Operational reviews



Key features for F2022

34% decrease in headline earnings

Production and sales volumes at Two Rivers **impacted** by the **fatality** and **grade challenges**

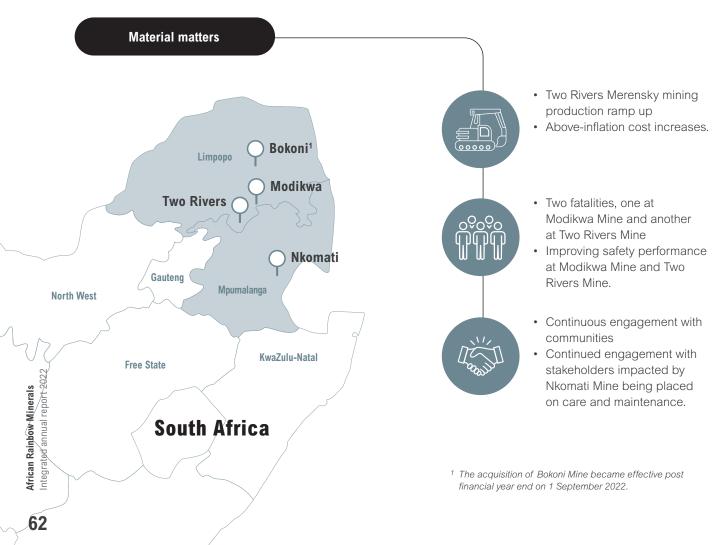
Modikwa Mine increased **production** volumes by 17%

Decline in average realised US dollar PGM prices

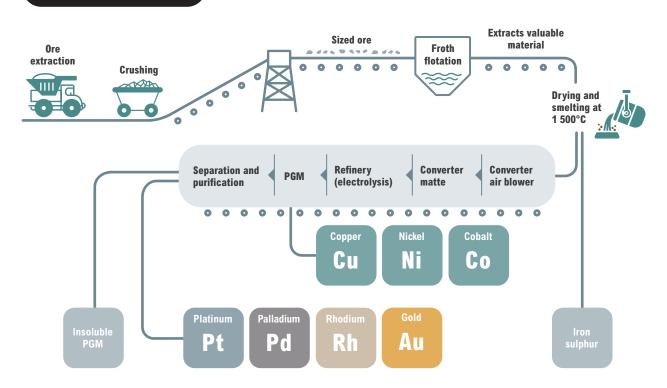
Commencement of Merensky mining at Two Rivers Mine

Nkomati Mine remains on care and maintenance

ARM Mining Consortium declared a **R255 million dividend** to communities



PGM production process



Operational reviews continued

ARM Platinum continued

Scorecard

Modikwa Mine

F2022 objectives

Produce 270 000 6E PGM ounces with a continued focus on improving mine's position on global PGM cost curve

Continue South 2 shaft ramp-up and achieve 60 000 tonnes per month

Produce 100 000 tonnes of chrome concentrate

Achieved/Not achieved

Achieved

Production volumes were 295 000 6E PGM ounces and position on the global cost curve improved

Achieved

South 2 shaft system produced an average of 67 000 tonnes per month

Not achieved

The chrome plant was commissioned in August 2021.

Chrome concentrate production volumes were 42 709 tonnes

F2023 objectives

Produce 305 000 6E PGM ounces with a continued focus on further improving mine's position on global PGM cost curve

Construct and commission the underground-to-surface conveyor system

Ramp up volumes to an average of 70 000 tonnes per month

Produce 125 000 tonnes of chrome concentrate

Start Merensky trial mining with average of 30 000 tonnes pm

Two Rivers Mine

F2022 objectives

Produce 310 000 6E PGM ounces.

Focus on improving mine's position on global PGM cost curve

Ramp up concentrator plant to full capacity by F2023

Sales volumes of 251 000 tonnes of chrome concentrate

Commission Merensky mining in Q4 F2022

Achieved/Not achieved

Not achieved

Production volumes of 303 216 6E PGM ounces

Achieved

The plant expansion was commissioned successfully and achieved its full ramp up.

Not achieved

Chrome concentrate sales volumes were 215 000 tonnes

Achieved

F2023 objectives

Produce 315 000 6E PGM ounces.

