Barrambie Titanium Project PFS and Ore Reserve Update

Highlights

- **Neometals completes Class 4 Pre-Feasibility Study Update ("PFS Update") for production of Direct Shipped Ore ("DSO") and Mixed Gravity Concentrate ("MGC") from Barrambie;**
- **PFS Update includes mining from titanium-rich Eastern bands at Barrambie with a staged capital efficient approach to development:**
  - **Initial A$78.1m capital requirement for 1 year production of DSO with mining, crushing, and screening only;**
  - **Followed by a further A$137.2m to construct a crush, mill, beneficiate ("CMB") plant for a further 12 years of MGC production.**
- **Project NPV (pre-tax) of A$374.9m A and IRR of 45%;**
- **Average free cash (before tax, depreciation, and amortisation) of A$103.3M p.a. over the first 5 years; and**
- **Probable Ore Reserve update to 27.6 Mt at 22.3% TiO_2, 43.7% Fe_2O_3 and 0.57% V_2O_5.**

Emerging sustainable battery materials producer, **Neometals Ltd** (ASX: NMT & AIM: NMT) ("**Neometals**" or **"the Company**"), is pleased to announce the completion of an update to its Association for the Advancement of Cost Engineering ("AACE") Class 4 (+/- 25%) PFS for the production of DSO and MGC from its 100% owned Barrambie Titanium Project ("**Barrambie**")[1]. Following recent successful smelting trial results[2] and announcement of an offtake term sheet with Jiuxing Titanium Materials (Liaonging) Co. Ltd ("**Jiuxing**") ("**Jiuxing Offtake Term Sheet**")[3], the PFS Update has delivered compelling financial metrics allowing the project to move into a definitive feasibility study phase.

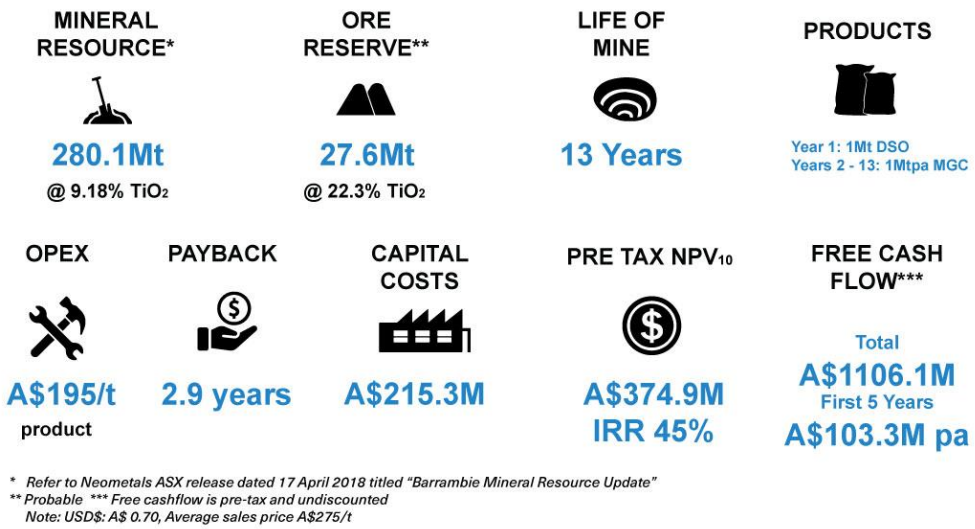


Figure 1: *Highlights of PFS Update*

The PFS Update uses the Neometals 2018 Mineral Resource Estimate[4] as a basis to update its Ore Reserves, estimated using the guidelines of the 2012 edition of the Australian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves ("JORC Code (2012)"). The Barrambie Mineral Resources reported are inclusive of Ore Reserves. The production targets referred to in this announcement are based on 100% Probable Ore Reserves.

Neometals has invested in excess of $A40 million in the acquisition, exploration and evaluation of Barrambie since 2003. The Company has in more recent times maintained a primary focus on recovering a titanium product from Barrambie to realise maximum value for shareholders. The PFS Update assumes a CMB option at Barrambie on predominantly Eastern Band titanium-rich mineralisation to produce 12 months of DSO, followed by MGC. The PFS Update removes further processing of MGC via a low-temperature reduction roast ("**LTR**") and magnetic separation at a second site alongside the Dampier to Bunbury Gas Pipeline east of Geraldton. This option can be considered in the future.

Chris Reed, Neometals' Managing Director said:

The team has done an outstanding job updating the PFS for development of a concentrate-only operation contemplated in the Jiuxing Offtake Term Sheet, the results speak for themselves. This lower capital, staged development of Barrambie would speed the addition of approximately 4% to global supply, Our customer Jiuxing, is the largest chloride-grade titanium slag producer in the largest titanium market, China. The market-linked pricing and floor price mechanisms for the DSO and MGC products are evidence of the strong market fundamentals for titanium and emerging structural supply deficit. We look forward to taking the project through the final feasibility and approvals stages and developing this hugely strategic asset."

[1] For further details see Neometals announcement titled "Robust Outcomes from Barrambie Titanium Project PFS" dated 17th November 2022.

[2] For further details see Neometals announcement titled "Successful Commercial-Scale Smelting Trials for Barrambie" dated 2nd November 2022.

[3] For further details see Neometals announcement titled "Offtake Term Sheet with Jiuxing Titanium Executed" dated 20th April 2023.

[4] For further details see Neometals announcement titled "Updated Barrambie Mineral Resource Estimate" dated 17th April 2018.

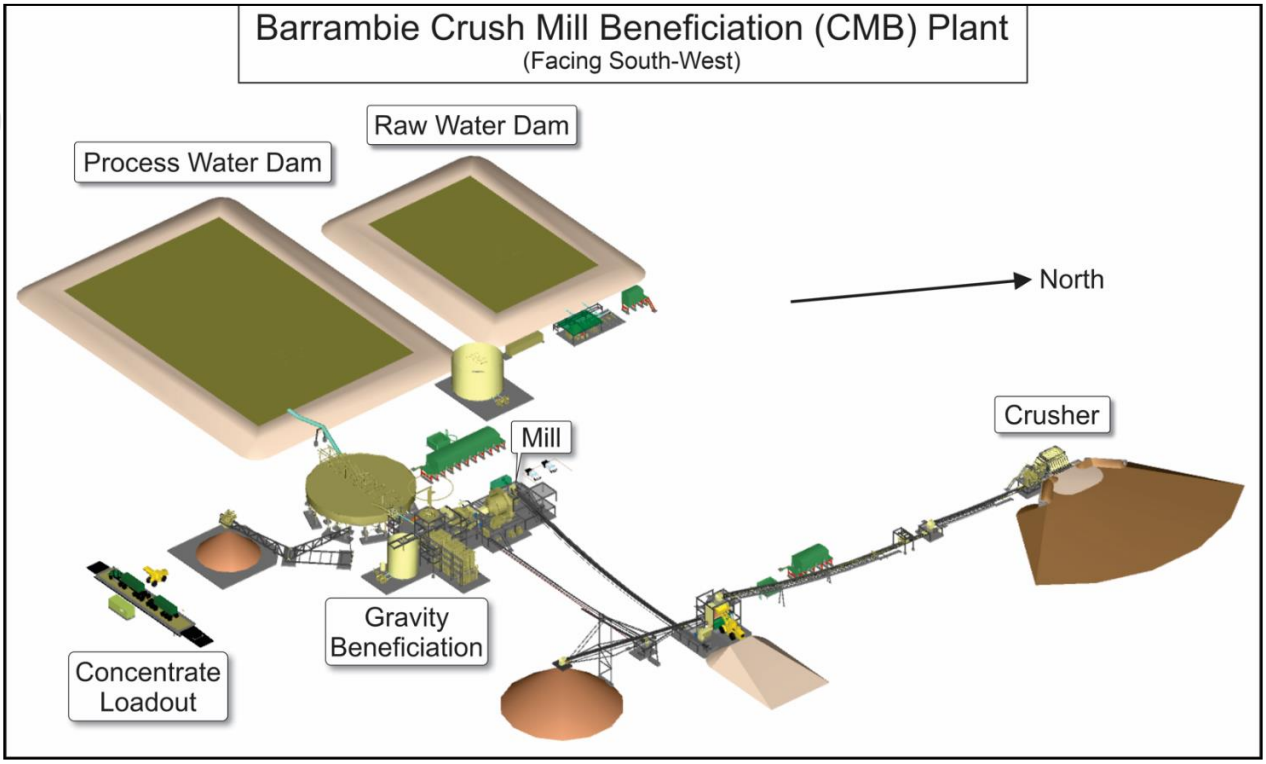


Figure 1: *3D Representation of Barrambie CMB Site*

Background

As previously announced[2] a mixed gravity bulk sample from Barrambie mineralisation was successfully smelted at industrial scale with other commercially available titanium sources to produce +90% TiO_2 chloride grade titanium slag (an intermediate product for production of pigment or sponge titanium) with potential offtake partner Jiuxing. With the Jiuxing Memorandum of Understanding ("**Jiuxing MoU**")[5,6] expanded upon via the announcement of the Jiuxing Offtake Term Sheet, together with the completion of this PFS Update, the key data points are available for binding take-or-pay offtake with Jiuxing ("Offtake Agreement"). The Offtake Agreement is a key pillar in Neometals' Barrambie strategy to derive value from the Mineral Resource on a capital light basis.

The Jiuxing Offtake Term Sheet outlines the key principles that will form the basis for the Offtake Agreement. The key commercial parameters contemplated include an initial 12 months of DSO supply followed by 48 months of MGC. The sales terms will see DSO on actual delivered cost CIF China Main Port basis (including royalties) plus a fixed margin. The MGC price is derived from Australian ilmenite concentrate 55-58% TiO_2 CIF China Main Port basis, multiplied by a payability factor, subject to a floor price with annual upward only adjustments with reference to the greater of relevant CPI measure and a mechanism based on Australian gas, diesel and labour indices.

The PFS Update engineering capital and operating cost estimations are accurate as of November 2022 and consider the Barrambie value chain from DSO to production of MGC.

[5] For further details see Neometals announcement titled "Barrambie - MOU for Cornerstone Concentrate Offtake" ("Jiuxing MoU") dated 16th April 2021.

[6] For further details see Neometals announcement titled "Barrambie Pilot Plant and Offtake update" dated 23rd December 2021.

Table 1: Typical assay qualities of the various Barrambie product options

	DSO	MGC 35% TiO_2	MGC 30% TiO_2
Composition	**1st 12 months**	**Subsequent 48 months**	**Remainder of Life**
TiO_2 (%)	26.87	36.54	30.77
V_2O_5 (%)	0.64	0.76	0.69
Fe_2O_3 (%)	43.36	57.43	63.11
SiO_2 (%)	14.44	2.65	2.65
Al_2O_3 (%)	9.75	188	1.60

Neometals has commenced an early contractor engagement process and the PFS Update will form a key component of the due diligence required by a successful 'build-own-operate' partner. This development model was used successfully by Neometals and its partners to advance the Mt Marion Lithium Project in 2015, which is now the world's second largest producer of spodumene (hard-rock lithium) concentrates; (Neometals sold its final equity position in the project in 2019 and its offtake right in 2021). The benefit of a staged development approach (DSO followed by MGC) is that the DSO operation could begin to generate cashflow whilst Neometals constructs the CMB plant with a 'build-own-operate' contractor in parallel.

Further, a staged development approach will enable Neometals to stage capital investments for earlier project cashflows. Neometals has produced chloride grade slag (an intermediate for the production of pigment and titanium metal sponge) from the smelting of Barrambie MGC at Jiuxing's commercial smelter in China reducing marketing risk and enabling offtake in a global market with transparent pricing.

Figure 3 shows an indicative timeline of next steps for the development of Barrambie.

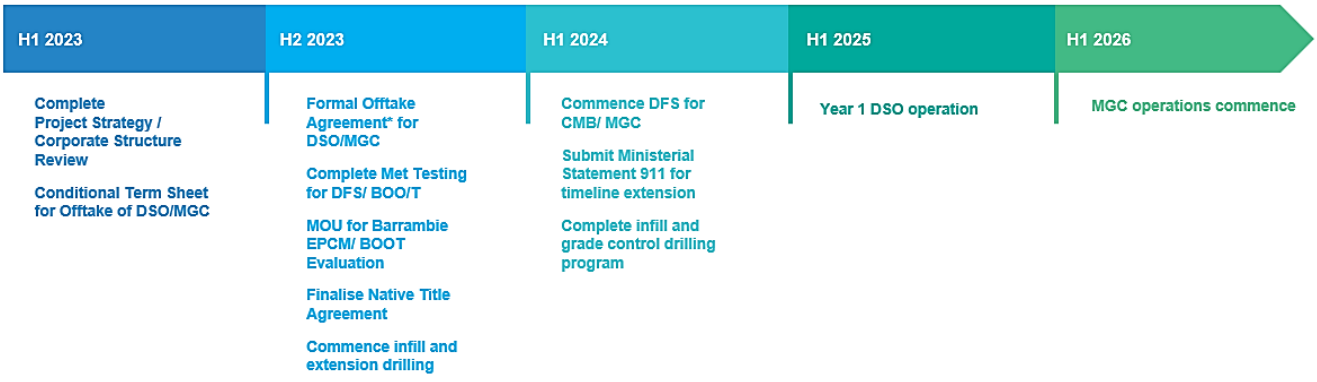


Figure 3: *Indicative Timeline – Barrambie*

PFS Update Outcomes

Mineral Resources

Independent geology and mining consultants, Snowden Optiro, used the Barrambie Mineral Resource Estimate as reported on 17th April 2018[4] as a basis to undertake a detailed mine planning process and to estimate and report on the May 2023 Ore Reserve in accordance with the JORC Code (2012).

The Mineral Resource estimate, which is inclusive of Ore Reserves, contains total Indicated and Inferred Mineral Resources of 280.1 million tonnes at 9.18% TiO_2 and 0.44% V_2O_5 to a maximum depth of 80m, reported above a cut-off grade of 10% TiO_2 or 0.2% V_2O_5.

Table 2: Barrambie Project Mineral Resource Estimate as at April 2018

Classification	Domain	Oxidation	Tonnes (Mt)	TiO_2 (%)	V_2O_5 (%)
Indicated	Central	Strongly oxidised	112.6	6.71	0.44
		Weakly oxidised	28.1	7.21	0.47
		Fresh	6.8	6.47	0.40
		Central sub-total	**147.5**	**6.80**	**0.45**
	Eastern	Strongly oxidised	26.4	19.68	0.50
		Weakly oxidised	10.0	21.45	0.56
		Fresh	3.2	19.14	0.47
		Eastern sub-total	**39.6**	**20.09**	**0.51**
Indicated Total			**187.1**	**9.61**	**0.46**
Inferred	Central	Strongly oxidised	16.0	5.32	0.39
		Weakly oxidised	18.3	6.02	0.41
		Fresh	38.8	5.76	0.38
		Central sub-total	**73.1**	**5.73**	**0.39**
	Eastern	Strongly oxidised	6.5	15.19	0.36
		Weakly oxidised	5.1	18.80	0.47
		Fresh	8.3	19.18	0.45
		Eastern sub-total	**19.9**	**17.78**	**0.42**
Inferred Total			**93.0**	**8.31**	**0.40**
Grand Total			**280.1**	**9.18**	**0.44**

Note:

- *Reporting criteria: ≥ 10% TiO_2 or ≥ 0.2% V_2O_5; small discrepancies may occur due to rounding; and*
- *Mineral Resources reported are inclusive of Ore Reserves*

Mining and Ore Reserves

Snowden Optiro completed a PFS-level mining study for the Barrambie Project based on the proposed plant process flowsheet.

During the PFS stage of work, Snowden Optiro's scope of work included the work areas outlined below:

- Mine Planning Criteria
- Optimisation
- Mine Design and Scheduling
- Study Reporting
- JORC Code (2012) Ore Reserve estimation and reporting

Mining of the Barrambie deposit will be completed with conventional excavator and truck, supported by ancillary fleet with all works provided by a professional mining contractor including mobile plant, maintenance and drill and blast. The mining fleet was scoped utilising 250 t and 120 t excavators matched with 140 t trucks. It is anticipated that all material will require drill and blast with an average powder factor of 0.37 kg/bcm, increasing within the harder rock zones. Grade control drilling with angled reverse circulation drilling will be conducted as required. The orebody consists of multiple steep dipping lodes which will need to be mined selectively on 2.5 m flitches within the central ore zones to minimise dilution and 5 m flitches within the eastern ore zone and waste zones. Ore will be hauled to a central ROM and fed into the ROM bin using a front-end loader. Low grade ore will be stockpiled on the surface before rehandling to the ROM later in the mine life. Waste rock will be hauled to planned external waste rock landforms.

Dilution and ore loss was applied by re-blocking the Mineral Resource model to 2.5 m E by 10m N by 5 m RL. This was deemed to be an appropriate selective mining unit ("**SMU**") when considering blast movement, grade control patterns and loading accuracy. Figure 4 shows an example cross section through the proposed pit.

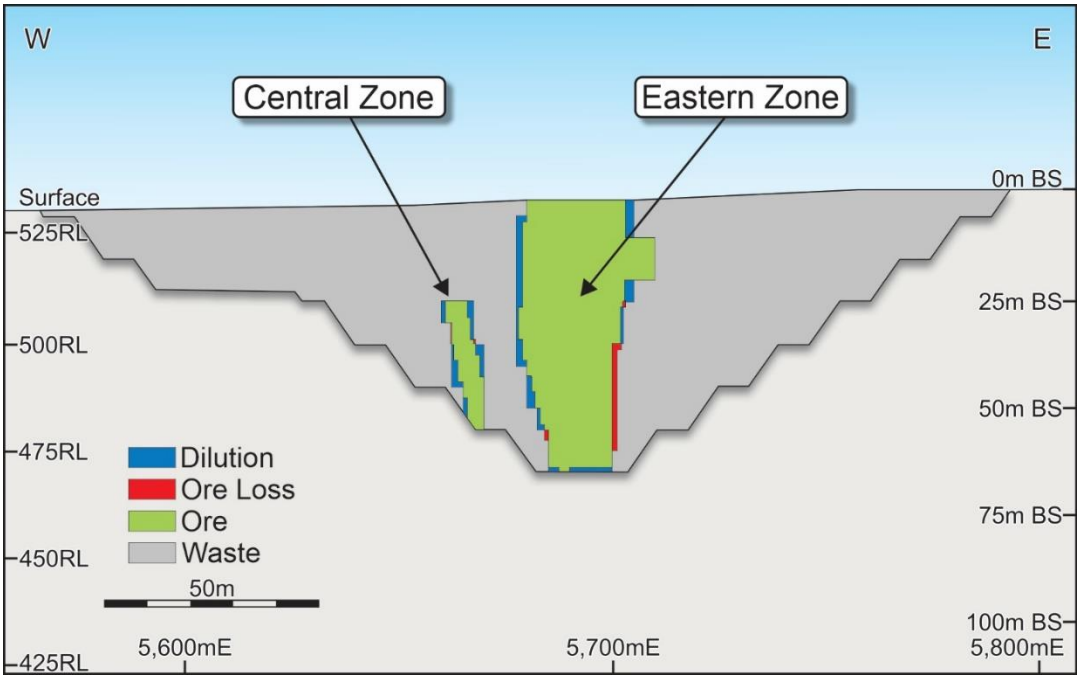


Figure 4: *Section showing Dilution and Ore Loss (12,060m N local grid) within the pit-shell*

Table 3 summarises the dilution and ore loss resulting from the re-blocking process. The narrower lodes in the Central zone incur most of the ore loss and dilution.

