



Two Rivers

FACT SHEET

RESPECT, CARE
AND DELIVER |

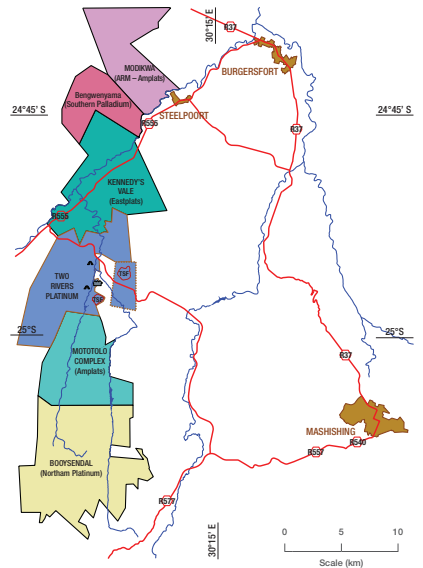
TWO RIVERS
PLATINUM

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 FY2023
Two Rivers produced
295 000
ounces 6E in concentrate

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



Legend			
	Town		Public road
	Mining right boundary		River
	Surface right boundary		Dam
	Portal		Processing plant
	Tailings storage facilities		



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/noritite lens within the main chromitite layer; and a ‘multiple split reef’ with numerous pyroxenite/noritite lenses occurring within the main chromitite layer.

Mineral Resources (inclusive reporting) as at 30 June 2023

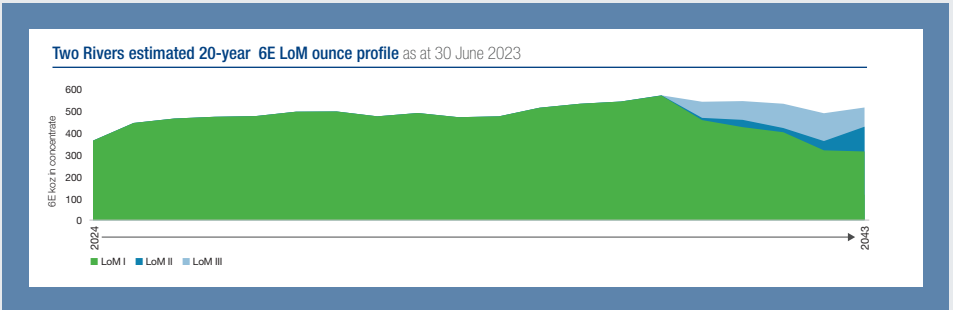
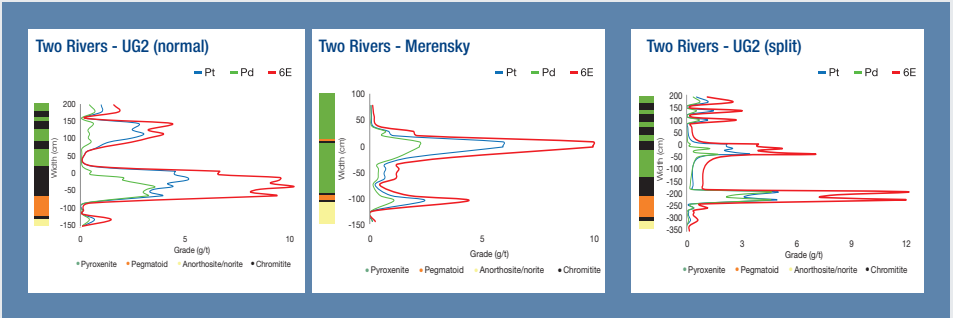
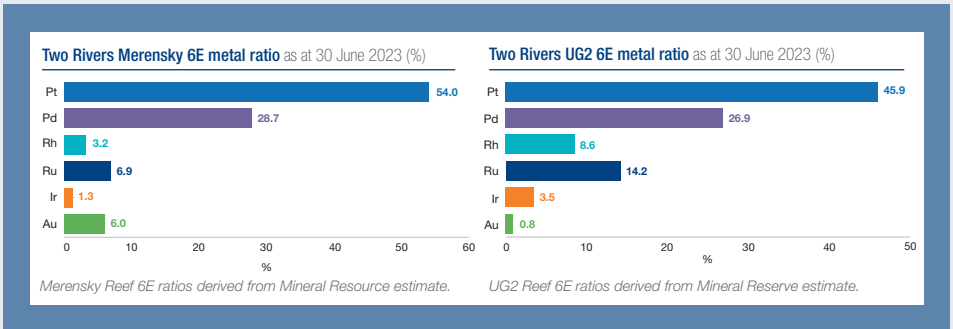
	Category	Tonnes (Mt)	Width (cm)	4E Grade (g/t)	6E Grade (g/t)	6E (Moz)
Merensky	indicated	91.1	192	3.07	3.35	9.8
	inferred	77.0	137	4.06	4.40	10.9
UG2	measured	15.3	142	4.58	5.56	2.7
	indicated	75.5	142	4.78	5.77	14.0
	inferred	81.0	117	4.51	5.38	14.0
	Total	339.9		4.08	4.71	51.5

