ARM
African Rainbow Minerals

Mineral Resources and Mineral Reserves report

2021

Contents

African Rainbow Minerals (ARM) is a **leading South African diversified mining and minerals company** with operations in South Africa and Malaysia. ARM mines and beneficiates iron ore, manganese ore, chrome ore, platinum group metals (PGMs), nickel and coal and also has a strategic investment in gold through Harmony Gold Mining Company.

Information available on our website **www.arm.co.za**

Information available elsewhere in our reports

Our 2021 suite of reports

IAR — **2021 integrated annual report**

A holistic assessment of ARM's ability to create sustainable value, with relevant extracts from the annual financial statements, the environmental, social and governance (ESG) report and Mineral Resources and Mineral Reserves report.

AFS — **2021 annual financial statements**

The audited annual financial statements have been prepared according to International Financial Reporting Standards (IFRS).

ESG — **2021 ESG report**

A detailed performance on our key environmental, social and governance matters. The ESG report includes the full remuneration report and should be read in conjunction with the GRI Index.

CCW — **2021 report on climate change and water**

A detailed performance on our key climate change and water matters, in line with the TCFD and TPI frameworks.

KING — **2021 King IV™* application register**

A summary of how ARM implements the principles and practices in King IV to achieve the governance outcomes envisaged.

MRMR — **2021 Mineral Resources and Mineral Reserves report**

In line with JSE Listings Requirements, ARM prepares Mineral Resources and Mineral Reserves statements for all its mining operations as per SAMREC guidelines and definitions (2016).

AGM — **2021 notice to shareholders**

- Notice of annual general meeting
- Form of proxy
- Commitment to good governance
- Board of directors
- Report of the audit and risk committee
- Report of the social and ethics committee chairman
- Summarised remuneration report
- Summarised directors' report
- Summarised consolidated financial statements

All photographs were taken prior to the onset of Covid-19 and thus may include people without masks.

Report on Mineral Resources and Mineral Reserves as at 30 June 2021

The report is issued annually to inform shareholders and potential investors of the mineral assets held by African Rainbow Minerals Limited (ARM). The report is a summary of competent persons' reports or technical reports on Mineral Resources and Mineral Reserves for ARM's mining operations and projects.

Loading at Khumani Mine

Adding value

Extracting optimal value from the Mineral Resources and Mineral Reserves in our portfolio is fully aligned to ARM's purpose of delivering competitive returns and create sustainable value for all our shareholders through its strategic pillars:

STRATEGIC PILLAR	HOW WE ADD VALUE
Operate our portfolio of assets safely, responsibly and efficiently	Manage life-of-mine Mineral Resources and Mineral Reserves for each operation efficiently, revising mine plans as required.
Allocate capital to value-creating investments	Undertake exploration activities on-mine and apply stringent criteria in allocating capital for the work, to ensure value creation in the areas that we explore.
Focus on value-enhancing and integrated growth	Maintaining the appropriate balance between Mineral Reserves depletion and growth to ensure a sustainable company.

Introduction

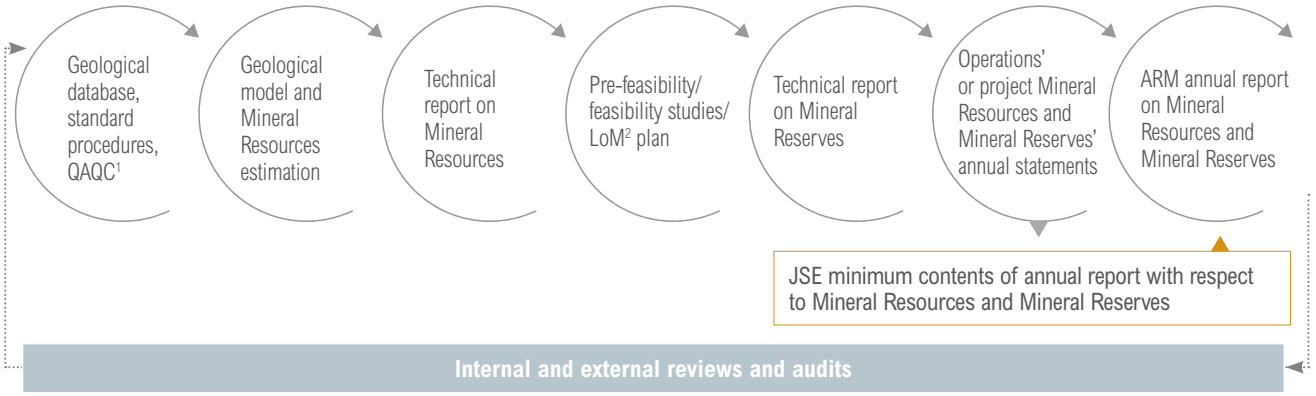
ARM's method of reporting Mineral Resources and Mineral Reserves complies with the South African Code for Reporting of Exploration Results, Mineral Resources and Mineral Reserves (SAMREC Code of 2016), the South African Code for Reporting of Mineral Asset Valuation (SAMVAL Code, 2016) and section 12.13 of the JSE Listings Requirements.

Historical ARM Mineral Resources and Mineral Reserves reports can be found at **www.arm.co.za** under Investor Relations, Financial results, Integrated report.

An abridged version is included in the 2021 ARM Integrated annual report, which can be found at **www.arm.co.za**.

The SAMREC Code of 2016 sets out minimum standards, recommendations and guidelines for Public Reporting of Exploration Results, Mineral Resources and Mineral Reserves in South Africa. It was launched and adopted by the Johannesburg Stock Exchange (JSE) in May 2016. The 2021 ARM Mineral Resources and Mineral Reserves report is based on the SAMREC Code of 2016. The reporting of Mineral Resources and Mineral Reserves is done annually according to the following flow chart:

Reporting of Mineral Resources and Mineral Reserves flow chart



1 *QAQC: Quality Assurance Quality Control.*
2 *LoM: Life-of-mine.*

A set of guidelines have been formulated to assist competent persons in the estimation, classification and reporting of Mineral Resources and Mineral Reserves and are contained in a document entitled: "ARM Guidelines for Estimation, Classification, Reporting and Auditing of Mineral Resources and Mineral Reserves". The document has been distributed to all the ARM competent persons and a copy of the document is available at the corporate offices on the Mineral Resources Management (MRM) server.

As part of ARM's management process of Mineral Resources and Mineral Reserves, quarterly divisional forum meetings are conducted with the following objectives:

- Skills and technical knowledge transfer in the Mineral Resources and Mineral Reserves fields
- Ensuring that best practices through SAMREC compliant standard procedures are shared and applied
- Facilitate internal peer reviews and audits
- Advance professional development and registration of technical personnel.

The convention adopted in this report is that the Measured and Indicated Mineral Resources estimates are reported **inclusive** of that portion converted to Mineral Reserves. Inferred Mineral Resources have not been included in feasibility studies or life-of-mine plans. Mineral Resources and Mineral Reserves estimates are quoted as at **30 June 2021** unless stated otherwise.

Underground Mineral Resources are in situ tonnages that have reasonable prospects for eventual economic extraction (RPEEE) at the postulated mining width, after deductions for geological losses. Underground Mineral Reserves reflect tonnages that will be mined and processed. Open-pit Mineral Resources are quoted as in situ tonnages that have reasonable prospects for eventual economic extraction and Mineral Reserves are tonnages falling within an economic pit-shell. Surface Mineral Resources and Mineral Reserves consist of stockpiles already mined. All Mineral Reserves are quoted at the grade fed to the plant.

The classification into Measured, Indicated and Inferred Mineral Resources is done by consideration of geostatistical parameters, spacing of boreholes, geological structures and continuity of the mineralisation.

External consulting firms audit the Mineral Resources and Mineral Reserves of the ARM operations when substantial geological borehole data has been added to the previously established database or every three years, whichever comes first. During the past reporting cycle Beeshoek Iron Ore Mine Mineral Resources were independently audited by SRK consultants. Please refer the Beeshoek Mineral Resources section for audit findings.

Management of risk factors that relate to environmental, social and governance (ESG) aspects that could impact on the Mineral Resources and Mineral Reserves estimates are reported in the following reports which are part of the 2021 integrated annual report suite:

IAR **Integrated annual report, in the material matters and risk management sections.**

ESG **ESG report (including corporate governance report), in the material matters, environment and social sections.**

Underground at Black Rock

The Mineral Resources and Mineral Reserves are reported on a 100% basis and the attributable interest is noted in the footnotes of the tabulations. Maps, plans and reports supporting Mineral Resources and Mineral Reserves are available for inspection at ARM's registered office and at the relevant mines. ARM's Prospecting and Mining Rights details are provided in this report for each project and operation (refer to the relevant sections of the operations and projects). Rounding of figures may result in minor computational discrepancies on the Mineral Resources and Mineral Reserves tabulations and reconciliation graphs.

Definitions

Mineral Resources

A "Mineral Resource" is a concentration or occurrence of solid material of economic interest in or on the earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling.

A "Measured Mineral Resource" is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with confidence sufficient to allow the application of modifying factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation. A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proved Mineral Reserve or to a Probable Mineral Reserve.

An "Indicated Mineral Resource" is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of modifying factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation.

An "Inferred Mineral Resource" is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity. An Inferred Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

Mineral Reserves

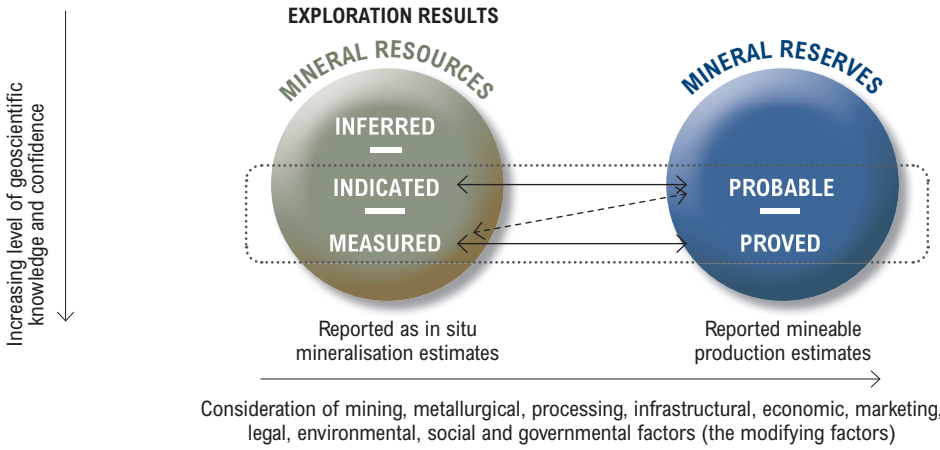
A "Mineral Reserve" is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at pre-feasibility or feasibility level as appropriate that include application of modifying factors.

Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified. The reference point at which Mineral Reserves are defined, usually the point where the ore is delivered to the processing plant, must be stated. It is important that, in all situations where the reference point is different, such as for a saleable product, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported.

A "Proved Mineral Reserve" is the economically mineable part of a Measured Mineral Resource. A Proved Mineral Reserve implies a high degree of confidence in the modifying factors.

A "Probable Mineral Reserve" is the economically mineable part of an Indicated, and in some circumstances, a Measured Mineral Resource. The confidence in the modifying factors applying to a Probable Mineral Reserve is lower than that applying to a Proved Mineral Reserve.

Relationship between Exploration Results, Mineral Resources and Mineral Reserves



Competence

The lead competent person with overall responsibility for the compilation of the 2021 Mineral Resources and Mineral Reserves report is Shepherd Kadzviti, an ARM employee. He confirms that the information in this report complies with the SAMREC Code of 2016 and that it may be published in the form and context in which it was intended.

Shepherd Kadzviti graduated with a BSc in geology and mathematics and an MSc in exploration geology from the University of Zimbabwe. He later completed a graduate diploma in mining engineering (GDE) at the University of the Witwatersrand. He worked at RioZim's Renco Gold Mine for 14 years in various capacities as geologist, technical services superintendent and mine manager. In 2005, he joined Anglo American Platinum at Union Mine as an evaluation geologist with responsibilities for geological database management and Mineral Resource estimation. After two years at the mine, he was transferred to the Anglo American Platinum corporate office where he was appointed resource geologist. He then joined ARM as Mineral Resources specialist in 2008, and was involved in the evaluation of various mineral deposits for the group. In 2012, he was appointed group mineral resources manager for ARM. He is registered with the South African Council for Natural Scientific Professions (SACNASP) as a professional natural scientist (PrSciNat) in the field of practice of geological science, registration number 400164/05.

