



# Two Rivers

FACT SHEET

RESPECT, CARE  
AND DELIVER |

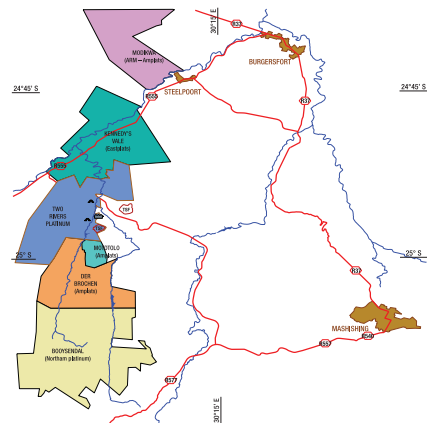
TWO RIVERS  
PLATINUM

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 FY2021  
Two Rivers produced  
**300 000**  
ounces 6E in concentrate

**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 2021

	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
	probable	61.4	145	3.98	4.32	8.5
UG2	measured	16.3	145	4.69	5.72	3.0
	indicated	84.3	143	4.74	5.73	15.5
	probable	83.5	120	4.37	5.23	14.0
	<b>Total</b>	<b>321.2</b>		<b>4.12</b>	<b>4.78</b>	<b>49.4</b>

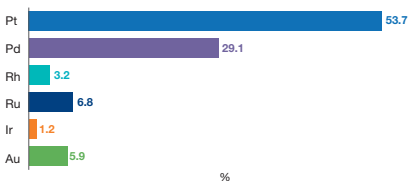
Mineral Reserves as at 30 June 2021

Orebody	Category	Tonnes (Mt)	Width (cm)	4E Grade (g/t)	6E Grade (g/t)	6E (Moz)
Merensky	proved	-	-	-	-	-
	probable	49.6	305	2.65	2.89	4.6
UG2	proved	9.2	241	2.82	3.46	1.0
	probable	61.9	241	2.86	3.47	6.9
	<b>Total</b>	<b>120.8</b>		<b>2.77</b>	<b>3.23</b>	<b>12.5</b>

## MINING

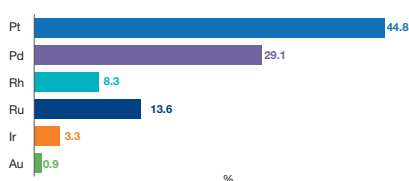
The UG2 orebody is accessed via two decline shaft systems situated three kilometres apart, namely the Main Decline and the North Decline. Underground mining operations are fully mechanised and the bord and pillar mining method is employed where stoping widths average around 1.8 metres. A Merensky mine will be developed alongside the existing UG2 mine and a new concentrator plant constructed. The plant will be commissioned with stockpile accumulated during the establishment of the Merensky portal in FY2024, with full production of 180 000 ounces 6E expected in FY2025.

**Two Rivers Merensky 6E metal ratio as at 30 June 2021 (%)**



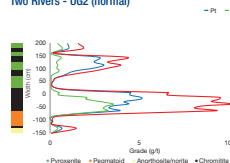
*Merensky metal ratios derived from the Mineral Resources estimate.*

**Two Rivers UG2 6E metal ratio as at 30 June 2021 (%)**

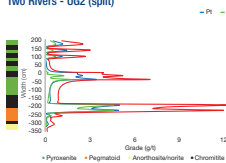


*UG2 metal ratios derived from the Mineral Resources estimate.*

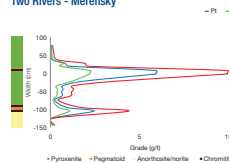
**Two Rivers - UG2 (normal)**



**Two Rivers - UG2 (split)**



**Two Rivers - Merensky**



**Impala estimated 20-year 6E LoM ounce profile as at 30 June 2021**



## 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.

## 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).



## 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 small- and medium-sized enterprises.



## TWO RIVERS – KEY STATISTICS

TWO RIVERS – KEY STATISTICS		FY2021	FY2020	FY2019
<b>Production</b>				
Tonnes milled ex mine	(000t)	<b>3 283</b>	3 016	3 405
Headgrade (6E)	(g/t)	<b>3.43</b>	3.45	3.52
6E in concentrate	(000oz)	<b>300</b>	261	313
<b>Labour efficiency</b>				
Tonnes milled per employee costed** (t/man/ annum)		<b>947</b>	911	1 070
<b>Cost</b>				
<b>Mining cost of sales</b>	(Rm)	<b>(4 447)</b>	(3 394)	(3 064)
Mining operations	(Rm)	<b>(2 541)</b>	(2 016)	(2 103)
Processing operations	(Rm)	<b>(574)</b>	(467)	(448)
Other	(Rm)	<b>(1 332)</b>	(911)	(513)
<b>Total cost</b>	(Rm)	<b>3 115</b>	2 483	2 551
	(US\$m)	<b>202</b>	158	180
<b>Unit costs per tonne milled</b>	(R/t)	<b>949</b>	823	749
	(US\$/t)	<b>62</b>	53	53
<b>per 6E ounce in concentrate</b>	(R/oz)	<b>10 376</b>	9 513	8 140
	(US\$/oz)	<b>674</b>	607	574
<b>Financial ratios</b>				
Gross margin ex mine	(%)	<b>62.9</b>	45.3	23.9
<b>Capital expenditure</b>				
	(Rm)	<b>1 213</b>	800	571
	(US\$m)	<b>79</b>	51	40
<b>Safety</b>				
LTIFR	(pmmhw*)	<b>2.10</b>	2.03	2.4
FIFR	(pmmhw*)	<b>–</b>	–	–
<b>Labour complement</b>				
Own employees	(no)	<b>2 386</b>	2 365	2 336
Contractors	(no)	<b>1 342</b>	964	925



## CONTACT DETAILS

### HEAD OFFICE

2 Fricker Road, Illovo, 2196  
Private Bag X18, Northlands, 2116  
Tel: +27 (11) 731 9000  
E-mail: [investor@implats.co.za](mailto:investor@implats.co.za)  
[www.implats.co.za](http://www.implats.co.za)

### Group Executive: Corporate Affairs Johan Theron

Tel: +27 (11) 731 9013  
E-mail: [johan.theron@implats.co.za](mailto:johan.theron@implats.co.za)

### Executive: Corporate Affairs

Emma Townshend  
Tel: +27 (21) 794 8345  
E-mail: [emma.townshend@implats.co.za](mailto:emma.townshend@implats.co.za)

### Group Head: Corporate Communications Alice Lourens

Tel: +27 (11) 731 9033  
E-mail: [alice.lourens@implats.co.za](mailto:alice.lourens@implats.co.za)

JANUARY 2022