



Strong production and cashflow today

A clear pathway to delivering substantial increases in production and mine life

2017 Precious Metals Summit Beaver Creek – September 2017 / Peter Cash, Chief Executive Officer



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Note: All USD amounts referred to in this presentation are AUD converted at a rate of AUD/USD 0.80.

Investment Overview

Debt-free Australian gold miner, currently producing ~80,000oz pa with strong cash generation

Guidance of 41-43,000oz at AISC of US\$1088-1112/oz for six months to 31 Dec 2017

Market cap: US\$109m at US\$0.14 a share

3Moz Resource inventory to underpin significant increase in production and mine life – expansion studies complete



Assets and the Growth Strategy



Nullagine Operations

- ▶ Evolving mining strategy
- ▶ Investing in future growth

Exploration

- ▶ US\$17.6M exploration commitment for 2017
 - ▶ Outstanding success to date



Positive Expansion Study

- ▶ Unlock +850,000oz fresh ore Resource
- ▶ Processing breakthrough

Moving Underground

- ▶ First UG resource and positive Scoping Study at Bartons
 - ▶ Assessment of UG potential at other deposits underway



Engine Operations – Production and Cash-Flow Today

located in the East Pilbara region of Western Australia

60%-owned land-holding covering 264km² of the highly prospective and under-explored Mosquito Creek Gold Belt

with a CIL ore treatment plant

generating operating cash-flow of US\$32.1M for CY2016

2017 production guidance of 75-80,000oz at AISC of US\$1088 - 1112/oz:

First half impacted by heavy rain, production forecast to return to steady-state rate in second half

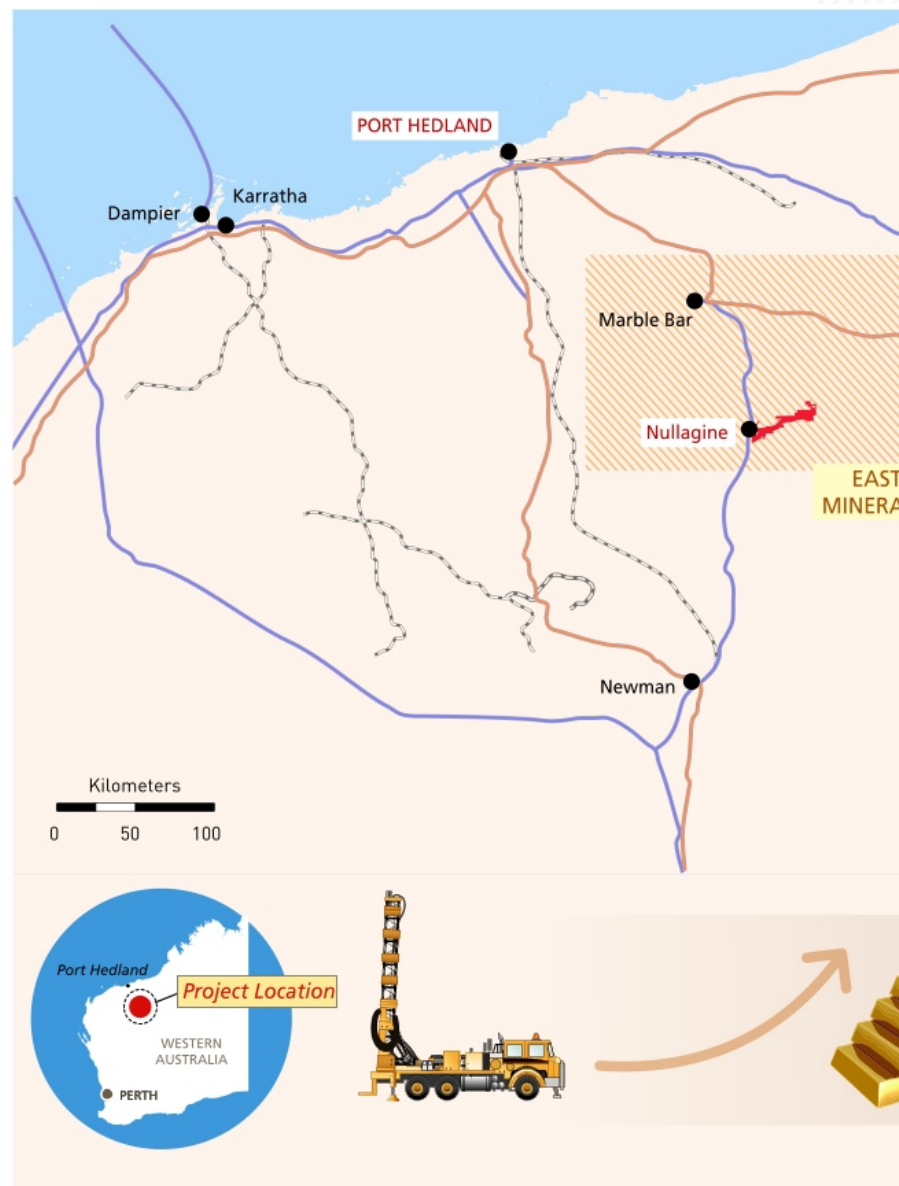
Guidance for six months to 31 Dec 2017 of 41-43,000oz at AISC of US\$1088 - 1112/oz

