### COWAL SITE VISIT

CRAIG FAWCETT - GENERAL MANAGER 5 SEPTEMBER 2018





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### **EVOLUTION'S CORNERSTONE**

Sustainable, reliable, low cost production

3 year net mine cash flow of A\$431M

Developing a pathway to increase production to >300kozpa

Exploration success delivering 10+ years organic mine life extensions

Underexplored region offers immense untapped potential



### SITE OVERVIEW

Location	Approximately 40km north-east of West Wyalong in New South Wales, Australia
Property	Mining Lease (ML 1535) encompasses an area of 2,636 hectares and lies within Evolution's total property holding of ~13,152 hectares
Commencement	Mining commenced 2005 and processing 2006
Approval	Operation currently approved until 2032
Mining method	Conventional open pit
	Owner-Miner
Minerals	Gold
Mineralisation type	Structurally hosted epithermal to mesothermal sheeted veins and shear hosted lodes
Process method	Grinding, gravity, flotation and cyanide leaching circuits
Plant capacity	>8Mtpa
Recovery	82% (4-6% increase with Float Tails Leach)
Ore Reserves <sup>1</sup>	116.28Mt @ 0.81g/t Au for 3.05Moz Au
Mineral Resources <sup>1</sup>	199.80Mt @ 0.95g/t Au for 6.08Moz Au

### Cowal – a world class deposit



Access	Sealed road connecting to West Wyalong and major regional highways
Power	Grid power supplied to the mine by 132kV transmission line
Workforce	Residential
Employees and contractors	520
Shift roster	7:7



### SAFETY PERFORMANCE

#### FY18 performance

- 2 recordable injuries in FY18
- I lost time injury in FY18
- 4 incidents in FY18

#### **Current performance**

- 39 days since last LTI
- Total recordable injury frequency (TRIF) currently at 5.1

#### Key focus areas

- Supervisor engagement
- Contractor competencies
- Skills training

**TRIF:** Total recordable injury frequency. The frequency of total recordable injuries per million hours worked. Results above are based on a 12 month moving average

**SSO:** An internal event classification with either an actual or potential consequence. The frequency rate is per million hours worked, results are based on a 12 month moving average



### SOCIAL LICENSE TO OPERATE

#### Strict Environmental Assessment (EA) guidelines

- ISO14001 certified
- ICMI certified
- Annual independent audits and internal compliance reviews
- LCCC environmental studies, monitoring and initiatives

#### Strong local community support

- Partnership with Wiradjuri Condobolin Corporation (WCC)
- Total local procurement spend of ~A\$28M per annum
- Supporting local charities and sports clubs
- ~75% of employees are permanent residents
- ~6% of employees are Indigenous



Queen's Baton Relay – January 2018. Inge Higgins from site and one of our Bell B45E Moxys for transportation

### 2017 NSW Mining Operation of the Year

## **FY18 BUSINESS IMPROVEMENT**



#### Key Projects

- Mining
  - Drilling, fuel, tyres, maintenance: A\$4.0M
- Processing operations
  - Milling efficiency, grinding media and reagents: A\$4.9M
- Processing maintenance
  - Planning and execution: A\$2.6M
- Project shut
  - Shutdown service provider contracts: A\$1.5M
- Support department cost efficiencies
  - A\$1.0M

# **IMPROVING PRODUCTIVITY**



—Tonnes produced per hour —Cost (A\$/t processed)



### PERMITTING

#### Mod 12 – previous permit

 Operations 2024 with plant throughput at 7.5Mtpa

### Mod 13 – current permit

- Operations extended to 2032
- Underpins current LOM (including Stage H)

#### Mod 14 – submitted March 2018

- Enables plant expansion up to 9.8Mtpa
- Includes
   Integrated Waste
   Landform (IWL)
   and infrastructure
   upgrades

#### Permitting required to unlock further potential

- Major changes such as new pits or underground mines likely to trigger a major amendment (Part 4A)
- Requires full Environmental Impact Study (EIS) with approval timelines typically greater than 3 years

