

## P1000 PROJECT FINAL INVESTMENT DECISION

### BOARD APPROVES P1000 PROJECT TO INCREASE PILGANGOORA PRODUCTION CAPACITY TO ~1MTPA

### DOWNSTREAM PARTNERING AND OFFTAKE OPPORTUNITIES BEING CONSIDERED FOR UNCOMMITTED PRODUCTION

#### KEY POINTS

- Final Investment Decision (**FID**) made to increase the nameplate production capacity of the Pilgangoora Project by ~47% from ~680,000 tpa to ~1,000,000 tpa<sup>1</sup> of spodumene concentrate (**P1000 Project**).
- The P1000 Project includes an expanded concentrator with increased throughput at the Pilgan Plant along with a range of supporting site infrastructure.
- P1000 will initially be executed in parallel with the ongoing P680 Project (which will add an additional ~100,000 tpa to the current production capacity of ~580,000 tpa).
- P1000 is targeting first ore in the March Quarter 2025 and full production following commissioning and ramp-up at the end of the September Quarter 2025.
- Estimated P1000 capital expenditure of \$560M (inclusive of previously announced pre-FID investment of \$38M) provides compelling project economics, with forecast payback from incremental cashflows relative to P680 within 12 months<sup>2</sup>.
- Strategic options to be evaluated to maximise value from additional product from P1000 including long-term spodumene offtake with existing and new customers, together with joint venture (**JV**) partnering opportunities to further integrate the business downstream (in addition to the existing POSCO downstream hydroxide JV).

Australian lithium producer, Pilbara Minerals Limited (**Pilbara Minerals or the Company** – ASX: PLS), is pleased to announce that the Board has approved the capital investment for the P1000 Project.

This investment in the Pilgan Plant and supporting infrastructure will deliver a ~320,000 tpa increase in nameplate spodumene concentrate production capacity. This will ultimately increase the annual production run rate from the Pilgangoora Project to approximately 1,000,000 dmt<sup>1</sup> once fully commissioned and ramped up in the September Quarter 2025.

<sup>1</sup> Based on 5.7% concentrate grade. Ultimate production achieved in any year will depend on the concentrate grade and mined grade and is variable over the mine plan.

<sup>2</sup> Based on expected P1000 first ore timing in the March Quarter 2025 and utilising Benchmark Minerals International (**BMI**) Q4 2022 lithium chemicals and spodumene pricing linked forecasts along with an exchange rate of A\$0.74 for FY25 and A\$0.75 for FY26.

This investment supports Pilbara Minerals' long-term growth strategy to increase production capacity at the Pilgangoora Project in line with market demand.

The P1000 Project leverages the Company's earlier investment in additional primary rejection and crushing/ore sorting capacity from the ongoing P680 Project. The P1000 Project involves a series of upgrades to the Pilgan Plant's concentrator and a range of supporting infrastructure, along with an expansion of the Tambrah Camp.

The Company will self-manage delivery of the P1000 Project. Key long-lead procurement has already commenced as part of the \$38M in pre-FID expenditure announced in December 2022 and will continue to be undertaken prior to the award of key construction contracts.

The P1000 Project's estimated capital cost of \$560M across the Pilgan concentrator and supporting infrastructure includes the previously announced \$38M of pre-FID capital and is expected to deliver attractive returns to the Company, including a forecast payback from incremental cashflows relative to P680 within 12 months<sup>3</sup>.

The capital investment for the P1000 Project is expected to be funded from a combination of the Company's strong balance sheet and ongoing cashflow from existing operations.

Pilbara Minerals' Managing Director and CEO, Dale Henderson, said:

*"The P1000 Project expansion is an important milestone for Pilbara Minerals. This expansion step facilitates a major lift in production capacity, capitalising on the substantial scale of this Tier-1 hard rock asset which underpins a ~25 year mine life at this new expanded production level."*

*"This reinforces the exceptional scale and quality of our Pilgangoora Project, which is one of the few hard rock lithium production operations globally that has both the resource size and an existing operating platform to enable a rapid scale-up of production to capitalise on the growing demand for lithium products."*

*"From the outset, our long-term growth strategy has been to develop each stage with a focus on tailoring production to meet demand, while also planning for future expansion opportunities. The P1000 Project increases our nameplate production capacity by approximately 47%, driven by continued strong demand for our product, and leverages the planning and ongoing work being undertaken as part of the current P680 Expansion Project."*

*"The P1000 investment case is compelling with a payback from this investment expected to be within a year. This further increase in production capacity will cement Pilbara Minerals' position as a globally significant supplier of lithium materials products delivering into this rapidly growing market."*

*"The Company has received significant inbound interest for further offtake and downstream partnerships, and we have begun exploring options to maximise the value of the additional product from P1000 including new offtakes and downstream partnerships to extract greater value along the battery minerals supply chain."*

<sup>3</sup> Based on expected P1000 first ore timing in the March Quarter 2025 and utilising Benchmark Minerals International Q4 2022 lithium chemicals and spodumene pricing linked forecasts along with an exchange rate of A\$0.74 for FY25 and A\$0.75 for FY26.