Company has switched to mining larger-scale, longer-life deposits

Strategy aimed at establishing more sustainable, lower cost ore reserves, e.g.

Bartons large-scale pit cut-back (currently underway)

Majuba deposit (set for mining in the 2H CY2017)



Engine Project – Extensive Organic Growth Opportunities

ing Centres defined with +40km
length and +30 targets

of over 150,000m YTD in 2017
0,000m completed in 2016

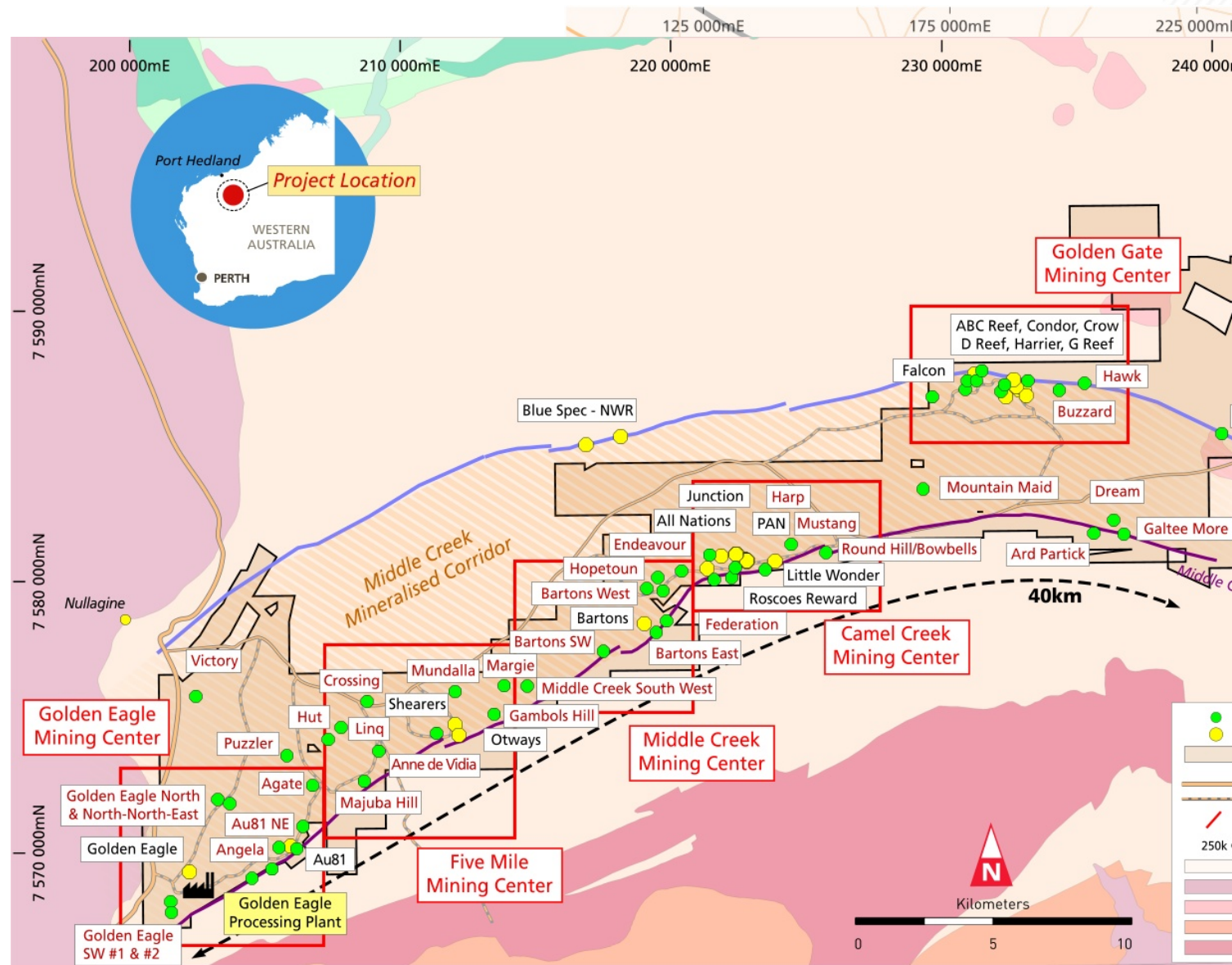
us targeting incremental oxide

mine, shallow targets including
sions adjacent to existing pits

brownfields discoveries

ate success with 48% increase in
erves (after mining depletion) to
as at 31 Dec 2016

oxide exploration is continuing
ively, Millennium is also
sing an exciting new growth
nity at Nullagine...



Mineral Ore – The New Growth Opportunity

Mineral Resource includes ~850,000oz contained in fresh ore (at December 2016)

Metallurgical testwork has delivered a major breakthrough, showing that portions of the fresh ore can be processed in existing CIL plant and the rest in a conventional flotation circuit

Recovery of up to 90% on fresh material