Table 3: Dilution and Ore Loss by Geological Zone

Item	Eastern	Central	Overall
Ore loss (% of tonnes lost)	2.9	11.6	3.4
Dilution (% tonnes increased)	3.8	47.5	6.3

A pit optimisation was performed and subsequent ultimate and staged pits were designed from Indicated Mineral Resources only. Key parameters used as part of the pit optimisation process included (but are not limited to):

- Assumed average of 2.18 Mtpa of ore processing.
- Production to achieve 35% TiO_2 MGC for as long as the Mineral Resource permits, followed by production of 30% TiO_2 MGC for as long as the Mineral Resource permits.
- A selling price (CIF China) of A$ $275/t of products on average across the life of mine, comprising of:
  - DSO – at cost (including royalties) plus a fixed margin
  - MGC – at a fixed floor price dependent on TiO_2 content of the MGC
- Average mining costs (inclusive of incremental ore costs) of A$ $4.49/t ex-pit derived from submissions received from a reputable mining contractor.
- Concentrator recovery varies by zone and input chemistry based on work completed. The average concentrator recoveries are 53.0% mass yield and 77.7% TiO_2.
- Average CMB plant cost of $15.56/t ore and MGC transportation to Geraldton port of $38.6/t products.
- Port storage, ship loading, international freight & insurance of $39.92/t products.
- State government and other royalties of 9.5% for DSO and 7.0% MGC.

An Ore Reserve of 27.6 Mt at 22.3% TiO_2 (Table 4) was estimated using the Guidelines of the 2012 Edition JORC Code through the selection of positive cash flow blocks within the final pit design.

Table 4: May 2023 Barrambie titanium Ore Reserve estimate

Ore Reserve Category	Ore Tonnes (Mt)	TiO_2 (%)	V_2O_5 (%)	Fe_2O_3 (%)	SiO_2 (%)	Al_2O_3 (%)
Probable	27.6	22.3	0.57	43.7	16.5	10.4

Note tonnes and grades are as at the ROM and are dry.

Cut-off is based on achieving an average concentrate grade of 32% TiO_2. To achieve this these filters were applied:

- *TiO_2 head grade > 0.37 x Fe_2O_3 head grade; and*
- *SiO2 head grade < 30%.*

The life-of-mine strip ratio for the Ore Reserve pit design is 3.8:1 (waste: ore). The proposed resultant site layout is shown in Figure 5. Infrastructure requirements for open pit mining include a maintenance workshop for all mobile equipment, offices, crib rooms and amenities, fuel farm, water dams, and de-watering systems as required.

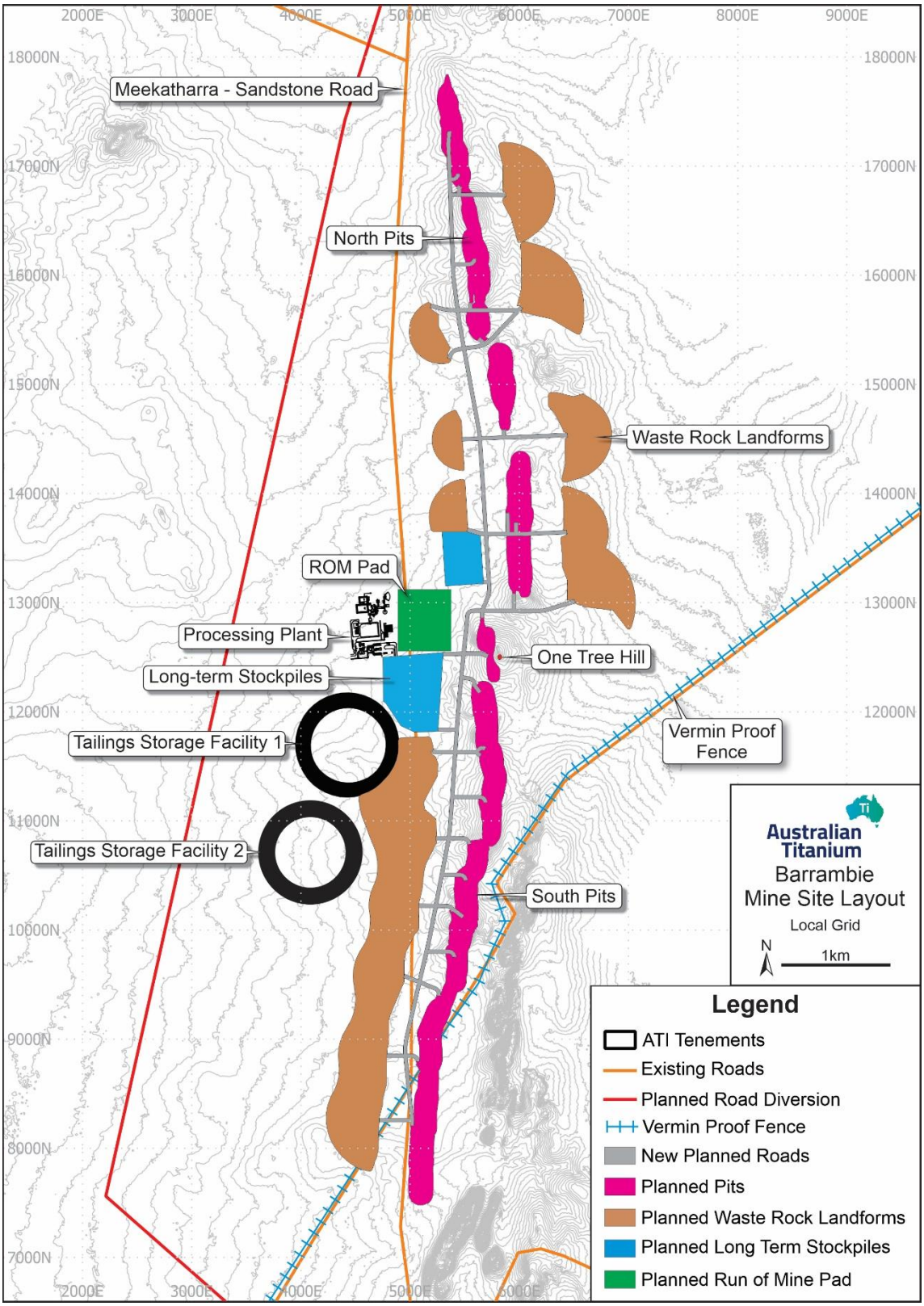


Figure 5: *Overall Barrambie Mining Site Layout (local grid)*

The mine processing schedule (Figure 6) was based upon a maximum crusher feed capacity of 2.18 Mtpa. The schedule considered:

- Maximisation of revenue through early high-grade mining and related higher metallurgical recovery
- A variable sinking rate equating to about eight 5 metre benches per annum
- Smoothed overall mining rate

There is approximately one month of pre-production mining that supplies construction waste and ore feed for plant commissioning. Mining commences in both the north and south of the pit shell and ramps up to 11.5 Mtpa for the majority of the 13-year mine life. This mining rate allows low-grade ore to be stockpiled which brings forward value. Stockpiles are depleted for the remaining eight years of the operation. The processing operations will continue for 2 quarters post mining.

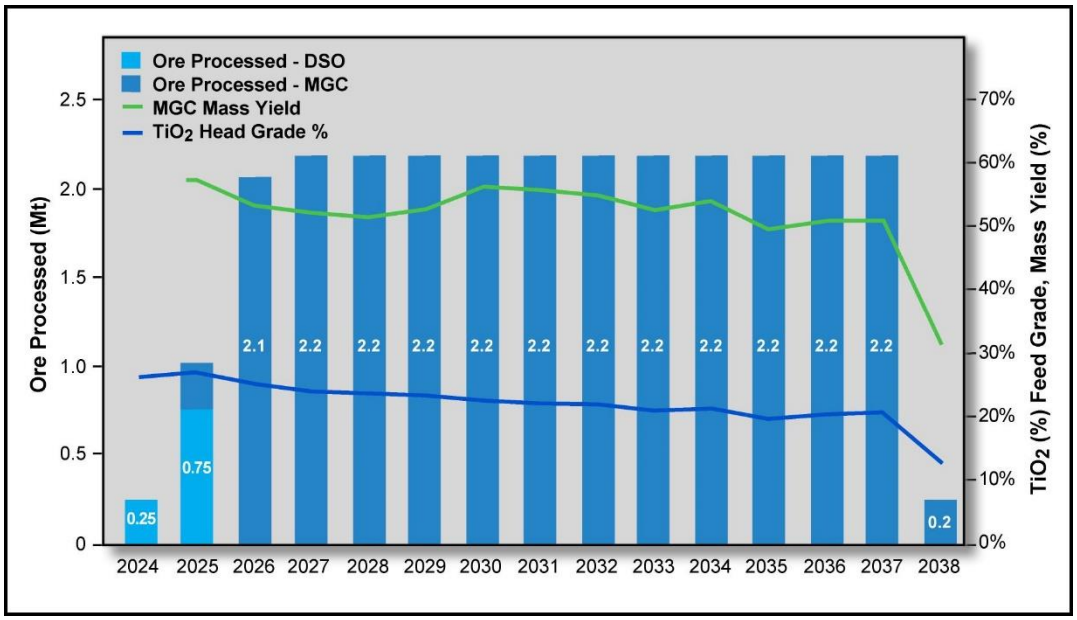


Figure 6: *Barrambie CMB feed Process Schedule*

MGC Mass Yield does not apply when DSO in production.

The mining operation, at its peak will use:

- One 250 t Hitachi EX2500-6 Excavator
- Two 120 t Komatsu PC1250 Excavators
- Eight CAT 785C 140t Dump Trucks
- Two CAT D10 Dozers
- One Cat 16M Grader
- One Cat 777 Water Cart
- One Volvo 8x4 Service Truck
- Five Epiroc SmartROC T45 production drill rigs
- Manning of up to 94 persons across three crews including management staff, operators, and maintenance

The mining cost inputs (including Drill and Blast) are based on current market pricing received from mining contractors' submissions for the pit design determined by Snowden Optiro. The mining costs are summarised in Table 5 and are inclusive of A$4.1m of site establishment, mobilisation and pre-stripping which is capitalised.

Table 5: Barrambie Mining Cost Summary

Item	$M	$ / BCM Mined	$/t Ore
Mining Establishment			
Site Establishment	$0.5	$0.01	$0.02
Mobilisation	$0.7	$0.01	$0.02
Variable Mining Costs			
Mine Development	$16.5	$029	$0.60
Drill & Blast	$177.9	$3.10	$6.45
Load & Haul	$396.2	$6.91	$14.38
Rehandle	$11.3	$0.20	$0.41
Demobilisation	$0.5	$0.01	$0.02
Total	**$603.6**	**$105.10**	**$195.20**

Metallurgical Test Work

In 2020, drilling to collect material for the metallurgical bulk samples from both the eastern and central zones comprised 88 reverse circulation (RC) holes for 6,337 metres. Of this drilling 255 samples from 15 holes were combined to make a 7-tonne bulk sample of eastern zone material to use in beneficiation bench scale work.

Metallurgical test work (conventional gravity separation, reduction roasting and magnetic separation) was completed on the 7-tonne bulk composite sample of Eastern zone material to generate separate ilmenite and iron-vanadium product streams.

Beneficiation overall mass pull to concentrate was typically around 58% with recoveries of TiO_2 and V_2O_5 to gravity concentrate of around 77% and 63% respectively.

Low-temperature reduction roasting and subsequent magnetic separation of the beneficiated concentrate produced a high-quality ilmenite (> 52% TiO_2 content) at high recoveries (> 87% TiO_2 recovery) and mass yield of 60%, and a marketable magnetite by-product iron vanadium concentrate (with grades equivalent to 58.7% Fe and 1.58% V_2O_5).

The results of the bench scale reduction roasting and magnetic separation test work were further ratified by test work with IMUMR at Pilot scale[6].

During 2021 and 2022 further confirmatory metallurgical test work was completed to confirm;

- Selection of beneficiation circuit to produce MGC from Barrambie mineralisation
- Variability testing of the selected beneficiation circuit
- Development of a mass balance spreadsheet and process design criteria
- Preparation of a process flow sheet for use in engineering design
- Development of a relationship between ore grade and concentrate recovery, produced for estimating the value of each mining block of ore and to support the development of the mining plan

The flowsheet which was developed from the metallurgical test work is summarised by the following figure.

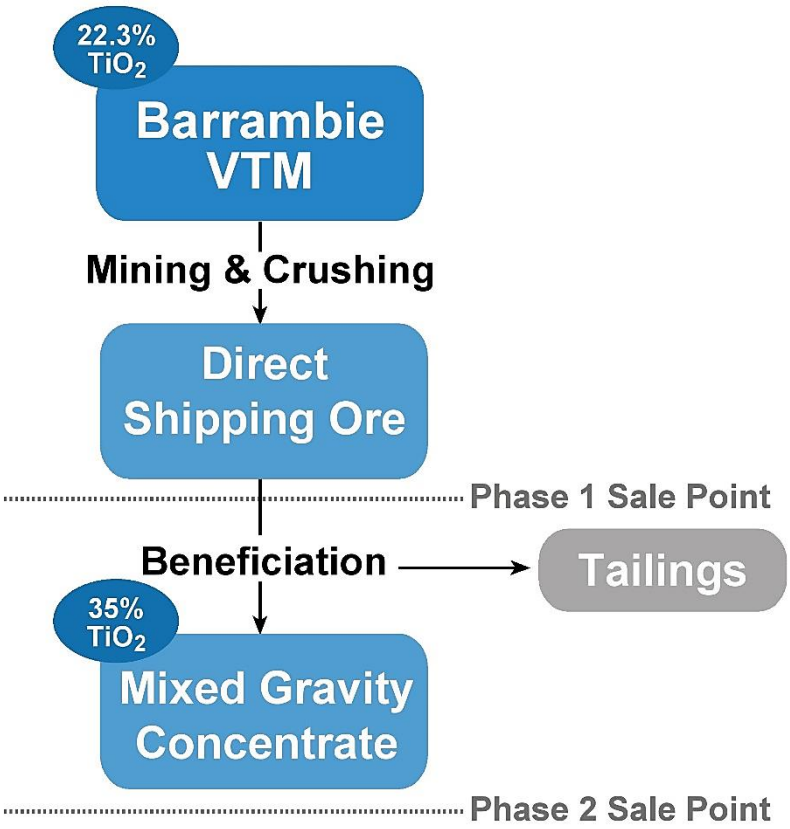


Figure 7: *Schematic of Barrambie Flowsheet*

[6] For further details see Neometals announcement titled “Barrambie Flowsheet Breakthrough” dated 22nd December 2020.

Overall Mineral Recoveries

Overall recoveries from ore for the PFS Update are summarised in Table 6 below:

Table 6: Mass Yield and Titanium Recoveries from Ore

	Yield %	TiO_2 Recovery %
MGC	53.0%	77.7%

The following key correlations were used to provide a relationship between the mineralisation in the Barrambie Mineral Resource and key processing parameters and outputs:

Table 7: Correlations of the form y = mx + c

Y	X	M	C
MGC Mass Yield %	TiO_2 + Fe(0) in mineralisation	1.07	-3.86
MGC TiO_2 %	TiO_2 / Fe_2O_3 in mineralisation	40.43	12.01

Processing Facilities

Process Design

The prime objective has been to develop a safe, efficient, economic, and robust process plant to produce a MGC product via crushing, milling and gravity beneficiation from the mined ore. In line with the mass balance and flowsheets the plant has been designed to treat 2.18 Mtpa of ore to produce 1.23 Mtpa of MGC. The final product from the CMB plant will be road hauled to Geraldton for export.

The overview block flow diagram in Figure 8 summarises the key unit operations for the CMB plant at Barrambie.

Design Criteria for CMB plant include:

- Design life - structures - 50 years; mechanical plant - 20 years
- Operating regime - 24 hours/day, seven days/week basis, nominally 8,000 hours/year, allowing 760 hours for scheduled and un-scheduled maintenance works
- On-site ore beneficiation to create a high titanium, low silica (<2.65% SiO_2) concentrate
- Crushing and milling circuit, deslime circuit, concentrator and dewatering and slimes circuit
- MGC concentrate to be deslimed to < 3% of 75 µm material

An overview schematic of the CMB plant is shown below:

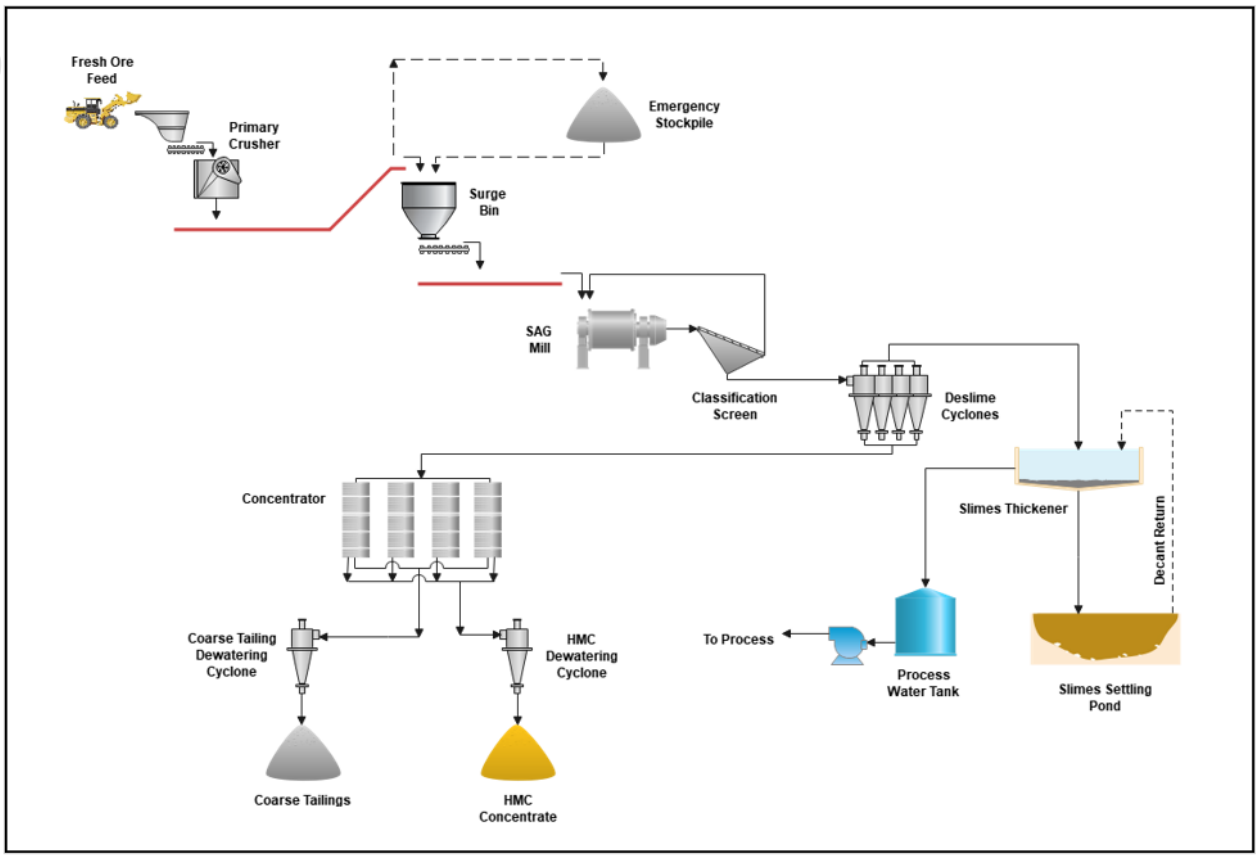


Figure 8: *Overview Schematic of the CMB Plant*

The following table shows the planned ramp up rate of the CMB plant used in the financial modelling for this PFS Update.

