

Operational reviews continued



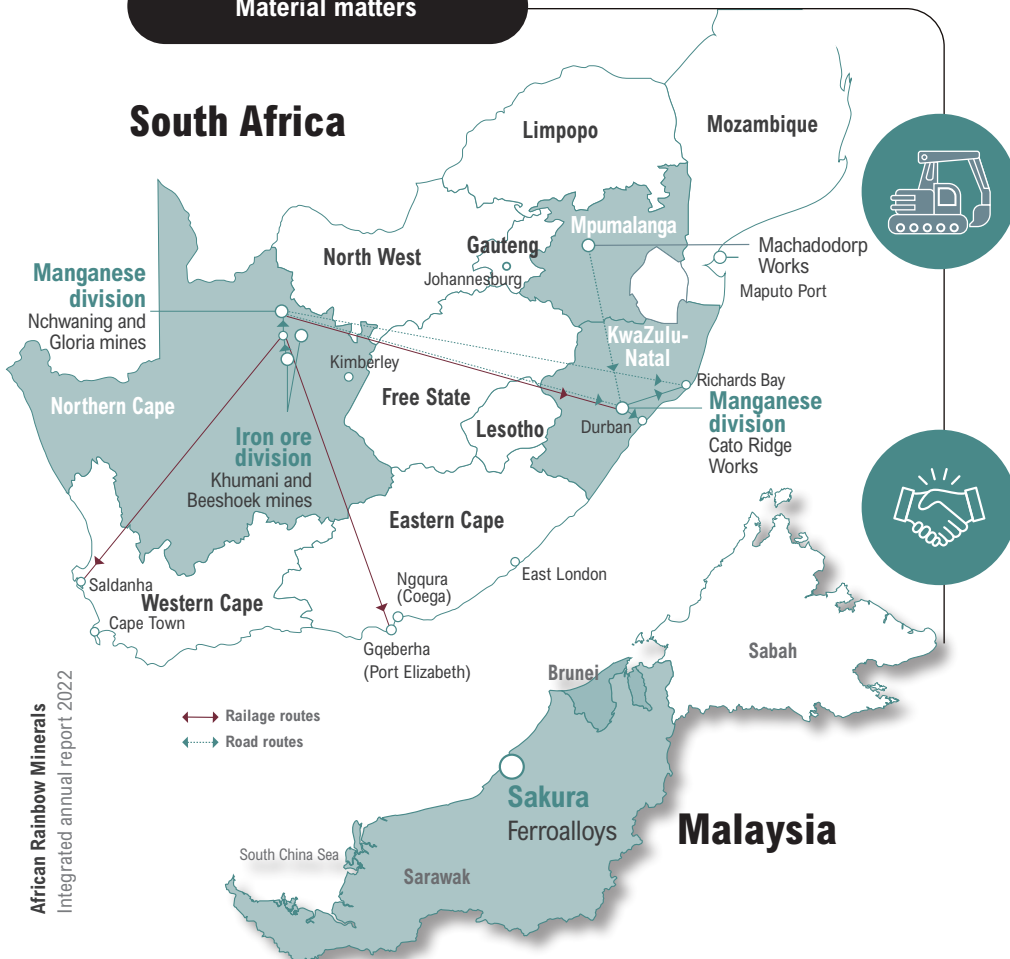
Key features for F2022

- World-class safety performance
- Improved free cash flow generation
- Record dividends declared by Assmang
- Smelters return to profitability

