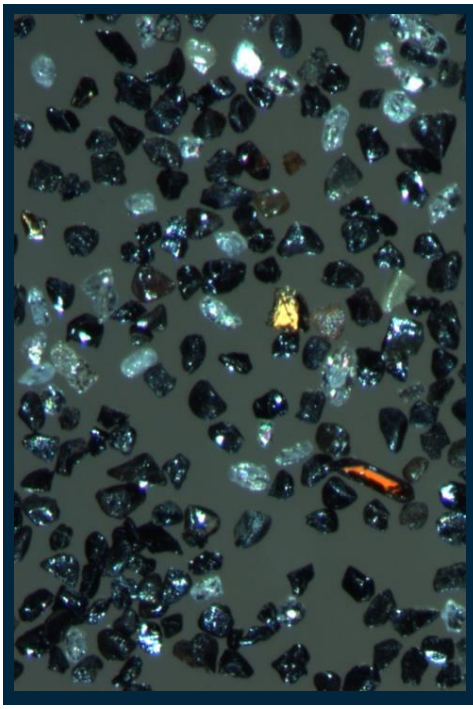
ASTUTEMETALSNL

4 April 2024

OUTSTANDING SCOPING STUDY RESULTS FOR GOVERNOR BROOME MINERAL SANDS PROJECT



Key Study Highlights:

- **Economically robust 10-year dredge mining project producing zircon, chloride and sulfate-grade Ilmenite, rutile, garnet and a rare earth mineral concentrate through third-party toll treatment of the Heavy Mineral Concentrate.**
- **Scoping Study has outlined a project boasting strong returns and a positive valuation**
- **Third-party toll treatment of the Heavy Mineral Concentrate will be used to increase the value of the final products.**
- **Opportunities for substantial upside in assaying low-grade overburden and undertaking exploration along strike from the Fouracres deposit and north-east of the Jack Track deposit.**
- **Outcomes warrant advancement of the Governor Broome Project to a Pre-Feasibility Study.**

Astute Metals NL (ASX: ASE) ("ASE", "Astute" or "the Company") is pleased to report exceptionally positive results from an updated Scoping Study ("2024 Scoping Study") which was undertaken following the November 2023 Mineral Resource Estimate update for the Governor Broome Heavy Mineral Sands Project ("Governor Broome Project" or "the Project"), located in the South West of Western Australia.

The 2024 Scoping Study evaluates mining and processing options for the Governor Broome Project and updates the study previously published in 2018. Key outcomes from the 2024 Scoping Study are presented in this announcement, together with the underlying material assumptions.

The Scoping Study was undertaken by leading international Heavy Mineral Sands consultancy group, TZMI, using results and data provided by Astute, those of other explorers/developers and incorporating the extensive experience and knowledge of the Mineral Sands sector that TZMI are renowned for.

The purpose of the study was to assess the economic viability of the project at a Scoping Study level, which would in turn assist the Company in establishing the next steps for the Project and to optimize value-creation for shareholders in alignment with Astute's long-term strategic direction as a critical metals explorer.

Astute Chairman, Tony Leibowitz, said:
"The completion of this Scoping Study marks a critical milestone in our value-realisation strategy for the strategically located Governor Broome Mineral Sands Project. The base-case scenario of a 10-year mine life at a mining rate of 7.6 million tonnes-per-annum, using low-cost dredge mining, highlights the robustness of Governor Broome as a potential mining project, with excellent capacity for generating strong cash-flows and upside from further technical and exploration work.

"The Scoping Study outcomes showcase a high-quality mineral sands development opportunity in a Tier-1 location which we believe has the potential to generate significant value for Astute shareholders. We look forward to progressing our value-creation strategy for Governor Broome to the next stage, building on the strong foundations established by this Scoping Study."

Cautionary Statement

The Scoping Study has been undertaken to ascertain whether a business case can be made to proceed to more definitive studies on the viability of the Governor Broome Project, which is based on the extraction of Heavy Mineral products from a Heavy Mineral Concentrate produced on-site with toll treating of the heavy mineral concentrate to produce the final products.

According to the JORC (2012) Code, a Scoping Study is an "order of magnitude technical and economic study". It is based on low-level technical and economic assessments, generally to a level of +/- 50% accuracy, that is not sufficient to support the estimation of Ore Reserves or to support any financial investment or development decision, or to provide certainty that the conclusions of the Study will be realised. Further exploration and evaluation work, test work and studies are required before the Company will be in a position to estimate any Ore Reserves, to provide any assurance of an economic development case, or to provide certainty that the conclusions of the Scoping Study will be realised.

Pre-Feasibility and Feasibility studies will be required to confirm the project viability including drilling to upgrade the remaining Inferred Mineral Resource to Measured or Indicated category, further metallurgical test work and process optimisation, detailed mine design, mine planning, evaluation of mining methods, engineering, updated and more accurate capital and operating cost estimates, environmental studies and permitting, land access and compensation agreements, toll treating agreements, community engagement and the establishment of ore reserves.

The Company believes it has reasonable grounds to report the results of the Scoping Study including the forward-looking statements and the forecast financial information that are based on the material assumptions outlined in the Scoping Study. The 10-year mine plan on which this Scoping Study is based contains 36% Measured Mineral Resources, 60% Indicated Mineral Resources and 4% Inferred Mineral Resources over the life of the Project. The first 5 years of mining are based on 51% Measured Mineral Resources and 47% Indicated Mineral Resources and 2% Inferred Mineral Resources. The Inferred Mineral Resources are not a determining factor in estimating the viability of the Governor Broome Project.

The Project is viable on the basis of the Measured and Indicated Mineral Resources and the payback period of the Project of less than two years post construction. There is a low level of geological confidence with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised. Metallurgical recoveries used in this Scoping Study are based on test work results and industry benchmarking for the key stages of the process flowsheet.

The Scoping Study is based on the material assumptions outlined in the Scoping Study. These include assumptions about the availability of funding. While the Company 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 outcomes anticipated by the Scoping Study will be achieved. To achieve the outcomes of the Scoping Study, funding in the order of A$91 million is estimated to be required for the Project development capital with an expected construction period of 2 years, in addition to pre-development funding of approximately A$2.5-3 million to convert the Mineral Resources to an Ore Reserve and to complete a Prefeasibility study.

Assuming a positive Pre-Feasibility study outcome, a Feasibility Study would also be required. Investors should note that there is no certainty that the Company will be able to raise that amount of funding when needed. It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of the Company's existing shares. It is also possible that Astute could pursue other 'value-realisation' strategies, such as direct financing into the Governor Broome Project via a joint venture or partial sale. If it does, this could materially reduce Astute's relative ownership of the Project. Given the uncertainties involved, investors should not make investment decisions based solely on the results of the Scoping Study.

Key assumptions and results of the study include:
The Governor Broome Project combined Mineral Resource Estimate (MRE) of 101Mt @ 4.5% HM, comprising 28.4Mt @ 4.4%HM of Measured category, 66Mt @ 4.5%HM of Indicated category and 7Mt @ 3.5%HM Inferred category Mineral Resources. Heavy mineral recovery to HMC of 84% for Governor Broome and 88% for Jack Track. Wet concentrator plant (WCP) and Mineral Separation Plant (MSP) mineral recovery assumptions for Governor Broome (GB) and Jack Track (JT) are tabulated below:

Mineral Product	WCP Recovery GB/JT	MSP Recovery GB/JT
Ilmenite:	85% / 90%	90% / 90%
Secondary Ilmenite:	85% / 80%	90% / 90%
Rutile:	80%	75%
Zircon:	90% / 98%	80% / 85%
Garnet:	90%	65%
Monazite:	95%	60%

The recovery assumptions for Governor Broome and Jack Track have been based on a combination of sighter testwork results and industry benchmarks to take account of recovery gains brought about by recirculating loads found in commercial scale plants and further flowsheet optimization work. Mining and processing rates of 7.62Mtpa and total mine life of 10 years. Returns are most sensitive to product prices and resource grades.

Revenue **A$ 1,254 M**	**Total EBITDA[1]** **A$ 426 M**
Operating cost **A$ 306/ t HMC**	**EBITDA Margin[2]** **34%**
Annual Average Free Cash Flow[3] **A$ 43 M**	**Initial Capex** **A$ 91 M**
NPV_{10} Pre-tax **A$ 139 M**	**IRR Pre-tax** **54%**
Capital Payback[3] **<2 years**	**Mine Life** **10 years**

Table 1. Key Scoping Study Outputs

Notes
[1] *Includes royalties and landowner compensation*
[2] *EBITDA/Revenue*
[3] *Post-construction*

Project Overview

The 100%-owned Governor Broome Heavy Mineral Sands Project is located in the mineral sands-rich coastal areas of the South West of WA. The Project is accessible by sealed road and located about 95km south of Busselton, 105km south of Iluka's processing plant at Capel, and 135km from Bunbury Port and from Picton, where Doral Australia has a heavy mineral separation plant. The area is well serviced by electrical infrastructure with a 132kV line located just 5km to the north and a three-phase power line passing through the Project.