SACNASP is based in the Management Enterprise Building, Mark Shuttleworth Street, Innovation Hub, Pretoria, 0087, South Africa. He has a total of 31 years' experience in various aspects of mining and exploration geology, database management and Mineral Resource estimation and as such is considered to be a competent person.

All competent persons at the ARM corporate office and the operations have sufficient relevant experience in the type of deposit and in the activity for which they have taken responsibility. The competent persons consent to the inclusion of the Exploration Results, Mineral Resources and Mineral Reserves information in this report, in the form and context in which it appears. Details of ARM's competent persons are available from the company secretary on written request.

The following ARM corporate office competent persons were involved in compiling some aspects of the Mineral Resources and Mineral Reserves report or general review of the report. They are all employed by ARM.

Shepherd Kadzviti *PrSciNat*
Group mineral resources manager

African Rainbow Minerals
24 Impala Road, Chislehurston, Sandton, South Africa.

8 October 2021

ARM CORPORATE OFFICE

COMPETENT PERSON	PROFESSIONAL ORGANISATION	MEMBERSHIP NUMBER	QUALIFICATIONS	RELEVANT EXPERIENCE
S Kadzviti	SACNASP	400164/05	BSc, MSc Exploration Geology, GDE (Mining Engineering)	31 years
M Mabuza	SACNASP	400081/94	BSc, BSc Hons (Geology), MSc (Geology), GDE (Mining Engineering)	31 years
V Moyo	SACNASP	400305/11	BSc, BSc Hons (Geology), MSc (Project Management)	24 years
R Jooste	SACNASP	400163/05	BSc, BSc Hons (Geology), MEng (Mining Engineering)	20 years

Salient features for F2021

ARM Platinum

Two Rivers Mine

Mineral Reserves increased mainly due to the maiden declaration of the Merensky Probable Reserves of 49.62 million tonnes at 2.89 g/t (6E) after completion of a feasibility study on mining of the Merensky Reef.

Modikwa Mine

UG2 Mineral Reserves at Modikwa Mine decreased by 3% to 44.26 million tonnes at 4.21 g/t (4E) in F2021 when compared with the F2020 statement of 45.73 million tonnes at 4.22 g/t (4E). This was mainly due to mining production.

Nkomati Mine

The Measured and Indicated Mineral Resources for Nkomati Mine decreased from 170.25 million tonnes at 0.35% Ni to 167.51 million tonnes at 0.35% Ni due to mining depletion. No Mineral Reserves have been declared as the operation is now on care and maintenance.

ARM Coal

Goedgevonden Coal Mine

Coal Reserves (ROM) decreased by 4% from 280 million tonnes to 270 million tonnes mainly due to mining production.

ARM Ferrous

Black Rock Mine

Nchwaning Seam 1 Mineral Reserves marginally increased by 3% to 62.39 million tonnes at 43.38% Mn due to modelling changes related to the mining cut. Nchwaning Seam 2 Mineral Reserves decreased by 2% from 108.66 million tonnes at 42.77% Mn to 106.01 million tonnes at 42.61% Mn mainly due to production. At Gloria, Mineral Reserves increased by less than 1% to 105.70 million tonnes at 37.25% Mn due to minor changes in the modelling.

Beeshoek Mine

Open-pit Mineral Reserves significantly increased by 136% from 26.18 million tonnes at 64.63% Fe in F2020 to 61.69 million tonnes at 63.77% Fe in F2021 mainly due to the conversion from Measured and Indicated Mineral Resources to Proved and Probable Mineral Reserves as part of an optimisation study of all the Beeshoek Mine pits.

Khumani Mine

Khumani Mine open-pit Mineral Reserves decreased by 2% from 424.58 million tonnes at 62.28% Fe to 414.16 million tonnes at 62.27% Fe mainly due to mining production which was partially offset by an increase in Mineral Reserves at Mokaning East and South where new pit shells were created.

F2021 Mineral Resources and Mineral Reserves summary as at 30 June 2021

The tables below are summaries of ARM Mineral Resources and Mineral Reserves. The detailed information on Mineral Resources and Mineral Reserves is provided per operation from page 10 of the report.

ARM Platinum operations

Platinum group elements

Mineral Resources and Mineral Reserves are reported on a 100% basis*	MINERAL RESOURCES								MINERAL RESERVES						
	Measured		Indicated		Measured and Indicated		Inferred		Proved		Probable		Total Reserves		
	Mt	Grade g/t	Mt	Grade g/t	Mt	Grade g/t	Mt	Grade g/t	Mt	Grade g/t	Mt	Grade g/t	Mt	Grade g/t	Moz
Two Rivers Mine															
2021 UG2 (grade reported as 6E)	**16.26**	**5.72**	**84.29**	**5.73**	**100.55**	**5.73**	**83.53**	**5.23**	**9.24**	**3.46**	**61.90**	**3.47**	**71.14**	**3.47**	**7.93**
2020 UG2 (grade reported as 6E)	14.35	5.65	83.75	5.73	98.10	5.72	80.30	5.33	4.63	3.41	58.59	3.57	63.22	3.56	7.23
2021 Merensky (grade reported as 6E)			**75.73**	**3.42**	**75.73**	**3.42**	**61.39**	**4.32**			**49.62**	**2.89**	**49.62**	**2.89**	**4.60**
2020 Merensky (grade reported as 6E)			75.73	3.42	75.73	3.42	61.39	4.32							
Modikwa Mine															
2021 UG2 (grade reported as 4E)	**83.50**	**5.93**	**102.10**	**5.91**	**185.60**	**5.92**	**77.50**	**6.22**	**15.59**	**4.33**	**28.67**	**4.14**	**44.26**	**4.21**	**5.99**
2020 UG2 (grade reported as 4E)	85.80	5.94	102.20	5.91	188.00	5.92	77.50	6.22	13.43	4.45	32.30	4.12	45.73	4.22	6.21
2021 Merensky (grade reported as 4E)	**20.70**	**3.15**	**53.88**	**2.90**	**74.58**	**2.97**	**139.33**	**2.84**							
2020 Merensky (grade reported as 4E)	20.70	3.15	53.88	2.90	74.58	2.97	139.33	2.84							

6E *= platinum + palladium + rhodium + iridium + ruthenium + gold.*
4E *= platinum + palladium + rhodium + gold.*
The Mineral Resources are ***inclusive*** *of those modified to produce Mineral Reserves.*
**** Two Rivers Platinum Mine attributable interests (ARM 54%; Impala Platinum 46%).***
**** Modikwa Platinum Mine attributable interests (ARM 41.5%; Modikwa communities 8.5%; Anglo American Platinum 50%).***

Nickel

Mineral Resources are reported on a 100% basis*	MINERAL RESOURCES							
	Measured		Indicated		Measured and Indicated		Inferred	
	Mt	Ni%	Mt	Ni%	Mt	Ni%	Mt	Ni%
Nkomati Mine								
2021 MMZ+PCMZ	**72.89**	**0.32**	**94.62**	**0.37**	**167.51**	**0.35**	**46.35**	**0.40**
2020 MMZ+PCMZ	75.61	0.32	94.64	0.37	170.25	0.35	46.35	0.40
2021 MMZ stockpiles	**0.10**	**0.30**			**0.10**	**0.30**		
2020 MMZ stockpiles								
2021 PCMZ stockpiles	**0.24**	**0.18**			**0.24**	**0.18**		
2020 PCMZ stockpiles								

MMZ *– Main Mineralised Zone;* ***PCMZ*** *– Chromititic Peridotite Mineralised Zone.*
Nkomati Mine MMZ Mineral Resources also contain Cu, Co, and PGEs – details available on pages 39 and 40 of this report.
Nkomati Mine PCMZ Mineral Resources also contain Cu, Co, PGEs and Cr_2O_3 *– details available on pages 39 and 40 of this report.*
**** Nkomati Mine attributable interests (ARM 50%; Norilsk Nickel Africa (Pty) Ltd 50%).***

F2021 Mineral Resources and Mineral Reserves summary

as at 30 June 2021 continued

ARM Platinum operations continued

Chrome

MINERAL RESOURCES

Mineral Resources are reported on a 100% basis*	Measured		Indicated		Measured and Indicated	
	Mt	Cr_2O_3%	Mt	Cr_2O_3%	Mt	Cr_2O_3%
Nkomati Mine						
2021 Oxidised massive chromitite	**0.13**	**27.16**	**0.05**	**23.28**	**0.18**	**26.14**
2020 Oxidised massive chromitite	0.13	27.16	0.05	23.28	0.18	26.14
2021 Un-oxidised massive chromitite	**0.12**	**25.16**	**0.21**	**24.43**	**0.32**	**24.89**
2020 Un-oxidised massive chromitite	0.12	25.16	0.21	24.43	0.32	24.89

**** Nkomati Mine attributable interests (ARM 50%; Norilsk Nickel Africa (Pty) Ltd 50%).***

ARM Ferrous operations

Manganese

MINERAL RESOURCES

MINERAL RESERVES

Mineral Resources and Mineral Reserves are reported on a 100% basis*	Measured		Indicated		Measured and Indicated		Inferred		Proved		Probable		Total Reserves	
	Mt	Mn%	Mt	Mn%	Mt	Mn%	Mt	Mn%	Mt	Mn%	Mt	Mn%	Mt	Mn%
Black Rock Mine (Nchwaning Mine)														
2021 Seam 1	**79.72**	**45.03**	**39.03**	**40.29**	**118.75**	**43.47**			**35.01**	**44.42**	**27.38**	**42.06**	**62.39**	**43.38**
2020 Seam 1	84.88	44.71	41.12	39.87	126.00	43.13			37.51	44.29	23.06	42.68	60.57	43.68
2021 Seam 2	**106.08**	**42.81**	**68.83**	**42.20**	**174.91**	**42.57**			**70.44**	**42.49**	**35.57**	**42.86**	**106.01**	**42.61**
2020 Seam 2	106.29	42.83	68.47	42.28	174.76	42.61			72.72	42.69	35.94	42.92	108.66	42.77
Black Rock Mine (Koppie area)														
2021 Seam 1	**15.80**	**40.00**	**23.00**	**39.30**	**38.80**	**39.60**	**25.20**	**41.10**						
2020 Seam 1	15.80	40.00	23.00	39.30	38.80	39.60	25.20	41.10						
2021 Seam 2	**7.30**	**39.10**	**8.00**	**35.80**	**15.30**	**37.40**	**18.70**	**38.20**						
2020 Seam 2	7.30	39.10	8.00	35.80	15.30	37.40	18.70	38.20						
Black Rock Mine (Gloria Mine)														
2021 Seam 1	**77.41**	**37.29**	**90.11**	**37.49**	**167.52**	**37.40**	**33.90**	**36.77**	**44.10**	**37.20**	**61.60**	**37.28**	**105.70**	**37.25**
2020 Seam 1	69.39	37.29	80.08	37.56	149.47	37.43	30.19	36.91	44.61	37.20	60.37	37.32	104.98	37.27
2021 Seam 2			**30.97**	**28.35**	**30.97**	**28.35**	**121.28**	**30.00**						
2020 Seam 2			32.06	28.41	32.06	28.41	122.92	30.03						

*The Mineral Resources are **inclusive** of those modified to produce Mineral Reserves.*