ARM Ferrous

André Joubert
Chief executive – ARM Ferrous

Material matters

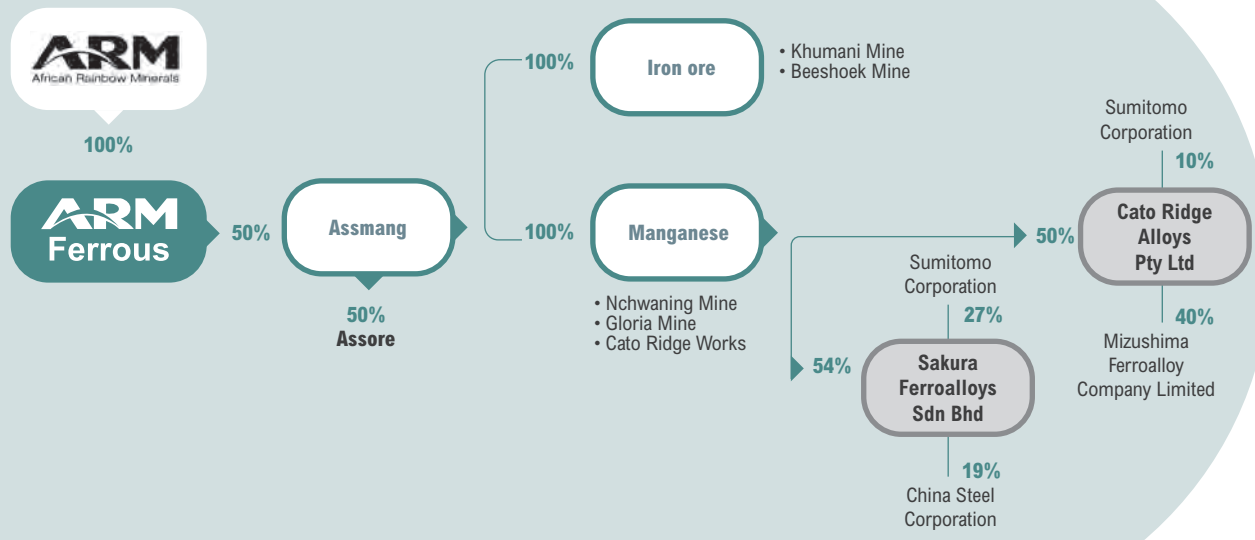


- Operational challenges at Transnet
- Security of water supply for Khumani Mine
- Good progress of the Black Rock and Gloria projects

