

# KCGM Mill Expansion

## Positioning for Tomorrow

June 2023

# Forward Looking Statements, Reserves and Resources

## Forward Looking Statements

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## ASX Listing Rules Disclosures

This announcement contains current estimates of Northern Star's KCGM Operations' Ore Reserves and Mineral Resources. The information in this announcement that relates to the current Ore Reserves and Mineral Resources of Northern Star has been extracted from the ASX release by Northern Star entitled "Resources, Reserves and Exploration Update" dated 4 May 2023 available at [www.nsrld.com](http://www.nsrld.com) and [www.asx.com](http://www.asx.com) ("Northern Star Announcement").

Northern Star confirms that it is not aware of any new information or data that materially affects the information included in the Northern Star Announcement other than changes due to normal mining depletion during the three month period to 21 June 2023, and, in relation to the estimates of Northern Star's KCGM Operations' Ore Reserves and Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the Northern Star Announcement continue to apply and have not materially changed. Northern Star confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from that announcement.

Assumptions made in this announcement are based on (in summary):

- Mill feed comprising of ~78% of the KCGM Operations Mineral Resource, of which ~54% are Ore Reserves and the remainder are made up of Measured, Indicated and Inferred Mineral Resources (see Northern Star Announcement);
- Gold grade of ~1.3g/t;
- Processing throughput rate of ~27Mtpa;
- Modelled recovery rate of ~84%;
- A\$1.5B capital for processing plant expansion and immediate service infrastructure requirements. Additional capital associated with accelerating or expanding activities such as mining and tailings facilities are included in the financial analysis;
- Current mining performance, with modelled variable and fixed processing costs and metallurgical performance;
- Power costs estimated at A\$100/MWh;
- All-in sustaining costs (AISC) excludes Corporate allocation, and
- A\$2,600/oz gold price.

Rounding is applied in this presentation for the percentage comparisons and for the 31 March 2023 Ore Reserves and Mineral Resources figures.

All-in sustaining costs (AISC), Cash Earnings, EBITDA and Net Profit are non-GAAP measures.

Authorised to release to the ASX by Stuart Tonkin, Managing Director & CEO.

# Presentation team



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## **Stuart Tonkin**

Managing Director & CEO

Mr Tonkin is a mining engineer with more than 25 years' experience working in the underground hard-rock mining industry. He joined Northern Star as Chief Operating Officer in 2013 before being appointed CEO in 2016 and Managing Director in 2021.

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## **Ryan Gurner**

Chief Financial Officer

Mr Gurner is a Chartered Accountant with extensive global financial and commercial experience spanning over 20 years. He was re-appointed Chief Financial Officer in December 2021, a position he held prior to the merger with Saracen Mineral Holdings.

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## **Steven McClare**

Chief Technical Officer

Mr McClare is a mining engineer with over 30 years of technical, operational and project experience in the mining industry. His extensive career includes building multi-billion dollar caving projects and bringing mines from design through to production. He joined Northern Star as Chief Technical Officer in July 2021.

# Investing in our key global gold asset



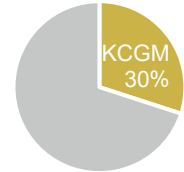
## KCGM

100% ownership

% NORTHERN  
STAR GROUP

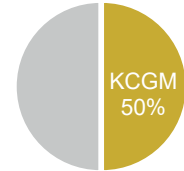
**489**koz

FY22 Gold Sold



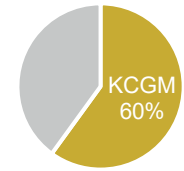
**28**Moz

Mineral Resource



**12**Moz

Ore Reserve





# KCGM Mill Expansion aligns with our strategy



Generate superior returns



Strong cash flow generation



World-class assets



Profitable growth



Responsible producer



# KCGM Mill Expansion Project highlights

## Key operational metrics

**13**Mtpa » **27**Mtpa  
Fimiston Processing Plant

**3YR**  
build time  
FY24-FY28  
PLUS **2YR**  
ramp-up

**FY29**  
steady state

**900kozpa**  
KCGM Gold Sold  
**A\$1,425/oz**  
KCGM AISC

## NO INTERRUPTION TO OPERATIONAL CASH FLOW DURING BUILD

### Key financial metrics

**A\$1.5<sub>B</sub>**  
Project Capex

Equiv. to **580koz**  
Capex<sup>1</sup> in ounces

**A\$2.0<sub>B</sub>**  
Liquidity<sup>2</sup>

Average gold sold and AISC from FY29, first year of steady state production.