Focus on improving the mine's position on global PGM cost curve

Sales volumes of 221 000 tonnes of chrome concentrate

Ramp up Merensky mining production to 45 000 tonnes per month

Complete surface earthworks and commence plant construction

Bokoni Mine

F2023 objectives

Complete the bankable feasibility study during F2023 for consideration and board approval in Q1 F2024 Evaluate value accretive early ounce production opportunities

Placement of orders for long lead delivery items to de-risk the project execution schedule

Commodity prices

US dollar PGM prices were lower compared to the record prices achieved in 2021, particularly palladium (9% lower) and rhodium (11% lower). The average rand per 6E kilogram basket price for Modikwa and Two Rivers declined by 10% and 8% to R1 319 104 per kilogram (F2021: R1 457 843 per kilogram) and R1 240 977 per kilogram (F2021: R 1 349 148 per kilogram), respectively.

Average US dollar metal prices

				%
	Unit	F2022	F2021	change
Platinum	US\$/oz	1 003	1 046	(4)
Palladium	US\$/oz	2 206	2 427	(9)
Rhodium	US\$/oz	15 543	17 478	(11)
Nickel	US\$/t	23 514	16 447	43
Copper	US\$/t	9 644	8 086	19
Cobalt	US\$/lb	32	18	78
UG2 chrome concentrate – Two Rivers (CIF)*	US\$/t	184	137	34
UG2 chrome concentrate – Modikwa (CIF)*	US\$/t	222	-	01
High sulphur chrome concentrate – Nkomati (FOT)*	US\$/t	_	43	

^{*} CIF - Cost, insurance and freight; FOT - Free-on-truck.

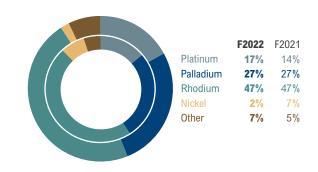
Average rand metal prices

				%
	Unit	F2022	F2021	change
Average				
exchange rate	ZAR/US\$	15.21	15.39	(1)
Platinum	ZAR/oz	15 247	16 107	(5)
Palladium	ZAR/oz	33 543	37 360	(10)
Rhodium	ZAR/oz	236 373	269 071	(12)
Nickel	ZAR/t	357 606	253 194	41
Copper	ZAR/t	146 672	124 482	18
Cobalt	ZAR/lb	483	283	70
UG2 chrome				
concentrate - Two	0			
Rivers (CIF)*	ZAR/t	2 791	2 107	32
UG2 chrome				
concentrate -	7.5"			
Modikwa (CIF)*	ZAR/t	3 371	_	
High-sulphur				
chrome				
concentrate	7 A D /+		660	
– Nkomati (FOT)*	ZAR/t	_	662	

^{*} CIF – Cost, insurance and freight; FOT – Free-on-truck.

ARM Platinum revenue per commodity

F2021 is represented in the inner circle



Financial performance

ARM Platinum headline earnings decreased by 34% to R3.1 billion (F2021: R4.7 billion), largely due to negative mark-to-market adjustments as a portion of receivables at 30 June 2021 was subsequently realised at lower prices after the decline in rhodium and palladium prices. For more detail and a table showing the mark-to-market adjustments refer to page 45 in the financial review.

- Modikwa Mine reported a 17% decline in headline earnings to R1.3 billion (F2021: R1.5 billion), which included negative mark-to-market adjustments of R231 million (F2021: R299 million positive adjustments).
- Two Rivers Mine headline earnings reduced to R2.0 billion (F2021: R3.0 billion), mainly due to negative mark-to-market adjustments of R709 million (F2021: R795 million positive adjustments).
- Nkomati Mine reported a headline loss of R172 million (F2021: R165 million headline earnings). This mine was placed on care and maintenance in March 2021.

Operational reviews continued

ARM Platinum continued

Operational performance

Modikwa Mine

Tonnes milled improved significantly, increasing production volumes 17% to 294 541 6E PGM ounces (F2021: 251 755 6E PGM ounces). The optimal blending of ore from normal stoping and on-reef development sources contributed to tonnes milled and consequently to PGM ounces.

