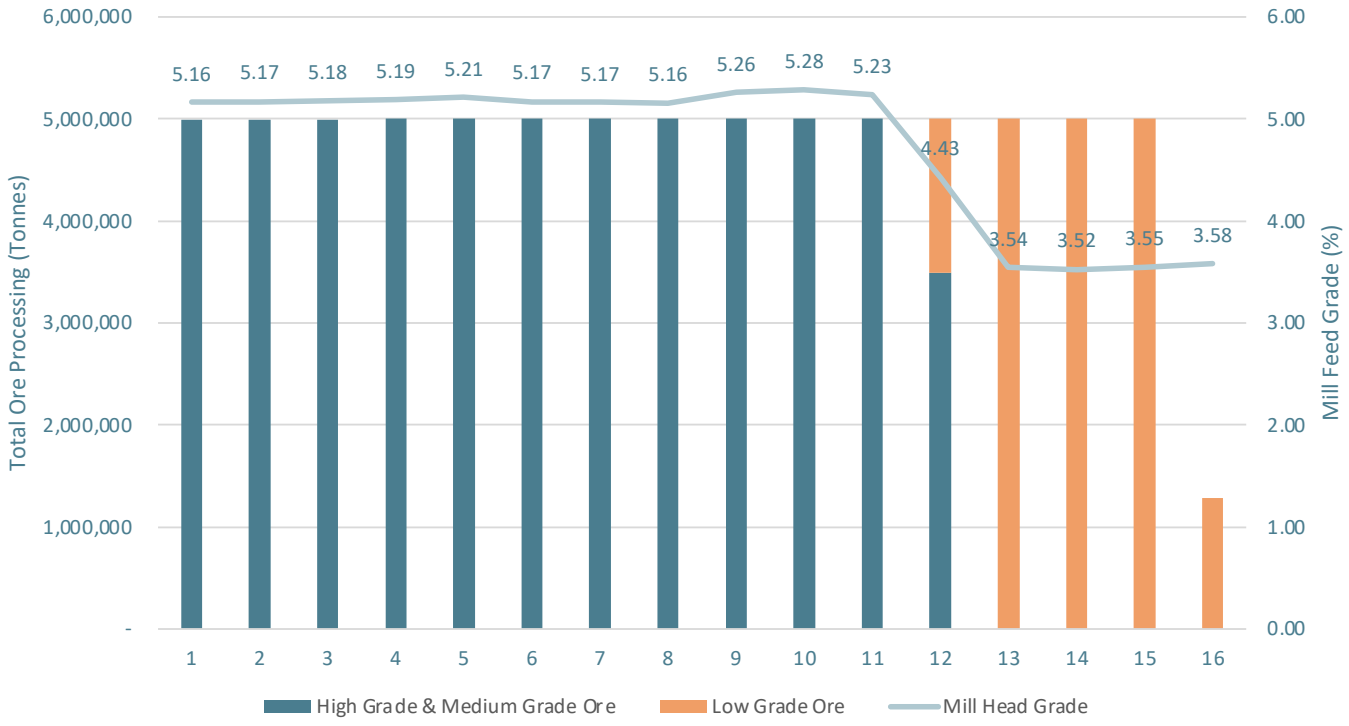
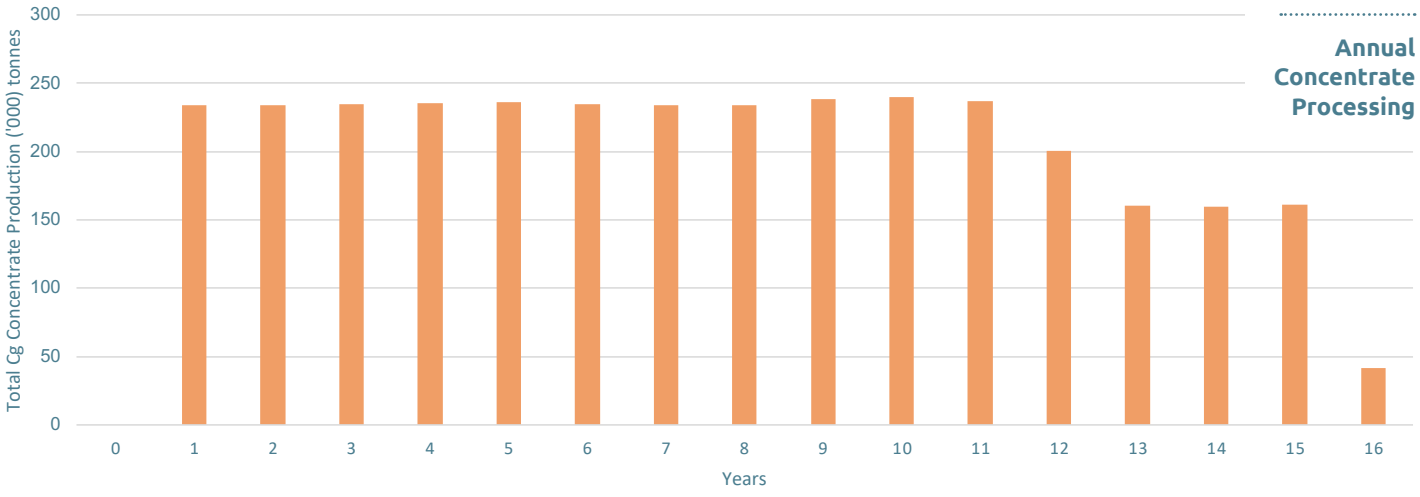


Table 7 Processing Schedule

Year	High Grade Ore		Medium Grade Ore		Low Grade Ore		Total Mill Feed	
	(kt)	Feed Grade %	(kt)	Feed Grade %	(kt)	Feed Grade %	(kt)	Feed Grade %
-1	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00
1	3,880.1	5.39	1,115.6	4.36	0.0	0.00	4,995.7	5.16
2	3,939.7	5.39	1,057.2	4.33	0.0	0.00	4,996.9	5.17
3	3,707.9	5.47	1,286.9	4.32	0.0	0.00	4,994.8	5.18
4	2,954.5	5.83	2,046.6	4.26	0.0	0.00	5,001.2	5.19
5	3,837.7	5.56	1,165.4	4.07	0.0	0.00	5,003.0	5.21
6	3,974.3	5.43	1,026.0	4.18	0.0	0.00	5,000.3	5.17
7	3,775.8	5.46	1,224.2	4.26	0.0	0.00	5,000.0	5.17
8	3,524.4	5.52	1,475.6	4.28	0.0	0.00	5,000.1	5.16
9	3,518.0	5.69	1,482.1	4.23	0.0	0.00	5,000.0	5.26
10	3,267.0	5.82	1,734.2	4.28	0.0	0.00	5,001.2	5.28
11	3,770.6	5.53	1,230.0	4.31	0.0	0.00	5,000.6	5.23
12	1,939.1	5.18	1,553.7	4.31	1,507.5	3.58	5,000.3	4.43
13	0.0	0.00	0.0	0.00	5,000.4	3.54	5,000.4	3.54
14	0.0	0.00	0.0	0.00	5,001.0	3.52	5,001.0	3.52
15	0.0	0.00	0.0	0.00	5,000.5	3.55	5,000.5	3.55
16	0.0	0.00	0.0	0.00	1,283.4	3.58	1,283.4	3.58
Total	**42,089.1**	**5.53**	**16,397.5**	**4.27**	**17,792.8**	**3.55**	**76,279.4**	**4.79**

FIGURE 7 >

Annual Concentrate Processing



Mining Cost Estimation

Based on 2022 mining contractor price estimates, the total mining costs from pre-production in Year -1 up to Year 16 is estimated to be US$904 million or $4.71 per tonne of material mined. The average annualised mining cost per tonne of ore is $11.85.

Processing

The process design was prepared by Ausenco. The objective of the processing plant is to produce a concentrate of saleable high-grade graphite while maximising the recovery of coarse graphite flake. Graphite is extracted from the run of mine ore by means of subsequent stages of grinding and froth flotation using conventional equipment. The recovery of the coarse graphite flake is achieved by a staged rejection of fines and staged regrinding of flotation concentrates.

The final graphite concentrate is dried before being screened into three saleable product sizes. The final products are packed in bulk bags before being transported by truck to the seaport of Mtwara.
The key process design criteria (PDC) for Nachu are summarised in Table 8 below. The PDC were prepared by Ausenco and incorporate Ausenco's review of the test work results, previous design criteria, adjustments for the new project parameters, data supplied by Magnis and vendor recommendations.

Table 8 Key Processing Design Criteria

Parameter	Value
Life of Mine	15.5 years
Plant Design Capacity	5,000,000 t/y of run of mine (ROM) ore
Feed Head Grade	5.2 % w/w total graphitic carbon (TGC)
TGC Recovery to Final Concentrate	89.6 %
Product Concentrate Grade: +500 µm product (Super Jumbo) +300 µm product (Jumbo) -300 µm product (Fine) Overall Grade	 98.5 %w/w TGC 98.5 %w/w TGC 99.0 %w/w TGC 98.8 %w/w TGC
Concentrate Production[12]	235,789 t/y
Product Size Distribution Split: +500 µm Super Jumbo -500 / +300 µm Jumbo -300 µm Fine	 9 % 32 % 59 %

The graphite recovery, product grade and size distribution are indicative of the results obtained in the metallurgical testwork campaigns.

Process Plant Flowsheet

The processing plant flowsheet incorporates the following processing stages:

- ROM ore is treated in a three-stage crushing circuit. Primary and secondary crushers operate in open circuit. Tertiary crushing is in closed circuit with a screen. The crushing circuit product is stored in a fine ore stockpile
- Crushed ore is reclaimed from the fine ore stockpile and fed to the primary grinding circuit which operates two rod mills in parallel. Each rod mill operates in a closed circuit with classification screens. Screen oversize returns to the mills via a flash flotation cell. Screen undersize reports to the flotation circuit

12 Annual concentrate production at steady state levels from years 2-12

- The flotation circuit includes Rougher, Cleaner 1, Cleaner 2, and Cleaner 3 stages which all operate in an open circuit. Desliming and regrinding of concentrate occurs between each stage of flotation. Dewatering and drying of intermediate (Cleaner 2) concentrate is done before being reground/polished and fed to Cleaner 3 flotation
- Final concentrate from Cleaner 3 is dewatered, dried, screened into three product size fractions (Super Jumbo, Jumbo, and Fine) and bagged for transport
- Flotation tailings, concentrate deslime and filtrate streams are thickened to recycle process water Thickened underflow slurry is pumped for storage in a constructed tailings storage facility (TSF). TSF supernatant is decanted and returned to the process plant for use as process water

Process Plant Layout

The Nachu process plant layout is mainly determined by the location of the mining pits, the boundary of the Special Economic Zone, geotechnical characteristics and storm water dams. To a lesser extent the access road and bore holes influenced the layout development. The plant location is within the location used in the 2016 Bankable Feasibility Study. Environmental considerations for the layout mainly include the topography, rainfall and wind direction.