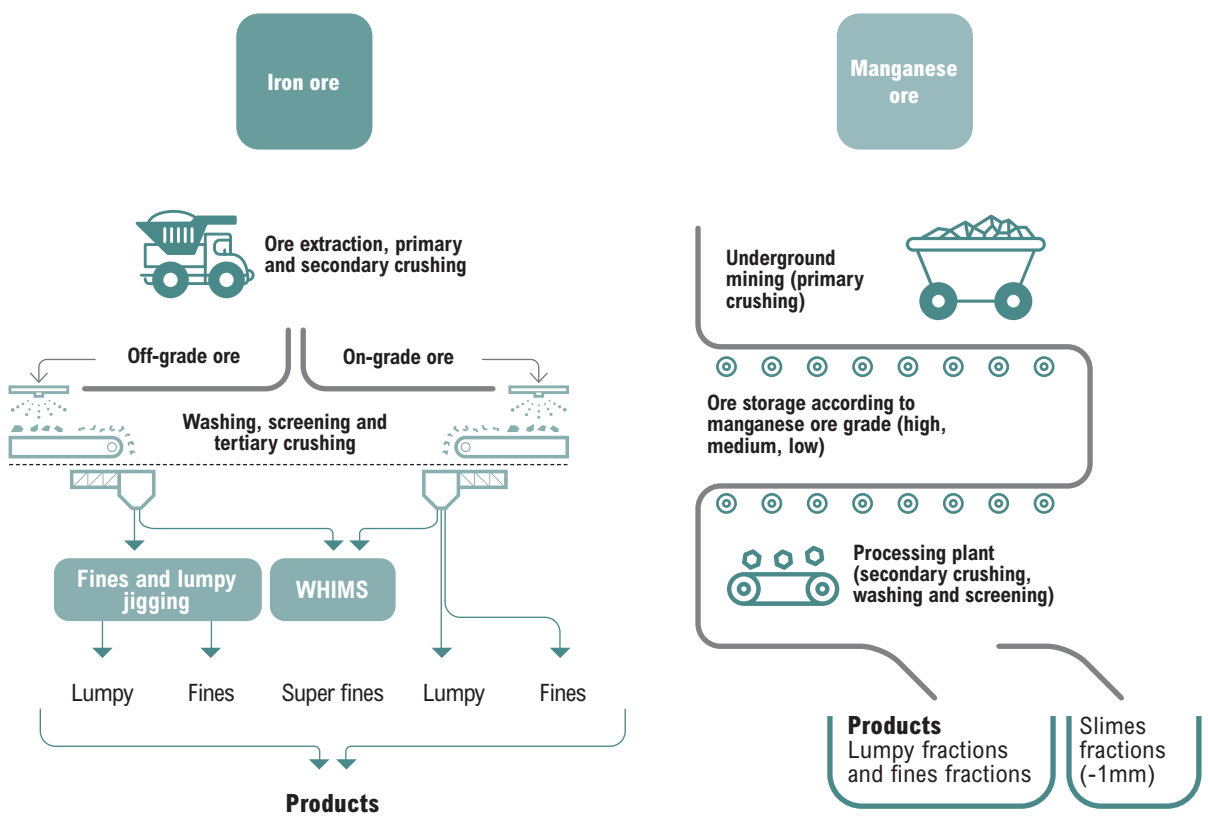


- Increased community-related disruptions

Structure



Production process



Operational reviews continued

ARM Ferrous continued

Scorecard

Khumani Mine Iron ore

F2022 objectives	Achieved/Not achieved	F2023 objectives
<p>Ensure LTIFR below a tolerance level of 0.15 per 200 000 man-hours</p> <hr/> <p>Production volumes planned at 13.5 million tonnes to accommodate operational challenges at Transnet and water-supply disruptions</p> <hr/> <p>Lumpy production ratio of 55%</p> <hr/> <p>King Pit mining ratio of 65%</p> <hr/> <p>Sales volumes planned at 13.8 million tonnes to accommodate risk of Transnet operational challenges during F2022</p> <hr/> <p>Target unit production cost increases below inflation</p>	<p>Not achieved – LTIFR was 0.20 per 200 000 man-hours</p> <hr/> <p>Not achieved – however, revised target of 13 million tonnes exceeded at 13.1 million tonnes</p> <hr/> <p>Achieved – exceeded at 58%</p> <hr/> <p>Not achieved – Mining from the King Pit was 61% which falls within the current life-of-mine (LOM) King:Bruce mining ratio of 60:40</p> <hr/> <p>Not achieved – Sales volumes were 13.2 million tonnes</p> <hr/> <p>Not achieved – Mainly due to above-inflation increases in explosives and diesel costs together with lower-than-plan production volumes</p>	<p>Ensure LTIFR below a tolerance level of 0.15 per 200 000 man-hours</p> <hr/> <p>Production planned at 13 million tonnes to accommodate Transnet performance and Sedibeng water-supply disruptions</p> <hr/> <p>Lumpy production ratio of 57%</p> <hr/> <p>King Pit mining ratio to be maintained at 65%</p> <hr/> <p>Sales volumes planned at 13.9 million tonnes to accommodate risk of Transnet performance during F2023</p> <hr/> <p>Target unit cash cost (pre-charge out cash cost on mine) increases below inflation to maintain competitiveness at R392/tonne for F2023</p>

Beeshoek Mine Iron ore

F2022 objectives	Achieved/Not achieved	F2023 objectives
<p>Ensure LTIFR below tolerance level of 0.20 per 200 000 man-hours</p> <hr/> <p>Maintain production at 3.0 million tonnes per annum</p> <hr/> <p>Maintain sales volumes at steady state of 2.65 million tonnes to local markets and 350 000 tonnes to export market</p> <hr/> <p>Maintain unit production cost increases below inflation</p>	<p>Achieved – LTIFR of 0.06 for F2022</p> <hr/> <p>Achieved – 3.1 million tonnes produced during F2022</p> <hr/> <p>Achieved – Local sales volumes were 2.9 million tonnes and 356 000 tonnes to export market</p> <hr/> <p>Not achieved – unit production costs increased by 19% in F2022</p>	<p>Ensure LTIFR below tolerance level of 0.20 per 200 000 man-hours</p> <hr/> <p>Maintain production at 3.0 million tonnes per annum</p> <hr/> <p>Maintain sales volumes at steady state of 2.7 million tonnes to local markets and 350 000 tonnes to export market</p> <hr/> <p>Target unit production cash costs of R541 per tonne</p>

Black Rock Mine Manganese ore

F2022 objectives	Achieved/Not achieved	F2023 objectives
<p>Reduce LTIFR to 0.25 per 200 000 man-hours</p> <hr/> <p>Target production volumes of 4.5 million tonnes</p> <hr/> <p>Deliver export sales volume of 4.0 million tonnes</p> <hr/> <p>Targeted unit production cost increases below inflation</p>	<p>Achieved – LTIFR for F2022 was 0.13 per 200 000 man-hours</p> <hr/> <p>Not achieved – production volumes were 4.1 million tonnes. The main contributors were the delays in handover of various Gloria project systems, as well as increased community protests which impacted production</p> <hr/> <p>Not achieved – Export sales volumes were 3.7 million tonnes impacted by ongoing challenges at Transnet</p> <hr/> <p>Achieved – Year-on-year unit production cost decreased by 1%</p>	<p>Ensure LTIFR below 0.27 per 200 000 man-hours</p> <hr/> <p>Target production volumes of 4.35 million tonnes</p> <hr/> <p>Deliver export sales volume of 3.9 million tonnes</p> <hr/> <p>Target unit production cost increases below inflation</p>

Cato Ridge Works Manganese alloy

F2022 objectives	Achieved/Not achieved	F2023 objectives
<p>Maintain zero lost-time injuries and good safety performance</p> <hr/> <p>Sinter plant to be commissioned in March 2022</p> <hr/> <p>Introduce alternate higher-quality sweetener in recipe</p> <hr/> <p>Continuous optimisation of BRIX recipe</p>	<p>Achieved – Zero lost-time injuries for the financial year.</p> <hr/> <p>Partially achieved – Commissioning commenced in August 2022. Full production is expected in October 2022.</p> <hr/> <p>Achieved</p> <hr/> <p>Achieved</p>	<p>Maintain zero lost-time injuries and a good safety performance</p> <hr/> <p>Stabilise quality of ore feed into furnaces</p> <hr/> <p>Optimisation of manganese ore ultra-fines in the BRIX recipe</p> <hr/> <p>Continuous optimisation of the BRIX recipe</p>

