

Australian gold producer 90,000-100,000 CY19

- ▶ Rising grades, rising production
- ▶ +100,000ozpa targeted production
- ▶ New discoveries driving growth

February 2019 Corporate Update



Operating the Nullagine Gold Project in the world-class Pilbara region of Western Australia

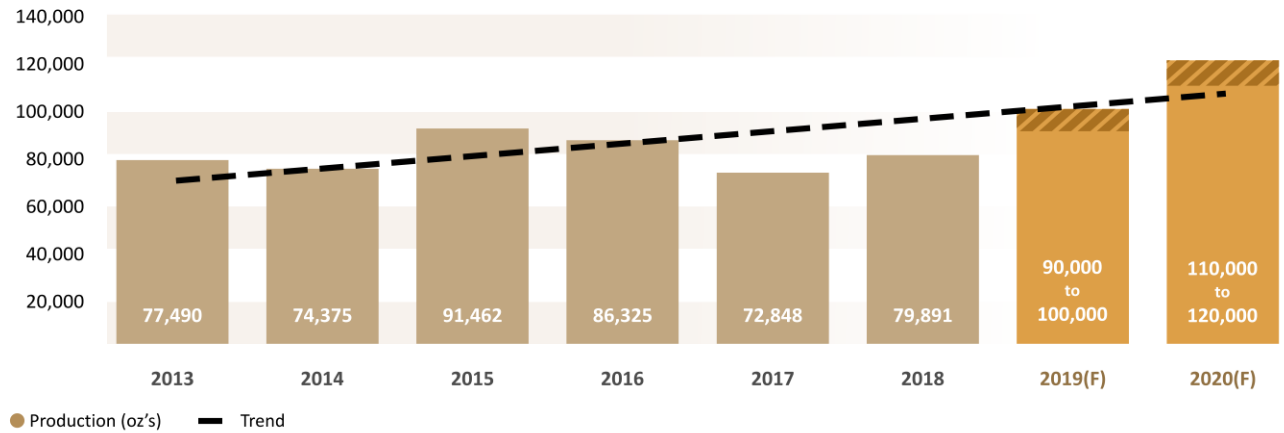
Production guidance for CY19 of 90-100koz at AISC A\$1300-1375/oz

Targeting +100,000ozpa annualised production run-rate by 2020 through increased head grade

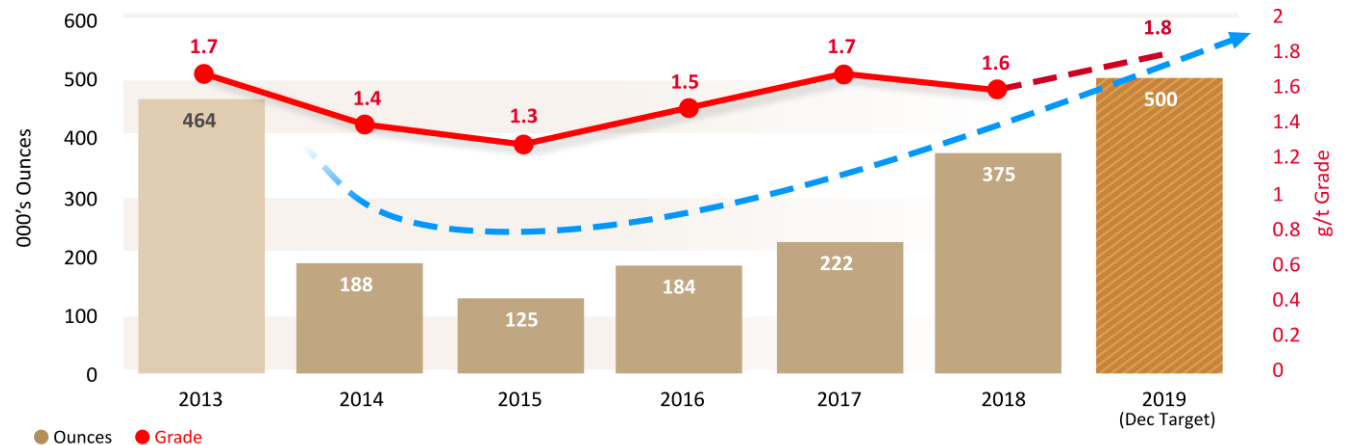
Growing Reserve inventory – 375,000 ounces; aim to increase to +5 years mine life by end CY19

Outstanding run of recent exploration success delivering breakthrough discoveries – focus on grade

Production (oz's)



Reserve History



Australia's New 100,000ozpa Gold Producer



✓ New mining strategy targeting +100kozpa run-rate

- ▶ Production now at 90-100kozpa, up from historical rate of 75-80kozpa
- ▶ Mining larger scale, longer life open pit deposits
- ▶ First UG mine at Bartons now delivering high-grade ore (+4g/t)
- ▶ Aim to increase head grade through additional UG development
- ▶ Development of Golden Gate UG targeted to commence Q3 2019; multiple other targets to follow

✓ Sulphide Processing plant – unlocking additional high grade deposits

- ▶ Low CAPEX/OPEX addition to current CIL plant to process significant sulphide Resources
- ▶ Key plant and equipment ordered – commissioning April 2019
- ▶ Breakthrough low-cost Stage 2 upgrade to treat arsenopyrite-dominant ore – commissioning early 2020

✓ Exploration delivering new breakthrough discoveries

- ▶ Major ongoing exploration commitment – initial target +5-year mine life
- ▶ New geological approach unlocking significant new high-grade discoveries including Golden Eagle
- ▶ Systematic approach targeting additional high grade underground ore bodies



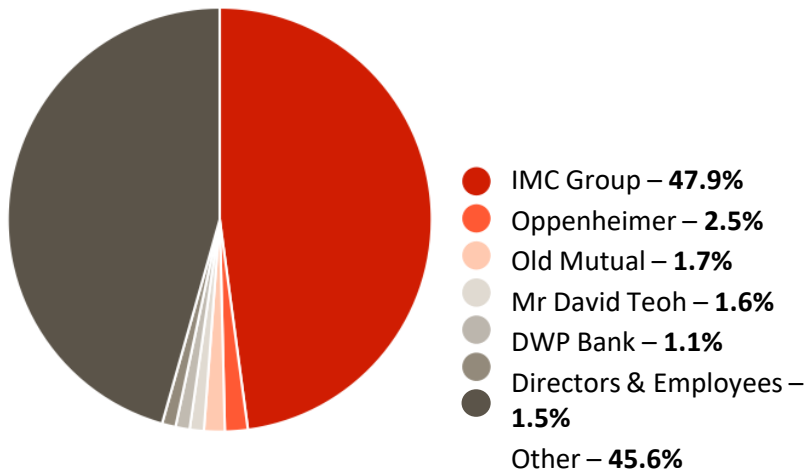
Corporate Overview



Shares on Issue	Market Cap (A\$0.22/share)
795M	~A\$170M
Cash, bullion and available financing facilities (31 Dec 18)	Debt
A\$18.2M	A\$5M
ASX Index	ASX Code
All Ords	MOY



Key Shareholders



Board and Management

Greg Bittar	Non-Executive Chairman
Peter Lester	Non-Executive Director
Tim Kennedy	Non-Executive Director
Bruno Lorenzon	Non-Executive Director
Peter Cash	Chief Executive Officer
Ray Parry	Chief Financial Officer
Michael Poepjes	BD and Technical Services
Jason Robertson	General Manager Operations

Key Consultants and Contractors

- Ausenco**
- Western Plant Hire**
- GBF Underground**
- Redline Drill & Blast**
- Rivet Mining Services**
- KPS Power Generation**
- Strike Drilling**
- Castle Drilling**

