



NORTHERN STAR
RESOURCES LIMITED

KCGM Site Visit Presentation

August 2023

Forward Looking Statements, Reserves and Resources

Forward Looking Statements

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This announcement may contain forward looking statements that are subject to risk factors associated with gold exploration, mining and production businesses. It is believed that the expectations reflected in these statements are reasonable but they may be affected by a variety of variables and changes in underlying assumptions which could cause actual results or trends to differ materially, including but not limited to price fluctuations, actual demand, currency fluctuations, drilling and production results, Resource or Reserve estimations, loss of market, industry competition, environmental risks, physical risks, legislative, fiscal and regulatory changes, economic and financial market conditions in various countries and regions, political risks, project delay or advancement, approvals and cost estimates.

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, and production targets 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 and 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 four month period to 6 August 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 relation to the Ore Reserves and Mineral Resources underpinning the production targets in that announcement are (in summary):

- Current operational capital and operating cost structures,
- Current mining and metallurgical performance,
- The gold price, exchange rate, dilution allowance and mining recovery rates are as set out in each prior public report referred to in ASX Listing Rule 5.19 disclosures, and
- 5 year gold production profiles are based on 100% current JORC compliant Ore Reserves.

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

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



NORTHERN STAR
RESOURCES LIMITED

KCGM
OPERATIONS

Our key global gold asset



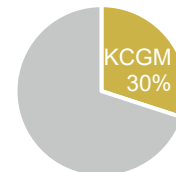
KCGM

100% ownership

% NORTHERN
STAR GROUP

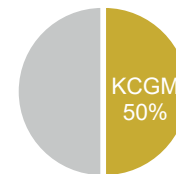
432_{koz}

FY23 Gold Sold



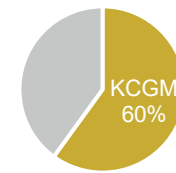
28_{Moz}

Mineral Resource



12_{Moz}

Ore Reserve



Moving KCGM into rare company

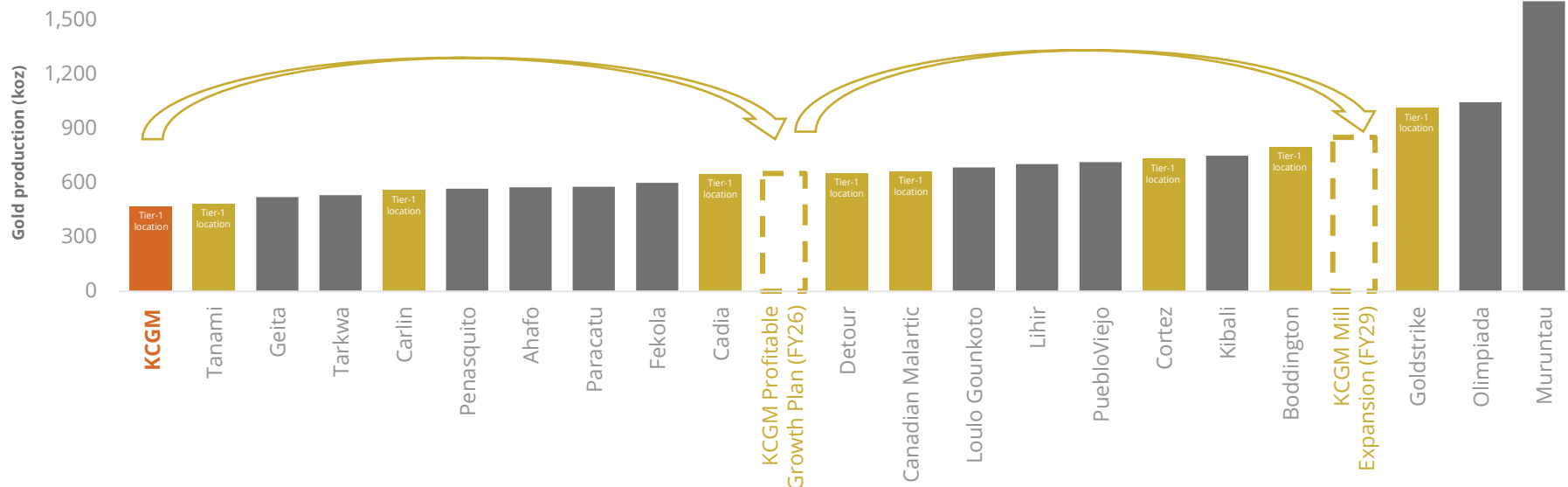
TODAY

FY26
KCGM PROFITABLE GROWTH PLAN

FY29
KCGM MILL EXPANSION

**TOP 10 GLOBAL
GOLD MINE¹**

**TOP 5 GLOBAL
GOLD MINE¹**



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.

Working at KCGM



Residential workforce



820 KCGM employees (36% Female | 64% Male)
(+220 Northern Star Mining Services employees)



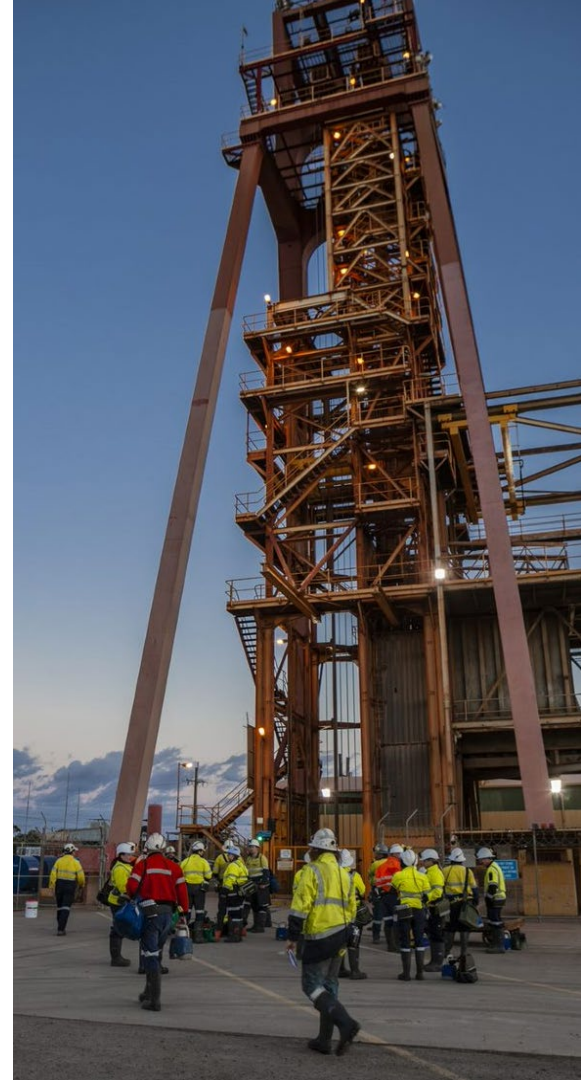
Operational 24 hours per day, year round