Table 8: Ramp Rate

Month	1	2	3	4	5	6	7	8	9	10	11	12
CMB												
Ramp	50%	50%	50%	80%	80%	80%	100%	100%	100%	100%	100%	100%

Infrastructure Requirements

All local infrastructure required to construct, support, and maintain the Barrambie operation will be supplied as part of the project development. With the exception of the existing Meekatharra to Sandstone Road, which will also require some level of up-grading, none of the required facilities, supplies or services are available in the local area. In addition, a portion of the Meekatharra Sandstone Road and the Vermin Proof Fence will require relocation prior to mining. This will require applicable regulatory approvals. Preliminary discussion with the Sandstone shire has been held. Infrastructure will be designed and constructed in a sequenced manner to ensure items required to service the construction works are in place and

commissioned at an early stage and, where necessary, temporary facilities are in place to meet initial requirements. This is particularly relevant to the early supply of water, accommodation, and communications.

Water Supply

Subject to permitting, water for the CMB plant will be supplied from the two bore-fields located approximately 25 km from the plant and pumped to a raw water pond. The bore-fields will source electric power from a local installed diesel generator set with overhead 11 kV distribution between bores. A HDPE pipeline will transfer water from the bore-fields pumping stations to the plant site at a nominal rate of 107 m^3/h, with a required annual supply of up to 2.0 Giga litres. Contingencies of alternate bore-fields and water supply have been considered.

Power Supply

For the CMB plant, a local Build-Own-Operate ("**BOO**") powerhouse (gas fired, with gas delivered in bullets) is proposed which will meet the demand for the process plant and village. The power station will comprise 3 individual 3.36 MW gas fuelled reciprocating engine powered generators. Twin 1 MW backup diesel generators are also included in the powerhouse for emergency black-start backup should the gas supply be interrupted. A solar PV farm of 8 MW and a Battery Energy Storage System (**BESS**) of 3.15 MW is installed to provide 30% Renewable Energy Penetration for a total installed capacity of 23.23 MW.

Gas Supply

For the CMB power plant, Liquefied Natural Gas ("**LNG**") will be supplied to Barrambie in bullets and stored onsite and vapourised and used for power generation.

Village

To accommodate the workforce at the Barrambie mine site a self-contained accommodation village will be established to a standard commensurate with good industry practice. Based on currently forecast workforce numbers and working rosters the village will comprise 180 individual ensuite rooms with supporting facilities and infrastructure.

Roads

The Meekatharra Sandstone Road for the CMB plant runs alongside the mining lease and is a dual lane unsealed road maintained by the local Shires. It is anticipated that road transport will be from the south and will access the site leaving sealed arterial roads at Sandstone and travel north-west along the unsealed Meekatharra Sandstone Road approximately 70 km. Upgrade of this section of the road has been budgeted for with particular attention being given to improving the numerous floodways across the road. It is also planned that portions of the Meekatharra-Sandstone Road adjacent to the mining lease be moved to allow optimal location of supporting infrastructure for processing operations and waste landforms. This work will require regulatory approvals which are to be investigated further.

Aerodrome

The Barrambie project will operate with a majority fly in-fly out workforce based in Perth WA. To service this workforce existing aerodromes at Sandstone or Meekatharra will be required to handle an estimated 2-3 return passenger flights per week.

Hydrology and Hydrogeology

Dewatering

Groundwater in the vicinity of the mining and processing operations typically occurs at a depth of around 35 m below ground level as indicated by Mineral Resource drilling. As the proposed mining will typically be to a depth of between 50 m and 60 m some groundwater extraction for mine dewatering will be required. Dewatering will be achieved through either sumps established within the pits, or a systematic approach of dewatering using bores within and surrounding the pits, to maintain dry mining conditions. Any water collected in the pits or ground water abstracted ahead of mining will be pumped to a water storage facility and used in the process plant. No water produced from mine dewatering will be discharged to the environment.

Tailings Management

In the CMB plant, coarse tailings are generated from the concentrate circuit. The tails slurry will be pumped to the Heavy Material Concentrate ("**HMC**") dewatering cyclone cluster and placed onto a stockpile. A haul truck will transport the waste material back to the mine site waste landforms.

Slime materials, (< 75 µm) will be pumped from the slimes thickener underflow to the slimes settling pond. The circuit tails (~1mtpa solids) will be pumped to storage as a nominal 45% solids w/w slurry. The tails storage facility ("**TSF**") slimes settling pond will be a single cell, integrated waste landform type facility, constructed within a waste landform. The dam will include a decant return water pump for water recovery. A second TSF is currently required near the end of the mine life and will be optimised in the next feasibility study phase.

Geotechnical Investigation

The open pit geotechnical investigation programme for Barrambie undertaken in 2007/2008 was split into three phases and contains geotechnical data obtained from seven HQ3 and twelve PQ3 diamond drill holes comprising 1,269 m of diamond drill core. Phase 1 (P1) consisted of mineral resource evaluation drilling and metallurgical bulk sampling twinned with geotechnical data collection. Phase 2 (P2) and Phase 3 (P3) consisted of geotechnical drilling programmes designed to provide geotechnical data for the east and west walls of the potential open pits respectively.

Table 9: Recommended Pit Slope Design Parameters for Barrambie P3 for 50m Deep Pit

No. of Bench	Batter Angle(°)	Berm Width at base of batter (m)	Batter Height (m)	Slope Height (m)	Overall Slope Angle crest to toe (°)
1	50	5	15	15	50
2	50	5	15	30	44.8
3	60	5	10	40	44.3
4	60	5	10	50	44

The PFS Update design recommendations presented apply to 50m high pit slopes developed entirely within strongly oxidised ("**SOX**") materials.

For deeper parts of the excavation with pit walls up to 80m high, where the pits penetrate the weakly oxidised ("**WOX**") and fresh ("**FRE**") materials, design parameters are provided in Table 10.

Table 10: Recommended Pit Slope Design Parameters for Barrambie P3 for 80m Deep Pit

Batter Angle (°)	Berm Width at base of batter (m)	Batter Height (m)	Inter Ramp Slope Angle crest to crest (°)	Overall Slope Angle crest to toe (°)
55	7	10	35.5	38

Financial Evaluation

The production targets referred to in this announcement are based on 100% Probable Ore Reserves. The key parameters and financial outcomes for the PFS Update are set out below:

Table 11: Summary of Key Parameters

Summary of Key Parameters from PFS Update Financial Model		
Life of Mine (LOM)	Years	13.2
LOM Ore Mined	Mt	27.6
LOM Waste Mined	Mt	106.0
LOM Strip Ratio	(waste: ore)	3.8
Average CMB Plant Feed Rate	Mtpa	2.18
Average Titanium Head Grade	% TiO_2	22.3
Average Titanium Recovery (Overall)	% TiO_2	77.7
Average MGC Production (LOM)	Ktpa	1,138
Average Realised Product Price	A$/t product CIF China	275
FX	A$: USD	0.70
DSO Capital Cost (including 25% contingency)	A$M	78.1
Incremental MGC Capital Cost (including 25% contingency)	A$M	137.2
Ave LOM All-in Cost[8]	A$/t product	195.2
LOM Free Cash Flow[9]	A$M	1,106.1
Average Free Cash Flow per annum - first 5 yrs	A$M	103.3
NPV (10% Discount Rate, Pre-Tax)	**A$M**	**375**
IRR (Pre-Tax)	**%**	**45**

[8] Average LOM All-in costs include all mining, processing, transport to port, site based general and administration costs, freight, royalties and native title costs.

[9] Free Cashflow is pre-tax and undiscounted.

Capital Cost Estimates

The capital cost estimate to construct a new 2.18Mtpa CMB plant at Barrambie with associated infrastructure, including all direct and indirect costs, is approximately A$215.3 million. This estimate includes a contingency of 25%. The costs presented have been estimated to an overall accuracy of +25 to –25%, which is commensurate with an AACE Class 4 level of PFS and are accurate as of November 2022.

The table below summarises the key components of the capital cost estimate:

Table 12 – Capital Cost Estimate

Capital	A$M
Mining	
Mobilisation, Site establishment & Pre-Strip	**4.1**
DSO	
Direct Field Cost	16.4
Contractors Indirects	2.8
Offsite Infrastructure	26.8
Owner's Costs	13.3
Contingency (25%)	14.8
Subtotal DSO	**74.0**
CMB (incremental)	
Plant and Construction	64.6
TSF	6.5
Accommodation Village	5.0
Engineering Design	9.1
Project & Construction Management	10.8
Commissioning	0.6
Owner's Indirect Costs	13.2
Contingency (25%)	27.4
Subtotal CMB	**137.2**
Total	**215.3**
Sustaining Capex[10]	75.4

[10] Sustaining capital to upgrade the Barrambie-Sandstone Road to enable Super Quad payloads of up to 137t, to increase TSF capacity sequentially, and 2% of deployed capital.

Cash Operating Cost Estimates

Table 13: Combined DSO / MGC LOM Cash Operating Costs Estimate

Opex	A$M	A$/t feed	A$/t product
Mining			
Mining ex-pit	588.1	21.3	39.6
Incremental ore rehandle	11.3	0.4	0.8
CMB			
CMB Processing Plant	482.8	17.5	32.5
MGC transport to Geraldton Port[11]	934.5	33.9	63.0
Port storage, ship loading, international freight & insurance	591.7	21.5	39.9
Total	**2,608.5**	**94.6**	**175.8**

Financial Analysis - Sensitivities

A sensitivity analysis on the pre-tax NPV is provided below in Figure 9.

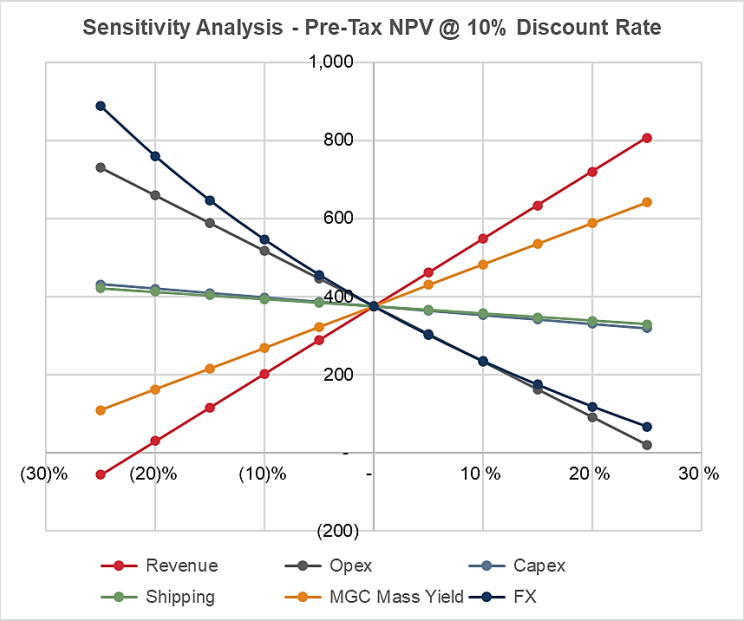


Figure 9: *Sensitivity Analysis on Pre-Tax NPV*

[11] Haulage prices as supplied by Rivet Group and are accurate as of November 2022.

Project Phasing

It is planned that Barrambie will be staged to reduce initial capital outlay and enable earlier cashflows. The following table provides a high-level summary of the phasing from DSO to MGC.

Table 14: Barrambie Project Phasing Options

Phase	Product	Incremental Capex (A$M)
DSO	1.0 Mtpa DSO	78.1
MGC	1.23 Mtpa MGC	137.2

Marketing

Offtake

The Neometals memorandum of understanding with Jiuxing[3,4] was superseded by the Jiuxing Offtake Term Sheet between Neometals' wholly owned subsidiary, Australian Titanium Pty Ltd ("**ATi**"), and Jiuxing is one of the leading chloride-grade titanium slag producers and is the largest in north-eastern China.

The Jiuxing Offtake Term Sheet details certain key commercial parameters upon which a full-form binding Offtake Agreement will be negotiated between ATI and Jiuxing:

1. Contract Period – 5 years from the date of first commercial scale production of DSO, encompassing a planned initial 12 months for sale and purchase of DSO and a subsequent planned 48 months for sale and purchase of MGC;
2. Quantity – minimum DSO: 1,000,000 wet tonnes, MGC: 800,000 wet tonnes per annum;
3. Sales Terms – DSO: actual delivered cost CIF China Main Port basis (including royalties) plus a fixed margin, MGC: derived from Australian Ilmenite concentrate, 55-58% TiO_2, CIF China Main Port basis, multiplied by a payability factor, subject to a fixed floor price with annual upward only adjustments with reference to the greater of relevant CPI measure and a mechanism based on Australian gas, diesel and labour indices; and
4. Payment Terms – Payment for deliveries shall be made to ATi by draw down against a Letter of Credit with a bank or financial institution that has a branch located in Australia.

The Jiuxing Offtake Term Sheet sets out the framework for, and is subject to finalisation of, a binding Offtake Agreement.

Titanium Market

Overview

The schematic below describes the titanium feedstock supply chain and identifies the main titanium raw materials and intermediate products as well as the main consuming industries.

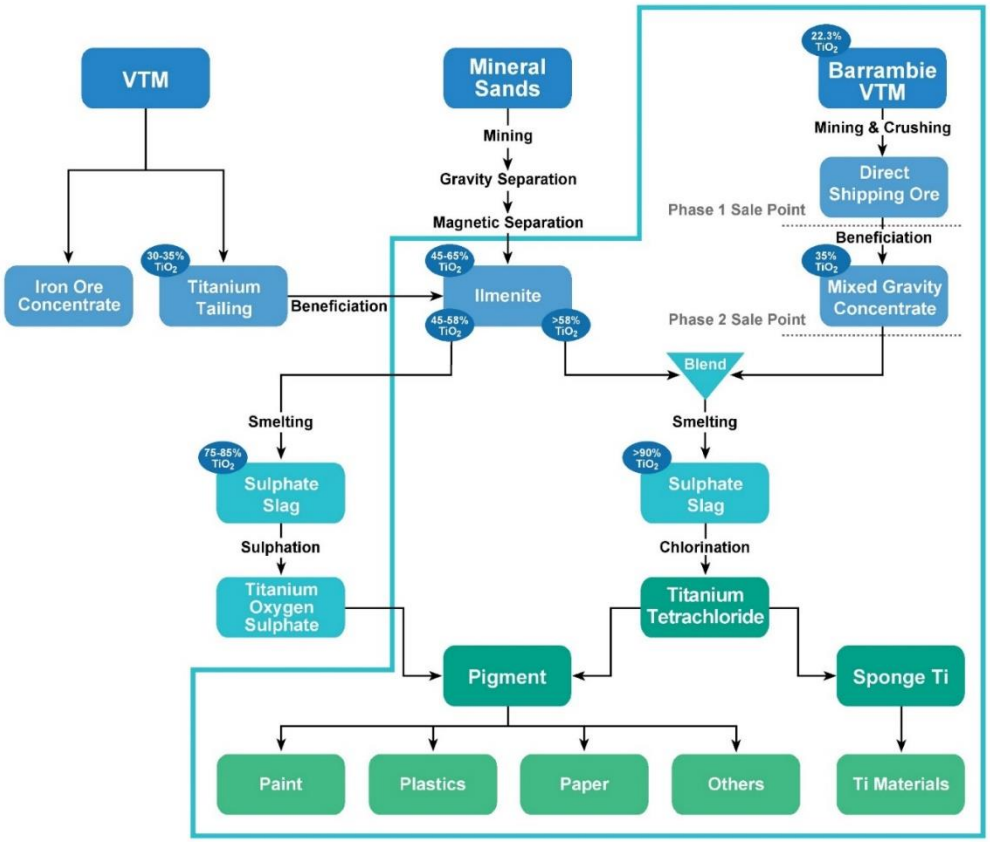


Figure 2: *Titanium Feedstock Supply Chain*

Ilmenite is generally classified as either sulphate or chloride depending on its physical and chemical characteristics and its suitability as feedstock for the two major processes employed for manufacturing TiO_2 pigment, the sulphate process, and the chloride process. Collectively, these processes consume ~90% of all titanium feedstocks. Notwithstanding that the short-term production focus at Barrambie contemplates sale of DSO followed by MGC, scope remains in the longer term to further subject the MGC to a low-temperature reduction roast ("LTR") and magnetic separation at a second site alongside the Dampier to Bunbury Gas Pipeline east of Geraldton to produce separate ilmenite and iron-vanadium concentrate streams. This option will be considered at a later date with standalone commercial parameters.

This ilmenite has unique characteristics, including a good FeO: Fe_2O_3 ratio, negligible Cr_2O_3 and very low levels of MgO, CaO, U and Th. It is suitable for direct sulphation in a sulphate route TiO_2 pigment plant and can be smelted to produce sulphate slag or chloride slag. Given its unique characteristics, Barrambie ilmenite is a readily marketable product and is likely to command a premium price in the market.