The layout development sought to maximise the use of gravity flow and achieve the shortest possible pipe and cable routes while minimising bulk quantities of earthworks, concrete, and structural steel. Service roads in the plant allow for service and maintenance access as well as efficient offloading of mill media, reagents and flocculant.

Positioning the tailings thickener and process water pond at the Northeast of the plant allows for the tailings slurry pipeline and TSF return water pipeline not to have to cross the service roads. Figure 8 & 9 below show an overview of the process plant.

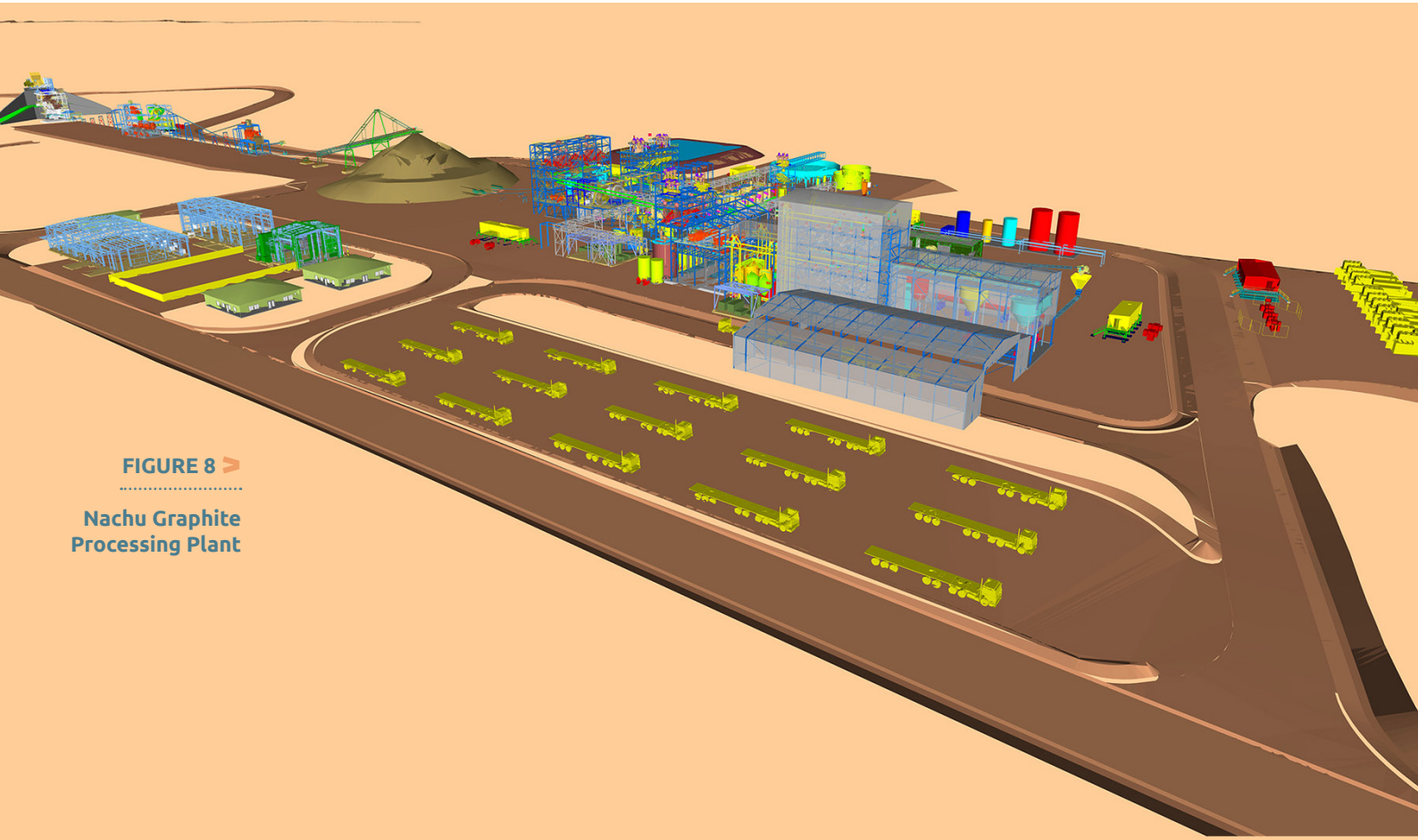
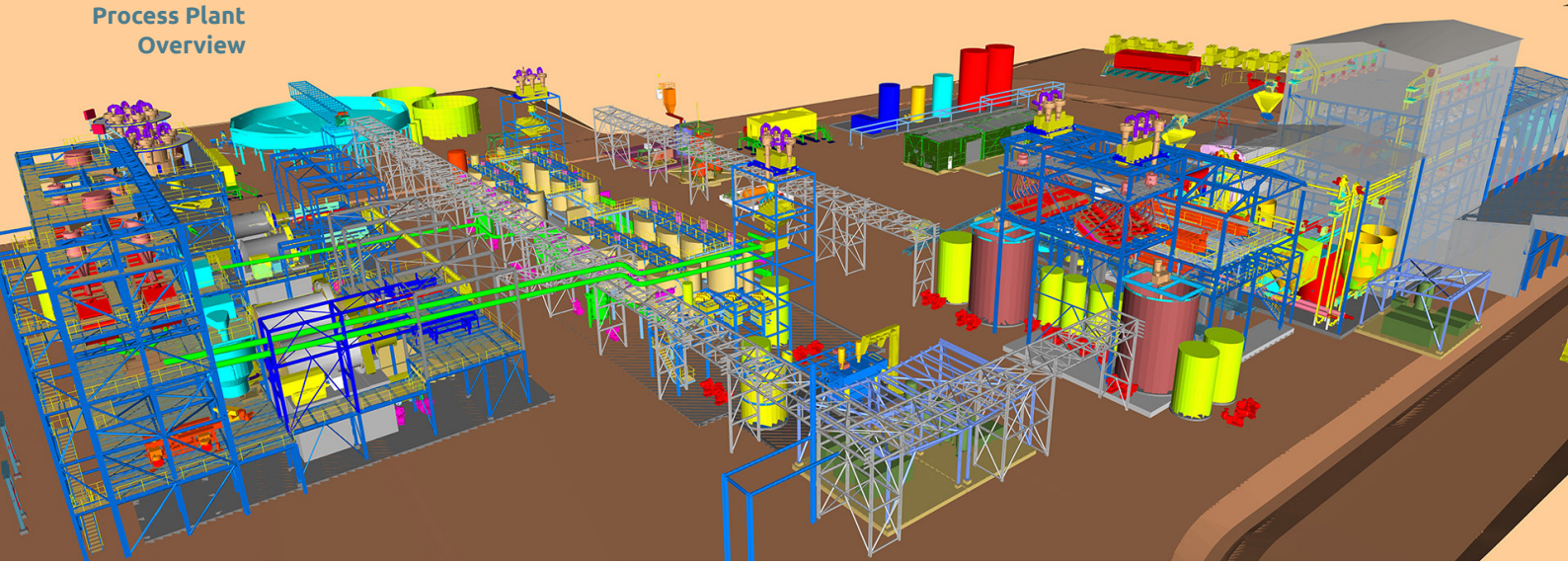


FIGURE 8 >

Nachu Graphite Processing Plant

FIGURE 9 >

Process Plant Overview



Infrastructure

The following infrastructure is required to support the Project:

- Natural gas pipeline to the site
- Natural gas fired electrical power station and power distribution
- Tailings storage facility
- Bore fields and storm water dams
- Site access roads to and around the project site
- Port product storage warehouse
- Process plant office facilities
- Warehousing and workshops
- Camp facilities and amenities including kitchen, generators, water treatment and waste treatment plants
- Telecommunications infrastructure

Energy Supply

Energy is consumed at the Project site for the generation of electrical power and as fuel for the dryers. Power supply will be generated from a natural gas fired power station located on site. A new buried gas pipeline of approximately 90km in length will connect the Nachu site to the main gas distribution pipeline running between Mtwara to Dar es Salaam. There are several key benefits in using natural gas. These include;

1. Lower Carbon footprint than Diesel or HFO
2. The revenue from the natural gas supply stays within Tanzania
3. A natural gas supply to the Ruangwa region will allow for other uses and development of the region

Tailings Storage Facility

The tailings storage facility is located approximately 3 km north of the plant site and consists of a conventional earthen dam with slurry deposition from multiple spigots and a seepage dam. The initial design was done by Knight Piesold Consultants and the final construction design will be done jointly between Knight Peisold and a Tanzanian consultancy.

Water Management

Water required to support the construction activities will be sourced from a combination of bore supply and surface water storage. Ground water will be extracted via boreholes located on the SML and will be supplemented by a storm water harvesting dam (SWD1). SWD1 is planned to be constructed in late 2022 to allow water collection during the 2022/23 wet season. SWD1 is located upstream of the tailings dam. During the operational phase, water recovery from the process and site run-off is maximised. The water collected in the storm water catchments will be the main source of water required by the plant operations. The site water balance was modelled by Knight Piesold using dynamic modelling software and considered a wide range of possible climatic conditions to ensure the water management system is suitably designed.

Port and Logistics

Mtwara Port will be used for export of product and import of equipment and materials. The graphite flake concentrate will be transported in 1 tonne bulk bags from site to a new project specific storage facility located at the Mtwara Port. Product will be shunted from the warehouse to the port dock for stevedoring.

A fleet of trucks will transport approximately 646 tonnes of graphite flake product each day from the mine site to the Mtwara Port storage facility. The new storage facility will provide up to six weeks of storage capacity, with a shipment every 31 days. The additional storage capacity allows for possible vessel delays.

FIGURE 10 >

Mtwara Port

Mtwara Port has recently been upgraded with a modern berth measuring 300 m in length and dredged to a depth of 13 m. The new berth can accommodate cargo ships measuring 230 m in length with the capacity to carry 65,000 tonnes of cargo. The Tanzania Port Authority (TPA) recently increased the Mtwara Port capacity from 400,000 to 1,000,000 tonnes of cargo per year. The upgraded port is currently underutilised and has the capacity to support the requirements of the Nachu Project.

The product will be packaged in bulk bags and stored on site before being transported via truck to a larger warehouse facility at the Mtwara Port. Product is shunted from the warehouse to the port dock for stevedoring. The product logistics operation will be contracted out.

Financial Information and Evaluation

Magnis has undertaken a financial evaluation of the project using the ore reserve estimates of 76Mt of potential mill feed at an average mill feed grade of 5.2%. Operating cost estimates have been provided by Orelogy, Ausenco and Magnis and capital costs by Ausenco and Magnis. The financial results are discussed below.

Capital Cost Estimates

The capital cost estimate for process plant, on and off-site infrastructure, construction indirect costs, project delivery, owner's costs and provisions are provided in this section. At the request of Magnis, all the pre-operational mining activity cost are captured in the financial model and is excluded from the capital cost estimate.