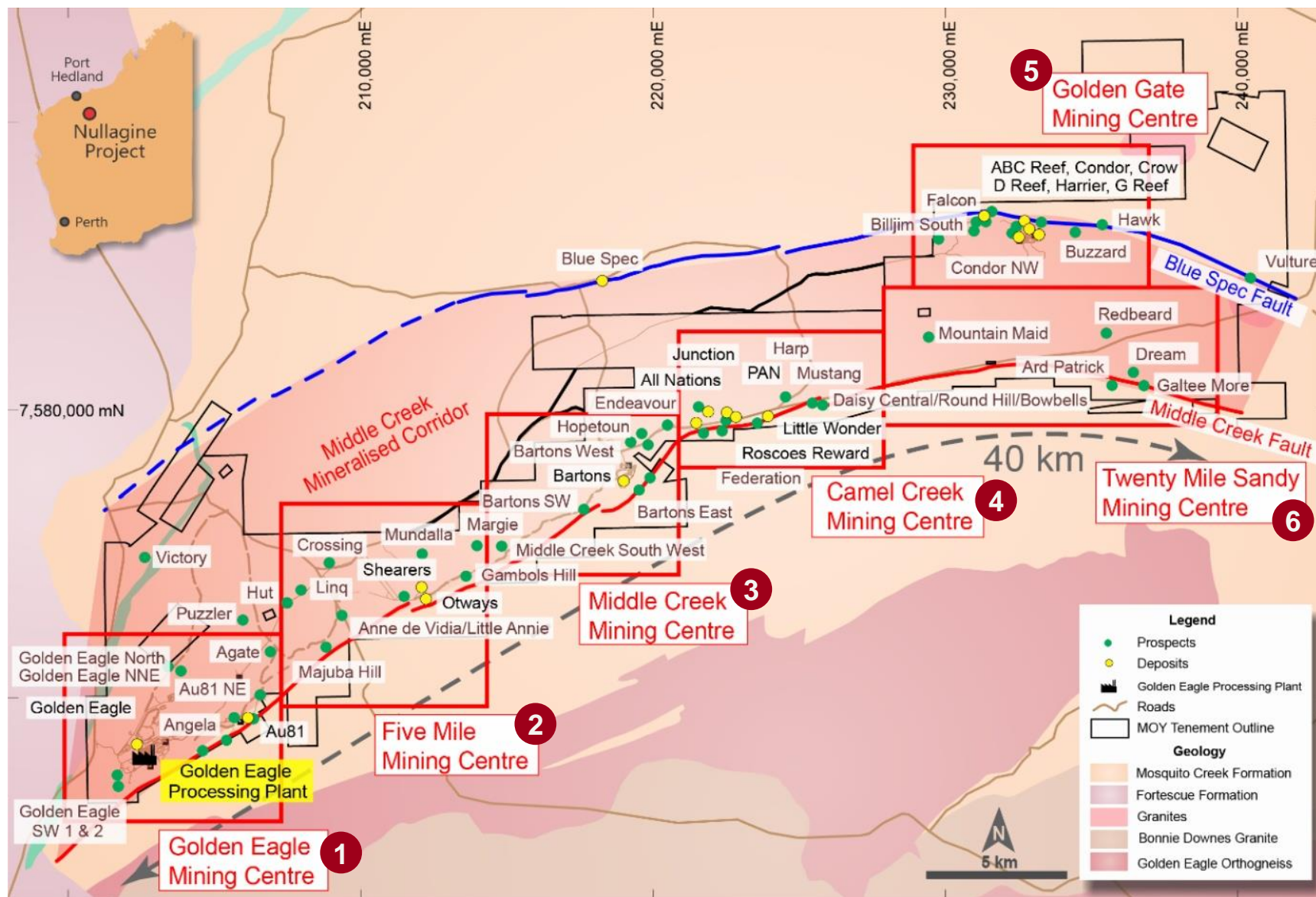


**NULLAGINE
OPERATIONS**

Nullagine Operations – Overview



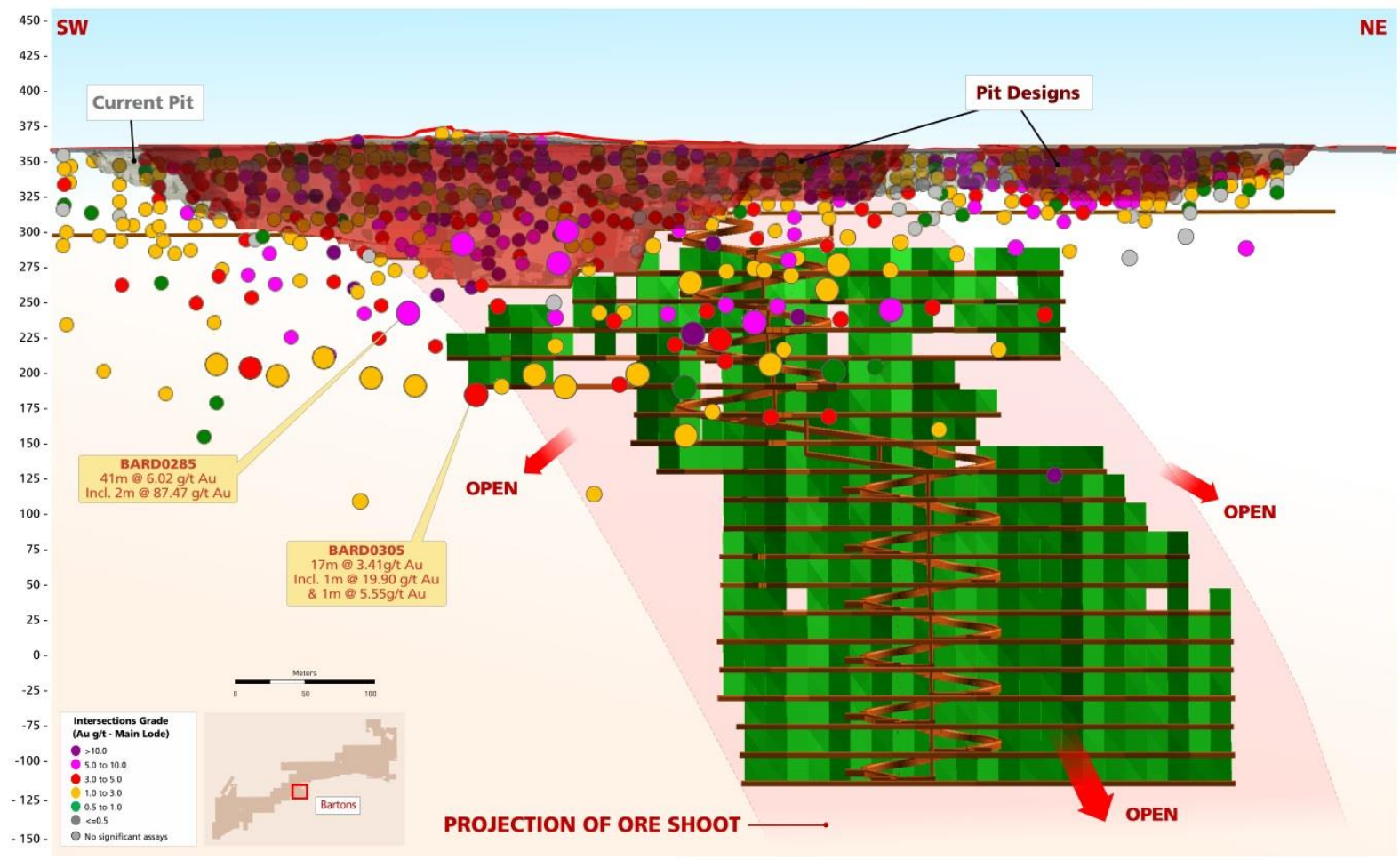
- ▶ Six operating Mining Centres
 - +40km strike length and +30 targets
- ▶ Rising production and cash-flow:
 - Production for CY2019 expected to be sourced primarily from Golden Eagle
 - Additional high grade open pit feed coming from the Golden Gate Mining Centre
 - Supplemented by high-grade underground feed from Bartons
- ▶ Updated Ore Reserve now standing at 375k ounces
 - Aggressive exploration program to focus on lifting Reserves to + 500k ounces by 31 Dec 2019
 - Focus on extending higher grade sulphide deposits at depth to support future underground





