

# Ernest Henry operation

A world class asset - operated by Glencore



A\$(432)/oz

94,902oz

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

**Location:** 38km north-east of Cloncurry, Queensland

**Producing:** Copper, gold and silver

**Management:** Operated by Glencore

**Located on the traditional lands of the Mitakoodi people**

- Large scale, long-life asset
- Reliable operational delivery
- Exceptionally high margins and low capital intensity
- Record net mine cash flow in FY20 A\$257M
- Three levels of Ore Reserves added to sub-level cave in CY2019 without requiring further drilling
- Drill program in CY20 of 18,000m to extend mine life below 1,200mRL

Evolution acquired an economic interest in Ernest Henry in November 2016 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.

Throughout the duration of our partnership, Glencore has operated the asset exceptionally well and has consistently delivered results which exceed the agreed mine plan. The Ernest Henry transaction has materially improved the quality and longevity of Evolution's portfolio and significantly reduced our cost profile.

FY20 gold production of 94,902oz was above the 87,500 – 92,500oz guidance range. A negative AISC of A\$(432)/oz was slightly above guidance of A\$(590) – A\$(540)/oz after accounting for copper and silver by-product credits of (A\$1,852/oz). Full year net mine cash flow was a record A\$256.6 million.

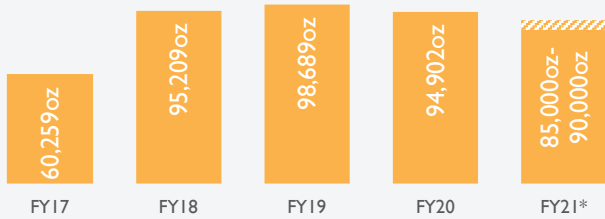
## Key facts

- FY20 gold production: **94,902oz**
- FY20 Copper production: **20,688t**
- FY20 AISC: **A\$(432)/oz<sup>1</sup>**
- FY21F gold production: **85,000 – 90,000oz**
- FY21F AISC: **A\$(350) – (300)/oz**
- FY20 Net mine cash flow: **A\$257M**
- **Mineral Resources**  
Gold: 64.6Mt at 0.62g/t Au for 1.3Moz  
Copper: 30.6Mt at 1.16% Cu for 356kt
- **Ore Reserves**  
Gold: 39.4Mt at 0.52g/t Au for 660koz  
Copper: 15.10Mt at 1.00% Cu for 150kt
- **Mining method:** underground, sub-level caving
- **Plant throughput:** 6.8Mtpa
- **Process method:** Conventional single-line processing circuit to produce a bulk copper-gold sulphide flotation concentrate
- **Mineralisation type:** Copper gold deposit – breccia pipe

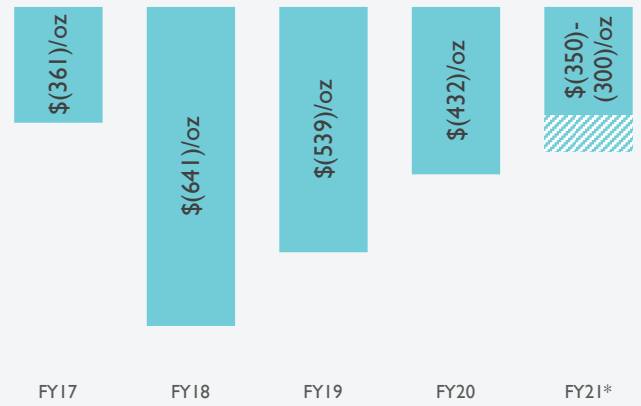
<sup>1</sup>AISC assumes A\$2,200/oz Au and A\$8,400/t Cu for royalties and by-products. Note: Metal production is reported as Evolution's share of payable production. Ernest Henry processing statistics are in 100% terms while costs represent Evolution's costs and not solely the cost of Ernest Henry's operation. Cash flow represents Evolution's economic interest

