



Mt Carlton operation

One of the highest grade open pit gold mines in the world



A\$535/oz



112,479oz

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 Mt Carlton operation is a sustainable, reliable and low cost production gold operation. The operation is forecast to produce between 95,000oz and 105,000oz in FY19 at an AISC of A\$670 - A\$720/oz gold.

Location: 150km south of Townsville, Queensland

Producing: Gold, silver and copper

Management: Owner operator

Site management: Anton Kruger - General Manager

Mine Site contact number: +61 7 4422 0100

At Mt Carlton, Evolution developed the expertise to commercialise a refractory, non-oxidised, high-sulphidation epithermal deposit which is a great credit to our people. The operation was developed by Evolution and commissioned in 2013. It is now a highly successful core asset and is one of the highest-grade open pit gold mines in the world with an innovative team culture driving this impressive performance.

The operation has a current mine life out to 2025 and further mine life extensions are likely. Ore is sourced from the V2 gold-copper-silver deposit which is processed on site to produce a concentrate and shipped to China for smelting. The process plant has a current capacity of 840ktpa. Approximately 10 – 15% of gold feed is recovered through a gravity circuit prior to the flotation circuit to produce doré gold bars which are sold to the ABC Refinery in Sydney. The gravity circuit was installed in 2017 and has lifted recoveries from 88% to 90 – 91%.

Mt Carlton's injury reduction in FY18 was impressive with TRIF reducing from 8.2 to 3.9. The operation installed the CAT fatigue management system in the truck fleet to assist in managing fitness for work.

The team at Mt Carlton also advanced the Definitive Feasibility Study which is examining the relative merits of a Stage 4 cutback compared to a potential underground operation in FY20.

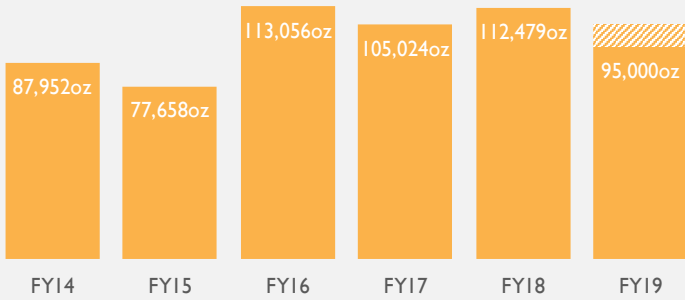
FY18 performance

- Three year average net mine cash flow - **A\$101M**
- Three year average return on invested capital - **34%**
- Current mine life to **FY25**
 - Third year of producing **>100kozpa gold**
- Processed grade - **5.61g/t Au**
- EBITDA margin - **64%**