**MOVING
UNDERGROUND**

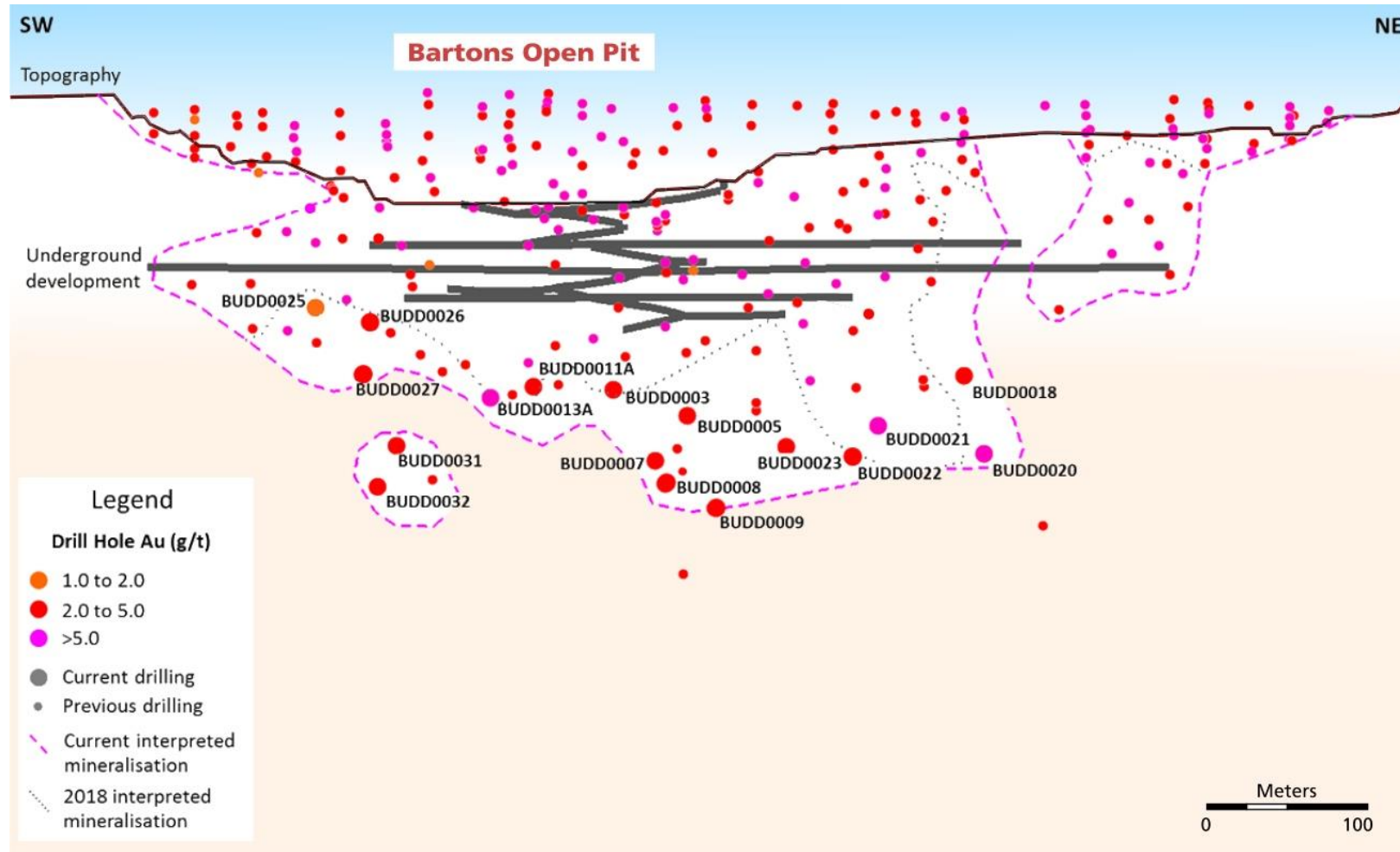
Bartons – The First Underground Mine at Nullagine



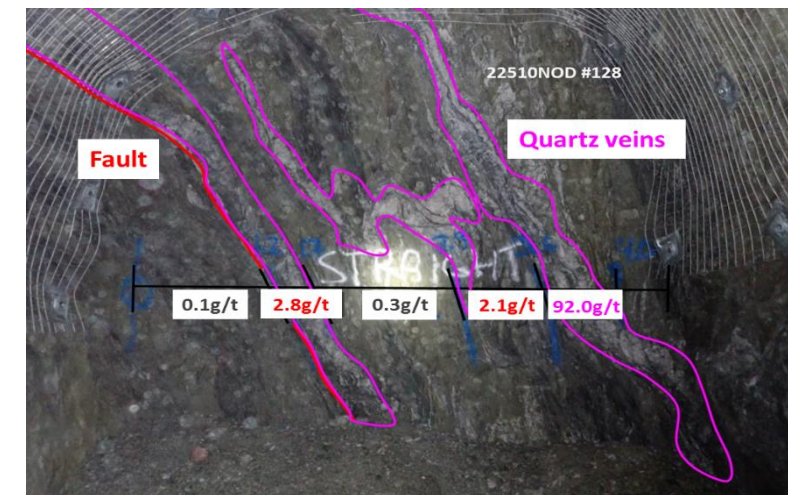
- ▶ Resource of 750,000t @ 4.1g/t Au for 99,400oz
- ▶ Reserve of 676,000t @ 3.0g/t Au for 65,400oz
- ▶ Mineralisation open at depth and along strike
- ▶ All deeper holes have successfully intersected the main ore zone and continue to define extensions
- ▶ First phase underground drilling completed targeting depth extensions
- ▶ Bartons Ore Reserve now extends ~ 300m from surface and is open at depth
- ▶ Second phase depth and strike extension planning underway

Deeper mineralisation at Bartons is free-milling and can be treated through the existing CIL plant with recoveries of up to 90%

Bartons – The First Underground Mine at Nullagine



- ▶ 300kt (15% of FY19 feed) @ 4g/t for 33koz produced (35% of FY19 ounces)
- ▶ A number of extensional drill targets identified - potential to further significantly expand the underground mine at depth below the current workings
- ▶ High-grade development ore now being processed
- ▶ High-grade stoving ore to commence Q1 2019



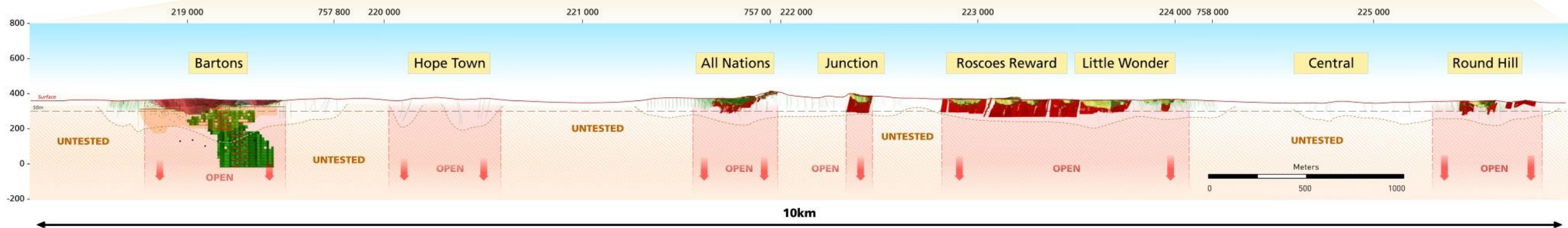
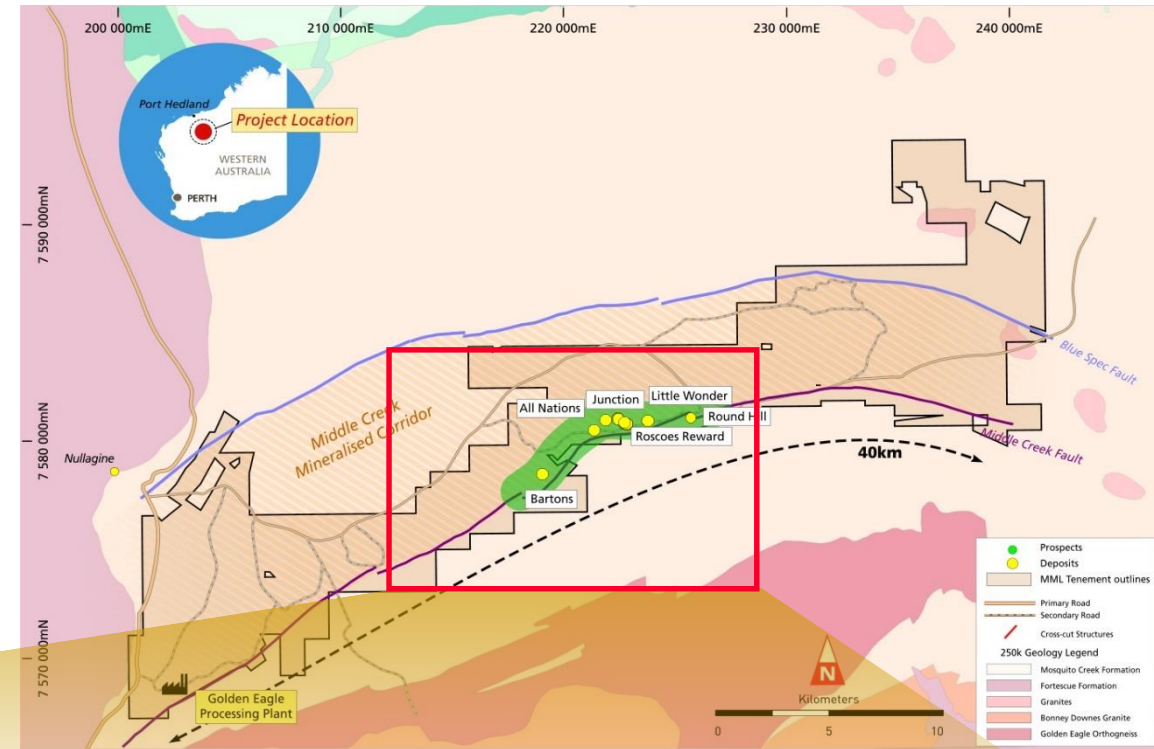
Millennium's first underground mine at Nullagine, with high-grade development ore now being processed