Supply

According to TZ Minerals International ("**TZMI**"), estimated total titanium feedstock supply in 2022 was 8.65 million TiO_2 units. Ilmenite is the primary commercially exploited titanium-bearing mineral, accounting for more than 90% of all titanium minerals mined. It is used directly in the sulphate route TiO_2 pigment process by many pigment producers and in the chloride process by one major Western TiO_2 pigment producer. It is also beneficiated into other high value titanium feedstocks including sulphate slag, chloride slag, upgraded slag ("**UGS**") and synthetic rutile. Annual global production of ilmenite for all these applications exceeds 16 million tonnes annually. The largest volume titanium feedstocks are sulphate ilmenite and chloride slag, which account for two thirds of total titanium feedstock supply. Barrambie ilmenite is suitable for both applications.

Note: A TiO_2 unit is equal to one tonne of contained TiO_2. One tonne of sulphate slag with 80% TiO_2 content contains 0.8 TiO_2 units. One tonne of sulphate ilmenite with 50% TiO_2 content contains 0.5 TiO_2 units.

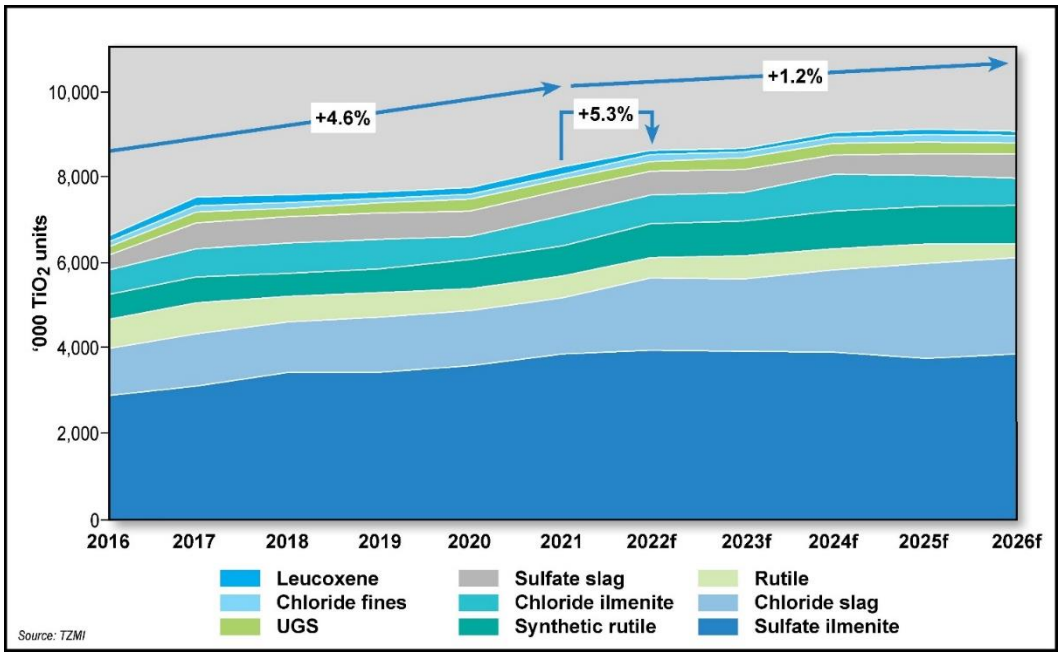


Figure 11: *Titanium Supply by Feedstock Type* | Source: TZMI, Titanium Feedstock Price Forecast, Issue 1, 2023

Demand

TZMI's estimated consumption of titanium feedstocks in 2022 was 8.43 million TiO_2 units. Demand is forecast to soften in 2023 due to a slowdown in the pigment market but is then expected to recover as the pigment sector rebounds. The Compound Annual Growth Rate ("**CAGR**") in feedstock demand over the next four years is predicted to be 3.9%, resulting in total annual demand of 9.83 million TiO_2 units in 2026. In the sulphate sector, more sulphate ilmenite is being consumed, particularly in China, as sulphate pigment producers opt to reduce sulphate slag consumption in favour of ilmenite to maximise copperas production. Copperas, also known as ferrous sulphate, has a growing market due to its consumption in lithium-ion batteries with lithium iron phosphate (LiFePO4) chemistry, which is favoured in Chinese electric vehicles. In the chloride sector, demand for chloride slag is growing, underpinned by chloride capacity expansions in China where chloride slag is the feedstock of choice. Additionally, increased chloride slag and synthetic rutile output in China is resulting in greater ilmenite demand. China purchases merchant ilmenite as feed for its smelters and kilns owing to the unsuitability of most domestic ilmenite for these applications.

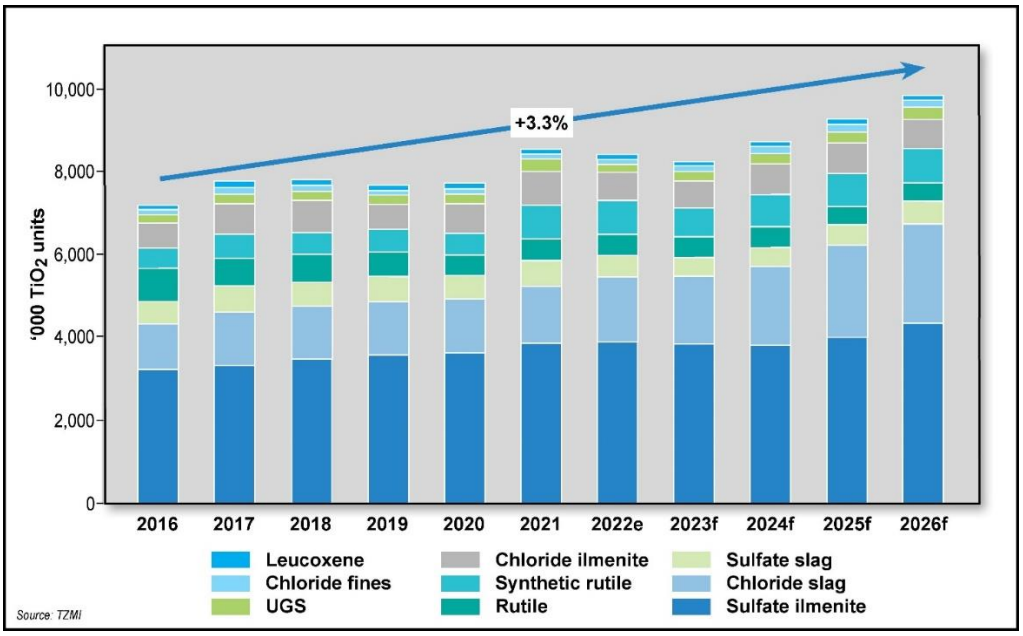


Figure 12: Titanium Demand by Feedstock Type | Source: TZMI, Titanium Feedstock Price Forecast, Issue 1, 2023

Price

The price of ilmenite imported into China has been steadily increasing over the last four years as the Chinese TiO_2 pigment sector and demand for merchant ilmenite suitable for smelting has grown. The weighted average price of ilmenite imported into China in 2023 was US$398/t CIF, up 29% compared to 2021. This price increase was largely attributed to a massive 64% y-o-y increase in Chinese chloride slag output. Whilst prices are expected to soften during the cyclical downturn predicted in 2023, prices are likely to remain above historical averages and are expected to return to a growth trajectory as demand growth starts to outweigh supply growth.

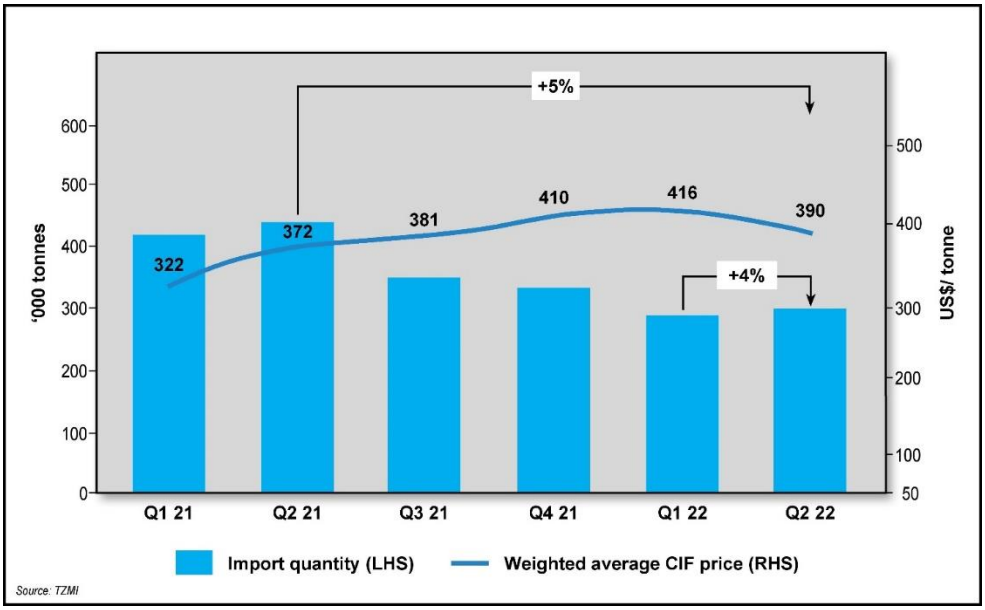


Figure 13: *Chinese Ilmenite Imports and Weighted Average Price* | Source: TZMI, Titanium Feedstock Price Forecast, Issue 1, 2023

Outlook

A cyclical downturn is anticipated in 2023 before a moderate recovery the year after, resulting in a surplus of titanium feedstock supply in 2023 and 2024. However, in the medium-term increasing deficits are forecast as output from feedstock producers declines and demand increases. Without new projects, TZMI estimates the global titanium feedstock deficit to reach 745,000 TiO_2 units by 2026. China, which is the largest consumer accounting for roughly half of global demand, is expected to lead demand growth in volume terms during the next four years. China's growth during the next four years is estimated at close to 800,000 TiO_2 units, underpinned by the propagation of chloride technology, driving greater demand for chloride feedstocks.

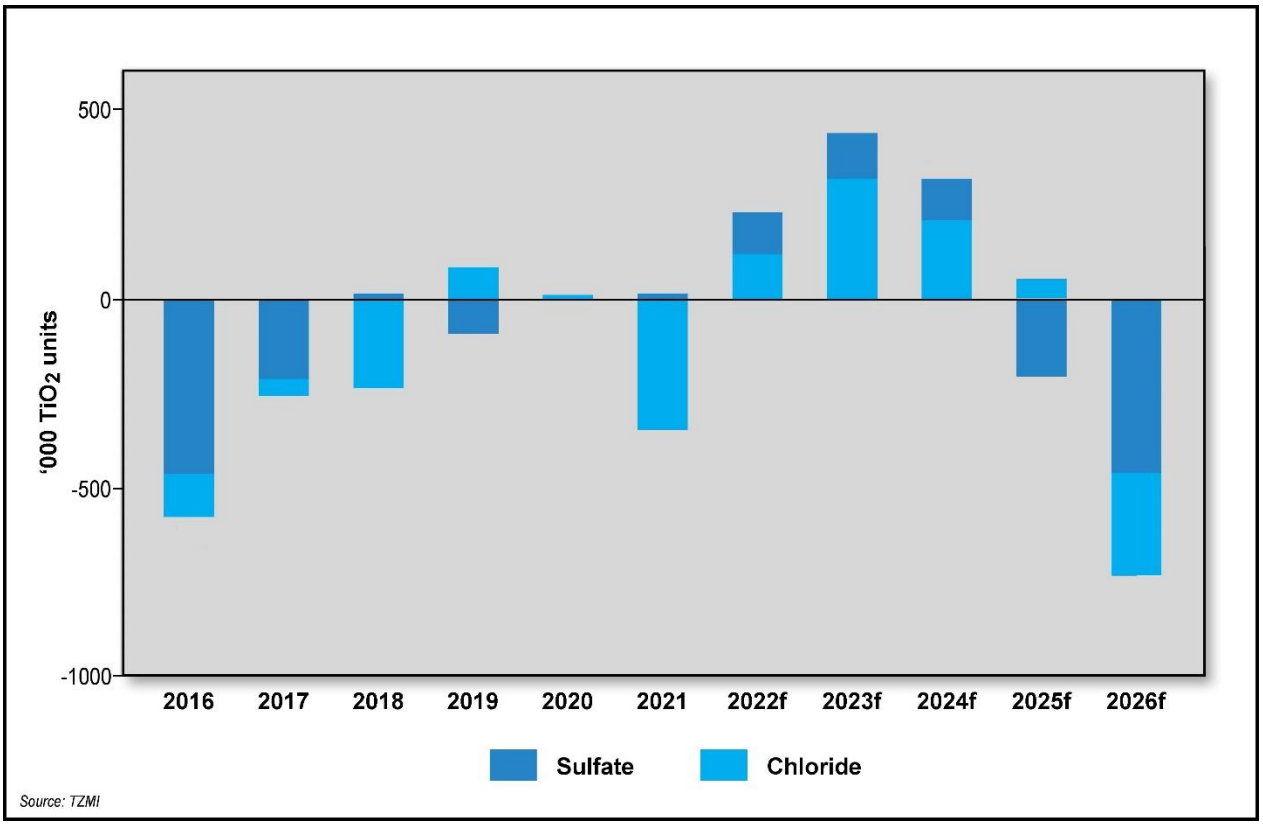


Figure 14: *Annual Feedstock Surplus/Deficit by Pigment Process Route* | Source: TZMI, Titanium Feedstock Price Forecast, Issue 1, 2023

Environmental Assessment and Approvals

Environmental Impact Assessment

Environmental studies have been undertaken in order to assess the potential impact of the Barrambie Project on the various aspects of the environment. These include flora, fauna and vegetation surveys, hydrogeological investigations, air quality modelling, and waste characterisation. The initial studies were completed in the period 2005-2009 and are reported in the BARRAMBIE VANADIUM PROJECT (Project) Public Environmental Review (PER) (Reed Resources, 2010) (Barrambie Vanadium Project | EPA Western Australia, 2012The PER was approved in 2012 under Part IV of the Environmental Protection Act 1986 (EP Act) via Ministerial Statement 911. An application to extend the time limit for implementation of the Project (S46 application) was granted in November 2019 (Ministerial Statement 1119).

A further extension of the time limit is required and a second S46 application will be prepared and submitted in 2024. Changes to the project design also require amendment of the approved Project through a Section 45C application. The project design changes are not expected to have a significant detrimental effect on the environment, in addition to, or different from, the original proposal.

Further studies will be completed in 2023 and 2024 to update the original studies in support of the S46 and S45C applications along with detailed design and studies in support of secondary approvals under the Mining Act 1978, Rights in Water and Irrigation Act 1914 (RIWI Act) and EP Act (Part V).

Native Title and Heritage

Recently determined and registered Native Title party, the Yugunga-Nya, have overlap with some of the Neometals tenements associated with the Barrambie Project. A Heritage Agreement and negotiation protocol covering the Neometals tenements within the determined area are currently being negotiated with the Yugunga-Nya, however, four heritage surveys have been conducted historically.

Title and Ownership

Barrambie is owned 100% by Australian Titanium Pty Ltd (a 100% owned subsidiary of Neometals Limited). Table 15 shows the applicable tenements for Barrambie. The Ore Reserve is 100% contained within Mining Licence M57/173-I.

Table 15: Current Tenement Status – Barrambie Project

Tenement	Status	Application	Term Granted	Grant Date	Expiry Date	Renewability
M57/0173-I	LIVE	19 Dec 89	21 years	31 Jul 90	30 Jul 32	Periods of 21 years
E57/0769-I	LIVE	16 Jul 08	2 years	18 Aug 09	17 Aug 23	Periods of 2 years
E57/0770-I	LIVE	16 Jul 08	2 years	14 Aug 09	13 Aug 23	Periods of 2 years
E57/1041-I	LIVE	29 Sep 15	5 years	04 May 16	03 May 26	Periods of 5 years
L20/0055	LIVE	4 Feb 08	21 years	24 Aug 09	23 Aug 30	Periods of 21 years
L20/0080	LIVE	14 Nov 18	21 years	28 Apr 22	27 Apr 43	Periods of 21 years
L20/0081	LIVE	22 Feb 19	21 years	28 Apr 22	27 Apr 43	Periods of 21 years
L57/0030	LIVE	4 Feb 08	21 years	24 Aug 09	23 Aug 30	Periods of 21 years
E20/1030	PENDING	17 Jun 22				
E20/1037	PENDING	26 Aug 22				
E57/1220	PENDING	24 Mar 22				
E57/1244	PENDING	26 Aug 22				
E57/1245	PENDING	26 Aug 22				
E57/1379	PENDING	21 Feb 23				
L57/0064	PENDING	30 Jun 22				
L57/0065	PENDING	30 Jun 22				
L57/66	PENDING	14 Apr 23				

Australian Titanium holds tenure in the form of Exploration Licences and Miscellaneous Licenses around granted Mining Lease M57/173-I. The granted Mining Lease M57/173-I is sufficient to enable the commencement of mining at Barrambie. The granted Miscellaneous Licenses will allow for some ancillary infrastructure.

Additional tenure in the form of future Mining Lease(s) over mineralised areas of Exploration Licenses will be made, and if required General Purpose Leases will be applied for. These mining tenements will allow for the growth of stockpiles and waste rock landforms required for the Project. This tenure is anticipated to be applied for in late 2023, with grant anticipated in 2024.

Funding

The Company is currently evaluating several competing projects and does not currently have the financial capacity to internally fund 100% of the development of Barrambie. External funding in the form of some mix of debt, JV interest and/or equity will be required to advance the project through the remaining development stages. In parallel with ongoing work programs the Company is continuing to evaluate its financing strategy with the objective of minimising dilution for existing shareholders. Shareholders should be aware that further equity funding may be required for the future funding for development of the Barrambie project, and if so, their ownership of the Company or the Company's economic interest in the Barrambie project may be diluted.

The Company is yet to engage advisors to understand the debt carrying parameters of the project. Opportunities for potential JV participation (including through contract mining/processing and Build-Own-Operate-Transfer (BOO/T) plant operations) have been identified and mature dialogues are underway. Release of the PFS Update now provides a platform for the Company to advance discussions with potential development partners, finance providers and/or JV partners. On the basis of the robust market outlook for titanium and vanadium, the Company's sound financial position (net cash), track record of successfully developing and implementing mineral projects (including through JV and offtake arrangements), and preliminary work already undertaken in relation to financing and JV participation, the Company considers that there is a reasonable basis that the development of the Barrambie project can be successfully funded.