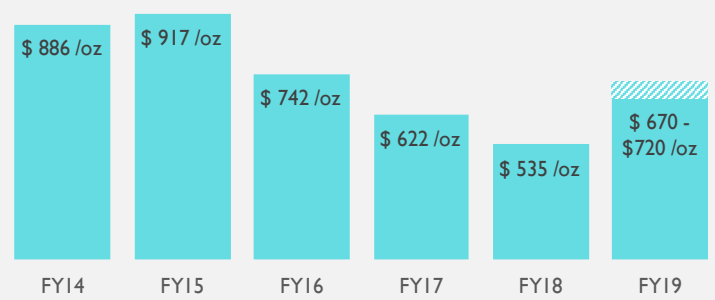
CONTINUED HIGH CASH MARG

Snapshot

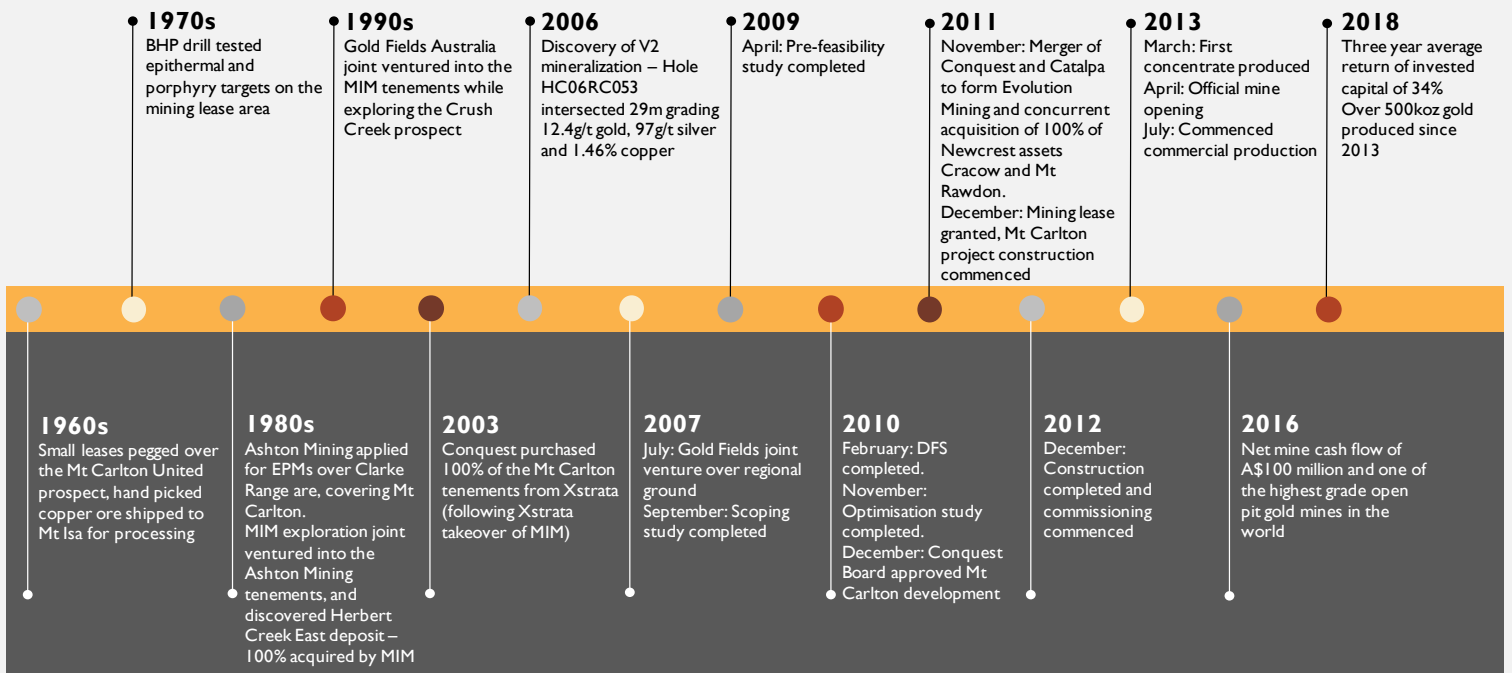
Gold production (oz)



AISC (A\$/oz)



History - Mt Carlton Evolution

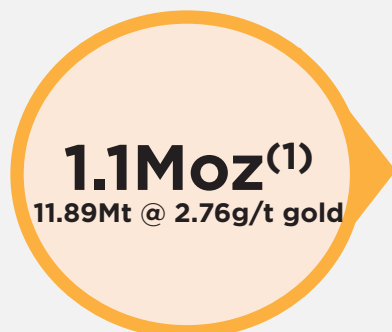


Geology

The Mt Carlton project is a high sulphidation epithermal style deposit with mineralisation occurring within felsic volcanic rocks on the northern margin of the Permian Bowen Basin. The project is comprised of gold, silver and copper. Later andesitic volcanics overlies a rhyolitic sequence which in turn underlies a package of sediments and conglomerates. Mineralisation is structurally controlled which is exclusively hosted within the advanced argillic altered rhyodacite. Discrete and discontinuous steeply dipping ENE trending breccia dominated quartz - sulphosalt infilled veins form high grade bonanza lodes. Paragenetically, the sulphosalts replace sphalerite and galena which are associated with late stage copper sulphides. Coarse gold occurs as small grains (0.1mm) at quartz-sulphide infill contacts and in sulphosalts. Basaltic/doleritic dykes which mirror pre-existing structures cross cut mineralisation.

