

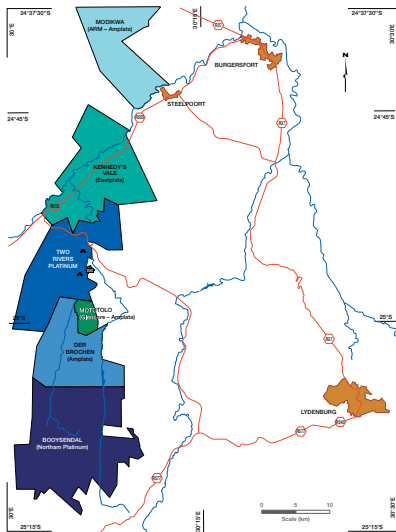
FACT SHEET

TWO RIVERS



Two Rivers, a joint venture between African Rainbow Minerals (ARM) (54%) and Implats (46%), is managed by ARM. The operation is situated on the farm Dwarsrivier on the southern part of the eastern limb of the Bushveld Complex some 35 kilometers south-west of Burgersfort in Mpumalanga, South Africa. The operation comprises two on-reef decline shafts and a concentrator plant and has a life-of-mine offtake agreement with Impala Refining Services (IRS). In FY2020, Two Rivers produced 6E in concentrate production of 261 000 ounces.

Regional locality map showing PGM mineral rights and infrastructure in the Two Rivers surroundings



GEOLOGY

Both the Merensky and underlying UG2 Reefs occur on the property but only the UG2 is currently exploited. The UG2 outcrops in the Klein Dwarsrivier valley over a north-south strike length of 7.5 kilometres and dips to the west at about 7 to 10 degrees. The vertical separation between the Merensky and UG2 Reefs is around 140 to 160 metres. Due to the extreme topography, the Merensky reef outcrops further up the mountain slope and also results in the UG2 occurring at a depth of 1 650 metres below surface on the south-western boundary.

Three distinct reef types have been defined for the UG2 Reef at Two Rivers, namely the 'normal reef' with a thick main chromitite layer; a 'split reef' characterised by an internal pyroxenite/norite lens within the main chromitite layer; and a 'multiple split reef' with numerous pyroxenite/norite lenses occurring within the main chromitite layer.

Mineral Resources (inclusive reporting) as at 30 June 2020

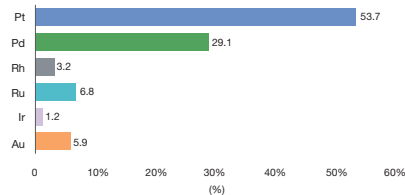
	Category	Tonnes (Mt)	Width (cm)	4E Grade (g/t)	6E Grade (g/t)	6E (Moz)
Merensky	indicated	75.7	210	3.13	3.42	8.3
	inferred	61.4	145	3.98	4.32	8.5
UG2	measured	14.4	148	4.66	5.65	2.6
	indicated	83.8	143	4.77	5.73	15.4
	inferred	80.3	120	4.47	5.33	13.8
	Total	315.5		4.14	4.80	48.7

Mineral Reserves as at 30 June 2020

Orebody	Category	Tonnes (Mt)	Width (cm)	4E Grade (g/t)	6E Grade (g/t)	6E (Moz)
UG2	proved	4.6	242	2.79	3.41	0.5
	probable	58.6	243	2.95	3.57	6.7
	Total	63.2		2.94	3.55	7.2

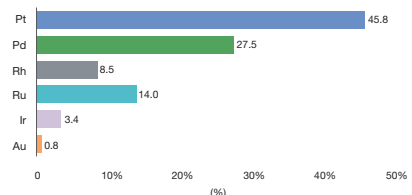


Two Rivers Merensky 6E metal ratio as at 30 June 2020



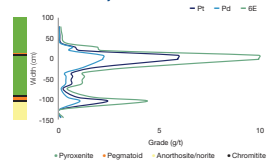
Merensky metal ratios derived from the Mineral Resources estimate.

Two Rivers UG2 6E metal ratio as at 30 June 2020

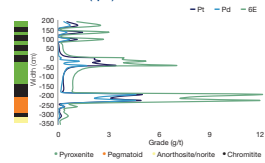


UG2 metal ratios derived from the Mineral Resources estimate.