**** Black Rock Manganese Mine attributable interests (ARM 50%; Assore 50%).***

F2021 Mineral Resources and Mineral Reserves summary

as at 30 June 2021 continued

ARM Ferrous continued

Iron ore

Mineral Resources and Mineral Reserves are reported on a 100% basis*	MINERAL RESOURCES								MINERAL RESERVES					
	Measured		Indicated		Measured and Indicated		Inferred		Proved		Probable		Total Reserves	
	Mt	Fe%	Mt	Fe%	Mt	Fe%	Mt	Fe%	Mt	Fe%	Mt	Fe%	Mt	Fe%
Beeshoek Mine														
2021 All pits	**80.99**	**64.18**	**5.46**	**63.37**	**86.45**	**64.13**	**5.49**	**62.70**	**55.50**	**64.17**	**6.19**	**60.20**	**61.69**	**63.77**
2020 All pits	86.71	64.06	5.11	63.44	91.82	64.02	5.35	62.58	26.05	64.64	0.13	63.35	26.18	64.63
2021 Stockpiles											**1.37**	**58.45**	**1.37**	**58.45**
2020 Stockpiles											1.22	60.02	1.22	60.02
2021 Low-grade stockpiles	**2.41**	**56.46**	**14.64**	**52.72**	**17.05**	**53.25**								
2020 Low-grade stockpiles	2.41	56.46	12.64	53.22	15.05	53.74					11.97	53.22	11.97	53.22
Khumani Mine														
2021 Bruce and King/ Mokaning	**507.49**	**62.91**	**76.31**	**62.53**	**583.80**	**62.86**	**10.53**	**59.96**	**380.70**	**62.29**	**33.46**	**61.97**	**414.16**	**62.27**
2020 Bruce and King/ Mokaning	449.08	62.88	132.76	63.12	581.84	62.93	35.18	61.87	341.01	62.20	83.57	62.58	424.58	62.28
2021 Stockpiles											**6.02**	**59.59**	**6.02**	**59.59**
2020 Stockpiles											6.31	55.52	6.31	55.52
2021 Low-grade stockpiles			**20.76**	**54.24**	**20.76**	**54.24**								
2020 Low-grade stockpiles			17.18	54.29	17.18	54.29	1.78	55.07						

*The Mineral Resources are **inclusive** of those modified to produce Mineral Reserves.*

* ***Iron ore operations attributable interests (ARM 50%; Assore 50%).***

ARM Coal operations

Coal

Coal Resources and Coal Reserves are reported on a 100% basis*	COAL RESOURCES								COAL RESERVES (ROM)						COAL RESERVES (SALEABLE)					
	Measured		Indicated		Measured and Indicated		Inferred		Proved		Probable		Total Reserves		Proved		Probable		Total Reserves	
	Mt	CV (MJ/kg)	Mt	CV (MJ/kg)	Mt	CV (MJ/kg)	Mt	CV (MJ/kg)	Mt	CV (MJ/kg)	Mt	CV (MJ/kg)	Mt	CV (MJ/kg)	Mt	CV (MJ/kg)	Mt	CV (MJ/kg)	Mt	CV (MJ/kg)
Goedgevonden Coal Mine																				
2021 (Coal Resources reported as MTIS)**	**480**	**19.76**	**7**	**18.28**	**487**	**19.74**	**1**	**16.72**	**270**	**19.57**			**270**	**19.57**	**167**	**^**			**167**	**^**
2020 (Coal Resources reported as MTIS**)	490	19.82	7	18.28	497	19.80	1	16.72	280	19.57			280	19.57	172	^^			172	^^

*The coal resources are **inclusive** of those modified to produce coal reserves.*

** *Mineable tonnes in situ (MTIS) coal resources are now reported as per SAMREC Code of 2016 requirements.*

^ *2021 [HG export (71 Mt; CV 6 000 Kcal/kg)] and [LG export (96 Mt; CV 21.50 MJ/kg)].*

^^ *2020 [HG export (73 Mt; CV 6 000 Kcal/kg)] and [LG export (99 Mt; CV 21.50 MJ/kg)].*

* ***Goedgevonden Coal Mine attributable interests (ARM 26%; Glencore Operations 74%).***

ARM Platinum

Two Rivers Platinum Mine

ARM's attributable beneficial interest in Two Rivers Platinum Mine (TRP) operation is 54%. The other 46% is held by Impala Platinum.

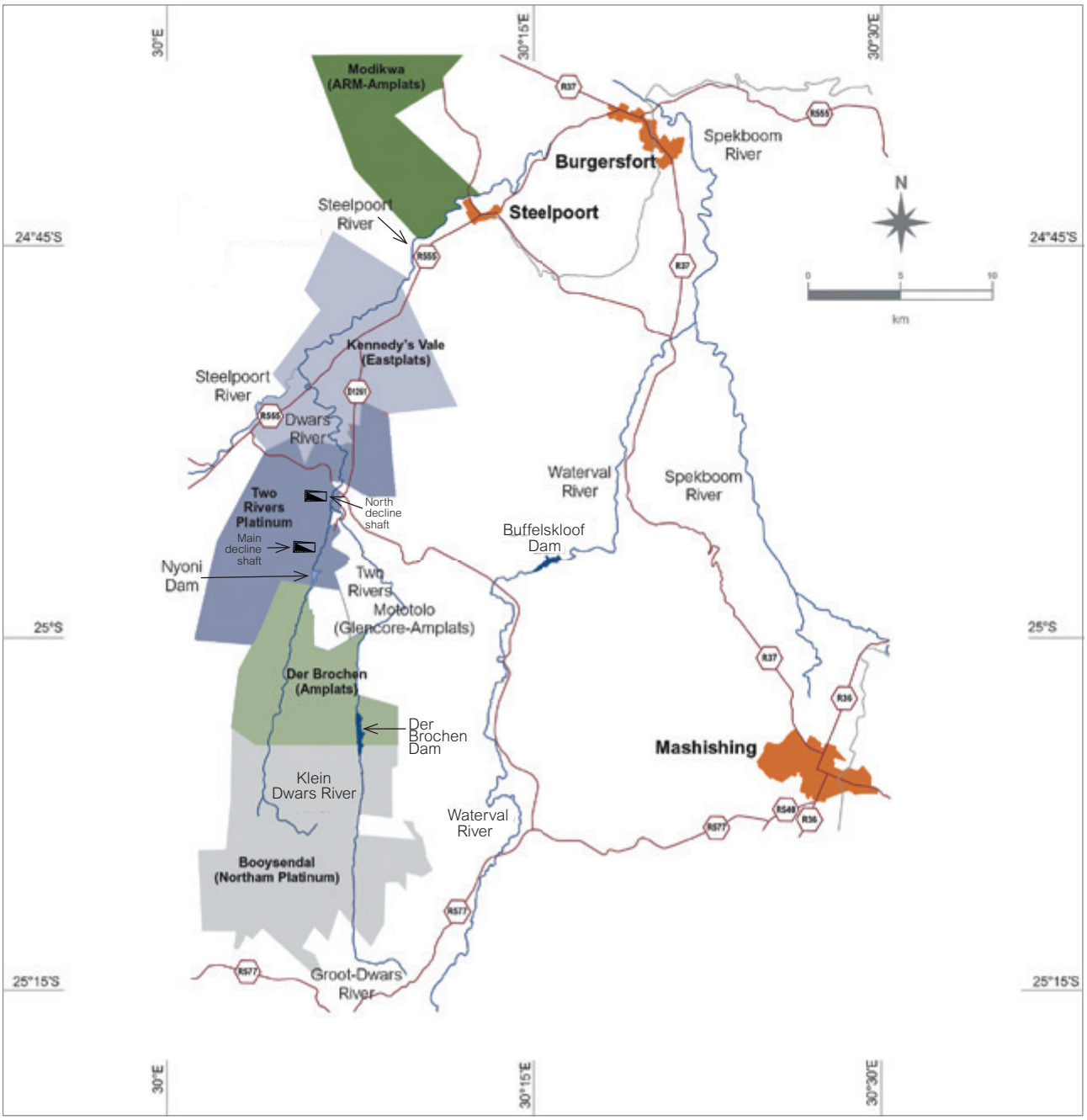
Locality

Two Rivers Platinum Mine is located on the southern sector of the Eastern Limb of the Bushveld Complex. The mine is located on the farm Dwarsrivier 372KT and extends to portions of the farms Kalkfontein 367KT and Tweefontein 360KT and the farm Buffelshoek 368KT. At latitude 24°59'S and longitude 30°07'E, the mine is approximately 30 kilometres from Steelpoort and 60 kilometres from Mashishing, Mpumalanga province, South Africa. Two Rivers Platinum Mine is neighboured by Mototolo Platinum Mine and Dwarsrivier, Tweefontein and Thorncliff chromite mines.

Top: Underground mining at Two Rivers Mine
Bottom: Two Rivers plant

ARM Platinum continued

Locality map of Two Rivers Platinum Mine



ARM Platinum continued

History

Exploration, development and production history in the area dates from the early 1920s. During 1929, Lydenburg Platinum Areas Limited started mining activity, but no records are available.

Following the acquisition by Gold Fields Mining and Development Limited, exploration started again in 1987 and was mainly directed at the Merensky Reef. Assmang Limited acquired the Dwarsrivier farm in September 1998, primarily to exploit the LG6 chromitite.

During 2001, Anglovaal acquired the PGE rights on the farm from Assmang and targeted the UG2 Reef. In June 2005, after the 2004 ARM/Anglovaal merger, and following a full feasibility study and a period of trial underground mining, the ARM/Impala Joint Venture (JV) announced the approval of a 220 000 ounce-per-year PGM mine. As a result, an underground mine was established.

Competence

The following competent persons were involved in the estimation of Mineral Resources and Mineral Reserves for the Two Rivers Platinum Mine. They are employed by Two Rivers Mine.

COMPETENT PERSON	PROFESSIONAL ORGANISATION	MEMBERSHIP NUMBER	QUALIFICATIONS	RELEVANT EXPERIENCE
J Coetzee (Mineral Resources)	SACNASP	114086	BSc (Geology), BSc Hons (Geology)	18 years
JZ Khumalo (Geology)	SACNASP	400256/05	BSc (Geology), BSc Hons (Geology), GDE (Mining Engineering)	22 years
TJ Horak (Mineral Reserves)	IMSSA	1113	NHD (Mine Surveying), GDE (Mining Engineering)	22 years

Mining authorisation

LEGAL ENTITLEMENT	MINERALS COVERED BY MINING RIGHT	COMMENT	PERIOD OF MINING RIGHT (YEARS)	KNOWN IMPEDIMENTS ON LEGAL ENTITLEMENT
Mining Right LP 178 MR (as amended)	Platinum, palladium, rhodium, ruthenium, osmium, iridium, silver, gold and ores.	On 8 November 2017, the TRP Mining Right was amended to incorporate the following properties into the mining right: Remaining extent of the farm Kalkfontein 367 KT (from the Tamboti Mining Right LP178 MRC), and Portions 1, 2, 3, 4, 5, 6, 8, 9, 10 and 11 of the farm Kalkfontein 367 KT (from the Tamboti Prospecting Right LP 2125 PR).	25 years: 20 March 2013 to 19 March 2038	None

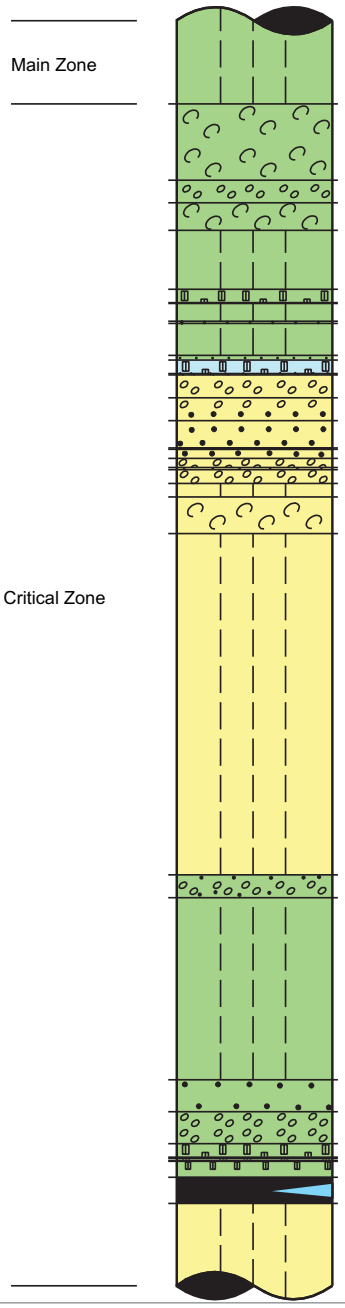
Geology

The geological succession at Two Rivers Platinum Mine is broadly similar to other areas of the eastern limb of the Bushveld Complex. An exception is the presence of the Steelpoortpark granite in the south-western part of the project, which is unique to this area. At Two Rivers, both the Merensky and UG2 reefs are present, but only the UG2 Reef is currently exploited, with Merensky Reef mining anticipated in the near future. The middling between the Merensky Reef and the UG2 Reef is approximately 140 metres to 160 metres, although this reduces significantly in the northern part of the mine, to about 70 metres.