Feasibility Study confirmed integrated CIL and flotation circuit as preferred plant configuration:

Delivers maximum flexibility in processing all ore types – throughput of 1.5Mtpa achievable when processing fresh ore only

Increased throughput delivers significantly lower operating costs = lower cut-off grades

Test work shows that precious metals sulphide concentrate of up to 60g/t Au can be produced

Capital cost estimated in the range of US\$32.0 - 36.8M (including contingency)

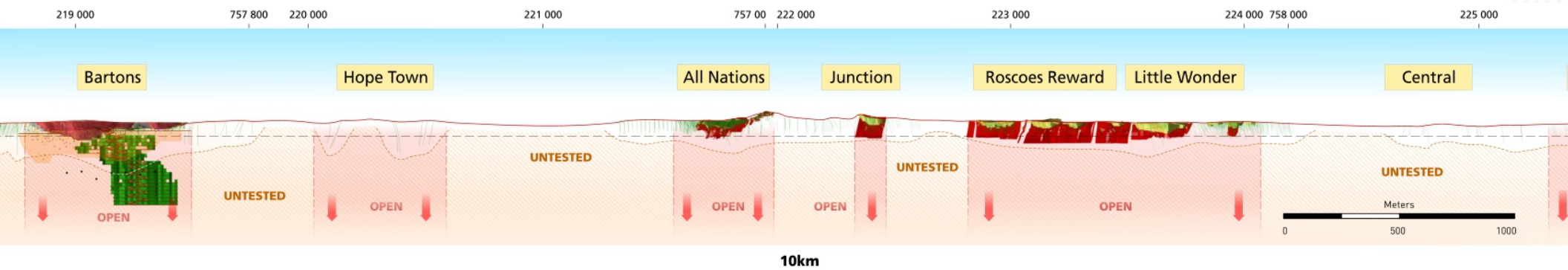
Optimisation of entire Mineral Resource inventory underway to underpin next stage of expansion

Feasibility Study targeted for completion in December 2017 Quarter



Results offer potential to unlock value from the existing 850,000oz of fresh material in current Mineral Resource inventory

Going Deeper at Nullagine – Fresh Ore, Fresh Opportunities



Opportunity for substantial increase in fresh ore Resource with extensive mineralisation beneath all known resources

Extensive drilling program already underway to grow fresh ore inventory below several deposits