IN OPERATION

Mineral Resources (Dec 17)



Ore Reserves (Dec 17)



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

Mining

Mining production is derived solely from the V2 deposit following the completion of the silver rich A39 deposit in FY14. The V2 deposit is flat lying and situated 20m to 180m below surface and is approximately 70m thick with a 500m by 500m areal extent. Mining is by conventional drill and blast, load and haul methodologies, mining 5m benches in 2.5m flitches. The V2 pit will have a life of mine strip ratio of 2.3:1. The low grade ore will be blended with high grade ore to optimise concentrate grade generation matching the plant capability.

Mining method/s:	Conventional open pit mining
Ore mined:	609kt (FY18)
Waste mined:	470kt (FY18)
Mining contractor:	Owner operator
Mine work roster:	8/6 day shift / night shift rotation
Haulage / mine trucks:	4 x Caterpillar 777F dump trucks
Shovels / excavators / loaders:	2 x Hitachi 1200 excavator, 2 x Caterpillar 980 loaders
Dozers:	1 x Cat D10N
Haul road maintenance regime / equipment:	1 x Caterpillar 14M grader, 1 x Caterpillar 745 water truck
Drilling equipment:	2 x Panterra 1500, 1 x Atlas Copco L8
Explosives:	MAXAM water gel 8,000 - 10,000
Blasting contract services:	SRG
Mine communications products / systems:	Digital two-way radio communications via repeater station
Mine survey equipment / products:	Leica GPS / solar power base station / repeater
Mine planning software:	Surpac, MineSched, Leapfrog

General

- **Drive in Drive out service provider**
Detour coaches with buses to Townsville and Bowen
- **Accommodation**
Available for up to 200 people
- **Mine workforce**
165 employees and contractors

Processing

The Mt Carlton processing plant was commissioned in 2013 and ore is sourced from the V2 gold-copper-silver deposit which is processed on site to produce a concentrate and shipped to China for smelting. The process plant has a current capacity of 840ktpa. Approximately 10-15% of gold feed is recovered through a gravity circuit prior to the flotation circuit to produce doré gold bars which are sold to the ABC Refinery in Sydney. The gravity circuit was installed in 2017 and has lifted recoveries from 88% to 90-91%.

- **Power**

Supplied by Ergon Energy

- **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), Delkor 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, Pre-ox - 4,000m³, 2 x 4,000m³ leach and 6 x 1,000m³ CIL tanks, Cyanide supply – Orica, Lime supply – Boral