## P1000 PROJECT OVERVIEW

The P1000 Project scope incorporates the design and construction of a series of additional unit processes at the Pilgan Plant which will be tied into the existing flowsheet through a series of staged shutdowns and interface works. Extensive duplication of current equipment delivers commonality of spares, known performance and throughput capacity.

- P1000 increases Pilgan Plant annual throughput to 4.92Mtpa.
- Pilgan Plant concentrate grade design range between 5.2 – 6.0%  $\text{Li}_2\text{O}$ , providing the Company with material flexibility to tailor its product to maximise value and meet customer requirements over time.
- The current mine plan generates a maximum concentrate production capacity of up to ~1,200,000 dmtpa in FY26 (at assumed 5.7%  $\text{Li}_2\text{O}$  product grade) across the combined operation (refer to Figure 2 for expected combined production from the Pilgan and Ngungaju Plants at 5.7%  $\text{Li}_2\text{O}$  product grade over the first 10 years). The additional tonnage in FY26 is due to a higher lithium head grade from the mine for this period.
- Production volumes at a lower product grade (5.2%  $\text{Li}_2\text{O}$ ) offer increased production yield. A targeted product grade of 5.2%  $\text{Li}_2\text{O}$  is broadly estimated to equate to average ~1,150,000 dmtpa production capacity over the first five years following ramp-up (with a maximum of ~1,325,000 dmtpa).

Key scope items across the Pilgan concentrate plant and site infrastructure include:

### Pilgan Plant

- Tertiary crushing duplication (utilising high pressure grinding rolls).
- Existing ball mill duplication.
- Flotation circuit duplication.
- Pre-flotation magnetic separation and secondary tantalum recovery.
- Heavy Media Separation tailings / split water circuit.
- New concentrate dewatering circuit.
- >80% of flotation concentrate designed to be conveyed directly to the concentrate handling pad reducing manual haulage activities.

### P1000 Site Infrastructure and Power Investment

Non-process infrastructure investments associated with P1000 include:

- Construction of a new 15ML Pilgan Plant raw water storage dam.
- Extension of the borefield pumping and piping network to increase water supply and new bore headworks incorporating remote telemetry and control. This delivers both greater capacity and efficiency.

- An expansion of the Tambrah Camp to add 100 new rooms and other facilities along with upgrade works to existing facilities to service both the construction workforce for P1000 and as well as ongoing operations once P1000 is completed.

Additional power is required to support the P1000 expansion and the future Mid-stream Demonstration Plant. The Company is in discussions with Independent Power Producers to provide:

- An expansion of the Pilgan Plant's power station with new high-speed natural gas-fuelled generators to support the additional load together with construction and operation of an onsite trucked LNG storage facility.
- Installation and operation of a Battery Energy Storage System (**BESS**) to support increasing renewable generation – with an expanded solar array also under consideration.

This power initiative is expected to result in improved carbon emissions intensity, therefore is supportive of Pilbara Minerals' Sustainability Strategy. The Company is aiming to provide a further update on this power initiative in the September Quarter 2023.