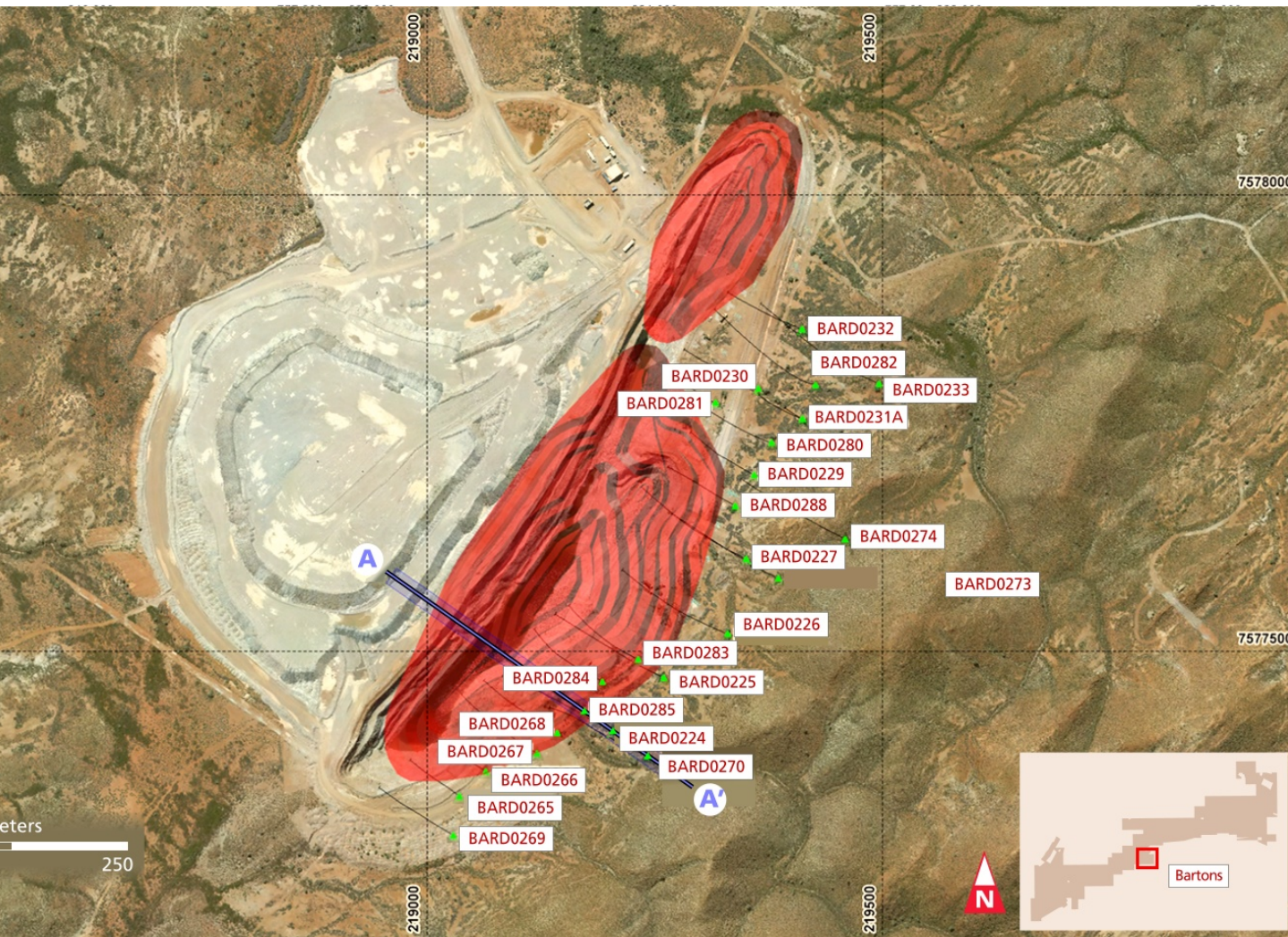
Positive Scoping Study completed for Bartons Underground mining operation, with studies underway on additional UG deposits

Leading global mining consultants Entech engaged to undertake all underground mining studies


First-pass evaluation also shows that some fresh ore can be accessed by larger open pit cut-backs



