

## Ernest Henry operation

A world class asset - operated by Glencore



ALL-IN  
SUSTAINING  
COST

-A\$641/oz



FY18  
PRODUCTION

95,209oz

[www.evolutionmining.com.au](http://www.evolutionmining.com.au)

Evolution Mining is a leading, growth focussed Australian gold company. In FY18 Evolution produced 801,187 ounces of gold at an AISC of A\$797 per ounce to reach seven consecutive years of achieving production and cost guidance. Evolution has guided FY19 Group gold production of 720,000 – 770,000 ounces at an All-in sustaining cost of A\$850 – A\$900 per ounce of gold.

The Ernest Henry operation has a history of reliable operational delivery as well as the opportunity to extend its mine life below 1,200mRL. The asset also has exceptionally high margins and low capital intensity. The operation is forecast to produce between 85,000oz and 90,000oz in FY19.

**Location:** 35km north-east of Cloncurry, Queensland

**Producing:** Copper, gold and silver

**Management:** Operated by Glencore

The Ernest Henry copper-gold operation is a large-scale, long-life asset operated by Glencore. The operation employs a sub-level caving ore extraction method. It is located 38km north east of Cloncurry, Queensland. In November 2016 Evolution acquired an economic interest in Ernest Henry that will deliver 100% of future gold and 30% of future copper and silver produced within an agreed life of mine area.

Outside the life of mine area, Evolution will have a 49% interest in future copper, gold and silver production from Ernest Henry. The Ernest Henry transaction was completed on 1 November 2016 has materially improved the quality and longevity of the Group's portfolio and reduced the cost profile.

Total FY18 gold production of 95,209oz was above the top end of the 85,000 – 90,000oz guidance range. AISC of A\$(641)/oz was substantially below guidance of A\$(200) – A\$(150)/oz. Full year net mine cash flow was a record A\$219.2 million.

Note: Metal production is reported as Evolution's share of payable production. Ernest Henry processing statistics are in 100% terms while costs represent Evolution's costs and not solely the cost of Ernest Henry's operation.

Cash flow, EBITDA margins and Return on Invested Capital represent Evolution's economic interest

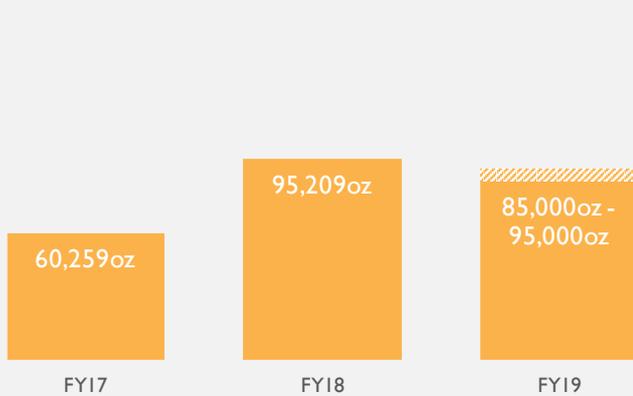
### ➔ FY18 performance

- Gold production - 95koz
- Copper production - 21kt
- Grade processed - 0.56g/t Au, 1.12% Cu
- All-in sustaining cost - A\$(641)/oz
- Operating cash flow - A\$231M
- Net mine cash flow - A\$219M
- EBITDA margin - 66%
- Return on invested capital - 25%

# LARGE-SCALE, LONG-LIFE ASS

## Snapshot

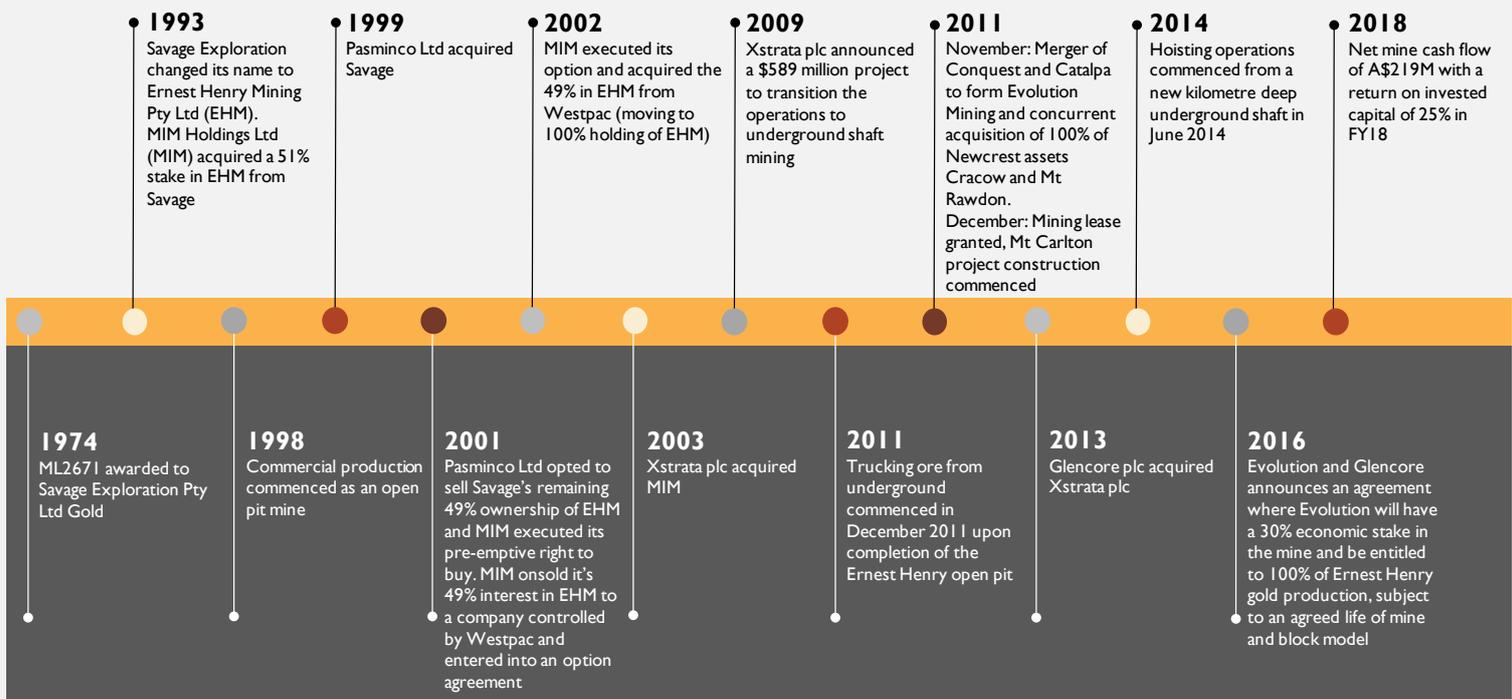
Gold production (oz)