The 2024 Scoping Study is based on the updated Mineral Resource Estimate for the Governor Broome Project (refer ASX release 27 March 2024), associated mineral assemblage analysis and Bulk Testwork for the Jack Track deposit (refer ASX release 23 August 2023).

The Governor Broome Project has been systematically de-risked by Astute over a number of years. Work to date demonstrates that the Project has capacity to produce a Heavy Mineral Concentrate (HMC) which includes a number of marketable minerals including sulfate and chloride-grade ilmenite, zircon, rutile, garnet and monazite, which can be separated using toll-treatment by third party HMC processors.

The Project includes the Jack Track tenements, R70/58 and E70/5200, that are subject to a Royalty agreement with Iluka Resources Ltd and the Fouracres tenement, R70/22, which is subject to a Royalty agreement with Cable Sands Pty Ltd. A 1% gross royalty applies to the royalty agreement tenements.

The Scoping Study base case scenario was selected on the basis of assessing a number of project development options including toll-treatment of the HMC at a nearby mineral separation plant (MSP), a partial MSP producing ilmenite, garnet and a non-magnetic concentrate and an option to sell the HMC to processors in China. The toll-treatment of HMC at an MSP close to Bunbury presents a low technical risk to the project as well as having a reduced time to implementation and a lower capital cost compared to constructing and operating an MSP on site.

Figure 1. Governor Broome Project tenement location, access and infrastructure.

The key outputs of the Scoping Study are as follows:

Metric	Unit	Value
Capital cost	A$ million	91
Average annual revenue	A$ million	125
Average annual operating cost	A$ million	83
Pre-tax NPV (at 10% discount rate)	A$ million	139
Pre-tax IRR	%	54
Weighted average revenue to cash cost ratio (payback period)		1.9
Capital Payback Period	Years	<2

Table 2. Scoping Study Material outputs

Geology and Mineralisation

The Governor Broome Project mineralisation is hosted in unconsolidated beach sands occurring on the Scott River Coastal Plain. The geological character of the mineralisation is like that of other heavy mineral deposits occurring along the Swan Coastal Plain, which have a long history of mining and processing. The mineralisation is hosted in beach placer facies sediments of the Pleistocene aged Barlee Shore-line on the southward facing Scott Coastal Plain. The host unit to the Jack Track Deposit mineralization – and that of the other deposits in the eastern section of R70/58 – is the Warren Sands, which do not contain significant clay.

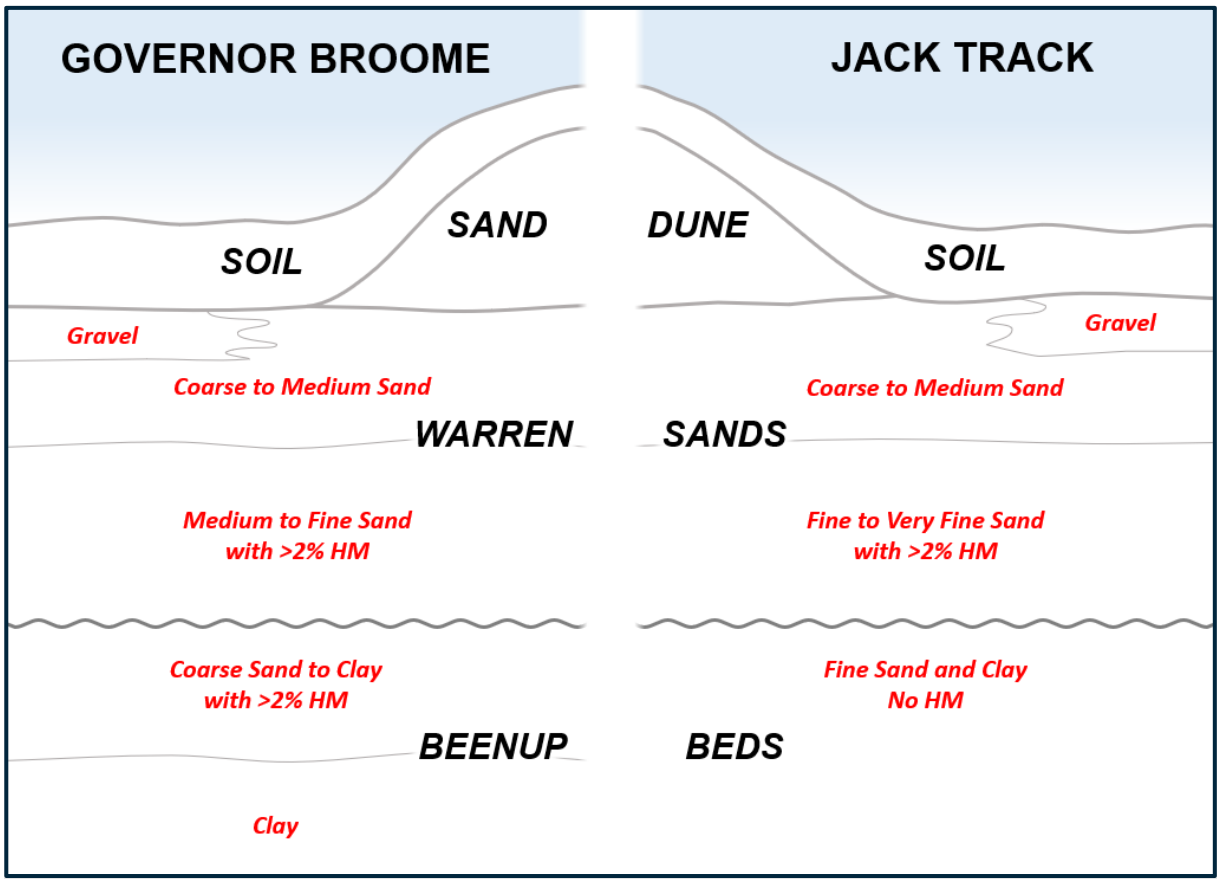


Figure 2. Schematic geological cross-section.

A sub-surface Bunbury Basalt headland is present to the west of the Jack Track Deposit (see Figure 2). The characteristics of both the Warren Sands-hosted mineralisation and of the underlying Beenup Beds, are markedly different on either side of the headland. To its east, both the Warren Sands and the immediately unconformably underlying Beenup Beds of the Cretaceous Warnbro Group are very fine grained, as are the heavy minerals.

To the west the grain sizes are larger, with most of the mineralisation within the western section of R70/58 and within R70/53 also being within the Warren Sands, but its lower portions are hosted within the Beenup Beds. The Beenup Beds sediments are of two main facies in the area: clayey sands and organic clays.

The clayey sands contain medium- to coarse-grained, angular to sub-angular, unconsolidated quartz and minor feldspar grains. The clay content, which is variable, tends to increase downward. Generally, it contains between 1% and 8% of valuable HM. Common accessory minerals are garnet, pyrite, and fine coal fragments.

Mineral Resource Estimates

Mineral Resources used as the basis for this Scoping Study are current as of the most recent Mineral Resource Update released on 27 March 2024 and are tabulated below and shown in Figure 2. The mineralisation that has been reported as Mineral Resources is based upon a minimum heavy mineral content of 2% over a thickness of 2m and a maximum slimes content of 20% in any one intersection.

