

# Cracow operation

Consistent and reliable producer since 2004



A\$1,181/oz



90,357oz

[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 Cracow operation is a consistent and reliable gold operation. The operation is forecast to produce between 80,000oz and 85,000oz in FY19 at an AISC of A\$1,250 - A\$1,300/oz gold.

**Location:** 500km north west of Brisbane, Queensland

**Producing:** Gold, silver

**Management:** Owner operator

**Site management:** Jason Floyd - General Manager

**Mine Site contact number:** +61 7 4993 7900

Evolution has owned and operated Cracow since November 2011 and has a current mine life to 2023. Cracow also has a long track record for replacing mining depletion and maintaining a three to five year mine life.

The TRIF increased from 5.2 last year to 14.0. Safety continues to be a major focus for site with a focus on fatigue management.

Operationally, Cracow performed well in FY18, exceeding planned ounces and again extending mine life. Total gold production of 90,357oz was above the top end of the 85,000 – 90,000oz guidance range. AISC of A\$1,181/oz was in line with guidance of A\$1,150 – A\$1,200/oz. Full year net mine cash flow was A\$36.7 million.

Cracow's ongoing commitment to innovation was demonstrated by the increase in gold recovery in the order of 2% from the installation of a high-intensity grinding mill (HIGmill) and the development of Production Optimiser technology for underground production drill rigs to reduce stope mining dilution. In FY19 we will continue to seek improvements and the most significant opportunities include: ore sorting; remote bogging from surface; and electric equipment.

## FY18 performance

■ Net mine cash flow -  
A\$37M

■ Current mine life to  
FY23

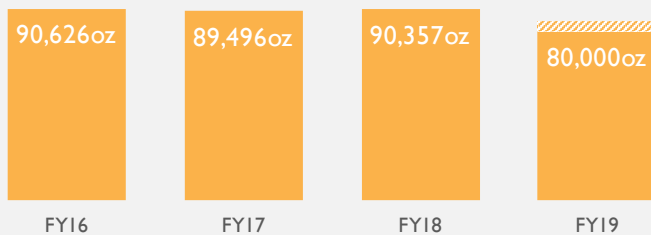
Processed grade -  
5.63g/t Au

■ EBITDA margin -  
48%

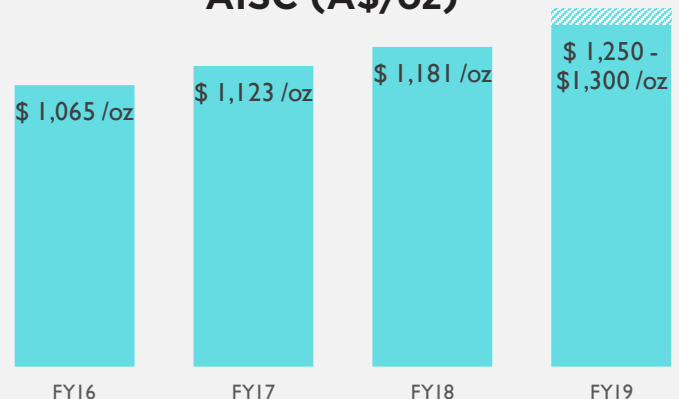
# STRONG HISTORY OF RESERVE

## Snapshot

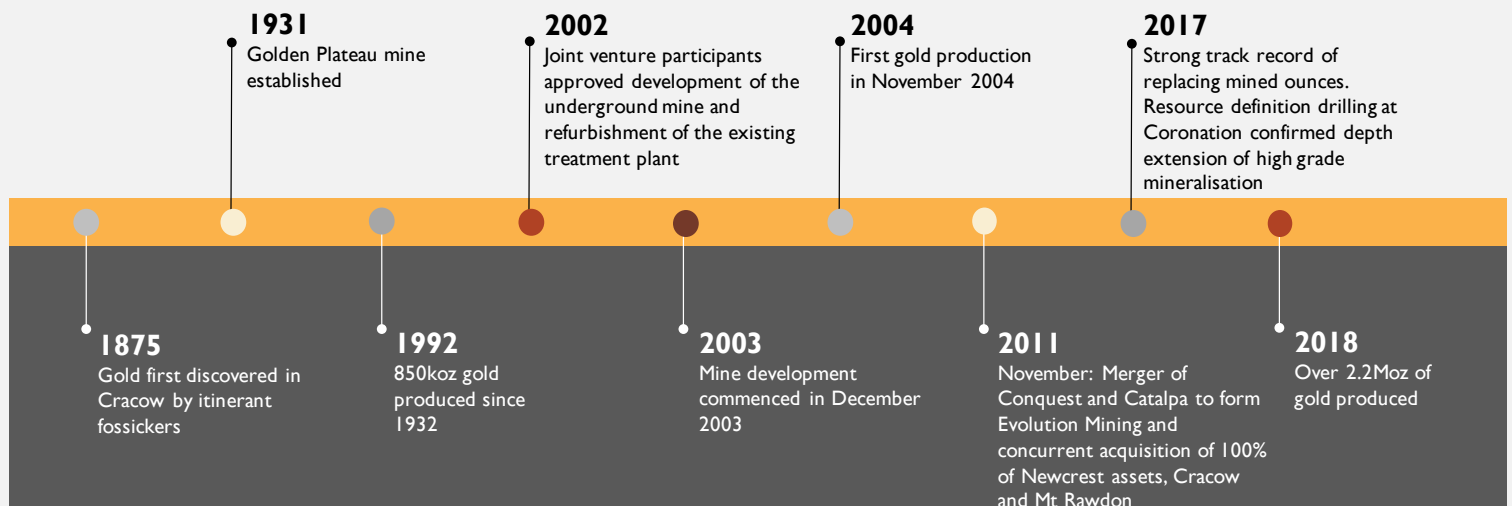
### Gold production (oz)