Production shifts are 12 hours



Village accommodation solution resolved for
mill construction workforce



KCGM asset overview

ORE SOURCES

OPEN PIT

Fimiston South

Oroya Brownhill

Golden Pike North

UNDERGROUND

Mt Charlotte

Fimiston UG

STOCKPILES
120Mt @ 0.7g/t

High grade

Low grade

PROCESS PLANT

Capacity

Location

EXISTING

13Mtpa

Fimiston Plant
Gidji Plant

**EXPANSION
(UNDER CONSTRUCTION)**

27Mtpa

Fimiston Plant

Connecting with our Community



Working with our local and regional communities to achieve mutually beneficial partnerships and sustainable long-term social benefits

- Community & Inclusion
- Health & Wellness
- Environment
- Indigenous Advancement
- Education & Development



Children's Health Research



Goldfields Indigenous
Tertiary Scholarships



Medical, Dental and
Urgent Air Children's
Health Research
Ambulance support



Perth Lynx Major Partner &
Community Partner of
Basketball WA

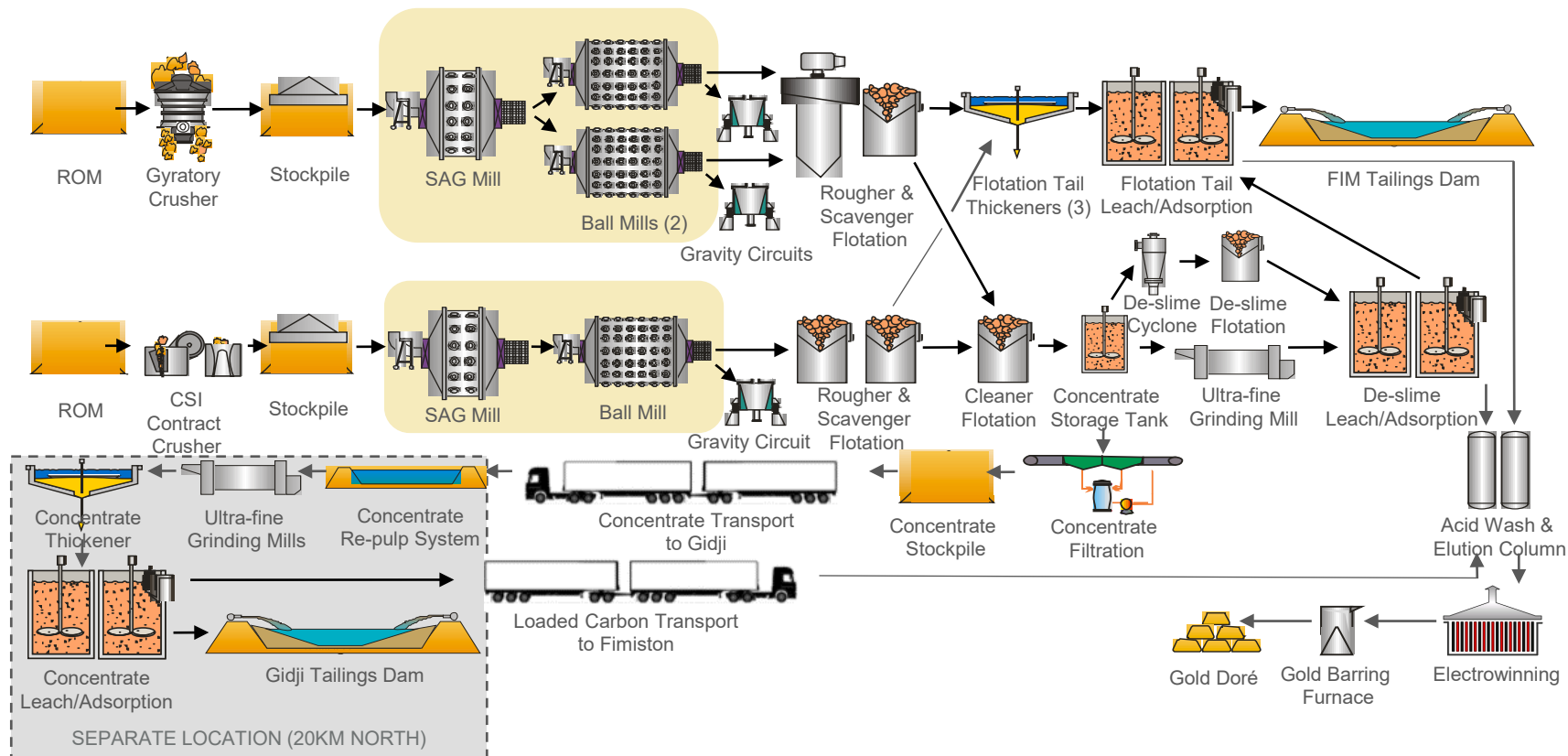


NORTHERN STAR
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PROCESSING
Positioning for tomorrow