1. Gold price assumption of A\$2,600/oz. 2. Liquidity of A\$2.0B as at 31 March 2023 (cash and bullion A\$452M, undrawn bank facilities A\$650M and adjusted for US\$600M bond receipts) vs target range of A\$1.0-1.5B.



# Financially compelling

## Post-tax IRR

A\$2,600/oz gold price

19%

## Post-tax Payback

A\$2,600/oz gold price

4.6yrs

## Strong Balance Sheet

Throughout build phase

Net  
Cash

MATERIAL INCREASE IN **FREE CASH FLOW** GENERATION



Fully  
funded



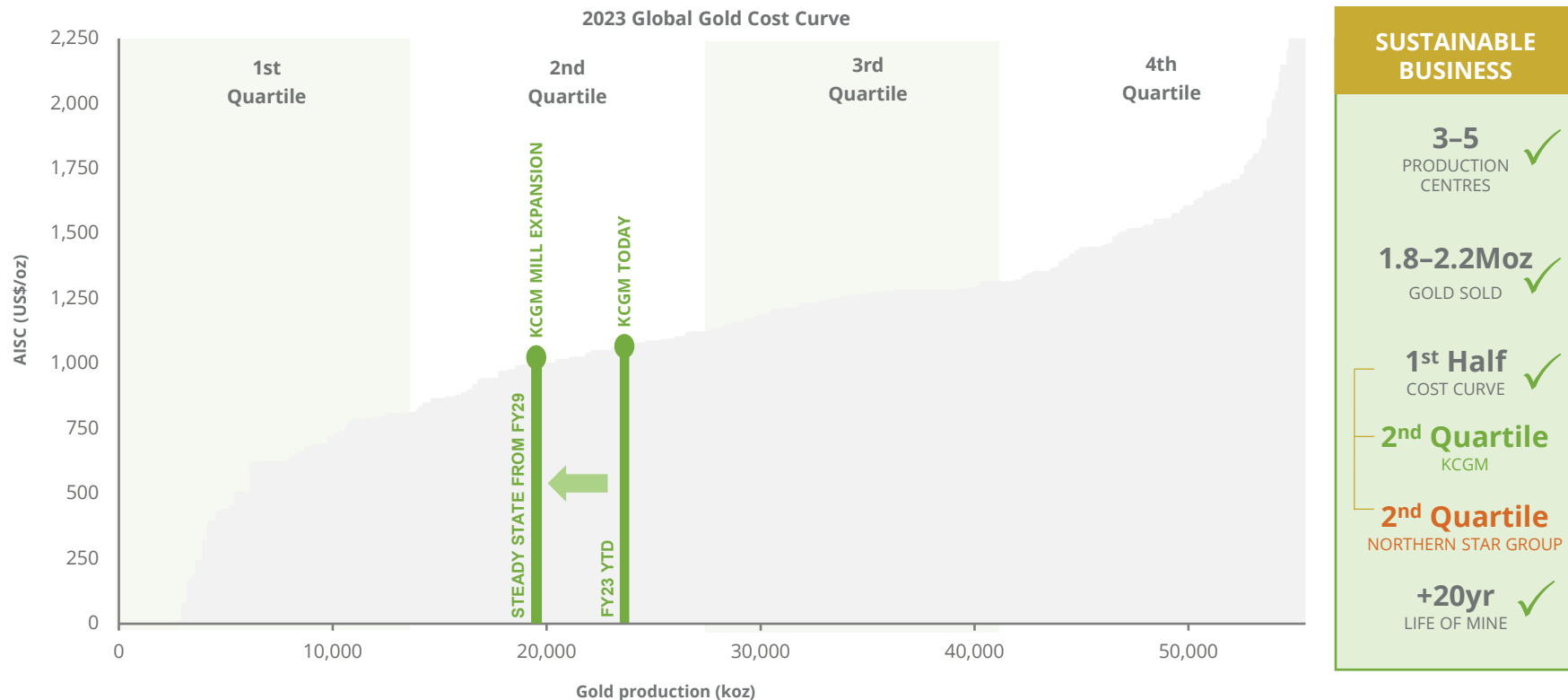
Dividend policy  
maintained



Investment grade  
credit



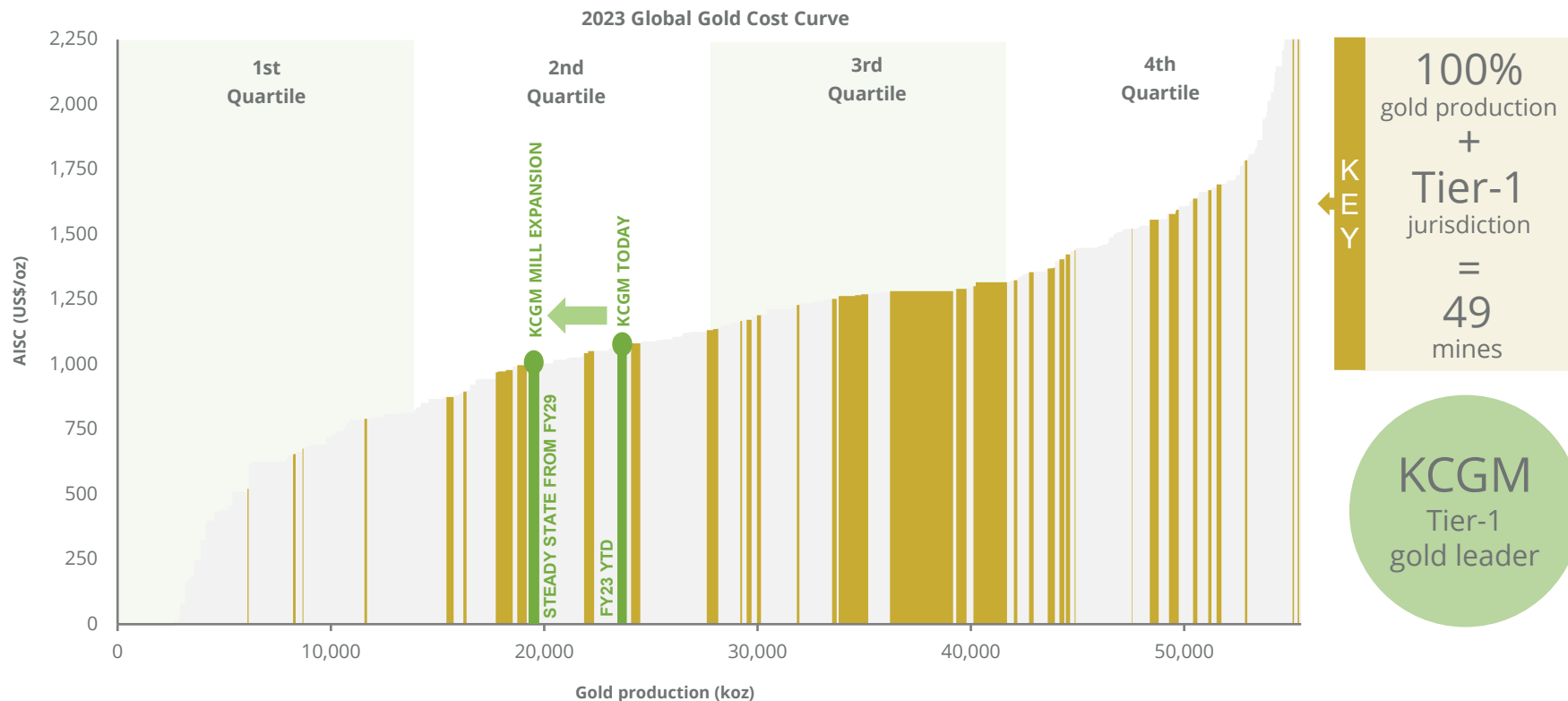
# Investing to move down the cost curve...