Unit production costs increased by 2% to R14 644 per 6E PGM ounce (F2021: R14 300 per 6E PGM ounce) and to R1 798 per tonne (F2021: R1 757 per tonne). This was largely attributable to the strong increase in production.

Two Rivers Mine

Tonnes milled were 5% higher after commissioning of additional milling capacity in December 2021. The grade remains a constraint due to the split reef, as reported previously. As a result, PGM production volumes increased by 1% from 300 172 6E PGM ounces in F2021 to 301 935 6E PGM ounces in F2022. Following accelerated development of the declines, mining flexibility is improving and enabling a better mining mix.

Unit production cost increased by 7% to R971 (F2021: R905) per tonne milled. The rand per 6E PGM ounce operating cost rose 12% to R11 116 (F2021: R9 893), primarily due to the utilisation of stockpiles which impacted operating costs.

Nkomati Mine

This mine was placed on care and maintenance in March 2021. ARM and its joint-venture partner are evaluating various options on the way forward for Nkomati Mine.

At 30 June 2022, the estimated undiscounted rehabilitation costs attributable to ARM were R771 million (30 June 2021: R679 million) excluding VAT. Discounted rehabilitation costs attributable to ARM were R676 million (30 June 2021: R596 million). The R92 million increase in the undiscounted liability mainly reflects annual escalation increases and the impact of the diesel price rising from R14.66/l in June 2021 to R23.09/l in June 2022. At 30 June 2022, R178 million (attributable to ARM) in cash and financial assets was available to fund rehabilitation obligations for Nkomati Mine. The resulting attributable shortfall in discounted rehabilitation costs of R498 million is expected to be funded by ARM.

Nkomati Mine's estimated rehabilitation costs continue to be reassessed as engineering designs evolve and new information becomes available.

Investing in the current business

Total attributable capital expenditure for ARM Platinum increased to R2.2 billion from R1.6 billion in the prior year.

R million	F2022	F2021
ARM Platinum	2 159	1 611
Modikwa Mine	353	330
Two Rivers Mine	1 806	1 281
Nkomati Mine	_	_

Capital expenditure at **Modikwa Mine** (100% basis) rose 7% to R706 million (F2021: R660 million). Of this, R181 million related to fleet refurbishment and critical spares, R164 million to capital development, R60 million to the Merensky project and R41 million to installation of a proximity detection system for the mining fleet. Key points on projects include:

- North shaft level 9 infrastructure works have been completed. The main decline development has reached level 10 and the reef access decline is being established. A downcast shaft to provide additional ventilation for mining levels below 10 will be established around level 9. The process to secure environmental approval for the access road and shaft has advanced, with approval envisaged in 1H F2023
- South 2 shaft the shaft has ramped up to steady state production. It achieved an average production run rate of 66 738 tonnes per month, well above the 55 000 tonnes target. Preparation work for the 2.5km underground-to-surface conveyor belt that will enable South 2 shaft to ramp up production to 100 000 tonnes per month is underway
- Merensky the bord-and-pillar Merensky shaft was reopened on a trial basis after a prefeasibility study.
 The shaft was dewatered, and infrastructure established to ramp up production to 30 000 tonnes per month while confirming the project viability before starting the bankable feasibility study.

Of the R1.8 billion spent at **Two Rivers Mine**, R748 million was spent on the Merensky project approved in F2021.

Deepening declines at Main and North shafts, along with electrical and mechanical installations, accounted for R405 million, R136 million was spent on the tailings storage facility and R208 million on mining fleet replacement.

The plant expansion project, which is expected to add 40 000 tonnes per month milling capacity, was approved in December 2019 and successfully commissioned in the review period, achieving its design run rate.

The new tailings storage facility was commissioned in February 2022.

Total estimated capital expenditure for the **Two Rivers Merensky project** is R5.7 billion (100% basis) which will be spent over three years. The project targets annual production of 182 000 6E PGM ounces, 1 600 tonnes of nickel and 1 300 tonnes of copper.

Mining the Merensky Reef commenced as planned in February 2022 and is ramping up. Surface earthworks in both the mining development and concentrator plant areas have begun. The concentrator plant is scheduled to be commissioned in December 2023. The project completion date remains November 2024. Capital expenditure of R824 million has been spent to date (14.3%), with over R2.0 billion (35.2%) committed to date.

