



Driving growth at Nullagine

- ▶ Two key expansion projects ramping up
- ▶ Rising gold production
- ▶ Highly leveraged to A\$ gold price

Diggers & Dealers
5-7 August 2019



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

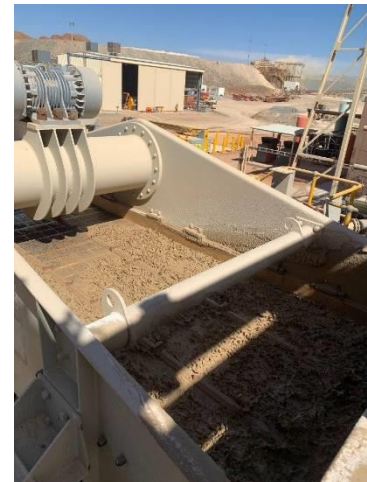
Key growth initiatives ramping-up – Sulphide Plant expansion, underground mining

Revised production guidance for CY19 of 80-90koz

Growing Reserve inventory – 375,000 ounces;
Targeting +5 years mine life

Exploration success delivering breakthrough discoveries – focus on higher grade mining centres

Reserve History



Strong gold production in the East Pilbara



✓ A strategy for growth

- ▶ Growth initiatives focused on increasing head grade and recovery efficiency
- ▶ First UG mine at Bartons now in full production
- ▶ Commissioning of low CAPEX/OPEX upgrade to processing plant successfully complete enabling processing of significant sulphide Resource base
- ▶ CY2019 mine plan re-optimised to reflect delay in completing these initiatives:
 - ▶ 34,716oz poured in 1H CY2019, with production forecast to increase to 46,000-54,000oz for 2H CY2019
 - ▶ Strong increase in gold production over June and July as Bartons Underground and Stage 1a sulphide plant expansion ramped up
 - ▶ Annual guidance of 80-90koz (previously 90-100koz)

✓ New mining strategy driving production

- ▶ Mining larger scale, longer life open pit deposits, being aided by reduction in OPEX with change to owner mining
- ▶ Aim to increase head grade through additional UG development
- ▶ Development of Golden Gate mining centre targeted to commence later in 2019; multiple other targets to follow

✓ Exploration delivering new breakthrough discoveries

- ▶ Major ongoing exploration commitment – targeting +5-year mine life
- ▶ New geological approach reaping rewards
- ▶ Systematic approach targeting additional high grade underground ore bodies



Corporate Overview



Shares on Issue

891M

Market Cap (A\$0.11/share)

~A\$100M

Cash, bullion and available
financing facilities (30 Jun 19)

A\$14.3M

Debt (1 Aug 19)

A\$30M

ASX Index

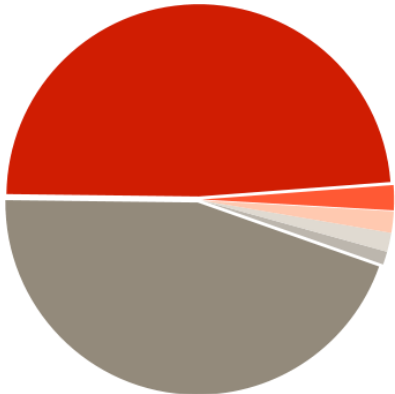
All Ords

ASX Code

MOY



Key Shareholders



IMC Group – **47.9%**
Mr David Teoh – **1.6%**
Directors & Employees – **1.5%**
DWP Bank – **1.1%**
Private Stakeholders – **45.6%**