Authorised on behalf of Neometals by Christopher Reed, Managing Director

ENDS

For further information, please contact:

Chris Reed

Managing Director

T +61 8 9322 1182

E info@neometals.com.au

Jeremy McManus

General Manager, Commercial and IR

T +61 8 9322 1182

E jmcmanus@neometals.com.au

About Neometals Ltd

Neometals is an emerging, sustainable battery materials producer. The Company has developed a suite of green battery materials processing technologies that reduce reliance on traditional mining and processing and support circular economic principles.

Neometals' three core battery materials businesses, listed below, are commercialising these proprietary, low-cost, low-carbon process technologies in incorporated joint ventures:

- **Lithium-ion Battery ("LIB") Recycling (50% equity) –** to produce nickel, cobalt and lithium from production scrap and end-of-life LIBs in an incorporated JV with leading global plant builder SMS group. The Primobius JV is operating a commercial disposal service at its 10tpd Shredding 'Spoke' in Germany and is the recycling technology partner to Mercedes Benz. Primobius' first 50tpd operation, in partnership with Stelco in Canada is expected to reach investment decision in Q4 2023;
- **Vanadium Recovery (72.5% equity) –** to produce high-purity vanadium pentoxide via processing of steelmaking by-product ("Slag"). Targeting a 300,000tpa operation in Pori, Finland, underpinned by a 10-year Slag supply agreement with leading Scandinavian steelmaker SSAB. Finnish project investment decision with JV partner, Critical Metals, expected Q2 2023. MOU with H2Green Steel for up to 4Mt of Slag underpins a potential second operation in Boden, Sweden; and
- **Lithium Chemicals (earning 35% equity) –** to produce battery quality lithium hydroxide from brine and/or hard-rock feedstocks using patented ELi® electrolysis process owned by RAM (70% NMT, 30% Mineral Resources Ltd). Co-funding pilot plant and evaluation studies for a 25,000tpa operation in Estarreja with Portugal's largest chemical producer, Bondalti Chemicals S.A.

IMPORTANT INFORMATION

Competent Persons Statement

The information in this announcement that relates to Exploration Results was presented in announcement released by the Company on the ASX on 22nd December 2020 titled "Barrambie Flowsheet Breakthrough". 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.

The information in this announcement that relates to Mineral Resources is based on, and fairly represents, information and supporting documents compiled by Michael Andrew who is a full-time employee of Snowden Optiro and is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr Andrew 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 JORC Code (2012). Mr Andrew consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this announcement that relates to Ore Reserves is based on, and fairly represents, mine planning studies and supporting documents compiled by Frank Blanchfield or supplied by Neometals (Infrastructure, mining costs, environmental, permitting and social license studies and marketing and financial analyses) and reviewed by Frank Blanchfield, who is an employee of Snowden Optiro and is a Fellow of The Australasian Institute of Mining and Metallurgy. Mr Blanchfield 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 JORC Code (2012). Mr Blanchfield consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this announcement that relates to Ore Reserves (Process, Plant, Metallurgy and Metallurgical Factors and Assumptions) is based on, and fairly represents, information and supporting documents, compiled by Gavin Beer who is a full-time employee of Neometals Ltd and is a Chartered Professional (Metallurgy) and Member of The Australasian Institute of Mining and Metallurgy. Mr Beer 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 JORC Code (2012). Mr Beer consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The estimated Ore Reserves underpinning the production targets in this announcement have been prepared by a Competent Person in accordance with the requirements of the JORC Code (2012).

Forward-looking Statements

This release contains "forward-looking information" that is based on the Company's expectations, estimates and projections as of the date on which the statements were made. This forward-looking information includes, among other things, statements with respect to the pre-feasibility and feasibility studies, the Company's business strategy, plan, development, objectives, performance, outlook, growth, cash flow, projections, targets and expectations, Mineral Resources and results of exploration. Generally, this forward-looking information can be identified by the use of forward-looking terminology such as 'outlook', 'anticipate', 'project', 'target', 'likely',' believe', 'estimate', 'expect', 'intend', 'may', 'would', 'could', 'should', 'scheduled', 'will', 'plan', 'forecast', 'evolve' and similar expressions. Persons reading this news release are cautioned that such statements are only predictions, and that the Company's actual future results or performance may be materially different. Forward-looking information is subject to known and unknown risks,

uncertainties and other factors that may cause the Company's actual results, level of activity, performance or achievements to be materially different from those expressed or implied by such forward-looking information.

Forward-looking information is developed based on assumptions about such risks, uncertainties and other factors set out herein, including but not limited to general business, economic, competitive, political and social uncertainties; the actual results of current exploration activities; conclusions of economic evaluations; changes in project parameters as plans continue to be refined; future prices of vanadium, titanium and other metals; possible variations of ore grade or recovery rates; failure of plant, equipment or processes to operate as anticipated; accident, labour disputes and other risks of the mining industry; and delays in obtaining governmental approvals or financing or in the completion of development or construction activities. This list is not exhaustive of the factors that may affect our forward-looking information. These and other factors should be considered carefully, and readers should not place undue reliance on such forward-looking information.

Neither the Company, nor any other person, gives any representation, warranty, assurance or guarantee that the occurrence of the events expressed or implied in any forward-looking statement will actually occur. Except as required by law, and only to the extent so required, none of the Company, its subsidiaries or its or their directors, officers, employees, advisors or agents or any other person shall in any way be liable to any person or body for any loss, claim, demand, damages, costs or expenses of whatever nature arising in any way out of, or in connection with, the information contained in this document. The Company disclaims any intent or obligations to or revise any forward-looking statements whether as a result of new information, estimates, or options, future events or results or otherwise, unless required to do so by law. Statements regarding plans with respect to the Company's mineral properties may contain forward-looking statements in relation to future matters that can be only made where the Company has a reasonable basis for making those statements.

Advice

Nothing in this document constitutes investment, legal or other advice. Investors should make their own independent investigation and assessment of the Company and obtain any professional advice required before making any investment decision based on your investment objectives and financial circumstances.

APPENDIX 1

Project Background

Located approximately 80km north-west of Sandstone in Western Australia, Barrambie has a granted mining permit and is 100% owned by Neometals through Australian Titanium Pty Ltd. Barrambie has had in excess of A$40M exploration and evaluation expenditure invested in it since 2002 and is one of the world's highest-grade titanium-vanadium hard-rock assets. The LTR plant (not included in this PFS Update) is proposed to be situated alongside the DBNGP between Geraldton and Tenindewa.

Figure A-1: *Location of Barrambie site and LTR processing site*

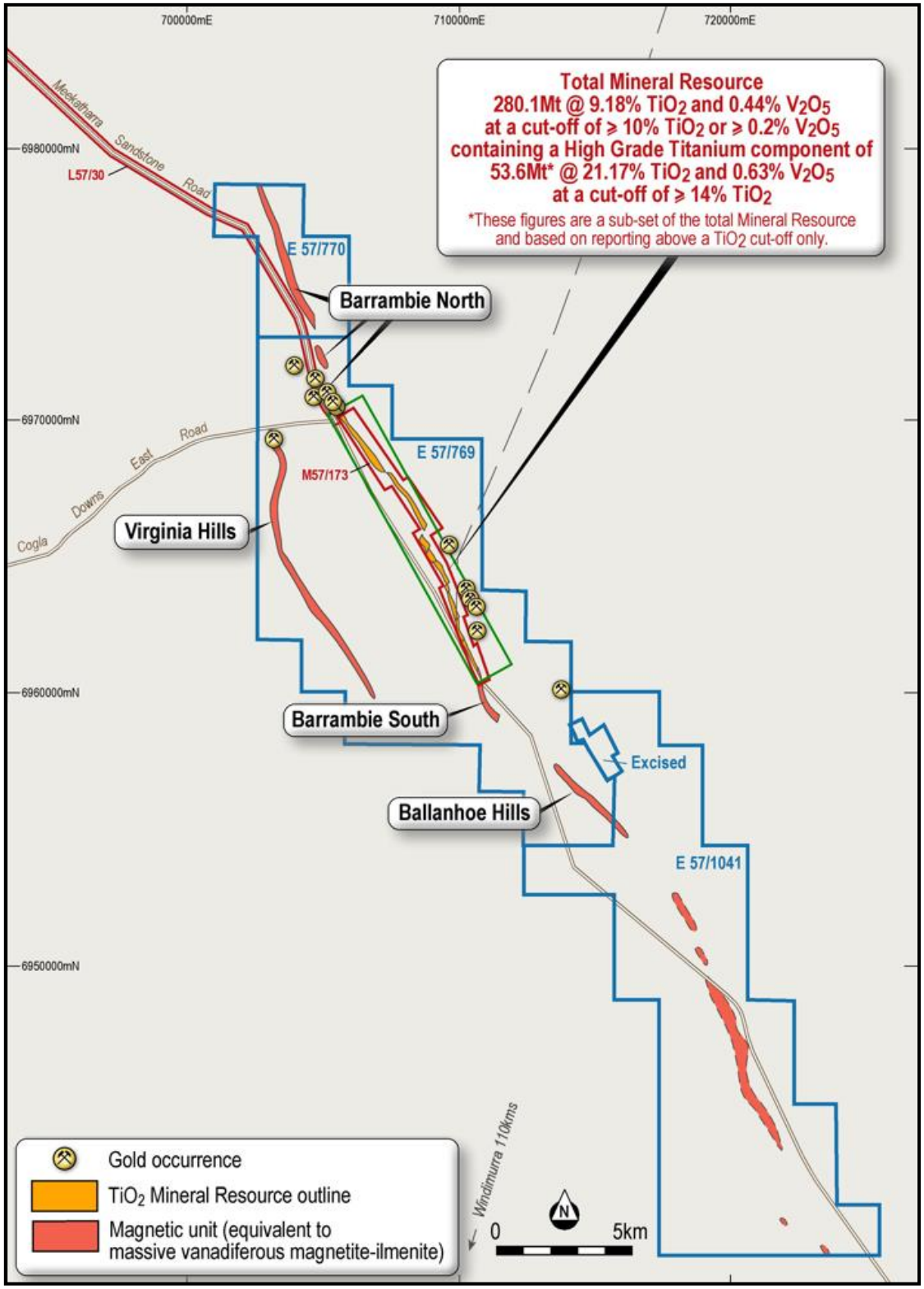


Figure A-2: *Project tenure and an outline of the Mineral Resource. Distribution of vanadium-titanomagnetite (VTM) mineralisation along strike and west of Barrambie is based on interpretation of aeromagnetic data.*

The Barrambie Mineral Resource contains total Indicated and Inferred Mineral Resources of 280.1 million tonnes at 9.18% TiO_2 and 0.44% V_2O_5 to a maximum depth of 80m, reported above a cut-off grade of 10% TiO_2 or 0.2% V_2O_5. Within the Mineral Resource there is a subset high-grade titanium Indicated and Inferred Mineral Resource of 53.6 million tonnes, reported above a cut-off grade of 14% TiO_2.

Table A-1: Mineral Resource Estimate

Global Mineral Resource as at 17 April 2018[1]

	Tonnes (M)	TiO_2 (%)	V_2O_5 (%)
Indicated	187.1	9.61	0.46
Inferred	93.0	8.31	0.40
Total	280.1	9.18	0.44

High Grade V_2O_5 Mineral Resource (at 0.5% V_2O_5 cut-off)[2]

	Tonnes (M)	TiO_2 (%)	V_2O_5 (%)
Indicated	49.0	16.93	0.82
Inferred	15.9	16.81	0.81
Total	64.9	16.90	0.82

High TiO_2 Mineral Resource (14% TiO_2 cut-off)[2]

	Tonnes (M)	TiO_2 (%)	V_2O_5 (%)
Indicated	39.3	21.18	0.65
Inferred	14.3	21.15	0.58
Total	53.6	21.17	0.63

Refer to Neometalsi ASX release dated 17 April 2018 title 'Updated Barrambie Mineral Resource Estimate'

(1) Based on Cut-off grades of ≥10% TiO_2 or ≥0.2% V_2O_5
(2) The high-grade titanium and vanadium figures are a sub-set of the total Mineral Resource. These figures are not additive and are reporting the same block model volume but using different cut-off grades.

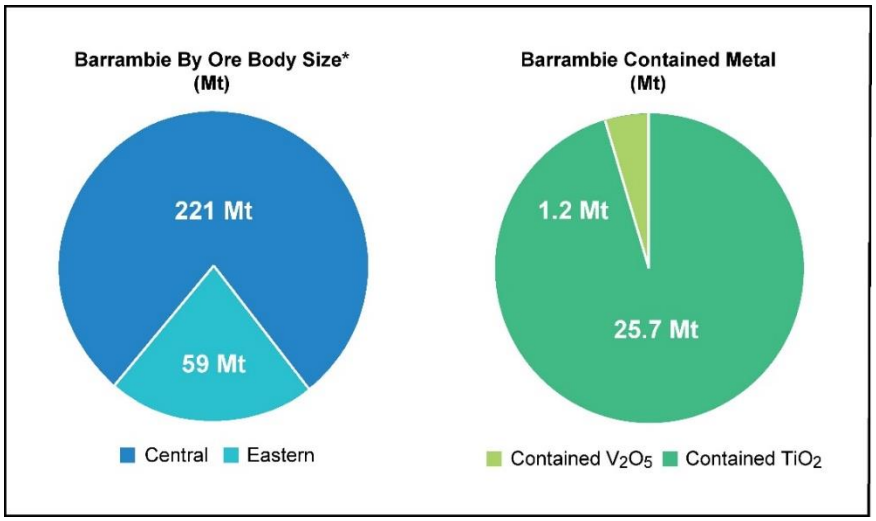


Figure A-3: *Barrambie Mineral Resource by Size of Geological Zones and Contained Metal*

A mine & beneficiate flowsheet option to produce MGC containing titanium, vanadium and iron for direct smelting is the favoured flowsheet option with potential offtake partner Jiuxing (and the basis for this PFS Update). Jiuxing is contemplating a direct smelt of the MGC blended with commercially available ilmenites.

Notwithstanding that the short-term production focus at Barrambie contemplates sale of DSO followed by MGC, scope remains in the longer term to further subject the MGC to a low-temperature reduction roast ("LTR") and magnetic separation at a second site alongside the Dampier to Bunbury Gas Pipeline east of Geraldton to produce separate ilmenite and iron-vanadium concentrate streams. This processing option has been removed from the PFS Update to enable a lower capital cost startup. The LTR pathway (greyed out in Figure A-4 below) will be considered at a later date with standalone commercial parameters.

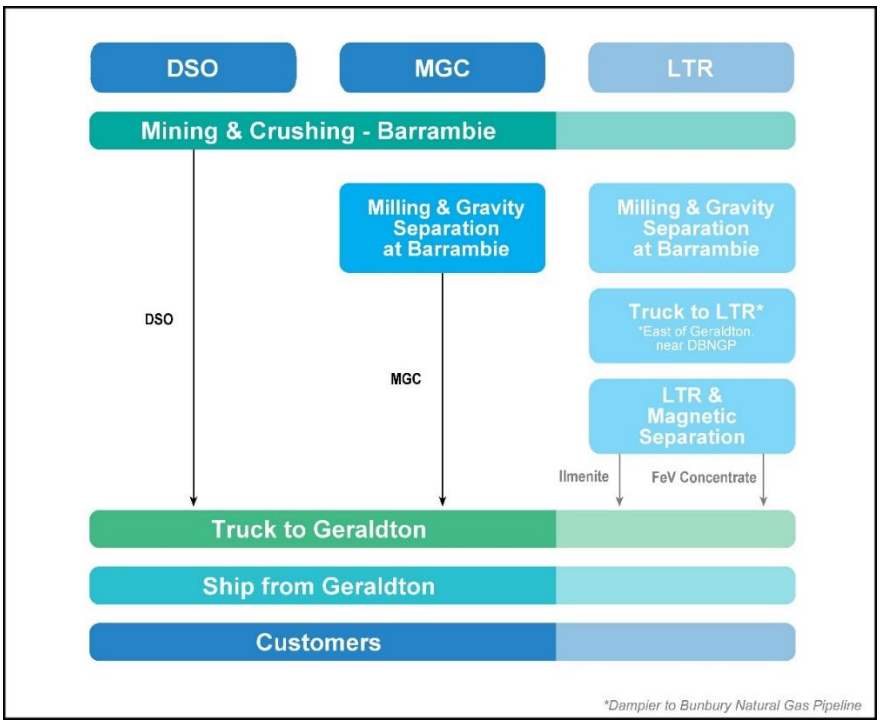


Figure A-4: *Barrambie Flowsheet*

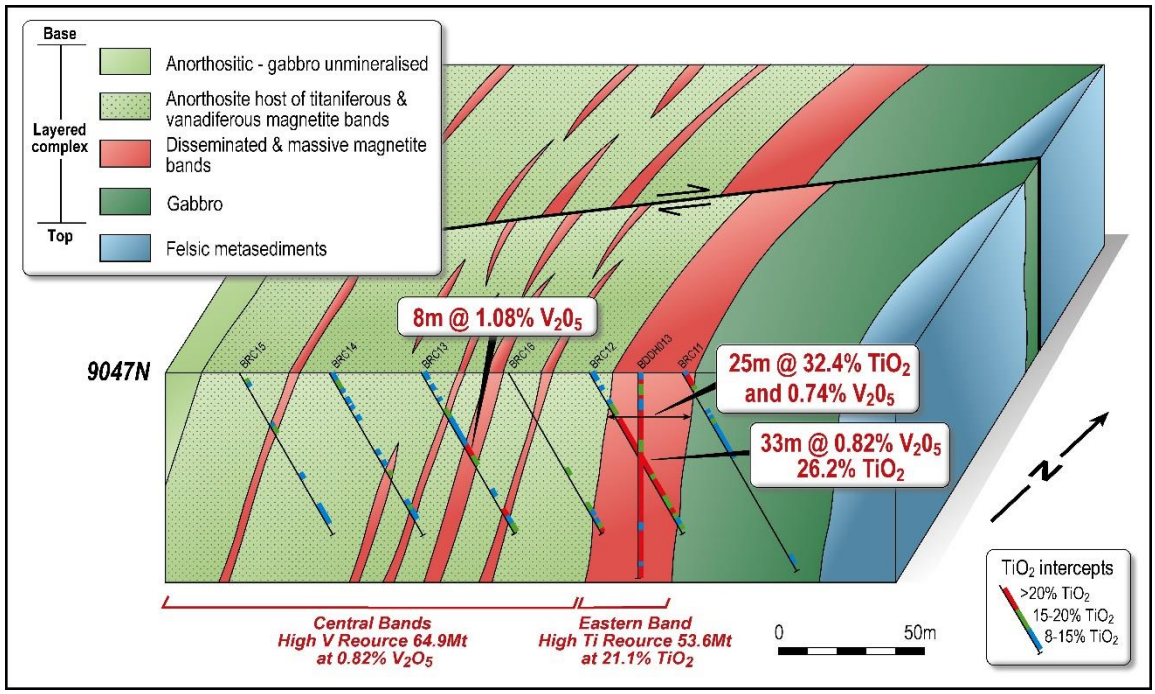


Figure A-5: *Cross section showing typical distinct layers of high-grade vanadium and titanium bands*