Table 9 Capital cost estimates

WBS	Description	US$ M
1000	Mining (contract operation)	n/a
2000	Process Plant	135.2
3000	Process plant high grade concentrate zone	38.8
4000	On-site infrastructure	51.2
5000	Off-site infrastructure	32.0
6000	Construction indirect costs	22.5
7000	Project delivery	37.4
8000	Owner's cost	6.8
9000	Provisions (Contingency)	39.6
Grand Total		**363.5**

Operating Cost Estimates

The operating cost estimate relied on data provided by Orelogy, Ausenco and Magnis. The operating cost estimate covers the mining, processing, infrastructure, and general & administration costs. Table 10 presents the processing operating cost for the Nachu Graphite Project once steady state operating conditions are achieved at the end of the first operating year.

Table 10 Average Annual Operating Cost for Year 2 to Year 12

Year 2 to Year 12 Average	US$M/y	Distribution %	US$/t of Plant Feed	US$/t of Product
Mining Costs	69.7	46.3	13.94	295.60
Product Logistics FOB	19.2	12.7	3.84	81.42
Natural Gas (Dryers + Power Station)	16.5	11.0	3.30	70.07
Process Plant (Reagents & Consumables, Laboratory services)	14.0	9.3	2.81	59.49
Labour (Process Plant & Administration)	10.7	7.1	2.14	45.46
Process Plant Maintenance	7.7	5.1	1.55	32.80
Miscellaneous and General & Admin	5.2	3.5	1.05	22.19
Power Station Operation & Maintenance	2.8	1.9	0.56	11.87
Camp Management	1.7	1.1	0.34	7.27
Tailings Storage Facility	1.2	0.8	0.24	5.06
Diesel	1.0	0.7	0.20	4.33
Medical Facilities	0.4	0.3	0.08	1.78
Security	0.4	0.3	0.08	1.77
Total	**150.7**	**100.0**	**30.14**	**639.12**

Financial Evaluation

The financial analysis using our base case assumptions[13] and operating and capital expenditures as estimated above confirm that the Nachu Graphite project has strong financial viability with a post-tax NPV_{10} of US$1.2bn and a 51% (unlevered) at the project level over the life of the mine. A payback period of 19 months using project cash flows (excluding financing) from the commencement of operations illustrates the robust cashflows generated from the project early on.

Table 11 Key Financial Highlights

Key Financial Highlights of the Nachu Graphite Project		
Project Metrics	**Units**	**Value**
Project (unlevered) NPV_{10} LOM (Post Tax)	US$	$1.2bn
Project (unlevered) IRR LOM (Post Tax)	%	51%
Payback Period[14]	Months	19
Operating Expenditure[15]	US$/t	$639
Initial Project Capital Cost[16]	US$	$324mn
Concentrate Basket FOB Mtwara	US$/t	$1847

13 The financial model has been produced in nominal terms with our base case steady state inflation rate of 2%. Revenue calculated as per basket price in the marketing section below and along with capex and opex is escalated by 2% p.a. and then discounted at 10%. NPV calculation is based on a start date of Sep 30th, 2022. Special Economic Zone is assumed to last 10 years ending in June 2031, where both annual corporate tax and royalties for MTT are then payable

14 Payback period is at the Project level (unlevered) and thus does not consider financing costs

15 Average Annual Operating Costs during steady state production from Year 2 to Year 12. Operating costs include all mining, processing, product logistics costs (FOB) and miscellaneous and general admin costs. Excludes sustaining capital and industrial mineral royalties of 3%.

16 Additionally, there are contingency costs of US$39.6m and pre-production mining costs of US$33.7m.

Sensitivity analysis

Sensitivity analysis for the key revenue and cost drivers for both NPV and IRR in US$ terms are shown below.

FIGURE 11 >

US$ NPV_{10} Sensitivity

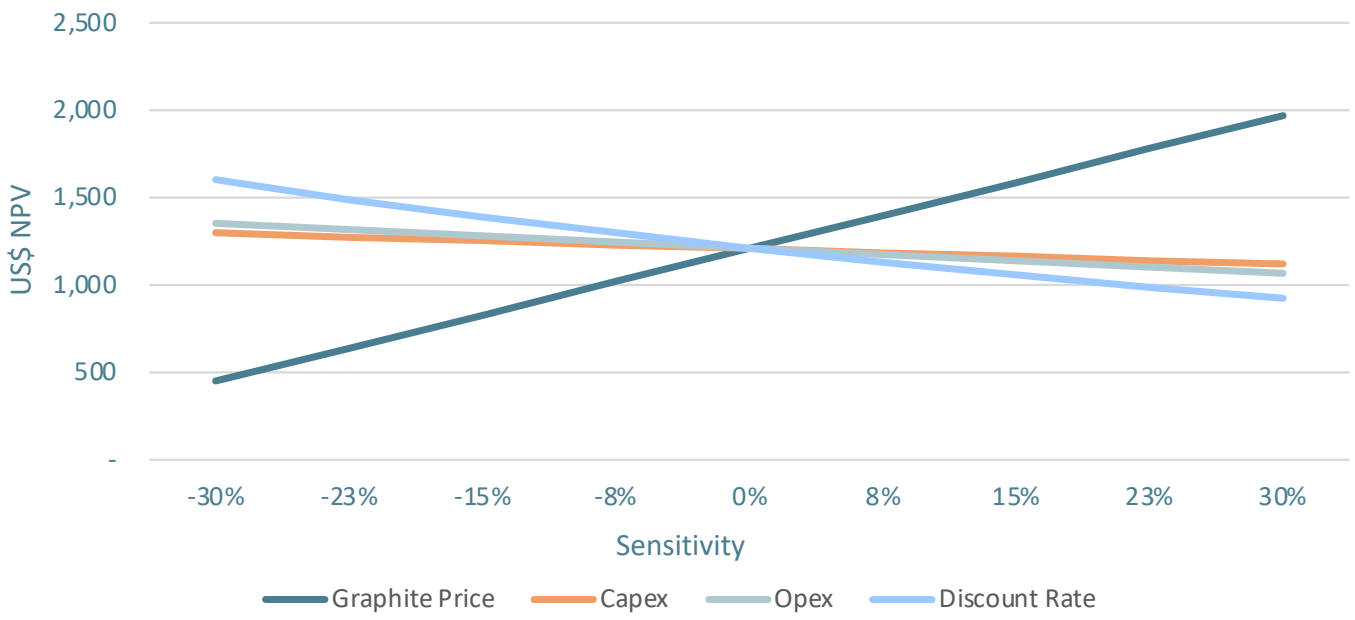
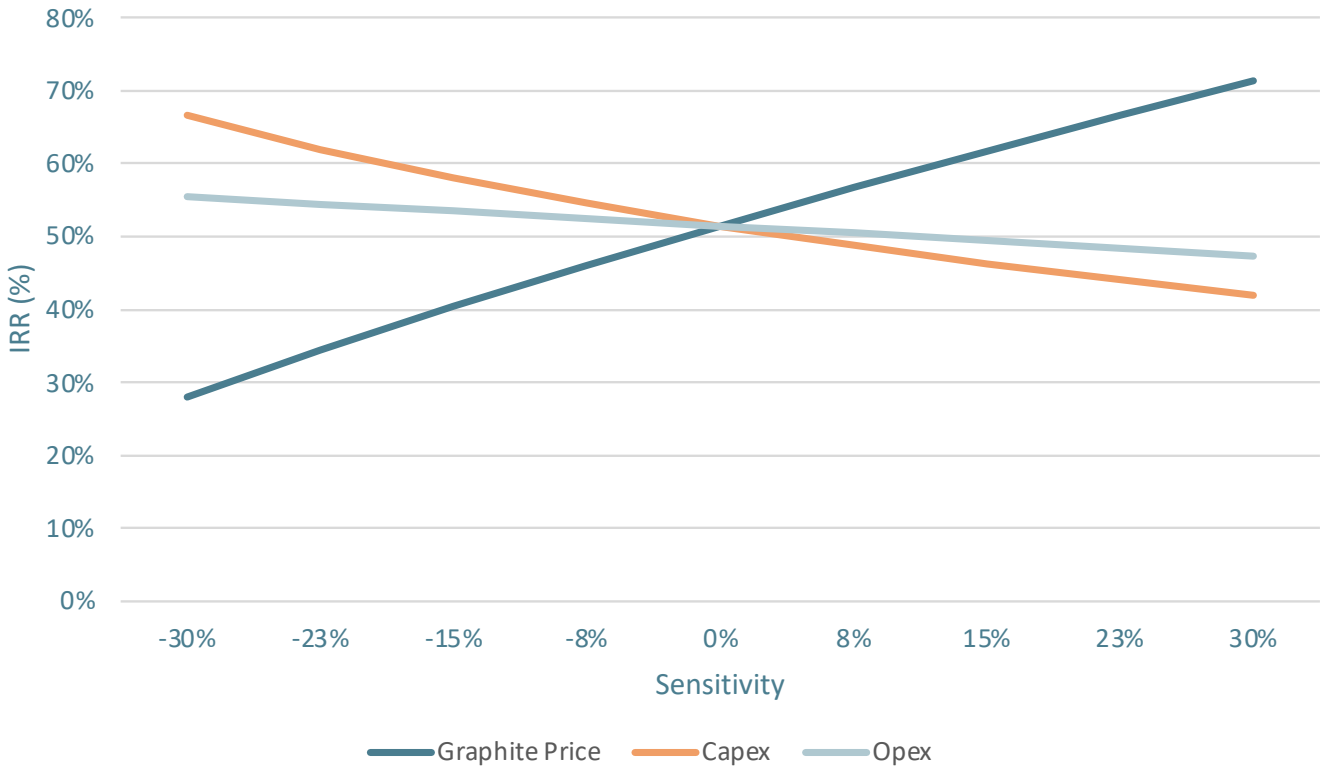


FIGURE 12 >

US$ IRR Sensitivity (%)



Funding

Based on the financial and technical viability of the Project as presented in this BFS update as well as the progress of various ongoing discussions with both potential funding and offtake partners, the Company has several options to explore to fund pre-production capital.

A combination of debt and equity financing options are being considered as well as other alternative funding options such as seeking a joint venture partner. The ultimate financing strategy and funding structure for the Project will have the overall objective of delivering an optimal outcome for our shareholders.

There are several factors that will influence the Company's ability to obtain funding, including the timing of such funding and the ability to secure favourable terms. Whilst not an exhaustive list, risks these may include market conditions for both equity and debt markets, graphite pricing fluctuations as well as risks associated with securing further bankable graphite offtake agreements.