# Snapshot

## Gold production (oz)



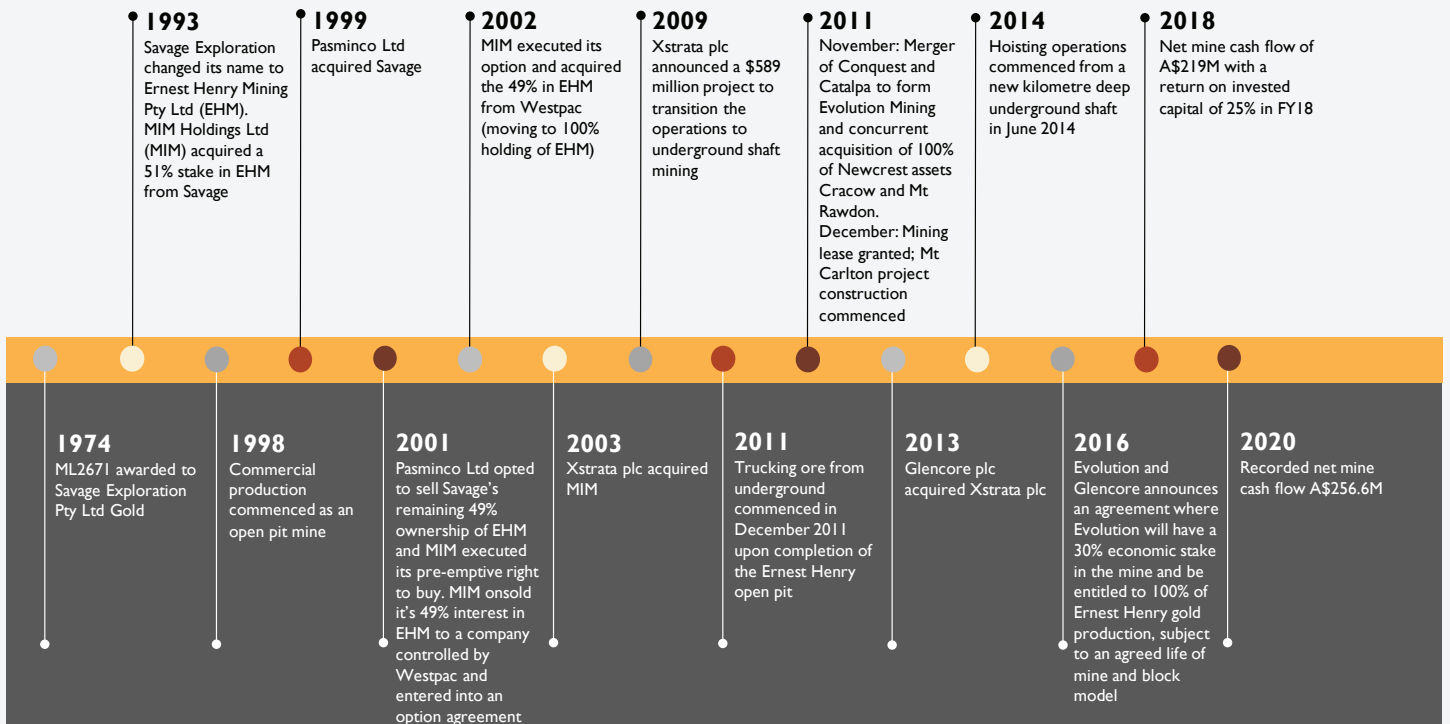
## AISC (A\$/oz)



\* denotes guidance for FY21

Historic performance data can be accessed at our [Interactive Analyst Centre™](#)

## History - Ernest Henry



## Mineral Resources (Dec 19)



## Ore Reserves (Dec 19)



(1) This information is extracted from the ASX release "Glencore Resources and Reserves as at 31 December 2019", released 4 February 2020 and is available to view on [Glencore's website](#).

# 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.

## 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 1,000m hoisting shaft with a hoisting capacity of up to 7Mt ore per annum. 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 - 1,000m in depth
<b>Ore mined:</b>	6.72Mt per annum
<b>Ore milled:</b>	6.83Mt 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.

The plant has a current processing rate of ~6.8Mtpa (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.

<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>	~6.8Mtpa – aligned to mine production rates
<b>Nameplate capacity of plant:</b>	8.5Mtpa
<b>Crushing:</b>	Metso (Svedala) 0.6MW 60" x 89" Superior Gyratory 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