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

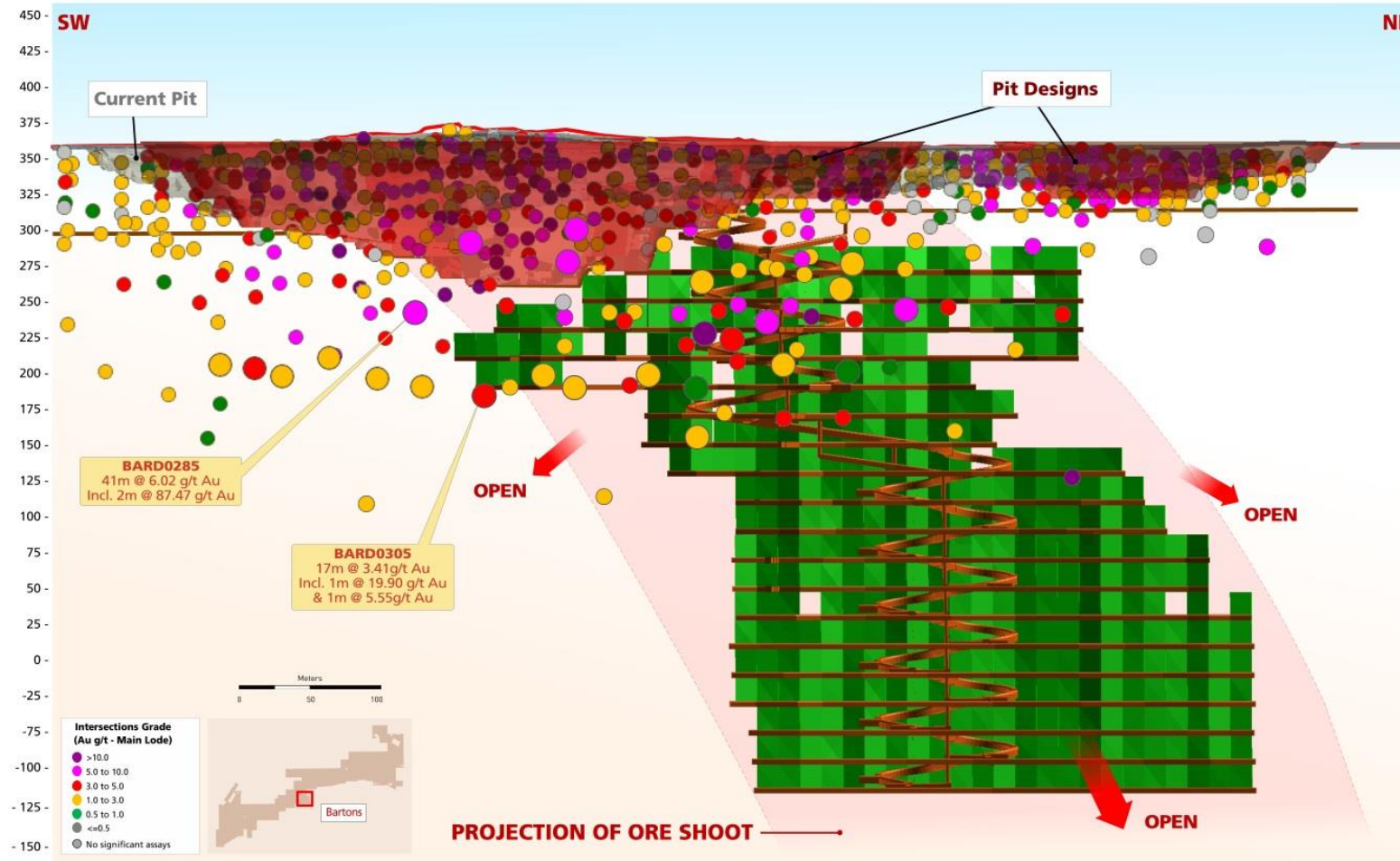
Rivet Mining Services

KPS Power Generation



**MOVING
UNDERGROUND**

Bartons – The First Underground Mine at Nullagine



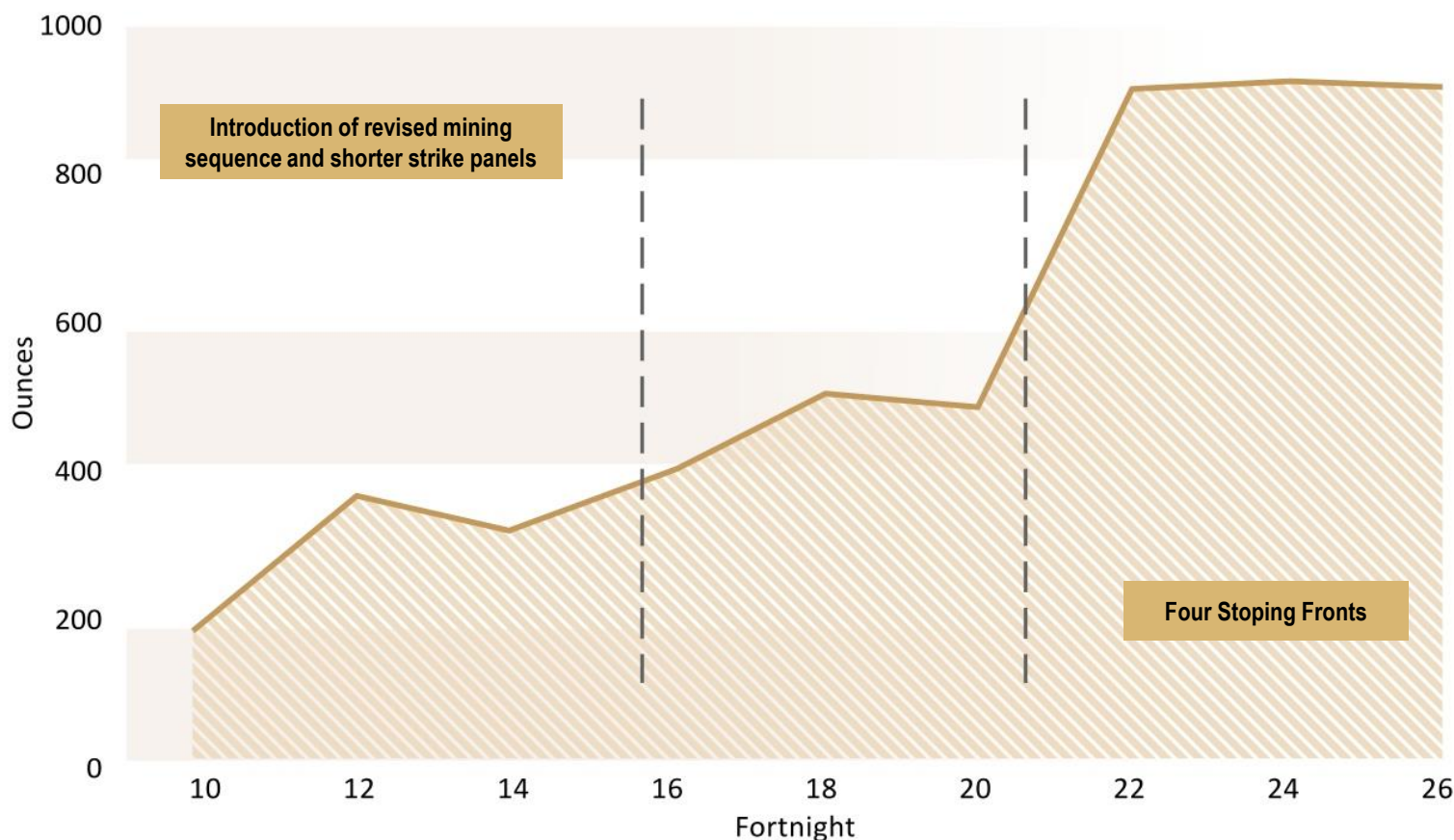
- ▶ Resource of 750,000t @ 4.1g/t Au for 99,400oz
- ▶ Mineralisation open at depth and along strike
- ▶ All deeper holes have successfully intersected the main ore zone and continue to define extensions
- ▶ First phase underground drilling completed targeting depth extensions
- ▶ Bartons Ore Reserve 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% improving to 92% with plant expansion