Figure 1 – Pilgan Plant schematic

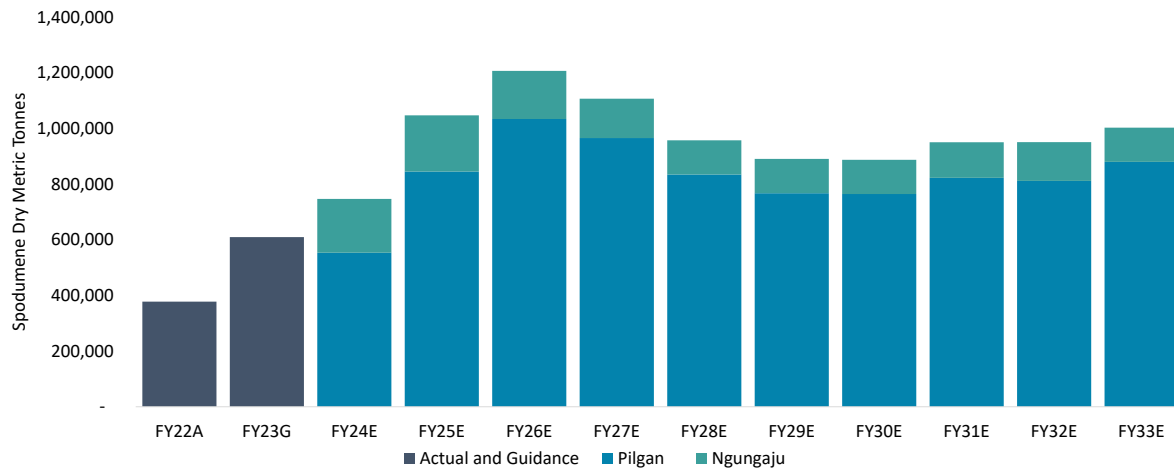


Figure 1 schematic shows i) existing plant infrastructure in dark grey ii) P680 Project components in teal and iii) P1000 Project Expansion in dark blue.

## P1000 Key Project Parameters

The indicative Pilgangoora production profile for the next 10 years of operation, assuming completion of the P680 and P1000 Expansions, is shown in Figure 2 below based on the current mine plan and an assumed 5.7% lithia concentrate grade.

**Figure 2 - Pilgangoora production profile at 5.7% concentrate grades<sup>4</sup>.**



Note: Mid-point of FY23 guidance is shown. The profile presented is subject to change due to ongoing refinements to the current mine plan.

<sup>4</sup> Future production profile is subject to successful construction and commissioning of the P680 and P1000 Projects and is influenced by a range of factors that may change over time. Production capacity in the chart over the 10 year production profile from FY24 is underpinned by the Company's existing Ore Reserves that have been prepared by a Competent Person in accordance with the JORC Code (2012 Edition) and reported and released to the ASX on 6 October 2021, as updated in the Company's FY22 Annual Report released on 13 October 2022. The relative proportions of Proven Ore Reserves and Probable Ore Reserves are 11% Proven Ore Reserves and 89% Probable Ore Reserves. The Company confirms it is not aware of any new information or data that materially affects the information included in the reported Ore Reserves and that all material assumptions and technical parameters underpinning the Ore Reserves estimates continue to apply and have not materially changed – refer to the 'Important Information' notice below.

**Table 1 - P1000 and Pilgangoora Key Project Parameters**

P1000 Project Parameters	Unit	P1000
Mine Life (based on Ore Reserves including stockpiles) <sup>5</sup>	Years	25
LOM Ore Mined <sup>5</sup>	Mt	159
LOM Strip Ratio	(waste:ore)	4.8
LOM Feed Rate (across both plants)	Mt	6.3
Average LOM Lithium Head Grade	%	1.18
Target Average LOM Pilgan Plant Lithium Recovery <sup>6</sup>	%	75
Target Average LOM Ngungaju Plant Lithium Recovery <sup>6</sup>	%	67.5
10-year Average Spodumene Production (SC5.7% basis) from FY25 (Across Both Plants)	Ktpa	986
Assumed Long Term Exchange Rate	AUD:USD	0.75
Capital Expenditure (Excluding Sustaining Capital) <sup>7</sup>	\$M	560
P1000 Pay Back Period (Linked to BMI Price Forecasts)	Months	Within 12
First 5 years of Total Cash Operating Costs (FY25-29) (Excluding Royalties, Ocean Freight, Debt Costs and Corp. Overheads) (real) <sup>8</sup>	US\$/t product	~430-470

<sup>5</sup> The 25 year life of mine and ore mined referenced is from 1 July 2022. This production over life of mine is underpinned by the Company's existing reported Ore Reserves that have been prepared by a Competent Person in accordance with the JORC Code (2012 Edition) and were released by the Company to the ASX on 6 October 2021 and as updated in the Company's FY22 Annual Report released to the market on 13 October 2022. The relative proportions of Proven Ore Reserves and Probable Ore Reserves are 11% Proven Ore Reserves and 89% Probable Ore Reserves. The Company confirms it is not aware of any new information or data that materially affects the information included in these releases and reports and that all material assumptions and technical parameters underpinning the Ore Reserves estimates continue to apply and have not materially changed. Refer to Important Information notice below.

<sup>6</sup> From FY25.

<sup>7</sup> Capital estimate has been determined as a "Class 2 – Definitive Estimate" with an accuracy of -15% / +20% and includes the concentrator and non-process infrastructure including raw water and borefields upgrades, camp upgrades and includes contingency / allowances of \$68M and pre-FID investment of \$38M.