Ensuring a safe, healthy and appropriately skilled workforce

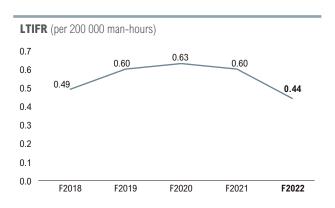
As a result of the expansion projects at Two Rivers and Modikwa mines, total employees at ARM Platinum operations increased by 21% to 10 091 at 30 June 2022 (30 June 2021: 8 324): 66% of employees were full-time and 34% contractors. The number of employees at Nkomati Mine at 30 June 2022 reduced to 118 with the mine being placed on care and maintenance. Investment in training decreased to R75 million in F2022 (F2021: R103 million).

Safety and health

We are committed to zero harm, ensuring a safe work environment and supporting the health and wellbeing of employees and contractors.

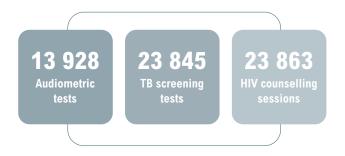
Regrettably two colleagues were fatally injured in F2022, one at Two Rivers Mine and one at Modikwa Mine.

ARM Platinum's lost-time injury frequency rate (LTIFR) improved to 0.44 per 200 000 man-hours (30 June 2021: 0.60 per 200 000 man-hours), with Modikwa Mine reporting a 30% reduction in LTIFR and Two Rivers achieving a 40% reduction. Ensuring compliance to safety standards and conducting safety training are ongoing priorities. The focused safety improvement initiative at Modikwa Mine has resulted in a 38% improvement in LTIFR since F2019.



Risk-based occupational medical surveillance programmes address specific issues for each workplace, particularly tuberculosis (TB), HIV and Aids, and noise-induced hearing loss (NIHL). Chronic conditions are monitored by specific occupational exposure profiles for high-risk roles, with a focus on monitoring and managing high levels of hypertension.

Mental health support is available to employees through the toll-free helpline in the employee assistance programme and through the on-site psychological support programme.



Operations continue with daily health screenings at all access points in line with mandatory Covid-19 protocols as per their specific health risk assessments. In F2022, 1 326 employees were tested with 587 positive cases and a 98% recovery rate. Regrettably, five employees succumbed to Covid-19.

Modikwa and Two Rivers mines are approved by the DoH as Covid-19 vaccination sites to support the government-led rollout: 1 912 employees were vaccinated at these sites during the year.

African Rainbow Minerals

Operational reviews continued

ARM Platinum continued

Environmental performance

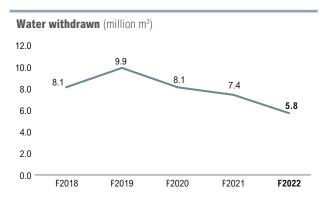
Carbon emissions and energy use

ARM Platinum's combined estimated scope 1 (direct) and scope 2 (indirect) carbon emissions decreased by 25% as Nkomati Mine was placed on care and maintenance, offsetting production-related increases at Two Rivers and Modikwa mines. Excluding Nkomati Mine, scope 1 and 2 carbon emissions increased 12% in F2022. Carbon emissions per tonne of PGM ore milled at Modikwa and Two Rivers combined increased to 0.106tCO₂e/tonne (F2021: 0.104tCO₂e/tonne).

Electricity consumption excluding Nkomati Mine increased by 11% to 548 810 megawatt hours (MWh) on a 100% basis (F2021: 496 640MWh). Modikwa Mine accounted for 55% of ARM Platinum's F2022 total emissions, Two Rivers Mine 43% and Nkomati Mine 1%.

Water management

We continued to improve our reporting against the revised water accounting framework of the ICMM, which has deepened our understanding of water reuse efficiency, a key indicator of monitoring and managing consumption and losses. In F2022, water withdrawn by the division decreased by 22%. Excluding Nkomati Mine, water withdrawn increased by 4%. Modikwa Mine accounted for 72% of the division's total, Two Rivers Mine 25% and Nkomati Mine 3%.