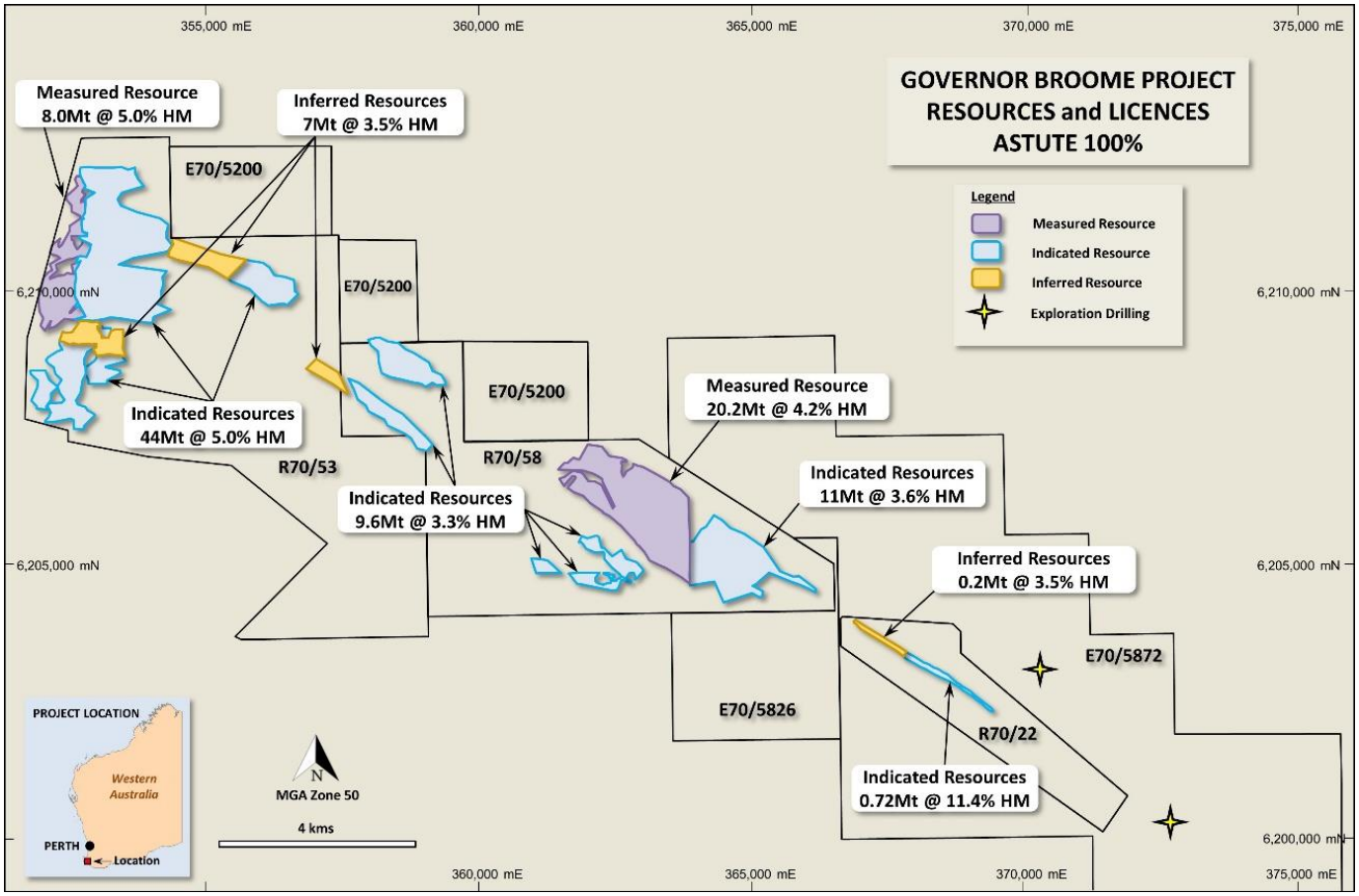


Figure 3. Governor Broome Project tenements and Mineral Resources.

Tenement	Category	Tonnage (Mt)	HM (%)	Slimes (%)
R70/58 - Jack Track	Measured	20.2	4.2	8.5
	Indicated	21	3.5	7.9
	Total	**41**	**3.9**	**8.2**
R70/53 - Governor Broome	Measured	8.0	5.0	13
	Indicated	44	5.0	13
	Inferred	7	3.5	12
	Total	**59**	**4.8**	**12.5**
R70/22 - Fouracres	Indicated	0.72	11.4	6.5
	Inferred	0.2	3.5	9
	Total	**0.93**	**9.6**	**7.1**
Project	Measured	28.4	4.4	9.7
	Indicated	66	4.5	12
	Inferred	7	3.5	12
	Total Resources	**101**	**4.5**	**11**

Table 3. Governor Broome Project Resources – at 2% HM lower block-cut-off grade[2]

[2] *Note that the above figures have been appropriately rounded.*
The Fouracres Resources estimated at a 3% Heavy Mineral (HM) lower block-cut-off grade
Governor Broome and Jack Track Resources estimated at a 2% HM lower block-cut-off grade

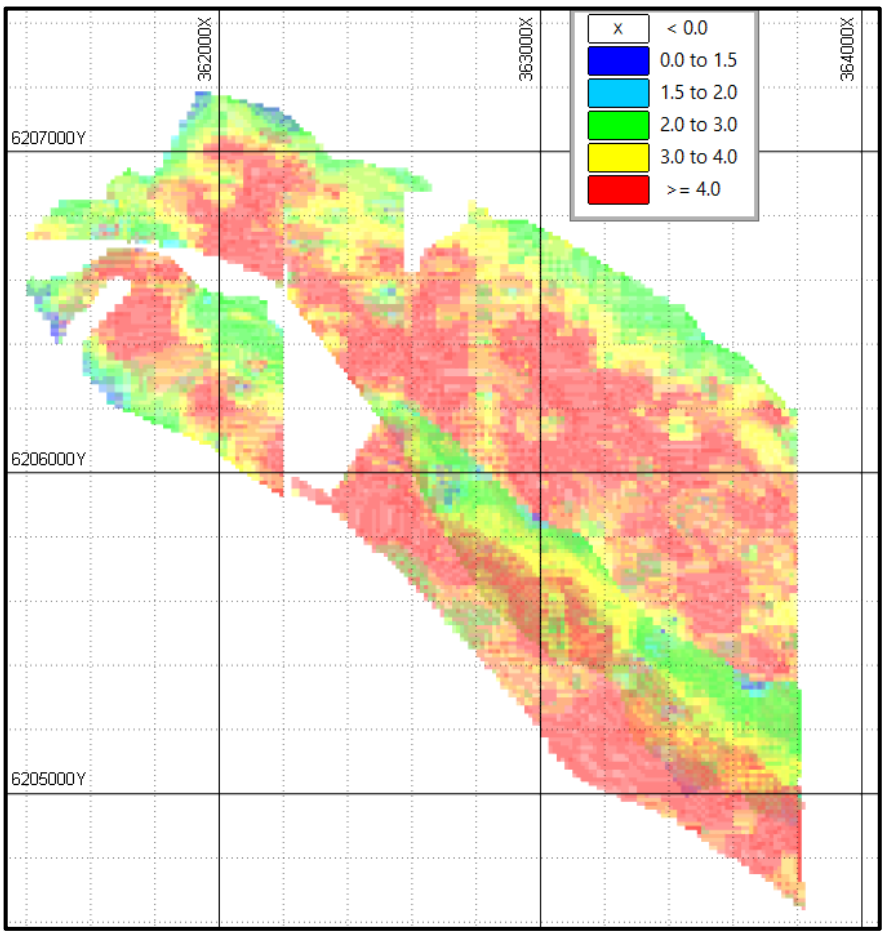


Figure 4. Jack Track Deposit OBM coloured by HM% grade.

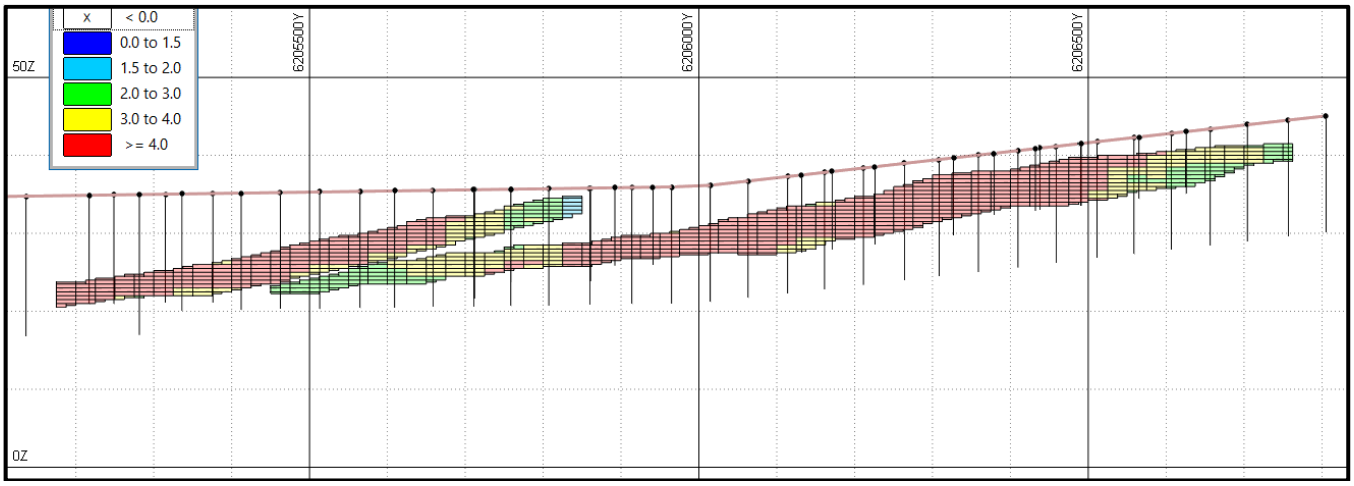


Figure 5. Jack Track Deposit OBM; 363000E Cross-section coloured by HM% grade; V.E. 10:1.

