

## MALINGUNDE SCOPING STUDY DELIVERS RARE COMBINATION OF EXCEPTIONALLY LOW CAPEX & OPEX

Sovereign Metals Limited (“**the Company**” or “**Sovereign**”) is pleased to announce the results of the Scoping Study for the Company’s Malingunde Saprolite-Hosted Graphite Project (“**Malingunde Project**” or “**the Project**”) in Malawi. Preliminary economics show the Project has capital and operating costs per unit at the very bottom of the graphite supply cost-curve, at production rates supported by existing market fundamentals.

### *Scoping Study Parameters - Cautionary Statements*

The Scoping Study referred to in this announcement has been undertaken to determine the potential viability of an open pit mine and graphite processing plant constructed onsite at the Malingunde Project and to reach a decision to proceed with more definitive studies. The Scoping Study has been prepared to an accuracy level of  $\pm 35\%$ . The results should not be considered a profit forecast or production forecast.

The Scoping Study is a preliminary technical and economic study of the potential viability of the Malingunde Project. In accordance with the ASX Listing Rules, the Company advises it is based on low-level technical and economic assessments that are not sufficient to support the estimation of ore reserves. Further evaluation work including infill drilling and appropriate studies are required before Sovereign will be able to estimate any ore reserves or to provide any assurance of an economic development case.

Approximately 83% of the total production target is in the Indicated resource category with 17% in the Inferred resource category. Approximately 96% of the scheduled throughput over the first four years (the estimated maximum payback period based on downside pricing) of production is in the Indicated category, with 4% in the Inferred category. The Company has concluded that it has reasonable grounds for disclosing a production target which includes a modest amount of Inferred material. However, there is a low level of geological confidence associated with Inferred mineral resources and there is no certainty that further exploration work (including infill drilling) on the Malingunde deposit will result in the determination of additional Indicated mineral resources or that the production target itself will be realised.

The Scoping Study is based on the material assumptions outlined elsewhere in this announcement. These include assumptions about the availability of funding. While Sovereign considers all the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the Scoping Study will be achieved.

To achieve the range outcomes indicated in the Scoping Study, additional funding will likely be required. Investors should note that there is no certainty that Sovereign will be able to raise funding when needed. It is also possible that such funding may only be available on terms that dilute or otherwise affect the value of the Sovereign’s existing shares. It is also possible that Sovereign could pursue other ‘value realisation’ strategies such as sale, partial sale, or joint venture of the Project. If it does, this could materially reduce Sovereign’s proportionate ownership of the Project.

The Company has concluded it has a reasonable basis for providing the forward looking statements included in this announcement and believes that it has a reasonable basis to expect it will be able to fund the development of the Project. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Scoping Study.

## SCOPING STUDY OUTCOMES

**US\$301/t**

Average  
**OPERATING  
COST**



**US\$29m**

Total  
**DEVELOPMENT  
CAPEX**



**44kt**

Average  
**ANNUAL  
PRODUCTION**



**17yrs**

Total  
**MINE LIFE**



**<2 years**

Capital  
**PAYBACK  
PERIOD**



The results of the Scoping Study demonstrate the potential for the Malingunde Project to support a very low capital and operating cost operation with annual graphite concentrate production of approximately 44,000 tonnes over an initial mine life of 17 years:

- ❖ **Total operating costs of approximately US\$301** per tonne concentrate (FOB Nacala Port) – at the very bottom of the graphite supply cost curve and the lowest of any reported ASX-listed peer company of scale <300ktpa.
- ❖ **Total capital cost of US\$29 million**, (includes 35% contingency) for production of **~44,000 tonnes of concentrate per annum** – lowest capital intensity of all peers.
- ❖ **Very rare combination of low capital and operating costs** at a realistic scale of production.
- ❖ **Payback of under 2 years** using conservative graphite pricing assumptions.
- ❖ **Very low mining costs** with the soft saprolite being **free-dig** with a **low strip ratio of 0.5:1**.
- ❖ Simple process flow sheet with **no primary crush or grind**, leading to low processing costs and lower capital requirements.
- ❖ Simple plant design uses **“off the shelf equipment”** allowing rapid and cost effective initial construction whilst allowing for future expansion options.
- ❖ **High quality product** with excellent concentrate grades and a very large proportion in the Super-Jumbo and Jumbo categories.
- ❖ Project generates significant cash margins even in **severe downside global graphite price scenarios**:

	Average annual life of mine cash generation			
Basket price (US\$/t conc.)	\$600	\$800	\$1,000	\$1,200
Annual gross margin (US\$)	\$12m	\$20m	\$28m	\$36m

Sovereign's Managing Director, Dr Julian Stephens, said "The Scoping Study clearly demonstrates the Project's very strong commercial potential which is centred on very low operating and capital costs, and revenues derived from a premium product. Importantly, the Project is not reliant on an unrealistically large scale to reduce operating costs and/or overly optimistic graphite pricing forecasts. The very low operating cost nature of the Project provides protection even against extreme downside pricing scenarios."

### ENQUIRIES

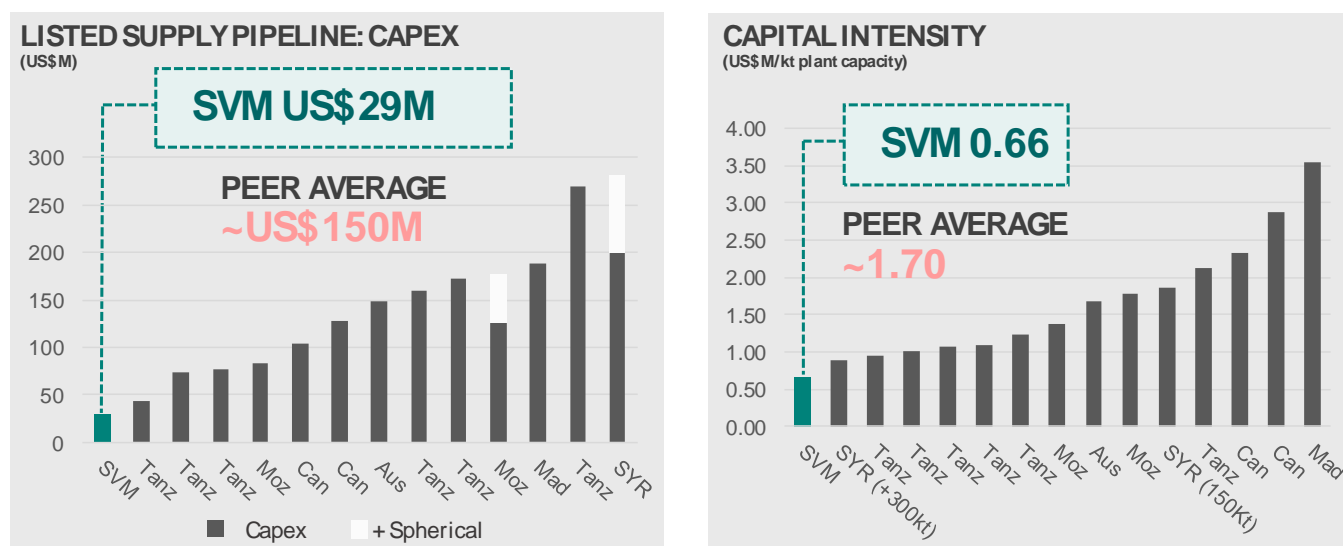
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**Dr Julian Stephens – Managing Director**

**Dominic Allen – Business Development Manager**

## LOWEST KNOWN CAPITAL PROFILE OF FUTURE GRAPHITE SUPPLY

The results of the study demonstrate the potential for extremely low capital costs and capital intensity. The low capital costs enable extremely fast payback of development capital, even in extreme downside pricing scenarios. This is a significant advantage when seeking potential offtake partners and financing for development.



Figures 1 (a) and (b): Capital cost and capital intensity – project profile<sup>1</sup>

## EXTREMELY LOW, FIRST QUARTILE CASH OPERATING COSTS

The Malingunde Project is projected to have an average life of mine unit operating cost of approximately US\$301 per tonne concentrate Free On Board (“FOB”) for its high quality graphite concentrates, producing an average of 44 ktpa.

Production from Malingunde is anticipated to have amongst the very lowest unit operating cost of the future graphite development pipeline, at a scale that can easily be placed into existing traditional markets, primarily in China.