Current process flowsheet: Two locations

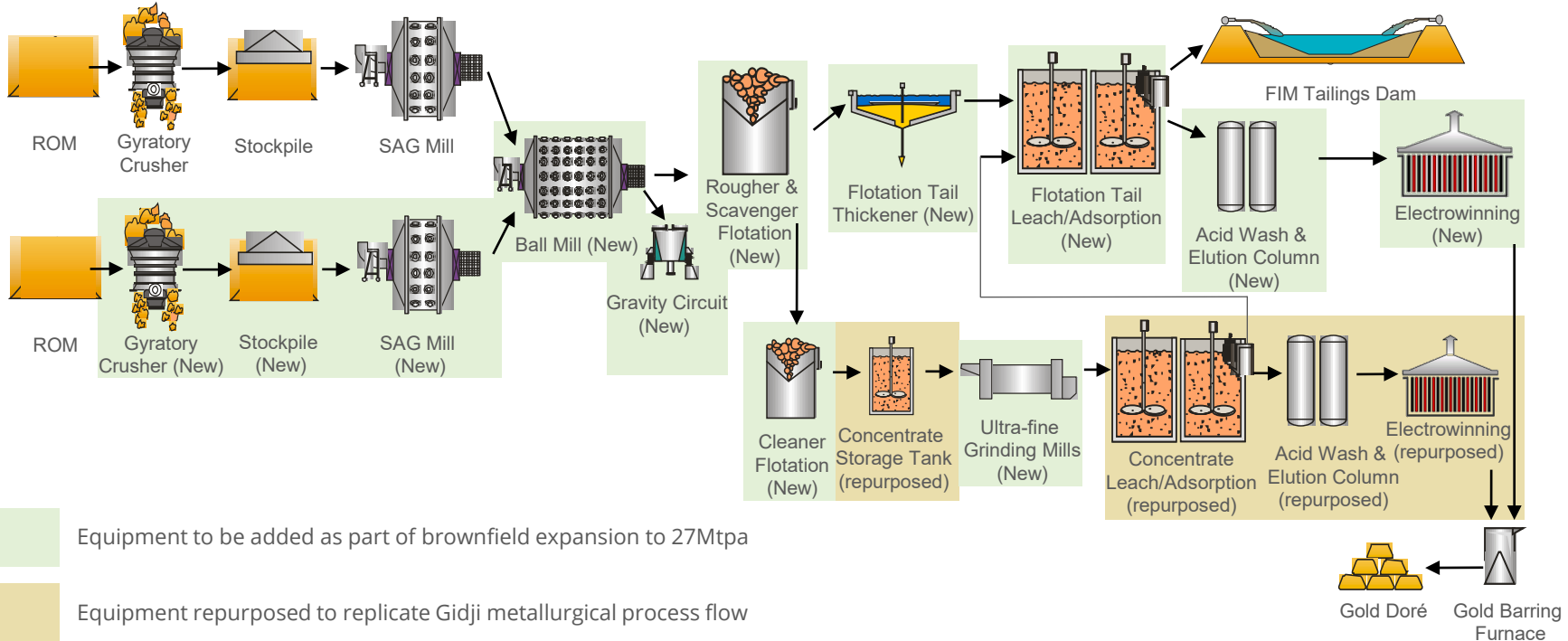


Post expansion: A modern, simplified plant in one location

Lower unit operating costs

Maximise margin across resources

Increased reliability



KCGM mill expansion highlights

Key operational metrics

13Mtpa » **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

Post-tax IRR
A\$2,600/oz gold price

19%

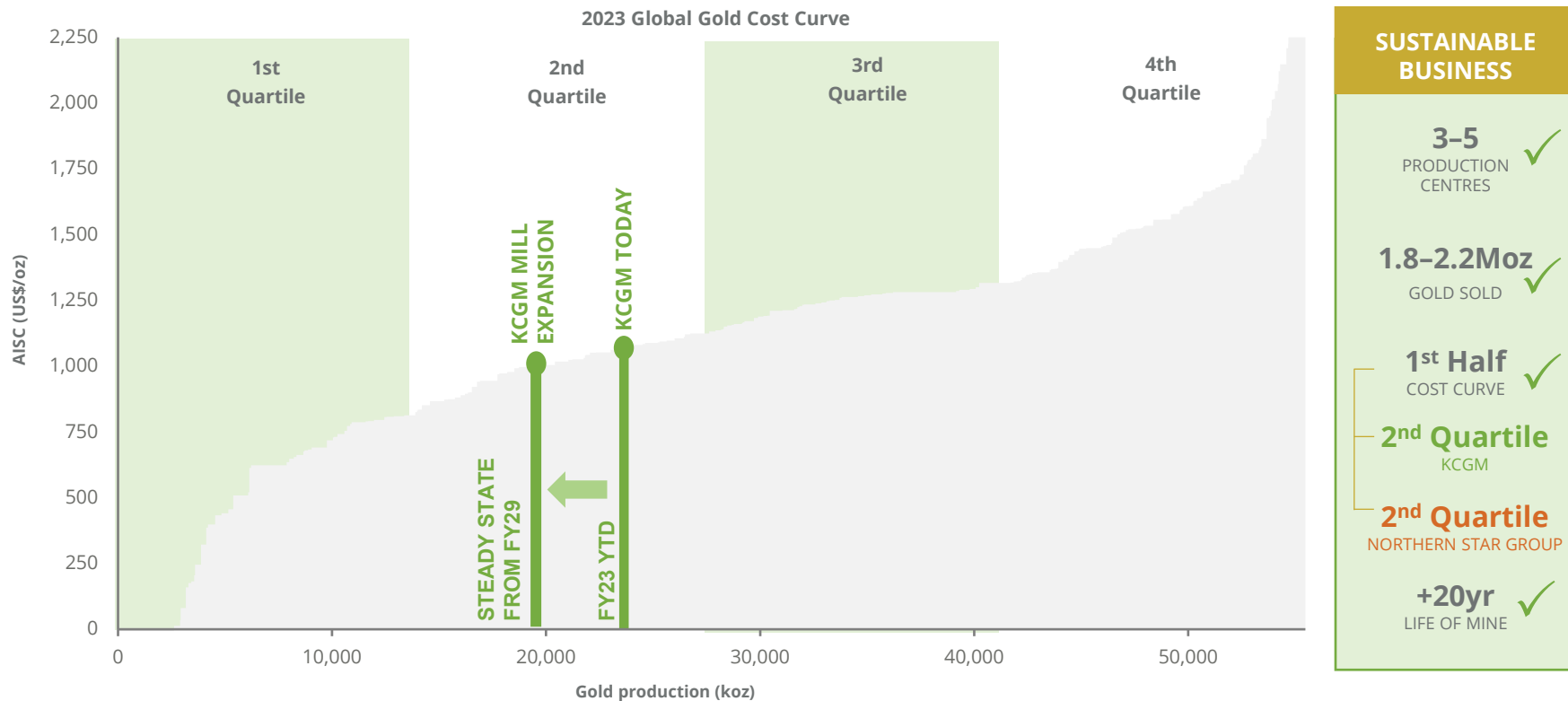
Post-tax Payback
A\$2,600/oz gold price

4.6yrs

Strong Balance Sheet
Throughout build phase





**Net
Cash**

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.

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 (%)			
A\$1.5B Inclusive of 10% inflation & contingency	FY24 35%	FY25 30%	FY26 30%	FY27 5%