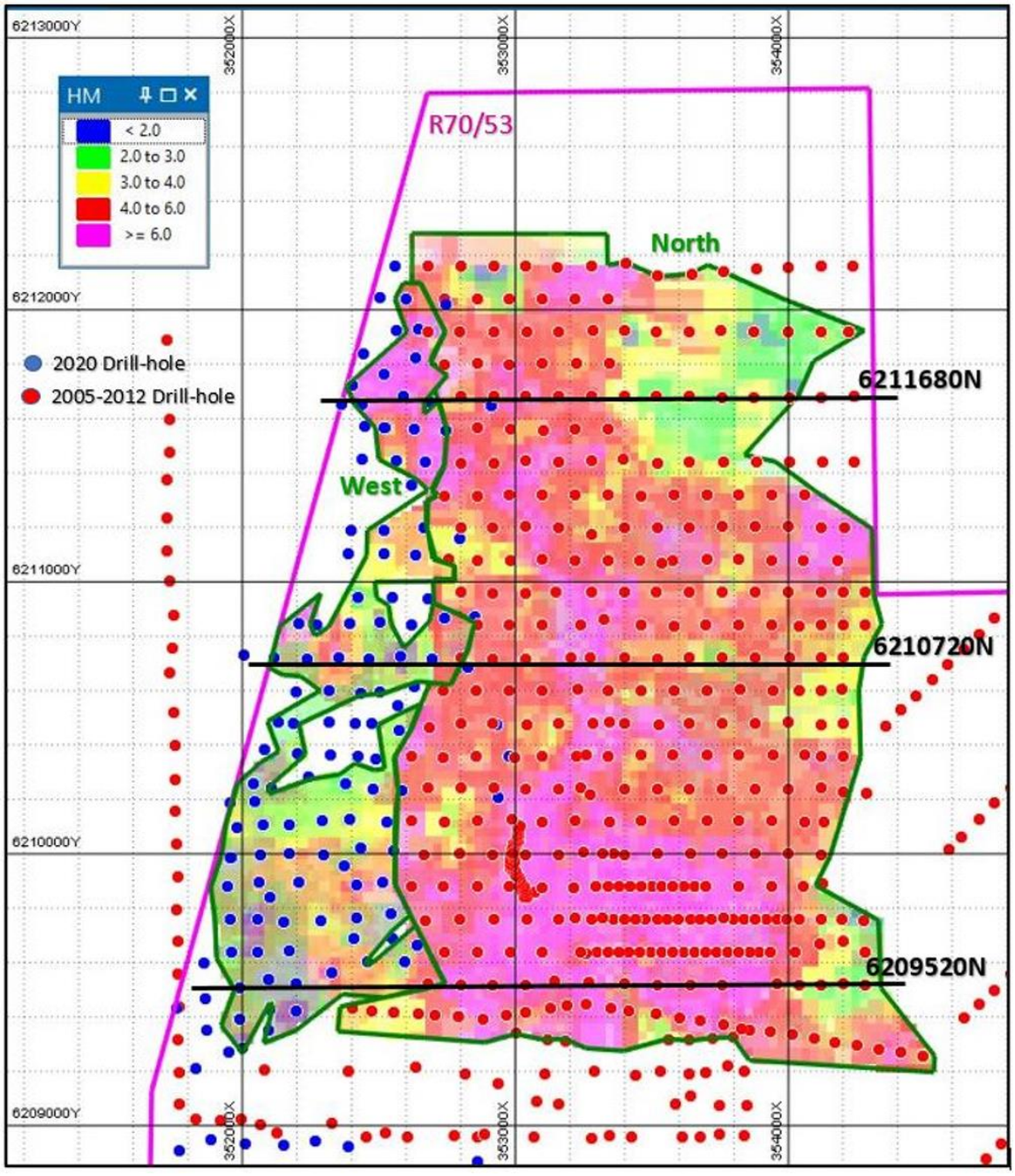


Figure 6. Governor Broome West and North Deposits OBMs coloured by HM% grade.

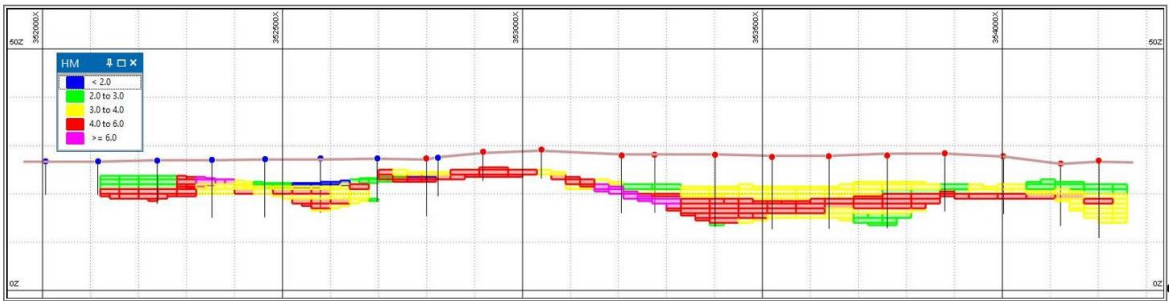


Figure 7. Governor Broome West and North Deposits OBMs coloured by HM% grade; 6210720N Cross-section looking north.

Mining

The project concept for the Scoping Study assumes a combination of dry and dredge mining, as a function of the most appropriate mining method applying to particular parts of the Mineral Resource.

Topsoil and overburden is removed and stockpiled using dry mining methods. Dredge mining would be completed down to a maximum of 13m below the level of the dredge pond. The dredge will feed a floating wet concentration plant (WCP) that trails behind the dredge, similar to many other mineral sand mining operations.

The HMC would then be dewatered and stockpiled by an onshore concentrate stacker prior to being trucked to a local MSP for toll treating. Products from this process are transported to the local port for storage and export with the MSP waste returned to the mine. The proposed dredge paths for Jack Track and Governor Broome are shown in Figure 8.

Dry Mining was selected for areas including Fouracres which are not suitable for dredging, as the Mineral Resources were narrow or too far off an economic dredge path.

Limitations and assumptions on the dredge mining sequence considered appropriate for this level of Scoping Study were:

- Avoid large infrastructure and environmental areas, as much as possible.
- The dredge advances using a mining strip generally 200m wide but widening up to 350m for short zones where necessary.
- A toe to crest angle of 30 degrees from horizontal.
- Pillars between mining strips with 50m crest separation.
- Where possible, mine the most profitable mineralisation early in the life-of-mine.

Fines from the WCP will be mixed with flocculant to aid the settling of the solids and immediately returned to the dredge pond. Sand tails will be discharged from the WCP to the trailing edge of the dredge pond void to re-establish a landform for progressive rehabilitation. The overburden will then be pushed back, returning the ground profile to its original form.

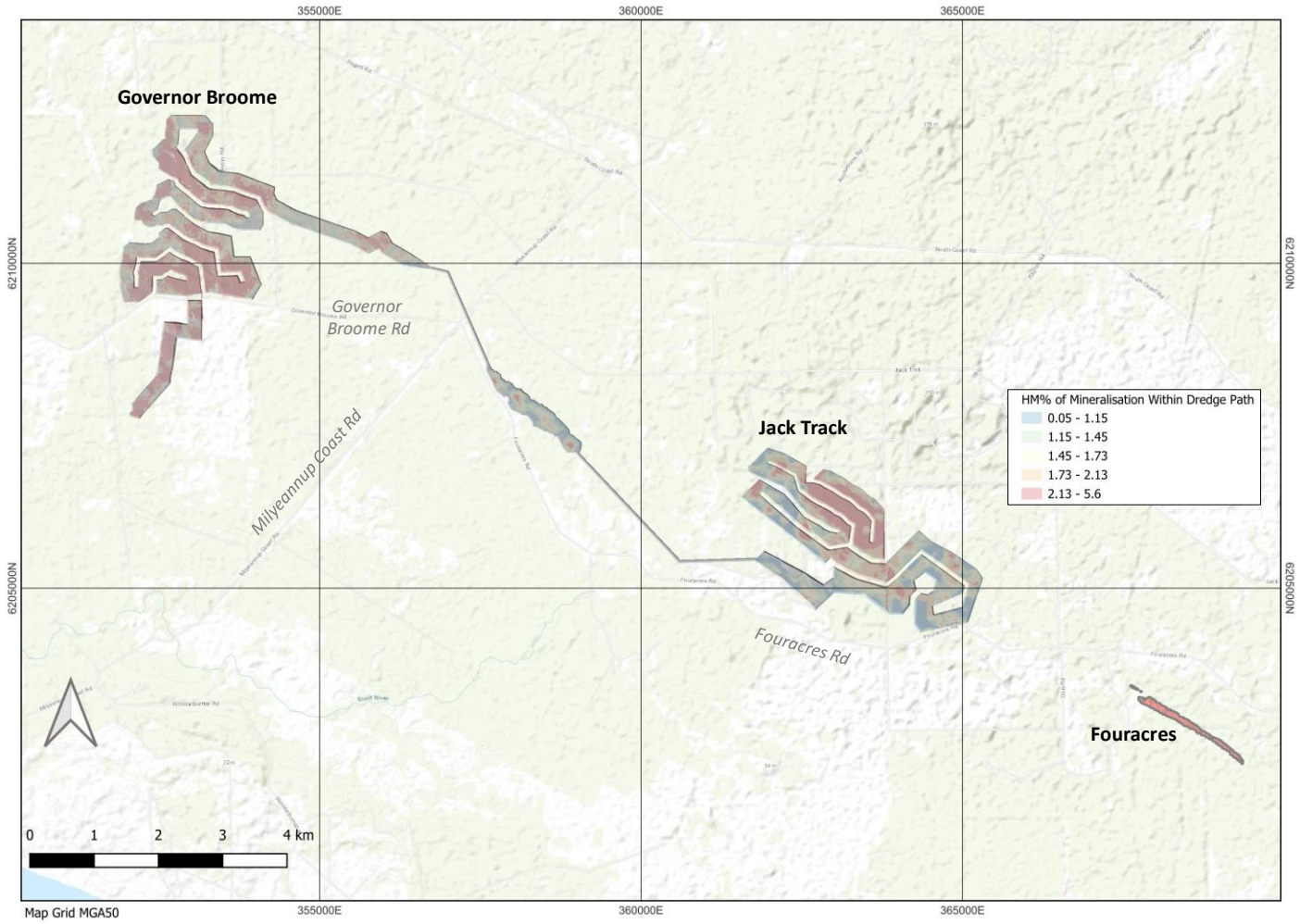


Figure 8. Mine schedule dredge paths and dry-mining areas.