Mineral Reserves as at 30 June 2023

Orebody	Category	Tonnes (Mt)	Width (cm)	4E Grade (g/t)	6E Grade (g/t)	6E (Moz)
Merensky	proved	0.5	-	1.95	2.12	0.03
	probable	55.9	258	2.53	2.75	4.9
UG2	proved	11.2	247	2.57	3.13	1.1
	probable	58.0	246	2.75	3.33	6.2
	Total	125.6		2.63	3.05	12.3

MINING

The UG2 orebody is accessed via two decline shaft systems situated three kilometres apart, namely the Main Decline and the North Decline. Production of the UG2 reef is through a fully mechanised bord and pillar stopeing method. Construction of the new Merensky mine has commenced and the mining method will be based on fully mechanised bord and pillar mining.



■ KEY PROJECTS

In partnership with African Rainbow Minerals, Implats has committed R7.3 billion to construct a new Merensky Mine and concentrator. This will expand production by circa 180 000 6E ounces. 100% of the 6E PGM project production will be treated through the Group's smelting and refining facilities.

■ 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).

■ 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.



■ HISTORY

Platinum was first discovered in the area by renowned explorer Hans Merensky on the nearby farm Maandagshoek (now Modikwa mine) 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 small- and medium-sized enterprises.



TWO RIVERS – KEY STATISTICS

		FY2023	FY2022	FY2021
Production				
Tonnes milled ex mine	(000t)	3 558	3 458	3 283
Headgrade (6E)	(g/t)	3.09	3.22	3.43
6E in concentrate	(000oz)	295	302	300
Labour efficiency				
Tonnes milled per employee costed*	(t/man/annum)	295	302	300
Cost				
Mining cost of sales	(Rm)	(4 867)	(4 547)	(4 447)
Mining operations	(Rm)	(3 143)	(2 704)	(2 541)
Processing operations	(Rm)	(899)	(661)	(574)
Other	(Rm)	(825)	(1 182)	(1 332)
Total cost	(Rm)	4 042	3365	3 115
	(US\$m)	227	221	202
Unit costs per tonne milled	(R/t)	1 136	973	949
	(US\$/t)	64	64	62
per 6E ounce in concentrate	(R/oz)	13 974	11 491	10 074
	(US\$/oz)	786	755	654
Financial ratios				
Gross margin ex mine	(%)	38.4	51.7	62.9
Capital expenditure				
	(Rm)	3 000	1 794	1 213
	(US\$m)	169	118	79
Safety				
LTIFR	(pmmhw ⁺)	1.04	1.26	2.10
FIFR	(pmmhw ⁺)	-	-	-
Labour complement				
Own employees	(no)	2 911	2 665	2 386
Contractors	(no)	3 149	1 830	1 342

* Average working cost employees including contractors

+ Per million man hours worked



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