Figure 2: Unit operating cost – project profile<sup>1</sup>

1. Source: Company reports. SYR (150Kt) based on years 0-2, SYR (300+) based on year 2+ per Syrah Resources March Quarterly report, 28 April 2017

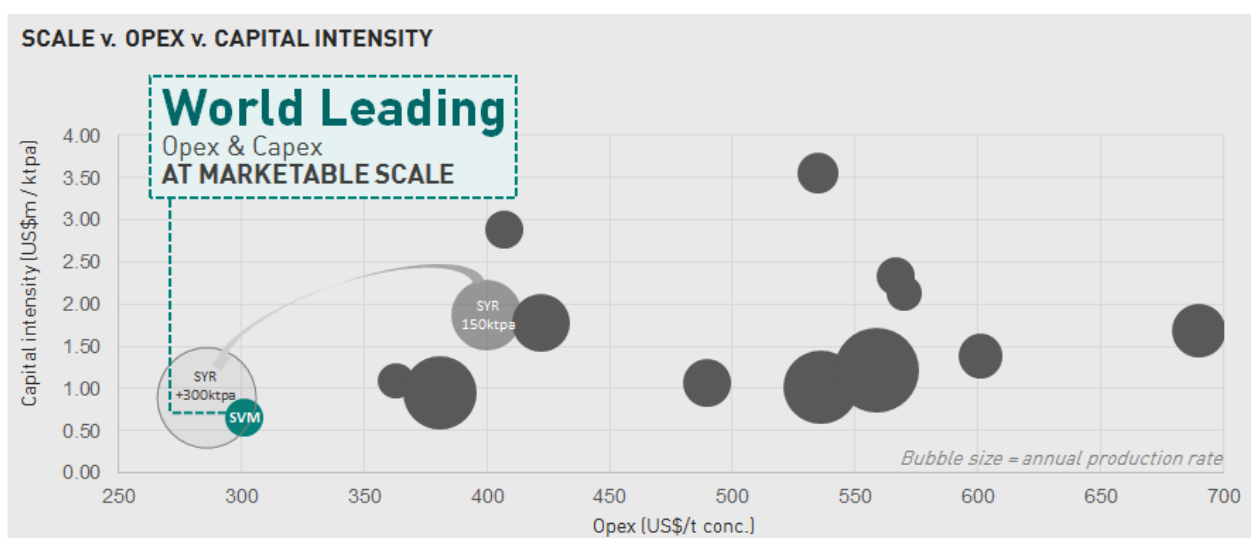
## POTENTIAL FOR LOW COST, HIGH MARGIN OPERATION OF MARKETABLE SCALE

Sovereign is in a unique position of targeting the economic production of graphite without relying on extreme size to achieve economies of scale, or assuming very optimistic product pricing assumptions.

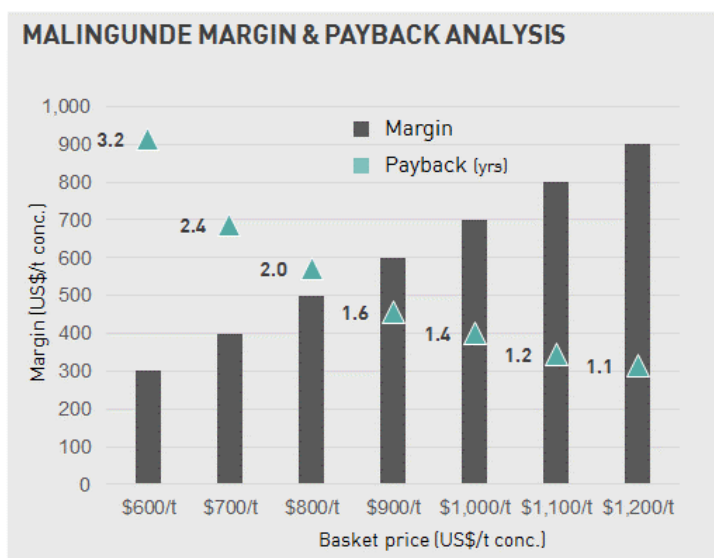
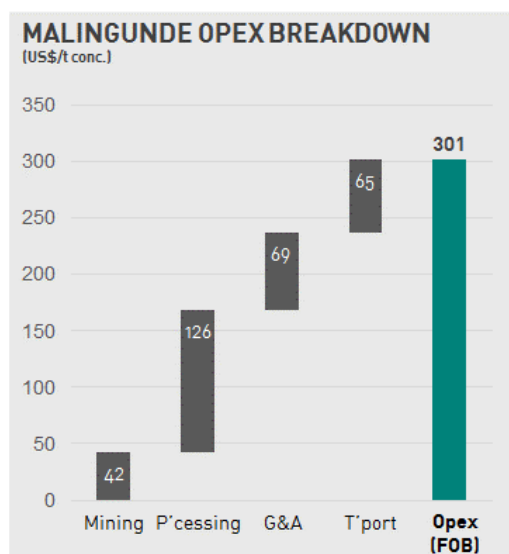
The Company takes a very conservative view on future graphite pricing. The results of the study demonstrate the potential for exceptionally high operating margins and cash flow generation given the low operating costs of the Malingunde Project, in both upside and downside pricing scenarios.

The combination of low opex, low capex and high-quality concentrates enables Sovereign to focus upon initial entry into existing primary end-markets, including refractories and foundries, allowing the product to compete on price point with China; the world's largest supplier and consumer of natural flake graphite.

The potential for entry into developing markets such as the Lithium-ion battery supply chain are retained as future upside.



**Figure 3: Chart of production scale v. opex v. capital intensity of selection of key undeveloped graphite projects<sup>1</sup>**



**Figures 4 (a) and (b): Malingunde unit operating cost breakdown; project margin & payback sensitivities at a conservative basket pricing range**

1. Source: Company reports. SYR (150Kt) based on years 0-2, SYR (300+) based on year 2+ per Syrah Resources March Quarterly report, 28 April 2017

## SCOPING STUDY RESULTS

Sovereign is pleased to report the results of the Scoping Study (“**Study**”) for the Malingunde Project located in Malawi, near the capital city of Lilongwe. The Scoping Study was managed by Amec Foster Wheeler, a global expert in mining and minerals processing, with input from other specialist consultants and local experts.

The Study is based on the maiden Mineral Resource Estimate (“**MRE**”) for the Malingunde deposit reported in April 2017, which comprises 65.1Mt @ 7.1% TGC (saprolite, saprock & fresh rock). The MRE includes a high-grade saprolite component of 8.9Mt @ 9.9% (7.5% TGC cut-off) which is the focus of the Study.

The production target generated by the Study is approximately 8.0Mt @ 10.0% TGC over a ~17 year mine life.

MALINGUNDE PROJECT PARAMETERS	Unit	Estimated Value
<b>PHYSICAL</b>		
Average annual concentrate production	<i>tpa</i>	44,000
Average annual plant throughput	<i>tpa</i>	475,000
LoM average feed grade	%	10.0%
LoM average product grade	% TGC	97.0%
LoM average recovery	%	90%
Mine life	<i>Years</i>	17
LoM average strip ratio (ex. capitalised pre-strip)	<i>waste : ore</i>	0.5
Average annual material mined	<i>tpa</i>	725,000
<b>ECONOMIC</b>		
Average mine gate operating cost (ex. royalties, inc. G&A)	<i>US\$/t conc.</i>	236
Transport & logistics cost	<i>US\$/t conc</i>	65
<b>Total LoM average operating cost (FOB Nacala)</b>	<i>US\$/t conc</i>	<b>301</b>
Development capital	<i>US\$m</i>	19
Indirects & contingency	<i>US\$m</i>	10
<b>Total development capital</b>	<b><i>US\$m</i></b>	<b>29</b>
Sustaining & deferred capital	<i>US\$m</i>	6

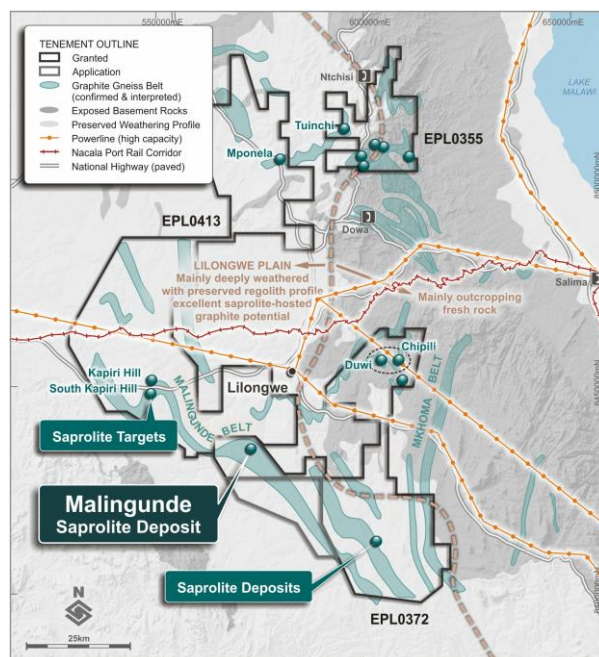
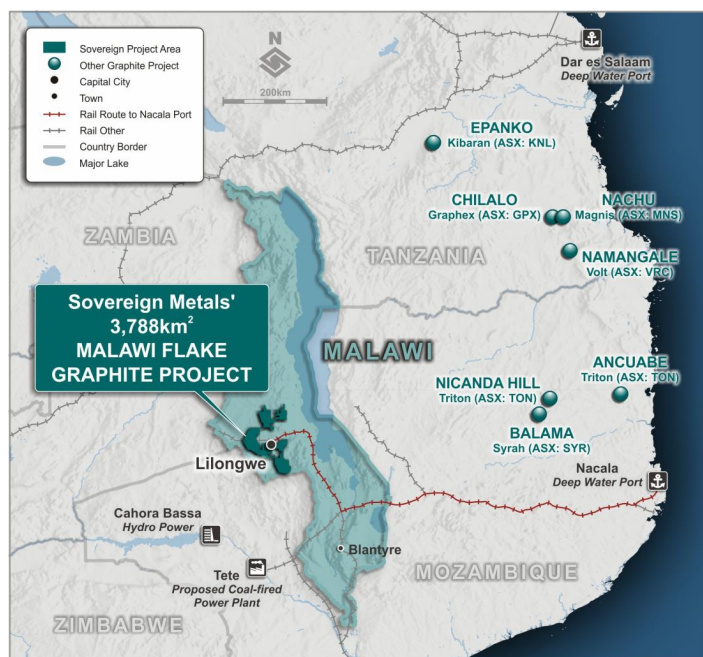
**Table 1: Key physical and economic results of the Malingunde Scoping Study**



## Background

In 2015, Sovereign's in-country geological team made a new and significant graphite discovery at Malingunde using hand auger drilling techniques in an area of no outcrop.