Operational reviews continued

ARM Ferrous continued

Sakura Ferroalloys Manganese alloy

F2022 objectives	Achieved/Not achieved	F2023 objectives
<p>Maintain safety performance, ensuring LTIFR below tolerance level of 0.18 per 200 000 man-hours</p> <hr/> <p>Target production volumes of 234 000 tonnes</p> <hr/> <p>Target sales volumes of 227 000 tonnes</p> <hr/> <p>Maintain furnace efficiencies and improve unit costs by implementing cost-saving initiatives</p> <hr/> <p>Complete hot commissioning for phase 1 and phase 2 of the water-treatment plant project</p>	<p>Not achieved – Sakura recorded LTIFR of 0.34</p> <hr/> <p>Not achieved – production volumes were 211 000 tonnes due to delays in repairing the two failed transformers that were planned to be returned in August but only reached Sakura in October 2021</p> <hr/> <p>Not achieved – sales volumes were 192 000 tonnes as a result of transformer failures</p> <hr/> <p>Achieved – overall furnace ore efficiencies improved 1.3% and power efficiencies by 0.5%. Multiple cost-saving initiatives throughout the year reduced unit cost and impact of increased reductant prices</p> <hr/> <p>Achieved – hot commissioning of phase 1 and phase 2 of project was completed in June 2022.</p>	<p>Improve safety performance, ensuring LTIFR below tolerance level of 0.18 per 200 000 man-hours</p> <hr/> <p>Target production volumes of 249 000 tonnes</p> <hr/> <p>Target sales volumes of 254 000 tonnes</p> <hr/> <p>Maintain furnace efficiencies and improve unit costs by implementing cost-saving initiatives</p> <hr/> <p>Finalise, sign agreement and commence project to construct sinter plant at Sakura during first quarter of F2023</p>



Commodity prices

Iron ore prices were subdued as Chinese crude steel production remained under pressure for much of the 2022 calendar year. Early 2022 saw output cuts in some regions during the winter Olympics, while Covid-19 lockdowns in China impacted both steel demand and supply in later months.

Average realised US dollar export iron ore prices were 22% lower on a free-on-board (FOB) equivalent basis at US\$121 per tonne (F2021: US\$156 per tonne) as the 62% iron ore fines index dropped from peak levels above US\$230 per tonne at the beginning of July 2021.

Average realised US dollar prices for export manganese ore rose 30% as the average index price for 44% manganese ore was US\$6.18/dmtu (CIF) for F2022 (F2021: US\$4.63/dmtu (CIF)).

The average index price for 37% manganese ore was US\$4.82/dmtu (CIF) (F2021: US\$4.30/dmtu (CIF)).

The US dollar index price for high-carbon and medium-carbon manganese alloys increased by 76% and 101% respectively, mainly due to a temporary shortage of alloys in the market to meet increased steel demand after the recovery from Covid-19 lockdowns.

Financial performance

ARM Ferrous headline earnings were 16% lower at R6.7 billion (F2021: R7.9 billion) as a 38% decrease in the iron ore division's headline earnings was partially offset by a 361% increase in the manganese division's headline earnings.

Operational performance

Iron ore division

Total iron ore sales volumes decreased 2% to 16.1 million tonnes (F2021: 16.4 million tonnes). Export sales volumes were 1% lower at 13.2 million tonnes (F2021: 13.3 million tonnes) due to logistical challenges as Transnet Freight Rail (TFR) was impacted by derailments, excessive rain and other operational and maintenance challenges. Assmang and other iron ore exporters in South Africa continue to engage regularly with Transnet to address these challenges, seeking improvement for both rail and port operations. The export sales lump/fines ratio increased from 58:42 in F2021 to 60:40 in F2022.

Local sales volumes decreased 8% to 2.9 million tonnes (F2021: 3.1 million tonnes) due to lower offtake from Beeshoek Mine's sole customer.

Total iron ore production volumes increased 2% to 16.2 million tonnes (F2021: 15.9 million tonnes), with 13.1 million tonnes at Khumani Mine (F2021: 12.6 million tonnes) and 3.1 million tonnes at Beeshoek Mine (F2021: 3.3 million tonnes).

Water supply to the Northern Cape Mines remains a risk. Following the disestablishment of Sedibeng Water by the Minister of Water and Sanitation, Vaal Gamagara Water Supply Scheme (VGWSS) has officially been transferred to Bloem Water. The mines, through the Northern Cape Mines Leadership Forum, in collaboration with the Minerals Council of South Africa, Bloem Water and the Department of Water and Sanitation have repositioned their engagements to focus on co-creating a sustainable solution for the water pipeline. A project steering committee, chaired by the Deputy Director General of the Department of Water and Sanitation has been established to fast-track the mitigation strategies for the sustainable supply of water.

Mines are contributing to the operations and maintenance of the pipeline, including technical and financial support and governance oversight. The Assmang mines have progressed, in partnership with neighbouring mines, to supplement the supply of water from neighbouring mines with excess water. This collaboration has the potential to reduce dependence on the pipeline by approximately 40% per annum for Khumani Mine. The operations and maintenance support being provided by the mines on the pipeline, together with the continuous dewatering activities from neighbouring mines, have resulted in improved water supply in the region.

As part of the long-term mitigation strategy, Phase 1 of the pipeline refurbishment was completed and was fully funded by the Department of Water and Sanitation. Phase 2 is part of the agenda of the project steering committee, and is proposed to be co-funded by the mines and government at 56% and 44% respectively.