Marketing

The Nachu graphite resource is located in Tanzania and Magnis is the only graphite developer in Tanzania to be granted a Special Economic Zone ("SEZ") for production and export of high value-added graphite products. Magnis will be well-positioned to take advantage of the predicted global supply deficit for natural flake graphite due to its unique product attributes:

- Consistent intrinsic high-grade and quality of crystal structure with minimal imperfections in its flake graphite
- High purity and quality of flake and ability to achieve CSPG >99.95% purity levels without chemical or thermal purification
- Strong ESG credentials given high yield and absence of toxic processing reagents
- Favourable spread of flake sizes including meaningful super jumbo +500 microns flake which is in scarce supply globally and attracts a significant premium to smaller flake sizes

The Nachu Project will target:

- the lithium-ion battery anode market for its flake concentrate below 300 microns;
- internal development program with C4V for -300 micron concentrate; and
- the following markets for medium to super jumbo flake;

    a. Refractories
    b. Nuclear (if low boron – build matrix of Uranium in pebble bed reactors)
    c. Manufactured fluids – gaskets / break pads
    d. Cast electrodes – conductivity enhancement
    e. Foils / thermal controlled devices – e.g. 100 inch TVs

The Project is expected to be in an especially advantageous position in the battery market with its strong ESG credentials and high purity as sustainably sourced graphite becomes increasingly important with western OEMs and Tier 1 cell manufacturers.
Magnis believes there is a bright future for the Project given the quality and size of resource and the alternative supply chain it represents across the various graphite value chains. Magnis is also well placed to participate in downstream opportunities in the anode materials space.

Graphite Market

The global graphite market is projected to grow from US$14.83 billion in 2021 to US$25.70 billion in 2028, representing a CAGR of 8.2%.[17] By volume, Benchmark Minerals Intelligence ("**BMI**") estimates the market to grow at a CAGR of 17% from c.700kt in 2021 to c.4,500kt in 2030. By 2050, Credit Suisse expects annual graphite demand to reach c.5,000kt and c.7,000kt for synthetic and natural graphite, respectively with natural flake demand overtaking synthetic demand by 2026. This growth expectation represents a significant opportunity for the Nachu Project which is expected to produce c.236ktpa from 2025.

Forecast Demand & Supply

International Energy Agency ("**IEA**") estimates, under their aggressive sustainable development scenario where the world transitions to meet the Paris Agreement goals, indicate that the graphite market could grow by up to 25x by 2040 relative to 2020.[18]

The highest growth estimate is from Credit Suisse, which assumes that total demand will reach c.12,000kt by 2050 under their low case scenario - c.5,000kt and c.7,000kt for synthetic and natural graphite, respectively - with natural flake demand overtaking synthetic demand by 2026 as per Figure 14 below.

Due to the increasing focus on the sustainability and environmental footprint of materials for lithium-ion batteries, any material considering entering the European and the US market needs to demonstrate the highest sustainability standards. As a result, natural graphite supply is becoming more globally diversified and there are a number of projects outside of China that are looking to bring new supply of graphite raw material to the market. Approximately 166kt of annual concentrate capacity is under construction and another 985kt of annual capacity is in feasibility stage globally ex-China. However, even with the expected new supply, BMI have forecast in Figure 15 below that there will be a significant deficit in the supply of anode materials for the Li-ion battery industry from 2025 onwards based on the expected growth rates in Li-ion batteries and the lack of supply of raw materials including natural flake graphite used to make anode precursor.

FIGURE 13

Demand Growth of Selected Minerals, IEA

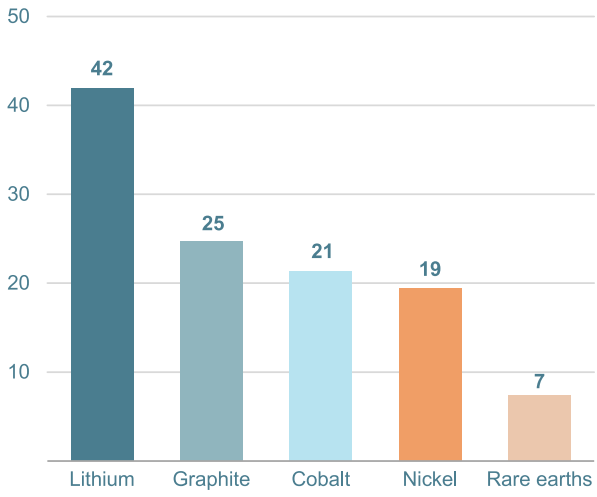
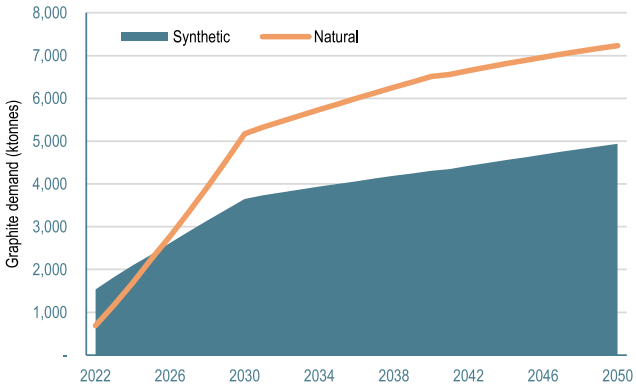


FIGURE 14

Natural and Synthetic Graphite Production (high case)

[Source: Credit Suisse]



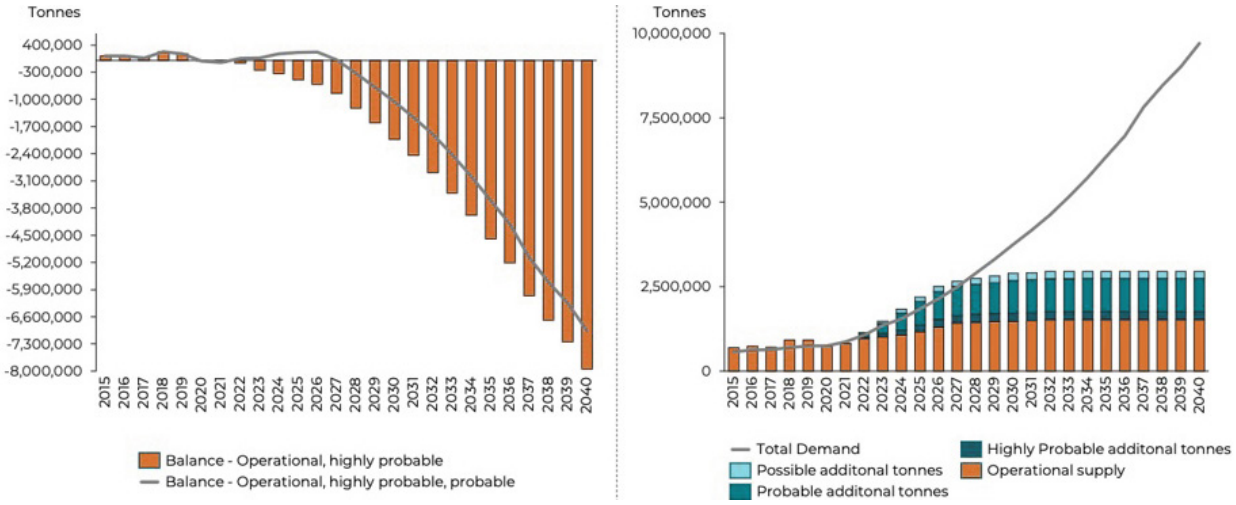


FIGURE 15

Natural Flake Graphite Supply Demand Balance

[Source: Benchmark Minerals Intelligence]

17 Fortune Business Insights: https://www.globenewswire.com/news-release/2022/03/08/2399045/0/en/Graphite-Market-to-Worth-USD-25-70-Billion-by-2021-2028-Graphite-Industry-CAGR-of-8-2.html

18 IEA The Role of Critical Minerals in Clean Energy Transitions.

19 BloombergNEF – Global Graphite Outlook, China's Dominance Unchallenged

Pricing

Natural flake graphite pricing is dependent on flake size, purity and specific technical attributes. In recent times, there has been a meaningful increase in graphite prices due to disruptions in China, including the closure of environmentally unfriendly mines, and this trend is expected to continue. In the medium to longer term, high barriers to entry and very significant increased demand from batteries makers, coupled with a partial move from synthetic to natural flake, are likely to sustain high prices.

Magnis has considered an amalgamation of prices from various third-party sources, including price reporting agencies and price discovery from specialist global physical commodity trading houses, to determine forecast graphite pricing for the Project. Note that Magnis can produce market leading purity levels of graphite concentrate without chemical or thermal purification and boasts very attractive ESG attributes for end users.

Table 12 Nachu basket price calculation, US$/t

Classification	Sieve Size		Quantity	Distribution	TGC	Price
	Size	Mesh	TPA		%	($US/tonne)
Super Jumbo	>500	35	21,240	9%	98.50%	2,500
Jumbo	300-500	50	75,520	32%	98.50%	2,300
Large	180-300	+80, -50	75,520	32%	99.00%	1,750
Medium	150-180	+100, -80	21,240	9%	99.00%	1,425
Fine	<150	-100	42,480	18%	99.00%	1,100
Basket			**236,000**	**100%**		**1,847**

Nachu positioning and marketing strategy

As a critical minerals jurisdiction, Tanzania will increasingly emerge as a key partner for Western industries involved in the energy transition given the quality and diversity of its raw materials and an increasingly forward-looking Government. Indeed, there is expected to be strong increase in demand for graphite sourced from East Africa, where several projects are currently under development and will need to come online to meet projected demand.

The Nachu Project graphite resource will be well-positioned to help address the predicted global supply deficit for natural flake graphite given its unique product attributes:

- Consistent intrinsic high-grade and quality of crystal structure with minimal imperfections in its flake graphite
- Purity and ability to achieve CSPG >99.95% purity levels without chemical or thermal purification
- Strong ESG credentials given high yield and absence of toxic processing reagents
- Favourable spread of flake sizes including meaningful super jumbo +500 microns flake which is in sparse supply globally and attracts a significant premium to smaller flake sizes

In addition to product attributes, Magnis benefits from its experience and relationships with major stakeholders in Tanzania and key partnerships and projects in the supply chain:

- Significant local operations in Tanzania for over 10 years with Special Mining Licence granted
- Only graphite developer in Tanzania to be granted a Special Economic Zone for production and export of high value-added graphite products
- Majority ownership of USA's first independent giga-factory, Imperium 3 New York and R&D battery technology provider, C4V for potential supply and downstream processing technology development
- Over 5 years of test work conducted by C4V's Lithium-ion anode development program

Both product and corporate attributes form the basis of our two-pronged go-to-market strategy and consist of:

Tactical customer approach and offtake strategy

- Establish a diversified set of offtake partners across varying end user markets
- Ensure all offtake arrangements are "bankable" and satisfy project lenders / ECAs
- Offtake may be spread between trading houses and end customers such as tier 1 anode and lithium-ion cell OEMs / foil manufacturers / nuclear industry participants etc
- Priority given to customers that test and qualify Nachu product
- Priority given to strong credit rated off-takers prepared to invest equity in the Nachu project or make prepayments

Strategic Exploration of downstream opportunities for LIB battery-grade flakes

- SPG in Tanzania within the SEZ
- CSPG in Europe, USA or locations where significant opportunities are identified (may be direct ownership or in a joint venture)
- Collaboration with our strong Li-ion technology partner in C4V (in which Magnis is the majority shareholder)

Whether tactical or strategic, our product target markets will be:

- Fines to large flake – lithium-ion battery anodes
- Jumbo to Super Jumbo flake for use in;
    a. Refractories
    b. Nuclear (if low boron – build matrix of Uranium in pebble bed reactors)
    c. Cast electrodes – conductivity enhancement
    d. Foils / thermal controlled devices – e.g. 100 inch TVs

Current Offtakes

Magnis announced the signing of a six-year legally binding offtake agreement with Luxembourg based commodity trader Traxys Europe SA on 20 December 2021 for the delivery of 600 kt of natural graphite concentrate with varying specifications from the Nachu Graphite Project. Under the offtake agreement, Magnis will deliver 50 kt of graphite product within the first 12 months of the commencement date (second half of 2024 targeted) and 110 kt per year in each of the following 5 delivery years at market price. The offtake agreement will assist Magnis to secure project funding for the development of the Nachu Graphite Project. Magnis will seek further offtake agreements for the remainder of the production as per the Marketing Strategy described earlier.