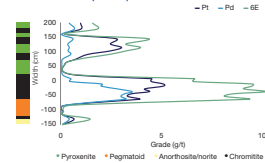
Two Rivers - Merensky



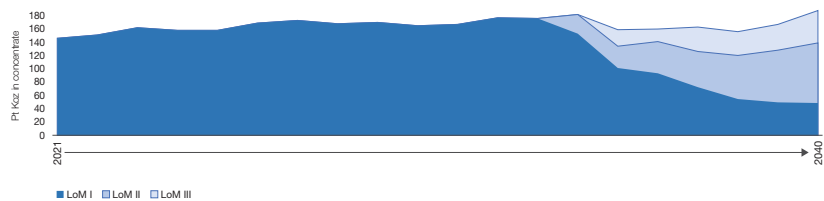
Two Rivers - UG2 (split)



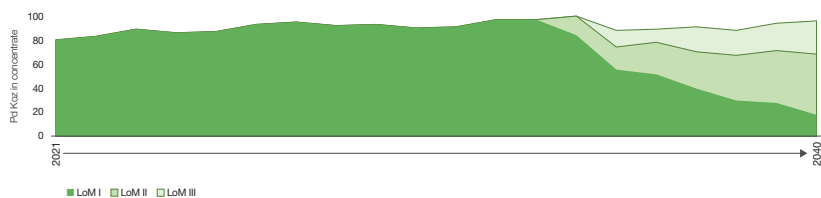
Two Rivers - UG2 (normal)



Impala 20-year estimated LoM platinum ounce profile as at 30 June 2020 (in concentrate)



Impala 20-year estimated LoM palladium ounce profile as at 30 June 2020 (in concentrate)



MINING

The UG2 orebody is accessed via two decline shaft systems situated three kilometres apart, namely the Main Decline and the North Decline. Underground mining operations are fully mechanised and the bord and pillar mining method is employed where stoping widths average around 1.8 metres. A mining section consists of eight 12 metre rooms, with pillar sizes increasing with depth below surface.

METALLURGY

Two Rivers has a concentrator plant on site, where initial processing is done. It comprises a standard MF2 design as generally used in the industry. Concentrate is transported by road to Impala's Mineral Processes in Rustenburg where further processing takes place in terms of an agreement with Impala Refining Services (IRS). A 40 000 tonne per month plant expansion project is due to be commissioned during FY2022.

SUSTAINABLE DEVELOPMENT

Two Rivers is committed to social development initiatives and engages in, develops and builds community relationships. It takes responsibility for economic, social and environmental issues that impact its people, communities and environments and is involved in a number of community projects in the area. The Two Rivers Platinum Community Forum was established primarily to share information about the mine with local communities and to set up a network for social upliftment projects.

An aerial photograph of a mining operation. The scene shows a large area with various structures, including buildings and storage tanks, along with numerous pieces of heavy machinery and vehicles. The terrain is a mix of dry, brownish ground and some green vegetation. In the background, there are hills under a clear blue sky.

HISTORY

Platinum was first discovered in the area by renowned explorer Hans Merensky on the nearby farm Maandagshoek (now Modikwa Platinum) in the 1920s. During 2001, Assmang elected to dispose of its platinum interests at the Dwarsrivier Chrome mine. Two Rivers Platinum, the JV between Avmin and Implats, secured the platinum rights in December of that year. Subsequent corporate activity involving Avmin, ARM and Harmony resulted in the transfer of Avmin's share in Two Rivers to a new, empowered platinum entity, ARM Platinum, a division of ARM. The joint venture partners began development of the Two Rivers project in June 2005. The concentrator plant was commissioned early in FY2007 and in FY2008 the mine successfully made the transition from project to operation.

In 2015 portions 4, 5 and 6 of the farm Kalkfontein, as well as a portion of the farm Tweefontein, were incorporated into the Two Rivers mining right. An agreement was also reached for the remaining Implats-owned mineral rights on portions of the farms Kalkfontein and Buffelshoek in exchange for a royalty payment.

BLACK ECONOMIC EMPOWERMENT

ARM was founded in 2004 as South Africa's first black-owned mining company. Two Rivers complies with the BEE equity component of the Mining Charter while all other aspects of the Charter are dealt with at an operational level. The operation subscribes to the transformation of South African business by actively promoting BEE ownership and employing local SMEs (small- and medium-sized enterprises).

TWO RIVERS – KEY STATISTICS

TWO RIVERS – KEY STATISTICS		FY2020	FY2019
Production			
Tonnes milled ex mine	(000t)	3 016	3 405
Headgrade (6E)	(g/t)	3.45	3.52
6E in concentrate	(000oz)	261	313
Labour efficiency			
Tonnes milled per employee costed** (t/man/annum)		911	1 070
Cost			
Mining cost of sales	(Rm)	(3 394)	(3 064)
Mining operations	(Rm)	(2 016)	(2 103)
Processing operations	(Rm)	(467)	(448)
Other	(Rm)	(911)	(513)
Total cost	(Rm)	2 483	2 551
	(US\$m)	158	180
Unit costs per tonne milled	(R/t)	823	749
	(US\$/t)	53	53
per 6E ounce in concentrate	(R/oz)	9 513	8 140
	(US\$/oz)	607	574
Financial ratios			
Gross margin ex mine	(%)	45.3	23.9
Capital expenditure			
	(Rm)	800	571
	(US\$m)	51	40
Safety			
LTIFR	(pmmhw ⁻¹)	2.03	2.4
FIFR	(pmmhw ⁻¹)	–	–
Labour complement			
Own employees	(no)	2 365	2 336
Contractors	(no)	964	925



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TWO RIVERS
PLATINUM