FY23

- Major equipment ordered ✓

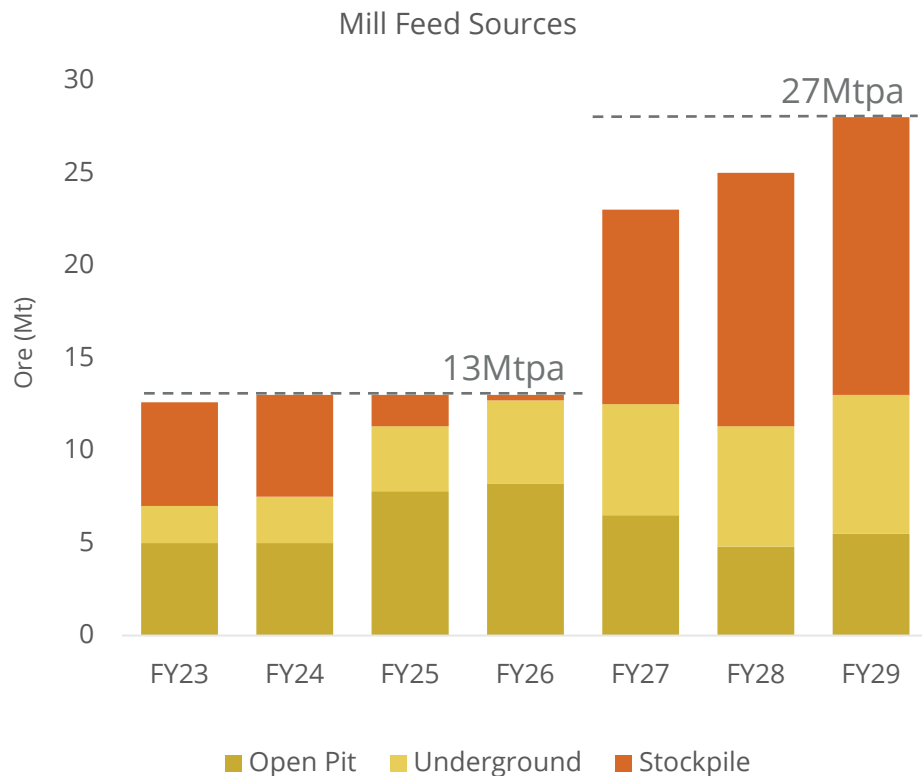
FY24 focus

- Enabling works
- Early infrastructure construction

NO INTERRUPTION TO OPERATIONAL CASH FLOW DURING BUILD

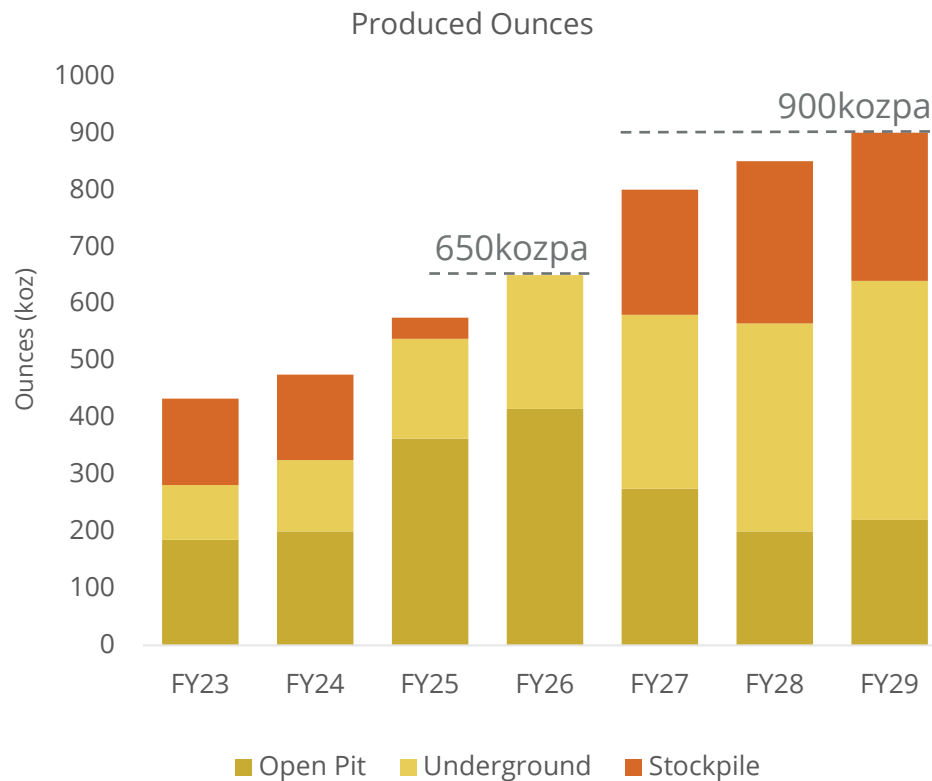
Tie-ins to be completed during planned shutdown periods

Mill feed source optimisation ongoing



- Grade displacement strategy – open pit and underground feed preferentially milled
- Value realisation of historic stockpiles
- 13Mtpa
 - Open pit feed increases with Golden Pike North access
 - Underground feed increases
- 27Mtpa
 - Open pit feed lowers temporarily as trucks allocated to waste stripping
 - Underground feed continues to increase

Pathway to 650kozpa by FY26, then 900kozpa from FY29



Pathway to 650kozpa by FY26

- KCGM on track to deliver 650kozpa towards the Group's 2Moz profitable growth strategy

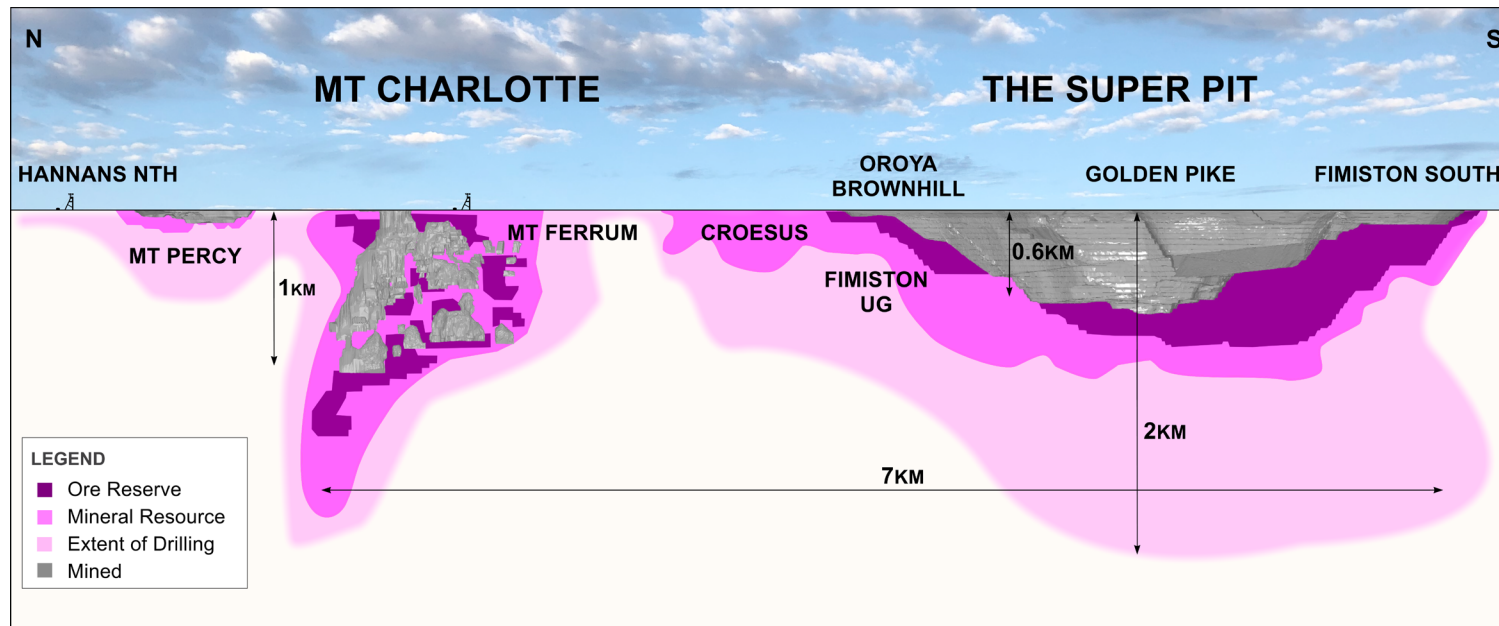
Pathway to 900kozpa by FY29

- Production from high-grade Golden Pike North (FY24-29)
- Preferentially treating high grade open pit mined ore
- Draw down on historic stockpiled ore, bringing forward value