Bartons – The First Underground Mine at Nullagine

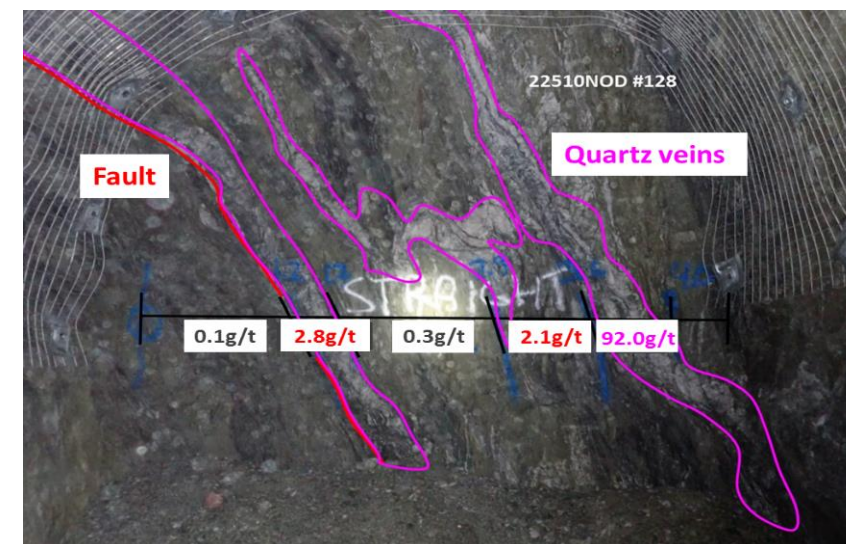


Bartons Stope Ounces by Fortnight

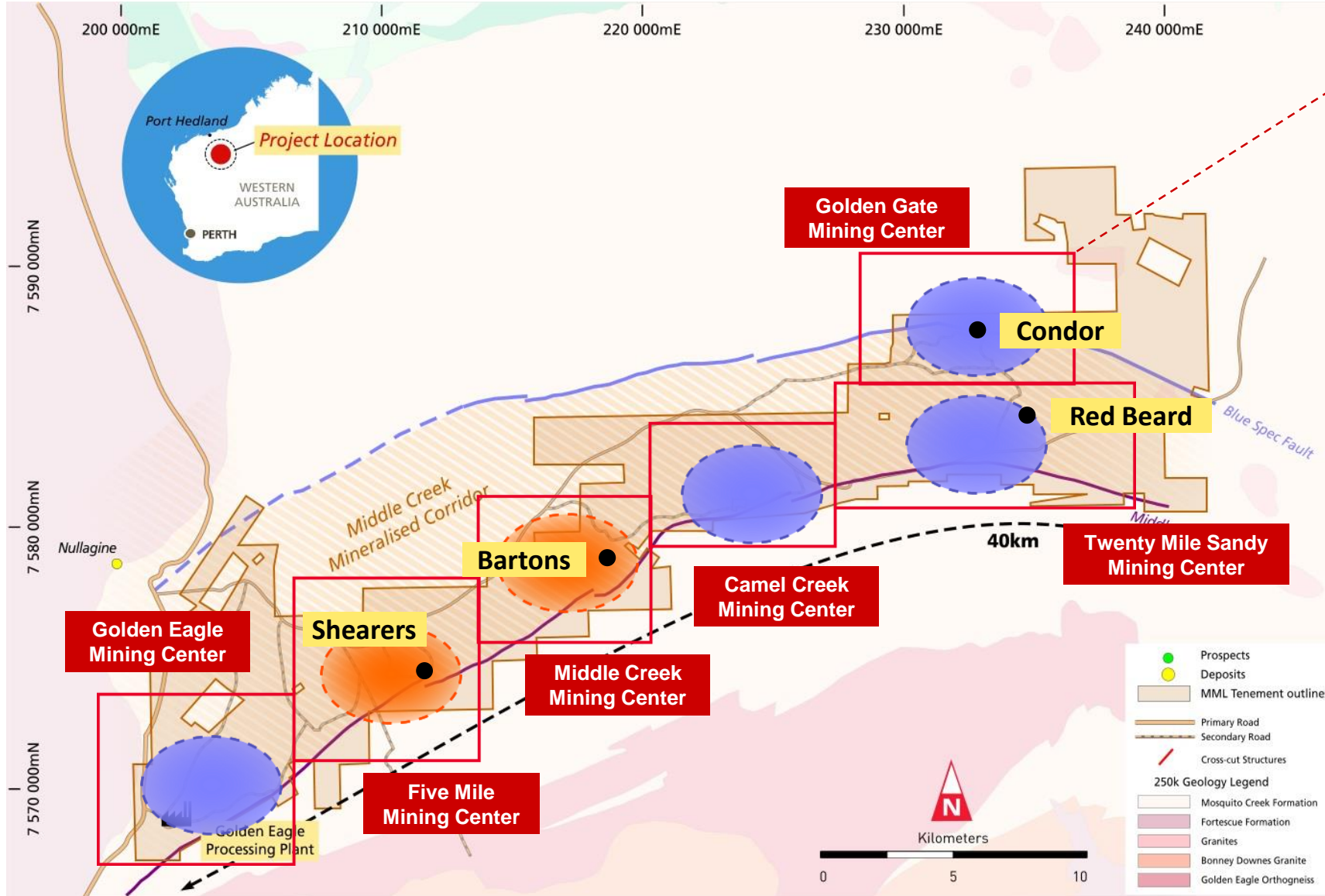


- ▶ Production ramped up significantly with introduction of a second stoping level
- ▶ Mining sequence refined to minimise dilution – move to rapid-turnover short strike panels
- ▶ Ore now being mined simultaneously from four stoping fronts across two levels