Tailings storage facilities (TSFs)

The sustainable development committees of each mine, represented by both joint-venture partners, consider details on the status and compliance of TSFs at quarterly meetings. Implementation plans for the ARM TSF management policy and standard, which align with the ICMM's GISTM, are in place at all operations, together with reporting dashboards on critical compliance elements.

Each operation reports TSF compliance and status to the joint-venture partners at quarterly steering committee and sustainable development committee meetings. The implementation status of recommendations from the independent external reviews and dam-breach analyses is monitored and reported at quarterly sustainable development committee meetings. Full implementation of the GISTM is scheduled for completion in August 2023.

Supporting host communities

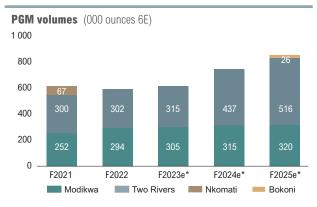
ARM Platinum invests in community initiatives undertaken as part of local economic development and social and labour plans. Projects implemented in F2022 included electricity infrastructure and lighting for local communities, constructing and upgrading of roads and a project to remove alien invasive plants along local rivers to improve access to water and support the local agricultural economy.

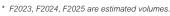
	Unit	F2022	F2021	F2020	F2019	F2018
Employee indicators						
Average number ¹		7 397	8 394	8 215	9 058	9 452
 Permanent employees 		5 322	5 557	5 554	5 913	6 045
Contractors		2 075	2 837	2 661	3 145	3 407
LTIFR per 200 000 man-hours		0.44	0.60	0.62	0.60	0.49
Environmental indicators (100 basis)						
Scope 1 and 2 carbon emissions ²	tCO ₂ e	619 030	822 338	914 603	981 694	903 699
Total water withdrawn ³	million m ³	5.8	7.4	8.1	9.9	8.1
Energy usage						
Electricity	MWh	556 273	736 913	794 940	832 037	826 710
– Diesel	000 litres	10 005	19 585	25 417	34 936	35 071
Community investment indicators						
Total corporate social responsibility (CSR)	R million	57	63	13	46	51
Corporate social investment (CSI)	R million	2	2	3	9	10
Local economic development (LED)	R million	55	61	11	37	41

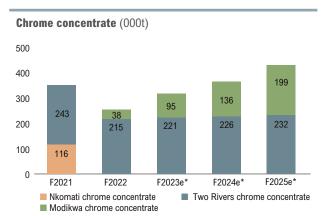
¹ Permanent employees and contractors reported as average for the year, consistent with calculating safety statistics.

Outlook

ARM Platinum production and sales volumes - 100% basis







* F2023, F2024, F2025 are estimated volumes.



² In previous years, ARM disclosed scope 1 and 2 emissions on an attributable basis (according to the group's shareholding in each operation). From F2022, we are disclosing on a 100% basis (as if ARM held 100% of each operation). Prior-year comparatives have been amended accordingly.

³ Includes rainfall and runoff water harvested, surfacewater withdrawn from rivers, municipal water and groundwater.

African Rainbow Minerals Integrated annual report 2022

Operational reviews continued

ARM Platinum continued

Summary operational and financial indicators – 100% basis

Two Rivers Mine

Ownership

ARM owns 54%, Impala Platinum owns 46%

Management

Managed by ARM

Refining

All metal-in-concentrate is sold to Impala Platinum. Chrome concentrate is sold through chrome traders to global end users