Underground Potential at Nullagine – Multiple Targets Identified

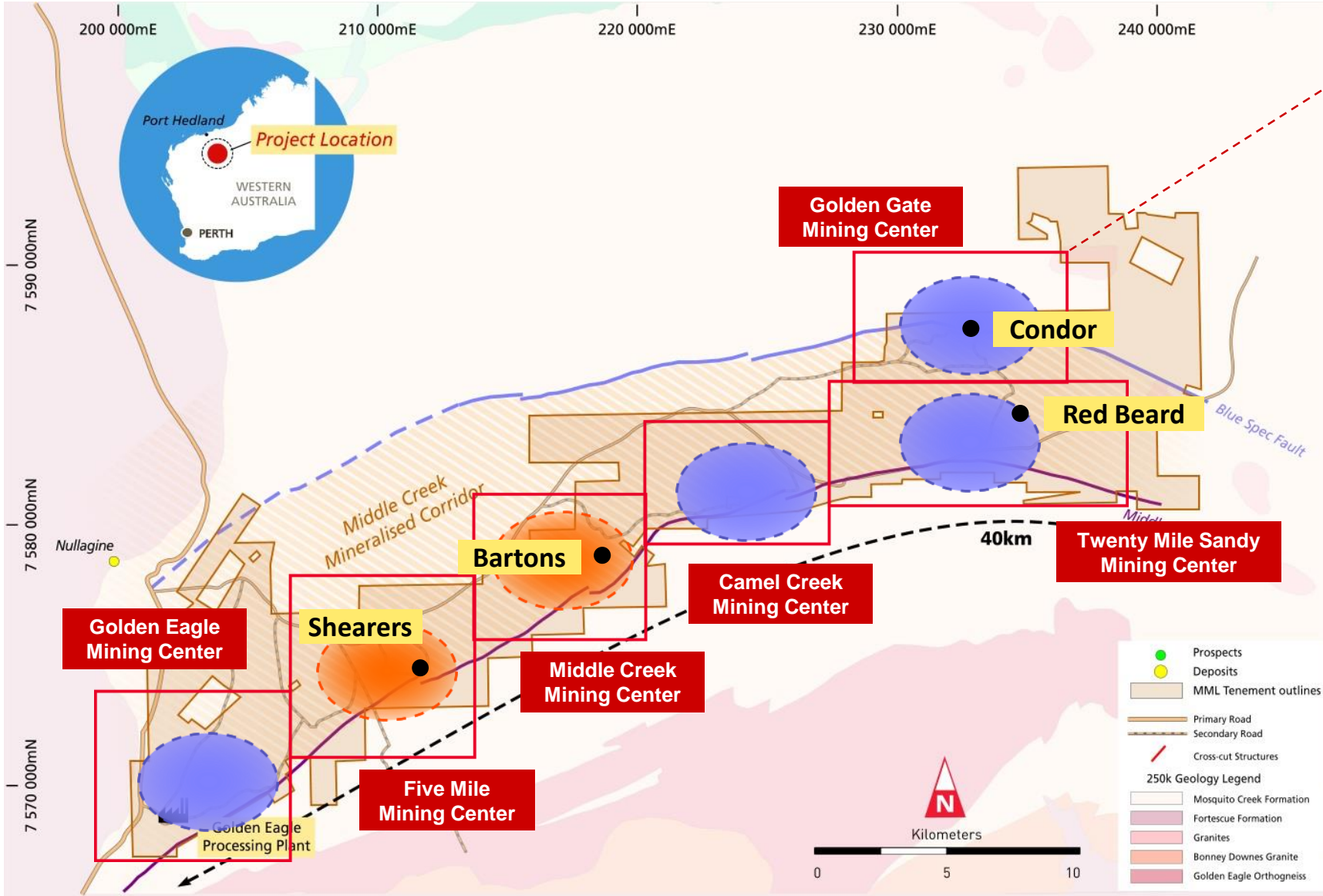


Potential for substantial increases in Mineral Resources beneath all known deposits:

- ▶ Minimal deeper drilling – only 11 out of 30 deposits tested at depth
- ▶ Extensive drilling program to test UG potential
- ▶ Maiden UG Ore Reserve for Golden Gate Mining Centre to underpin second proposed UG mine at Nullagine
 - ▶ 220,600t @ 3.8g/t Au for 27,100oz
- ▶ Studies commenced on several additional deposits



Additional Underground Targets – Pipeline of Organic Growth



Golden Gate Mining Centre
 Maiden UG Ore Reserve for Golden Gate Mining Centre to underpin second potential UG mine at Nullagine

Of the 30 deep targets identified at Nullagine, only 11 have been tested to date – all delivering highly encouraging results

- Free milling mineralisation at depth
- Sulphide mineralisation at depth

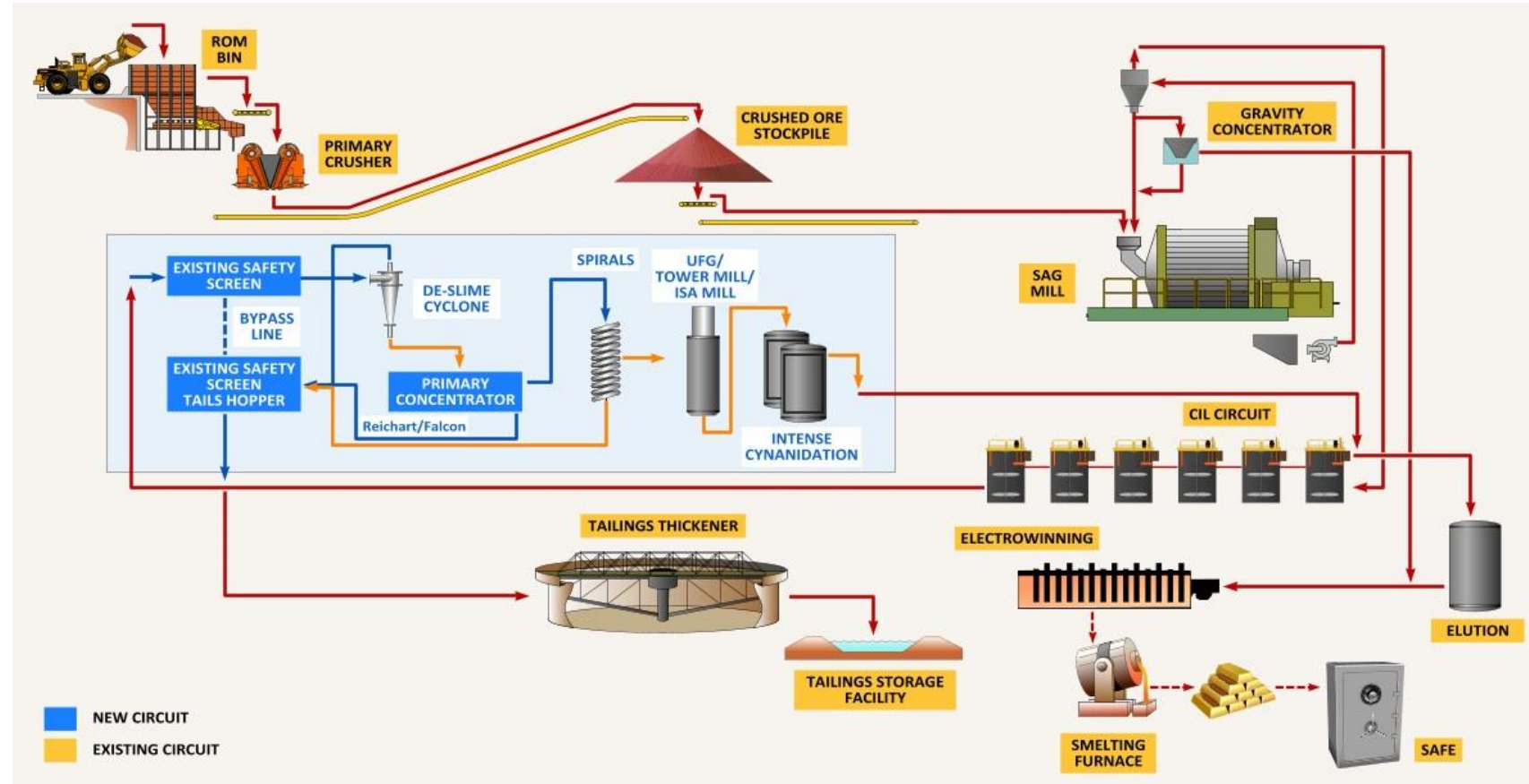


**POSITIVE
EXPANSION
STUDY**

Sulphide Resources – Processing Breakthrough



- ▶ Large sulphide resource inventory
- ▶ Processing of pyrite-dominant ore requires addition of a small (\$15M) modular concentrating circuit to the tail-end of the existing CIL plant
- ▶ Well-understood process
- ▶ Targeting commissioning of Stage 1 plant expansion in April 2019
- ▶ Opportunity to also process arsenopyrite-dominant ore through low-cost (\$5M) Stage 2 plant upgrade – commissioning early 2020