Production Schedule

The production schedule has been calculated based on targeting a constant mining rate of 7.6 million tonnes per year. Other mining and processing constraints such as maximum slimes, oversize or HM rates have not been considered in detail in this stage. The proposed production schedule for Jack Track, Fouracres and Governor Broome are shown in Table 4.

Year	O/burden (Mm^3)	Dry Mining (Mt)	Dredge Mining (Mt)	HM (%)	Slimes (%)	Oversize (%)[3]	Avg ore thickness (m)
Year 1	1.8	0.0	5.3	4.1%	7.6%	1.4%	4.5
Year 2	5.4	0.0	7.6	3.5%	7.7%	1.4%	4.5
Year 3 [1]	4.4	0.8	7.6	3.6%	6.5%	1.4%	5.9
Year 4	7.5	0.0	7.6	3.6%	7.8%	1.4%	4.8
Year 5 [2]	4.1	0.0	7.0	2.5%	6.0%	1.8%	3.8
Year 6	4.6	0.0	7.6	3.7%	10.7%	2.7%	4.7
Year 7	3.6	0.0	7.6	4.3%	10.8%	2.7%	5.0
Year 8	4.5	0.0	7.6	4.8%	9.7%	2.7%	5.4
Year 9	3.3	0.0	7.6	4.4%	10.4%	2.7%	5.1
Year 10	4.2	0.0	6.2	5.6%	14.5%	2.7%	5.0

Table 4. Mining production schedule

[1] *Includes the dry mining of Fouracres*
[2] *Includes transit from Jack Track to Governor Broome*
[3] *Oversize based on testwork results*

Metallurgy and Bulk Testwork

Bulk testwork was undertaken by Perth-based specialist laboratory Allied Mineral Laboratories (AML). A 2.6-tonne bulk sample testwork program was completed in mid-2021 with sample sourced from the western portion of the Governor Broome Deposit, and a further 2-tonne bulk sample from Jack Track was evaluated in mid-2023.

The testwork programs were designed to evaluate grades and recoveries of potential heavy mineral products separated from the Project. The testwork comprised Feed Preparation Plant (FPP), Wet Concentrator Plant (WCP) and Dry Plant sighter testwork.

These testwork programs demonstrated that for both the Governor Broome and Jack Track Deposits:

- Oversize and slimes were readily removed using conventional processing techniques;
- Heavy Mineral Concentrates (HMC) were successfully produced using conventional techniques; and
- Heavy Mineral Products (primary ilmenite, secondary ilmenite, zircon, rutile, garnet rare earth mineral concentrate rich in monazite) were separated from the HMC that possessed quality characteristics consistent with Heavy Mineral products from existing suppliers in the market.

Further optimization metallurgical testwork would be required for more advanced feasibility level studies.

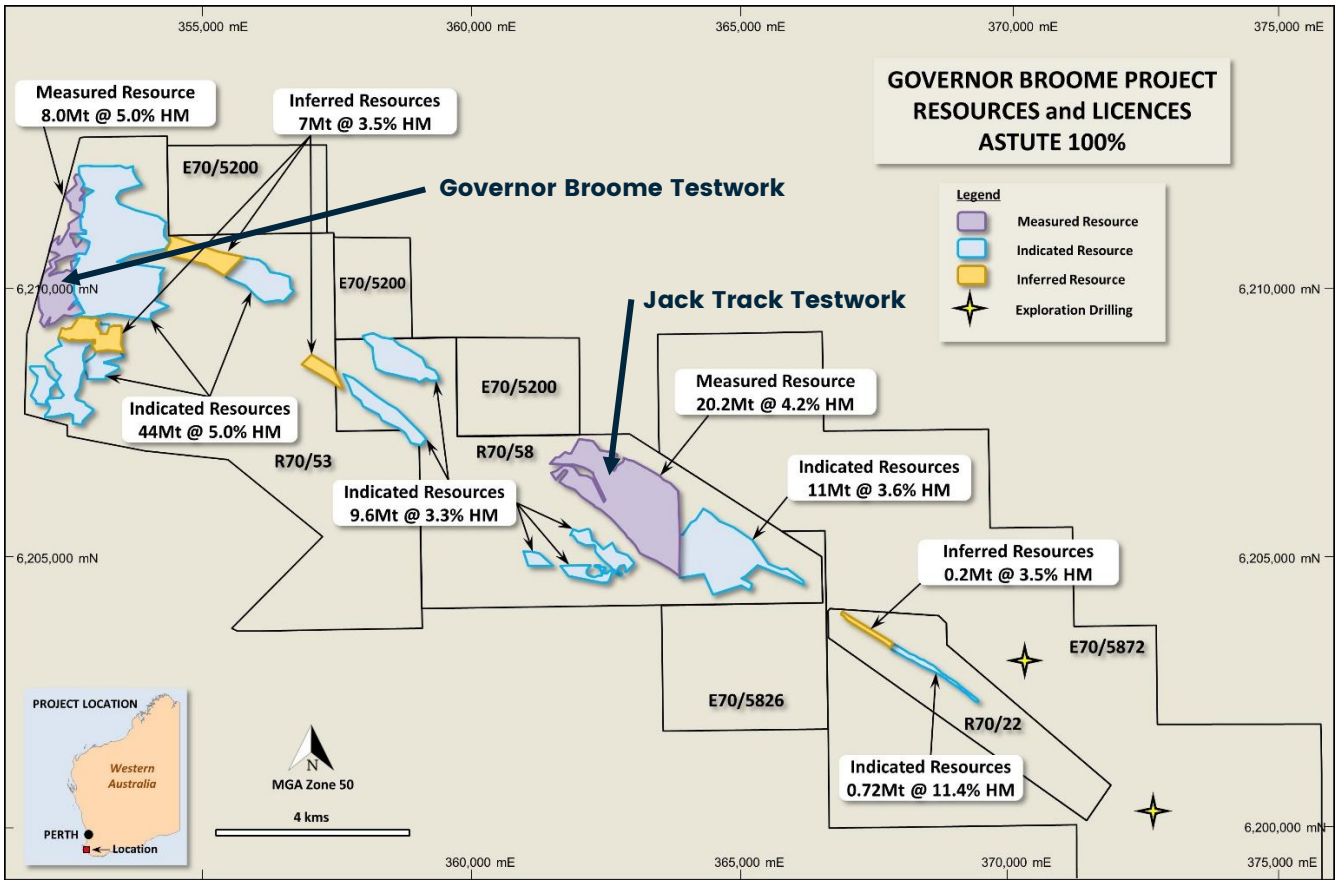


Figure 9. Governor Broome Project Bulk Testwork general sample locations.

The average mineral assemblage for each MRE domain is shown in Figure 10.

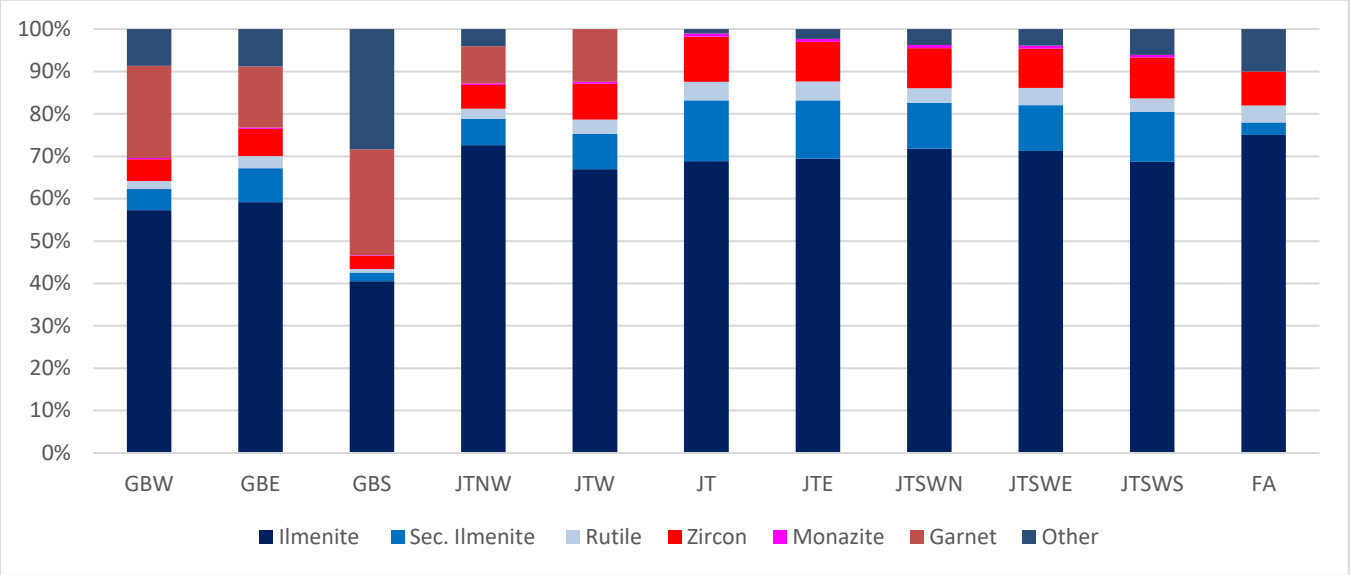


Figure 10. Average Mineral Assemblage by MRE domain (Governor Broome West, East and South, Jack Track, West, East, Southwest-North, Southwest-East and Southwest-South, and Fouracres).