The UG2 Reef outcrops in the Klein Dwarsrivier valley on the Dwarsrivier farm, with a north-south strike length of 7.5 kilometres, dipping to the west at between 7º to 10º. The elevated topography results in the UG2 occurring at a depth of approximately 935 metres towards the western boundary. The UG2 is bottom loaded with peak PGM values occurring in the basal 10 centimetre portion. The following reef facies have been defined for the UG2 at Two Rivers Platinum Mine:

- UG2 Normal Reef facies which is characterised by a 100 to 120 centimetre-thick chromitite overlain by up to three chromitite “leaders” collectively termed the UG2A chromitites
- UG2 Split Reef facies in the southern, west-central and north-eastern parts which is characterised by a chromitite seam that is separated by a layer of a fine to medium-grained internal pyroxenite unit
- The UG2 Multiple Split Reef facies which is represented by multiple splitting of the UG2 chromitite by internal pyroxenite. It occurs mainly in the southern section of the mine on the Dwarsrivier farm as well as the east-central section of the Buffelshoek farm.

Stratigraphic column of the Upper Critical Zone from the Merensky Hanging Wall through to the UG2 Footwall at Two Rivers Platinum Mine



Thickness (metres)	Lithology
>250	Gabbronorite with anorthosite layers
35	Mottled and spotted anorthosite
5	Mottled anorthosite
6	Mottled anorthosite
13	Norite
3	Pyroxenite
4	Norite
0.1 – 0.5	Pyroxenite
7	Mottled anorthosite
1	Spotted anorthosite
2 – 3	Pyroxenite (Merensky Reef)
0 – 0.3	Pyroxenitic pegmatoid
0 – 5	Mottled anorthosite
5	Spotted and mottled anorthosite
6	Spotted anorthosite and norite
0.3	Mottled anorthosite
2	Spotted anorthosite
2	Mottled anorthosite
0.5	Spotted anorthosite
3	Mottled anorthosite
3	Norite
8	Mottled and spotted anorthosite, pyroxenite 'boulders'
65 – 75	Norite
5	Spotted and mottled anorthosite
30 – 40	Norite
7	Spotted anorthosite
7	Mottled anorthosite
3	Pyroxenite (medium grained)
0.2	Chromitite
0.3 – 0.5	Pyroxenite (medium grained)
0.1	Chromitite
0-2	Pyroxenite (fine grained)
0.4	Chromitite
0.6	Pyroxenite/norite
1 – 1.2	Chromitite (UG2 Reef)
0 – 2.5	Pegmatoid
>10	Norite/pyroxenite

The Merensky Reef consists mainly of orthopyroxene with lesser amounts of plagioclase and clinopyroxene. Thin chromitite layers, usually 1 to 4 millimetres thick, occur near the upper and lower contacts of the reef. The Merensky Reef has variable thickness but generally reduces in thickness from the Dwarsrivier farm towards Kalkfontein and Buffelshoek farms. The regional north-northeast to south-southwest trending Kalkfontein fault, with a vertical displacement of up to 1 000 metres down-thrown to the west, defines the limits of the eastern structural domain for both the UG2 and Merensky reefs.

The ground beyond this fault remains an exploration target where both reefs are at depths in excess of 1 000 metres. Both reefs are affected by the granite intrusion in the southern portion of the Buffelshoek farm where both reefs are absent.

ARM Platinum continued

Exploration activities

During F2021 a total of six surface boreholes totalling 1 219.55 metres were drilled on Dwarsrivier 372 KT farm, producing eight UG2 intersections and two Merensky intersections. Some of these intersections will be used in the F2022 update of the UG2 and Merensky Reef wireframes and grade models. A total of R1.83 million was spent to drill the six surface boreholes. The cost included drilling, road construction and other geological services.

A total of 15 596 metres were drilled underground at a cost of R8.58 million. The purpose of the drilling was for cover and geological delineation. Plans for F2022 are to undertake surface drilling of four boreholes in the North shaft area for delineation of geological structures. Underground drilling will be undertaken at an approximate cost of R16.23 million.

Mining methods and infrastructure

TRP mining operation consists of two UG2 decline shaft systems, the main decline and the north decline, located approximately 2.5 kilometres apart on strike. Both shafts were designed for mechanised bord and pillar mining. Merensky Reef will also be accessed via a decline shaft system with the mining method being bord and pillar as applied on the UG2 Reef. The mine has a concentrator plant onsite where initial processing is done. Concentrate is transported by road to Impala Platinum's plants for further processing.

Mineral Resources

The UG2 geological and grade block model was updated in 2021 using the following data: four new boreholes drilled in Dwarsrivier 372 KT farm in the split reef area, underground boreholes and 27 new underground sampling sections.

The surface boreholes at TRP have an average grid spacing of 500 metres over the whole property and 250 metre grid spacing in some areas. The borehole spacing is 100 metres on strike and 50 metres on dip in the north-eastern portion of Dwarsrivier farm. Current drilling in the south area of Dwarsrivier 372 KT has been designed with a 150 metre by 150 metre drilling grid.

The borehole core drilled by TRP is split by diamond saw and the half-core sampled at 20 centimetre intervals. Samples for both Merensky and UG2 reefs are crushed and split and submitted for assaying. All samples from recent drilling at TRP were assayed at Genalysis Laboratory Services (Pty) Ltd (Genalysis) using Ni-sulphide fire-assay with an ICP-MS finish to determine Pt, Pd, Rh, Ru, Ir and Au values. Base metals (Ni, Cu and Co) were assayed by aqua regia partial digestion/OES finish.

Duplicate samples and check analyses are carried out. Densities are determined at the Genalysis laboratory by pycnometer. The earlier Gold Fields and Assmang samples were assayed by Pb-collector fire-assay with gravimetric finish. In order to combine the data, some of the original core samples were re-assayed by means of Ni-sulphide collection fire-assay and a regression equation was derived, to re-cast the original Pb-collection data as Ni-sulphide assay "equivalents". Samples from other drilling campaigns by Implats and Kameni used the Genalysis Laboratory as well.

In 2021, the UG2 Reef geological modelling was undertaken in Datamine Strat 3D. The software is suitable for stratified deposits and allows for the modelling of faults. The model produced shows consistency in the fault displacements. Ordinary Kriging interpolation within Datamine Studio RM was used to estimate the grade of each 50 x 50 x 1 metre block generated within the UG2 Reef geological models. Variables estimated were Pt, Pd, Rh, Au, Ru, and Ir, Cu and Ni. The internal pyroxenite and the leader chromitites were also modelled and estimated. Sub-cell splitting of blocks was allowed to follow the geological boundaries accurately. Density was estimated by Ordinary Kriging in the resource model. Additional models of the UG2 leaders and the footwall of the UG2 chromitite were created for use in the Mineral Reserve model as mining dilution.

The Merensky Reef model was not updated, therefore the Mineral Resource statement is based on the 2019 model. In 2019, Strat 3D was utilised in creating the geological model. Ordinary Kriging interpolation within Datamine Studio RM was used to estimate the grade of each 50 x 50 x 1 metre block generated within the Merensky Reef geological models. Variables estimated were Pt, Pd, Rh, Au, Ru, and Ir, Cu and Ni. Three models for the Top Mineralised zone, Middle Mineralised zone and the Bottom Mineralised zone were produced. An additional model was produced for the footwall unit.

The UG2 and Merensky Mineral Resource classification is based on the consideration of both geological and

geostatistical parameters. The geological continuity of the reef is assessed by considering minor and major faulting and other structural disturbances on the reefs and the consistency in thickness and grade. Geostatistical parameters such as Kriging variance, Kriging efficiency, regression slope, number of samples used in estimation and search volume are also considered in the Mineral Resource classification. Geological losses of 19% (UG2 Reef) and 30% (Merensky Reef) were applied to account for potholes, faults, dykes and iron-rich replacement pegmatoids. These geological losses are re-assessed every year and changed if necessary.

The Mineral Resources declared have reasonable prospects for eventual economic extraction having considered the following:

- Location, quality, grade and geological continuity which are known and are supported by drilling information which includes sampling
- UG2 and Merensky reef mineralisation with a minimum thickness of 1m and a grade of not less than 1.8 g/t (6E) is considered a Mineral Resource that can be reported from experience on the platinum mines. If the thickness of reef is less than 1 metre then the accumulation value should not be less than 180 cmg/t
- A depth constraint has also been applied as mineralisation at depth of greater than 1 000 metres will be at temperatures that are likely to be too high for safe mining, so all the Mineral Resources at this depth have been excluded
- Mining and processing methods are well established at the operation and are currently used to exploit the orebody
- All other considerations such as legal, infrastructural, environmental, marketing, social and economic factors are covered as part of the mining plan for the operation.

Two Rivers Platinum Mine: UG2 Reef Mineral Resources estimates as at 30 June 2021

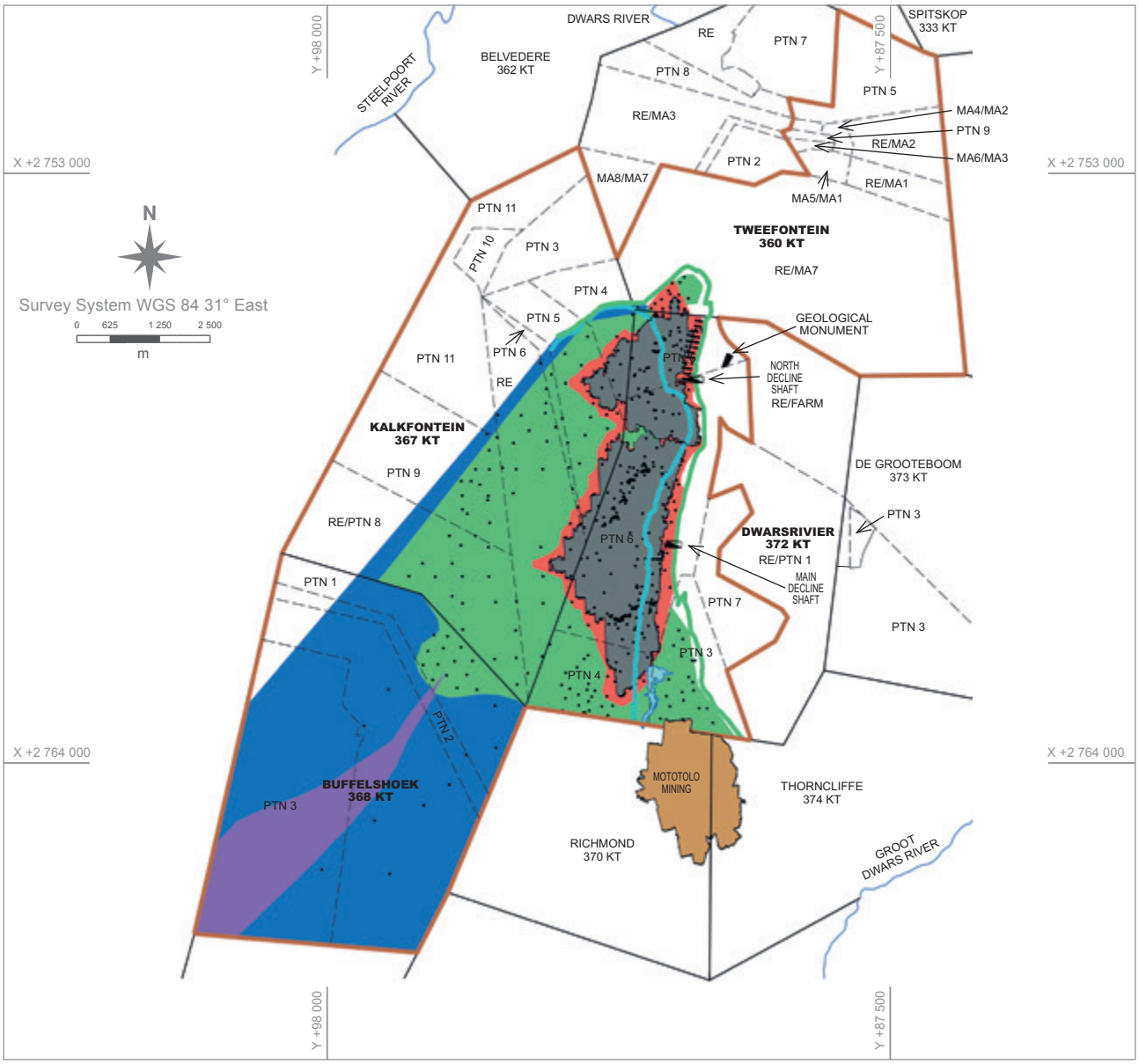
Mineral Resources are reported on a 100% basis*	MINERAL RESOURCES								
	Mt	Pt g/t	Pd g/t	Rh g/t	Au g/t	4E g/t	6E g/t	Pt Moz	6E Moz
Measured	16.26	2.66	1.51	0.49	0.04	4.69	5.72	1.39	2.99
Indicated	84.29	2.58	1.63	0.48	0.05	4.74	5.73	7.00	15.52
Total Measured and Indicated 2021	**100.55**	**2.59**	**1.61**	**0.48**	**0.05**	**4.73**	**5.73**	**8.39**	**18.51**
Total Measured and Indicated 2020	98.10	2.60	1.63	0.48	0.04	4.75	5.72	8.20	18.05
Inferred 2021	**83.53**	**2.30**	**1.59**	**0.43**	**0.05**	**4.37**	**5.23**	**6.18**	**14.03**
Inferred 2020	80.30	2.34	1.65	0.43	0.04	4.47	5.33	6.04	13.77