Bartons – The First Significant Fresh Ore Opportunity



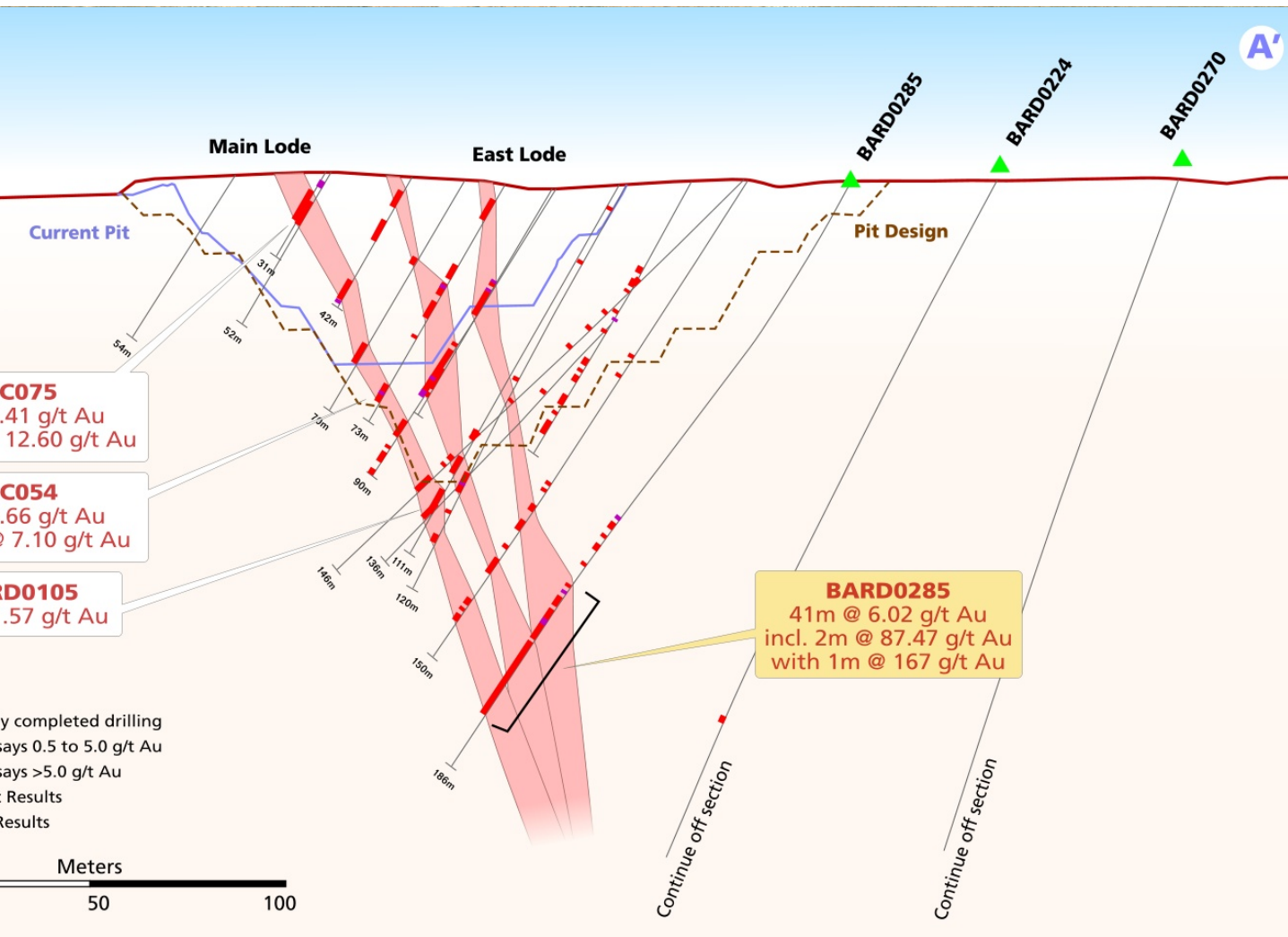
testwork has confirmed that deeper fresh ore at Bartons is free-milling and can be treated through the existing CIL plant with recoveries of up to 90%



▶ First pass results from deep drilling provided significant encouragement to pursue cut-back and assess underground potential:

- ▶ 16m @ 5.91g/t incl. 2m @ 30.1g/t
 - ▶ 8m @ 11.56g/t incl. 3m @ 29.1g/t
 - ▶ 6m @ 12.69g/t incl. 2m @ 30.1g/t
 - ▶ 4m @ 18.6g/t incl. 2m @ 36.1g/t
 - ▶ 8m @ 9.13g/t incl. 3m @ 22.1g/t
- ▶ Major pit cut-back now underway to access ~25,000oz of high-grade material (~2.15g/t Au) – exceeds current run-of-mine grade