The deposit is located at Malingunde, just 15km south-west of Lilongwe, Malawi's capital city, with access to enviable infrastructure. It is 25km from operating rail, 20km from a major power sub-station and has plentiful fresh water sources nearby.



**Figures 5(a) & (b): Maps showing location of the Malingunde Project**

In April 2017, Sovereign reported a maiden Mineral Resource Estimate for the Malingunde sapolite-hosted graphite deposit. Sapolite being the very soft, graphite-bearing, clay-rich oxide material that is formed from intense weathering of the original underlying bedrock.

The soft, near surface, coarse flake and high-grade nature of the resource presents the opportunity for low operating and capital costs, whilst producing a premium quality graphite concentrate. The low cost-base will allow Sovereign to target existing traditional industrial markets (refractory, foundry, expandable etc.) whilst retaining potential future upside in demand driven by the emerging lithium ion battery sector.

## Scoping Study Consultants

The Study uses information and assumptions provided by a range of independent specialist consultants, including the following who have contributed to the key components of the Scoping Study:

CONSULTANT	SCOPE OF WORK
CSA Global Pty Ltd	Resource estimate
SGS Canada Inc	Metallurgical test work
Amec Foster Wheeler	Mine design and scheduling
Amec Foster Wheeler	Process engineering and infrastructure
Amec Foster Wheeler	Environmental and social studies
Grindrod Rail Consultancy Services (Pty) Ltd	Outbound logistics

**Table 2: Key study consultants**

## Geology and Mineral Resource Estimate

The Malingunde saprolite-hosted graphite deposit is the result of millions of years of tropical weathering of primary graphitic gneisses. Most of the silicate minerals other than quartz have been altered to clay, resulting in a soft, friable saprolite horizon averaging about 25m vertical thickness from surface. Graphite is also unreactive in this weathering environment, with the large graphite flakes preserved in the clay dominant matrix.

The maiden Mineral Resource Estimate for the Malingunde deposit was undertaken by CSA Global and confirmed it as world's largest reported soft saprolite-hosted graphite resource. The MRE underpinning the production target, classified as Indicated and Inferred, was prepared by a competent person and was reported in accordance with the JORC Code (2012 Edition) on 18<sup>th</sup> April 2017.

The total MRE is 65.1Mt @ 7.1% TGC at a 4% TGC lower cut-off grade and comprises:

- 28.8Mt of saprolite @ 7.1% TGC;
- 17.0Mt of saprock @ 7.0% TGC;
- 19.3Mt of fresh rock @ 7.0% TGC.

At an increased 7.5% TGC lower cut-off grade, the saprolite-only resource is 8.9Mt @ 9.9% TGC

Additional and substantial exploration potential also exists within the a very large 3,788km<sup>2</sup> ground package, containing numerous other saprolite prospects discovered but not yet drilled out.

MALINGUNDE MINERAL RESOURCE ESTIMATE (4.0% CUT-OFF GRADE)						
	Indicated		Inferred		Total	
	Tonnes (Mt)	Grade (% TGC)	Tonnes (Mt)	Grade (% TGC)	Tonnes (Mt)	Grade (% TGC)
<b>Saprolite</b>	23.0	7.1%	5.7	7.3%	28.8	7.1%
<b>Saprock</b>	12.8	7.0%	4.2	7.1%	17.0	7.0%
<b>Fresh Rock</b>	0.0	-	19.3	7.0%	19.3	7.0%
<b>Total</b>	35.9	7.0%	29.2	7.1%	65.1	7.1%

**Table 3: Malingunde maiden JORC Mineral Resource Estimate at 4.0% cut-off grade**

MALINGUNDE MINERAL RESOURCE ESTIMATE (7.5% CUT-OFF GRADE)						
	Indicated		Inferred		Total	
	Tonnes (Mt)	Grade (% TGC)	Tonnes (Mt)	Grade (% TGC)	Tonnes (Mt)	Grade (% TGC)
<b>Saprolite</b>	7.1	9.6%	1.8	10.8%	<b>8.9</b>	<b>9.9%</b>
<b>Saprock</b>	3.8	9.4%	1.2	10.0%	5.0	9.5%
<b>Fresh Rock</b>	0.0	-	5.7	9.6%	5.7	9.6%
<b>Total</b>	10.9	9.5%	8.6	9.9%	19.5	9.7%

**Table 4: Malingunde maiden JORC Mineral Resource Estimate at 7.5% TGC cut-off grade**



## Mining & Production Target

The geometry of the Malingunde deposit is one of several high-grade, shallow to moderate north-east dipping mineralised zones. Sovereign is targeting the near surface, soft saprolite portion of the resource to a maximum of approximately 25m vertical depth. This results in a number of long, shallow open pits in the mining plan (Figure 6).

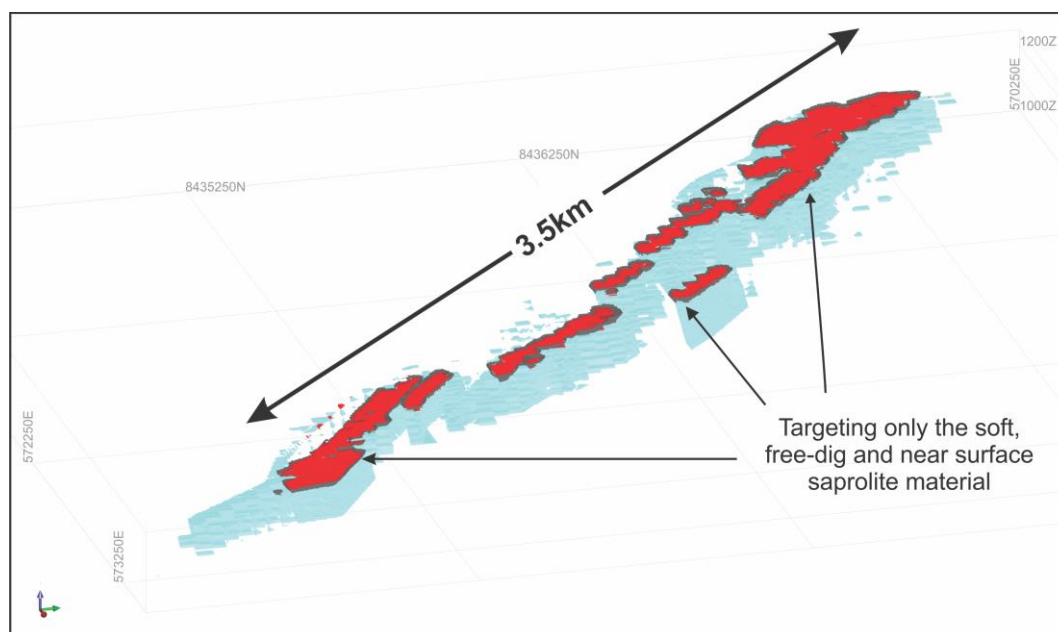
Pit optimisations were completed by Amec Foster Wheeler based on maximum production of 45,000 tonnes of concentrate per annum rather than on an optimised throughput analysis. A cut-off grade of 7% TGC was selected which results in production target of approximately 44,000 tonnes of graphite concentrate per annum over 17 years life-of-mine. This equates to an average of approximately 475,000 tonnes of ore processed per year, totalling circa 8.0mt @ 10.0% TGC over the life of mine.

A schedule was developed that progressively mines material from north-west to south-east. Importantly, over the initial four years of production, the 96% of material processed is in the Indicated category. Over the life of mine, 83% of material processed is in the Indicated category. A further breakdown of resource categories processed over the life of mine is shown below:

- Years 1 – 4                      ~96% Indicated, ~4% Inferred
- Years 5 – 8                      ~97% Indicated, ~3% Inferred
- Years 9 – 12                    ~93% Indicated, ~7% Inferred
- Years 13 – 17                  ~46% Indicated, ~54% Inferred

There is significant opportunity to increase the mine life beyond 17 years by processing lower grade material or by discovering additional high-grade resources within reasonable trucking distance to the proposed processing plant.

A contract mining strategy was selected to mitigate project risk, although operational management will be retained by Sovereign personnel.