GEOLOGY
Opportunity from lower cost base

Well positioned for higher production levels



OPEN PIT

8.2Moz

Ore Reserve

16.9Moz

Mineral Resource

UNDERGROUND

1.3Moz

Ore Reserve

8.7Moz

Mineral Resource

STOCKPILES

2.7Moz

Ore Reserves

3 years
of drilling

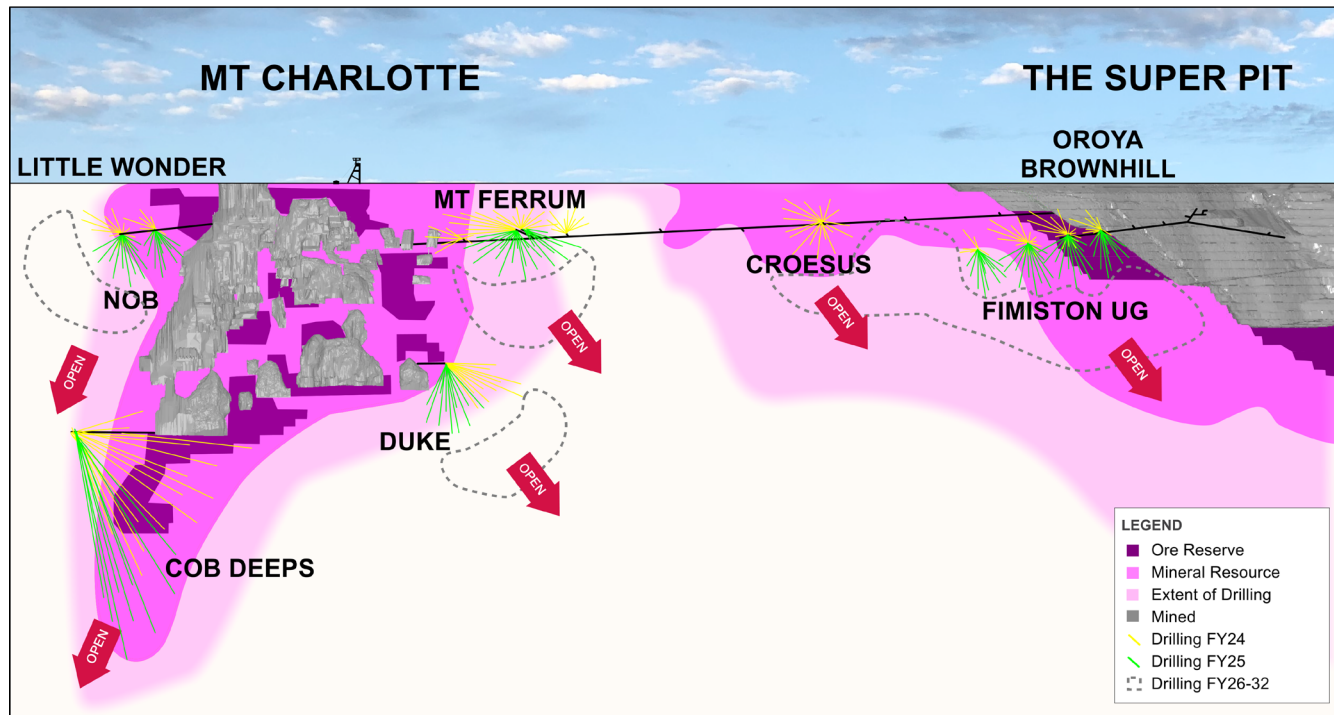


2,167
holes



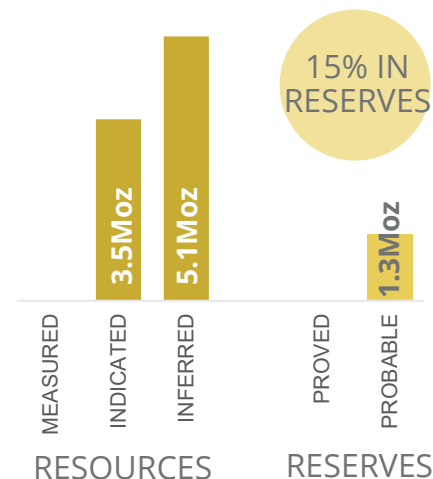
602,000m
drilled

Optimising long-term feed grade



UNDERGROUND RESOURCE

124Mt at 2.2g/t = 8.7Moz



New drill platforms provide future conversion opportunity

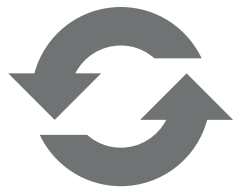
Opportunity from lower cost base

**KCGM Mill
Expansion
Lower AISC of
\$1,425/oz***

Fimiston
Processing
Plant



**Future
Opportunity**



**Opportunity to
reduce cut-off grade
by 30% within
existing pit-shell**

Geology



Robust cost position

**Deliver superior
shareholder returns**

Financial
Returns



* Average AISC from FY29, first year of steady state production.





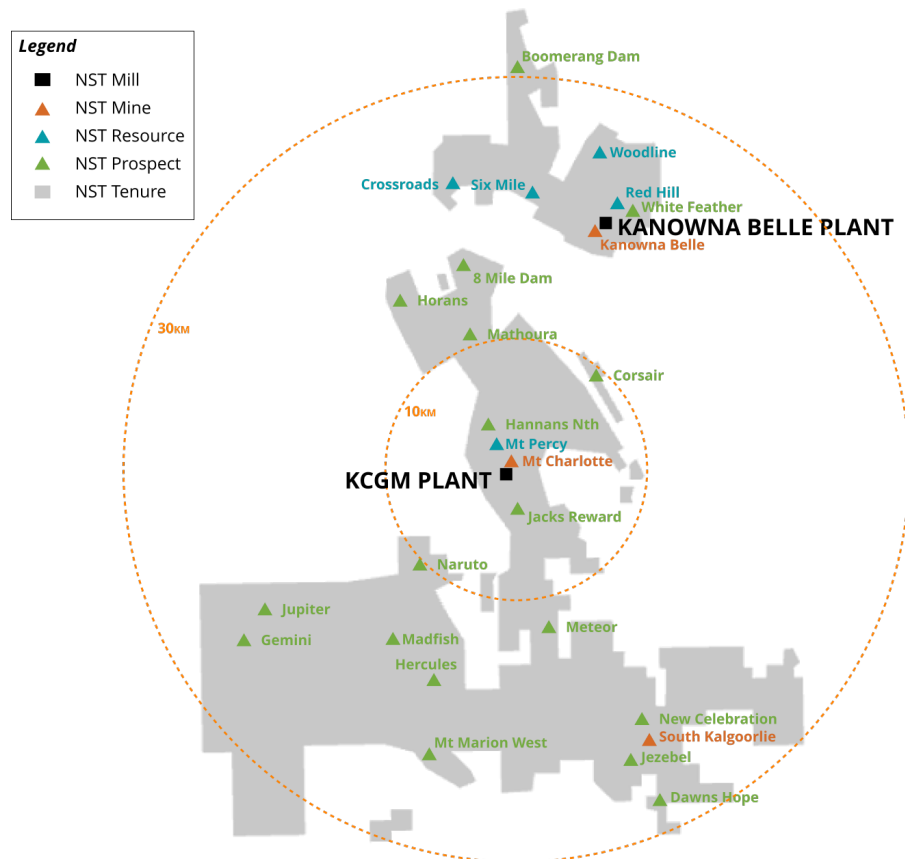
A clear multi-year roadmap

Resource to Reserve conversion

Advancing development areas to provide drilling access and increased mining opportunities

\$41M OF **A\$150M**
EXPLORATION SPEND AT KCGM FY24 GROUP EXPLORATION GUIDANCE

Potential grade displacement opportunities for KCGM



- **Maiden 1.2Moz** Mineral Resource at 1.1g/t defined at “**Red Hill**”, 3.5km from Kanowna Belle
- **New discovery “Hercules”** less than 30km from KCGM Fimiston Plant, highlights potential that exists across the broader Kalgoorlie region
- Numerous near mine and regional prospects (from existing tenements) within close proximity of processing infrastructure