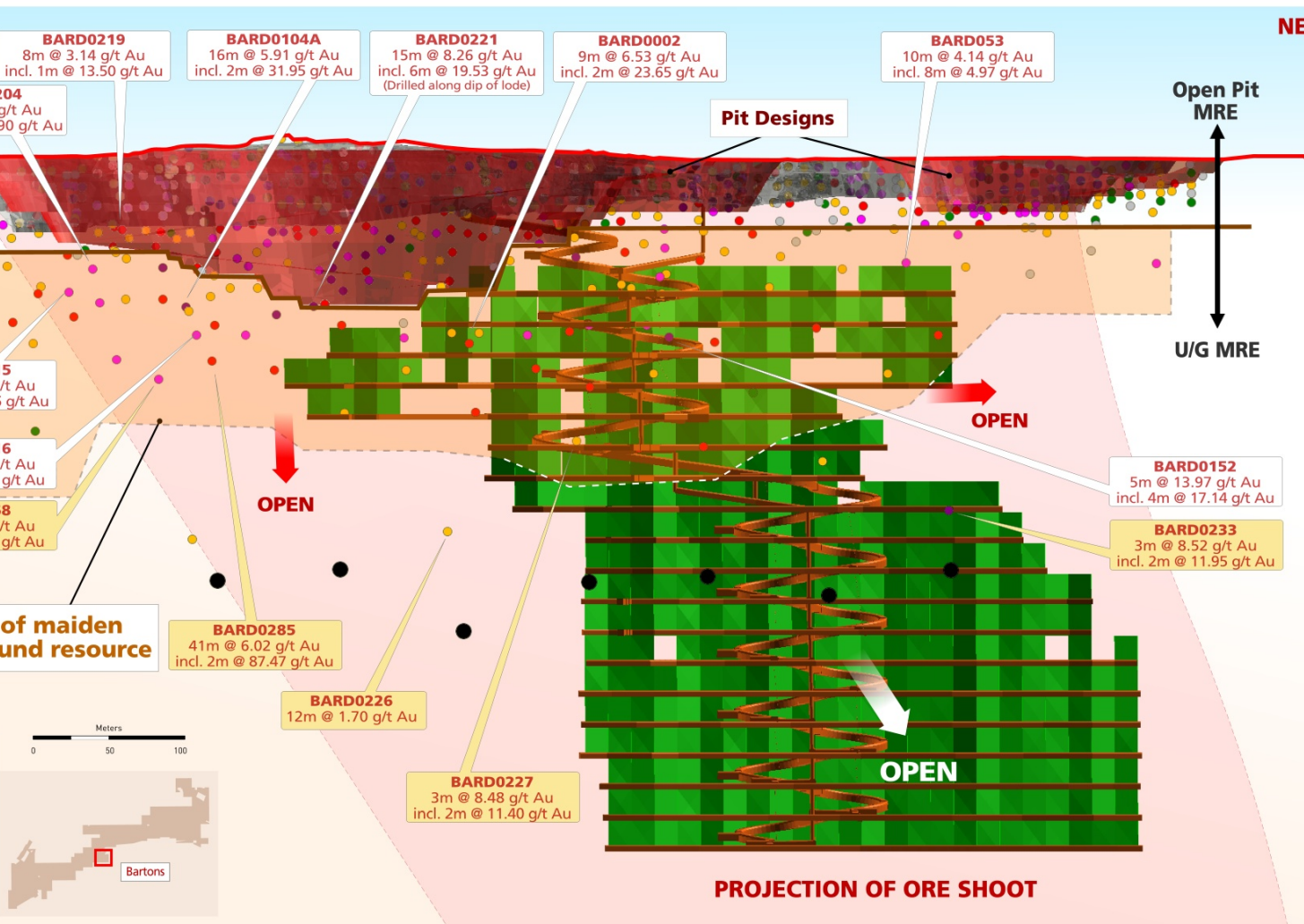
Bartons – The First Significant Fresh Ore Opportunity



- ▶ Outstanding thick, high-grade intercept from recent deeper drilling, including a standout intercept of:
 - ▶ **41m at 6.02g/t Au, including 87.47g/t and 1m @ 167g/t**
- ▶ All holes have successfully intersected the main ore zone and continue to define extensions of the mineralisation both along strike and down-plunge
- ▶ **Results confirm potential to establish underground mining operation**