Implementation Schedule

The schedule for the Project is being driven by the date that the Project will need to meet in respect to the current offtake agreement as well as potential offtake partners the company is in discussions with. Market research indicates that 2025 is likely to see both a sharp increase in demand as well as the beginning of a sustained supply/demand imbalance which the company expects will be supportive for graphite prices. Please refer to the forecast demand and supply analysis in the marketing section for additional information on this.

The project execution schedule shows the projected timeline from the start of the Front-End Engineering Design (**FEED**) to first production. An Optimisation Phase is planned to be completed prior to the commencement of the FEED Phase. The Optimisation Phase will be used to evaluate some opportunities that were identified during the BFS study update in respect to process equipment options and also review options for the most efficient construction methodology.

Table 13 Implementation Schedule

Task Description	Start Date	End Date
Nachu Graphite Project	Q4 2022	Q1 2025
Optimisation Phase	Q4 2022	Q1 2023
FEED and Engineering Phase	Q2 2023	Q2 2023
Construction	Q3 2023	Q1 2025
First Ore to Mill	Q1 2025	

Nachu JORC Code 2012 Table 1 Criteria

The table below summaries the assessment and reporting criteria used for the Nachu deposit, Nachu Graphite Project Mineral Resource estimate and reflects the guidelines in Table 1 of The Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code, 2012).

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.).

CRITERIA	JORC Code explanation	Commentary
Sampling techniques	• Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling. • Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. • Aspects of the determination of mineralization that are Material to the Public Report. • In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralization types (e.g. submarine nodules) may warrant disclosure of detailed information.	• Sampling is by Reverse Circulation (RC) and HQ3 Diamond (DD) drillholes. Some DD have twinned existing RC holes for lithology and grade verification, and structural data. • RC samples collected at 1m intervals and either run through an on-board cone splitter for 2015 (recent) drilling or riffle split for pre 2015 (earlier) drill programs to obtain an A sample for analysis and a B sample for QAQC verification. • Samples are submitted for LECO analyses as well as for ICP Multi-element analyses. The recovered DD core was cut lengthwise with a rock saw to produce 1 m samples. Where lithological boundaries did not fit the 1m geometry, the sample length was to be a minimum of 0.5m or a maximum of 1.5m. Core was halved for normal analyses. In the case of duplicate analyses (5% of samples submitted), the core was quartered. The remaining core is retained in stratigraphic sequence in the core trays.
Drilling techniques	• Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).	• The RC drilling was completed at 5 ½ inch diameter using a Schramm 450 drill rig. • The core drilling was completed with a Christensen CS -1400 drilling rig. The drilling equipment was HQ3 (triple tube) sized. • All core holes if not vertical are orientated to facilitate structural measurements. • Drilling is planned to optimally intersect the target horizon as close as possible to perpendicular.
Drill sample recovery	• Method of recording and assessing core and chip sample recoveries and results assessed. • Measures taken to maximise sample recovery and ensure representative nature of the samples. • Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/ gain of fine/coarse material.	• RC samples are weighed as recovered and after splitting to assess the reliability of the splitting process. • RC chip specimens are collected in chip trays. • Core recovery measurements are recorded for every borehole. • To date no discernible loss has been noted with sample recovery processes.

Section 1 Sampling Techniques and Data

CRITERIA	JORC Code explanation	Commentary
Logging	• Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. • Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography. • The total length and percentage of the relevant intersections logged.	• All holes drilled are logged in full and sampled by the site geologists. • All the logged information which includes depth, lithology, mineral assemblage, Cg mineralization (laboratory data), collar survey and geology are recorded in the field logging sheets and in digital format. • The entire core is recorded in sequence as digital photographs.
Sub-sampling techniques and sample preparation	• If core, whether cut or sawn and whether quarter, half or all core taken. • If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry. • For all sample types, the nature, quality and appropriateness of the sample preparation technique. • Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. • Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling. • Whether sample sizes are appropriate to the grain size of the material being sampled	• RC samples are routinely being taken in 1m intervals via a dry and regularly cleaned cyclone and 1/8th split using a cone splitter for recent drilling in order to obtain an A sample for analysis and a duplicate B sample. • The core is split by saw and half core is submitted for analyses generally as 1 m samples. When a duplicate sample is submitted, the core is quartered. • Samples are submitted for LECO analyses as well as for ICP Multi-element analyses. • Within the total samples dispatched a random sequence of 5 % each of standards, blanks and duplicates were included. Sample preparation is done by ALS in Mwanza (Tanzania), before the prepared samples are shipped to ALS in Brisbane for content determination. • Sampling procedure include drying, crushing, splitting and pulverizing ensures that 85% of the sample is 75 micron or less in size. A split of the sample was analysed using a LECO analyser to determine carbon in graphite content.
Quality of assay data and laboratory tests	• The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. • For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. • Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	• All samples are labelled with a unique sequential number with a sample ledger recording all samples. • Samples are analysed under the ALS code C-IR18 (Graphitic Carbon by LECO, Brisbane). For the RC cuttings the multi-element analysis is coded ME-ICP41 (35 Element Aqua Regia ICP AES, Brisbane). • QA/QC samples are included in a random sequence at a frequency of 5 % each for standards, blanks and duplicates. Results indicate acceptable levels of accuracy and precision are achieved. • The laboratory uses internal standards in addition to the standards, blanks and duplicates inserted by Magnis Resources Limited and parties related to Magnis Resources Limited. • The standards are supplied by an external and independent third party. The blanks are made from non-graphitic rock outcrop in the vicinity of the project area. The duplicates are a B sample selected from within the drilling sequence. • The detection limits are deemed sufficient for the purpose of future Mineral Resource estimation.

Section 1 Sampling Techniques and Data

CRITERIA	JORC Code explanation	Commentary
Verification of sampling and assaying	• The verification of significant intersections by either independent or alternative company personnel. • The use of twinned holes. • Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. • Discuss any adjustment to assay data.	• External overview of Magnis Resources Limited and parties related to Magnis Resources Limited field geologists is by an external consultant who regularly assess on site standards and practices to maintain consistent practice. • The twinning of some RC boreholes by DD was completed and was used to verify sampling validity. • The primary data is collected using a logging and sampling data collection system allowing full security of collected data stored in company offices in Dar Es Salaam, Adelaide, and Sydney. • Assay data has not been adjusted.
Location of data points	• Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. • Specification of the grid system used. • Quality and adequacy of topographic control.	• A hand-held GPS was used to site the drill holes (Easting, Northing and RL with a horizontal accuracy of +/- 5 metres) and reported using ARC 1960 grid and UTM datum zone 37 south grid for Blocks B,D and J, and using WGS84 grid and UTM datum zone 37 south grid for Blocks F and FSL. Blocks B, D and J will be moved to WGS84 grid with their next estimations. • All drill holes have had the location verified and surveyed using an independent surveyor with a differential GPS (Trimble R8 GNSS instrument). • Topographic control is excellent due to the high resolution DTM survey completed in 2014 by Southern Mapping with a high level of accuracy required for project construction planning. • The dip and azimuth of the all holes were measured using a Reflex ACTII down-hole survey tool.
Data spacing and distribution	• Data spacing for reporting of Exploration Results. • Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. • Whether sample compositing has been applied.	• The spacing of RC drilled holes is a nominal grid of 100m x 100m or up to 200m x 200m for tabular zones of mineralization • Drilling programs have included further infill drilling to a nominal 100m x 100m spaced grid in order to confirm an increased confidence in geological continuity, structure and mineralization. • Compositing to 1 m was applied to exploration data for Mineral Resource estimation.

Section 1 Sampling Techniques and Data

CRITERIA	JORC Code explanation	Commentary
Orientation of data in relation to geological structure	• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. • If the relationship between the drilling orientation and the orientation of key mineralized structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	• From recent geotechnical evaluation and surface mapping regional foliation is varied but an overall dip at low angles of between 5 and 15 degrees to the west and 15 to 30 degrees in the east. • 3D modelling of the 2014 EM highlighted structural domains allowing greater accuracy in drilling orientation which has been followed up by downhole acoustic televiewer logging for greater definition and accuracy of foliation and structure angles and directions. • EM survey modelling had Block D interpreted as shallow angled rolling horizons. Vertical drillholes are appropriate to target mineralization in Block D • EM survey data modelling for Blocks B, F & J have interpreted antiform structures with shallow dipping horizons away from the hinge zone. All holes were orientated with a dip and azimuth to intersect the mineralization perpendicular to strike and across the dip of the mineralization or to investigate and confirm the geological model.
Sample security	• The measures taken to ensure sample security.	• The samples are split and packed at the drill site and sealed prior to daily transport to the field office in Ruangwa, which has 24 hour security, prior to transport by locked commercial truck carrier to ALS Mwanza. ALS ships the sealed samples after preparation to Brisbane. • The remaining B samples and core are kept at the manned site sample storage facility and the Ruangwa office.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	• The 2014 Mineral Resource estimation was undertaken by independent consultants AMC Consultants Pty Ltd (AMC) who completed a site visit at the time. The sampling protocol was observed to conform to industry standards. AMC completed the 2016 Mineral Resource Estimate.
Mineral tenement and land tenure status	• Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. • The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.	• The prospecting license PL 9076/2013 was granted (renewal) on 12 April 2013 and is current to April 2017 upon which the standard renewal process will be required. The area covered by the prospecting license is 198.57 km2. • On 9 September 2015 Special Mining Licence SML 550/2015 was granted for a period of 16 years over 29.77 km2 of PL 9076/2013, covering a suitable area required for mine development including the resource areas of Blocks F, FSL, J and B. • The SML and PL are situated in the Ruangwa District of south-east Tanzania. • The PL is held by Uranex Tanzania Ltd. and is not subject to joint venture agreements, third parties, royalties or partnerships. The surface area is administered by the Government as native title. The area is rural, with wilderness areas and subsistence farming occurring on the PL. • The tenements are in good standing with no known impositions.

