



Overview

Evolution Mining is a leading growth focussed Australian gold miner forecasting to produce between 800,000oz to 860,000oz gold in FY17. It is also the largest gold producer in Queensland and expected to produce between 260,000oz and 285,000oz gold from its three Queensland assets in FY17. Cracow mine has a history of reliable production since mining began in 2004 and has produced more than one million ounces of gold. Cracow was also one of the highest cash flow producing mines in the portfolio.

Location: Producing: Site management: Mine Site contact number: 500km north west of Brisbane Gold, silver Andrew Millar - General Manager +61 7 4993 7900

History



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.

Reserves:	1.05Mt @ 5.67g/tAu for 192kozAu
Resources:	3.29Mt @ 4.94g/t Au for 522koz Au

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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 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.

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Mining CONT



Mining method/s:	Modified avoca, uphole retreat, benching, open stoping with post uncemented and cemented rockfill
Access:	5.2m x 5.8m decline; 1:7 average gradient; 200-300m per month of development; - currently five main ore sources accessed through one portal
Ore mined:	475kt per annum
Ore milled:	525kt per annum
Mining contractor:	Owner-miner
Underground work roster:	12 hour shifts; 8 on 6 off; 7 on 7 off; 4 panels
Underground mine trucks:	4 x Atlas Copco 6020 units
Underground loaders:	2 x Caterpillar Elphinstone 2900G, 2 x Caterpillar Elphinstone 1700G,
Typical cycle times (trucks / loaders):	80 minutes
Development drills:	1 x Sandvik Tamrock DD421-60C twin boom jumbos, 1 x Minimatic H205D
Production drills:	1 Atlas Copco 1257, 1 x Atlas Copco SD7
Strata / ground control:	Primary support is galvanised splitsets + mesh (orebody development), secondary support is grouted twin strand cables unplated
Scaling equipment / ancillary equipment:	1 x Caterpillar 924K, 1 x Caterpillar TH447, 1 x Caterpillar IT62, 1 x Toro 50 agi-conversion,1 x Jacon Maxi-jet, 1 x Caterpillar 12H, 1 x Getman chargeup, 1 x Normet chargeup, 1 x Normet fuel truck, 1 x AD45 water truck
Explosives:	Dyno Nobel ANFO, Dyno Nobel 50:50, Dyno Nobel LP dets (development), Davey Bickford electronic dets (stoping) (development), Dyno Smartshot dets (stoping)
Remote / teleremote control equipment:	RCT teleremote systems on UG loaders with guidance
Underground communications and reporting products / systems:	VHFleaky feeder radio, underground wifi network, automatic and manual reporting and fibreoptic backbone WIFI
Mine planning software:	Datamine Studio3, MineCAD, EPS, Surpac
Provider of safety refuge chambers:	MineARC



Cracow CONT



Processing Plant

Ore treatment/processing method/s:	Free milling and treated by conventional crush-grind-CIP processing to produce gold-silver dore
Yearly average throughput rate:	(FY13 and FY14): ~500ktpa; (FY15): ~540ktpa; (FY16): ~520ktpa
Nameplate capacity of plant:	550ktpa
Crushing plant total capacity:	110tph
Primary crushing/grinding plant/machinery:	: Jaques Jaw, 200tph, 750mm, 90mm
Secondary crushing/grinding plant/ machinery:	4¼ Symons cone, 100tph, 100mm, 15mm
Tertiary crushing/grinding plant/machinery:	4¼ Symons cone, 50tph, 20mm, 8mm
Grinding Plant Equipment:	MI01: 4m x 5.9m Morgardshammer OFBM, 1400KW / ML02: 2.9 x 4.3 Morgardshammer OFBM
Grinding Media:	27mm to 64mm grinding balls
Screening plant/equipment:	Jaques Torrens double deck screen, top deck passing 24mm, bottom deck passing 10mm
Mineral liberation/recovery method:	Cyanide leach followed by CIP adsorption
Mineral/fuel processing/recovery plant/ equipment:	Denver 14m diameter pre-leach thickener, 3 Leach Tanks ea 540m³, 6 Adsorption Tanks ea 155m³
Cyclone Feed pumps:	Krebs Millmax 8" x 6"
Chemicals/reagents used:	Sodium Cyanide, Hydrochloric acid, Sulphuric acid, Sodium Hydroxide - Orica; Hydrogen Peroxide - Solvay Interox; Hydrated Lime - Uni Min
Refining plant/equipment:	Pressure Zadra Carbon Stripping Circuit, 3.5t capacity - Como Engineering; Electro-winning on steel wool
Process control system:	Allen Bradley
Maintenance system:	Pronto
Production work roster:	4 crews of 4 Operators plus Supervisor, 12 hour shifts, working 8 on, 6 off Day Shift and 7 on, 7 off Night Shift
Maintenance work roster:	2 crews of 3 Technicians plus Supervisor, working 12 hour days, 8 on 6 off

General

Fly in Fly out service provider: Accommodation: Mine Workforce: Safety / Environment / Community:

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Seair Pacific Available for up to 233 people

285 employees & contractors

Evolution strives to enable all work activities related to its operations to be carried out safely and with all reasonable measures taken to remove or reduce risks to the health, safety and welfare of personnel, plant and equipment. Evolution is committed to attaining an outstanding level of environmental performance in all of its workplaces and has a strong corporate culture and a commitment to proactively and positively engage with the communities in which we operate. We recognise the need to consult with and understand the values, needs, beliefs, traditions and sensitivities of the communities in which we operate.

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Process Flowsheet