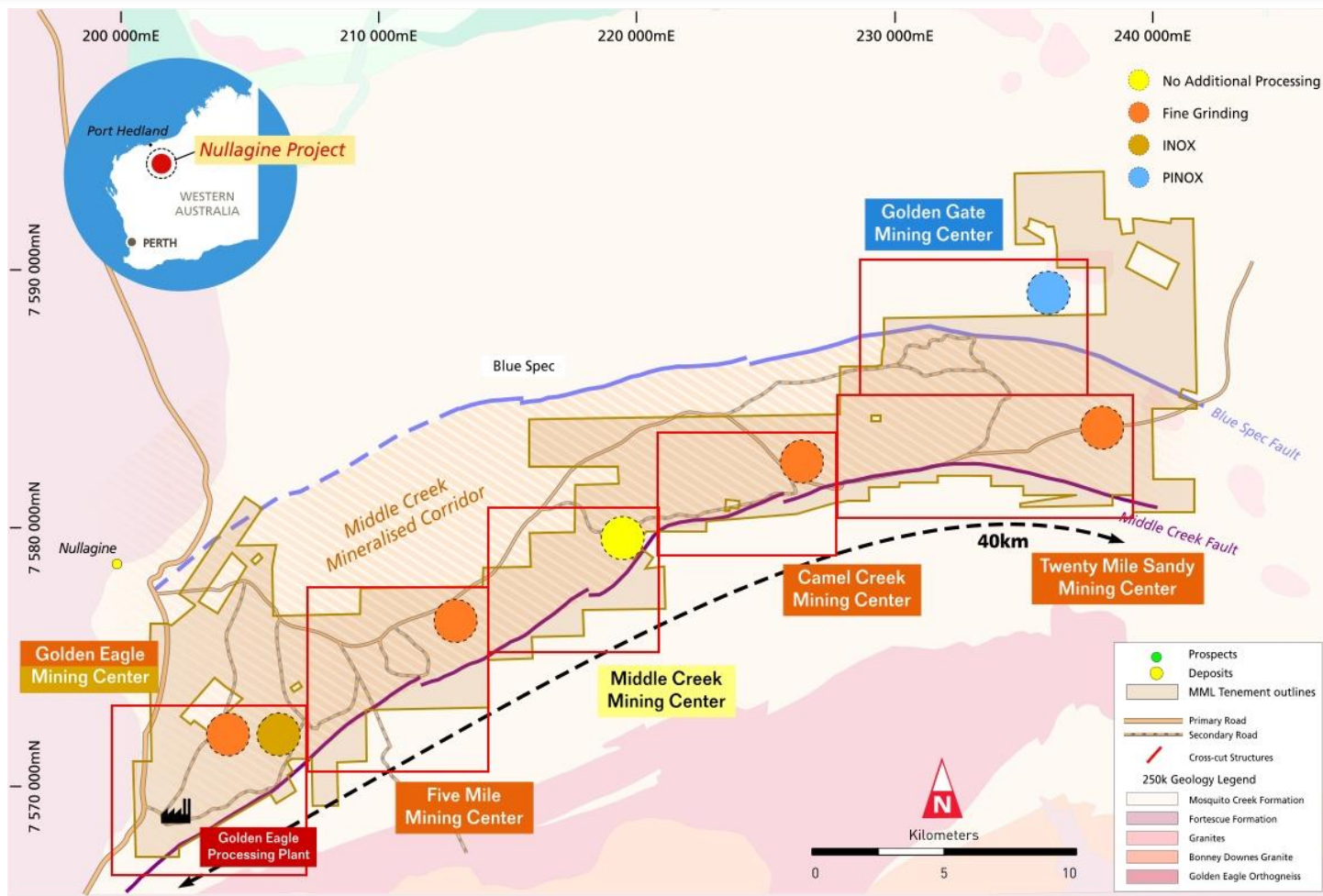
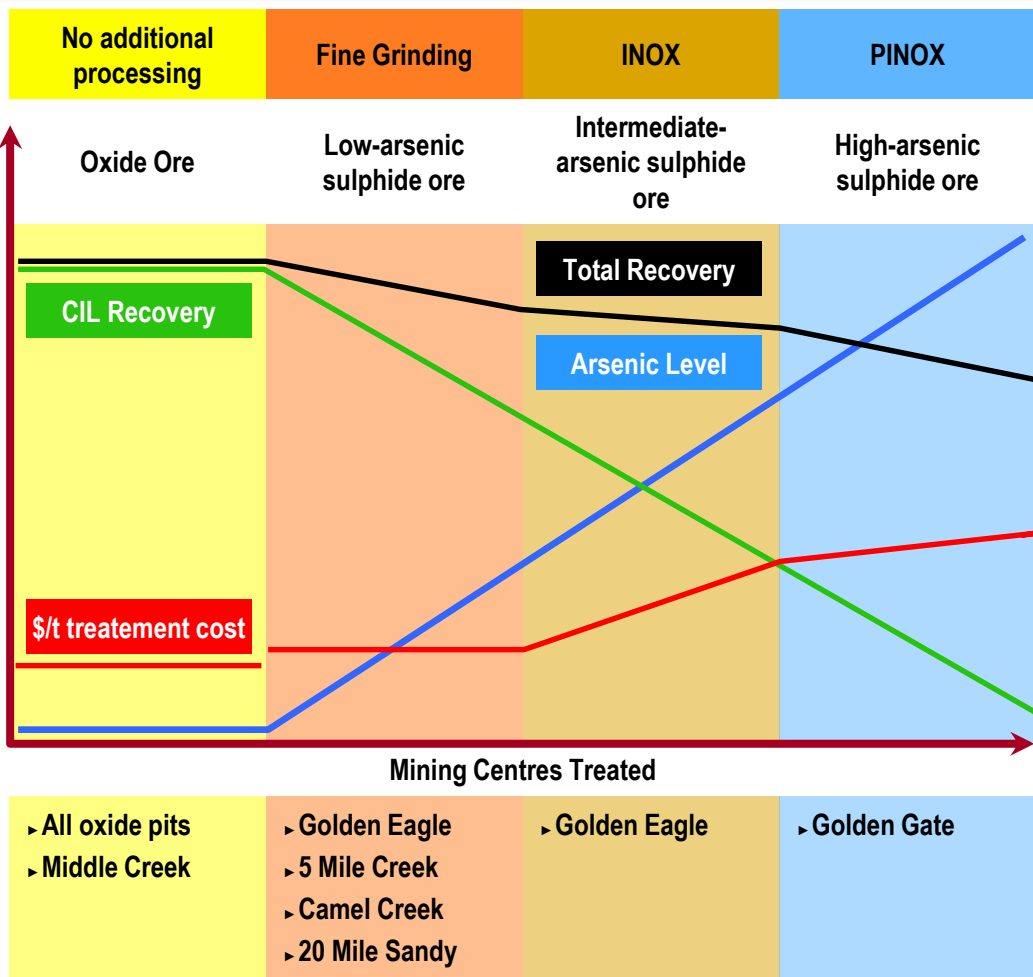


Sulphide Expansion paves the way for Millennium to maintain +100kozpa production rate for at least five years with lower AISC

- ▶ Construction manager and alternate appointed and mobilised to site
- ▶ Construction mobilisation January 2019, earthworks to commence first week of February 2019
- ▶ Two-stage mill upgrade – Stage 1 commissioning April, Stage 2 commissioning early 2020
- ▶ Metallurgical test work confirms outstanding gold recoveries:
 - ▶ *+80% from pyrite-dominant ore*
 - ▶ *~70% from arsenopyrite-dominant ore*
- ▶ Ability to apply a combination of ultra-fine grinding, INOX and PINOX provides processing flexibility to optimise recoveries and cash flow from different ore types



Plant Upgrade – Processing Flexibility to Maximise Cash Flow



Sample Classification	Average leach recovery	Average INOX recovery
Highly refractory	34.8%	70.6%
Moderately refractory	63.8%	82.8%
Mildly refractory	86.2%	92.1%

Sulphide Expansion Project will see a large number of new ore sources come on stream over the next 12 months