## **MODIFICATION 14 APPLICATION**

- Integrated Waste Landform (IWL)
  - Proposed tailings solution to support plant expansion to 9.8Mtpa
  - Footprint contained within existing Mining Lease boundary
  - Key enabler of future mine development and expansion
  - Significantly reduced costs over Life of Mine

### Plant expansion feasibility study

- On track for completion in December 2018 quarter
- Assessing increased throughput up to 9.8Mtpa
- Targeting a drop in processing unit costs of 10 15%

Proposed layout of Integrated Waste Landform (IWL) joining with current waste dump and surrounding TSF





# **CURRENT PROJECTS**

#### A significant investment in Cowal's future

#### Stage H cutback on track

- Planned material movement achieved in FY18
- Capital stripping scheduled to be completed in FY21

#### Float Tails Leach project on time and on budget

- Expected to increase recoveries by 4 6%
- Enables flexibility and co-treatment of oxides (current oxides stockpile >5Mt which will grow with Stage H)
- Commissioning on track for December quarter

#### **GRE46 underground exploration decline**

- Board approved and pending government approval
- Development planned to commence H2 FY19
- Work started on contracts

Evolutio



### **NEAR MINE RESOURCES**

E42 **Reserves 3.0Moz Resource 4.1Moz Past Production** 2.8Moz **Total E42** Endowment >6Moz

> December 2017 Resource 5.8Moz Au Reserves 3.0Moz Au

46 Open Pit

GRE46 UG

Resource

604K02

Galway Regal, E46 Resource 486



Marsden Reserve: 817koz Au, 371kt Cu Resource: 1.0 Moz, 560kt Cu

E41E Resource 235Koz

Resource



### PRELIMINARY GRE46 UG AND IN-WALL RAMP

#### New high-grade intercepts from infill drilling include:

Hole ID	Intercept *downhole width	From
1535DD331B	32m@2.63g/t	753m
1535DD331C	10m@1.6g/t	747m
1535DD331D	24m@1.71g/t	712m
	28m@3.82g/t	766m
	5m@16.44g/t	805m
1535DD331E	33m@3.43g/t	751m
	23m@6.82g/t	806m
	5m@5.6g/t	834m
1535DD331G	29m@5.35g/t	754m
	12m@14.14g/t	792m

New high-grade infill drilling results

### **E42 & GRE46: RESULTS** $\geq$ **1.0 g/t Au**



### DALWHINNIE LODE



#### E46D3219





# **GRE46 EXPLORATION DECLINE**



# PLANNED UNDERGROUND DRILLING

t to the south iace drilling)

Drill the Gap

extensions

Target Dalwhinnie

#### Opportunity

- Confirm and expand high grade GRE46 resource
- UG project studies and production permitting
- Blend 3 4g/t Au underground feed and open pit ore to improve head grade
- Targeting 750 1,000ktpa production rate
- Accelerate underground schedule to match plant expansion

### **E41 WEST BLOCK MODEL**



### **E41 DRILLING CONSTRAINED**



# **REGIONAL OPPORTUNITIES**

#### East Girral

Structurally hosted Au

### Milly Milly

Au-Cu porphyry

### South Cowal

Au-Cu porphyry

#### E46 Nth

Au and Au-Cu porphyry

#### New Tenements

- Additional tenements over Volcanic Rocks of Macquarie Arc
- New geophysics (gravity)
- Supplementary geochemistry sampling to complete geochemistry data set
- Additional geochemical samples aircore drilling





### **REGIONAL EXPLORATION**



#### East Girral

- FY18 aircore drilling has delineated a significant geochemical anomaly
- New Magnetics and follow up drilling to commence in the coming months
- Landholder liaison completed with positive responses

### **TARGET PIPELINE - FY19 OBJECTIVES**



### **KEY TAKEAWAYS**

Current Ore Reserves and mine plan to 2032

Underground development on GRE46 to commence in June 2019 half year

Planning underway to achieve a consistent production rate in excess of 300kozpa for 20+years