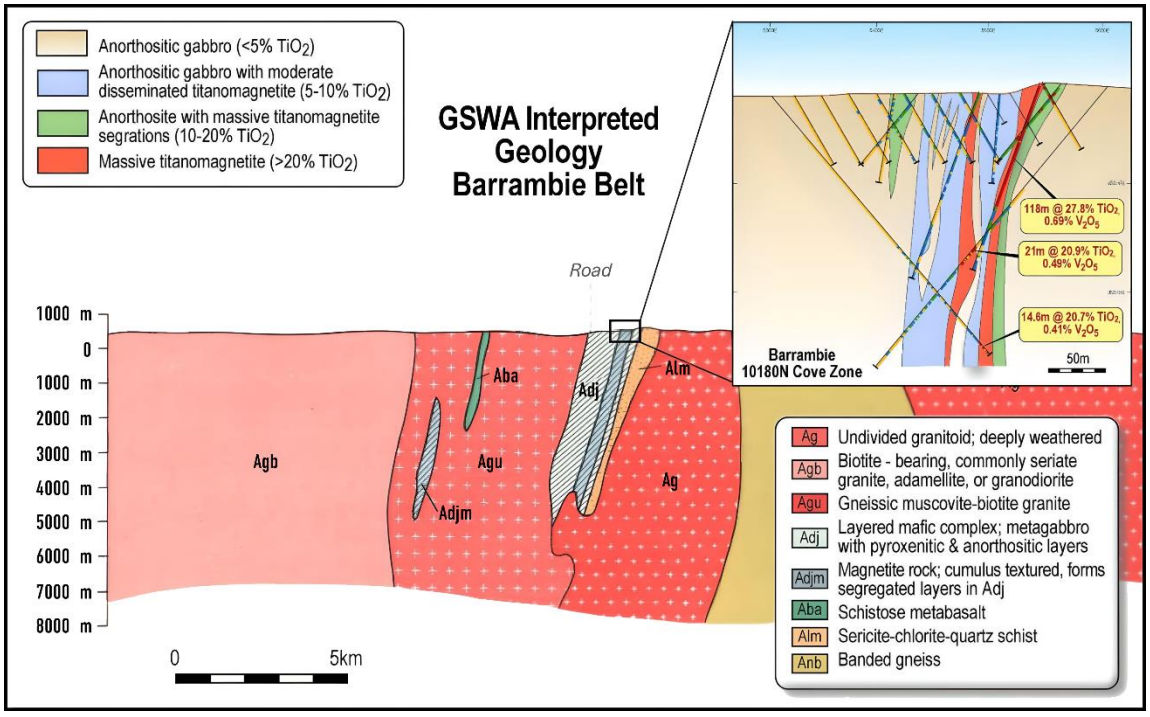


Figure A-6: *GSWA Interpreted Geology Barrambie Belt*

APPENDIX 2

JORC Code Table 1, Section 1, Sampling Techniques and Data

Criteria	JORC Guidelines	Commentary
Sampling techniques	• Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling. • Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. • Aspects of the determination of mineralisation that are Material to the Public Report. • In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.	The Barrambie Mineral Resource estimation is based on the logging and sampling of 796 reverse circulation (RC) and 61 diamond (DD) drill holes (PQ and HQ3 size). Metallurgical drilling comprises 20 of the PQ core holes. Limited information is available on the sampling methods used for the historic data (pre-2007). Snowden Optiro reviewed documents provided by Bryan Smith (Geosciences Pty Ltd) detailing drilling and sampling methods used for the most recent drilling (2007 to 2018) which are in line with industry standard. Drill holes have been sampled on 3 m intervals in areas of background mineralisation and 1 m intervals within mineralised zones. For RC holes the drill cuttings were collected in a cyclone, discharged at 1 m intervals into a bucket and then passed through a three-tiered Jones riffle splitter to produce a split sample of about 3.5 kg. Diamond core was sampled on 1 m intervals with core being sawn in half and sampled as quarter core samples. Samples have generally been assayed for 13 attributes using x-ray fluorescence (XRF) analysis except for four historical DD holes which were assayed using AAS. Magnetic susceptibility readings have been taken for most samples of the RC holes on 1 m intervals and 0.5 m intervals for DD holes.

Criteria	JORC Guidelines	Commentary
Drilling techniques	• Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	The Barrambie deposit has a 50-year drilling history. Drilling techniques include rotary air blast (RAB), open hole percussion (OHP), RC and DD. Only RC and DD holes have been used for the resource estimation. For diamond drilling conducted in 2017 core orientation marks were attempted using a spear and crayon at the end of each core run; however, these were only successful on partly oxidised or fresh material.
Drill sample recovery	• Method of recording and assessing core and chip sample recoveries and results assessed. • Measures taken to maximise sample recovery and ensure representative nature of the samples. • Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	A qualitative logging code was used to record recovery for the RC and DD drilling used in the Mineral Resource estimate. Recovery of samples is considered good with only minor losses within fault zones which are dominated by clay.
Logging	• Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. • Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. • The total length and percentage of the relevant intersections logged.	Geological logging of core and rock chips was carried out recording oxidation, colour, texture, mineralisation, water and sample recovery. Magnetic susceptibility readings were taken every 1 m for RC holes and 0.5 m for DD holes. Snowden Optiro considers the logging was carried out in sufficient detail to meet the requirements of mineral resource estimation and mining studies.
Subsampling techniques and sample preparation	• If core, whether cut or sawn and whether quarter, half or all core taken. • If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	Core was wrapped in film and transferred to core trays where the downhole depth was marked on core blocks. Core was cut in half using a core saw. RC samples were collected in a cyclone at the rig and then split to subsamples to be submitted for assay. Samples were collected at 3 m intervals in areas of background mineralisation and 1 m intervals within mineralised zones. All samples within the mineralised zones were mostly dry.

Criteria	JORC Guidelines	Commentary
	• For all sample types, the nature, quality and appropriateness of the sample preparation technique. • Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. • Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling. • Whether sample sizes are appropriate to the grain size of the material being sampled.	Initially core sample intervals were adjusted so samples did not cross geological boundaries. This was modified to routine 1 m samples, due to the difficulty in identifying the contacts during the drilling campaign in 2007 (hole BDDH012). Limited information is available on the quality control (QC) methods applied to the historic drill holes (prior to 2007). QC procedures to ensure sampling is representative of the in-situ material for the drilling since 2007 includes the use of field duplicates and twinned holes. Comparison of the original and duplicate assays show an acceptable level of precision indicating field sampling procedures are reasonable. A total of 13 DD holes were twinned with selected RC holes. The results indicate minimal downhole smearing in RC drill holes, and that the RC derived samples are suitable for use in elemental analysis. The samples sizes are considered appropriate to correctly represent the mineralisation.
Quality of assay data and laboratory tests	• The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. • For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. • Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	Samples have been assayed for TiO_2, V_2O_5, Fe, SiO_2, Al_2O_3, CaO, Cr_2O_3, K_2O, MGO, MNO, Na_2O, P, S and LOI using XRF analysis except for 4 historical DD holes which were assayed using AAS. Limited information is available on the QC methods applied to the historic drill holes (prior to 2007). Field QC procedures for the most drilling since 2007 include the use of assay standards, field duplicates and umpire laboratory analysis. Results of the QC analysis indicated that acceptable levels of accuracy and precision have been achieved. No independent QAQC was conducted for the 20 metallurgical DD holes drilled in 2017. Intertek Genalysis, the laboratory used for the majority of analyses from 2007 to 2018, conducted their own internal QAQC, with no issues being reported.
Verification of sampling and assaying	• The verification of significant intersections by either independent or alternative company personnel. • The use of twinned holes.	A total of 13 DD holes were twinned with selected RC holes. The results indicate minimal downhole smearing in RC drill holes. Primary data from the historic drilling have been compiled into a single Microsoft Excel spreadsheet. The drilling from 2007 to 2018 has been compiled into a separate Microsoft Excel spreadsheet, and a database using a SQL based system is maintained and managed by an external contractor.

Criteria	JORC Guidelines	Commentary
	• Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. • Discuss any adjustment to assay data.	Intersections in metallurgical diamond drill holes drilled in 2017 are commensurate with surrounding drill holes.
Location of data points	• Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. • Specification of the grid system used. • Quality and adequacy of topographic control.	The drilling coordinates are in a local metric grid established by surveyors Hille Tompson and Delfos located in Geraldton, which has a grid north-south baseline at 5,500 mE. The historic drill holes were surveyed on the local metric grid. Where the historic hole collars could not be identified the collar locations were converted from the old imperial grid locations. Drill collar and azimuth of the metallurgical holes were pegged in the field using GDA94 system by independent surveyors. The topographic surface was provided by Southern Geoscience Consultants (SGC) compiled as part of an aeromagnetic survey flown on 25 m spaced lines in 2005. The Digital Elevation Model (DEM) was supplied in GDA, MGA Zone 50 coordinates and transformed to the local metric grid using four drill holes as common points.
Data spacing and distribution	• Data spacing for reporting of Exploration Results. • Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. • Whether sample compositing has been applied.	Drill spacing is predominantly 100 m x 25 m. There is one 100 m area drilled at centres of 25 m x 25 m, and one 25 m area drilled at centres of 12.5 m x 12.5 m. Drill spacing is sufficient to establish the degree of geological and grade continuity necessary to support the Mineral Resource classification. All samples were composited using a nominal 1 m interval prior to compiling the estimate. Where necessary, the composite interval has been adjusted to ensure that there are no residual sample lengths.
Orientation of data in relation to geological structure	• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. • If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	Drill holes are drilled towards local grid east or west at varying angles to intersect the mineralised zones as near as possible to perpendicular. The location and orientation of the Barrambie drill holes is appropriate given the strike and morphology of the mineralisation. Metallurgical drill holes are drilled within the plane of the mineralisation within the Eastern zone at 50 m intervals along strike.

Criteria	JORC Guidelines	Commentary
Sample security	• The measures taken to ensure sample security.	Samples were stored onsite and transported to the laboratory on a regular basis during drill campaigns. The laboratory was instructed by Neometals to dispose of the residual samples.
Audits or reviews	• The results of any Audits or reviews of sampling techniques and data.	To date there have been no Audits or reviews of sampling techniques and data.

JORC Code Table 1, Section 2, Reporting of Exploration Results

Criteria	JORC Guidelines	Commentary
Mineral tenement and land tenure status	• Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. • The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	The Barrambie mineralisation is within granted mining lease M57/173 in the Eastern Murchison - Northern Goldfields district in the state of Western Australia. In April 2003, Reed Resources Ltd (Reed) through its subsidiary AVCH acquired 100% ownership of M57/173-I. The tenure is secure at the time of mineral resource and ore reserve estimation and reporting. Reed was renamed Neometals Ltd on 12 December 2014. The Barrambie Project tenements are currently held by the wholly owned subsidiary of Neometals, Australian Titanium Pty Ltd. No known impediments exist to operate in the area.
Exploration done by other parties	• Acknowledgment and appraisal of exploration by other parties.	There is no exploration done by other parties to acknowledge or appraise at this time.

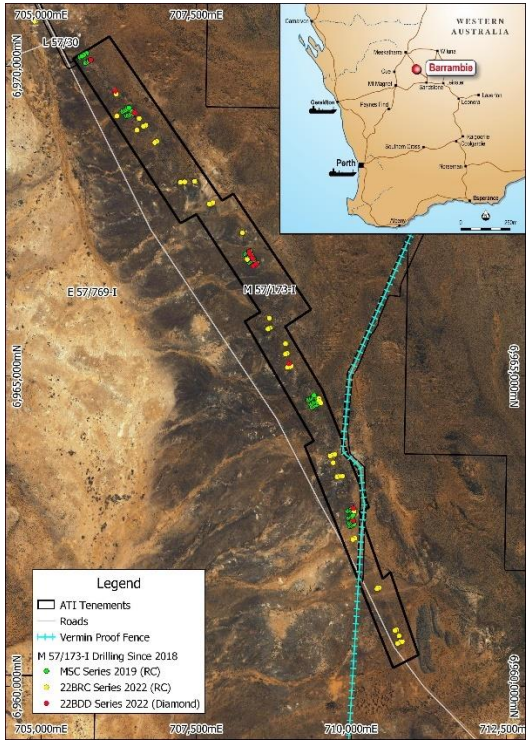
Criteria	JORC Guidelines	Commentary
Geology	• Deposit type, geological setting and style of mineralisation.	The ferrovanadium titanium (Ti-V-Fe) deposit occurs within the Archaean Barrambie Greenstone Belt, which is a narrow, north-northwest to south-southeast trending greenstone belt in the northern Yilgarn Craton. The linear greenstone belt is about 60 km long and attains a maximum width of about 4 km. It is flanked by banded gneiss and granitoids. The mineralisation is hosted within a large layered, mafic intrusive complex (the Barrambie Igneous Complex), which has intruded into and is conformable with the general trend of the enclosing Greenstone Belt. From aeromagnetic data and regional geological mapping, it appears that this layered sill complex extends over a distance of at least 25 km into tenements to the north and south of M57/173-I that have been acquired by Australian Titanium for Neometals. The layered sill varies in width from 500 m to 1,700 m. The sill is comprised of anorthositic magnetite-bearing gabbros that intrude a sequence of metasediments, banded iron formation, metabasalts and metamorphosed felsic volcanics of the Barrambie Greenstone Belt. The metasediment unit forms the hanging-wall to the layered sill complex. Exposure is poor due to deep weathering, masking by laterite, widespread cover of transported regolith (wind-blown and water-borne sandy and silty clay), laterite scree and colluvium. Where remnant laterite profiles occur on low hills, there is ferricrete capping over a strongly weathered material that extends down to depths of 70 m. Ti-V-Fe mineralisation occurs as bands of cumulate aggregations of vanadiferous magnetite (martite)-ilmenite (leucoxene) in massive and disseminated layers and lenses. Within the tenement the layered deposit has been divided into five sections established at major fault offsets. Cross faults have displacements that range from a few metres to 400 m. The water table occurs at about 35 m below the surface (when measured where the laterite profile has been stripped).
Drill hole information	• A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: o easting and northing of the drill hole collar o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar o dip and azimuth of the hole	No exploration results being reported. Exploration results can be found in previous public reports.

Criteria	JORC Guidelines	Commentary
	o down hole length and interception depth o hole length. • If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	
Data aggregation methods	• In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated. • Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. • The assumptions used for any reporting of metal equivalent values should be clearly stated.	No exploration results being reported. Exploration results can be found in previous public reports.
Relationship between mineralisation widths and intercept lengths	• These relationships are particularly important in the reporting of Exploration Results. • If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	No exploration results being reported. Exploration results can be found in previous public reports.

Criteria	JORC Guidelines	Commentary
	• If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').	
Diagrams	• Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	All appropriate maps (with scales) and tabulations of survey parameters are reported in the body of this announcement, and in the previous referenced ASX announcements.
Balanced reporting	• Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	Due to size of the drill hole database, it is not practicable to report all drilling results. Cut-off grade for reporting is a natural well-defined boundary for the higher grade massive titano-magnetite bands that will be the principal target for selective mining of the deposit.
Other substantive exploration data	• Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	Only drillhole sample and topographic data is used for Mineral Resource estimation purposes
Further work	• The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).	Below is a table and map showing the drilling that has occurred on the Mining Lease M57/173-1 since the April 2018 mineral resource estimate.

Criteria	JORC Guidelines	Commentary
	• Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	This has included 88 RC holes drilled as infill with the full samples collected and used for metallurgical testwork, hence the hole ID's MSC (Metallurgical Sample reverse Circulation). There was no extensional drilling of the known mineralisation on the mining lease at this time, however exploration drilling was carried out on surrounding exploration licences. A reinterpretation of the mineralised zones was caried out and wireframes designed from the 2019 drilling, however it was not considered there was material change in the interpretation to warrant a further update of the Mineral Resource. In July to September 2022 a 13 hole Diamond Core program was conducted on the Barrambie Mining Lease. This core is being used for analysis of structural data, and a program of metallurgical testwork.

Hole Series	#	Type	Year	Total Metres	Location	Campaign Purpose
MSC	88	RC	2019	6351.04	Mining Lease M57/173-I	Metallurgical Sample and Mineral Resource Infill.
22BDD	13	Diamond	2022	820.51	Mining Lease M57/173-I	Twin RC holes, structural data, metallurgical work sample.

Criteria	JORC Guidelines	Commentary
		 In 2022 Australian Titanium (Neometals) completed an RC drilling and sampling program of 52 holes and4,161 metres on the Mining Lease M57/173-I. The aim of the drill program was to test for extensions of the Mineral Resource, particularly on the eastern and southern margins. Drilling was also used to assist in understanding ground water across the Barrambie site. Results from this drilling program are pending. In May 2023 9 x RC holes for 672m were drilled on E57/769 to the Southeast of the Vermin Proof Fence for Extension of Term commitments. Results from this drilling program are pending.