***4E** = platinum + palladium + rhodium + gold; **6E** = platinum + palladium + rhodium + iridium + ruthenium + gold.*
The Measured and Indicated Mineral Resources are inclusive of those modified to produce Mineral Reserves.
Totals are rounded off.
Key assumptions for Mineral Resources:
Geological loss factor applied: 19%.
**** Two Rivers Platinum Mine attributable interests (ARM 54%; Impala Platinum 46%).***

Two Rivers plant

ARM Platinum continued

Two Rivers Platinum Mine UG2 Mineral Resources classification



Legend

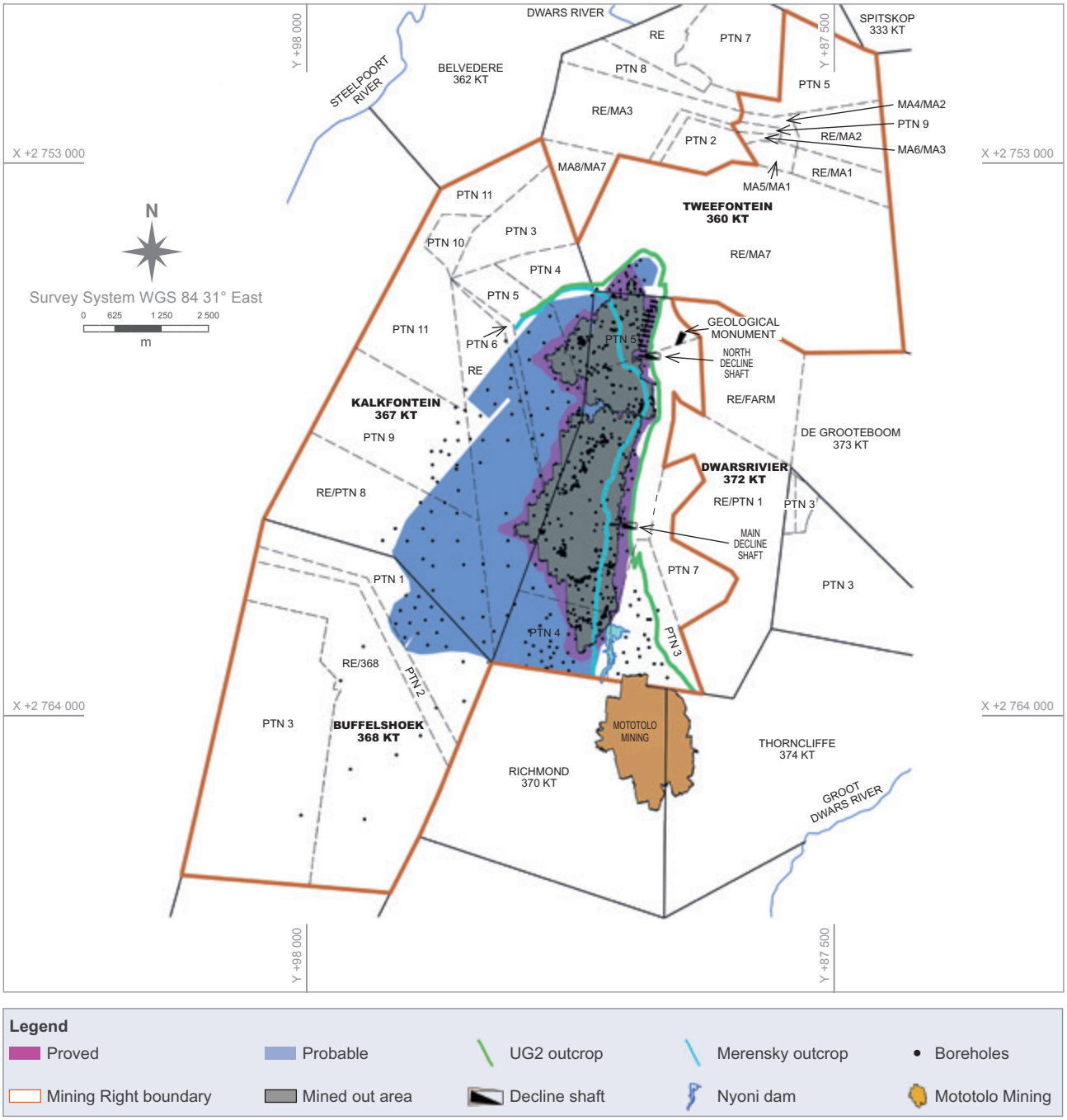
Measured · Indicated · Inferred · Granite · UG2 outcrop · Merensky outcrop

Boreholes · Mining Right boundary · Mined out area · Mototolo Mining · Decline shaft · Nyoni dam

Mineral Reserves

The Mineral Resources to Mineral Reserves conversion for the UG2 was done using the Datamine Studio 5D Mine Planner software package. Conversion of the UG2 Mineral Resources was done for the Measured and Indicated Mineral Resources in Dwarsrivier farm, Kalkfontein farm, Buffelshoek farm and Tweefontein. The modifying factors used for the conversion of Mineral Resources to Mineral Reserves took into account the mining method, mining extraction factor, mining losses, mining dilution, mine call factor and commodity prices among other financial parameters. Details of some of the key parameters are provided as footnotes on the Mineral Reserves tabulations. A portion of the Two Rivers Mine Mineral Resources in the Dwarsrivier farm, are currently being mined by Rustenburg Platinum Mines Limited (RPM) after being appointed by Two Rivers Mine as per agreement between the two parties. The mining is an extension of the mining from Mototolo Mine.

Two Rivers Platinum Mine UG2 Mineral Reserves classification



Legend

Proved | Probable | UG2 outcrop | Merensky outcrop | Boreholes

Mining Right boundary | Mined out area | Decline shaft | Nyoni dam | Mototolo Mining

ARM Platinum continued

Two Rivers Platinum Mine: UG2 Reef Mineral Reserves estimates as at 30 June 2021

Mineral Reserves are reported on a 100% basis*	MINERAL RESERVES								
	Mt	Pt g/t	Pd g/t	Rh g/t	Au g/t	4E g/t	6E g/t	Pt Moz	6E Moz
Proved	9.24	1.59	0.92	0.29	0.03	2.82	3.46	0.47	1.03
Probable	61.90	1.59	0.95	0.29	0.03	2.86	3.47	3.16	6.90
Total Reserves 2021	**71.14**	**1.59**	**0.95**	**0.29**	**0.03**	**2.85**	**3.47**	**3.63**	**7.93**
Total Reserves 2020	63.22	1.63	0.98	0.30	0.03	2.94	3.56	3.30	7.23

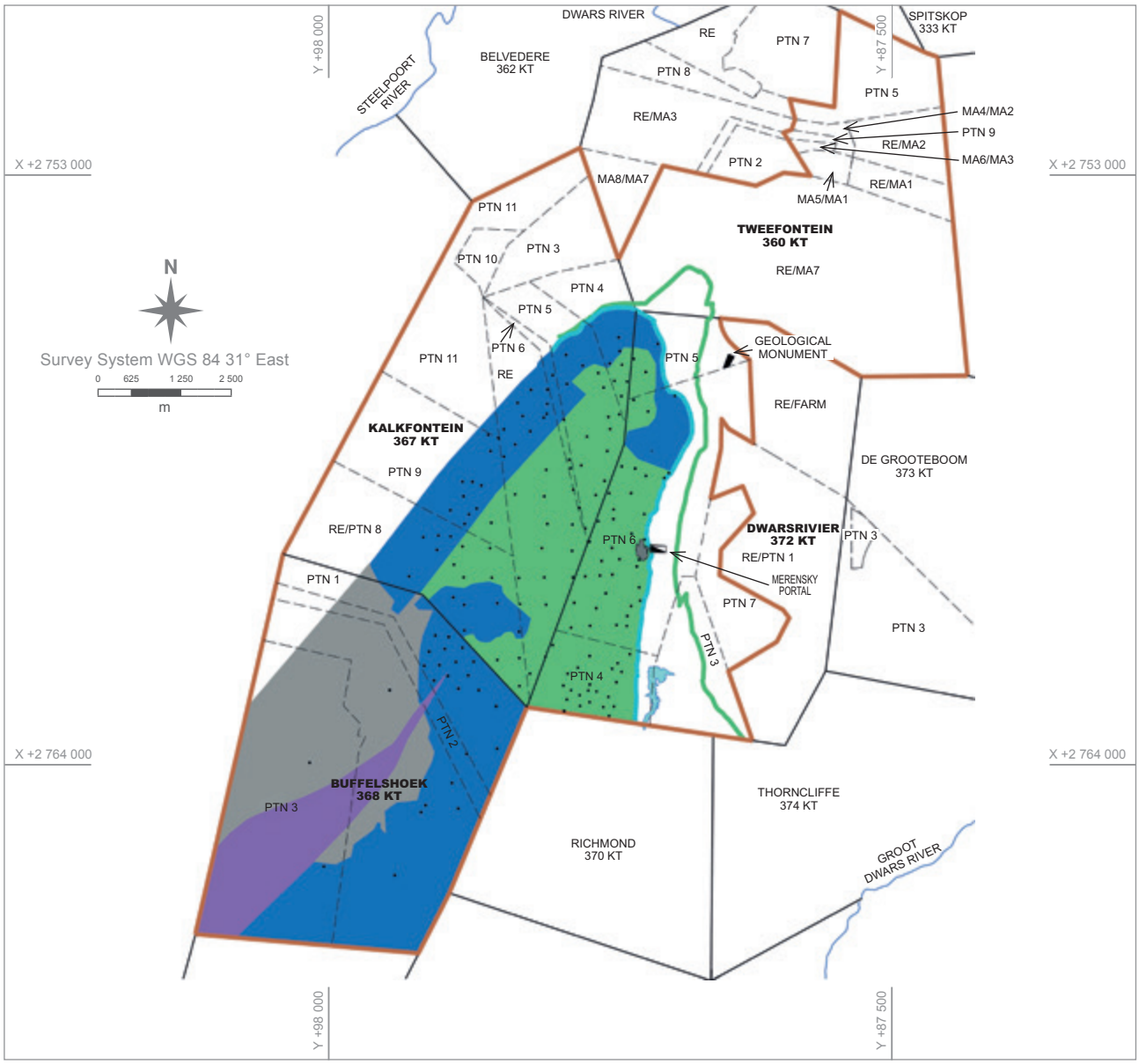
***4E** = platinum + palladium + rhodium + gold; **6E** = platinum + palladium + rhodium + iridium + ruthenium + gold.*
Totals are rounded off.
Modifying factors for the conversion of Mineral Resources to Mineral Reserves include:
Mining loss factor: Main decline 2%; North decline 7%.
Plant recovery: 82% (6E) depending on plant feed grade.
Shaft call factor: 95%-99%.
Mining dilution: On average 16 to 20cm on hangingwall and 35cm on footwall.
Minimum mining height: 2.20 metres; maximum mining height 3.20 metres.
*Prices (US$/oz): **Pt**: 1 040; **Pd**: 2 168; **Rh**: 11 554; **Ru**: 225; **Ir**: 1 331; **Au**: 1 900.*
*Prices (US$/tonne): **Cu**: 7 394; **Cr_2O_3**: 150.*
Exchange rate (R/US$): 15.36.
Life-of-mine: >23 years.
**** Two Rivers Platinum Mine attributable interests (ARM 54%; Impala Platinum 46%).***