Section 1 Sampling Techniques and Data

CRITERIA	JORC Code explanation	Commentary
Exploration done by other parties	• Acknowledgment and appraisal of exploration by other parties.	• No exploration for graphite has been done by other parties in this area. Some gemstone diggings for tourmaline are present in the PL.
Geology	• Deposit type, geological setting and style of mineralization.	• The Nachu project is situated in graphitic schist with associated dolomites and gneisses. • The majority of EM modelling and geological intercepts indicate open folded anticlines with various dips to fold limbs in each resource Block. • The graphite mineralization is mostly associated with the schist, and is metamorphic (meta-sedimentary) in origin.

Drill hole Information	• A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:
	  • easting and northing of the drill hole collar
	  • elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar
	  • dip and azimuth of the hole
	  • down hole length and interception depth
	  • hole length.
	• If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.
		• No material information has been deliberately excluded.
		  • A table of recent drillholes and drill holes transferred to WGS 84 zone 37 south grid including coordinates, dip and azimuth was included as an appendix in ASX release on 1st February 2016 titled Nachu Graphite Project Updated Mineral Resource. Earlier drilling for Blocks B, D, and J were previously reported in 2015.

Data aggregation methods	• In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated. • Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. • The assumptions used for any reporting of metal equivalent values should be clearly stated.	• Significant intercepts when reported based on a 5% cut-off with a minimum length of 5 m which has an allowable maximum 2m of internal low grade material. All significant intercepts are generated using Micromine software's automated advanced grade compositing function. • Higher grade significant intercepts are reported based on a 10% GC cut-off with a minimum length of 2m with no internal low grade material. All significant intercepts are generated using Micromine software's automated advanced grade compositing function.

CRITERIA	JORC Code explanation	Commentary
Relationship between mineralization widths and intercept lengths	• These relationships are particularly important in the reporting of Exploration Results. • If the geometry of the mineralization with respect to the drill hole angle is known, its nature should be reported. • If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').	• The majority of EM modelling and geological intercepts indicate folded anticlines of various limb dips in each key resource Block. • Holes were vertical or orientated towards an azimuth so as to intersect the mineralization in a perpendicular manner.
Diagrams	• Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	• Block plans included in this report show the distribution of the RC and DD boreholes.
Balanced reporting	• Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	• Any and all reported intervals are downhole intervals from drilling aimed at being as perpendicular to mineralization as practical.
Balanced reporting	• Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	• Any and all reported intervals are downhole intervals from drilling aimed at being as perpendicular to mineralization as practical.
Other substantive exploration data	• Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	• The electro-magnetic survey has been processed with data used to target mineralization in the most efficient and representative manner. • The regional mapping was combined with the lithological and quality information from the drill holes, to provide a structural framework around which mineral envelopes were modelled. • Metallurgical testing is continually ongoing with test work currently focused on the Block F area using representative downhole composites of similar lithological composition, grade and mineralization characteristics.
Further work	• The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling). • Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	• Further infill and extension drilling is possible with an aim to further increase resource confidence over a larger area or to expand on known extents of mineralization. More than 800 Ha of potential target area has been identified. • Umpire samples have been routinely dispatched to a third party laboratory. • The samples for metallurgy are routinely sent to the laboratories and interested parties.

Section 2 Sampling Techniques and Data

CRITERIA	JORC Code explanation	Commentary

Database Integrity	• Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.
	• Data validation procedures used.
		• Drillhole coordinates were plotted on plan maps to identify errors. Drill sections were produced to match collar dips and azimuths.
		• Checks undertaken include but are not limited to:
		  • All collar co-ordinates within the permit area.
		  • No duplicate drillholes.
		  • No overlapping FROM and TO intervals in the geology and assay tables.
		  • Downhole survey dip and bearing angles appear reasonable.
		  • No duplicate records.
		  • No anomalous assay values.

Site Visits	• Comment on any site visits undertaken by the Competent Person and the outcome of those visits. • If no site visits have been undertaken indicate why this is the case.	• A site visit was undertaken by the competent person in August 2014 and therefore not considered necessary for the 2016 update. • In 2014 one diamond drill rig and two RC drill rigs were seen in operation. • Graphitic materials were observed in outcrop and in drill samples. • Drill core, core handling facilities and sample storage facilities were inspected. • Photographic imagery of the diamond drillcore was sighted.
Geological Interpretation	• Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit. • Nature of the data used and of any assumptions made. • The effect, if any, of alternative interpretations on Mineral Resource estimation. • The use of geology in guiding and controlling Mineral Resource estimation. • The factors affecting continuity both of grade and geology.	• Geological interpretations are based on drillhole data, interpretations of geotechnical evaluations, EM geophysical measurements and graphitic outcrop data. • The orientation of the interpreted geological trends, and the continuity in grade observed were used to generate the interpretation of mineralization. • The strata containing mineralization has formed in continuous layers during deposition separated by and inter-tonguing layers of sub-economic grade and interpretation of corresponding mineralized strata in adjacent holes may align differently from that interpreted. Particularly where potential grade trends differ from other supporting data. However, given the nature and extent of continuity of mineralization, this is unlikely to have significant effect on the Mineral Resource estimation. • Collection of more drilling data including orientated data should continue to validate the interpretation. • New drill data will be collected and collated using current procedures aligned with industry standards

Section 2 Sampling Techniques and Data

CRITERIA	JORC Code explanation	Commentary
Dimensions	• The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	• The Nachu deposit comprises five mineralized areas, being Blocks B, D, F, F South Limb, and J. • These deposit cover a combined strike length of 5.5 km and an average plan width of up to 300 m for B,D,J, F South and 800 m for F (often comprising multiple mineralized horizons separated by barren or low grade horizons), to depths between 150 m and 250 m below surface. • The mineralization occurs at or near surface.
Estimation and Modelling Techniques	• The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software & parameters. • The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource Estimate takes appropriate account of such data. • The assumptions made regarding recovery of by-products. • Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulfur for AMD characterisation). • In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed. • Any assumptions behind modelling of selective mining units. • Any assumptions about correlation between variables. • Description of how the geological interpretation was used to control the resource estimates. • Discussion of basis for using or not using grade cutting or capping. • The process of validation, the checking process used, the comparison of model data to drillhole data, and use of reconciliation data if available.	• The Mineral Resource Estimates for Block B, D and J are unchanged since 2014. • Block FSL has no new data and has been estimated with the dataset translated to the WSG84 grid system. There is no material change. • Block F has been re-estimated including data from drilling completed in 2015 and the dataset translated to WGS84 grid system • For F Block statistical review and variography has been undertaken using Visor and GeoAccess software. • The estimation method was a block model using Ordinary Kriging (OK) of graphitic carbon (GC), with parent cell estimation, using octants and a discretization of 4x4x2. • This method is considered appropriate for the relatively consistent nature and grade of mineralization. • The grade estimation has been undertaken using Datamine Studio 3 software. • The cell model block size was 10 x 40 x 2 m in easting, northing and vertical directions with sub- celling. This is considered suitable for the relatively flat, open folded and relatively narrow mineralized lodes. • Dynamic anisotropy has been used to adjust the search orientation during the grade estimation and honor bedding orientation in folded zones. • The estimation has used hard boundaries. • A top-cap of 15% GC was applied in the western fold limb of Area F in the mineralized domains. No top-caps were required to be applied to any other Blocks estimated. • Cell model estimates were compared statistically and visually to the drillhole assay data.
Moisture	• Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	• Tonnage estimated is based on dry tonnes. Bulk density samples were oven dried.

CRITERIA	JORC Code explanation	Commentary
Cut-off Parameters	• The basis of the adopted cut-off grade(s) or quality parameters applied.	• Geological interpretation and mineralization has good grade continuity on a nominal 1.8% GC cut-off. Mineral Resource estimates used 3% GC cut-off for reporting.

Mining Factors or Assumptions	• Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	• It has been assumed that the mineralization will be amenable to open-pit mining due to:
		  • the shallow nature of the lodes near surface,
		  • the generally flat or shallow dipping orientation of the lodes,
		  • the thickness of the lodes,
		  • the consistent grades, and
		  • Tanzanian mining costs are typically $2.50 to $3.50 per tonne

Metallurgical Factors or Assumptions	• The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	• A significant amount of metallurgical test work has been completed, under the direction of Magnis, to date showing favourable treatment processes and product marketability. • Test results from initial qualification work of Nachu graphite as feedstock for lithium-ion battery anode production showed micronised coated graphite, upgraded to 99.8%TGC without any chemical or thermal purification, achieved first cycle efficiency rate of 97.1% equating to a loss of only 2.9% and is an improvement of 42% over synthetic graphite. • 73% of flake graphite is in Large (+180-300 microns), Jumbo (+300-500 microns) or Super Jumbo (+500 microns) categories with repeatable results in Blocks F and FSL. • No deleterious elements present.

CRITERIA	JORC Code explanation	Commentary
Environmental Factors or Assumptions	• Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	• The Nachu Graphite Project has been issued with an Environmental Certificate from the National Environment Management Council of Tanzania based on the Environmental Impact Study completed to International Finance Corporation standards. Subsequently Special Mining License SML 550/2015 has been granted for the Nachu Graphite Project. Ongoing environmental and social impact programs will continue as per licensing agreements.
Bulk Density	• Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples. • The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vughs, porosity, etc.), moisture and differences between rock and alteration zones within the deposit. • Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	• Density measurements generally use dry weight and the measured dimensions of the core sample collected. Recent drilling at F Block has also used the immersion method • The methods of density measurement are suitable to the rock type and style of mineralization. • 941 bulk density measurements were recorded within mineralized rock types. • Bulk densities used were based on the average bulk densities for oxide and primary rock in each area.

Classification	• The basis for the classification of the Mineral Resources into varying confidence categories.
	• Whether appropriate account has been taken of all relevant factors
	• (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).
	• Whether the result appropriately reflects the Competent Person's view of the deposit.
		• The Mineral Resource classification criteria and cut-off grades used are based on:
		  • Drill spacing.
		  • Proximity of mineralization to surface.
		  • Potential mining methods.
		  • Assumed processing and recovery values based on preliminary test work.
		• The Nachu Mineral Resource is classified as a combination of Measured, Indicated and Inferred Mineral Resources.
		• The Competent Person is satisfied that the classification appropriately reflects what is currently known about the continuity of geology and mineralization, considering the available local results and regional setting and style of mineralization.

Audits or Reviews	• The results of any audits or reviews of Mineral Resource Estimates.	• There have been no internal or external audits completed to date.