Processing

The processing will involve a wet concentration plant (WCP) with a desliming stage to remove the fine material (<45µm), screening to remove the oversize (>2mm) particles, followed by a series of gravity spirals to produce a Heavy Mineral Concentrate.

The HMC will be attritioned before being stockpiled and transported to a local MSP (presumed to be near Bunbury for the study) for toll treatment. The final products are then transferred to port (see Figure 11).

As a function of the scale and indicative nature of testwork conducted to date at the Governor Broome Project, TZMI expects improved recoveries could be reasonably achieved from further flowsheet optimization testwork. Therefore, the mineral recovery assumptions used in the Scoping Study have been based on a combination of testwork and industry benchmarks to take account of the recovery gains brought about by flowsheet optimsation and recirculating loads found in commercial scale plants (see Table 5 and Table 6).

It is noted that further flowsheet optimisation testwork is required in order to demonstrate the base-case metallurgical assumptions can be achieved and that lower metallurgical recoveries remain a possibility until such testwork is completed. Lower metallurgical recoveries may significantly impact the economic outcomes of the Project.

Heavy Mineral Product	Process Recoveries	
	Gov. Broome, Jack Track W, NW and SE	Jack Track and Fouracres
Ilmenite	85%	90%
Secondary Ilmenite	85%	80%
Rutile	80%	80%
Zircon	90%	98%
Garnet	90%	N/A
Monazite	95%	95%

Table 5. WCP mineral recovery assumptions by resource

Heavy Mineral Product	Toll Treatment Recoveries	
	Gov. Broome, Jack Track W, NW and SE	Jack Track and Fouracres
Ilmenite	90%	90%
Secondary Ilmenite	90%	90%
Rutile	75%	75%
Zircon	80%	85%
Garnet	65%	65%
Monazite	60%	60%

Table 6. Toll treatment mineral recovery assumptions by resource

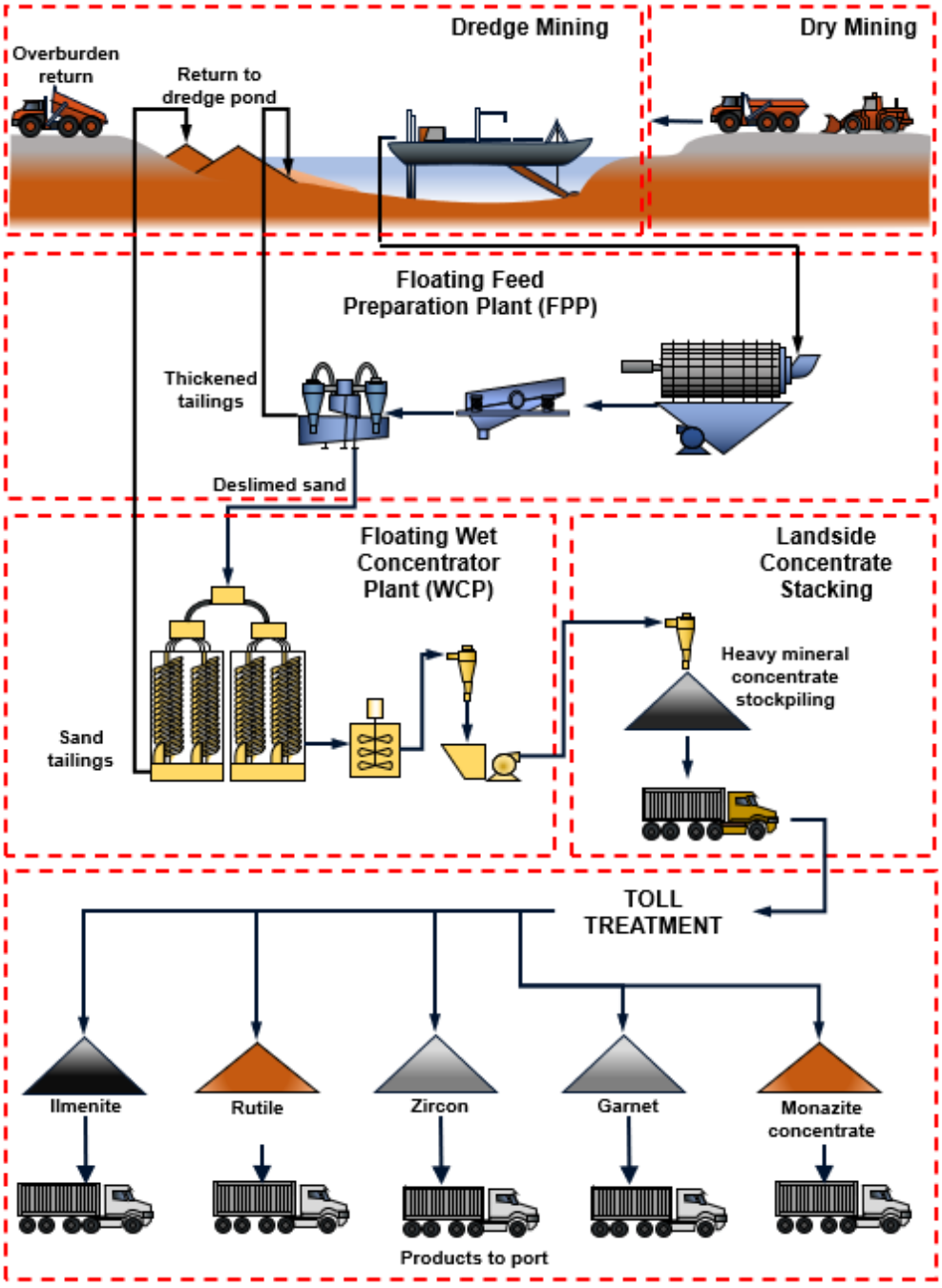


Figure 11. Conceptual process flowsheet.

The estimated production volumes by year are shown in Figure 12.