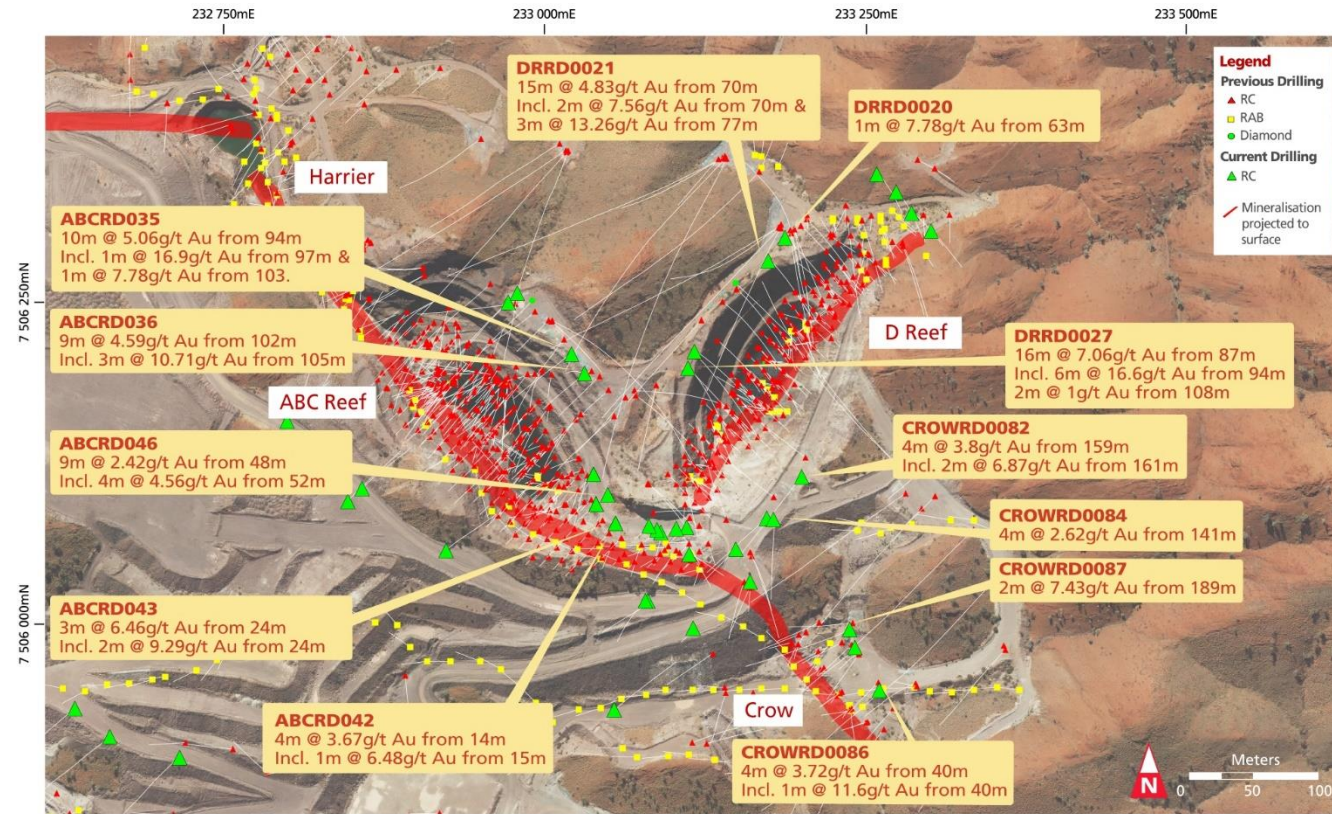


EXPLORATION

Golden Gate – Potential for a Major New Mining Hub



- ▶ One of the highest-grade open pit ore sources ever mined at Nullagine
- ▶ Major drilling program completed to extend high-grade open pit and underground mining potential
- ▶ Outstanding new high-grade drill results confirm potential for next underground mine including:
- ▶ Condor Northwest:
 - ▶ 10m @ 14.52g/t Au incl. 5m @ 26.61g/t Au (CORD049)
 - ▶ 13m @ 7.13g/t Au incl. 2m @ 26.2g/t Au and 2m @ 13.64g/t Au (CORD120)
 - ▶ 7m @ 11.14g/t Au incl. 4m @ 18.33g/t Au (CORD050)
 - ▶ 3m @ 25.16g/t Au incl. 1m @ 73.1g/t Au (CORD072)
- ▶ D Reef
 - ▶ 16m @ 7.06g/t Au incl. 6m @ 16.6g/t Au (DRRD0027)
 - ▶ 15m @ 4.83g/t Au incl. 2m @ 7.56g/t and 3m @ 13.26g/t Au (DRRD0021)
- ▶ Maiden UG Ore Reserve of 220,600t @ 3.8g/t Au for 27,100oz
- ▶ Targeting commencement of UG development in Q3



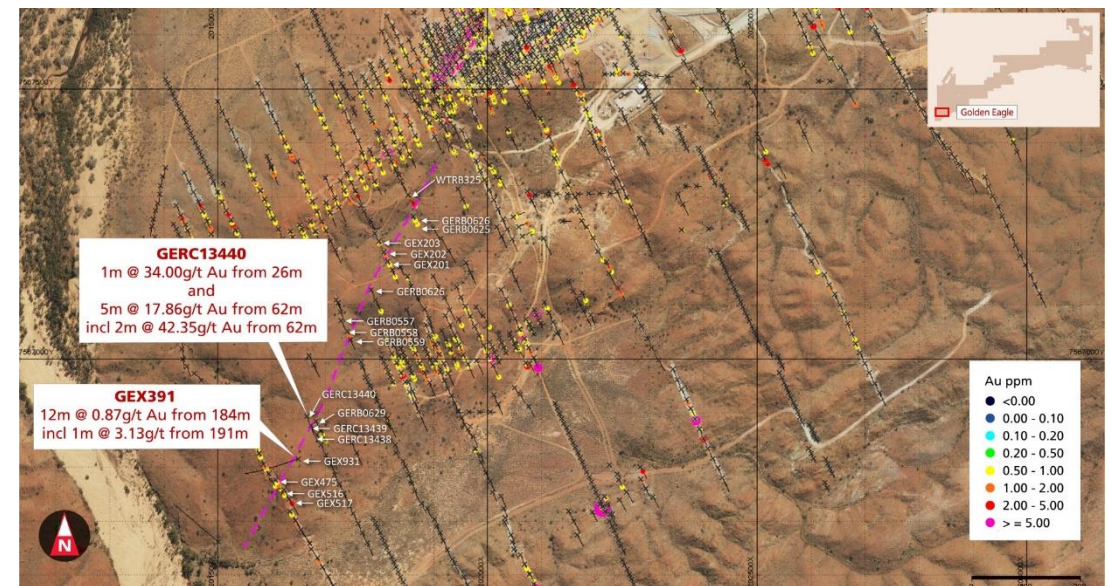
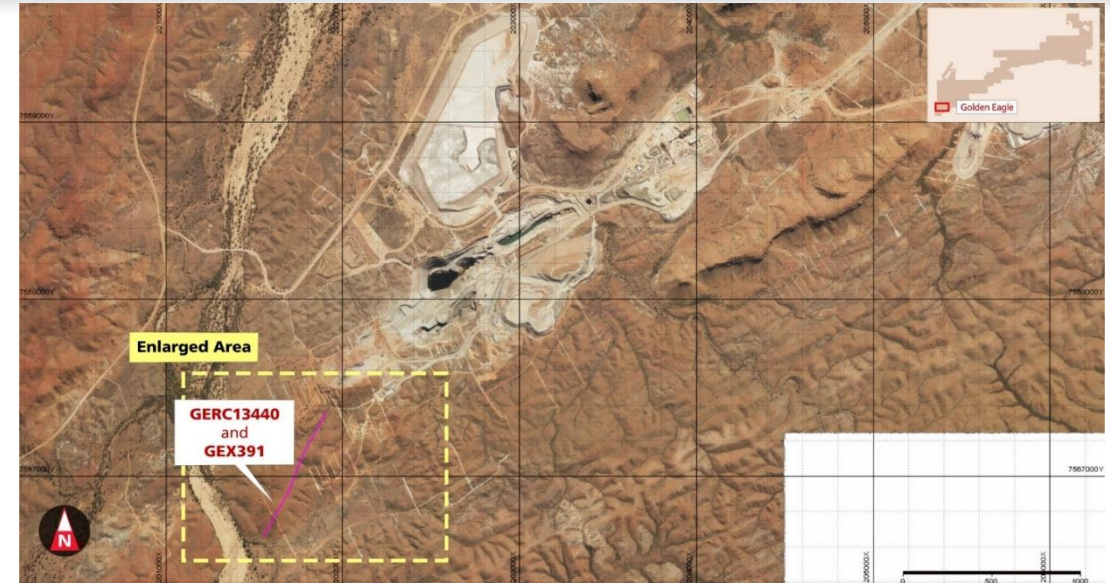
Results support Millennium's sulphide plant expansion and strategy to maintain a 100kozpa gold production rate by 2020