Recent drilling has demonstrated that Bartons mineralised system extends at depth, with three steeply-plunging lodes coalescing at depth

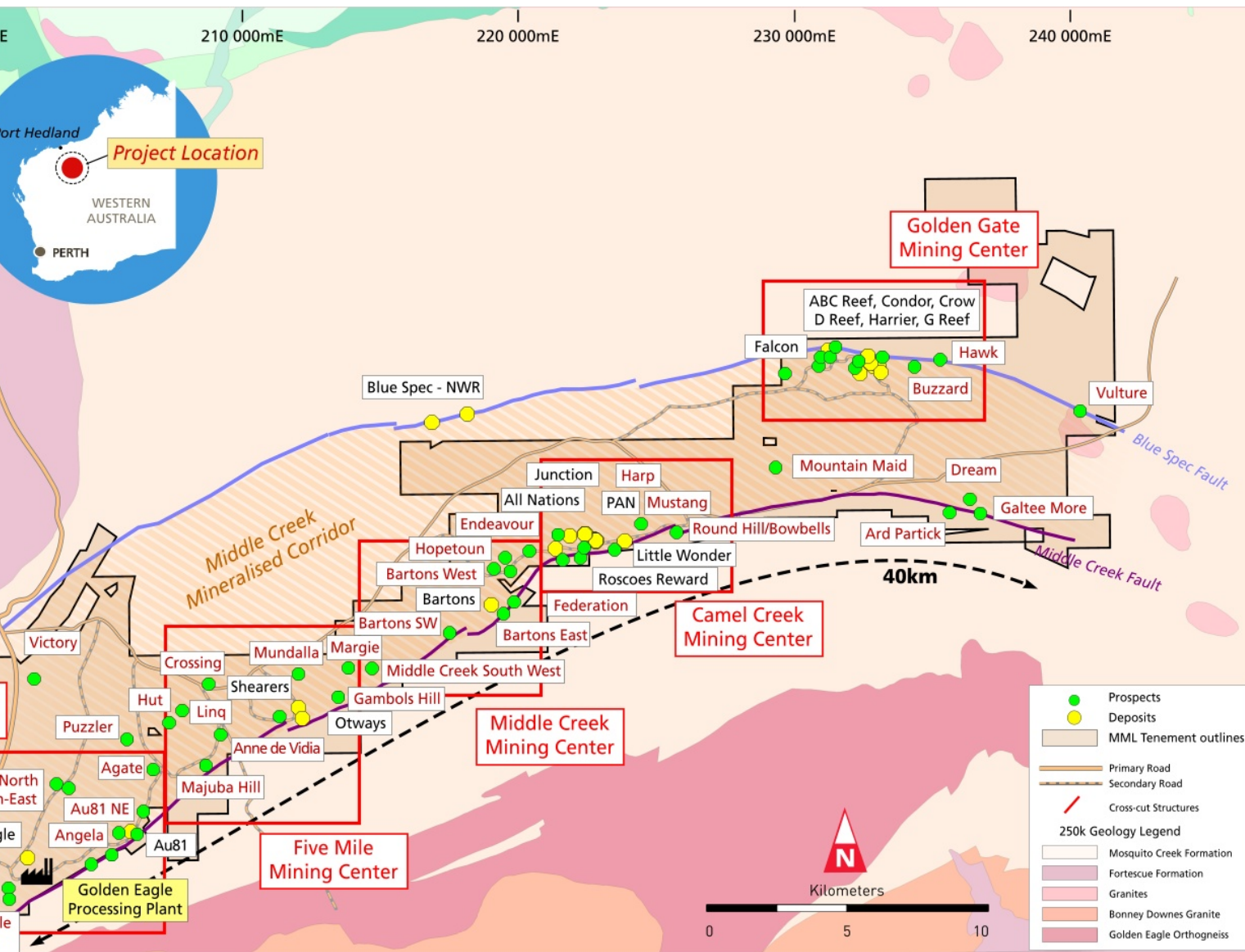
Bartons – The First Significant Fresh Ore Opportunity