OPEN PIT
Unlocking future mining areas



KCGM production areas

- Key mining areas:
 - Oroya Brownhill (East Wall)
 - Access to Golden Pike North on track (FY24-29)
 - Fimiston South for long-term ore source
 - Mt Charlotte underground increasing profile
- Ramp-up to +80Mtpa now complete
- Working on optimisation and efficiencies
- New 9400 excavator to improve open pit mined grades

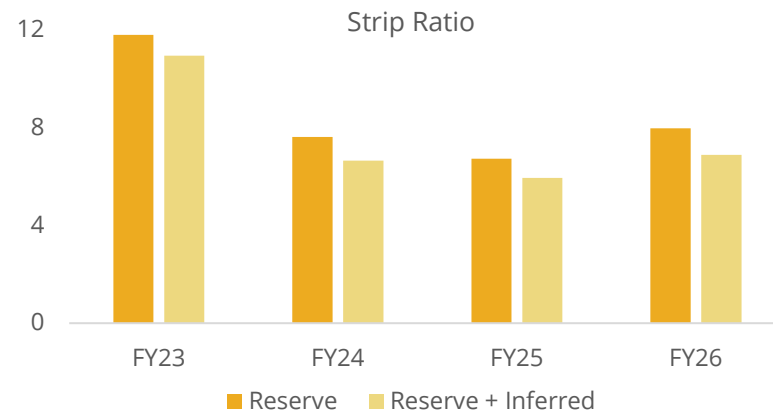
KCGM Production Areas	FY23	FY24	FY25	FY26	FY27	FY28	FY29
Open Pit							
Oroya Brownhill							
Fimiston South Stage 1							
Golden Pike South							
Golden Pike North							
Fimiston South Stage 2							
Underground							
Mt Charlotte							
Fimiston*							
Stockpiles							
Reserve Stockpiles							

* Feasibility Study underway



East Wall cutback unlocks superior returns today...

- Material movement of 80-100Mtpa
 - FY23: 83Mtpa
 - FY24: 85-95Mtpa peak material movement
 - FY25: 80-90Mtpa
 - FY26: 80-90Mtpa
- Reduced Life of Mine strip ratio to 6:1, from 9:1 (including Inferred) due to accelerated waste progress
- Focus shifts to Fimiston South cutback in FY27-FY29



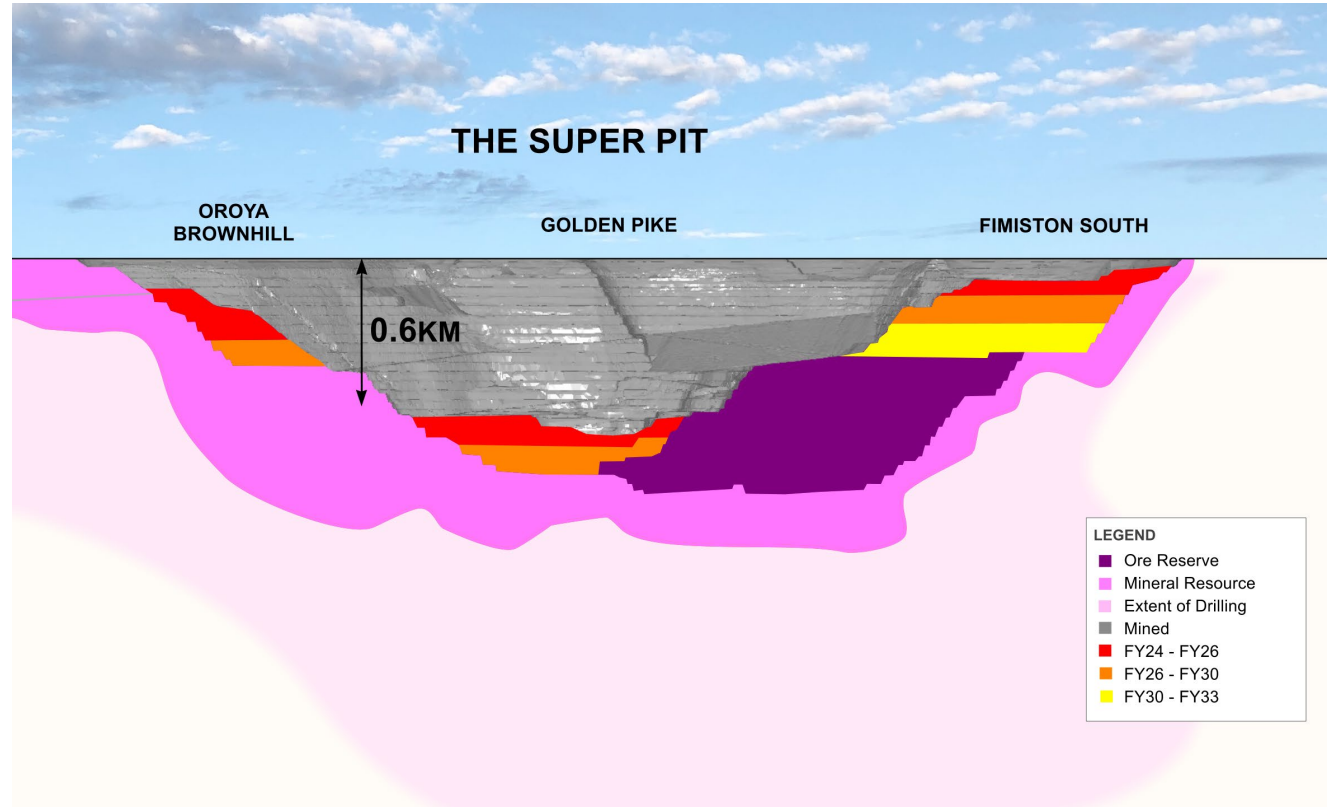
Oroya Brownhill (East Wall) cutback economics

- 135Mt total material movement
- Enables access to ~1.6Moz gold (1.2Moz Golden Pike North and 0.4Moz OBH cutback)
- Forecast ~150% return on cutback investment at A\$2,600/oz**



...and unlocks future pit working areas

- Well positioned to increase open pit volumes to feed mill expansion
- Large benches provide flexibility and higher productivities
- Further optimisation of Fimiston South to bring forward open pit high-grade ore