New Discovery in the Making – Golden Eagle SW



- ▶ Significant new target 1.8km SW of Golden Eagle with similar style of alteration
- ▶ Highly prospective shear zone extending over a potential strike extent of 800m:
 - ▶ *1m @ 34.00g/t Au from 26m*
 - ▶ *5m @ 17.86g/t Au from 62m, incl. 2m @ 42.35g/t Au*
- ▶ NNE orientation consistent with high-grade cross-cutting mineralised structures at Golden Eagle that run oblique to the main NE trending lodes
- ▶ Gravity survey completed and follow-up drilling underway

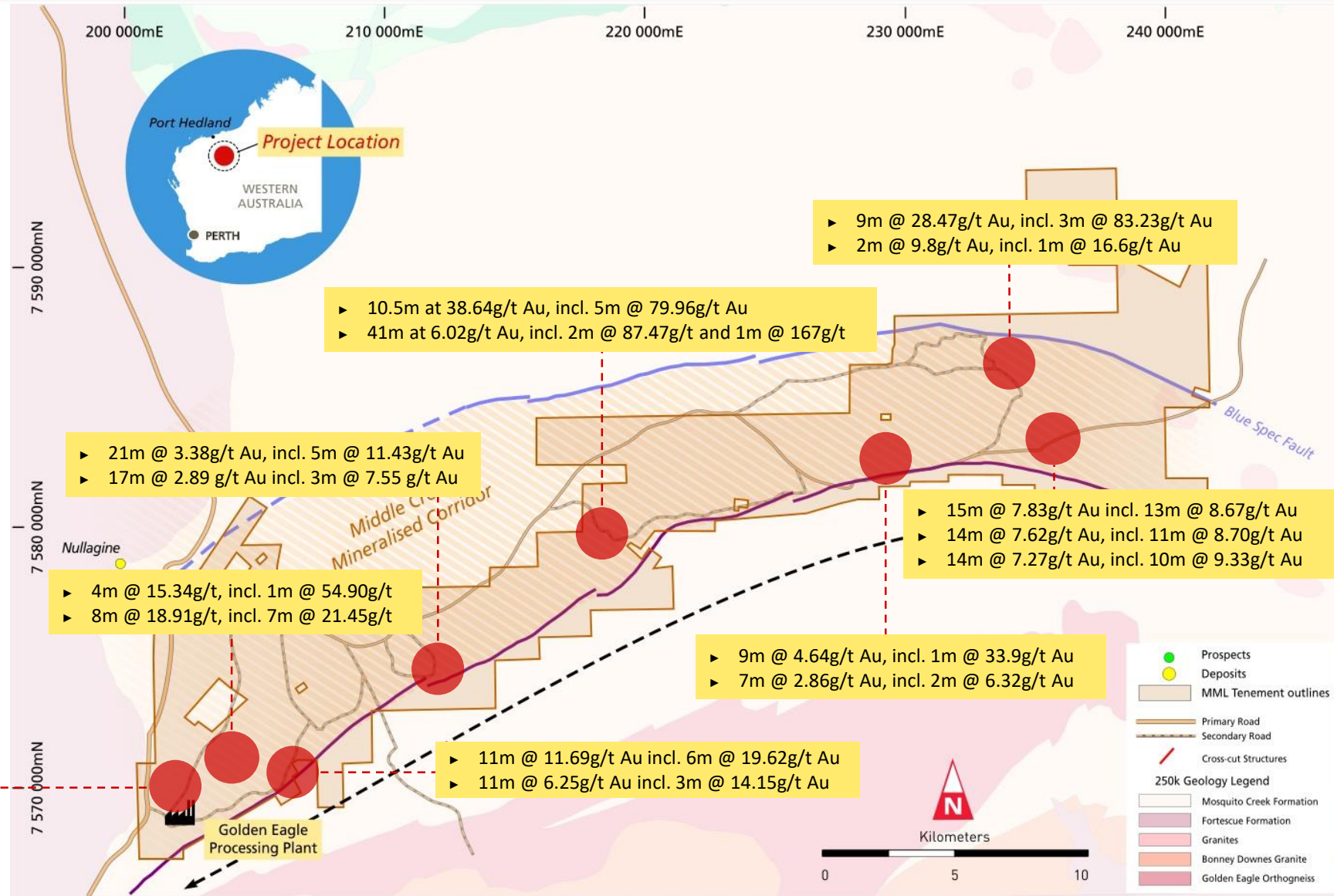
Significant new greenfields discovery 1.8km south-west of the 334,000oz Golden Eagle deposit...



Exploration – A Key Priority



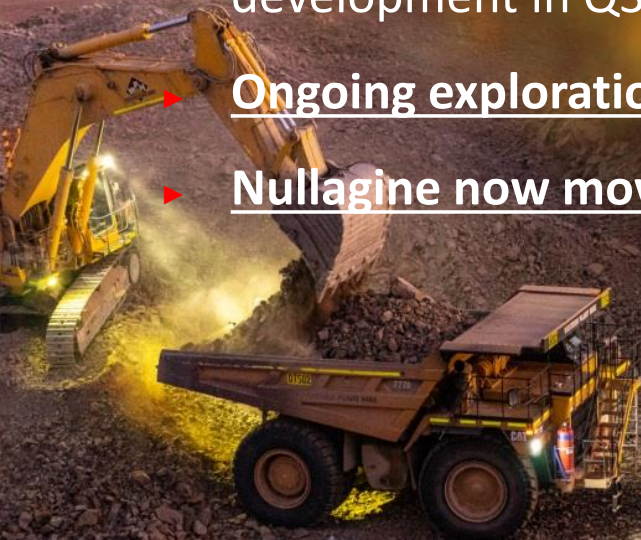
- ▶ Substantial ongoing commitment to exploration
- ▶ 40km mineralised corridor – high-grade results spanning entire length
- ▶ Reinterpretation of existing exploration datasets delivering new targets



Key Investment Takeaways



- ▶ **Nullagine Gold Project** – generating consistent production and strong cash-flows
- ▶ **Quality-driven mining strategy** – focusing on higher-grade ore sources that will increase head grade and reduce operating costs
- ▶ **Increasing production and mine life** – Targeting +100kozpa run rate; ~4-yr mine life growing to +5 yrs
- ▶ **Sulphide Plant Expansion** – Stage 1 commissioning April 2019 to unlock large Sulphide Resource
- ▶ **Expanding Underground** – Bartons UG delivering high-grade ore, aim to commence Golden Gate UG development in Q3, more UG deposits to follow
- ▶ **Ongoing exploration program continues to deliver** – high-grade intersections across the entire project
- ▶ **Nullagine now moving rapidly to the next level** – unlocking the significant value of all ore types



Nullagine Gold Project – Mineral Resource Statement¹ (31 Dec 18)



LOCATION	Measured			Indicated			Inferred			Total		
	Tonnes (M)	Grade	Ounces	Tonnes (M)	Grade	Ounces	Tonnes (M)	Grade	Ounces	Tonnes (M)	Grade	Ounces
GOLDEN EAGLE MINING CENTRE	3.41	1.4	151,200	4.06	1.3	163,600	3.83	1.4	174,900	11.31	1.3	489,600
Golden Eagle	3.26	1.4	144,400	1.69	1.2	65,700	2.70	1.5	127,700	7.65	1.4	337,900
CAMEL CREEK	0.74	1.4	34,100	1.91	1.5	93,000	1.15	1.5	53,500	3.80	1.5	180,500
FIVE MILE	0.67	1.2	24,900	2.15	1.3	89,900	1.68	1.2	67,000	4.50	1.3	181,700
GOLDEN GATE	0.13	3.2	13,100	0.50	3.9	62,300	0.69	3.8	83,700	1.31	3.8	159,100
Golden Gate Underground	0.07	3.4	7,400	0.35	4.2	47,200	0.36	4.7	54,900	0.78	4.4	109,400
MIDDLE CREEK	0.34	4.6	51,100	0.52	3.0	50,000	0.56	1.6	28,400	1.42	2.8	129,500
Bartons Underground	0.34	4.6	51,100	0.35	3.8	42,100	0.06	3.2	6,200	0.75	4.1	99,400
TWENTY MILE SANDY	0.04	2.4	2,700	0.05	1.8	2,800	0.06	0.14	2,500	0.14	1.8	8,100
Sub-total												
Stockpiles	0.37	0.9	10,500							0.37	0.9	10,500
Total Resources	5.69	1.6	287,600	9.19	1.5	461,600	7.97	1.6	410,000	22.85	1.6	1,159,100