	Unit	F2022	F2021	F2020	F2019	F2018
OPERATIONAL						
Production volumes						
Platinum	OZ	140 327	139 155	122 407	147 235	162 543
Palladium	OZ	85 828	84 532	73 213	85 962	96 569
Rhodium	OZ	24 514	23 963	21 226	25 617	28 553
Gold	OZ	2 236	2 310	1 929	2 321	2 528
Ruthenium	OZ	40 688	41 113	34 409	42 145	46 937
Iridium	OZ	9 343	9 100	7 840	10 126	11 274
PGMs	OZ	301 935	300 172	261 024	313 406	348 405
Nickel	t	609	609	481	552	606
Copper	t	297	281	229	240	274
Chrome sold	t	214 735	242 945	172 368	219 566	229 642
Other operational indicators						
Tonnes milled	Mt	3.46	3.28	3.02	3.40	3.46
Head grade	g/t 6E	3.22	3.43	3.45	3.52	3.63
Average basket price	R/kg 6E	1 240 977	1 349 148	775 857	467 994	370 755
Operating cost	R/t	971	905	857	736	688
Operating cost	R/oz 6E	11 116	9 893	9 908	8 001	6 822
Operating cost	R/Pt oz	23 917	21 341	21 127	17 031	14 623
Operating cost	R/kg 6E	357 375	318 075	318 534	257 244	219 334
Cash cost	R/t	941	877	895	730	694
Cash cost	R/oz 6E	10 773	9 591	10 346	7 926	6 878
Cash cost	R/Pt oz	23 179	20 688	22 061	16 871	14 743
Cash cost	R/kg 6E	346 345	308 342	332 616	254 817	221 137
FINANCIAL						
Sales	R million	9 416	11 992	6 173	3 994	3 741
On-mine cash operating costs	R million	(3 356)	(2 970)	(2 586)	(2 508)	(2 377)
Off-mine cash operating costs	R million	(305)	(348)	(303)	(305)	(142)
Chrome cash costs	R million	(79)	(72)	(52)	(54)	(50)
Total cash operating profit	R million	5 981	8 949	3 535	1 433	1 314
Cash operating profit – PGMs	R million	5 811	8 832	3 435	1 264	1 104
Cash operating profit – chrome	R million	170	118	100	168	210
Capital expenditure	R million	1 806	1 281	813	587	455
Dividend paid	R million	2 305	2 650	1 230	524	543

Summary operational and financial indicators – 100% basis

Modikwa Mine

Ownership

Effective 41.5% held through ARM Mining Consortium, local communities own an effective 8.5% and Anglo American Platinum owns 50%

Management

Jointly managed by ARM and Anglo American Platinum

Refining

All metal-in-concentrate is sold to Anglo American Platinum



	Unit	F2022	F2021	F2020	F2019	F2018
OPERATIONAL						
Production volumes						
Platinum	OZ	116 442	98 889	101 012	121 033	131 725
Palladium	OZ	110 623	94 631	97 820	114 389	124 057
Rhodium	OZ	23 265	20 144	20 729	24 388	26 693
Gold	OZ	3 158	2 435	2 554	3 064	3 320
Ruthenium	OZ	33 153	28 782	30 069	35 218	38 993
Iridium	OZ	7 900	6 874	7 176	8 340	9 098
PGMs	OZ	294 541	251 755	259 360	306 930	333 888
Nickel	t	600	449	500	557	628
Copper	t	374	284	310	345	384
Chrome sold	t	38 081	_	_	_	_
Other operational indicators						
Tonnes milled	Mt	2.40	2.05	1.94	2.29	2.43
Head grade	g/t 6E	4.48	4.51	4.82	4.92	4.98
Average basket price	R/kg 6E	1 319 104	1 457 843	850 909	491 723	380 603
Operating cost	R/t	1 798	1 757	1 598	1 345	1 265
Operating cost	R/PGM oz	14 644	14 300	11 974	10 027	9 197
Operating cost	R/Pt oz	37 042	36 405	30 746	25 427	23 311
Operating cost	R/kg 6E	470 819	459 745	384 984	322 360	295 685
Cash cost	R/t	1 801	1 751	1 594	1 355	1 256
Cash cost	R/PGM oz	14 668	14 249	11 945	10 097	9 136
Cash cost	R/Pt oz	37 102	36 275	30 670	25 605	23 157
Cash cost	R/kg 6E	471 578	458 110	384 036	324 627	293 722
FINANCIAL						
Sales	R million	9 124	9 848	6 185	4 134	3 592
Total cash operating costs	R million	(4 313)	(3 600)	(3 106)	(3 077)	(3 071)
Cash operating profit/(loss)	R million	4 767	6 248	3 079	1 057	521
Cash operating profit – PGMs	R million	4 749	6 248	3 079	1 057	521
Cash operating profit – chrome	R million	19	_	_	_	_
Capital expenditure	R million	706	660	638	260	266
Partner loan repaid (to ARM)	R million	-	1 257	450	_	