Underground production on track following changes to the mining sequence and introduction of additional mining equipment and personnel



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

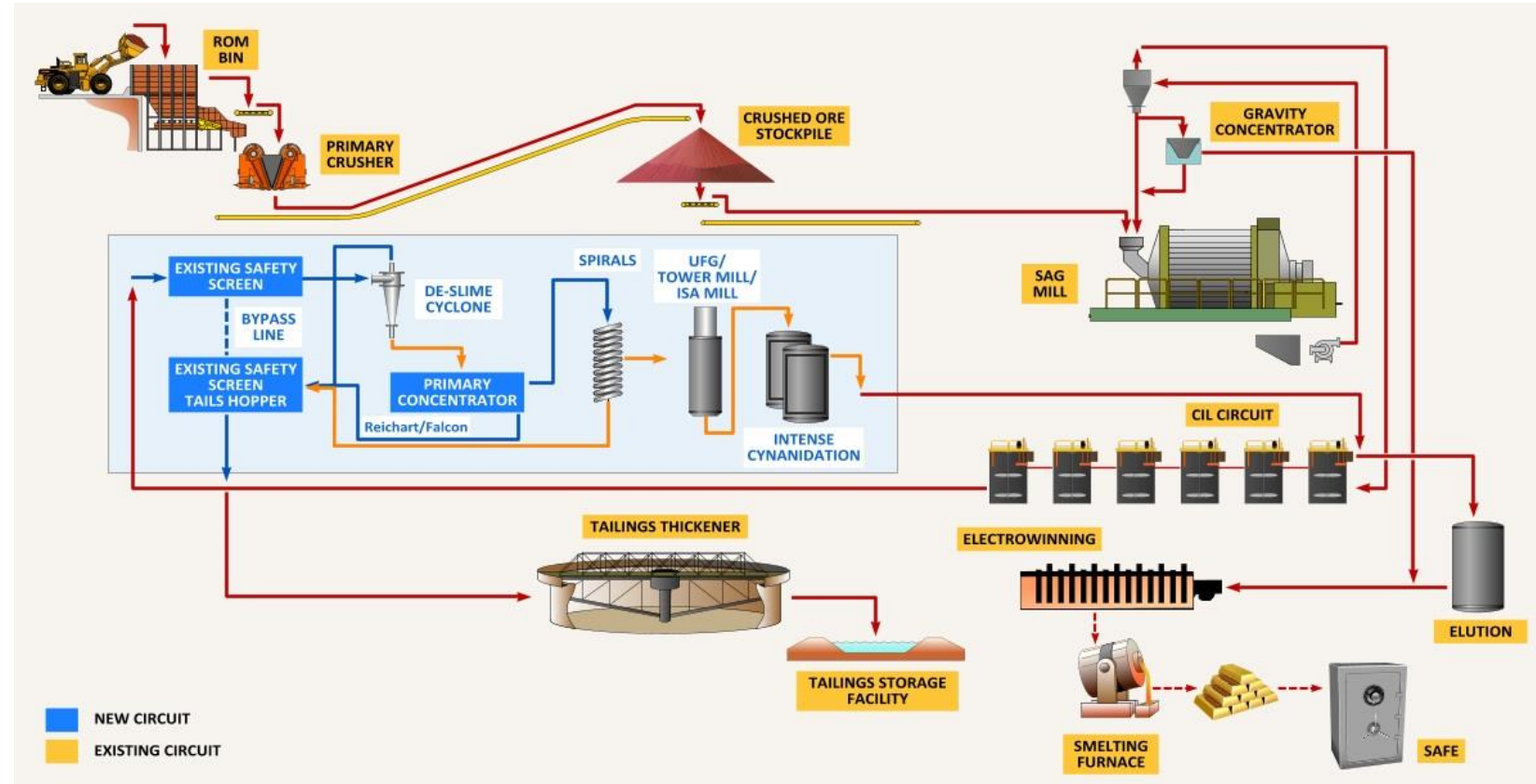


- ▶ Large sulphide resource inventory
- ▶ Processing of pyrite-dominant ore now being achieved through modular concentrating circuit to the tail-end of the existing CIL plant
- ▶ Well-understood process
- ▶ Three phase expansion:

Stage 1a: Concentrator and fine grinding circuit (now operational)

Stage 1b: In-mill oxidation (INOX) to treat blended pyrite/arsenopyrite ore (commissioning Q3/Q4)

Stage 2: Pressurised in-mill oxidation (PINOX) to treat arsenopyrite-dominant ore (commissioning 2020, subject to mine schedule)

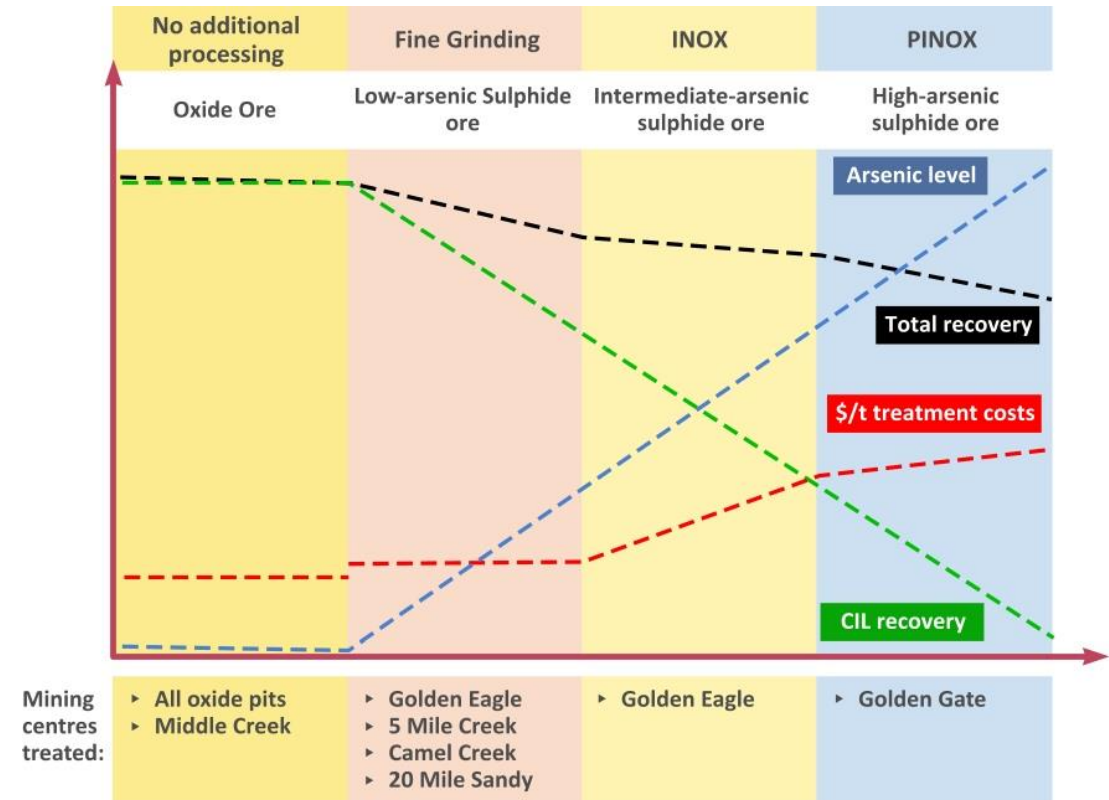


Sulphide Expansion paves the way to increase head grade and lower AISC

Sulphide Resources – Project Update



- ▶ Stage 1a upgrade (concentrator and fine grinding circuit) now operational, with first gold production from sulphide circuit delivered late June
- ▶ Concentrate grades of 3-6g/t Au being achieved from CIL tailings of ~0.3-0.4g/t Au
- ▶ Gold recoveries in line with expectations
- ▶ Installation of Stage 1b expansion (in-mill oxidation – INOX) to commence September 2019
- ▶ Ability to apply a combination of ultra-fine grinding, INOX and PINOX will provide processing flexibility to optimise recoveries and cash flow from different ore types