JORC Code Table 1, Section 3, Reporting of Mineral Resources

Criteria	JORC Guidelines	Commentary
Database integrity	• Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes. • Data validation procedures used.	For the majority of the data used in the Mineral Resource estimate handwritten logs were entered into Microsoft Excel at the end of each day and transferred to a Microsoft Access database on a regular basis. Snowden Optiro completed a basic validation check of the database for potential errors as a preliminary step to compiling the resource estimate. No issues were identified. The geological and sample database is maintained by an external contractor under review of Neometals. The database was validated by Snowden Optiro during the Mineral Resource update in January 2009, this included a review of the QC data. Drilling and sampling procedures were documented by Bryan Smith (Geosciences Pty Ltd) who made regular site visits during the drilling campaigns. Snowden Optiro considers sufficient information was provided to develop the geological model and Mineral Resource estimate to the level of an Indicated and Inferred Mineral Resource.
Site visits	• Comment on any site visits undertaken by the Competent Person and the outcome of those visits. • If no site visits have been undertaken indicate why this is the case.	Snowden Optiro personnel visited the Barrambie site in 2008–2009 and in November 2018, and August 2019 reviewing the general site layout and outcropping geology. No drilling was occurring during the 2018 site visit by Snowden Optiro; however, exploration drilling was being carried out in August 2019. Michael Andrew visited the Barrambie project in 2009, reviewing the general site layout, outcropping geology and available drill sites.
Geological interpretation	• Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit. • Nature of the data used and of any assumptions made. • The effect, if any, of alternative interpretations on Mineral Resource estimation. • The use of geology in guiding and controlling Mineral Resource estimation.	The interpretations for structural and lithological surfaces were compiled by Snowden Optiro in 2009 using the drill hole database supplied by Neometals. Minor adjustments were made by Snowden Optiro to the interpretation based on the additional diamond drill holes in 2017. A topography wireframe surface was generated from RC and DD drill hole collars, combined with the DEM points supplied by SGC. Discrepancies in elevation between drill hole collars and the DEM in the order of 2 m to 3 m were found north of 12,600 mN. The interpretations for the mineralisation envelope and domains were primarily based on V_2O_5 grade cut-offs determined from statistical analysis of the drill hole data. A mineralisation indicator of 0.6% V_2O_5 was used to define the high-grade domain within both the Central and Eastern zones. The Eastern zone low grade mineralisation was based on a threshold of 0.3% V_2O_5 and 0.1% V_2O_5 for the Central and Eastern zone low grade mineralised envelopes surrounding the lodes. Six mineralised domains have been interpreted, four within the Eastern zone and two within the Central zone. Snowden Optiro notes that there

Criteria	JORC Guidelines	Commentary
	• The factors affecting continuity both of grade and geology.	is a strong correlation between V_2O_5 and TiO_2 and as such, the use of V_2O_5 for definition of the mineralised domains is also considered to be appropriate for TiO_2. Neometals completed a program of closely spacing drilling within a test area in 2017 which has provided better understanding of the short-range continuity of mineralisation.
Dimensions	• The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	The deposit covers an area of approximately 11 km north-south by approximately 250 m east-west and extends to a depth approximately 80 m below surface. The deposit remains open at depth and along strike.
Estimation and modelling techniques	• The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used. • The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data. • The assumptions made regarding recovery of by-products. • Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine	Drill hole data was coded using the wireframe interpretations representing oxidation surfaces, fault blocks and mineralised domains. Samples were composited to 1 m downhole, with the composite lengths adjusted to include all intervals and avoid loss of residual samples. Top-cuts were applied where required to limit the influence of outlier grades. Traditional variograms were modelled for the combined Eastern and Central zones and the parameters applied to the six original mineralised domains, with the nuggets and sill values adjusted for those domains. There was insufficient data within the Far Eastern zone high grade domain; therefore, the Eastern zone high grade parameters were applied. The Dyke variogram was modelled as an omni-directional variogram as the low number of samples in this domain could not support directional variography. Studio 3 (Datamine) software was used to estimate grades for TiO_2, V_2O_5, Fe_2O_3, Al_2O_3, SiO_2, CaO and magnetic susceptibility using ordinary block kriging (OK) into 10 mE x 40 mN x 5 mRL parent cell size as determined by a kriging neighbourhood analysis (KNA) carried out in March 2008. Sub-celling to 0.25 m x 10 m x 1.25 m has been allowed. A block discretisation of 2 x 5 x 1 was used in the easting, northing and elevation directions respectively. Boundary conditions used in the estimate are listed below: **Domain** | **Attribute** | **Boundary conditions** Domains 1-2 | TiO_2 | Soft boundary across grouped domains

Criteria	JORC Guidelines	Commentary
	drainage characterisation). • In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed. • Any assumptions behind modelling of selective mining units. • Any assumptions about correlation between variables. • Description of how the geological interpretation was used to control the resource estimates. • Discussion of basis for using or not using grade cutting or capping. • The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	<table><tr><td></td><td></td><td>Soft boundaries over oxidation horizons</td></tr><tr><td>Domains 3-6</td><td>TiO_2</td><td>Hard boundaries across grouped domains Soft boundaries over oxidation horizons</td></tr><tr><td>Domains 1-6</td><td>V_2O_5, Fe_2O_3, Al_2O_3, SiO_2</td><td>Hard boundaries across grouped domains Soft boundaries over oxidation horizons</td></tr><tr><td>Domains 1-6</td><td>CaO, magnetic susceptibility</td><td>Hard boundaries across grouped domains Hard boundaries over oxidation horizons</td></tr><tr><td>Domain 7</td><td>V_2O_5, TiO_2, Fe_2O_3, Al_2O_3, SiO_2, CaO, magnetic susceptibility</td><td>Hard boundaries across grouped domains Soft boundaries over oxidation horizons</td></tr></table> The orientations of the search ellipses were defined to suit the approximate local dip and strike of the lode wireframes within each fault block. The initial search pass used ranges derived from the variograms. Blocks were estimated using a minimum of six and a maximum of 30 samples. If the initial search failed to find the minimum number of samples required, then a second search was conducted using 1.5 times the initial search radii. Blocks within the mineralised domains not estimated due to an insufficient number of samples were assigned the mean assay of the Dyke, Central and Eastern zones as appropriate. The estimates were validated as follows: • A visual comparison of the block grade estimates to the input drill hole composite data on a section by section basis shows a reasonable correlation, although there is some evidence of smoothing of low and high grades within the low grade mineralised envelopes. • A comparison of the estimated block grades to the average composite (naïve) grades for TiO_2, V_2O_5, Fe_2O_3, Al_2O_3, SiO_2 within the mineralised domains show good results, with both sets of results being within 8% for all grades except for Al_2O_3 which are within 13% • Trend plots show a reasonable comparison of the block grades with the samples grades in the easting and northing directions. For the elevation direction the model and sample means sometimes diverge. This is due to the sub-vertical geometry of the lodes; few drill hole intercepts in the vertical direction and the fact that grades have been estimated using a search ellipse that has a significant range in the vertical direction resulting in apparent smoothing of the model. The Barrambie Mineral Resource was previously reported in terms of TiO_2 by Snowden Optiro in 2013.

Criteria	JORC Guidelines	Commentary
		A comparison between the 2013 Mineral Resource estimate and the March 2018 Mineral Resource estimate shows that at a 15% TiO_2 cut-off there is no material change.
Moisture	• Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Not applicable to this estimate – only dry mass considered.
Cut-off parameters	• The basis of the adopted cut-off grade(s) or quality parameters applied.	The TiO_2 and V_2O_5 mineralisation is associated with ilmenite-magnetite mineralogy (generally spatially integrated), either within magnetite-rich layers or as disseminated mineralisation within gabbro and/or anorthosite. As such, Snowden Optiro believes that reporting a Mineral Resource based on both TiO_2 and V_2O_5 is appropriate for Barrambie. Based on previous mining studies by Snowden Optiro (2015 PFS), which assessed the TiO_2 potential of the project, a cut-off grade of 10% TiO_2 is in Snowden Optiro's opinion appropriate for assessing the TiO_2 Mineral Resource. A cut-off grade of 0.2% V_2O_5 is believed to be appropriate for assessing the V_2O_5 Mineral Resource and is commensurate with similar deposits (e.g. Windimurra and Mt Peake). Based on this, the following cut-off grade criteria have been established by Snowden Optiro for Barrambie: • ≥ 10% TiO_2 or • ≥ 0.2% V_2O_5 A block in the block model will therefore be selected for inclusion in the Mineral Resource if the TiO_2 is greater than or equal to 10% or the V_2O_5 is greater than or equal to 0.2%. Only one of the criteria must be met for a block to be selected for inclusion.
Mining factors or assumptions	• Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made	The Barrambie deposit will be mined using conventional drill and blast with truck and shovel open pit mining methods. Reasonably small mining equipment would be used to mine the ore with limited dilution. Mining factors and assumptions are detailed in Section 4.

Criteria	JORC Guidelines	Commentary
	regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	
Metallurgical factors or assumptions	• The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	Metallurgical samples from the oxide and transition zones were provided for laboratory testwork. The testwork demonstrated that both V_2O_5 and TiO_2 can be recovered using a two-stage leaching process. Whilst mineralisation within the primary zone has not been tested this zone constitutes a minor proportion of the defined Mineral Resource. Testwork carried out on similar primary material from Canadian deposits indicates that the Barrambie primary material would be amenable to this processing technique. Revised metallurgical factors and assumptions are detailed in Section 4 based on testwork undertaken after the generation of the 2018 Mineral Resource.
Environmental factors or assumptions	• Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly	The initial studies were completed in the period 2005 to 2009 and are reported in summary in the "BARRAMBIE VANADIUM PROJECT (Project) Public Environmental Review" (PER) (Reed Resources, 2010). The PER was approved under Part IV of the Environmental Protection Act 1986 (EP Act) in Ministerial Statement 911. An application to extend the time limit for implementation was granted in 2019. A second application to extend the time limit for implementation of the Project (S46 application) will be lodged with the WA Environmental Protection Authority for approval in 20232024. For more up to date information see the Environmental factors in Section 4 for any work completed subsequent to the 2018 Mineral Resource estimate.

Criteria	JORC Guidelines	Commentary
	for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	
Bulk density	• Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples. • The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit. • Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	Density values were estimated from the mineralised domains in the block model with regression equations using estimated Fe_2O_3, SiO_2 and Al_2O_3 block grades. Limited data was available from the transitional and very little data was available from the fresh. Waste blocks were assigned a default density based on fresh unmineralised gabbro.
Classification	• The basis for the classification of the Mineral Resources into varying confidence categories. • Whether appropriate account has been taken of all relevant factors (i.e.	The Barrambie Mineral Resource is classified as and Indicated and Inferred Mineral Resource for the five major elements V_2O_5, TiO_2, Fe_2O_3, Al_2O_3, SiO_2, based on a number of criteria, including the geological confidence, the integrity of the data, the spatial continuity of the mineralisation as demonstrated by variography and the quality of the estimation. The estimates of CaO and magnetic susceptibility have not been classified as they are considered to have low confidence due to poor validation.

Criteria	JORC Guidelines	Commentary
	relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data). • Whether the result appropriately reflects the Competent Person's view of the deposit.	Mineralised zones where the drill spacing is 100 m x 25 m, 120 m x 25 m or 150 m x 25 m and are within the OK variance envelope (based on a threshold of 0.5) and above the base of drilling have been classified as Indicated. Mineralised zones outside the OK variance envelope and below the base of drilling have been classified as Inferred. Mineralised zones have been extrapolated approximately 20 m beyond the base of drilling. The Mineral Resource estimate appropriately reflects the views of the Competent Person with respect to the deposit.
Audits or reviews	• The results of any Audits or reviews of Mineral Resource estimates.	Snowden Optiro has completed an internal peer review of the estimate which has concluded that the procedures used to estimate and classify the Mineral Resource are appropriate. There have been no external Audits or reviews carried out.
Discussion of relative accuracy/ confidence	• Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate. • The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should	The relative accuracy and confidence in the Mineral Resource estimate is reflected in the reporting of the Mineral Resource as set out in the JORC Code. The Mineral Resource is considered to be globally accurate.

Criteria	JORC Guidelines	Commentary
	include assumptions made and the procedures used. • These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	

JORC Code Table 1, Section 4, Reporting of Ore Reserve

The key Modifying Factors used to estimate the Ore Reserve are based on the experience of Snowden Optiro and Neometals employees for this type of deposit and style of mineralisation. The table below summarises the status of material aspects of the May 2023 Barrambie Ore Reserve estimate, against the items listed in the table as the Competent Person's assessment of Ore Reserve estimation for the Barrambie deposits.

Barrambie JORC Code (2012), Table 1, Section 4

Criteria	JORC Guidelines	Commentary
Mineral Resource for conversion to Ore Reserves	• Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve. • Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	Snowden Optiro prepared the updated Barrambie Mineral Resource estimate in April 2018. No planned dilution was applied to these estimates. Mineral Resources are inclusive of Ore Reserves. Barrambie Mineral Resource reporting for a 10% TiO_2 cut-off or a 0.2% V_2O_5 cut-off is found in Table 2 of this announcement.
Site visits	• Comment on any site visits undertaken by the Competent Person and the outcome of those visits. • If no site visits have been undertaken indicate why this is the case.	Site visits were completed by the following Competent Persons:

<table>
<tr><th>Criteria</th><th>JORC Guidelines</th><th>Commentary</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><th>Competent Persons</th><th>Items</th><th>Date of site visit</th></tr>
<tr><td>Frank Blanchfield</td><td>Mining</td><td>May 2007</td></tr>
<tr><td>Gavin Beer</td><td>Metallurgy</td><td>Not undertaken</td></tr>
</table>
No metallurgy site visit was undertaken as there is no plant or drillhole core to inspect at site.
</td></tr>
<tr><td>Study status</td><td>• The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.
• The Code requires that a study to at least Prefeasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.</td><td>The Barrambie Titanium & Vanadium Project is currently at Pre-Feasibility Study (PFS) level with the completion of this 2023 PFS Update Study.</td></tr>
<tr><td>Cut-off parameters</td><td>• The basis of the cut-off grade(s) or quality parameters applied.</td><td>Cut-off is based on achieving an average concentrate grade of 32% TiO_2. To achieve this these filters were applied:
• TiO_2 head grade > 0.37 x Fe_2O_3 head grade; and
• SiO_2 head grade < 30%.
Post dilution application a marginal cut-off grade was calculated for each block using values for:</td></tr>
<tr><td>Mining factors and assumptions</td><td>• The method and assumptions used as reported in the Prefeasibility or Feasibility Study to convert the Mineral Resource to</td><td>Snowden Optiro completed a mining study for this PFS Update, to determine a new, independent conversion of the Mineral Resource into an Ore Reserve. This replaces the 2022 Ore Reserve previously determined for</td></tr>
</table>

<table>
<tr><th>Criteria</th><th>JORC Guidelines</th><th>Commentary</th></tr>
<tr><td></td><td>an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).
• The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.
• The assumptions made regarding geotechnical parameters (e.g. pit slopes, stope sizes, etc), grade control and pre-production drilling.
• The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).
• The mining dilution factors used.
• The mining recovery factors used.
• Any minimum mining widths used.
• The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.
• The infrastructure requirements of the selected mining methods.</td><td>PFS Estimate released in November 2022 focussed on the production of MGC followed by LTR processing, with the marketing of a TiO_2 concentrate in ilmenite and a Fe/V concentrate.

The PFS Update considers marketing of a DSO and MGC only. An evaluation using pit optimisation to produce an economic mining shell followed by detailed pit design was used to convert the Mineral Resource to an Ore Reserve. Mine equipment requirements were determined by contractors, who provided pricing using the Snowden Optiro mine production schedule as a basis. Selective mining using an open pit drill blast load and haul mining cycle is used for mining activities.

Snowden Optiro completed a geotechnical analysis to recommended pit slope design parameters for Barrambie for a 80m deep pit as summarised as:

<table>
<tr><th>Batter angle (°)</th><th>Berm width at base of batter (m)</th><th>Batter height (m)</th><th>Inter-ramp slope angle, crest to crest (°)</th><th>Overall slope angle, crest to toe (°)</th></tr>
<tr><td>55</td><td>7</td><td>10</td><td>35.5</td><td>38</td></tr>
</table>
Grade control is forecasted for 70% of total pit volume with reverse circulation drilling to be conducted on a 12.5m by 6.25m pattern. The orebody consists of multiple steep dipping lodes which will need to be mined selectively on 2.5m flitches within the central ore zones to minimise dilution and 5m benches within the eastern ore zone and waste zones.

The resource model used is named “m1803.dm”, generated by Snowden Optiro in March 2018, and is the subject of the April 2018 Mineral Resource estimate.

Dilution and ore loss was applied through re-blocking the model to 2.5m E by 10m N by 5m RL. This was deemed to be an appropriate selective mining unit (“SMU”) when considering blast movement, grade control patterns and loading accuracy.</td></tr>
</table>

<table>
<tr><th>Criteria</th><th>JORC Guidelines</th><th>Commentary</th></tr>
<tr><td></td><td></td><td>Dilution and ore loss changes (with all % changes in grade being negative) by geological zone are summarised as:

<table><tr><th>Item</th><th>Eastern</th><th>Central</th><th>Overall</th></tr><tr><td>Ore loss (% of tonnes lost)</td><td>2.9</td><td>11.6</td><td>3.4</td></tr><tr><td>Dilution (% of tonnes increased)</td><td>3.8</td><td>47.5</td><td>6.3</td></tr></table>The minimum mining width is 20 m.

No in pit Inferred Mineral Resources were used to quantify Ore Reserves.</td></tr>
<tr><td>Metallurgical factors and assumptions</td><td>• The metallurgical process proposed and the appropriateness of that process to the style of factors or mineralisation.
• Whether the metallurgical process is well-tested technology or novel in nature.
• The nature, amount and representativeness of metallurgical testwork undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.
• Any assumptions or allowances made for deleterious elements.
• The existence of any bulk sample or pilot-scale testwork and the degree to which such samples are considered representative of the orebody as a whole.
• For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications</td><td>The metallurgical processes proposed are both typical and appropriate to the style of mineralisation.
The metallurgical processes employed are well known and widely utilised in commercial facilities for recovering Ti, Fe, and V.

In 2020, drilling to collect material for the metallurgical bulk samples from both the eastern and central zones comprised 88 reverse circulation (RC) holes for 6,337 metres. Of this drilling 255 samples from 15 holes were combined to make a 7 tonne bulk sample of eastern zone material to use in beneficiation bench scale work. Metallurgical testwork (conventional gravity separation, reduction roasting and magnetic separation) was completed on the 7 tonne bulk composite sample of Eastern zone material to generate separate ilmenite and iron-vanadium product streams. Beneficiation overall mass pull to concentrate was typically around 58% with recoveries of TiO_2 and V_2O_5 to gravity concentrate of around 77% and 63% respectively. Low-temperature reduction roasting and subsequent magnetic separation of the beneficiated concentrate produced a high-quality ilmenite (> 52% TiO_2 content) at high recoveries (> 87% TiO_2 recovery) and mass yield of 60%, and a marketable magnetite by-product iron vanadium concentrate (with grades equivalent to 58.7% Fe and 1.58% V_2O_5). The results of the bench scale reduction roasting and magnetic separation testwork were further ratified by testwork with IMUMR at Pilot scale.