Nullagine Gold Project – Ore Reserve Statement (31 Dec 2018)

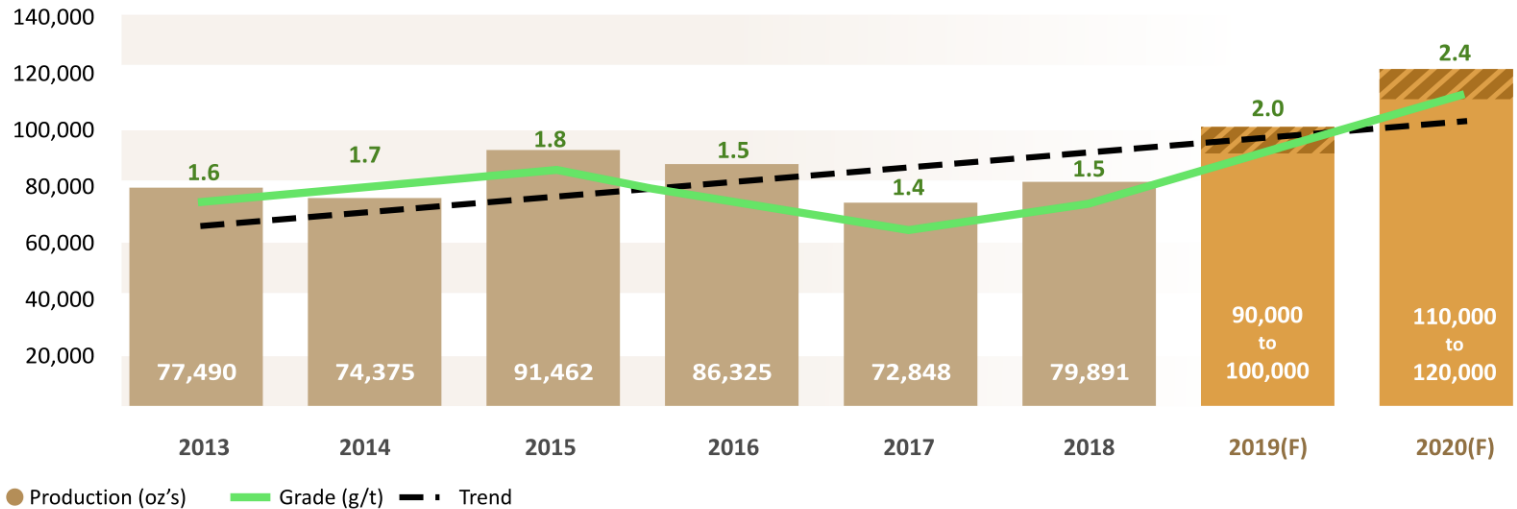


MINING CENTRE	Proved			Probable			Total		
	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces
GOLDEN EAGLE MINING CENTRE	963,000	1.11	34,400	2,985,000	1.44	138,300	3,949,000	1.36	172,800
Golden Eagle Open Pit	952,000	1.11	33,900	2,226,000	1.46	104,700	3,178,000	1.36	138,600
CAMEL CREEK	-	-	-	805,000	1.64	42,400	805,000	1.64	42,400
FIVE MILE	-	-	-	845,000	1.32	35,800	845,000	1.32	35,800
GOLDEN GATE	-	-	-	424,000	3.31	45,100	424,000	3.31	45,100
Golden Gate Underground	-	-	-	221,000	3.81	27,100	221,000	3.81	27,100
MIDDLE CREEK	251,000	3.62	29,200	493,000	2.50	39,600	744,000	2.88	68,800
Bartons Underground	251,000	3.62	29,200	425,000	2.65	36,200	676,000	3.01	65,400
TWENTY MILE SANDY	-	-	-	-	-	-	-	-	-
Sub-total	1,214,000	1.63	63,600	5,553,000	1.69	301,200	6,767,000	1.68	364,800
Stockpiles							-	-	-
ROM	239,000	0.85	6,500				239,000	0.85	6,500
MOPS	131,000	0.95	4,000				131,000	0.95	4,000
GIC	-	-	-				-	-	-
Sub-total	370,000	0.88	10,500	-		-	370,000	0.88	10,500
Total Ore Reserves	1,584,000	1.46	74,200	5,553,000	1.69	301,200	7,137,000	1.64	375,300

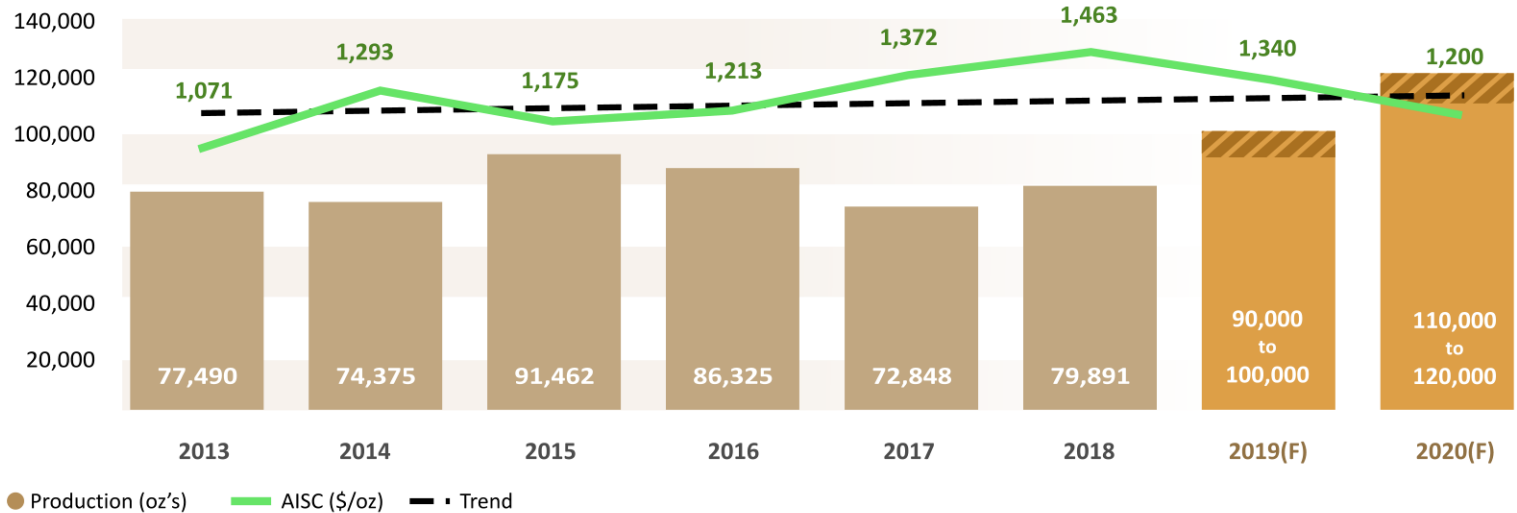
Nullagine Operations – Key metric targets



Production (oz's) and Grade (g/t)



Production (oz's) and AISC (\$/oz)



Disclaimer

This presentation contains only a brief overview of Millennium Minerals Limited ("Millennium"). The contents of this presentation, including matters relating to the geology of Millennium's projects, may rely on various assumptions and subjective interpretations which it is not possible to detail in this presentation and which have not been subject to any independent verification.

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Competent Person's Statement

The 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.

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

1. Growth strategy gains momentum with maiden underground Resource dated 7 August 2017;
2. Millennium poised to significantly extend mine life at Nullagine as newly-identified processing option cuts costs dated 5 February 2018;
3. Millennium places orders for key long-lead items for Nullagine process plant expansion dated 14 May 2018;
4. Millennium achieves 100,000ozpa production run-rate at Nullagine ahead of schedule dated 17 September 2018;
5. New high-grade intercepts of up to 42.35g/t upgrade discovery potential at Golden Eagle SW dated 17 September 2018;
6. New high-grade drilling results expand open pit and underground potential at Golden Gate dated 6 December 2018;
7. Strong quarter sees Millennium at top of CY18 guidance; Exceptional testwork results as sulphide expansion gathers momentum dated 29 January 2019;
8. Outstanding new high-grade drill results at Golden Gate confirm potential for next underground mine dated 29 January 2019;
9. Strong underground drilling results confirm extensions at Bartons dated 30 January 2019;
10. Latest sulphide metallurgical results confirm potential to grow production, cash flow and mine life dated 1 February 2019; and
11. Millennium delivers 70% increase in Ore Reserves at Nullagine to 375,300oz dated 4 February 2019.

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

The 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 announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings as presented have not been materially modified from the original market announcement.

Australia's newest 100,000ozpa gold producer

- ▶ Rising grades, rising production
- ▶ +100,000ozpa run-rate achieved
- ▶ New discoveries driving growth

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