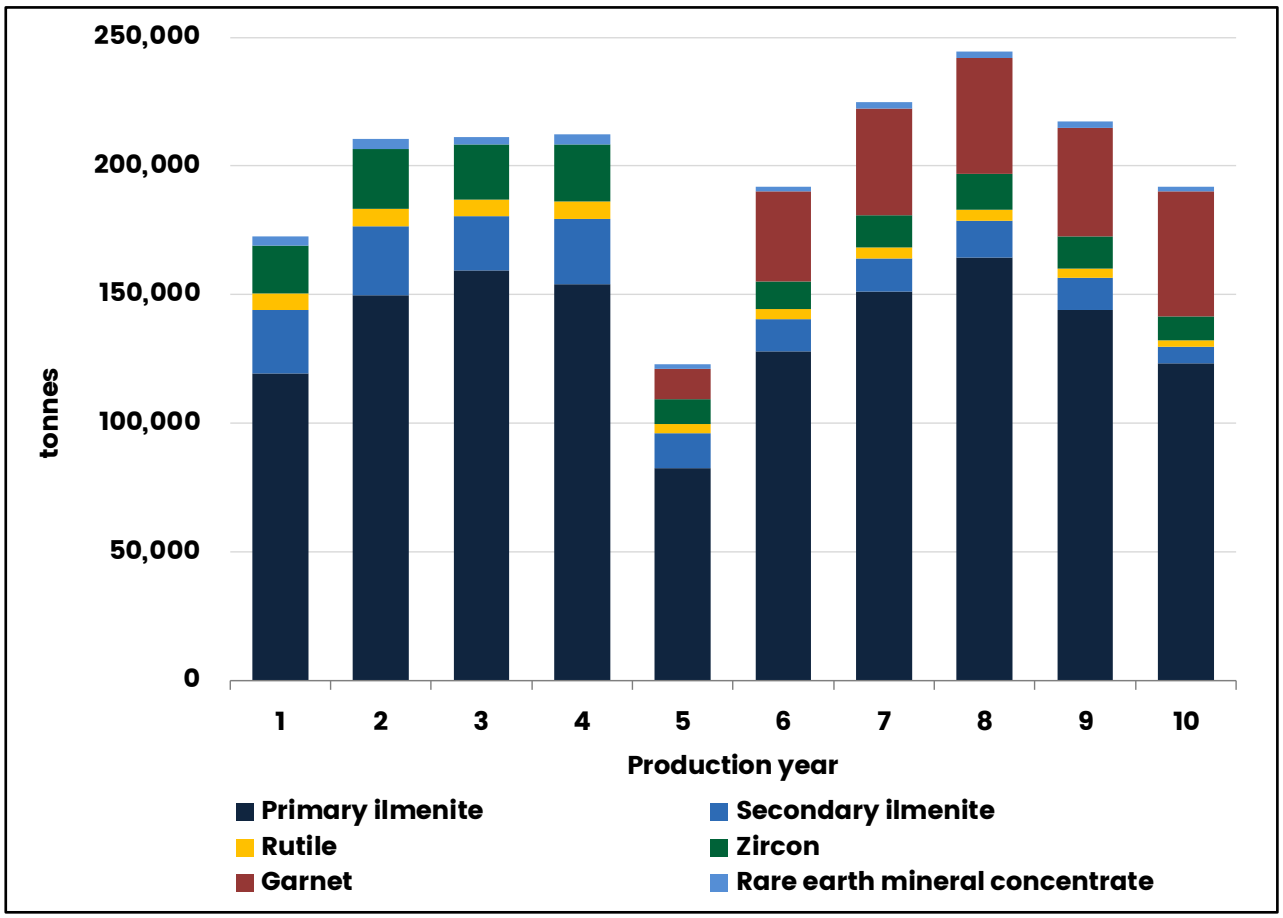


Figure 12. Product volumes by year.

Product Pricing and Markets

A product quality and market assessment of the Governor Broome Project products were undertaken by TZMI with an updated pricing estimate completed as part of the Scoping Study. Supply/demand and price forecasts were developed for each product were developed as part of this assessment.

Based on December 2023 TZMI forecasts the global titanium feedstock supply is expected to peak in 2025, decreasing thereafter as existing mine grades decline and resources are depleted. The underlying demand is expected to grow at a compounded annual rate of 2.2% between 2024 and 2035. The market is therefore expected to move into a deficit in 2029 if new no new sources of supply are commissioned.

The supply/ demand balance for the zircon market shows that while the market is well supplied to 2028, significant new capacity is required to meet demand after this date. This is due a decline in supply from existing operations of 1.9% (CAGR) between 2024 and 2035.

The garnet market is expected to remain relatively balanced with growth in demand being matched by supply out to 2030. Demand for the rare-earth metals, which are contained within monazite, is expected to remain strong as the world continues its transition to clean energy technologies, in which rare earths are an important component.

The price of the final products was assessed by TZMI based on the quality of the mineral products produced during the metallurgical testwork undertaken by AML. The average price of each product over the life of the mine is shown in Table 7, which takes any applicable premiums or discounts into account based on the quality of the final products.

Negotiations with potential toll processers and off-take partners are yet to be undertaken. It is considered appropriate that such negotiations be undertaken during the Pre-Feasibility stage of the Project in order to confirm that nearby capacity exists to process the HMC as well as sufficient appetite for final mineral products.

Heavy Mineral Product	Average USD/t FOB (real 2023)
Primary ilmenite	286
Secondary ilmenite	338
Rutile	1,694
Zircon	1,745
Garnet	302
Rare earth mineral concentrate	1,400

Table 7. Average product prices used in the 2024 Scoping Study

Note: As part of the sale agreement of the Jack Track deposits, Iluka Resources Limited has a last right of refusal in its favour from any products of these deposits.

Capital Cost Estimates

Capital costs (CAPEX) for the project are estimated at A$91 million, comprising direct costs of A$66.7 million and indirect costs of A$24.4 million. Sustaining capital is estimated at A$1.0 million per year.

These have been estimated in line with ±50% accuracy appropriate for Scoping level analysis and are tabulated below.

Metric	A$ million [1]
Mining Equipment	24.9
Wet concentrator plant	33.8
Infrastructure	8.0
Total direct costs	**66.6**
EPCM	7.5
Spares	1.7
Contingency (20%)	15.2
Total capital cost estimate	**91.0**

Table 8. Itemised CAPEX Estimates

[1] *Rounding errors may apply.*

Capital Funding

To achieve the range of outcomes indicated in the Scoping Study, funding in the order of A$91 million will be required for Project development. In addition, pre-development funding of approximately A$2-3 million would be required to convert Mineral Resources to an Ore Reserve and to complete a Pre-Feasibility Study, with further funding required to complete a Feasibility Study.

While there is no certainty that Project development funding will be obtained on satisfactory terms, at the time required, or at all, the Astute Metals Directors believe that providing the Project economics indicated by the Scoping Study are confirmed by the next stages of studies on the Project, it is reasonable to assume that sufficient future funding for the development of the Governor Broome Heavy Mineral Sands Project will be available when required.

The grounds on which this is reasonable basis is established include:

- The Project has strong technical and economic fundamentals which provides an attractive return on capital investment and generates robust cashflows based on market pricing. This provides a strong platform to source the debt and equity funding required.
- The Company has a strong track record of raising equity funds as and when required to further the exploration and evaluation of the Governor Broome Project.
- The Astute Board and management have a strong track record in developing projects.

Investors should note that there is no certainty that Astute will be able to obtain sufficient funding when needed. It is possible that funding may dilute or otherwise affect the value of Astute's existing shares.

It is possible that Astute may pursue other 'value-realisation' strategies such as sale, partial sale or joint venture of the Project. If it does, this could materially reduce the Company's ownership of the Project.

Operating Cost Estimates

Operating costs have been estimated as part of the Scoping Study using a combination of bottom-up approach and estimates from the TZMI database based on industry benchmarks which are in line with similar mineral sands processing operations in Australia. Operating costs include contract earthmoving and dry mining, power, labour, maintenance, transport, storage, ship loading, rehabilitation, landholder compensation and royalties.

The Scoping Study assumes that HMC is toll-treated at a nearby under-utilised mineral separation plant located near the township of Bunbury and includes a corresponding HMC haulage cost.

The operating costs have been estimated in line with ±50% accuracy appropriate for Scoping level analysis and are tabulated below.

Description	A$ M pa.	A$/tonne ore mined
Mining	29.4	4.10
Processing	38.0	5.29
Product storage and ship loading	2.9	0.41
Administration and marketing	5.1	0.70
Royalties and landholder compensation	7.3	1.02
Total estimate (±50%)	**82.7**	**11.52**

Table 9. Itemised OPEX Estimates

Cashflow Analysis

A cashflow model was constructed based on the estimated capital and operating costs along with the production and pricing assumptions presented above.

From the model, the annual cash flow and returns were calculated and are summarised in Table 10.

Description	Unit	Value
Capital cost [1]	A$ million	91
Average annual revenue	A$ million	125
Average annual operating cost	A$ million	83
Pre-tax NPV (at 10% discount rate)	A$ million	139
Pre-tax IRR	%	54
Weighted average R/C		1.5
Capital Payback Period	Years	<2

Table 10. Financial analysis summary for toll treating HMC into final products.

[1] *Excludes working capital*

The Scoping Study results in this release are preliminary in nature, as the conclusions are partly drawn from Indicated and Inferred Mineral Resources. The Scoping Study is based on low-level technical and economic assessments which are 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.

Sensitivity Analysis

Using the model, an analysis was performed to determine the sensitivity of the financial performance to changes in product prices, capital cost, operating cost and resource grade. The result of this analysis found that the project returns are most sensitive to product prices and resource grade and least sensitive to the capital cost (see Figure 13).

Potential Downside

In addition to this analysis, the project also remains sensitive to both recoveries of heavy mineral to HMC and individual mineral recoveries at the MSP. The mineral recovery assumptions used in the Scoping Study have been based on a combination of testwork and industry benchmarks to take account of the recovery gains expected to be brought about by flowsheet optimsation and recirculating loads found in commercial scale plants. Should mineral recoveries be lower than the assumptions used in the Scoping Study, Project economics will be negatively affected accordingly. The sensitivity of the project economics to changes to recoveries is, to a degree, reflected in the product prices sensitivity in that changes in mineral recovery directly impact revenue in the same way as pricing does.

Other technical elements that may adversely impact Project economics include the presence of acid sulfate soils, poor market response to garnet, and slimes management during dredging.