During 2021 and 2022 further confirmatory metallurgical testwork was completed to confirm:

• Selection of beneficiation circuit produce MGC from Barrambie mineralisation
• Variability testing of the selected beneficiation circuit
• Development of a mass balance spreadsheet and process design criteria
• Preparation of a process flow sheet for use in engineering design</td></tr>
</table>

<table>
<tr><th>Criteria</th><th>JORC Guidelines</th><th>Commentary</th></tr>
<tr><td></td><td></td><td>
Development of a relationship between ore grade and concentrate recovery, produced for estimating the value of each mining block of ore and to support the development of the mining plan
Overall recoveries for the PFS Update are summarised in the table below:Recoveries
<table>
<tr><th></th><th>Yield %</th><th>TiO_2 Recovery %</th></tr>
<tr><td>MGC</td><td>53.0</td><td>77.7</td></tr>
</table>
The following key correlations were used to provide a relationship between the mineralisation in the Barrambie Mineral Resource and key processing parameters and outputs:
<table>
<tr><th>Y</th><th>X</th><th>M</th><th>C</th></tr>
<tr><td>MGC Mass Yield %</td><td>TiO2 + Fe(0) in mineralisation</td><td>1.0727</td><td>-3.8556</td></tr>
<tr><td>MGC TiO2 %</td><td>TiO2 / Fe2O3 in mineralisation</td><td>40.427</td><td>12.013</td></tr>
</table>
Correlations of the form y = mx + c
</td></tr>
<tr><td>Environmental</td><td>• The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste drums should be reported.</td><td>Environmental studies have been undertaken in order to assess the potential impact of the Project on the various aspects of the environment. These include flora, fauna and vegetation surveys, hydrogeological investigations, air quality modelling, and waste characterisation. The initial studies were completed in the period 2005 to 2009 and are reported in the “BARRAMBIE VANADIUM PROJECT (Project) Public Environmental Review” (“PER”) (Reed Resources, 2010). The PER was approved under Part IV of the Environmental Protection Act 1986 (EP Act) in Ministerial Statement 911. An application to extend the time limit for implementation was granted in 2019. A second application to extend the time limit for implementation of the Project (S46 application) will be lodged with the WA Environmental Protection Authority for approval in 2024. Amendments to the project design also require amendment of the approved Project through a Section 45C process. An update of the studies is currently underway. The project design amendments are not</td></tr>
</table>

Criteria	JORC Guidelines	Commentary
		expected to have a significant detrimental effect on the environment, in addition to, or different from, the original proposal. A Mining Proposal for a Starter Pit that would allow two to three years of mining at 1 million tonnes per annum has been approved by the Department of Mines, Industry Regulation and Safety (DMIRS). This approval (REG ID 77751) requires the time limit for implementation of MS911 to be further extended before it can be utilised. A Works Approval for crushing and screening is also in place (W6367/2020/1) but also requires the MS911 time limit to be extended. A Works Approval amendment has been requested to extend the implementation duration by five years. A groundwater licence to take water will be sought under the Rights in Water and Irrigation Act 1914 to secure the project water demand. Waste rock characterisation studies completed to date show that 21 of 22 samples are assessed as non-acid forming. The one potentially acid forming sample was "trace-pyrite" (0.37% S). Erodibility testing and erosion modelling has been undertaken and used as inputs into Waste Rock Landform designs. The tails storage facility ("TSF") slimes settling pond will be a single cell, integrated waste landform type facility, constructed within a waste landform. A second TSF will be required from year 12. The TSF design has been prepared with the objective to provide optimum return water to the plant, optimising tailings storage capacity and reducing environmental impact. Detailed tailings characterisation testwork and TSF design will be undertaken to support a Mining Proposal and Works Approval for the tailings storage facility.
Infrastructure	• The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided or accessed.	All local infrastructure required to construct, support and maintain the planned Barrambie operation will be supplied as part of the project development. With the exception of the existing Meekatharra to Sandstone Road, (which will also require some level of upgrading), none of the required facilities, supplies or services are available in the local area. Infrastructure allowed for the Barrambie site in the Study include:

<table>
<tr><th>Criteria</th><th>JORC Guidelines</th><th>Commentary</th></tr>
<tr><td></td><td></td><td>• A borefield for water supply

• A build-own-operate gas-fired powerhouse

• A 180-room self-contained accommodation village

• A two-way radio network for operational communications

• Upgrades and re-alignment to the existing Meekatharra-Sandstone Road

The Meekatharra-Sandstone Road runs alongside the mining lease and is a dual lane unsealed road maintained by the local shires. It is subject to closure whenever there is a significant rainfall event.

Reagents will generally be delivered from the south by road train.</td></tr>
<tr><td>Costs</td><td>• The derivation of, or assumptions made, regarding projected capital costs in the study.
• The methodology used to estimate operating costs.
• Allowances made for the content of deleterious elements.
• The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co-products.
• The source of exchange rates used in the study.
• Derivation of transportation charges.
• The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</td><td>The operating and capital cost data for this study has come from the following sources: Mining from multiple mining contractors; operating and capital cost estimates (crush, mill, de-slime, gravity beneficiation, low-temperature reduction roast, magnetic separation and infrastructure) as completed by Primero in November 2022.

Operating costs

<table><tr><th>Opex</th><th>A$M</th><th>A$/t feed</th><th>A$/t product</th></tr></table></td></tr>
</table>

Criteria	JORC Guidelines	Commentary
	• The allowances made or royalties payable, both government and private.	

Mining			
Mining ex-pit	588.1	21.3	39.6
Incremental ore rehandle	11.3	0.4	0.8
CMB			
CMB Processing Plant	482.8	17.5	32.5
MGC transport to Geraldton Port	934.5	33.9	63.0
Shipping			
Port storage, ship loading, international freight & insurance	591.7	21.5	39.9
Total	**2608.5**	**94.6**	**175.8**

Capital Costs	A$M
Mining	
Mobilisation, Site establishment & Pre-Strip	**4.1**
DSO	

Criteria	JORC Guidelines	Commentary

Direct Field Cost	16.4
Contractors Indirects	2.8
Offsite Infrastructure	26.8
Owner's Costs	13.3
Contingency (25%)	14.8
Subtotal DSO	**74.0**
CMB (incremental)	
Plant and Construction	64.6
TSF	6.5
Accommodation Village	5.0
Engineering Design	9.1
Project & Construction Management	10.8
Commissioning	0.6
Owner's Indirect Costs	13.2
Contingency (25%)	27.4
Subtotal CMB	**137.2**
Total	**215.3**
Sustaining Capex[12]	75.4

[12] Sustaining capital to upgrade the Barrambie-Sandstone Road to PBS TDQ4B.3 to enable Super Quad payloads of up to 137t, to increase TSF capacity sequentially, and 2% of deployed capital.

Exchange rates used are A$:US$0.70.

Provision has been made for 9.5% royalties on DSO and 7.0% on MGC revenues for state government and other parties.

Criteria	JORC Guidelines	Commentary
		Transportation charges are included and based on DSO and MGC being trucked between Barrambie and the port of Geraldton. Sea Freight is in 50kt Supramax ships from Geraldton to Qingdao.
Revenue factors	• The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc. • The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals, and co-products.	The average price per tonne of product of the total products produced over the life of mine is A$ $275/t. Revenue assumptions for the DSO and MGC have been based upon information exchanged between the parties under the Offtake Term Sheet with Jiuxing. DSO on actual delivered cost CIF China Main Port basis (including royalties) plus a fixed margin. MGC subject to a floor price on 35% TiO_2 and scaled down linearly with reducing concentrate grade.
Market assessment	• The demand, supply and stock situation for the particular commodity, consumption trends assessment and factors likely to affect supply and demand into the future. • A customer and competitor analysis along with the identification of likely market windows for the product. • Price and volume forecasts and the basis for these forecasts. • For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	Neometals and Jiuxing have a Memorandum of Understanding ("**MOU**") dated 16th April 2021 to develop the Barrambie Mineral Resource. The Jiuxing MoU contemplates a path to a formal offtake agreement where Neometals supplies a MGC or separate ilmenite and iron-vanadium concentrate from Barrambie to Jiuxing. Specifically, the MoU outlines an evaluation regime and contains the key commercial terms for a formal offtake agreement (i.e. pricing, volumes, price floor etc.), subject to product evaluation from smelting trials. The Jiuxing MoU contemplates the parties negotiating and entering into a binding formal offtake agreement for the supply of 800,000 dry tonnes per annum ("dtpa") of MGC or 500,000 dtpa of ilmenite and 275,000 dtpa of iron-vanadium concentrate, on a take-or-pay basis for a period of 5 years from first production. This MOU was followed by an Offtake Term Sheet dated 20th April 2023. The Term Sheet details certain

Criteria	JORC Guidelines	Commentary
		binding commercial parameters upon which a full-form binding Offtake Agreement will be negotiated between ATI and Jiuxing: 1. Contract Period – 5 years from the date of first commercial scale production of DSO, encompassing a planned initial 12 months for sale and purchase of DSO and a subsequent planned 48 months for sale and purchase of MGC; 2. Quantity – minimum DSO: 1,000,000 wet tonnes, MGC: 800,000 wet tonnes per annum; 3. Sales Terms – DSO: actual delivered cost CIF China Main Port basis (including royalties) plus a fixed margin, MGC: derived from Australian Ilmenite concentrate, 55-58% TiO_2, CIF China Main Port basis, multiplied by a payability factor, subject to a fixed floor price with annual upward only adjustments with reference to the greater of relevant CPI measure and a mechanism based on Australian gas, diesel and labour indices; and 4. Payment Terms – Payment for deliveries shall be made to ATi by draw down against a Letter of Credit with a bank or financial institution that has a branch located in Australia. Neometals commissioned TZMI to complete a bespoke price forecast for Barrambie ilmenite and MGC. This forecast is utilised to price MGC outside of the contracted period with Jiuxing.
Economic	• The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc. • NPV ranges and sensitivity to variations in the significant assumptions and inputs.	Neometals developed a project cashflow model for the 13-year project. Financial modelling was completed by Neometals. Snowden Optiro is reliant on the metal price projections advised by Neometals. Snowden Optiro is not expert in the forecasting of metal prices, and other than to draw attention to the sensitivity of the project to these projections, is not able to comment on the risk that these

Criteria	JORC Guidelines	Commentary

projections will change over time. However, it is noted Neometals has taken into consideration data from the leading industry body for the titanium market - TZMI.

The production targets are based on 100% Probable Ore Reserves. The key parameters and financial outcomes for the PFS are set out below:

Summary of Key Parameters from PFS Update Financial Model		
Life of Mine (LOM)	Years	13.2
LOM Ore Mined	Mt	27.6
LOM Waste Mined	Mt	106.0
LOM Strip Ratio	(waste:ore)	3.8
Average CMB Plant Feed Rate	Mtpa	2.18
Average Titanium Head Grade	% TiO_2	22.3
Average Titanium Recovery (Overall)	% TiO_2	77.7
Average MGC Production (LOM)	Ktpa	1,138
Average Realised Product Price	A$/t product CIF China	275
FX	A$:USD	0.70
DSO Capital Cost (including 25% contingency)	A$M	78.1
Incremental MGC Capital Cost (including 25% contingency)	A$M	137.2
Ave LOM All-in Cost[13]	A$/t product	195.2

Criteria	JORC Guidelines	Commentary

LOM Free Cash Flow[14]	A$M	1,106.1
Average Free Cash Flow per annum - first 5 yrs	A$M	103.3
NPV (10% Discount Rate, Pre-Tax)	**A$M**	**375**
IRR (Pre-Tax)	**%**	**45**

A sensitivity analysis on the pre-tax NPV is provided below.

Discount Rate		Revenue						
	375	-30%	-20%	-10%	0%	10%	20%	30%
12%	(137)	14	166	318	469	621	772	
10%	(143)	30	202	375	547	720	892	
8%	(149)	48	246	443	641	838	1,035	

unt Rate		Opex						
	375	-30%	-20%	-10%	0%	10%	20%	30%

[13] Average LOM All-in costs include all mining, processing, transport to port, site based general and administration costs, freight, royalties, and native title costs.

[14] Free Cashflow is pre-tax and undiscounted.

Criteria	JORC Guidelines	Commentary

	10%	801	659	517	375	233	91	(51)
	8%	927	766	604	443	282	121	(41)

Discount Rate	Shipping							
	375	-30%	-20%	-10%	0%	10%	20%	30%
	12%	366	350	334	318	301	285	269
	10%	431	412	393	375	356	338	319
	8%	507	486	465	443	422	400	379

Discount Rate	Capex							
	375	-30%	-20%	-10%	0%	10%	20%	30%
	12%	382	360	339	318	296	275	253

Criteria	JORC Guidelines	Commentary

	10%	442	419	397	375	353	330	308
	8%	513	490	466	443	420	396	373

Discount Rate	MGC Mass Yield							
	375	-30%	-20%	-10%	0%	10%	20%	30%
	12%	37	131	224	318	412	505	599
	10%	56	163	268	375	482	588	694
	8%	79	201	321	443	566	687	808

Discount Rate	FX							
	375	-30%	-20%	-10%	0%	10%	20%	30%
	12%	898	656	468	318	195	92	5

Criteria	JORC Guidelines	Commentary
		10% 1,034 760 546 375 235 118 20 8% 1,197 883 639 443 283 150 37
Social	• The status of agreements with key stakeholders and matters leading to social licence to operate.	**Native Title and Heritage** A heritage agreement and negotiation protocol covering the Neometals tenements associated with the Barrambie Project are currently being negotiated with the recently determined and registered Native Title party the Yugunga-Nya. Heritage surveys have been completed on the granted Mining Lease. **Consultation** Consultation with key local stakeholders including neighbouring pastoral owners, indigenous groups, government agencies including the Department of Mines, Industry and Safety Regulation (DMIRS), the Department of Water and Environmental Regulation (DWER) and the Shire of Sandstone has commenced and is ongoing.
Classification	• The basis for the classification of the Ore Reserves into varying confidence categories. • Whether the result appropriately reflects the Competent Person's view of the deposit. • The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	In-pit Indicated Mineral Resources were used as the basis of Probable Ore Reserve, estimated using the guidelines of the JORC Code (2012). The result of the classification reflects the Competent Person's view of the deposit. No Inferred Resources is included in the Ore Reserve estimate.

Criteria	JORC Guidelines	Commentary
Other	• The status of agreements with key stakeholders and matters leading to social licence to operate. • To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves: • Any identified material naturally occurring risks. • The status of material legal agreements and marketing arrangements.	An approval has been granted under the Mining Act for the extraction of a Bulk Sample (Reg ID 70790). The granted Mining Lease M57/173-I is sufficient to enable the commencement of mining at Barrambie. Additional tenure in the form of future Mining Lease(s) over mineralised areas of Exploration Licenses will be made, and if required General Purpose Leases will be applied for. These mining tenements will allow for the growth of stockpiles and waste rock landforms required for the Project. This tenure is anticipated to be applied for in 2023, with grant anticipated in 2024. A non-binding MOU for 800dktpa MGC or 500dktpa of ilmenite and 275dktpa of iron-vanadium concentrate is in place with potential offtake partner Jiuxing. This has been followed by an Offtake Term Sheet on 20th April 2023 with Jiuxing for 1,000,000 wet tonnes of DSO, followed by 800,000 wet tonnes per annum for 4 years.
Audits or reviews	• The results of any Audits or reviews of Ore Reserve estimates.	There have not been external Audits or reviews of the 2023 PFS Update. Mineral Resource estimate, pit optimisation, design and schedule as developed for the Barrambie Pre-Feasibility Mining Study were reviewed internally by Snowden Optiro.
Relative accuracy/ confidence	• Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate. • The statement should specify whether it	The capital cost estimates in this study relating to mining, processing and cost performance are underpinned by a comprehensive Preliminary Feasibility Study which has an assessed with global accuracy of +25% and -25% at the 90% confidence range and is accurate at November 2022. Factors that could affect the accuracy of the Ore Reserve are related to the project risks assessed as “high”: • Dilution: A powder factor averaging 0.37 kg/BCM was proposed by SMS who completed mine cost estimates. Snowden Optiro recommends detailed blast movement modelling be done on several of the lodes differing in shape and thickness in ore to better quantify and control dilution.

Criteria	JORC Guidelines	Commentary
	relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used. • Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage. • It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	• Silica levels and beneficiation: An incomplete understanding of the relationship between the specific properties of the ore being mined and the achievable levels of silica in the concentrate produced and the overall recovery through the beneficiation circuit. This will require reconciliation between the mine and the mill to manage the ore feed to assist in controlling silica levels in the concentrate. Further variability testwork on the Barrambie Mineral Resource is required to confirm yields and qualities of MGC. The Ore Reserve is supported by the current 2023 Barrambie Titanium Project PFS Update Report being compiled by Neometals. Snowden Optiro's opinion of the Ore Reserve is that the classification of probable is reasonable, based on the PFS Update outcomes reviewed by the Competent Persons.

APPENDIX 3

Glossary

US$ or USD	United States Dollars
A$ $ or A$	Australian Dollars
µm	Micrometre
AACE	Association for the Advancement of Cost Engineering
Al_2O_3	Alumina
bcm	Bank Cubic Meter
Ca	Calcium
CaO	Calcium oxide
CIF	Cost Insurance and Freight as defined by Incoterms (a set of internationally recognised rules which define the responsibilities of sellers and buyers in the export transaction)
CMB	Crush, mill and beneficiate
Competent person	The JORC Code requires that a Competent Person must be a member or Fellow of The Australasian Institute of Mining and Metallurgy, or of the Australian Institute of Geoscientists, or of a "Recognised Professional Organisation". A Competent Person must have a minimum of five years' experience working with the style of mineralisation or type of deposit under consideration and relevant to the activity which that person is undertaking
DBNGP	Dampier to Bunbury Natural Gas Pipeline
DSO	Direct shipping ore
DTPA	Dry tonnes per annum
Fe/V	Iron vanadium concentrate
Fe_2O_3	Iron oxide
Feedstock	Raw material supply to a process
Gangue	Commercially valueless material
HDPE Pipeline	High density polyethylene pipe
Ilmenite	Minerals source of titanium dioxide

K_2O	Potassium oxide
kg	Kilogram
ktpa	Kilo tonnes per annum
LiFePO4	Lithium iron phosphate
m3/h	Cubic metres per hour
Magnetite	A mineral and one of the main iron ores, with the chemical formula Fe2+Fe3+2O
Mass yield	Amount of mass exiting a process step as a percentage of the amount of mass entering a process
Mg	Magnesium
MGC	Mixed gravity concentrate
MgO (%)	Magnesium oxide
Middling Ilmenite	Lower quality Ilmenite that contains less titanium dioxide than ilmenite
Mineral Resources	Mineral Resources are a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade (or quality), and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade (or quality), continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling. Mineral Resources are sub- divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories
MnO (%)	Manganese oxide
Mt	Million tonnes
Mtpa	Million tonnes per annum
MW	Megawatt
Nb_2O_5	Niobium pentoxide
Opex	Operating expenditure
Ore Reserves	Parts of a Mineral Resource that have the potential to be economically mined based on current assumptions
P_2O_5	Phosphorus pentoxide

PFS	Pre-feasibility study
PV	Photovoltaics
Reverse Circulation	Drilling method
SiO_2	Silica
Slag	Waste matter
SO_3	Sulphur trioxide
Spodumene	Hard-rock lithium
Synthetic rutile	Synthetic rutile is produced by upgrading ilmenite in a rotary kiln. It is a high-grade titanium dioxide feedstock
Tailings	Waste stream
Th	Thorium
TiO_2	Titanium dioxide
tpa	Tonnes per annum
TSF	Tailings storage facility
U	Uranium
V_2O_5	Vanadium oxide