**Figure 6: Oblique view looking down and to the west of optimized pit shells containing the production target material (red), and showing the additional resource (blue) that does not fall within the pit shells**

## Tailings Management

The Tailings Management Facility (TMF) for the Project was designed to safely contain the life of mine estimated tailings of 7.3 Mt. The characteristics of the tailings produced have not yet been confirmed and therefore a conservative approach to the deposited density has been adopted assuming a final settled density of 1.15 t/m<sup>3</sup>.

For the Scoping Study it was decided to adopt a conservative strategy that includes a fully HDPE lined facility leaving the option for a non-HDPE lined facility or in pit deposition as opportunities that could be adopted should future testing of the materials prove that contamination is not an issue.

## Metallurgy

Sovereign engaged SGS Canada to conduct an initial bench scale laboratory flotation test-work program on samples obtained from the Malingunde deposit. The primary objective of the program was to investigate the metallurgical response of the shallow saprolite-hosted mineralisation as part of the early stage project evaluation.

Overall, a simple process flowsheet with no primary crush or grind was shown to produce both excellent concentrate purity and outstanding flake distribution from the soft, saprolite-hosted graphite mineralisation.

Once the flowsheet was optimised, numerous variability tests were carried out on samples from varied lateral and vertical locations within the deposit. Overall, the variability testwork shows relatively consistent results across the deposit with 48%-78% of the concentrate in the super jumbo, jumbo and large size fractions (i.e. +149µm). Concentrate grades consistently range between 96% and 99% C(t), with the latest tests showing results in the higher part of that range i.e. +98% C(t) with numerous fractions reaching +99% C(t).

For the purposes of the Scoping Study, conservative assumptions of average 97% C(t) and recovery of 90% for concentrates produced over the life of mine have been used (Table 5).

MALINGUNDE FLOTATION RESULTS – SCOPING STUDY INPUTS										
		TEST F5		TEST F6		TEST F13		W. AVERAGE		
PARTICLE SIZE		C (%)	Distribution (wt. %)	C (%)	Distribution (wt. %)	C (%)	Distribution (wt. %)	C (%)	Distribution (wt. %)	Flake Category
Tyler Mesh	(µm)									
32	500	98	2	98	4	97	14	97	7	Super jumbo
48	297	98	13	98	18	96	33	97	21	Jumbo
- 48 + 80	- 297 + 177	98	23	98	24	97	25	97	24	Large
- 80 + 100	- 177 + 149	98	10	98	9	97	6	98	8	Medium
- 100 + 200	- 149 + 74	95	35	98	29	97	17	97	27	Small
- 200	- 74	91	17	98	16	95	5	94	13	Amorphous
TOTAL		96	100	98	100	97	100	97	100	

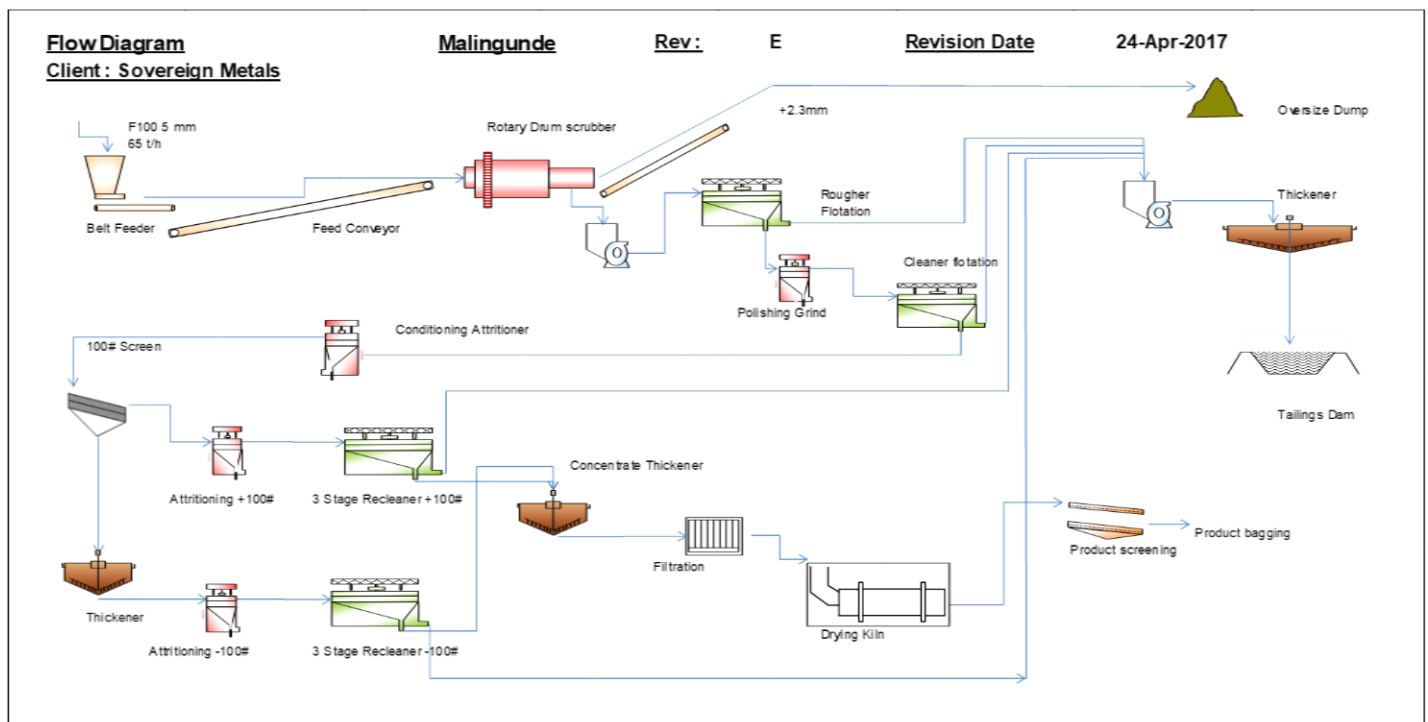
**Table 5: Malingunde flotation test results – Scoping Study inputs**

## Process Design

The design of the processing plant is based on the SGS test-work and best practise in similar operations. Importantly, the process requires no upfront crushing or grinding of the ore, a material advantage over hard-rock graphite deposits.

The basic flowsheet is summarised below and also shown in Figure 7:

- The plant feed will be delivered by front-end-loader (FEL) to the feed bin and a via transfer conveyor to the rotary scrubber.
- Plant feed is processed through the scrubber fitted with a 3mm aperture trommel screen and oversize material is conveyed to a dump.
- Scrubber undersize is pumped to the rougher flotation section for processing. Rougher tailings will be pumped to the tailings thickener.
- Rougher concentrate will be scrubbed in a stirred-media mill.
- The concentrate undergoes cleaner flotation stages. Cleaner tailings will be pumped to the tailings thickener.
- Cleaner concentrate will be briefly attritioned before screening to break the froth. Each of the streams, +100 mesh and -100 mesh, will be treated individually in similar attritioning and flotation sections. Tailings will be pumped to the tailings thickener.
- The final concentrate from the +100 mesh and -100 mesh streams will be combined, thickened, and filtered in a filter press.
- The filtered concentrate will be dried using a diesel-fired, rotary dryer.
- Dried product will be screened and bagged for despatch and sale.
- Water from the tailings thickener will be recycled. Thickener underflow will be pumped to a tailings storage facility.