### AISC (A\$/oz)



## History - Cracow Evolution



## Geology

Gold mineralisation is hosted in steeply dipping low sulphidation epithermal veins. These veins are found as discrete lodes (often with associated stockwork veining), composed of varying percentages of quartz, carbonate and adularia. Mineralisation has been defined in ten separate deposits (Royal, Crown, Phoenix, Sovereign, Klondyke North, Kilkenny, Tipperary, Coronation, Empire and Roses Pride Lodes. Mining of the Kilkenny, Coronation, Griffin, Klondyke and Empire Lodes is currently being undertaken, which average between 2 – 5m in width.



Core from Cracow operation

# E REPLACEMENT

## Mineral Resources (Dec 17)



## Ore Reserves (Dec 17)



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

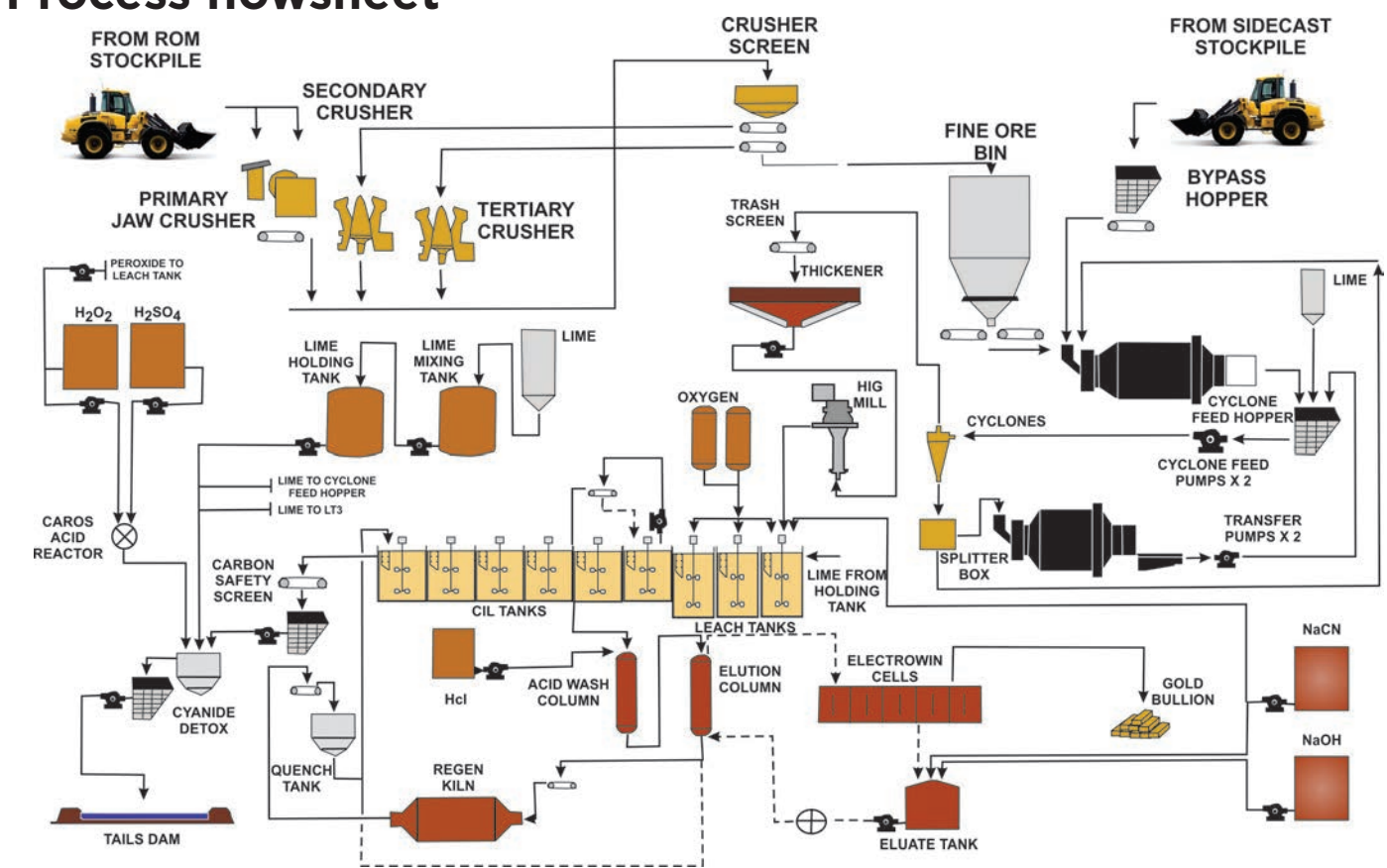
## Mining

Underground mining is by owner-miner. Multiple underground orebodies are accessed by a singular decline to surface employing truck haulage for materials ore handling to the ROM. Current mining production activities have extended to a depth of 860m below surface. The typical mining method employed is modified avoca, although multiple mining methods such as uphole retreat, open stoping, flat backing and benching are also employed. Stope voids are backfilled either with unconsolidated waste from development activities or cemented rock fill (CRF) - waste rock mixed with cement to create a cemented fill material that can be later exposed in the extraction of economic ore abutting the CRF material.

<b>Mining method/s:</b>	Modified avoca, uphole retreat, benching, open stoping with post uncemented and cemented rockfill
<b>Access:</b>	5.2m x 5.8m decline; 1:7 average gradient; 500-600m per month of development; - currently five main ore sources accessed through one portal
<b>Ore mined:</b>	550-560kt per annum
<b>Ore milled:</b>	550-560kt per annum
<b>Mining contractor:</b>	Owner-miner
<b>Underground work roster:</b>	12 hour shifts; 8 on 6 off; 7 on 7 off; 4 panels
<b>Underground mine trucks:</b>	3 x Atlas Copco MT6020, 1 x Atlas Copco MT65
<b>Underground loaders:</b>	2 x Caterpillar Elphinstone 2900G, 2 x Caterpillar Elphinstone 1700G
<b>Typical cycle times (trucks/loaders):</b>	80 minutes
<b>Development drills:</b>	2 x Sandvik Tamrock DD421-60C twin boom jumbos,
<b>Production drills:</b>	1 x Atlas Copco 1257, 1 x Atlas Copco SD7
<b>Strata/ground control:</b>	Primary support is galvanised splitsets + mesh (orebody development), secondary support is grouted twin strand cables unplated