CRITERIA	JORC Code explanation	Commentary
Discussion of Relative Accuracy/ Confidence	• Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource Estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate. • The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used. • These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	• Drilling has been carried out using drilling methods considered reliable for sample collection. Assaying has been to industry standard. • There is sufficient data to undertake geostatistical assessment and incorporate variography into the estimation techniques. • Given the continuity of the deposit geology and mineralization and relatively consistent grades an indicator kriged method of GC estimation was considered appropriate. • The accuracy of the model has been reviewed against the drilling data using statistical comparison, visual review and sectional comparisons - swath plots. • Statistical review shows smoothing within the model and accurate replication of the global average grade. • Visual assessment shows the distribution of block grades in the model reasonably reflect the distribution and trends of grades in the mineralized envelopes. • Sectional comparison of drillhole and block model grades in 100 m wide E-W and N-S windows and 20 m high layers show strong correlation between the two sets of data. The volume in each window reflects the relative drillhole data density when compared with other windows. • The global estimate of tonnes and grade for each block and the confidence level for each zone within the block is considered accurate.
Mineral Resource estimate for conversion to Ore Reserves	• Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.	• The Mineral Resource Estimate used as a basis for the conversion to the Ore Reserve was published by Magnis Resources on 1st February 2016 with Mr Andrew Proudman of AMC Consultants Pty Ltd as the Competent Person. It reported 174Mt at 5.4% graphitic carbon (Cg) including Measured, Indicated and Inferred materials for all Blocks (B, D, F, FS & J) at a 3.0% Cg cut-off. • Only F and FS blocks have been included in the Ore Reserve estimate. The Measured, Indicated and Inferred resource materials of these blocks, at a 3% Cg cut-off, were reported as 133.3Mt with a grade of 4.9% Cg.
	• Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	• The Mineral Resources are reported inclusive of the Ore Reserves.

CRITERIA	JORC Code explanation	Commentary
Site visits	• Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	• (Mr Carel Moormann, principal mining consultant at Orelogy and Competent Person for the 2016 Ore Reserve, has visited the Nachu project site in December 2014. The following observations were made: • Mtwara is the nearest sizable regional centre. It has port and airport infrastructure. The port facilities are suitable for concentrate export. • From Mtwara the Nachu site is accessible via sealed and unsealed roads. The unsealed roads will require upgrading to allow uninterrupted concentrate transport. • Apart from road access there is no other infrastructure such as power or water supply. • Several villages / communities are located in the project area but overall the area is not heavily populated. The main villages will not be materially impacted by the project; however relocation of a small number of dwellings that will be affected by the operation is expected. • The project area is covered with vegetation and some parts are utilized for growing food crops. Differences in elevation are moderate with no steep slopes or inaccessible ridges hence site establishment and accessing mining areas are not expected to be difficult. • Weathering depth varies. Highly weathered materials have high clay contents. This is likely to affect the haulage efficiency of the mining fleet and needs to be included in mine planning consideration. • Diamond drill core showed that fresh rock is competent without signs of adverse conditions that could affect slope stability or drilling and blasting requirements. • Some sulphides were observed in some parts of the diamond drill core.
Study status	• The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.	• A 2016 Bankable Feasibility Study for the F and FS Blocks of the project was the basis for the conversion of Resources to Reserves. The August 2022 Feasibility Study (being an update of the 2016 DFS), confirming the Reserves, was assembled by Ausenco.
	• The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.	• The August 2022 Definitive Feasibility Study Update was underpinned by a mine plan that was based on the Measured and Indicated resource materials of the F and FS Blocks. Mine planning included pit optimisations, pit designs, mining and processing scheduling, cost estimations and the analyses to ensure the project is technical achievable and economically viable. • Slope design criteria, mining dilution, ore loss and processing recoveries were applied in the pit optimisation process together with mining, processing and concentrate transport cost estimates, concentrate pricing and royalty estimates to generate optimised pit shells which form the basis for pit designs and the mine plan.

CRITERIA	JORC Code explanation	Commentary
Cut-off parameters	• The basis of the adopted cut-off grade(s) or quality parameters applied.	• Only Measured and Indicated resource materials, modified for dilution and ore loss, were considered as potential ore in the pit optimisation process. The optimisation was restricted to the F and FS Blocks with graphitic carbon cut-off grades that aim for a 98.8% Cg concentrate grade at a production level of 240ktpa from a 5Mtpa concentrator.
Mining factors or assumptions	• The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).	• A Whittle 4X pit optimisation was completed in August 2022. Slope design criteria, mining dilution, ore loss and processing recoveries were applied in the pit optimisation process together with mining, processing and sales cost estimates and revenue projections to form the basis for pit designs and subsequent mining and processing schedules.
	• The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.	• A conventional open pit mine method was chosen as the basis of the BFS Update due to the low strip ratio and the outcropping of ore at surface. • Mine design criteria include: minimum mining width, ramp width and gradient, pit exit location and slope design parameters. • A small scale mining fleet, consisting of a single 90t excavator matched with 40t articulated dump trucks, was selected to accommodate initial access, efficient mining of the high clay weathered materials and subsequent development of mining areas. • Ramp widths and minimum mining widths allow for larger equipment after the initial pit development activities.
	• The assumptions made regarding geotechnical parameters (e.g. pit slopes, stope sizes, etc.), grade control and pre-production drilling.	• Geotechnical design parameters were provided by PSM Engineering Consultants and applied to pit optimisations and pit designs. • Grade control drilling patterns (10m x 10m) and sampling densities (2m lengths) were provided by Magnis, based in their in-house geological knowledge. A cost estimate was generated based on these assumptions and were applied in the pit optimisation and also to the mining schedule. • Scheduling has identified that a pre stripping period of 5 months is required to achieve sustainable feed for the concentrator to operate at its scheduled capacity.
	• The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).	• Only Measured and Indicated resource materials, modified for dilution and ore loss, were considered as potential ore in the pit optimisation process. The optimisation was restricted to the F and FS Blocks with graphitic carbon cut-off grades that aim for a 98.8% Cg concentrate grade at a steady state production level of 236ktpa from a 5Mtpa concentrator. • Slope design criteria and processing recoveries were applied in the pit optimisation process together with mining, processing and sales cost estimates and revenue projections based on a concentrate production level of 240 ktpa, a grade of 98.8%, and a flake size distribution and product price assumptions as outlined in the Bankable Feasibility Update Study results (see below).

CRITERIA	JORC Code explanation	Commentary
	• The mining dilution factors used.	• To allow for the effects of material mixing during blasting and the effects of ore-waste delineation inaccuracies in the pit, the resource models were re-blocked with smoothing to model mixing of materials. In addition an allowance for dilution and ore loss to edge blocks was applied. This method reduces the F Block Measured and Indicated resource materials from 98.8Mt @ 4.80%Cg to 94.7Mt @ 4.58%Cg and the FS Measured and Indicated resource materials from 9.2Mt @ 5.31%Cg to 8.7Mt @ 5.09%Cg (at 3%Cg cut-off). These reductions are a combination of dilution and ore loss.
	• The mining recovery factors used.	• See above.

	• Any minimum mining widths used.	• Designs and cutbacks have been designed to suit 100t excavators and 91t payload rigid dump trucks.
		  • A minimum mining width of 20m.
		  • Two way ramp width of 24m.
		  • One way ramp width of 14m
		  • Ramp gradient of 10%.

	• The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.	• No inferred Mineral Resources have been included in the Ore Reserve. Inferred Mineral Resource is treated as waste in the production schedule. • The 2016 optimisation included a sensitivity including Inferred materials, primarily to identify future resource drilling opportunities and/or potential sterilisation risks.
	• The infrastructure requirements of the selected mining methods.	• Contract mining is assumed and 2022 rates were sourced from a number of suitably qualified and experienced contracting groups. It was stipulated that all supporting infrastructure will be supplied and mobilised by the selected contractor with the costs itemised. The infrastructure includes fuel & oil storage facilities and fuel bay, workshops, wash bay, magazines and AN storage facility, offices, lunch and ablution facilities, a first aid room.
Metallurgical factors or assumptions	• The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.	• The concentrator plant utilises crushing, grinding and flotation technology to produce 236 ktpa of concentrate at steady state production levels at a grade of 98.8%Cg, at a maximum plant feed rate of 5 Mtpa • The concentrate will be transported via public roads to the port of Mtwara. • The design of the concentrator process and process plant design was to Feasibility Study standard and conducted by Ausenco.
	• Whether the metallurgical process is well-tested technology or novel in nature.	• The concentrator process utilised is common for the treatment of graphitic carbon ores and metallurgical laboratory test work undertaken by AMML has been used as a basis for the plant design. This underpins the confidence that the plant will meet expectations for throughput, recovery, concentrate grade and concentrate flake size.

CRITERIA	JORC Code explanation	Commentary
	• The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.	• Metallurgical test work has been undertaken for the F and FS Blocks and also for other parts of the deposit. These test results, in terms of recovery and flake size, were relatively consistent without any indication of the presence of variable metallurgical domains. • This finding is also consistent with the observed uniformity of graphite mineralisation in diamond drill core and the resulting absence of any interpreted geological domaining in the resource model.
	• Any assumptions or allowances made for deleterious elements.	• No deleterious elements have been observed or modelled.
	• The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole	• Metallurgical testing, under the direction of Magnis, has been restricted to laboratory test work. Samples were obtained from F and FS Block diamond drill holes. • No bulk sample or pilot scale test work was undertaken. • Metallurgical test work covering several different Blocks within the deposit showed consistent results in terms of recovery and concentrate product quality (grade and flake size). Together with the uniformity of the mineralisation, and hence the absence of geological domains, it provides the confidence that the results are representative and underpin the assumptions for the reserve estimate.
	• For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet specifications?	• The reserve estimate was based on the graphitic carbon content rather than the total carbon content all the way through the value chain from drilling, assaying, resource estimation to metallurgical assessment. • In addition the flake sizes in the concentrate have an important effect on the projected concentrate price. The anticipated concentrate flake size distribution for the project is based on, and in line with, the metallurgical test work results.
Environmental	• The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.	• Mining and processing at the Nachu project site will result in voids (mined out pits), waste dumps and a tailings storage facility which are subject to normal rehabilitation and mine closure planning. • The footprint for mining and processing of F and FS blocks are at some distance from the nearest villages. However relocation (and compensation) of a small number of individual dwellings will be required and compensation for loss of agricultural land will also have to be negotiated. • Waste rock and tailings characterisation analysis has been undertaken as part of the Environmental Impact Assessment (EIA). Some sulphides were observed in the diamond drill core and the minimal risks of acid drainage have been assessed in the waste rock characterisation analysis.

CRITERIA	JORC Code explanation	Commentary
Infrastructure	• The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.	• Road access to the site is currently being upgraded as part of a regional roads up grade. Only 20km of the 220km to the port will be on gravel road. A natural gas pipeline will be constructed to the site and on-site gas powered generators will be used for power supply. Gas will also be used for process dryers. • Project water supply will primarily be from harvesting of surface water on the project site during the wet season. A dynamic water balance was completed by Knight Piesold Pty Ltd. • Unskilled labour is available from villages in the region. • Permanent accommodation facilities are planned for skilled labour including a small number of expatriates.