**Figure 7: Basic process flowsheet for Malingunde**

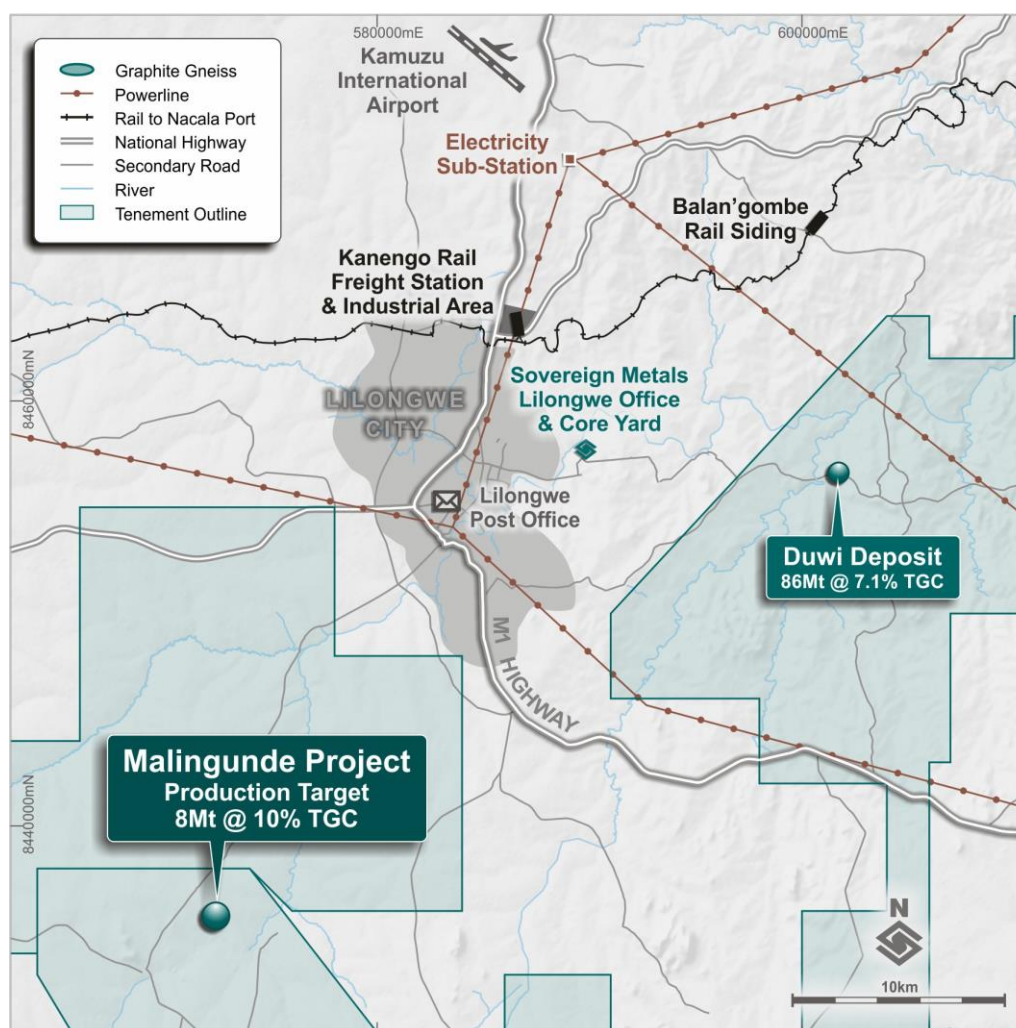
## Infrastructure

Malingunde is located approximately 20km south west of Lilongwe, Malawi's capital, and boasts excellent access to services and infrastructure. The site will be serviced by an unsealed road, which will access the main Malawian M1 highway at Lilongwe.

The proximity to Lilongwe gives the project a number of benefits, including access to a large pool of professionals and skilled tradespeople located just 20km away in Lilongwe. This removes the requirement for site accommodation and construction camps. Additionally, product is only required to be hauled a short distance by road to the existing and underutilised operational intermodal rail siding at Kanengo.

In addition, the Malawi transmission authority ESCOM maintains a major electricity sub-station 21 km to the north-east of Malingunde. Whilst on site power generation has been assumed as the base case in the Scoping Study, investigations into access to grid power will be undertaken in future phases of study, providing the opportunity to further reduce operating costs.

Water is relatively plentiful in the immediate area and, subject to hydrogeological and hydrology investigation, the site is likely to be able to source sufficient water within the project area.



**Figure 8: Map of regional infrastructure in proximity to Malingunde**



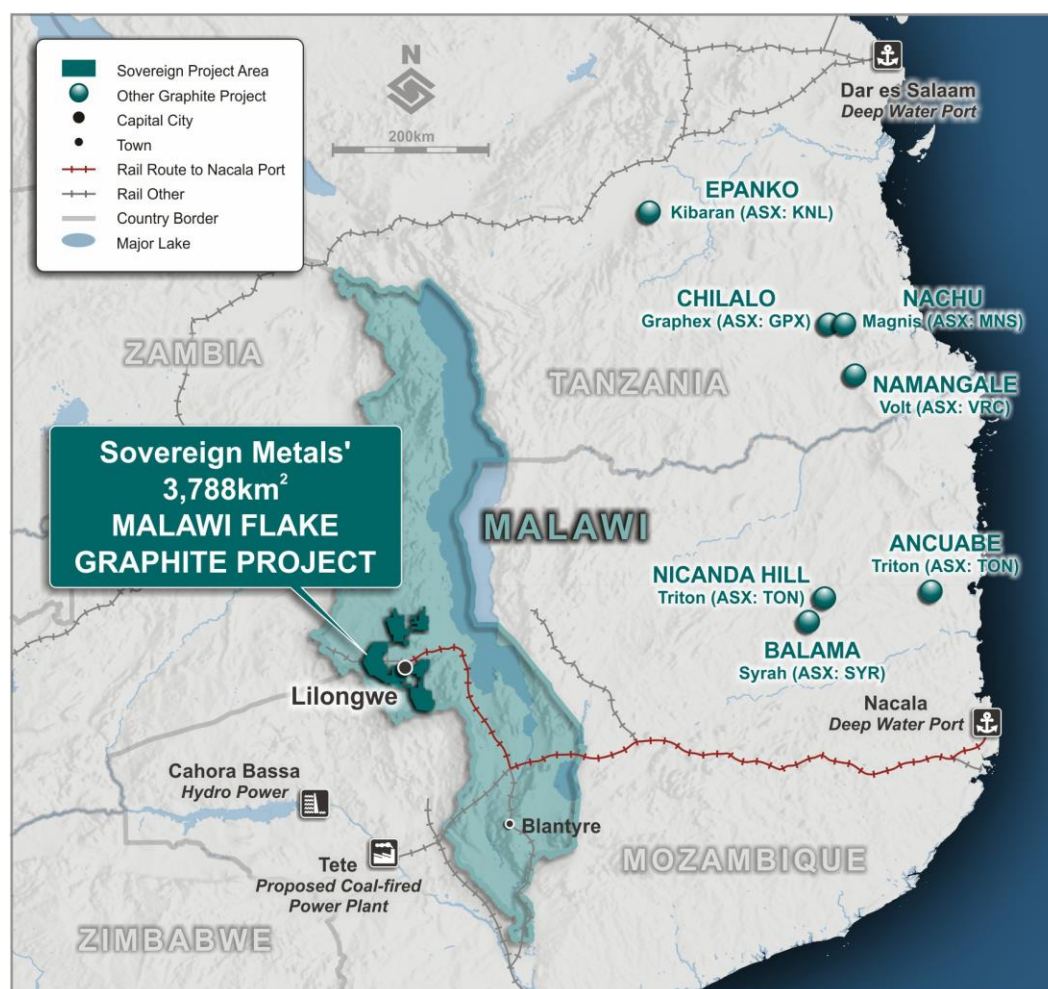
## Logistics

The basis and cost build-up for product export logistics comprises the following:

- Road transport of bagged product from the mine site to the Kanengo rail head in Lilongwe
- Packing bags into shipping containers at Kanengo and periodic loading onto lightweight rail wagons
- Rail transport to Nacala port
- Storage and loading onto seaborne container carriers

Rail freight cost estimates were provided by Central East African Railways (“**CEAR**”), the existing rail concessionaire and rail operator. The rail concession is operated as a joint venture between Mitsui & Co., Ltd, Vale SA and the Malawi and Mozambique Governments. CEAR have advised that there is available capacity to accommodate Malingunde concentrates.

Other transport cost estimates were provided by Grindrod Rail Consultancy Services (Pty) Ltd (“**Grindrod**”) based on market data, industry databases, industry contacts and Grindrod’s existing knowledge of the southern African infrastructure market.



**Figure 9: Map highlighting the Nacala rail corridor from Lilongwe to Nacala port**

## Environmental & Social Impact Assessment

Environmental and social scoping level studies and an opportunities and constraints assessment were completed by Amec Foster Wheeler. These studies also included identifying any additional activities required to comply with the Equator Principles and the IFC Performance Standards.

The Project location in relation to the environmental and social setting is important and will inform project alternatives, assist in evaluating project trade-offs, in the developing management and mitigating measures to be implemented and inform the feasibility of the Project in terms of cost related to environmental and social drivers.

A detailed hydrological and a hydrogeological investigation has now commenced. This will include a hydro-census to determine the sources of drinking water used by communities. Hydrogeological investigation will assist in determining potential impacts of the mining activity and tailings disposal.

The loss of the soil resource for agriculture could be significant for the community in the area. An agricultural capability assessment will be carried out upfront as the outcome of this will furthermore inform the resettlement study and requirements.

The natural environment in the area of influence has been extensively transformed by agricultural activities and settlements. A two-season baseline fauna and flora study has commenced and will also examine wetlands and the status of riparian vegetation. For the purpose of aquatic biodiversity, a two-season specialist investigation has commenced as part of the ESIA process.

A small village is located over the south-eastern end of the project area. The impacts on these inhabitants will be assessed as part of the overall ESIA for the Project, whilst negotiations on relocation will be conducted through consultation with the communities as part of any future resettlement process. The current mine plan begins in the north, and hence mining is not expected to affect the village in the south-east until year 11 in the mining schedule.

A baseline noise and air quality monitoring programme will be commenced shortly as part of the ESIA process. The findings of these studies will guide the requirements for noise abatement and dust control requirements.

## Marketing

### Global Graphite Demand

Flake (or crystalline) graphite is the term for a form of natural carbon with a layered structure of particles which have a flat and thin morphology and graphitisation of between 95-100%.

The primary end-market for flake graphite is the refractory, foundries and crucible sector which consumed approximately 70% (620,000 tonnes) of flake graphite production in 2016. The refractory industry is the volume driver for flake graphite, with foundries and crucibles offering smaller markets for higher purity graphite products. The major product flake graphite is consumed in is magnesia-carbon bricks, a mainstream, global refractory brick which is used in the steel industry.

The battery sector is the main emerging market for flake graphite. Greater capacity batteries, such as those required for electric vehicles, are expected to drive significant demand for graphite over the coming years.