Source: JP Morgan, company filings. 12 month rolling AISC data (Mar 2022 – Mar 2023). Global gold cost curve excludes 17 non-producing mines, 31 non-primary gold mines (<20% of total mine production) and 96 mines (19.7% supply) due to limited or no public data. This information has not been independently verified by Northern Star. KCGM Mill Expansion denotes from FY29, first year of steady-state production and KCGM positioning from FY29 does not account for non-Northern Star future asset cost positioning. AUD:USD assumption = 0.67.

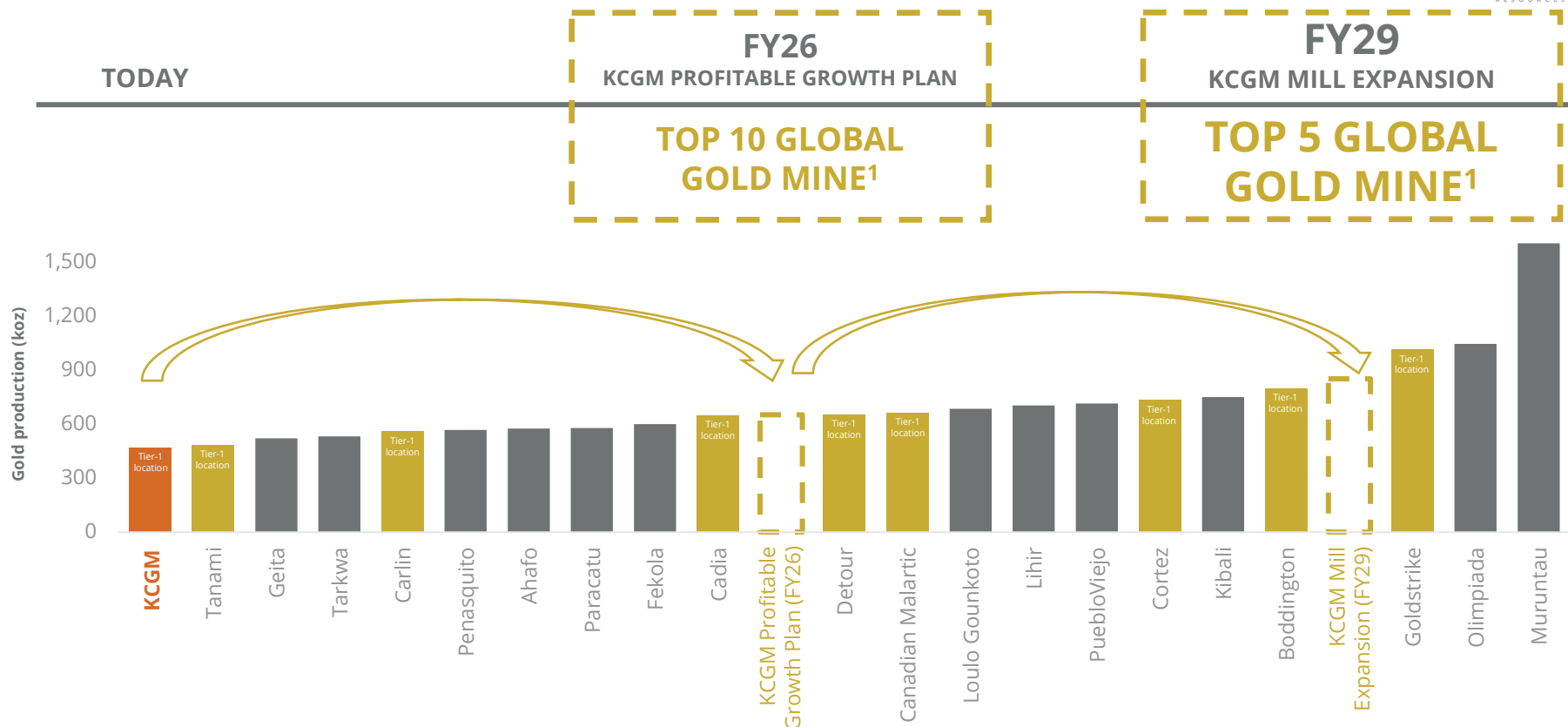


# ...and delivering a stand-out tier-1 gold mine



Source: JP Morgan, company filings. 12 month rolling AISC data (Mar 2022 – Mar 2023). Global gold cost curve excludes 17 non-producing mines, 31 non-primary gold mines (<20% of total mine production) and 96 mines (19.7% supply) due to limited or no public data. This information has not been independently verified by Northern Star. KCGM Mill Expansion denotes from FY29, first year of steady-state production and KCGM positioning from FY29 does not account for non-Northern Star future asset cost positioning. Tier-1 jurisdiction defined as Australia, North America and Canada, as per the Fraser Institute Index. AUD:USD assumption = 0.67.