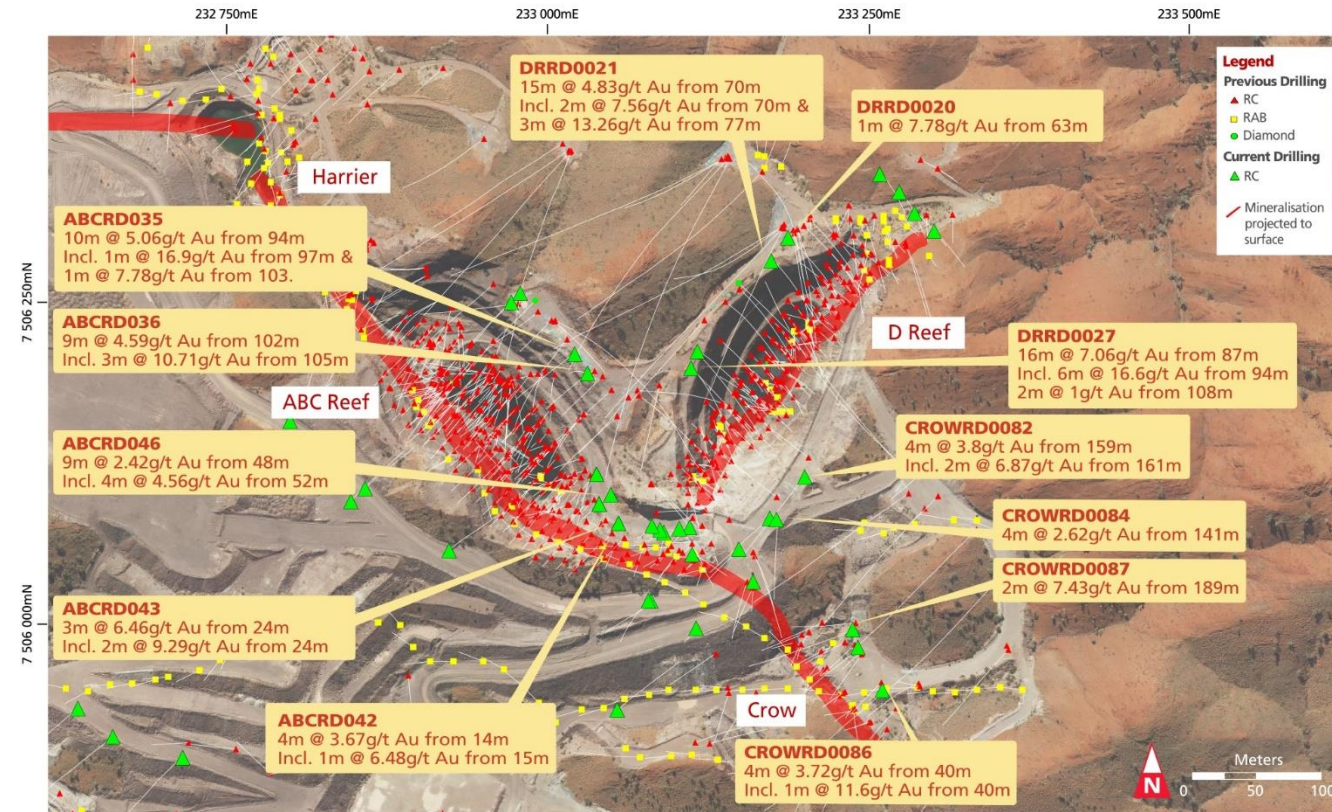




Golden Gate – Potential for a Major New Mining Hub



- ▶ 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

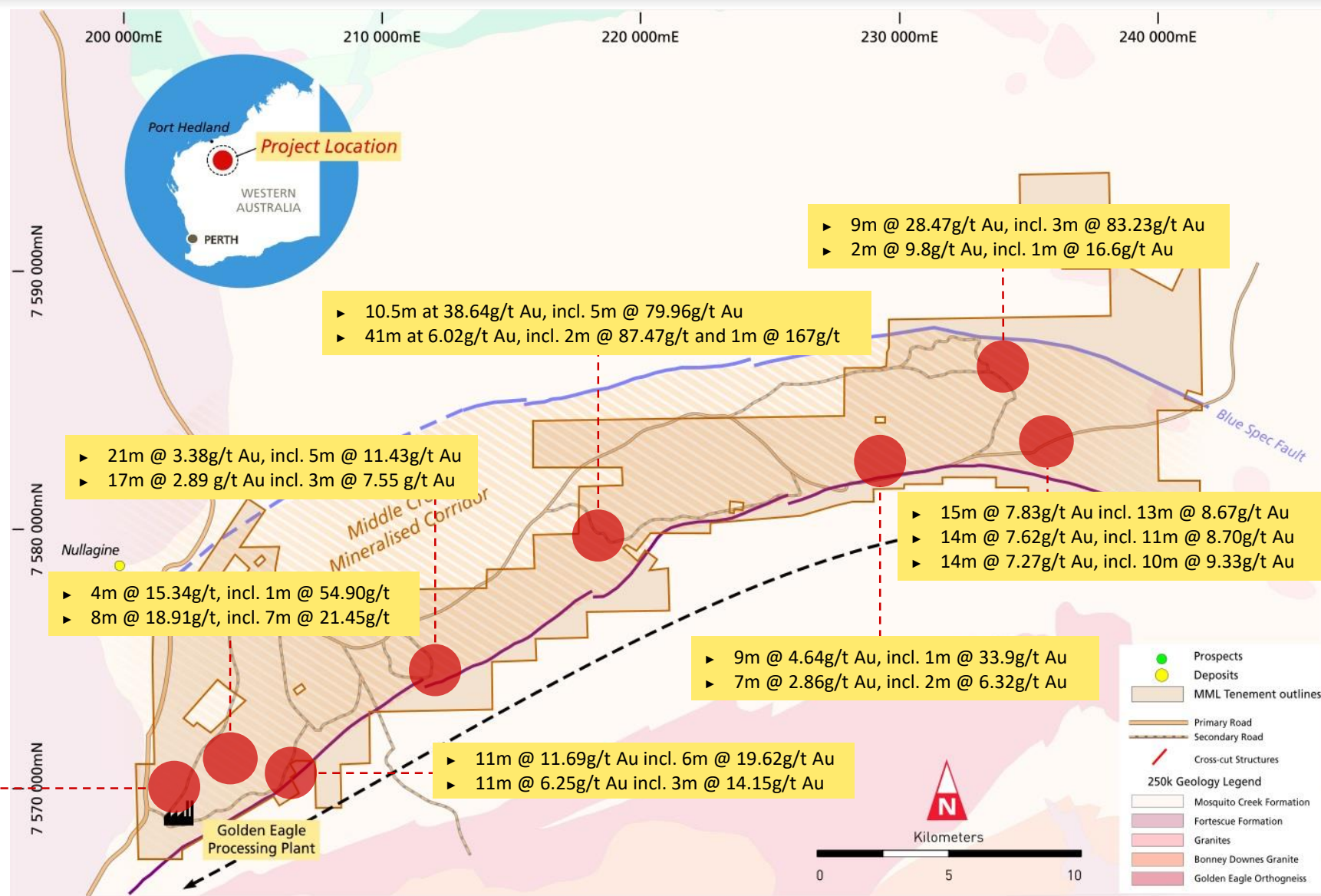


Results support Millennium's sulphide plant expansion and strategy to increase gold production

Exploration – Targeting + 5 years Mine life



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





- ▶ **Quality-focused mining strategy** – focusing on higher-grade ore sources that will increase head grade and reduce operating costs
- ▶ **Increasing production and mine life** – 3.5 -yr mine life growing to +5 yrs
- ▶ **Sulphide Plant Expansion** – Stage 1 ramp-up underway to unlock large Sulphide Resource
- ▶ **Expanding Underground** – Bartons UG ramping up, Golden Gate and additional UG deposits to follow
- ▶ **Ongoing exploration program continues to deliver** – high-grade intersections across the entire project
- ▶ **Nullagine now moving 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

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.



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