AISC (A\$/oz)



## History - Ernest Henry



## Geology

The Ernest Henry iron oxide copper-gold deposit is located in the Cloncurry district within the Eastern Succession of the Mt Isa Inlier. The orebody is hosted within the Mt Fort Constantine volcanics, a sequence of intensely altered felsic to intermediate metavolcanics (dacite, andesite and basalt) and metasedimentary rocks that are Paleoproterozoic (1740Ma) in age. The orebody has no natural surface outcrop and lies beneath 50m of Phanerozoic cover comprising of clays, gravels and sands. The Ernest Henry deposit is a breccia pipe plunging approximately 45 degrees to the south-southeast and is bounded between northeast trending ductile shear zones.

# SET OPERATED BY GLENCORE

## Mineral Resources (Dec 17)



## Ore Reserves (Dec 17)



(1) See our website for further details of Mungari's Mineral Resources and Ore Reserves

## Mining

Ernest Henry is an underground mining operation employing sub-level caving ore extraction method. There is also an underground primary crusher and ore handling system. Ore is brought to surface via a 1km hoisting shaft with a hoisting capacity in excess of 6Mt ore p.a. The operation also has an effective and sophisticated above and below ground water management system.

<b>Mining method/s:</b>	Sub-level caving - a relatively low-cost underground mining method
<b>Access:</b>	Underground crushing station and associated facilities. Ore is transferred to surface via a haulage shaft - 1km in depth
<b>Ore mined:</b>	6.4Mt per annum
<b>Ore milled:</b>	6.4Mt per annum
<b>Mining contractor:</b>	Owner-miner
<b>Integrated tool carriers:</b>	7 x CAT 930, Volvo 120, Normet Sissor Lift, Dieci
<b>Loaders:</b>	14 x CAT R3000, R2900, Sandvik L621
<b>Production drills:</b>	2 x Atlas L6C
<b>Grader:</b>	1 x Cat 14M
<b>Agitator:</b>	2 x Moxi
<b>Spray unit:</b>	1 x Normet
<b>Charge car:</b>	1x Normet
<b>Water cart:</b>	1 x Moxi

## Processing

Copper and gold are recovered from the ore using traditional grinding and flotation methods in the concentrator. Magnetite is liberated during this process and the magnetite extraction plant allows it to be recovered from the concentrator tailings stream.

The plant has a current processing rate of ~6.4Mtpa (8.5Mtpa capacity and scalable to ~11Mtpa). The concentrator incorporates grinding (four mills), conventional flotation and dewatering. A single copper-gold-silver concentrate is produced by a rougher and a three stage cleaning circuit. The Concentrate is treated at Glencore's Mt Isa smelter (~150km trucking distance) and metal is refined at Glencore's Townsville refinery.

# Processing

<b>Ore treatment/processing method:</b>	Conventional single-line processing circuit to produce a bulk copper-gold sulphide flotation concentrate
<b>Annual average throughput rate:</b>	~6.4Mtpa – aligned to mine production rates
<b>Nameplate capacity of plant:</b>	8.5Mtpa
<b>Crushing:</b>	Metso (Svedala) 0.6MW 60" x 89" Superior Gyrotory machinery:
<b>Grinding circuit:</b>	Krupp 11MV (5.5MW Dual Pinion) 10.4m diameter x 5.1m EGL SAG Mill Krupp 5.5MW 6.1m diameter x 8.4m EGL Ball Mill
<b>Regrind:</b>	1 x Metso 1.0MW (Svedala) Vertimill 1 x 3.0MW M10000 IsaMill (Magnetite circuit: in care and maintenance)
<b>Roughers/scavengers:</b>	9 Wemco SmartCell 127m3 flotation units (Global 4500 series cells) as roughers Stage 1: 8 x Outokumpo OK50 50m3 flotation cells Stage 2: 8 x Outokumpo OK16 16m3 flotation cells Stage 3: 5 x Outokumpo OK16 16m3 flotation cells
<b>Concentrate thickener:</b>	1 x 25m diameter Eimco concentrate thickener
<b>Concentrate filters:</b>	1 x Larox PF144 (144m2 filter area), 24-plate pressure filter 2 x CS55 Larox (Magnetite circuit: in Care and Maintenance)

## Process flowsheet