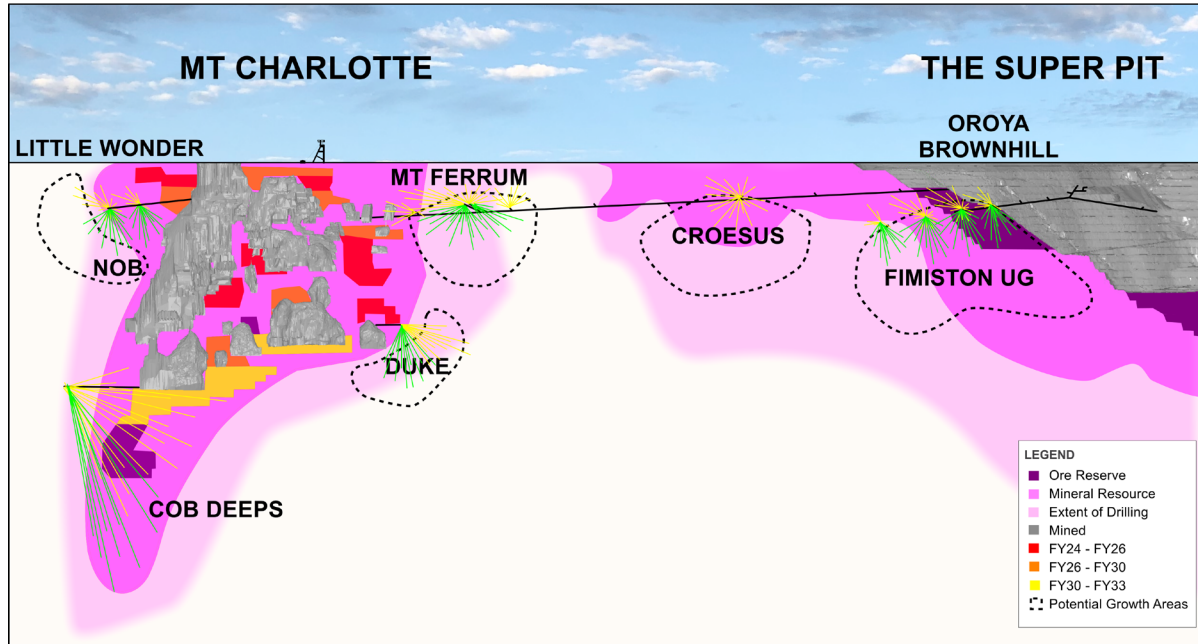


UNDERGROUND

Developing a world class underground

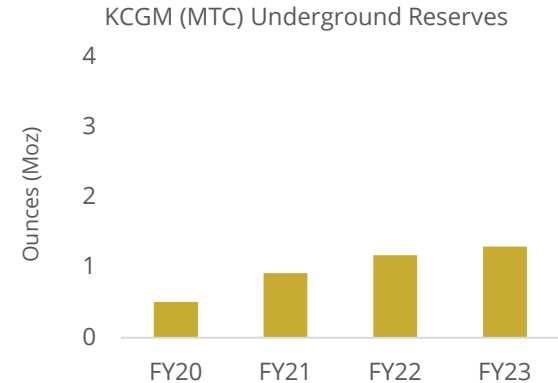
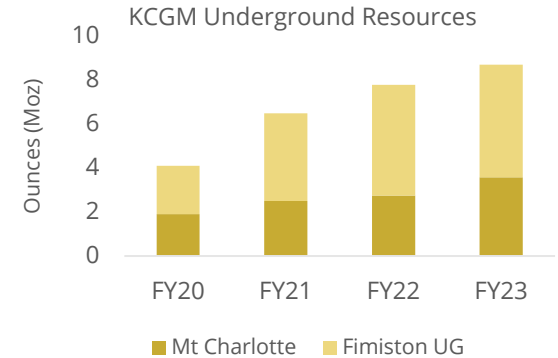


Underground Resource and Reserve growth



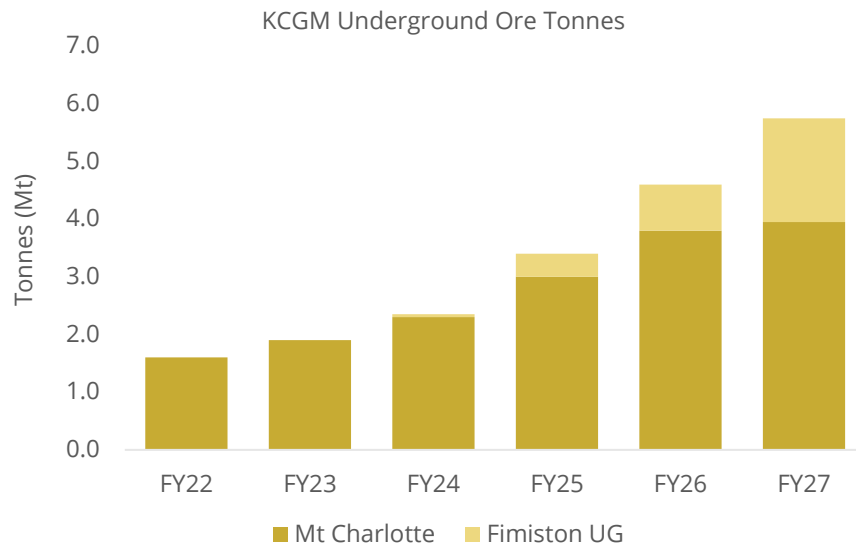
+10% YoY increase
Underground Mineral Resource
and Ore Reserve

Exploration success enables
platform for production growth



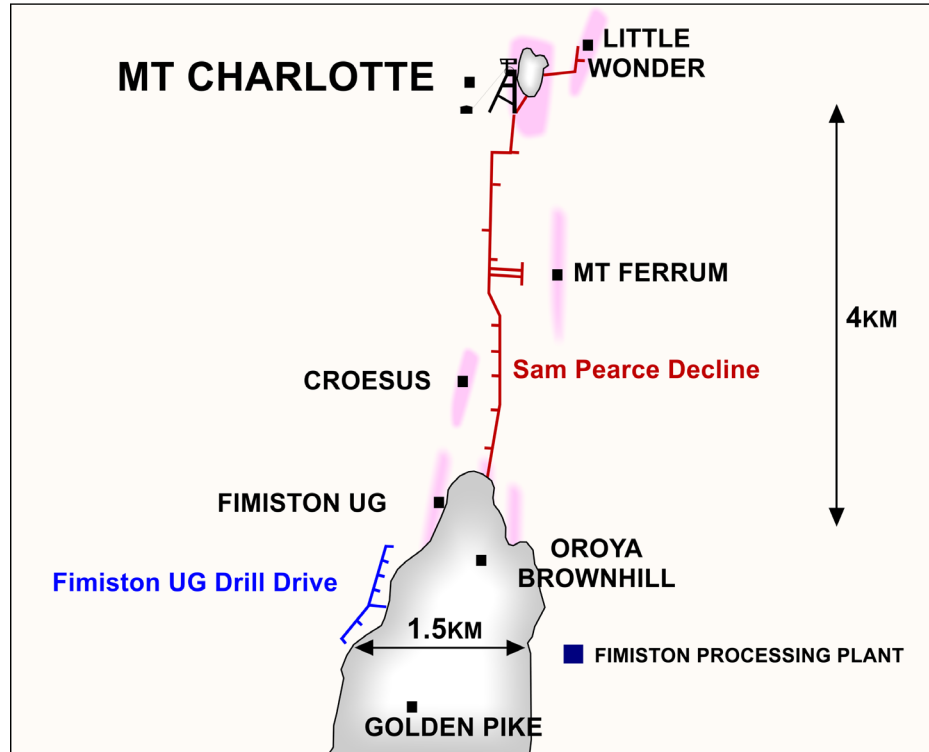
KCGM underground production growth

- Mt Charlotte continues to demonstrate strong growth in underground productivity (FY23: 1.9Mt ore)
- Priority for mill feed as part of grade displacement strategy (underground grade 2.0g/t vs stockpile feed 0.7g/t)
- Major infrastructure upgrades completed to support future production uplift:
 - Ventilation
 - 200% lift in capacity; 8 primary fans added
 - Dewatering
 - 4 pumps installed; 4 additional planned in FY24
 - Power
 - 3.5x increase with further increase in FY24