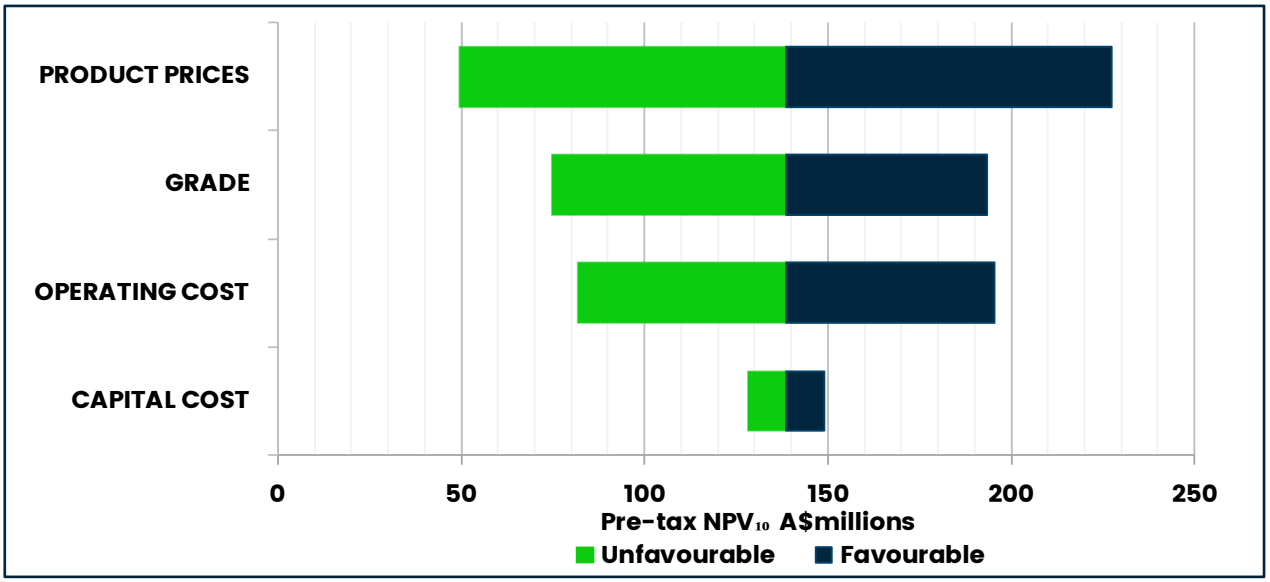


Figure 13. Sensitivity analysis – Pre-Tax NPV.

Potential Upside

Through the course of the Scoping Study, several areas were identified that may present as improvements to the Mineral Resource Estimate (MRE) that formed the basis of the Scoping Study.

Mineral Resource Estimate Cut-off Grade

The MRE used in this study was estimated at a 2% HM cut-off, considered to be consistent with a dry-mining scenario. As a dredge operation is contemplated, a lower cut-off grade may be appropriate on account of the relatively lower operating cost for dredge mining, compared to dry mining. In this Scoping Study low-grade mineralisation below 2% HM is present in dredged material that, due to its exclusion from the MRE, could otherwise contribute to project Revenue. Additionally, there is further potential for low-grade mineralisation in the overburden and along strike from existing Resources that could increase the mineable tonnes at the Project. In order to assess the impact of inclusion of low-grade material it is recommended that an updated Mineral Resource be estimated at a lower cut-off grade, and taking into account any variation in mineral assemblages in low-grade areas.

Sand fraction cut point at Jack Track

Analysis of drill samples at Jack Track was previously performed by Iluka at a +53µm cut-off for slimes/sand. Broadly, sample analysis conducted at Jack Track by the Company was also conducted at the same particle size cut-off for the purposes of consistency. Repeat analysis of a number of samples from Jack Track has indicated a significant proportion HM is present at Jack Track in the size fraction between 45µm and 53µm. Analysis of samples from the Governor Broome deposits were all conducted at a +45µm. Therefore, an opportunity exists to not only bring sample analysis from Jack Track into alignment with other parts of the Project, but also to potentially increase the HM grade, and reduce slimes for resource reporting.

Exploration Opportunities

There are two main opportunities to test for resource expansion at the Governor Broome Project. The first target area is located on farmland along strike of both the high-grade Fouracres deposit and the previously mined Jangardup deposit. All necessary approvals are in place to conduct exploration drilling

in this location. The second target area is within Unallocated Crown Land approximately 4km east-southeast of the Jack Track deposit. This location presents as a radiometric thorium anomaly not dissimilar to that at Jack Track. Drilling conducted at this location in 2012 was not assayed, however logging indicated the presence of HM mineralisation. Exploration at both of these areas have the potential to add to project Mineral Resources.

Environment, Cultural Heritage and Tenements

While no significant environmental or Cultural issues have been identified through conducting work to date on the Project, a formal Environmental and Cultural Heritage Impact Assessment is yet to be undertaken and as such would be required during the Pre-Feasibility phase of the Project. The Governor Broome Project Mineral Resources are located overwhelmingly on Retention Licenses and, to a lesser extent, on Exploration Licences, so Mining Leases would ultimately also be required for Project development

Rehabilitation and Closure Costs

As the area affected by the mine is progressively rehabilitated during mining operations, the final closure costs for rehabilitation of the final mine pit, tailings, processing facilities and associated infrastructure are expected to be minimal. Therefore the final mine closure and plant site rehabilitation costs are assumed to be covered by the salvageable value of the plant at the end of the mine life.

As it is accepted practice for a salvage company to demolish and scrap or on-sell the plant at no cost to the company no additional mine closure costs have been included above the rehabilitation allowances included in the operating cost.

Project Advancement

In order for the Governor Broome Project to advance to the next development stages, Pre-Feasibility and Feasibility, the following bodies of work will be required:

- Further drilling, including sampling of overburden and low-grade areas
- Upgrade of Inferred Mineral Resources to Indicated or Measured category
- Variability metallurgical testwork
- Flowsheet optimization and development testwork using bulk samples from the project area
- Test pits for bulk sampling and validation of the process flowsheet
- Sourcing of cost proposals from mining contract service providers
- Infrastructure assessment
- Basic engineering studies for costing and identification of long lead items
- Environmental and Cultural Heritage Impact Assessment, including
    - Aboriginal Cultural Heritage clearance of potential mining areas
    - Baseline environmental studies
    - Referral to EPA for determination whether the Project requires formal Assessment.
- Compensation agreements to be negotiated with affected landholders.
- Landscape and visual amenity studies
- End of mine land use assessment
- Approval of Mining Proposal with Mine Closure Plan – submitted after conclusion of EPA assessment, if this is required.
- Grant of Mining Leases over the Project Areas that may potentially be mined.
- Consultation with Local Shire – road diversion.

Next Steps

The successful completion of the Scoping Study has revealed the significant potential of the Governor Broome Project. Now that potential value of the Project has become clear, the Company will actively consider its options for the ultimate direction of the Project, with a view to maximising value-creation for shareholders in alignment with Astute's clear long-term strategic direction as a critical metals explorer.

The options to be considered include:

- Sourcing of funding to advance the Project
- Investigating potential Joint Venture partners and how the arrangements can enhance value;
- A review of sale options and likely buyers for the asset; and
- Considering other avenues for realisation.

Information in this Release has been sourced from the following previous ASX Releases:

1 ASX: ASE 27 March 2024 'Amended ASX Release - Substantial Mineral Resource Upgrade - Mineral Sands Project'
2 ASX: ASE 23 August 2023 'Jack Track Bulk Testwork Produces Marketable Heavy Mineral Products'
3 ASX: ARO 21 November 2022 'High Value Mineral Content for Jack Track Deposit'
4 ASX: ARO 16 October 2019 'Review of the Governor Broome Project Preliminary Study'
5 ASX: ARO 26 April 2016 'Jack Track Maiden Inferred Heavy Mineral Resource'
6 ASX: ARO 8 November 2021 'Re-estimation of Jack Track Tenement Resource'
7 ASX: ARO 19 September 2022 'Substantial increase in Mineral Resource for Governor Broome'
8 ASX: ASE 14 September 2023 'Commencement of Scoping Study at Governor Broome'

Authorisation

This announcement has been authorised for release by the Board of Astute.

More Information

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Competent Persons – Exploration Results and Mineral Resources

The information in this report as it relates to Mineral Resources and Exploration Results for the Governor Broome Project is based on information compiled by John Doepel, a Director of Continental Resource Management Pty Ltd (CRM), who is a member of the Australasian Institute of Mining and Metallurgy. Mr Doepel has sufficient experience in mineral resource estimation relevant to the style of mineralisation and type of deposit under consideration 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 Doepel consents to the inclusion in this announcement of the information in the form and context in which it appears.

Mineral Resources

There is information in this report relating to Mineral Resources as previously announced:

1. The Mineral Resource Estimate for the Jack Track deposits (including Fouracres), announced on 27 March 2024
2. The Mineral Resource Estimate for the Governor Broome deposits, announced on 19 September 2022

Other than as disclosed in those announcements, 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 also confirms the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.

Competent Persons – Scoping study

The information related to the Scoping Study reported here has been compiled from source reports, exploration data and other information and has been reviewed by Gavin Wiliams who is a Member of the Australian Institute of Mining and Metallurgy. Mr Williams 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 Williams is a Principal Consultant at TZ Minerals International (Pty Ltd) and consents to the inclusion of this technical information relating to the Scoping Study in the format and context in which it appears.