Two Rivers Platinum Mine: Merensky Reef Mineral Resources estimates as at 30 June 2021

Mineral Resources are reported on a 100% basis*	MINERAL RESOURCES								
	Mt	Pt g/t	Pd g/t	Rh g/t	Au g/t	4E g/t	6E g/t	Pt Moz	6E Moz
Measured									
Indicated	75.73	1.87	0.95	0.11	0.20	3.13	3.42	4.55	8.32
Total Measured and Indicated 2021	**75.73**	**1.87**	**0.95**	**0.11**	**0.20**	**3.13**	**3.42**	**4.55**	**8.32**
Total Measured and Indicated 2020	75.73	1.87	0.95	0.11	0.20	3.13	3.42	4.55	8.32
Inferred 2021	**61.39**	**2.28**	**1.31**	**0.14**	**0.25**	**3.98**	**4.32**	**4.50**	**8.53**
Inferred 2020	61.39	2.28	1.31	0.14	0.25	3.98	4.32	4.50	8.53

***4E** = platinum + palladium + rhodium + gold; **6E** = platinum + palladium + rhodium + iridium + ruthenium + gold.*
The Measured and Indicated Mineral Resources are inclusive of those modified to produce Mineral Reserves.
Totals are rounded off.
Key assumptions for Mineral Resources:
Geological loss factor applied: 30%.
**** Two Rivers Platinum Mine attributable interests (ARM 54%, Impala Platinum 46%).***

Two Rivers Platinum Mine Merensky Mineral Resources classification



Legend

Indicated | Inferred | Merensky excluded | Granite | UG2 outcrop | Merensky outcrop

Boreholes | Mining Right boundary | Mined out area | Merensky portal | Nyoni dam

ARM Platinum continued

The Merensky Mineral Reserves were declared for the first time after completion of a feasibility study on the mining of the Merensky Reef. The modifying factors used for the conversion of the Merensky Mineral Resources to Mineral Reserves took into account the mining method, mining extraction factor, mining losses, mining dilution and financial parameters such as the commodity prices. Some of these modifying factors were derived from the trial mining project of the Merensky Reef which was undertaken in the past. The details of the Merensky Mineral Reserves are provided in the table below together with a summary of some of the modifying factors.

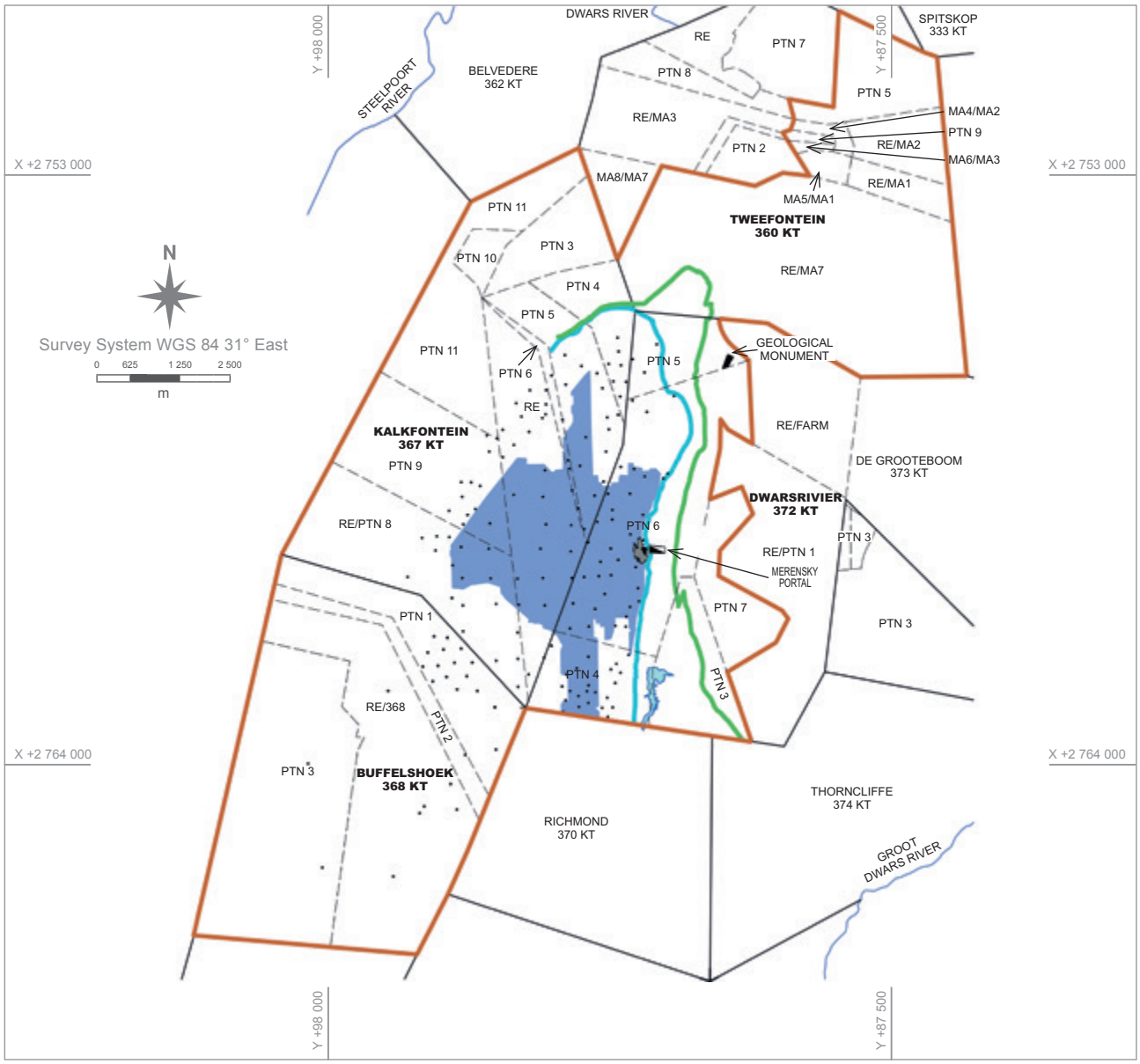
Two Rivers Platinum Mine: Merensky Reef Mineral Reserves estimates as at 30 June 2021

Mineral Reserves are reported on a 100% basis*	MINERAL RESERVES								
	Mt	Pt g/t	Pd g/t	Rh g/t	Au g/t	4E g/t	6E g/t	Pt Moz	6E Moz
Proved									
Probable	49.62	1.58	0.80	0.09	0.17	2.65	2.89	2.52	4.60
Total Reserves 2021	**49.62**	**1.58**	**0.80**	**0.09**	**0.17**	**2.65**	**2.89**	**2.52**	**4.60**

***4E** = platinum + palladium + rhodium + gold; **6E** = platinum + palladium + rhodium + iridium + ruthenium + gold.*
Totals are rounded off.
Modifying factors for the conversion of Mineral Resources to Mineral Reserves include:
Mining loss factor: 3%.
Plant recovery: 82% (6E) depending on plant feed grade.
Shaft call factor: 95%.
Mining dilution: On average 50cm on hangingwall and on footwall.
Minimum mining height: 2.00 metres; maximum mining height 3.50 metres.
*Prices (US$/oz): **Pt**: 1 040; **Pd**: 2 168; **Rh**: 11 554; **Ru**: 225; **Ir**: 1 331; **Au**: 1 900.*
*Prices (US$/tonne): **Cu**: 7 394; **Cr_2O_3**: 150.*
Exchange rate (R/US$): 15.36.
Life-of-mine: >23 years.
**** Two Rivers Platinum Mine attributable interests (ARM 54%; Impala Platinum 46%).***

Conveyor at Two Rivers Mine

Two Rivers Platinum Mine Merensky Mineral Reserves classification



Legend

- Probable
- Mined out area
- UG2 outcrop
- Merensky portal
- Merensky outcrop
- Nyoni dam
- Boreholes
- Mining Right boundary

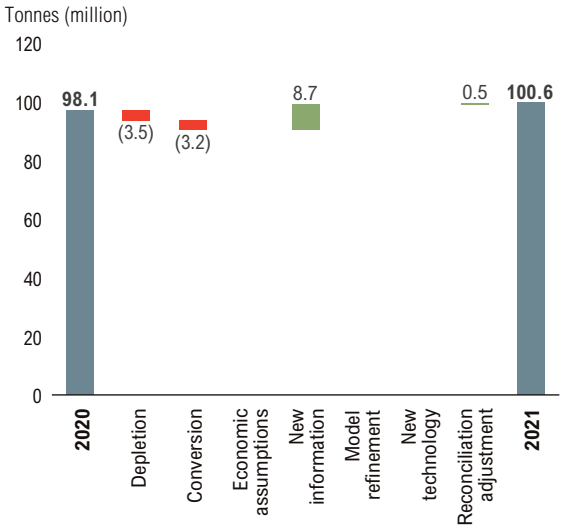
ARM Platinum continued

Two Rivers year-on-year change

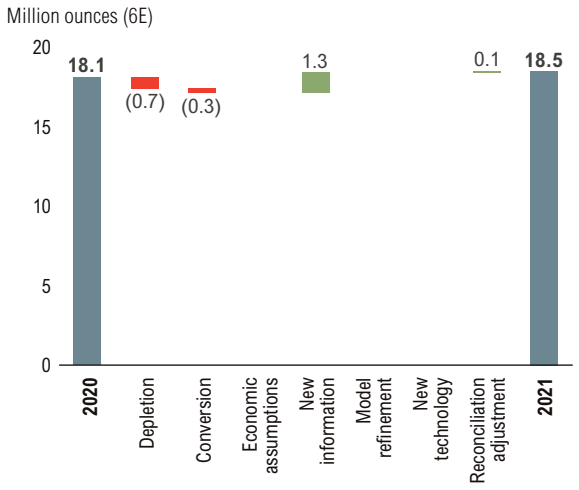
UG2 Reef Measured and Indicated Mineral Resources marginally increased by 2% to 100.55 million tonnes at 5.73 g/t (6E) mainly due to reduction in the geological loss factors that were applied. Inferred Mineral Resources increased from 80.30 million tonnes at a grade of 5.33 g/t (6E) to 83.53 million tonnes at a grade of 5.23 g/t (6E) due to the reduction in geological losses applied this year.