KCGM Underground Profile	FY23	FY24	FY25	FY26	FY27
Underground					
Mt Charlotte					
Fimiston UG					

Two distinct future underground mining areas



Mt Charlotte and Fimiston UG are distinct underground systems, with a separate decline and associated infrastructure (ventilation, dewatering, power)

- Mt Charlotte: ore hauled via Sam Pearce decline
- Mt Ferrum:
 - 350koz Mineral Resource; 50koz Ore Reserve
 - Potential opportunity to utilise Sam Pearce decline
 - Power installation ready for development
 - Fan chamber developed to add independent vent system from Mt Charlotte
- Fimiston UG: exploration drive currently; ore hauled via Fimiston UG drill drive

Northern Star Mining Services: a strategic advantage

- Our internal underground mining services provider
- Commenced at KCGM in November 2020, with immediate productivity improvements realised
- Highlights:
 - June 2023 PD 263 longhole 13,294m (vs industry average 5,000-6,500m)
 - FY23 Q4 +123K TKM per truck (vs industry average 80K-100K TKM)
 - In FY24 NSMS begins transition to larger Sandvik LH621i loaders to further increase load and haul efficiencies
 - Surface remote bogging to commence in 1Q FY24 for productivity improvement



NSMS Operations & Training Centre (above) provides industry leading mining simulator and Virtual Reality training

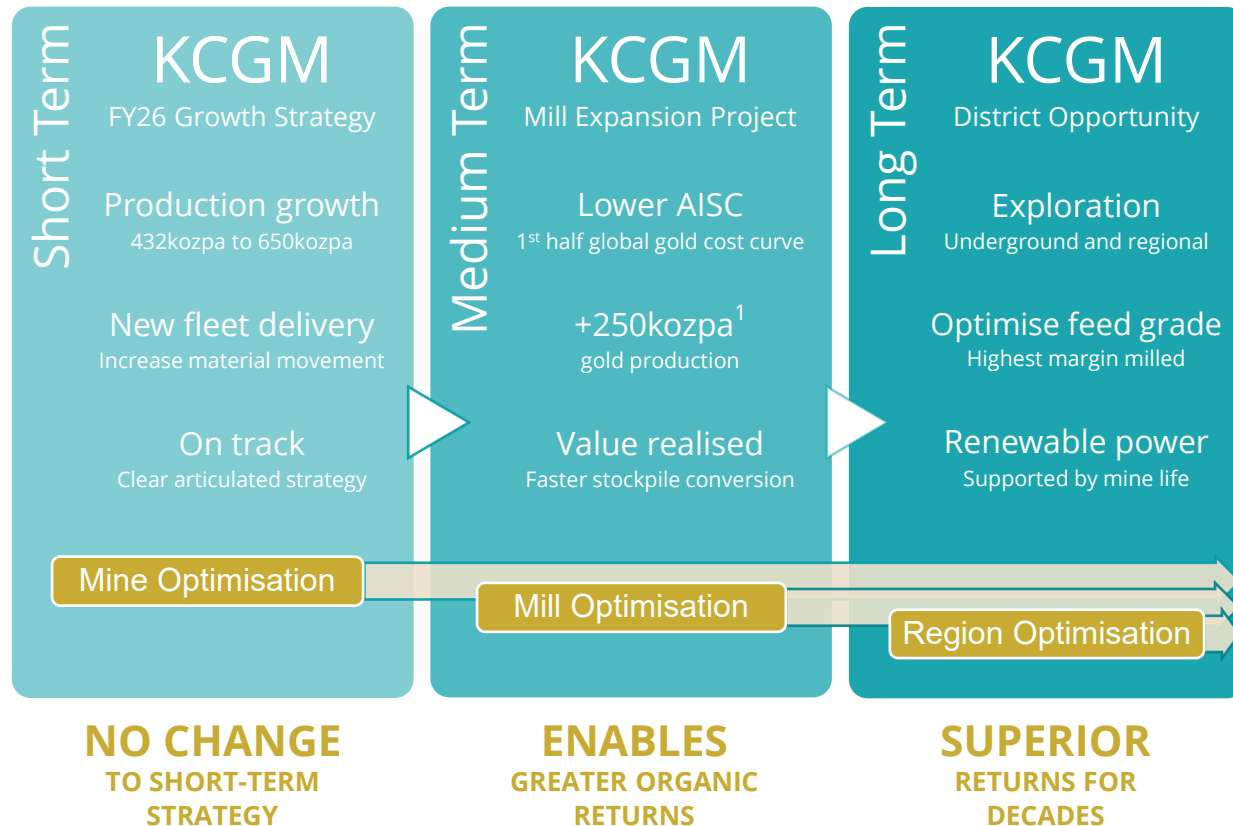
www.nsms.com



IN CONCLUSION



Greater organic future returns



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



KCGM: The most prominent gold address in Australia

- KCGM is a world-class asset that is significantly growing
- Continued outstanding long-term geological potential
- FY24 guidance:
 - Planned major mill shut schedule in 1Q and 3Q KCGM, CDO and Kal Ops
 - 1H < 2H (increasing grades at KCGM from Golden Pike North)
- KCGM mill expansion approved; construction commenced
- Only 2.5 years of ownership under one Australian company who is nimble and focused on long-term shareholder returns

FY24 Group guidance

FY24 GUIDANCE	UNITS	KALGOORLIE	YANDAL	POGO	TOTAL*
Gold Sold	koz	820 - 900	520 - 570	260 - 280	1,600 - 1,750
AISC	A\$/oz	1,730 - 1,780	1,655 - 1,700	1,900 - 2,015 (US\$1,270-1,350)	1,730 - 1,790
Growth Capital Expenditure	A\$M	890 - 960 Includes \$525M KCGM Mill Expansion	205 - 225	52 - 60 (US\$35-40)	1,150 - 1,250
Exploration	A\$M				150

% OF GROUP CAPEX	PRODUCTION CENTRE	MAJOR GROWTH OPTIONS
44%	Kalgoorlie	KCGM Mill Expansion, primarily on enabling works (process plant, 33kV network upgrade, borefield upgrade) and major equipment
20%	Kalgoorlie	Sustaining waste material movement at KCGM, which unlocks high grade Golden Pike North and Fimiston South ore for processing in the subsequent years; Mt Charlotte UG mine development; tailings dam lift
8%	Yandal	Pre-production of Orelia open pit and establishment of Wonder underground as high-grade feed sources for the expanded Thunderbox mill
6%	Kalgoorlie	Pre-production of Porphyry underground and Wallbrook open pit as feed sources for Carosue Dam Operations
4%	Pogo	Pogo UG mine development, UG capital drilling and assays

*Includes A\$3-5M of corporate investment. AISC and Capital Expenditure converted at a currency using AUD:USD = 0.67.

Delivering on our clearly defined 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



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