# Moving KCGM into rare company

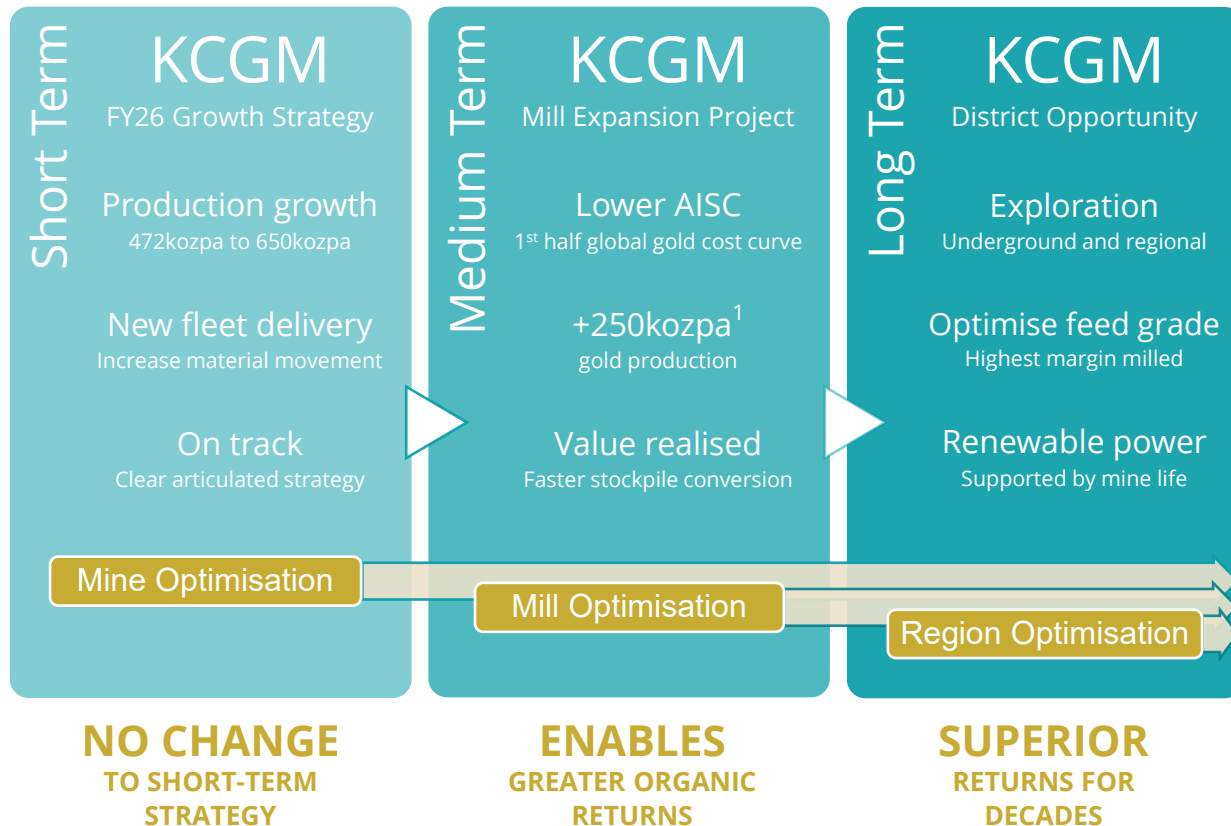


Source: Global Mining Research. 2022 calendar year production for all mines, except Muruntau where the 1H22 figure is annualised. This information has not been independently verified by Northern Star.