### **COWAL DEC 2017 MINERAL RESOURCES AND ORE RESERVES**

Cowal Gold Mineral Resources - December 2017												
Mineral Resource	Measured			Indicated			Inferred			Total Resource		
	Tonnes (Mt)	Grade Au (g/t)	Cont. Metal Au (koz)	Tonnes (Mt)	Grade Au (g/t)	Cont. Metal Au (koz)	Tonnes (Mt)	Grade Au (g/t)	Cont. Metal Au (koz)	Tonnes (Mt)	Grade Au (g/t)	Cont. Metal Au (koz)
E42 Oxide	-	-	-	0.21	0.65	4	0.02	0.51	0	0.23	0.64	5
E42 Primary	-	-	-	114.40	0.86	3,148	1.65	0.57	30	116.04	0.85	3,179
E42 Stockpile	46.64	0.70	1,049	-	-	-	-	-	-	46.64	0.70	1,049
E41 Oxide	-	-	-	4.18	1.19	160	0.65	1.73	36	4.83	1.26	196
E41 Primary	-	-	-	11.14	0.89	319	0.98	1.60	50	12.12	0.95	369
E46 Oxide	-	-	-	3.88	1.22	152	-	-	-	3.88	1.22	152
E46 Primary	-	-	-	0.68	1.06	23	-	-	-	0.68	1.06	23
GR46 UG	-	-	-	-	-	-	5.90	3.17	603	5.90	3.17	603
GRE46 Oxide	-	-	-	1.28	1.66	68	0.75	1.83	44	2.02	1.73	112
GRE46 Primary	-	-	-	6.23	1.48	298	1.23	2.37	94	7.46	1.63	391
Total	46.64	0.70	1,049	141.99	0.91	4,173	11.17	2.39	858	199.80	0.95	6,079

Cowal Gold Mine Ore Reserves - December 2017										
Ore Reserve	Cut-off (g/t Au)	Proved			Probable			Total Reserve		
		Tonnes	Grade Au	Cont. Metal	Tonnes	Grade Au	Cont. Metal	Tonnes	Grade Au	Cont. Metal
		(Mt)	(g/t)	Au (koz)	(Mt)	(g/t)	Au (koz)	(Mt)	(g/t)	Au (koz)
E42 oxide	0.40	-	-	-	0.21	0.65	4	0.21	0.65	4
E42 primary	0.40	-	-	-	69.44	0.89	1,994	69.44	0.89	1,994
Stockpile	0.40	46.64	0.70	1,049	-	-	-	46.64	0.70	1,049
Total		46.64	0.70	1,049	69.64	0.89	1,998	116.28	0.81	3,046

Data is reported to significant figures and differences may occur due to rounding

Mineral Resources are reported inclusive of Ore Reserves

Mineral Resources have been reported above a cut-off grade of 0.40g/t gold and constrained within an A\$1,800/oz pit optimisation shell

The Cowal Mineral Resource Competent Person is James Biggam and the Ore Reserve Competent Person is Ryan Kare

This information is extracted from the ASX release entitled "Annual Mineral Resources and Ore Reserves Statement" released to the ASX on 19 April 2018. Evolution confirms that that it is not aware of any new information or data that materially affects the information included in that release and that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed

### **HISTORY OF COWAL**

<b>1988</b> North Lim undertake exploratio Cowal	nited s extensive n at Lake	<b>2000</b> North Limited is acquired by Rio Tinto	• 2002 Homestake Mining merges with Barrick Gold	• 2006 First gold is poured in April 2006	<ul> <li>2015</li> <li>Evolution Mining acquires Cowal Gold Operation with 1.6Moz Ore Reserve</li> <li>Evolution increases Ore Reserves by 40% to 2.2Moz</li> </ul>	• 2017 Mine life is extended to 2032 Ore Reserves increased by 12% to 3.2Moz
<b>1893</b> Gold first discovered in West Wyalong	1999 NSW governmissues developmic consent condition the Cowal gold	nent ment tions for d project	d project is mestake gold pr	4 Puction ences on Cowal roject	<b>2016</b> Evolution i Ore Reser to 2.9Moz	ncreases ves by 30%