TWO RIVERS UG2 MINERAL RESOURCES

Two Rivers UG2 year-on-year reconciliation Mineral Resources*



Two Rivers UG2 year-on-year reconciliation Mineral Resource*

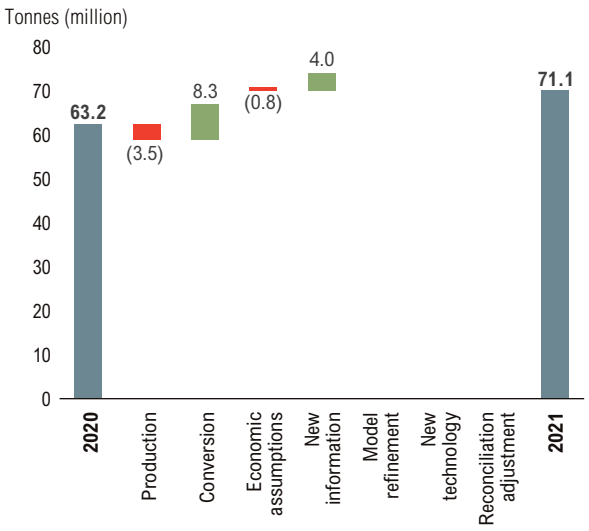


** Mineral Resources represents Measured and Indicated only.*

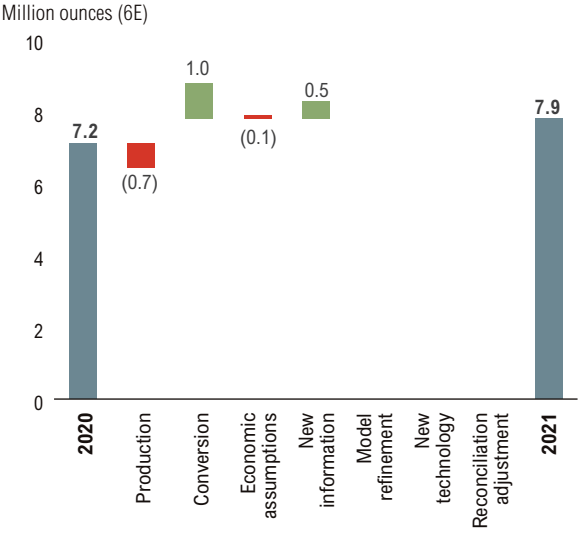
Mineral Reserves for the UG2 Reef increased from 63.22 million tonnes at a grade of 3.56 g/t (6E) to 71.14 million tonnes at 3.47 g/t (6E) mainly due to an increase in the minimum stoping width to 2.20 metres from 1.95 metres. A total of 3.5 million tonnes was depleted by mining. The UG2 Mineral Reserve 6E ounces increased from 7.23 to 7.93.

TWO RIVERS UG2 MINERAL RESERVES

Two Rivers UG2 year-on-year reconciliation Mineral Reserves



Two Rivers UG2 year-on-year reconciliation Mineral Reserves



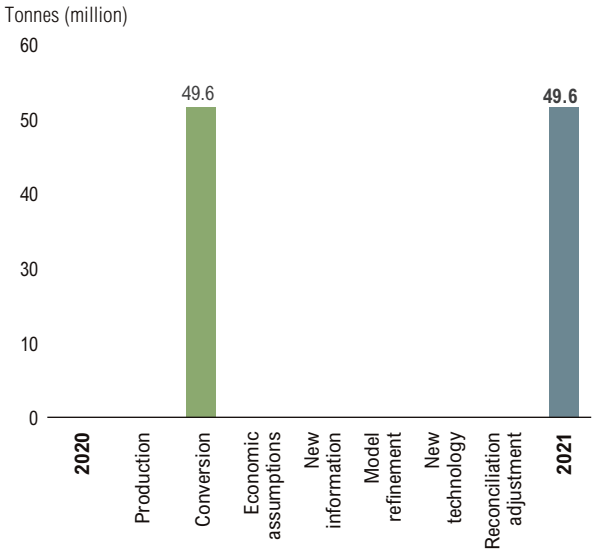
ARM Platinum continued

The Indicated and Inferred Mineral Resources for the Merensky Reef remained unchanged.

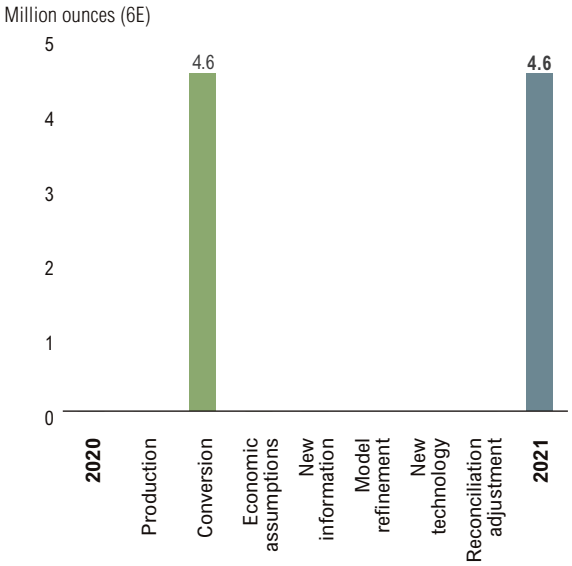
A new Merensky Mineral Reserve of 49.62 million tonnes at a grade of 2.89 g/t (6E) was declared after completion of the feasibility study on the mining of the Merensky Reef.

TWO RIVERS MERENSKY MINERAL RESERVES

Two Rivers Merensky year-on-year reconciliation Mineral Reserves



Two Rivers Merensky year-on-year reconciliation Mineral Reserves

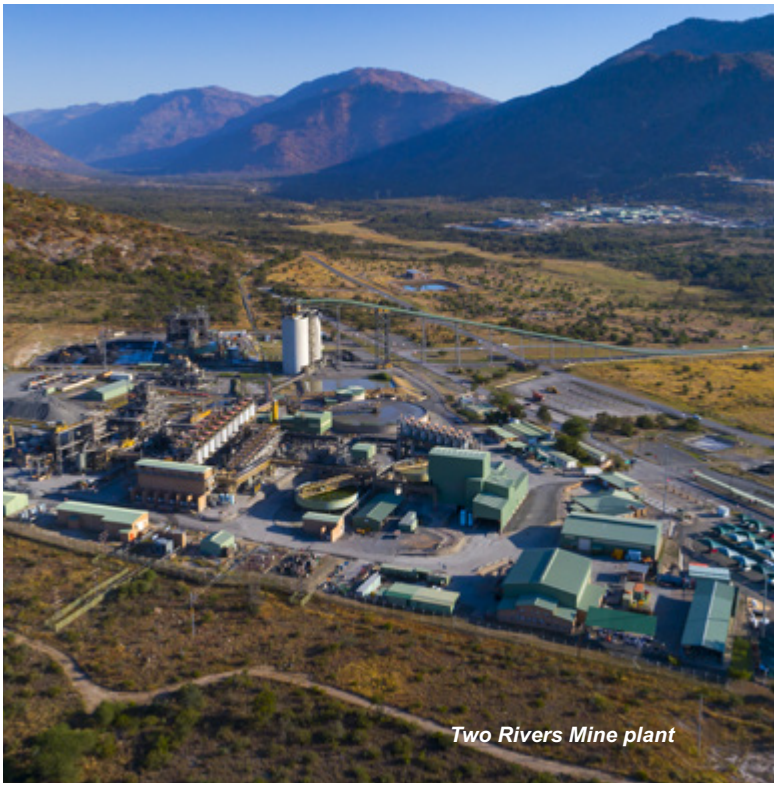


Historical production at Two Rivers Platinum Mine (UG2 Reef)

	ROM*		MILLED	
Financial year	Mt	Grade g/t (6E)	Mt	Grade g/t (6E)
2016/2017	3.38	3.80	3.50	3.90
2017/2018	3.45	3.57	3.46	3.63
2018/2019	3.32	3.58	3.40	3.52
2019/2020	2.94	3.52	3.02	3.45
2020/2021	**3.44**	**3.41**	**3.28**	**3.43**

** ROM: Run-of-mine.*

IAR Additional information on production figures can be found in the ARM Platinum operational review of the 2021 ARM integrated annual report which can be found at **www.arm.co.za**.



Two Rivers Mine plant

ARM Platinum continued

Modikwa Platinum Mine

ARM's attributable beneficial interest in Modikwa's operations is 41.5%; 8.5% is held by the Modikwa communities and 50% is held by Rustenburg Platinum Mines.

Locality

Modikwa Platinum Mine is situated approximately 15 kilometres north of Burgersfort and 15 kilometres north-west of Steelpoort, along the border between the Mpumalanga and Limpopo provinces in South Africa. Located at latitude 24º40'S and longitude 30º10'E, the site is accessed via the R37 road between Polokwane and Burgersfort. The topography of the area is defined by a low-lying broad valley which strikes due north-south and is underlain by rock units of the upper critical zone of the Bushveld Complex.

History

Exploration in the area started in the mid-1920s with the discovery of the Merensky Reef. During the late 1980s, drilling was undertaken on the UG2 and Merensky reefs. In the late 1990s, a feasibility study was completed for the exploitation of the UG2 Reef. During 2001, a 50:50 JV agreement was signed between Rustenburg Platinum Mines and ARM Mining Consortium Limited. ARM's effective stake in Modikwa is 41.5%, through its 83% ownership of the ARM Mining Consortium. The other 8.5% is held by the Mampudima and Matimatjatji community companies through their 17% shareholding in the ARM Mining Consortium.

ARM Platinum continued

Competence

The following competent persons were involved in the estimation of Mineral Resources and Mineral Reserves for the Modikwa Platinum Mine. They are employed by Anglo American Plc (M Setuke) and Modikwa Mine (J de Kock).

COMPETENT PERSON	PROFESSIONAL ORGANISATION	MEMBERSHIP NUMBER	QUALIFICATIONS	RELEVANT EXPERIENCE
M Setuke (Mineral Resources)	SACNASP	400300/12	BSc (Geology), BSc Hons (Geology)	16 years
J de Kock (Mineral Reserves)	SAIMM	705068	Government Survey Certificate of Competency	39 years

Mining authorisation

LEGAL ENTITLEMENT	MINERALS COVERED BY MINING RIGHT	COMMENT	PERIOD OF MINING RIGHT (YEARS)	KNOWN IMPEDIMENTS ON LEGAL ENTITLEMENT
Mining Right LP 129 MR (as amended)	Platinum group metals together with metals and minerals found in association therewith.	The acquisition in respect of a portion of the farm Doornbosch 294 KT was completed in 2019.	30 years: 13 November 2013 to 12 November 2043	None

Geology

The Bushveld layered sequence around Modikwa strikes north-northwest to south-southeast and dips to the south-west at 10º to 12º, with local variations in the dip resulting in gradients of nearly 20º. There are several instances where some gentle "rolling" of the reef horizons have been recorded, and normally steeper dips are noted nearer the outcrop (as opposed to at depth).

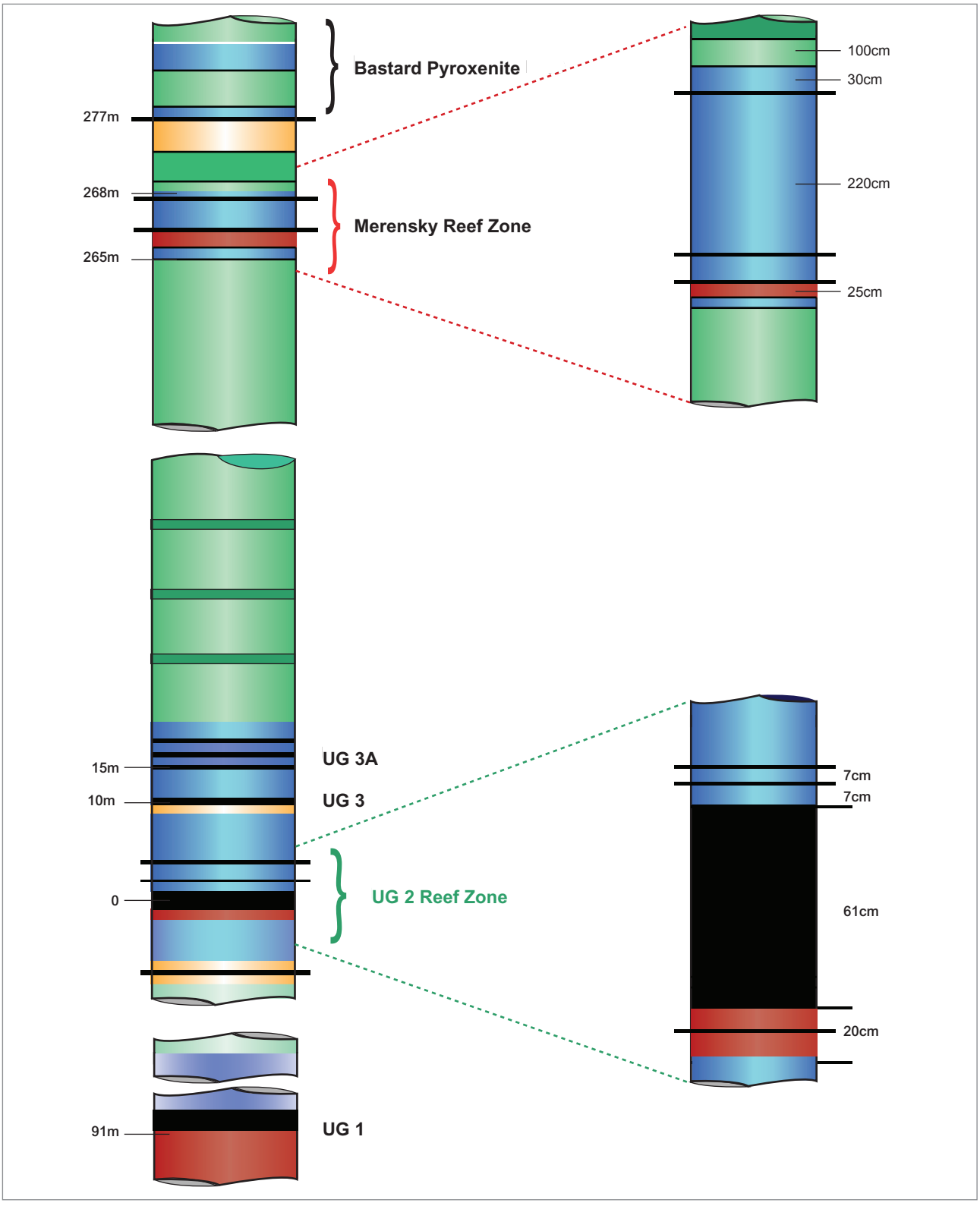
The outcrop positions of the Merensky Reef and the UG2 Reef normally occur within the areas of low relief, and much of the outcrop is masked by extensive development of black turf as well as, in places, transported sediments. On the farms Maandagshoek 254 KT, Onverwacht 292 KT and Winterveld 293 KT; however, the UG2 Reef (and occasionally the Merensky Reef) outcrops in a series of elongated hills. Although frequently covered with scree material, much of this outcrop has been marked by a series of trenches and pits, many of which date from early pioneer prospecting.