1. Representation of KCGM positioning in FY26 and FY29 does not account for non-Northern Star asset growth plans.



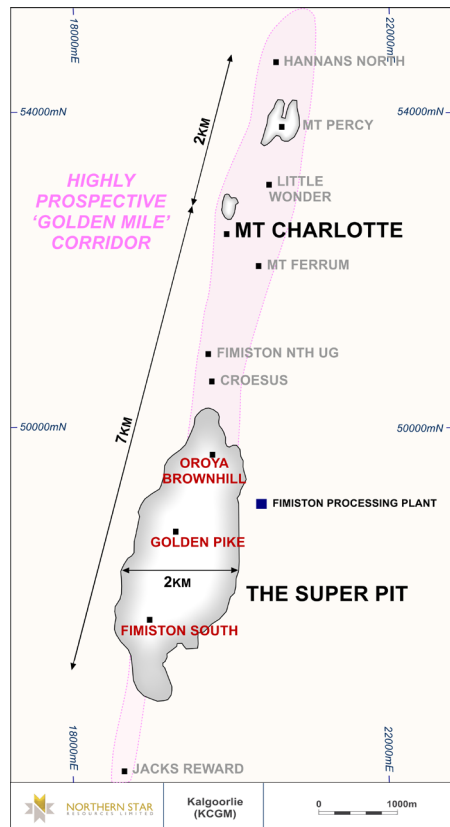
# Lowering costs for greater returns



1. Average gold production from FY29, first year of steady-state production.



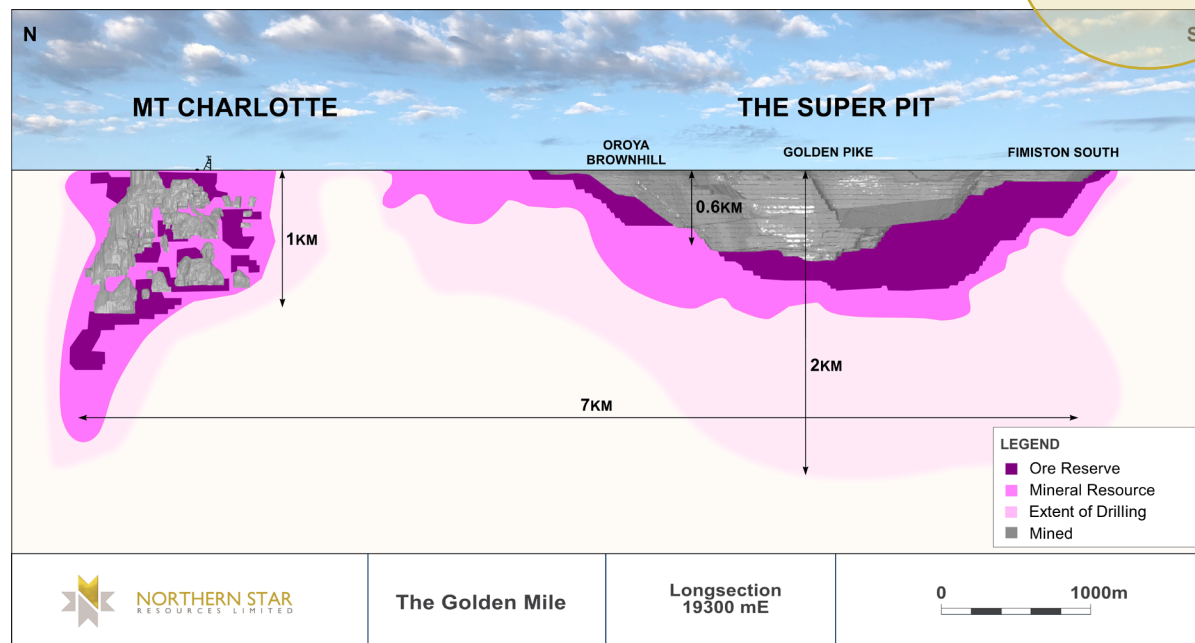
# Optimising long-term feed grade



**28Moz**  
Mineral Resource

**12Moz**  
Ore Reserve

**80Moz**  
gold mined over  
130 years



# Aligned with sustainability outcomes

## Community



- Extends Northern Star's position as largest employer in Kalgoorlie
- Secures future residential jobs
- Commitment to continue significant local procurement

## Water



- 50% reduction in potable water consumption (per tonne ore processed)
- Investment in upgrading bore fields and water infrastructure
- Increased instantaneous water supply rate

## Power



- Upgrade to existing 33kV network
- Aligned with 35% carbon emissions reduction target by 2030
- Provides infrastructure upgrades to introduce renewable energy