On-mine production unit costs for the division increased by 12% to R317 per tonne (F2021: R283 per tonne) mainly due to inflation-related cost escalations, lower production volumes at Beeshoek Mine, and above-inflation increases in the costs of diesel, explosives, consumables and maintenance. Divisional on-mine unit cash costs increased by 10% to R375 per tonne (F2021: R340 per tonne).

The cost of diesel and explosives, which comprised approximately 20% of total costs, were 57% and 42% higher, respectively.

Operational reviews continued

ARM Ferrous continued

On-mine production unit costs at Khumani Mine increased by 10% to R319 per tonne (F2021: R289 per tonne) while on-mine unit cash costs (which exclude run-of-mine ore stock movements, and include capitalised waste-stripping costs and certain non-cash adjustments) were R361 per tonne (F2021: R329 per tonne).

On-mine production unit costs at Beeshoek Mine increased by 19% while unit cash costs increased by 13%.

Unit cost of sales, which includes marketing and distribution costs, were 8% higher mainly due to the increase in unit production costs and a 60% average increase in freight rates. Sales and marketing costs, which are determined based on free-on-board revenue, were lower owing to the decline in US dollar iron ore prices in F2022.

Manganese ore

Total manganese ore sales volumes in F2022 were flat at 3.96 million tonnes. Export sales volumes were marginally lower at 3.7 million tonnes (F2021: 3.8 million tonnes) while local sales volumes were higher at 0.29 million tonnes (F2021: 0.14 million tonnes).

Exports through Gqeberha Bulk Ore Terminal and Saldanha Multi-Purpose Terminal were impacted by Transnet's operational challenges at both rail and ports, including derailments caused by rain-related flooding, cable theft and Eskom issues.

Assmang and other manganese export producers continue to engage Transnet to seek improvement of the rail and port systems. To mitigate lower volume capacity at Transnet, export volumes were supplemented with 55 000 tonnes of ore transported via road during the year.

Production volumes at Black Rock Mine rose 3% to 4.1 million tonnes as the Black Rock and Gloria projects near completion (over 90%).

On-mine unit production costs and unit cash costs at Black Rock Mine decreased 1% from R698 per tonne in F2021 to R694 per tonne in F2022. Despite significant above-inflation cost pressures, unit production and cash costs were lower due to the dilution of fixed costs on increased production volumes, coupled with on-mine cost-saving initiatives. Unit production costs are expected to reduce further in real terms as the Black Rock Mine is modernised and optimised as part of the Black Rock and Gloria projects.

Unit costs of sales (which include marketing and distribution costs) rose 13% due to higher sales and marketing costs (driven by higher revenue), a 63% increase in freight rates, and increased depreciation due to the Black Rock and Gloria projects moving to commissioning phase.

Manganese alloys

High-carbon manganese alloy production at Sakura (100% basis) increased to 211 000 tonnes (F2021: 191 000 tonnes). Production in both years was affected by multiple transformer failures.

High-carbon manganese alloy sales (100% basis) decreased 12% to 192 000 tonnes (F2021: 218 000 tonnes). The impact of the transformer failures was substantial in the first half of F2022 as only one furnace was operational. Consignment stock warehouses and pipelines had to be sufficiently restocked after the successful resumption of the non-operational furnace in October 2021.

High-carbon manganese alloy production at Cato Ridge Works decreased 4% to 119 000 tonnes (F2021: 123 500 tonnes) mainly due to the impact of civil unrest and floods in KwaZulu-Natal, coupled with some operational challenges. Medium-carbon manganese alloy production at Cato Ridge Alloys (100% basis) increased by 17% to 56 000 tonnes (F2021: 48 000 tonnes).

Lower sales volumes for both high- and medium-carbon manganese (down 17% and 36%, respectively) are mainly attributable to shipping constraints and lower demand for manganese alloy in the second half.

Production costs at Sakura increased by 21% in F2022 due to significant increases in ore and reductant prices, offset by successful cost-saving initiatives to further reduce fixed costs.

Production costs at Cato Ridge Works increased by 16% in F2022 mainly due to lower production volumes, above-inflation power cost escalations and the variability of the ore grade. Medium-carbon manganese alloy production costs at Cato Ridge Alloys increased 57% primarily due to the increase in cost for molten metal.

Investing in the current business

Capital expenditure (100% basis) for the iron ore division was R2.9 billion (F2021: R2.4 billion), including capitalised waste-stripping costs of R1.3 billion (F2021: R851 million). These were higher at both Khumani and Beeshoek mines due to increased capital mining areas and higher mining costs.

Total capital expenditure for the manganese ore operations (100% basis) was up slightly to R2.1 billion, of which R451 million (F2021: R845 million) relates to the Gloria project. The increase in sustaining capital reflects expenditure on battery electric vehicles, a new central control room, the Gloria Mine slimes facility as well as the dedicated reserve access and ventilation development costs.

Adverse ground conditions at Nchwaning III's satellite tip 2 necessitated extra secondary support which affected the completion date. The Nchwaning II main drive North system and Nchwaning III satellite tip 2 system were commissioned and handed over to operations in September 2022. The Gloria surface plant and underground silo system and conveyors were successfully commissioned and handed over to operations in October 2021 and May 2022 respectively.