Costs	• The derivation of, or assumptions made, regarding projected capital costs in the study.
	• The methodology used to estimate operating costs.
		• All costs have been estimated to cover the mining, processing and concentrate transport activities of the F and FS Block reserves. These costs were estimated in US dollars, as at June 2022.
		• As the project assumes contract mining, there are no mining capital costs aside from a pre-production mining expenditure that has been capitalised. The preproduction mining expenditure is an engineering estimate based on scheduled quantities and contract rates.
		• The initial capital cost estimates (to -10% to +15% accuracy) are limited to, and based, on:
		  • processing plant design by Ausenco costs based on:
		  • quotes for mechanical and electrical equipment, labour, and bulk commodities such as steel & concrete.
		  • engineering quantity and factored estimates.
		  • tailings dam design by Knight Piesold, earthworks costs by quotation.
		  • power plant design, CAPEX and OPEX by Ausenco
		  • water supply design by Knight Piesold, cost estimates & quotes by Ausenco
		  • accommodation arrangement cost estimates & quotes by Ausenco
		• The mining operating costs are based on price estimates generated by Orelogy and based on prices submitted by a range of mining contractors.
		• Processing operating costs have been generated by Ausenco based on estimates for reagents, manpower and electricity usage and their prices while maintenance expenditure was factored.
		• Concentrate transport costs (to port of Mtwara) have been quoted by Tanzania based transport companies and product shipping costs from site to Mtwara were provided by Ibex Logistics and Grindrod Shipping.

	• Allowances made for the content of deleterious elements.	• As no deleterious elements have been identified, no allowance was made for this.

<table>
<tr><th>CRITERIA</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td rowspan="5">Revenue factors</td><td>• The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.</td><td>• The FOB basket price of $1,847/t of concentrate product is based on the following flake size distribution, concentrate grade and concentrate price intervals. The price intervals are an amalgamation of prices from various third-party sources including price reporting agencies and price discovery from specialist global physical commodity trading houses.

<table>
<tr><th>Classification</th><th>Sieve Size (microns)</th><th>Quantity (T)</th><th>Weight Proportion</th><th>Price ($US/T)</th></tr>
<tr><td>Super Jumbo</td><td>>500</td><td>19,800</td><td>9%</td><td>2,500</td></tr>
<tr><td>Jumbo</td><td>300-500</td><td>70,400</td><td>32%</td><td>2,300</td></tr>
<tr><td>Large</td><td>180-300</td><td>70,400</td><td>32%</td><td>1,750</td></tr>
<tr><td>Medium</td><td>150-180</td><td>19,800</td><td>9%</td><td>1,4525</td></tr>
<tr><td>Fine</td><td><150</td><td>39,600</td><td>18%</td><td>1,100</td></tr>
<tr><td>Basket</td><td></td><td>220,000</td><td>100%</td><td>1,847</td></tr>
</table></td></tr>
<tr><td>• Derivation of transportation charges.</td><td>• Concentrate transport costs to port of Mtwara and including all charges and taxes associated with FOB have been quoted by Ibex Logistics and Grindrod Shipping.</td></tr>
<tr><td>• The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</td><td>• The price of the concentrate varies with its flake size distribution and no deleterious elements have been identified that could result in penalties.</td></tr>
<tr><td>• The allowances made for royalties payable, both Government and private.</td><td>The royalty type payments are:
• 3% government royalty allowance
• 1% inspection fee
• a district service levy of 0.3%.
Under the MTT SEZ licence, both royalties and inspection fees are not payable during the Special Economic Zone Period and so they were applied in the financial model outside this period only</td></tr>
<tr><td>• The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.</td><td>• The factors that affect the revenue are:
  • the resource graphitic carbon grade adjusted for dilution.
  • the processing recovery.
  • the concentrate grade.
  • the flake size distribution in the concentrate.
  • the concentrate prices for varying flake sizes.
  • government royalties.
• Prices and costs are all in US dollars without exchange rate factoring.</td></tr>
<tr><td>• The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.</td><td>• The basket price of $1,847 of concentrate product is based on the flake size distribution and concentrate price estimates sourced from an amalgamation of prices from various third-party sources including price reporting agencies and price discovery from specialist global physical commodity trading houses.</td></tr>
</table>

CRITERIA	JORC Code explanation	Commentary
Market assessment	• The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.	• Benchmark Minerals Intelligence ("BMI") estimates the graphite market to grow (by volume) at a CAGR of 17% from c.700kt in 2021 to c.4,500kt in 2030. By 2050, Credit Suisse expects annual graphite demand to reach c.5,000kt and c.7,000kt for synthetic and natural graphite, respectively with natural flake demand overtaking synthetic demand by 2026. This growth expectation represents a significant opportunity for Nachu which is expected to produce c.220ktpa from 2025. • Due to the increasing focus on the sustainability and environmental footprint of materials for lithium-ion batteries, any material considering entering the European and the US market needs to demonstrate highest sustainability standards. As a result, natural graphite supply is becoming more globally diversified and there are a number of projects outside of China that are looking to bring new supply of graphite raw material to the market. Approximately 166kt of concentrate annual capacity is under construction and another 985kt of annual capacity is in feasibility stage globally ex-China. However even with the expected new supply, BMI have forecast that there will be a significant deficit in the supply of anode materials for the Li-ion battery industry from 2025 onwards based on the expected growth rates in Li-ion batteries and the lack of supply of raw materials including natural flake graphite used to make anode precursor.
	• A customer and competitor analysis along with the identification of likely market windows for the product.	• Customer demand is currently strong driven by the significant demand for graphite feedstock into Li-ion battery anodes. Forecast demand indicates that this demand is likely to only accelerate further underpinned by a structural supply demand imbalance commencing in 2025. Whilst there are a number of projects outside of China that are looking to bring new supply of graphite raw material to the market. Approximately 166kt of concentrate annual capacity is under construction and another 985kt of annual capacity is in feasibility stage globally ex-China. However even with the expected new supply, BMI have forecast that there will be a significant deficit, particularly in the supply of anode materials
	• Price and volume forecasts and the basis for these forecasts.	• The price of the concentrate product is $1,847 per tonne of concentrate at a steady state production rate of ~236,000 tonnes per annum over the duration of the project, underpinned by Traxys binding offtake agreement, current ongoing offtake discussions and significant demand driven by Li-ion battery anode requirements

CRITERIA	JORC Code explanation	Commentary

Economic	• The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.	• The inputs to the economic analysis are:
		  • The mining, processing and concentrate production schedule.
		  • The capital and operating expenses necessary to meet the schedule.
		  • The price for the concentrate produced.
		  • Shipping costs.
		  • Royalties and other Government charges
		  • Tax. Under the MTT SEZ licence, no tax is payable during the Special Economic Zone Period
		• These provide for annual cashflow estimates which then can be discounted. The discount factor has been set at 10%. Economic analysis has been conducted from a Project (unlevered) NPV perspective and thus does not include financing costs.All revenues and costs are indexed for inflation assuming a steady state inflation rate of 2%over the life of the project.

	• NPV ranges and sensitivity to variations in the significant assumptions and inputs.	• Orleogy have assessed the financial model model developed by Magnis for the project and generate an NPV in line with the 1.2bn USD generated by Magnis utilising the the final project parameters.
		• A financial analysis developed by Magnis from this model indicates that a:
		  • 30% increase in capital expenditure results in a 7.5% reduction in NPV.
		  • 30% increase in operational costs results in a 12% reduction in NPV.
		  • 30% concentrate price decrease results in a 63% reduction in NPV.
		• The pit optimisation sensitivities indicate that the optimum shell size is relatively robust, being relatively insensitive to cost variations and only somewhat sensitive to concentrate price variations. Therefore the associated pit designs can also be considered similarly robust.

Social	• The status of agreements with key stakeholders and matters leading to social licence to operate.	• Digby Wells Environmental was appointed to assist Magnis to manage the Environmental Impact Assessment. The EIA is the key process that leads to a social licence to operate and was completed in June 2015 with environmental certificate approval in September 2015. • A resettlement action plan was developed prior to the valuation and compensation process and included extensive stakeholder engagement. The process complied with Tanzanian legislation and was in accordance with international standards. The compensation process is complete apart from the completion of the resettlement eco-village for the 59 displaced families and 11 people identified as vulnerable during the valuation process. The construction of the resettlement village has commenced and is expected to be completed in Q4 2022.
Other	• To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves.	• Special Economic Zone (SEZ) legislation provides incentives for companies to create value and advance employment and development of in the country. The Exporting Processing Zone Authority (EPZA) granted Magnis a licence to operate within a Special Export Zone (SEZ) in Tanzania with a 10-year licence, which was renewed in May 2021 and covers 206 hectares.

CRITERIA	JORC Code explanation	Commentary
Classification	• Any identified material naturally occurring risks.	• The risk of large scale pit wall failure occurring is low if the pit slopes are excavated as per design and the pre-split drilling and blasting activities allowed for in the mine plan are adhered to. The consequences of such an unlikely event will result in some extra mining costs but unlikely to prevent extraction of the scheduled ore to any significant degree. • The risks of large scale pit flooding impacting on the performance of the project is low given the lack of structural aquifers in the project area and the proposed management of surface run-off. Also the presence of a Run of Mine (RoM) ore stockpile will mitigate any potential mining delays. Acceptable risk levels can be achieved by adopting appropriate pit dewatering capacity and surface drainage designs. • Rainfall variability has been considered in the dynamic water balance.

	• The status of material legal agreements and marketing arrangements.	• Concentrate product off-take agreement is in place with Traxys Europe SA. This was announced on 20th December 2021 to provide 600k tonnes of product over 6 years. The company is also in discussions with other offtake parties and marketing firms to assist in securing further offtakes.
		• The following arrangements are still to be finalised:
		  • Service contracts for mining
		  • concentrate transport, ship loading
		  • security and operating of accommodation facilities
		• These will be tendered once the Magnis board approves the commencement of the development.

	• The status of government agreements and approvals critical to the viability of the project, such as mineral tenement status and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third part on which extraction of the reserve is contingent.	• Digby Wells Environmental was appointed to assist Magnis to manage the Environmental Impact Assessment with the work completed in June 2015. • The Pre-Feasibility Study, completed in December 2014, was the other key input to gaining government mining approvals. • As part of the granting of the SEZ, separate ESIA's are required by the EPZA from Uranex Tanzania Ltd (UTL) and Magnis Technology Tanzania Ltd (MTT). • Uranex Tanzania Ltd (UTL) have been granted a variation by the National Environmental Management Council (NEMC) and does not have to resubmit a new ESIA. • However, MTT needs to have the ESIA approved again. This new ESIA document will utilize all the base line monitoring data and studies previously conducted for the original Environmental Certificate (2015). • Paulsam Geo-Engineering Company have been engaged to submit the variation of the current ESIA certificate, which is due later in 2022.
	• The basis for the classification of the Ore Reserves into varying confidence categories. Whether the result appropriately reflects the Competent Person's view of the deposit. The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	• Proven ore reserves were determined from Measured resources and Probable reserves from Indicated resource materials. This is in line with the geological knowledge available and appropriate application of economic and mining parameters. • Approximately ⅔ of the reserves are Proven and ⅓ are Probable.