### Global Graphite Supply

China is the world's leading producer of natural flake graphite, supplying approximately 75% of the market in 2016. Brazil, India, Canada and North Korea were estimated to have collectively contributed an additional 25% of global production.

For the past two years, flake graphite supply has outstripped market demand. The anticipated emergence of major new-end-markets has failed to deliver the volume of sales which many in the industry had anticipated. This has been matched by weak demand from traditional industrial markets which have suffered as a result of the ongoing global economic downturn.

With a number of junior projects looking to come online over the next two years, greater demand will be required from both traditional and emerging end-markets in order to prevent greater supply congestion and further downward price pressures.

### Marketing Strategy

Sovereign is targeting a very simple mining and processing operation, selling reasonable volumes of very high-quality graphite concentrates into existing markets. Sovereign is not actively considering the construction and operation of highly technically challenging and expensive downstream processing operations, such as a spherical graphite plant.

Sovereign is focusing upon initial entry into existing primary end-markets, including refractories and foundries. This will be enabled through very low-cost production, allowing Malingunde concentrates to compete on price point with China, the world's largest supplier of natural flake graphite.

It is noted that test work of Malingunde concentrates and market assessments are being conducted in parallel to enable Sovereign to capitalise on future growth in demand in lithium-ion battery demand.

### Marketability of Malingunde Product

Sovereign engaged Metal Bulletin Research ("Metal Bulletin"), a specialist international publisher and information provider for the global steel, non-ferrous and industrial minerals markets, to assess the marketability of Malingunde graphite product.

Metal Bulletin's scoping level assessment has confirmed that based upon their high level view on global demand and supply forecasts for natural flake graphite, and with reference to the specific attributes of the

Malingunde Project, there is a reasonable expectation that the product will be able to be sold into existing and future graphite markets. Given the extremely low cost profile and high quality product, it is expected that output from Malingunde will be able to fill new demand or substitute existing lower quality / higher cost supply. This will be confirmed through more detailed examination in the next phase of study.

Project considerations taken into account by Metal Bulletin in forming an opinion about the marketability of Malingunde flake graphite include:

- Modest production target.
- Low capital costs.
- Low operating costs.
- High quality concentrate specifications.

## Economics

### Operating Costs

Graphite operations processing saprolite-hosted material have historically been the world's lowest cost producers of natural flake graphite concentrates. Sovereign's forecast mine gate cost of \$236/t and FOB cost of \$301/t would place it at the very lowest end of the global cost curve.

The Project operating costs are summarised in Table 6.

	Operating Costs		
	LOM total (US\$m)	Unit cost (US\$/t Feed)	Unit cost (US\$/t Conc.)
Mining	32	3.9	42
Processing	94	11.7	126
G&A	51	6.3	69
Transport & Logistics	48	6.0	65
<b>Total</b>	<b>225</b>	<b>27.9</b>	<b>301</b>

**Table 6: Study operating cost summary**

### Capital Costs

The initial capital cost to develop and commence production at Malingunde has been estimated at US\$29m (which includes a 35% contingency allowance applied to most items), equating to a capital intensity of approximately US\$660 per tonne of annual plant output capacity.

This places Malingunde at the very lowest end of the future supply pipeline in terms of both absolute capital and capital intensity, with a much smaller funding requirement when compared to global peers.

The Project capital costs are summarised in Table 7.

	Capital Costs
	US\$m
Mining	0.4
Capitalised pre-strip	1.6
Processing	10.7
Infrastructure	3.0
Tailings	3.3
<b>Total</b>	<b>19.0</b>
<i>Indirect &amp; contingency</i>	9.9
<b>Total development capital</b>	<b>28.9</b>
Deferred & sustaining	6.1
<b>Total life of mine capital</b>	<b>35.0</b>

**Table 7: Study capital cost summary**

## Financial Modelling

Whilst a net present value has not been released as part of the Scoping Study, a comprehensive financial model underpins many metrics, including the capital payback sensitivity. Key parameters include:

- Life of Mine: 17 years
- Discount rate: 10%
- Tax rate: 30%
- Royalty rate: 5%
- Pricing: Various sensitivities per Tables 10 – 12

## Sensitivity Analysis

The Study was prepared at a  $\pm 35\%$  level of accuracy to investigate the technical and economic parameters of a natural flake graphite operation at Malingunde.

Key inputs into the economic assessment of the Project have been tested by the sensitivities summarised in tables 8 to 12:

	Operating Cost Sensitivity (US\$/t concentrate)		
<i>Sensitivity</i>	-30%	Base	+30%
<b>Operating cost</b>	211	301	391

**Table 8: Operating cost sensitivity**



	Capital Cost Sensitivity		
<i>Sensitivity</i>	-10%	Base	+30%
<b>Capital cost (US\$m)</b>	26.0	28.9	37.6

**Table 9: Capital cost sensitivity**

	Estimated Operating Margin Sensitivity			
<i>Basket price (US\$/t conc.)</i>	\$600	\$800	\$1,000	\$1,200
<b>Operating margin (US\$/t)</b>	299	499	699	999
<b>Operating margin %</b>	50%	62%	70%	75%

**Table 10: Margin sensitivity to product pricing**

	Payback Period Sensitivity (years)			
<i>Basket price (US\$/t conc.)</i>	\$600	\$800	\$1,000	\$1,200
<b>Payback (pre-tax)</b>	3.2	2.0	1.4	1.1

**Table 11: Capital payback sensitivity to product pricing**

	Average annual life of mine cash generation			
<i>Basket price (US\$/t conc.)</i>	\$600	\$800	\$1,000	\$1,200
<b>Annual gross margin (US\$m)</b>	12	20	28	36

**Table 12: Annual gross margin sensitivity to product pricing**

## Next steps

Based on the outstanding results of the Scoping Study, the Company plans to proceed to the next feasibility study stage; the details of which will be released to the market shortly. It is anticipated that the next phase of study will include:

- Comprehensive metallurgical and processing test work program with the aim of producing significant concentrate volumes for evaluation by potential offtake partners. This program is scheduled to commence shortly and will define the design criteria for the process plant and confirm the selected process flowsheet and equipment selection.
- An infrastructure assessment program aimed at identifying opportunities to enhance the project economics through further capital and operating cost reductions.

- Examination of tailings disposal methodology. Significant capital and operating cost savings may be possible through reconfiguration of the tailings disposal process via either unlined tailings dams or deposition of tailings back into exhausted pits.
- Environmental and social monitoring and assessments. The Company has already commenced environmental and community/social baseline studies in order to progress approvals processes.
- Further exploration. Exploration for additional high grade resources along strike from Malingunde has commenced. An infill drilling program to upgrade the resource classification and increase the overall resource base at the main Malingunde deposit is planned for September 2017.
- Ongoing marketing studies will further define target customer markets, preferred product specifications and supply and demand forecasts. The Company continues to work with potential Asian and European offtake partners to in order to secure future offtake agreements and partnerships.
- Continued engagement with logistics partners and potential providers with the intent to secure an optimal transport solution for graphite concentrates.
- Commencement of meaningful discussions with finance providers with the intent of securing funding for the development and construction of the Malingunde Project.

## Conclusion

Sovereign is pleased to present a Scoping Study that clearly demonstrates the Malingunde Project's strong commercial potential, centred on very low operating and capital costs, with product revenues generated from a very high-quality product.

The Study validates Sovereign's strategy of exploring for soft, saprolite-hosted graphite mineralisation, with the aim of delivering:

1. Very low operating costs
2. Very low capital costs
3. Very simple mining & processing operations
4. Targeting entry to existing markets, with battery markets as future upside

Importantly, the Project is not reliant on large scale to reduce operating costs, enabling Sovereign to focus on placing quantities of product into primary end-markets, including refractories and foundries, at a scale that can be absorbed by existing demand. This marketing strategy will be enabled through the very low-cost production, allowing Malingunde concentrates to compete on price point with China, the world's largest supplier of natural flake graphite.

The delivery of a capital estimate significantly below peers (in both absolute and capital intensity terms) puts Sovereign in a very strong position to engage in discussions around future financing of the Project.

Additionally, the very low operating cost nature of the Project provides protection, and ensures profitability, even in extreme downside pricing scenarios.