The Black Rock and Gloria projects will modernise and expand the mine's output by increasing volumes and

flexibility to produce various grades of manganese ore at the three operating shafts while improving efficiencies. Ramp up is being closely synchronised with Transnet’s rail availability and informed by prevailing market conditions.

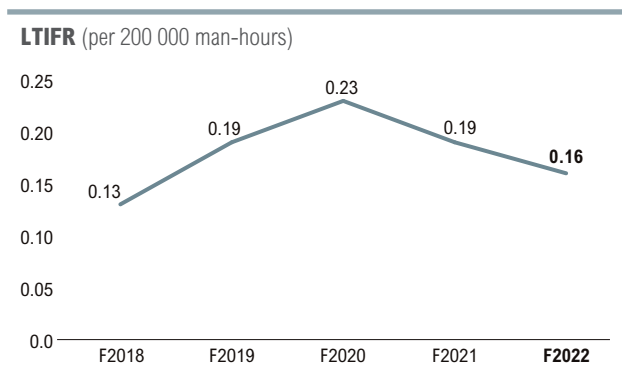
At year end, over 92% of the approved capital of R3 billion had been spent on the Gloria project and almost 99% of the approved capital of R7.4 billion on the Black Rock project. Commissioning on the Black Rock project was completed successfully and the system was handed over to the operations on 30 September 2022.

Ensuring a safe, healthy and appropriately skilled workforce

Total employees at ARM Ferrous decreased 9% to 11 253 at 30 June 2022 (30 June 2021: 12 358), with 51% full-time employees and 49% contractors. ARM Ferrous invested R116 million in training.

Safety and health

There have been no fatalities at ARM Ferrous since 2015. The divisional LTIFR improved to 0.16 per 200 000 man-hours in F2022 (F2021: 0.19). Black Rock Mine completed 10 million fatality-free shifts and 13 consecutive years fatality free. Beeshoek Mine achieved 5 million fatality free-shifts and 19 consecutive years fatality free.

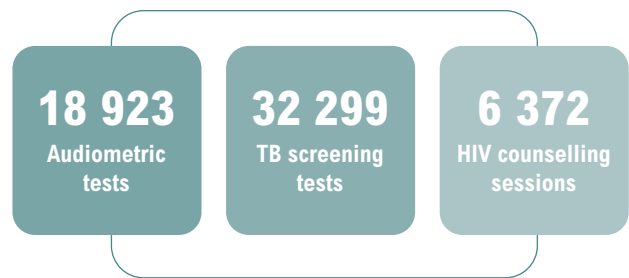


Operation	Total fatality-free shifts worked*	Last fatality	Fatality free
Beeshoek Mine	5 145 751	Mar-03	19 years
Black Rock Mine	10 415 226	Apr-09	13 years
Khumani Mine	4 574 518	Apr-15	7 years
Cato Ridge Works	2 860 494	Feb-08	14 years
Machadodorp Works	1 215 273	Feb-11	11 years

* As at 30 June 2022.

Risk-based occupational medical surveillance programmes at the operations identify and address specific health risks in each workplace and occupation, particularly TB, HIV and Aids, and NIHL. Chronic

conditions are monitored by specific occupational exposure profiles for high-risk roles. Programmes to promote physical activity and create awareness on diet and lifestyle choices are underway to assist in addressing hypertension in the workforce. Employees can access psychological support through a toll-free helpline in the employee assistance programme and the on-site psychological support programme.



Daily Covid-19 health screenings at all access points align with mandatory protocols per specific operational health risk assessments. In F2022, 6 390 employees were tested, with 1 304 positive cases and a 99% recovery rate. Regrettably, seven employees succumbed to Covid-19.

Khumani, Black Rock and Beeshoek mines were approved by the DoH as Covid-19 vaccination sites to support the government-led rollout. In F2022, 5 383 employees and 713 community members were vaccinated at these sites.

Environmental performance

Carbon emissions and energy use

Estimated scope 1 and 2 carbon emissions increased 5.5%. The Cato Ridge smelter contributed 53% to ARM Ferrous total scope 1 and 2 emissions.

Scope 1 and 2 carbon emissions per tonne of iron ore produced remained at 0.025tCO₂e and emissions per tonne of manganese ore produced increased to 0.043tCO₂e from 0.041tCO₂e in F2021. Scope 1 and 2 carbon emissions per tonne of manganese alloy produced increased to 3.8tCO₂e (F2021: 3.6tCO₂e).

Electricity consumed accounted for 69% of ferrous division’s scope 1 and 2 emissions and increased 2% year on year. ARM Ferrous is a member of the Energy Intensive Users Association and has a charter to map its development and implementation of energy-efficient practices.