<sup>8</sup> This is an indicative cash cost measure and is not comparable to accounting cost measures that are disclosed in the Company's reporting due to treatment of various items such as capitalised waste/deferred stripping and inventory. This cost measure excludes royalties, ocean freight, corporate overheads and debt costs.



The total cash operating cost range above is based on a conservative power assumption and that the existing 6MW solar facility and diesel generators are used for power generation until the commercial terms for the planned gas power station upgrade and increased solar / battery design are finalised. This upgrade is expected to reduce cash operating costs from those shown in Table 1. There are a range of other operating cost reduction and sustainability initiatives across mining, processing and procurement that have been identified but not included in the operating cost presented above that will be pursued over time, and are expected to further reduce the long-term operating cost for the operation.

## Approvals and Logistics

The duplication of the processing circuit was approved by the relevant regulatory agencies in October 2019. Further applications for ancillary infrastructure including an additional tailings thickener and process water pond are planned to be submitted in Q1 CY2023.

FID for P1000 assumes that concentrate continues to be exported from the Eastern Harbour Berth 2 in Port Hedland. However, further port capacity will likely be required when P1000 ramps up to full capacity. As a result, improvement initiatives are being trialed to increase Eastern Harbour capacity, including utilising Berth 1, until the new Port Hedland Lumsden Point Port facilities are developed from the end of CY2025. Lumsden Point, which is jointly funded by the State and Federal Governments, is a new multi-user port facility and logistics hub to facilitate the export of battery minerals and other commodities.

## Product from P1000 - Offtake and Downstream Partnering Initiatives

Pilbara Minerals has commenced exploring strategic options to maximise value from the additional product to be produced as a result of the P1000 expansion.

The Company has received significant unsolicited inbound interest from existing and potential new customers in relation to both spodumene offtake and downstream partnerships including joint ventures.

Accordingly, following FID for the P1000 expansion, the Company intends to pursue additional offtake and partnering opportunities in respect of unallocated product and will actively engage with selected participants across the battery materials supply chain.

This initiative aligns with Pilbara Minerals' long-term strategy to grow and diversify its business to become a fully integrated participant in the lithium raw materials and chemicals supply chain. Outcomes from this initiative are expected by the end of CY2023 and are not anticipated to have any impact on Pilbara Minerals' existing offtake obligations to customers, including the Calix JV or the POSCO Downstream JV.

*Release authorised by Dale Henderson, Pilbara Minerals Limited's Managing Director.*

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## IMPORTANT INFORMATION

The capital cost estimates in this announcement for the P1000 Project are based on assumptions and forecasts existing at the time of assessment which may change over time impacting the accuracy of those capital cost estimates. These estimates are developed in the context of an uncertain operating environment including in respect of COVID-19 related risks (community transmission and supply chain disruption), inflationary macroeconomic conditions, incomplete engineering and uncertainties surrounding the commissioning and ramp up of new processing facilities and infrastructure. The information is provided as an indicative guide to assist sophisticated investors and analysts with modelling of the Company. It should not be relied upon as a predictor of future performance.

This announcement may contain some references to forecasts, estimates, assumptions and other forward-looking statements. Although the Company believes that its expectations, estimates and forecast outcomes are based on reasonable assumptions, it can give no assurance that they will be achieved. They may be affected by a variety of variables and changes in underlying assumptions that are subject to risk factors associated with the nature of the business, which could cause actual results to differ materially from those expressed herein.

Information in this release regarding expansions in nameplate capacity of the Pilgan Plant in respect of the P1000 project are underpinned by the Company's existing reported Ore Reserves that have been prepared by a Competent Person in accordance with the JORC Code (2012 Edition) and were released by the Company to the ASX on 6 October 2021 and as updated in the Company's FY22 Annual Report released to the market on 13 October 2022. The relative proportions of Proven Ore Reserves and Probable Ore Reserves are 11% Proven Ore Reserves and 89% Probable Ore Reserves. The Company confirms it is not aware of any new information or data that materially affects the information included in that release or report and that all material assumptions and technical parameters underpinning the Ore Reserves estimates continue to apply and have not materially changed.

All references to dollars (\$) and cents in this announcement are to Australian currency, unless otherwise stated.

## ABOUT PILBARA MINERALS

Pilbara Minerals is the leading ASX-listed lithium company, owning 100% of the world's largest, independent hard-rock lithium operation. Located in Western Australia's resource-rich Pilbara region, the Pilgangoora Operation produces a spodumene and tantalite concentrate. The significant scale and quality of the operation has attracted a consortium of high quality, global partners including Ganfeng Lithium, General Lithium, POSCO, and Yibin Tianyi.