# KCGM Mill Expansion

## A closer look...



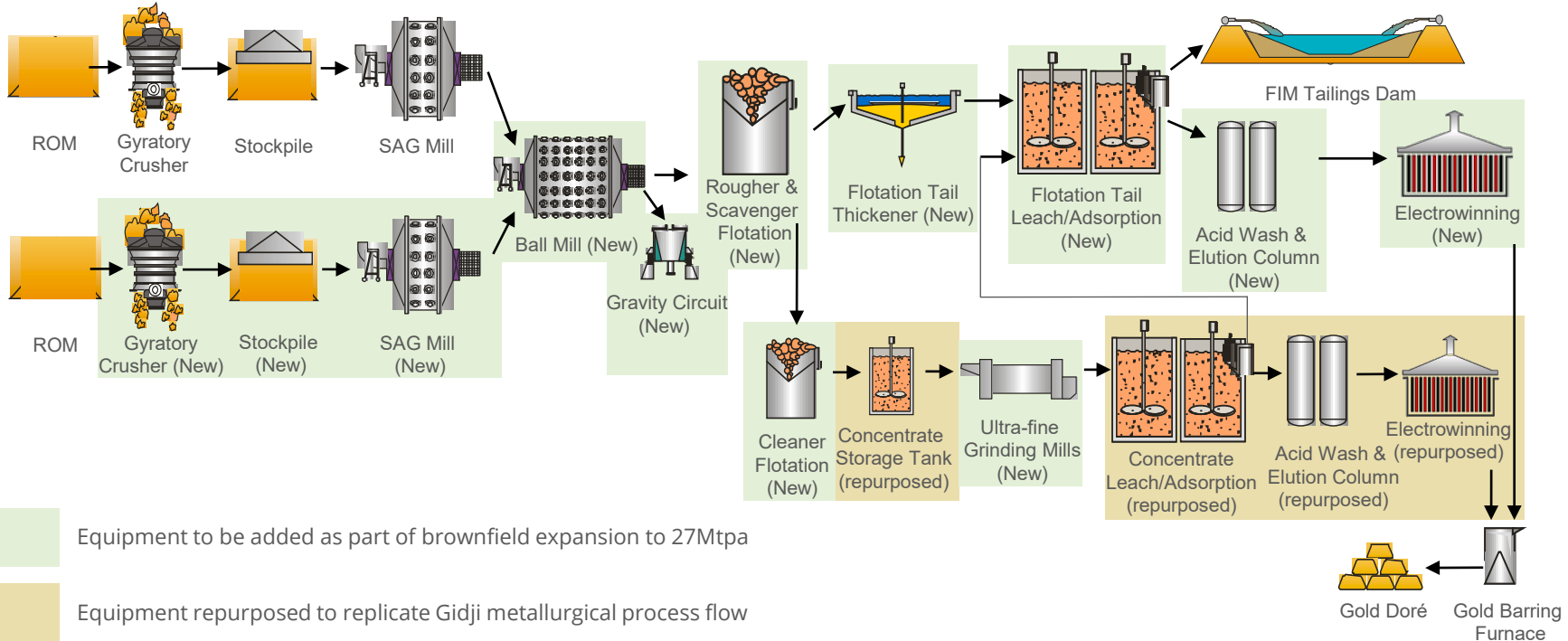


# A modern, simplified flow sheet

A sustainable reduction  
in unit operating costs

Simplified plant design

Increased reliability





# Stockpile cash conversion at improved margin

## ORE SOURCE

6-12Mtpa  
**Open Pit**

4-8Mtpa  
**Underground**

8-10Mtpa  
**Stockpiled Ore**  
Rehandle cost:  
<5% of mining cost

## PROCESSING PLANT

**27**Mtpa

Milling cost reduction of A\$7/t

- ✓ Known mineralisation
- ✓ Low technical risk
- ✓ Utilisation of stockpile inventory

# Project approvals in place

The Project area is **within the existing footprint** of the Fimiston Processing Plant. **No new** disturbed areas.

Environmental approval requirements are **well understood** and have been well managed for decades.



## Legend

- EPA\_MS782\_V10\_Processing\_Plant\_Approved
- Fimiston Processing Plant tenements
- S38 Fimiston Pit Shell