Water management

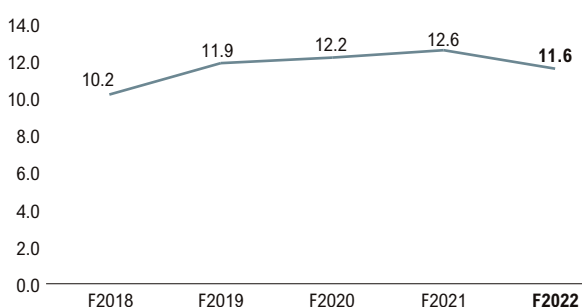
ARM Ferrous’ mines are located in the water-scarce Northern Cape. Cost and continuity of water supply remain a risk and are compounded by loadshedding (which affects water distribution). Mitigating measures are detailed in our 2022 report on climate change and water.

Operational reviews continued

ARM Ferrous continued

We are making progress in reporting against the revised water accounting framework of the ICMM. This has improved our understanding of water reuse efficiency, a key indicator in monitoring and managing consumption and losses. Total reported water withdrawn decreased to 11.6 million m³ (F2021: 12.6 million m³). Beeshoek Mine accounted for 43% of ARM Ferrous water withdrawn, Khumani Mine 40% and Black Rock Mine 15%.

Water withdrawn (million m³)



Tailings storage facilities (TSFs)

The Assmang exco and social and ethics committee consider TSF compliance and status reports at each quarterly meeting.

The three ARM Ferrous mines are implementing the GISTM, with the full implementation scheduled to be complete by August 2023 for Khumani and Black Rock mines. The TSF at Beeshoek Mine has been classified as low hazard, and implementation is consequently due by August 2025.

An accountable executive has been appointed for the safe and responsible management of TSFs in the ferrous division, and the TSF management policy and standard is being implemented. All facilities are being reclassified in terms of GISTM criteria. Dam-breach analyses of the facilities at Khumani and Black Rock mines against risk criteria in GISTM were completed and emergency response plans updated. Currently, all facilities are operated within the required structural stability parameters.

Supporting host communities

ARM Ferrous participates in the shared-value working committee with other Northern Cape manganese producers and the Minerals Council in creating innovative projects with a meaningful benefit for communities. Programmes to promote economic development and job creation in local communities include training, mentoring, coaching and some financial support to local black-owned businesses including SMMEs through enterprise and supplier development initiatives. Where viable, businesses are promoted into the mining supply chain and participate in the ARM Ferrous procurement system.

ARM Ferrous invests in community infrastructure and socio-economic development as part of local economic development and social and labour plans, as well as through its corporate social investment initiatives. In F2022, projects included constructing roads, an early childhood development (ECD) centre and a hardware store as well as essential water, sanitation and waste infrastructure.

Donations included school uniforms to ECD learners and supplies to mitigate the spread of Covid-19. Khumani Mine refurbished a hospital ward and Black Rock Mine is running a three-year health screening and education programme at 29 local schools.

	Unit	F2022	F2021	F2020	F2019	F2018
Employee indicators						
Average number ¹		12 034	12 097	10 430	11 426	10 247
– Permanent employees		5 498	5 501	5 222	5 293	5 017
– Contractors		6 536	6 595	5 207	6 133	5 230
LTIFR per 200 000 man-hours		0.16	0.19	0.23	0.19	0.13
Environmental indicators (100 basis)						
Scope 1 and 2 carbon emissions ²	tCO ₂ e	1 260 064	1 194 037	1 145 463	1 266 199	1 191 593
Total water withdrawn ³	million m ³	11.6	12.6	12.2	11.9	10.2
Energy usage						
– Electricity	MWh	824 098	805 557	767 952	825 906	829 371
– Diesel	000 litres	61 232	59 267	57 155	61 118	59 163
Community investment indicators						
Total corporate social responsibility (CSR)	R million	91	106	109	120	102
Corporate social investment (CSI)	R million	30	42	33	9	6
Local economic development (LED)	R million	61	64	75	111	63

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

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.

Summary operational and financial indicators – 100% basis

Iron ore division

Operations

Khumani and Beeshoek mines – 100% basis unless otherwise stated

Ownership

ARM owns 50% of Assmang and Assore owns 50%

Management

Assmang is jointly managed by ARM and Assore. ARM provides administration and technical services while Assore performs the sales and marketing function



	Unit	F2022	F2021	F2020	F2019	F2018
OPERATIONAL						
Production volumes	000t	16 201	15 929	16 092	17 786	18 578
Khumani Mine	000t	13 074	12 675	13 100	14 145	14 694
Beeshoek Mine	000t	3 127	3 254	2 993	3 641	3 884
Sales volumes	000t	16 064	16 417	15 568	17 543	17 874
Export iron ore	000t	13 176	13 269	13 129	14 430	14 315
Local iron ore	000t	2 888	3 148	2 439	3 114	3 559
Unit cost of changes						
On-mine production unit costs	%	12	13	10	8	2
Unit cost of sales	%	8	16	10	15	6
FINANCIAL						
Sales revenue	R million	27 856	37 621	20 638	20 827	14 534
Total costs	R million	15 769	16 927	11 065	12 000	10 304
Operating profit	R million	12 192	20 694	9 573	8 827	4 230
EBITDA	R million	13 758	22 255	10 992	10 284	5 631
Headline earnings	R million	9 307	15 046	7 376	6 795	3 343
Capital expenditure	R million	2 890	2 397	2 223	2 097	1 780

AFS Refer to note 2 to the annual financial statements for iron ore segmental information.