<b>Scaling equipment/ancillary equipment:</b>	1 x Caterpillar 924K, 1 x Caterpillar TH447, 1 x Caterpillar IT62, 1 x Toro 50 agi-conversion, 1 x Jaco Maxi-jet, 1 x Caterpillar 12H, 1 x Getman chargeup, 1 x Normet chargeup, 1 x Normet fuel truck, 1 x AD45 water truck
<b>Explosives:</b>	Dyno Nobel ANFO, Dyno Nobel 50:50, Dyno Nobel LP dets (development), Davey Bickford electronic dets (stopping) (development), Dyno Smartshot dets (stopping)
<b>Remote/teleremote control equipment:</b>	RCT teleremote systems on UG loaders with guidance
<b>Underground communications and reporting products/systems:</b>	VHFleaky feeder radio, automatic and manual reporting and fibreoptic backbone WIFI
<b>Mine planning software:</b>	Deswik, MineCAD, EPS, Surpac
<b>Provider of safety refuge chambers:</b>	MineARC

The Cracow processing plant consists of a three-stage crushing circuit, primary and secondary ball milling, pre-leach thickening, fine grinding and conventional cyanidation leaching (CIP). The doré gold bars produced from the plant are then sold to the ABC Refinery in Sydney.

- ## 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. Safety at Cracow continues to be a key focus for the team. In FY18 the TRIF increased from 5.2 to 14.0. Safety continues to be a major focus for site with a focus on fatigue management.

## Safety

- TRIF reduced from 35.8 to 9.9 (January 2019)
- Significant focus in FY18 on fatigue management

## Community

- High approval rating for social licence to operate from community stakeholders – 2018 Stakeholder Perception Survey
- Good relationship with local government
  - Partnering with local council on upgrade to Theodore aerodrome and expansion to Cracow caravan park

## Environment

- Ongoing commitment to progressive rehabilitation – historic Golden Mile area completed in FY18

## People Capability

- Strong focus on the development and empowerment of site leaders

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

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# 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 focussed 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.

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# Community

Our Cracow operation sits within the communities of Cracow and Theodore and on the traditional lands of the Wulli Wulli 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.