### NEAR MINE RESOURCE DEVELOPMENT - MARSDEN

- Provides additional long term optionality
- Acquired from Newcrest in August 2016
- Pre-feasibility Study
  - Core across key sections re-logged
  - Key considerations
    - Ore processing
    - Detailed design and scheduling
    - Ore haulage (17km direct line to Cowal)
    - Approvals and permitting
- Mineral Resources<sup>1</sup> 123Mt at 0.46% for 560kt Cu

and 0.27g/t for 1,053koz Au

Ore Reserves<sup>1</sup> 65Mt at 0.57% for 371kt Cu

and 0.39g/t for 817koz

1. Refer to Evolution Mining Annual Mineral Resources and Ore Reserves Statement released to the ASX on 19 April 2018



Location plan showing the Marsden copper-gold project and proximity to Cowal

### **PROCESS EQUIPMENT**

- Power supplied by AGL
- Crushing
  - Primary crushing: Metso 54-75 Superior MK-II gyratory crusher

#### Grinding

- FFE 36' x 20.5' SAG mill, FFE 22' x 36.5' ball mill
- Forged steel 125mm balls (SAG), 80mm balls (ball mill)

#### Screening

- Schenck Vibrating screens (SAG discharge), Deklor Linear (COF)
- Recycle crusher
  - 2 x Sandvik H6800 hydrocone cone crushers

#### Mineral liberation/recovery

- Method: flotation, regrind, CIL of concentrate
- Equipment: 2 x SK1200 and 10 x OK200TC (flotation), Metso Vertimill (VTM1000WB), 2 x Metso 355kW SMDs, 4,000m<sup>3</sup>, Pre-Ox, 2 x 4,000m<sup>3</sup> and 6 x 1,000m<sup>3</sup> CIL tanks
- Cyanide supply Orica
- Lime supply Boral
- Refining
  - 10t AARL elution circuit, ANSAC regeneration kiln
- Gravity Circuit
  - Falcon concentrator / Acacia Reactor



### MINING FLEET

#### Haulage/mine trucks

- 16 x Cat 789C Dump Trucks
- 5 x Cat 785 Dump Trucks

#### Drilling equipment

- 3 x Atlas Copco D65 (Hired)
- 1 x Terex SKF Drill

#### Dozers

- 5 x CAT D10T Tracked Dozers
- 1 x CAT834H Wheel Dozer

#### Shovels/excavators/loaders

- 1 x Liebherr 9400 Excavator
- 1 x Liebherr 994B Excavator
- 1 x Hitachi EX3600 Excavator
- 1 x Hitachi EX1200 Excavator
- 2 x Cat 992G Loaders
- Haul road maintenance equipment
  - 3 x Cat 16H Graders
  - 1 x Cat 349 Excavator
  - 2 x Cat 777D Water Carts



### SAFETY, HEALTH AND WELLNESS CULTURE

#### **Project Arrive Alive**

- Fatigue management identified as a major operational risk
- Industry leading fatigue management policy and practices developed
- Strong emphasis on education and awareness to enable self-regulation
- Enhancement of rosters and journey management
- Supported by fatigue management experts and psychologists
- Project has evolved into a comprehensive employee health and wellness program

#### **Project Vital**

- An integrated and holistic approach to employee health and wellness centred on education and awareness
- Utilises expert psychologists (Matecheck) to provide confidential counselling services to employees on abroad range of issues
- Full time health and wellbeing professionals (HBP Healthy Business) on site – developing personal health plans for employees
- Corporate gym memberships for employees
- Impact on workforce has been profound







### Cowal – 2017 NSW Mining HSEC award for safety

### **2017 COWAL AWARDS**

- Mining Operation of the Year 2017
- NSW Mineral Council's Safety Excellence Award 2017 (Project Arrive Alive)
- SES Commissioner's Commendation 2017 (2016 flood mitigation and relief work)
- Runner up in the NSW Mineral Council's Community Excellence Award 2017 (Project Bridge)
- NSW Mines Rescue Challenge 2017 (best captain)
- Victorian Mines Rescue Championships 2017 (1<sup>st</sup> for Search & Rescue & Breathing Apparatus Practical Events; 2<sup>nd</sup> for theory exam)



Some of Cowal's 2017 Awards

### Cowal – 2017 NSW Mining HSEC award for safety

# Evolution Mining