Operational reviews continued

ARM Ferrous continued

Summary operational and financial indicators – 100% basis

Manganese division

Operations

Nchwaning and Gloria mines (collectively Black Rock Mine), Cato Ridge Works, Cato Ridge Alloys and Sakura Ferroalloys

Ownership

ARM owns 50% of Assmang and Assore owns 50%

Management

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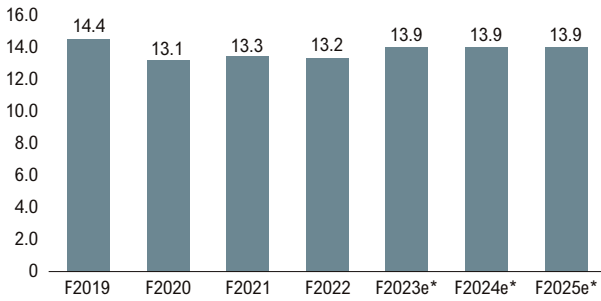
	Unit	F2022	F2021	F2020	F2019	F2018
OPERATIONAL						
Production volumes						
Manganese ore	000t	4 147	4 041	3 619	3 409	3 717
Ferromanganese	000t	385	362	409	455	450
Sales volumes						
Manganese ore*	000t	3 957	3 966	3 227	3 434	3 177
Ferromanganese	000t	291	353	323	398	360
Unit cost changes – manganese ore						
On-mine production unit costs	%	(1)	18	(2)	15	16
Unit cost of sales	%	15	8	–	17	13
FINANCIAL						
Manganese ore						
Sales revenue	R million	12 009	10 236	9 005	12 493	10 495
Total costs	R million	9 841	9 034	6 410	7 796	(6 017)
Operating profit	R million	2 726	1 202	2 595	4 697	4 478
EBITDA	R million	3 626	1 918	3 183	5 307	5 015
Headline earnings	R million	2 101	823	1 846	3 449	3 192
Capital expenditure	R million	2 133	2 060	2 228	2 256	1 240
Ferromanganese						
Sales revenue	R million	2 718	1 956	1 791	2 293	2 338
Total costs	R million	2 074	1 794	1 651	2 038	(1 711)
Operating profit	R million	784	162	140	255	627
EBITDA	R million	795	220	189	356	684
Headline earnings	R million	2 035	74	(174)	(228)	616
Capital expenditure	R million	87	188	86	54	45

* External sales only and includes sales to Sakura Ferroalloy.

AFS Refer to note 2 to the annual financial statements for manganese segmental information.

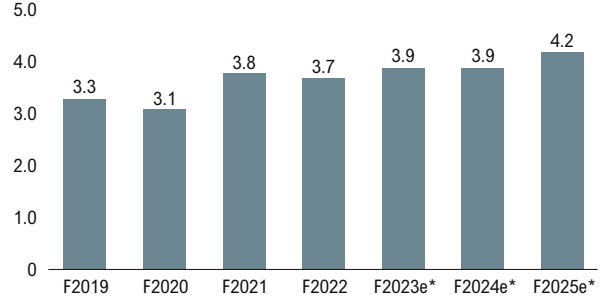
Outlook sales volumes – 100% basis

Export iron ore (million tonnes)



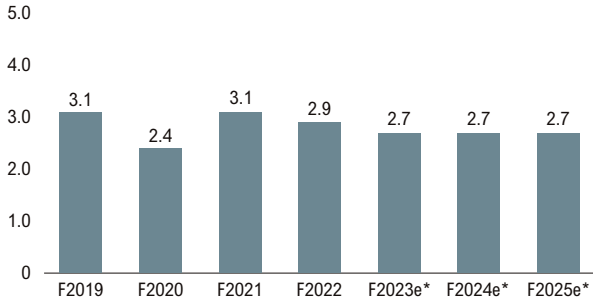
* F2023, F2024, F2025 are estimated volumes.

Export manganese ore (million tonnes)



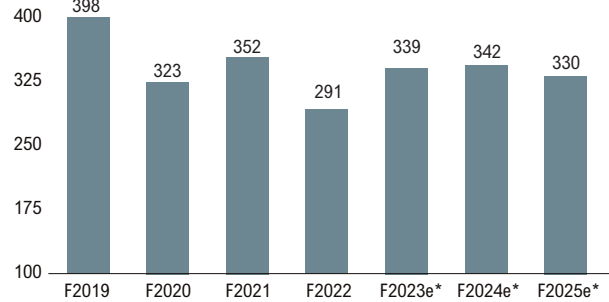
* F2023, F2024, F2025 are estimated volumes.

Local iron ore (million tonnes)



* F2023, F2024, F2025 are estimated volumes.

Manganese alloys (000 tonnes)



* F2023, F2024, F2025 are estimated volumes.