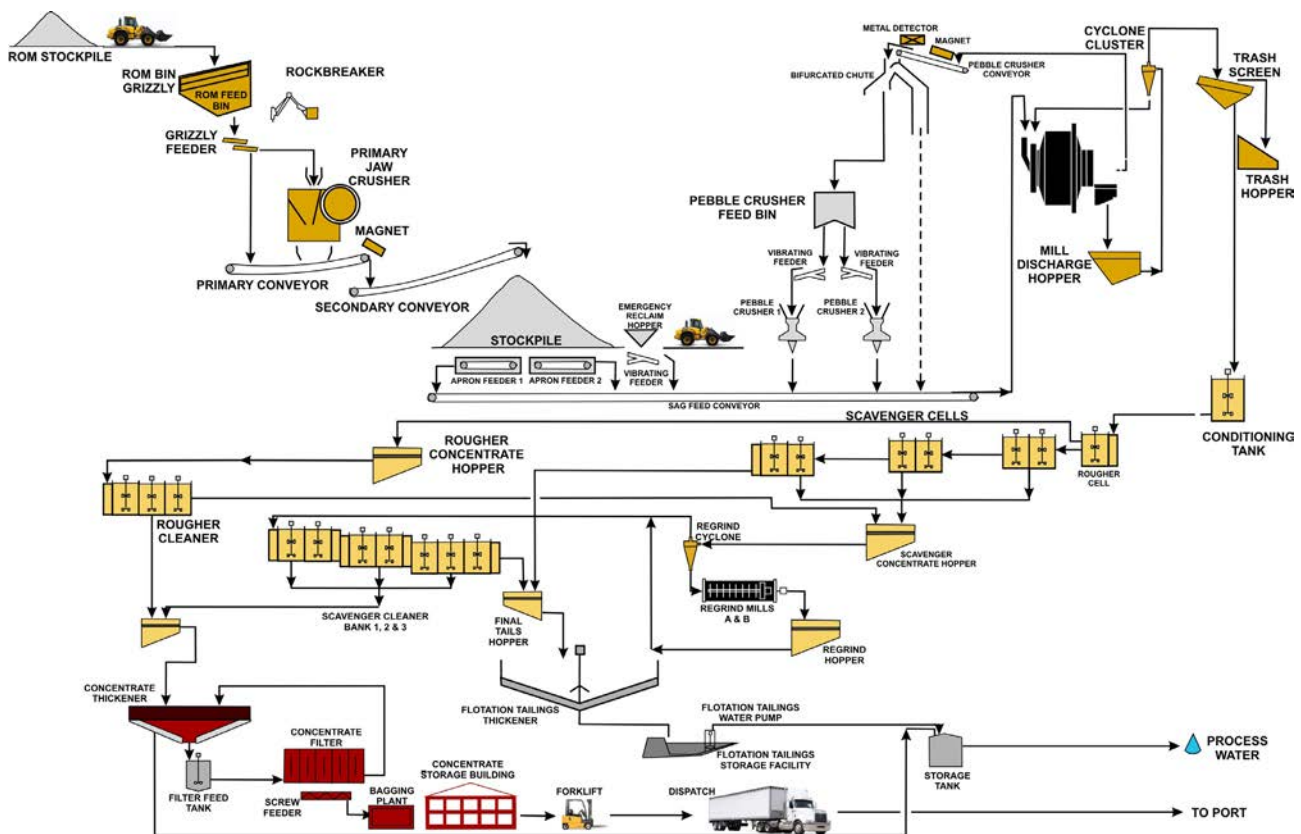
- **Refining**

10t AARL elution circuit, ANSAC regeneration kiln

- **Gravity Circuit**

Falcon concentrator / Acacia Reactor

Process flowsheet



Safety, health and wellness culture

Evolution strives to enable all work activities related to its operations to be carried out safely and with all practicable measures taken to remove or reduce risks to the health, safety and welfare of personnel, plant and equipment. In FY18 Mt Carlton's injury reduction significantly decreased with the total recordable injury frequency (TRIF) reducing from 8.2 to 3.9.

Safety

- TRIF reduced from 8.2 to 3.9 in FY18
- Critical Controls and Safety Culture focus

Environment

- ISO14001 Certification August 2018
- Environmental enhancement project -Kalamia Creek
- Burdekin waterways improvement reducing harmful run off into the Great Barrier Reef

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

Community

- High approval rating from community stakeholders in 2018
- Shared Value Project
 - Traditional Owners freight business

People capability

- Continued focus on people leadership development

Environment

We are committed to attaining an outstanding level of environmental performance in all our workplaces. Evolution incorporates environmental considerations into all areas of our business to effectively manage environmental impacts and risks. We have developed an Environment and Sustainability Policy that we expect our people and contractors to adhere to. We believe we have an obligation to not only achieve legislative compliance but to strive for best practice and to meet the expectations of the communities we operate within and are part of. We are focused on enhancing environmental stewardship through the implementation of our Environmental Protocols and Life of Mine Environmental Management Plans across all project sites. For further information please go to our website.

Community

Our Mt Carlton operation sits within the communities of Gumlu, Home Hill, Bowen and Townsville and on the traditional lands of the Birriah people. Evolution is committed to building relationships with our community stakeholders based on trust, mutual respect and genuine partnership. We want the communities in which we operate to be better off overall for us having been there. Underpinning this is our desire to always leave a positive legacy.



'Birriah Freight' Business

Partnership with the Birriah People to establish a freight business, to be owned by Birriah, which will consolidate freight in Townsville, deliver to our Mt Carlton operation and grow to service other businesses in the region. Supported by QUBE Logistics and other external partners.



Coastal rehabilitation

We have partnered with North Queensland Dry Topics to sponsor the Burdekin waterways environmental enhancement project. The project involves the extraction of weeds in the Kalamia Creek to reinstate an open body of wetlands, restore fauna diversity and improve farm productivity.