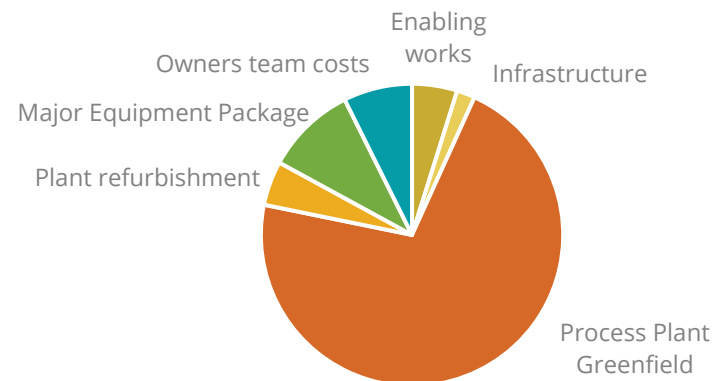
Coordinate system: GDA 1994 MGA Zone 51



# Build schedule and capital cost breakdown

Task	FY24	FY25	FY26	FY27	FY28	FY29
Engineering and Design						
Onsite Construction						
Commissioning						
Ramp-up						
Throughput	13Mtpa	13Mtpa	13Mtpa	23Mtpa	25Mtpa	27Mtpa

	Capital Cost Breakdown (%)			
<b>A\$1.5B</b> Inclusive of 10% inflation & contingency	<b>FY24</b> 35%	<b>FY25</b> 30%	<b>FY26</b> 30%	<b>FY27</b> 5%



# KCGM Mill Expansion aligns with our strategy

## Our Purpose

To **generate superior returns** for our shareholders, while providing positive benefits for our stakeholders, through operational effectiveness, exploration and active portfolio management

Generate superior returns



Strong cash flow generation



World-class assets



Profitable growth



Responsible producer





# Northern Star Resources Limited

ASX Code: NST



## Business First.



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