- ▶ Phase 1 underground Mineral Resource
 - ▶ *475,900t at 5.3g/t Au for 80,400g Au*
- ▶ Mineralisation open at depth and strike
- ▶ Positive Scoping Study completed, Feasibility Study now underway
 - ▶ *In-fill drilling program underway to upgrade Resource status*
- ▶ Aiming to commence underground development in Q1 2018
- ▶ Further drilling to be conducted to define underground drilling platforms:
 - ▶ *Expected to generate significant savings compared with drilling surface*

Bartons is rapidly emerging as Millennium's first underground mining opportunity at Nullagine

Oxide Exploration – Remains a Key Priority



- ▶ Oxide exploration has been highly successful and will continue to remain a key priority
- ▶ Drilling to grow inventory as mine life continues to decline, thick, high-grade intercepts across multiple prospects
- ▶ Exploration budget recently increased from US\$11.5M to \$17.6M for CY2017
- ▶ +200,000m of drilling planned with up to 5 rigs operating throughout the year
- ▶ 4 RC Rigs and 1 diamond drill now on site

Corporate Overview

ASX Code

MOY

Cash & Bullion at 30 June 17

US\$22.2M

Shares on Issue

80.9M

Debt

NIL

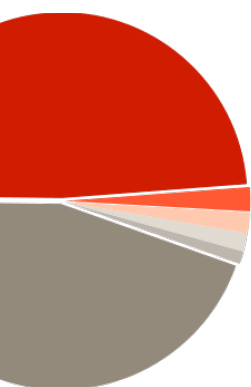
ASX Index

All Ords

Market Cap (US\$0.14/share)

~US\$109M

Key Shareholders



- IMC Group - **48.6%**
- Oppenheimer Funds - **2.1%**
- Old Mutual - **1.8%**
- Mr David Teoh - **1.6%**
- Mr Andrew L Rouse - **1.1%**
- Other - **44.8%**



Board

| | |
|--------------|-----------------|
| Greg Bittar | Non Executive C |
| Peter Lester | Non Executive |
| Tim Kennedy | Non Executive |
| Michael Chye | Non Executive |

Management

| | |
|------------------|----------------------|
| Peter Cash | Chief Executive |
| Dean Will | Chief Operating |
| Stacey Apostolou | Chief Financial |
| Asareh Mansoori | General Manager - Op |

Millennium – Key Investment Takeaways



The Gold Project generating consistent production and cash-flows (75-80koz for CY 2017)

Balance sheet maximises free cash-flow and minimises risk – no debt

Redefined mining strategy delivering benefits – focusing on larger, more sustainable ore sources

Expansion study completed – confirms potential to unlock +850,000oz fresh ore inventory

Underground resource and Scoping Study completed – more underground deposits to

Company now moving rapidly to the next level – unlocking the significant value of the fresh ore



Mineral Resource Estimates



December 2016 Mineral Resource (including Fresh Ore ounces)

| Mineral Resource Category | Million Tonnes (Mt) | Grade (g/t Au) | Thousand Ounces (Koz) | Incl. Ounces in Fresh Ore (Koz) |
|---------------------------|---------------------|----------------|-----------------------|---------------------------------|
| Measured | 11.02 | 1.3 | 459.7 | 283 |
| Indicated | 11.37 | 1.3 | 470.1 | 270 |
| Inferred | 9.37 | 1.2 | 350.6 | 294 |
| Total | 31.76 | 1.3 | 1,280.4 | 847 |

Cartons Underground Mineral Resource

| Mineral Resource Category | Tonnes (000's) | Grade (g/t Au) | Ounces (000's) |
|---------------------------|----------------|----------------|----------------|
| Indicated | 62.0 | 5.1 | 10.1 |
| Inferred | 413.9 | 5.3 | 70.4 |
| Total | 475.9 | 5.3 | 80.4 |

Competent Person's Statement



Information in this presentation relating to exploration results from the Nullagine project has been extracted from various Company announcements and are available to view at www.millenniumminerals.com.au.

Information in this presentation relating to Mineral Resources or Ore Reserves is extracted from the announcements titled:

Resources and Ore Reserve Statement dated 15 February 2017; and

strategy gains momentum with maiden underground Resource dated 7 August 2017,

available to view at www.millenniumminerals.com.au.

Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and that all material assumptions and technical parameters underpinning the results and estimates in the relevant market statement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's statements presented have not been materially modified from the original market announcement.



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