## **Competent Person Statements**

*The information in this Announcement that relates to Exploration Results is extracted from announcements on 29 August 2016, 12 October 2016, 26 November 2016, 18 January 2017, 21 February 2017 and 15 March 2017. These announcements are available to view on [www.sovereignmetals.com.au](http://www.sovereignmetals.com.au). The information in the original announcements related to Exploration Results were based on, and fairly represent, information compiled by Dr Julian Stephens, a Competent Person who is a member of the Australasian Institute of Geoscientists (AIG). Dr Stephens is the Managing Director of Sovereign Metals Limited and a holder of shares, options and performance rights in Sovereign Metals Limited. Dr Stephens 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'. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.*

*The information in this Announcement that relates to Mineral Resources is extracted from an announcement dated 18 April 2017. This announcement is available to view on [www.sovereignmetals.com.au](http://www.sovereignmetals.com.au). The information in the original ASX Announcement that related to Mineral Resources was based on, and fairly represents, information compiled by Mr David Williams, a Competent Person, who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Williams is employed by CSA Global Pty Ltd, an independent consulting company. Mr Williams has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity he is undertaking, to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.*

*The information in this Announcement that relates to Metallurgical Testwork Results (Section: Metallurgy), is extracted from announcements dated 23 November 2016 and 27 February 2017. These announcements are available to view on [www.sovereignmetals.com.au](http://www.sovereignmetals.com.au). The information in the original announcements that related to Metallurgical Testwork Results was based on, and fairly represents, information compiled by Mr Oliver Peters, M.Sc., P.Eng., MBA, who is a Member of the Professional Engineers of Ontario (PEO), a 'Recognised Professional Organisation' (RPO) included in a list promulgated by the ASX from time to time. Mr Peters is a consultant of SGS Canada Inc. ("SGS"). SGS is engaged as a consultant by Sovereign Metals Limited. Mr Peters has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking, 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'. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.*

*The information in this Announcement that relates to Mining, Processing, Infrastructure, Production Targets, and Capital and Operating Costs are based on and fairly represent information compiled or reviewed by Mr David Dodd, who is a Fellow of the Southern Africa Institute of Mining and Metallurgy. Mr Dodd is a consultant to Amec Foster Wheeler. Mr Dodd has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activities undertaken. Mr Dodd consents to the inclusion in the Announcement of the matters based on his information in the form and context in which it appears.*

## **Forward Looking Statement**

*This release may include forward-looking statements, which may be identified by words such as "expects", "anticipates", "believes", "projects", "plans", and similar expressions. These forward-looking statements are based on Sovereign's expectations and beliefs concerning future events. Forward looking statements are necessarily subject to risks, uncertainties and other factors, many of which are outside the control of Sovereign, which could cause actual results to differ materially from such statements. There can be no assurance that forward-looking statements will prove to be correct. Sovereign makes no undertaking to subsequently update or revise the forward-looking statements made in this release, to reflect the circumstances or events after the date of that release.*

## SUMMARY OF MODIFYING FACTORS AND MATERIAL ASSUMPTIONS

Material assumptions used in the estimation of the production target and associated financial information are set out in the following table.

Criteria	Commentary
<b>Mineral resource estimate underpinning the production target</b>	<p>The Minerals Resource Estimate ("MRE") declared on 18<sup>th</sup> April 2017 underpins the production target. The Company engaged independent geological and mining consultants CSA Global Pty Ltd ("CSA") to complete the MRE for the Malingunde deposit. The principal resource geologist Mr David Williams is highly experienced with more than 25 years in resource estimation and mine geology. David Williams is a Competent Person for the purposes of the MRE as defined and in accordance with the JORC Code 2012.</p>
<b>Classification</b>	<p>Resources were classified in accordance with the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 Edition). The classification of the Mineral Resources was completed based on the geological complexity, estimation performance, number of drill samples, drill hole spacing and sample distribution. Continuous zones meeting the following criteria were used to define resource class:</p> <ul style="list-style-type: none"> <li>• Indicated Resource – aircore and diamond drill spacing averaging 100m by 20-40m</li> <li>• Inferred Resource – aircore and diamond drill spacing averaging 200m by 20-40m</li> </ul>
<b>Production target</b>	<p>The initial production target is approximately 44,000 tonnes of graphite concentrate per annum over 17 years life-of-mine. This equates to an average of approximately 475,000 tonnes of ore processed per year and totalling 8.0mt @ 10.0% TGC over the life of mine. The production target was derived by focusing mining on the highest-grade areas of the resource with the lowest strip ratios.</p> <p>Importantly, over the initial four years of production, the 96% of material processed is in the Indicated category. Over the life of mine, 83% of material processed is in the Indicated category. A further breakdown of resource categories processed over the life of mine is shown below;</p> <ul style="list-style-type: none"> <li>• Years 1 – 4 ~96% Indicated, ~4% Inferred</li> <li>• Years 5 – 8 ~97% Indicated, ~3% Inferred</li> <li>• Years 9 – 12 ~93% Indicated, ~7% Inferred</li> <li>• Years 13 – 17 ~46% Indicated, ~54% Inferred</li> </ul>
<b>Site visits</b>	<p>Site visits were carried out by the following personnel:</p> <ul style="list-style-type: none"> <li>• Dr Julian Stephens, the Competent Person for Exploration Results and Managing Director of Sovereign Metals Ltd has conducted multiple site visits since the discovery of the Malingunde deposit;</li> <li>• Mr David Williams, the Competent Person for the JORC Resource Estimate, and a representative of CSA Global conducted one site visit; and</li> <li>• Mr Roger Leighton, representative for Mr David Dodd, the Competent Person for Mining, Processing, Infrastructure, Production Targets, and Capital and Operating Costs, representative of Amec Foster Wheeler, conducted one site visit.</li> </ul>
<b>Study status</b>	<p>The production target and financial information in this release are based on a scoping study. The scoping study referred to in this announcement is based on low-level technical and economic assessments, and is insufficient to support estimation of Ore Reserves or to provide assurance of an economic development case at this stage, or to provide certainty that the conclusions of the scoping study will be realised.</p>
<b>Capital costs</b>	<p>Capital estimates have been developed by Amec Foster Wheeler, a global expert in mining and minerals processing, using a combination of quotations and cost estimates from suppliers, historical data and reference to recent comparable projects. Costs are presented in real 2017 terms and are exclusive of escalation. The overall accuracy is determined to be <math>\pm 35\%</math>.</p> <p>Capital costs include the cost of all services, infrastructure and facilities used for the operation of the mine and processing plant. Capital costs do not make provision for the following:</p> <ul style="list-style-type: none"> <li>• Mine closure and environmental costs; and</li> </ul>

	<ul style="list-style-type: none"><li>• Social responsibility costs.</li></ul> <p>Working capital requirements prior to plant commissioning and full ramp up have been excluded from the capital estimate, and are captured in project operating costs.</p>																								
Cut-off parameters	A cut-off of 4% TGC was applied to the global JORC resource. A cut-off of 7.5% TGC was applied for estimation of the high-grade portion of the JORC resource and the Production Target which is the focus of the Study.																								
Mining factors or assumptions	<p>The Company engaged independent engineers Amec Foster Wheeler to carry out pit optimisations, mine design, scheduling, and tailings management. The Operations Manager Mining Consulting, Mr Pier Chiti managed the work programs in these areas. Mr Chiti has 30 years of experience as a Mining Engineer and Operations Manager and specialises in open pit mine design, scheduling and tailings management.</p> <p>The conventional, free-dig mining operation and tailings disposal are considered appropriate for this style of shallow, saprolite-hosted graphite mineralisation. Zero dilution factor was assumed and is warranted because the majority of the high-grade production target mineralisation is bounded by lower grade mineralisation, and, the free digging, non-blocky nature of the material would result in no displacement by blasting.</p> <p>A contract mining strategy was selected to mitigate project risk, although operational management will be retained by Sovereign personnel.</p> <p>No alternative mining or tailings disposal methods were considered in this study.</p>																								
Metallurgical factors or assumptions	<p>The Company engaged graphite-industry veteran metallurgist Oliver Peters, MSc, P.Eng., MBA (Consulting Metallurgist for SGS and Principal Metallurgist of Metpro Management Inc.) to complete initial, optimisation and basic variability comminution and flotation bench-scale testwork on mineralised sample material from Malingunde. Mr Peters has over 25 years' experience in metallurgy on graphite and other commodities. He has operated numerous graphite pilot plants and commissioned a number of full-scale processing facilities. Mr Peters has developed the process flowsheet employed for the Scoping Study.</p> <p>The flowsheet involves washing and disaggregation by scrubber with ceramic media, followed by rougher flotation, polishing grind and final attritioning and cleaner flotation stages.</p> <p>Amec Foster Wheeler has developed the process plant design for the Scoping Study.</p> <p>Overall average flotation recovery of 90% is used. Overall concentrate grades average 97% C(t). These figures were derived from averaging 3 recent, optimised and representative flotation test-work results:</p> <table><tr><th>Particle size</th><th>C (%)</th><th>Distribution (wt. %)</th></tr><tr><td><i>Tyler mesh</i></td><td></td><td></td></tr><tr><td>32</td><td>97</td><td>7</td></tr><tr><td>48</td><td>97</td><td>21</td></tr><tr><td>- 48 + 100</td><td>98</td><td>32</td></tr><tr><td>- 100 + 200</td><td>97</td><td>27</td></tr><tr><td>- 200</td><td>94</td><td>13</td></tr><tr><td>TOTAL</td><td>97</td><td>100</td></tr></table> <p>It is acknowledged that laboratory scale test-work will not always represent actual results achieved from a production plant in terms of grade, flake size and recovery. Further upscaled test-work will be required to gain additional confidence of specifications and recoveries that will be achieved at full-scale production.</p>	Particle size	C (%)	Distribution (wt. %)	<i>Tyler mesh</i>			32	97	7	48	97	21	- 48 + 100	98	32	- 100 + 200	97	27	- 200	94	13	TOTAL	97	100
Particle size	C (%)	Distribution (wt. %)																							
<i>Tyler mesh</i>																									
32	97	7																							
48	97	21																							
- 48 + 100	98	32																							
- 100 + 200	97	27																							
- 200	94	13																							
TOTAL	97	100																							
Infrastructure	<p>Malingunde's proximity to the major city of Lilongwe means relatively minor area infrastructure upgrades and modifications are required outside of the immediate proposed mine-site area.</p> <p>The Scoping Study was managed by Amec Foster Wheeler. Amec Foster Wheeler is a recognised global leader in mining and processing with capabilities extending to detailed engineering, procurement and construction management. All infrastructure related capital and operating costs were estimated by Amec Foster Wheeler.</p>																								
Transport	Rail freight cost estimates were provided by Central East African Railways (CEAR), the existing rail concessionaire and rail operator. The rail concession is operated as a joint venture between Mitsui &																								



	<p>Co. Ltd, Vale SA and the Malawi and Mozambique Governments. CEAR have advised that there is available capacity to accommodate Malingunde concentrates.</p> <p>Other transport cost estimates were undertaken by Grindrod Rail Consultancy Services (Pty) Ltd (Grindrod) based on market data, industry databases, industry contacts and Grindrod's existing knowledge of the Southern African infrastructure market.</p> <p>Grindrod is a JSE-listed specialist freight and shipping services provider, with substantial experience in the management of transport studies from mining operation through to port in southern Africa. Grindrod undertook direct interaction with informed industry participants, including meetings with truck and rail haulage providers in Malawi and Mozambique, rail leasing companies and shipping consultants.</p>
<b>Operating costs</b>	<p>All cost information has been estimated to a scoping study level of accuracy (<math>\pm 35\%</math>). Costs are presented in real 2017 terms and are exclusive of escalation.</p> <p>Mining and processing costs have been estimated by Amec Foster Wheeler, a global expert in mining and minerals processing. Mining costs have been developed from similar projects in Southern Africa and adjusted for specific attributes of the Malingunde mining schedule. Processing costs are based upon a combination of first principle cost build-up, direct supplier quotes and similar projects in the region. Labour costs have been developed from similar projects in the region adjusted for Malawian labour rates.</p> <p>General &amp; administrative costs have been estimated by Battery Limits, a specialist mining project development consultancy with a significant experience in delivering southern African and Australian graphite studies.</p> <p>A Government royalty of 5% (applied to revenue) and a vendor royalty of 2% (applied to earnings) has been included in all project economics. Royalties are not included in the headline life of mine unit operating cost of US\$301/t concentrate.</p> <p>Operating costs do not make provision for the following;</p> <ul style="list-style-type: none"> <li>• Corporate head office costs</li> <li>• Mine closure and environmental costs</li> <li>• Social responsibility costs</li> </ul>
<b>Market assessment</b>	<p>Sovereign Metals engaged Metal Bulletin Research ("Metal Bulletin"), a specialist international publisher and information provider for the global steel, non-ferrous and industrial minerals markets, to prepare a marketing report as a key input into the Malingunde Graphite Project scoping study in May 2017.</p> <p>Metal Bulletin's scoping level assessment has confirmed that based upon their high level view on global demand and supply forecasts for natural flake graphite, and with reference to the specific attributes of the Malingunde project, there is a reasonable expectation that the product from the Malingunde project will be able to be sold into existing and future graphite markets. Given the extremely low cost profile and high quality product, it is expected that output from Malingunde will be able to fill new demand or substitute existing lower quality / higher cost supply. This will be confirmed through more detailed examination in the next phase of study.</p> <p>Project considerations taken into account by Metal Bulletin in forming an opinion about the marketability of product include Malingunde's:</p> <ul style="list-style-type: none"> <li>• Production target</li> <li>• Capital costs</li> <li>• Operating costs</li> <li>• Concentrate specifications</li> </ul> <p>Sovereign has undertaken extensive market discussions with international graphite industry participants, which have indicated substantive interest in the supply of high quality natural flake from a Malawian natural flake graphite project.</p> <p>Metal Bulletin have confirmed that based on a high level view of the market, there is a reasonable expectation the Company will be able to execute off-take agreements with customers.</p> <p>Metal Bulletin have formed their opinion based solely upon project information provided by Sovereign Metals to Metal Bulletin, and have not conducted any independent analysis or due diligence upon the information provided.</p>

<b>Economic</b>	<p>The Company engaged the services of advisory firm, Taylor Collison with regards to project economics. Taylor Collison is a financial advisory firm which specialises in multiple sectors, including metals and oil &amp; gas. Taylor Collison is well regarded as a specialist capital markets service provider and have raised project development funding for companies across a range of commodities including substantial experience in the industrial and speciality minerals sector. Following the assessment of a number of key criteria, Taylor Collison has confirmed that, on the basis that a definitive feasibility study arrives at a result that is not materially negatively different than the Scoping Study as noted above, Sovereign should be able to raise sufficient funding to develop the Project.</p> <p>Taylor Collison considers that given the nature of the Project, funding is likely to involve specialist funds, with potential funding sources including, but not limited to traditional equity and debt, offtake agreements, and royalty financing, at either the corporate or project level.</p> <p>Since initial exploration of the Malingunde Project in December 2014, the Company has completed extensive drilling, sampling and geophysical surveys to understand the geological setting and define graphite resources within the Malingunde Project area. Over this period, with these key milestones being reach and the Project de-risked, the Company's market capitalisation has increased from approximately A\$11m to over A\$25m. As the Project continues to achieve key develop milestones, which can also be significant de-risking events, the Company's share price is likely to increase.</p> <p>The Company is debt free and is in a strong financial position, with approximately A\$2.8m cash on hand (31 March 2017). The current strong financial position means the Company is soundly funded to continue the drilling, metallurgical optimisation and other testwork to further develop the project.</p> <p>Sovereign has a high-quality Board and management team comprising highly respected resource executives with extensive finance, commercial and capital markets experience. The Directors have previously raised more than A\$800m from capital markets for a number of exploration and development companies. Further, a number of the Directors have recently secured funding of approximately A\$80m in equity and debt funding to fully fund the construction and working capital requirements for a resources project.</p> <p>As a result, the Board has a high level of confidence that the Project will be able to secure funding in due course, having particular regard to:</p> <ol style="list-style-type: none"> <li>1. Required capital expenditure;</li> <li>2. Sovereign's market capitalisation;</li> <li>3. Recent funding activities by Directors in respect of other resource projects;</li> <li>4. Ongoing discussions for potential offtake agreements; and</li> <li>5. Investor interest to date.</li> </ol>
<b>Financial Model</b>	<p>Whilst a net present value has not been released as part of the Scoping Study, a comprehensive financial model underpins many metrics, including the capital payback sensitivity. Key parameters are disclosed in the body of the announcement, and include:</p> <ul style="list-style-type: none"> <li>• Discount rate: 10%</li> <li>• Tax rate: 30%</li> <li>• Royalty rate: 5% (Revenue) Government, 2% (Earnings) Vendor</li> <li>• Pricing: Sensitivity analysis only</li> </ul> <p>The financial model has been prepared internally by the Company using inputs from the various expert consultants, and has been reviewed by an international accounting firm to validate the functionality and accuracy of the model.</p>
<b>Environmental and Social</b>	<p>Preliminary studies carried out by Amec Foster Wheeler as part of the Scoping Study established the applicable Malawian and international environmental and social permitting and baseline requirements as well as the high level environmental and social risks for the Malingunde Project.</p> <p>Sovereign is committed to conduct its activities in full compliance to the requirements of national regulations, its obligations under international conventions and treaties and giving due consideration to international best practices and policies. The Company has appointed an experienced environmental consultant to manage the ESIA process, and environmental and social baseline studies have commenced with appropriately qualified independent experts. The Company has also completed a high level risk assessment to identify major environmental and social risks which could affect the development of the Project, along with mitigating strategies to allow identified risks to be addressed early in the design.</p>

	<p>The Company has embarked on several exercises with the communities in the area and there is a general positive acceptance of the Project. No social responsibility costs have been factored into this Study, however they will be assessed as part of the overall ESIA for the Project in the future.</p> <p>Based on the high level risk assessment and having conducted scoping level assessments and commenced a number baseline studies, there are no environmental issues currently identified that cannot be appropriately mitigated in accordance with standard practices adopted for the development of mining projects.</p>
<b>Government and legal</b>	<p>There are no known naturally occurring material risks to the Malingunde Project. There are no material or legal marketing agreements in place. The tenements are in good standing. Preliminary discussions with the Malawi government indicate necessary approvals can be obtained once due process is followed. The Company has received advice on title and there is a clear pathway to permitting a mining licence for the Project, with no currently identified obstacles that cannot be mitigated in accordance with standard practices adopted for the development of mining projects.</p>
<b>Timeframe for development and Production</b>	<p>The Company realistically expects it could commence construction in 2019. Production could commence in late 2019 to early 2020. This timeframe is subject to normal economic, environmental, financing and permitting factors.</p>
<b>Audit or reviews</b>	<p>Mr David Dodd has conducted an overall review of the mining, processing, infrastructure and cost components of the study. No material issues were identified by the reviewers.</p>