Both the UG2 and Merensky reefs are present at Modikwa. The UG2 Reef occurs as a chromitite layer with an average thickness of approximately 60 centimetres. Three leader chromitites occur above the main seam. Gentle undulations of the UG2 Reef with amplitudes of less than 2 metres are developed across the mine area. Potholes are randomly distributed within the North shaft area but are less abundant in the South shaft area. The Onverwacht Hill area in the southern portion of the mine is characterised by the presence of several large ultramafic pegmatoid intrusions that disrupt, and locally replace, the UG2 Reef.

Underground at Modikwa Mine

ARM Platinum continued

Generalised geological succession at Modikwa Platinum Mine



ARM Platinum continued

Exploration activities

No surface boreholes were drilled during the F2021 period. A total of 28 underground boreholes were drilled in the F2021 year at the North and South shafts at a cost of R3.84 million. The UG2 Reef, dykes, faults and reef potholes were intersected providing valuable information for updating the structural information for the UG2 Reef.

Drilling planned for the North 1 Phase 3 surface drilling in F2022 year may have to be done from underground if the required permissions are not obtained. The objective of this drilling is to increase understanding of the grade profile and geological structure, and to increase the Measured Mineral Resource base for feasibility purposes. The budget for this drilling is R9 million.

Mining methods and infrastructure

Mining consists of mechanised development and conventional stoping. The UG2 Reef is accessed via two primary declines from the surface, and South 2 shaft. Run-of-mine tonnage is processed at the Modikwa concentrator and the PGE-rich concentrate is transported to Anglo Platinum's Polokwane smelter and refining facilities.

Mineral Resources

The Mineral Resource modelling and estimation for Modikwa Platinum Mine is done by the mine with assistance from Anglo American Platinum resource modelling team. The Mineral Resource classification is based on data constraints, information risk assessments, geological, geostatistical considerations and review by the competent person's team. The UG2 and Merensky Reef Mineral Resource is based on surface diamond boreholes (mother drillholes and deflections) and underground sample sections. The logs and assay values are kept in separate electronic databases and are combined for estimation purposes after rigorous data validation. Currently assaying of samples is done at the SGS laboratories.

The UG2 Mineral Resource cut is divided into three units comprising the UG2 Reef and dilution cuts in the hanging wall and footwall to make up the mining cut. Estimation of the three sub-units in the mining cut is carried out separately and independently. Two-dimensional block models with block sizes of 125 x 125 metres, 250 x 250 metres and 500 x 500 metres, depending on the drillhole/sample section spacing, are created. The Pt, Pd, Rh, Au, Cu and Ni grades, reef width and density are interpolated using Ordinary Kriging. Mineral Resources are reported after deduction of geological losses. The geological losses account for losses due to pegmatoidal intrusions, faults, dykes and potholes.

Mineral Resource classification for both UG2 and Merensky reefs is based on geostatistical parameters (search volume, number of samples used in estimation, Kriging efficiency, Kriging variance and regression slope), geological structure information (aeromagnetic data, seismics, facies, structural model, reef facies, mining history and geological loss information) and QAQC assessment. These parameters are allocated weightings to get the final Mineral Resource classification score.

The following factors were considered to determine reasonable prospects of eventual economic extraction of the Mineral Resources that are reported:

- Legal – Modikwa Mine has permits and licences to mine and also adheres to regulatory requirements
- Geology – all data used for Mineral Resource models are validated and no Mineral Resources are declared below the 75°C isotherm, below which mining is currently not feasible. Geological losses are applied based on an annual assessment of mined-out areas
- Mining method – mining is conventional and has been used in the past and at adjacent mines to economically exploit the orebody
- Metallurgical – material mined is currently processed on and off-mine
- Other factors such as marketing, environmental and social, infrastructure and economic are adequately covered in the mine plan.

ARM Platinum continued

Mineral Reserves

Part of the Measured and Indicated Mineral Resources are converted to Mineral Reserves by applying appropriate mining, metallurgical and economic factors, ie "modifying factors", details of which are below the Mineral Reserves table. A minimum mining cut of 102 centimetres is used to determine the amount of footwall waste that is included in the mining cut. Where the hanging wall and the main seam thickness are greater than 102 centimetres, an additional 5 centimetres of footwall waste is included. The basal contact of the UG2 layer is typically high-grade and it is important that this contact is not left in the footwall during mining.

Modikwa Platinum Mine: UG2 Mineral Resources and Mineral Reserves estimates as at 30 June 2021

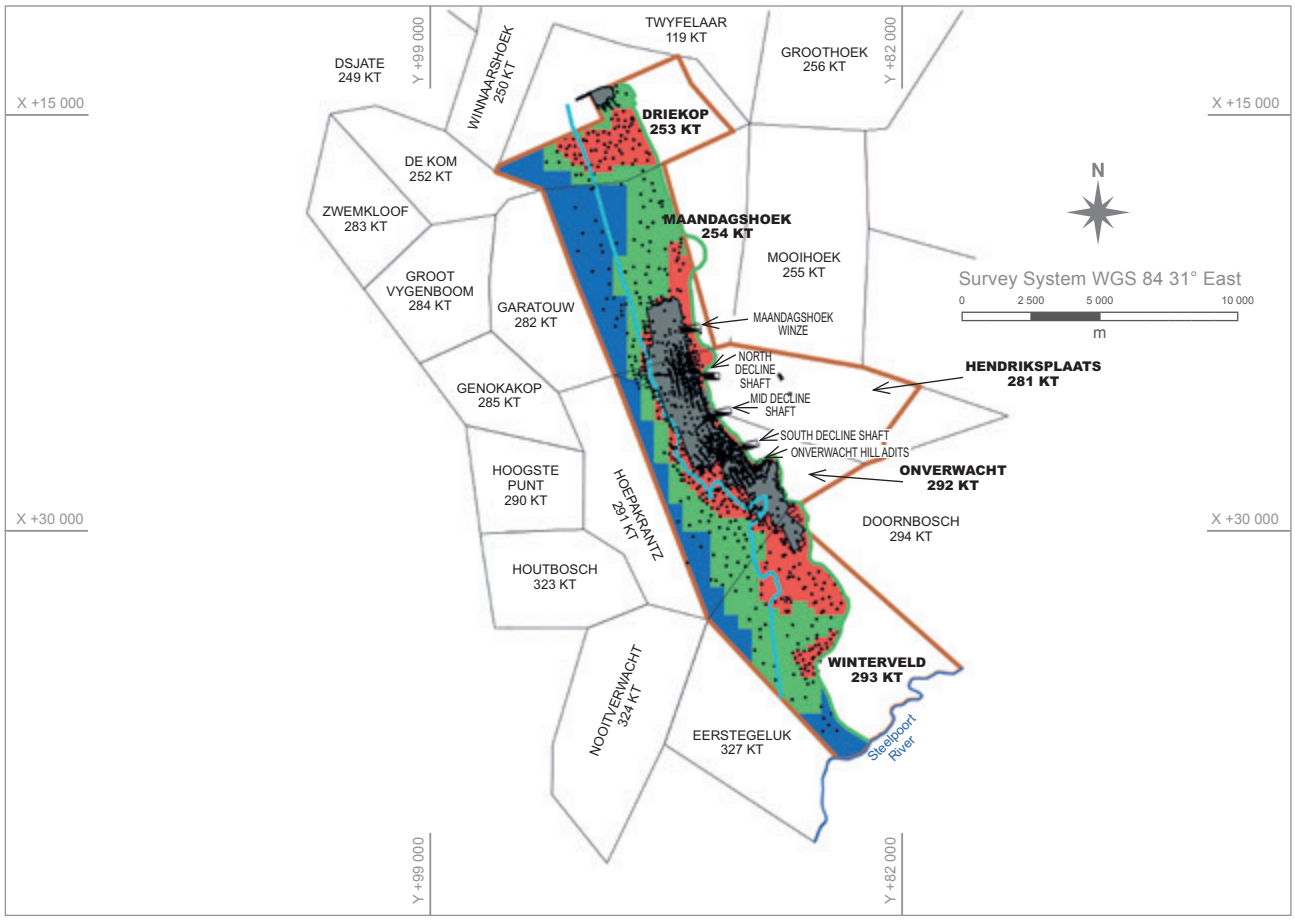
Mineral Resources and Mineral Reserves are reported on a 100% basis*	MINERAL RESOURCES Mt	4E g/t	4E Moz
Measured	83.50	5.93	15.92
Indicated	102.10	5.91	19.40
Total Measured and Indicated 2021	**185.60**	**5.92**	**35.32**
Total Measured and Indicated 2020	188.00	5.92	35.80
Inferred 2021	**77.50**	**6.22**	**15.50**
Inferred 2020	77.50	6.22	15.50

	MINERAL RESERVES Mt	4E g/t	4E Moz
Proved	15.59	4.33	2.17
Probable	28.67	4.14	3.82
Total Reserves 2021	**44.26**	**4.21**	**5.99**
Total Reserves 2020	45.73	4.22	6.21

***4E** = platinum + palladium + rhodium + gold.*
The Measured and Indicated Mineral Resources are inclusive of those modified to produce Mineral Reserves.
Totals are rounded off.
Key assumptions for Mineral Resources:
Geological loss factor applied: an average of 17.21% over lease area.
Grade and thickness cut-off: No grade cut-off applied.
Modifying factors for the conversion of Mineral Resources to Mineral Reserves include:
"Unknown" geological loss factor applied: 4%-9%.
Mining loss factor: 1.2%.
Mining dilution: 36%.
Plant recovery: 87% (4E).
Mine call factor: 95%.
Mineral Reserve cut-off grade: 3.29 g/t (4E).
*Price ranges (US$/oz): **Pt**: 805-1 100; **Pd**: 1 136-2 150; **Rh**: 4 910-21 125; **Ru**: 184-250; **Ir:** 1 012-1 500; **Au**: 1 433-1 669.*
*Prices (US$/tonne): **Cu**: 6 239-9 435; **Ni**: 11 993-18 210.*
Exchange rate (R/US$): 15.27-15.97.
Life-of-mine: >23 years.
**** Modikwa Platinum Mine attributable interests (ARM 41.5%; Modikwa communities 8.5%, Anglo American Platinum 50%).***

Modikwa Plant

Modikwa Platinum Mine UG2 Mineral Resources classification



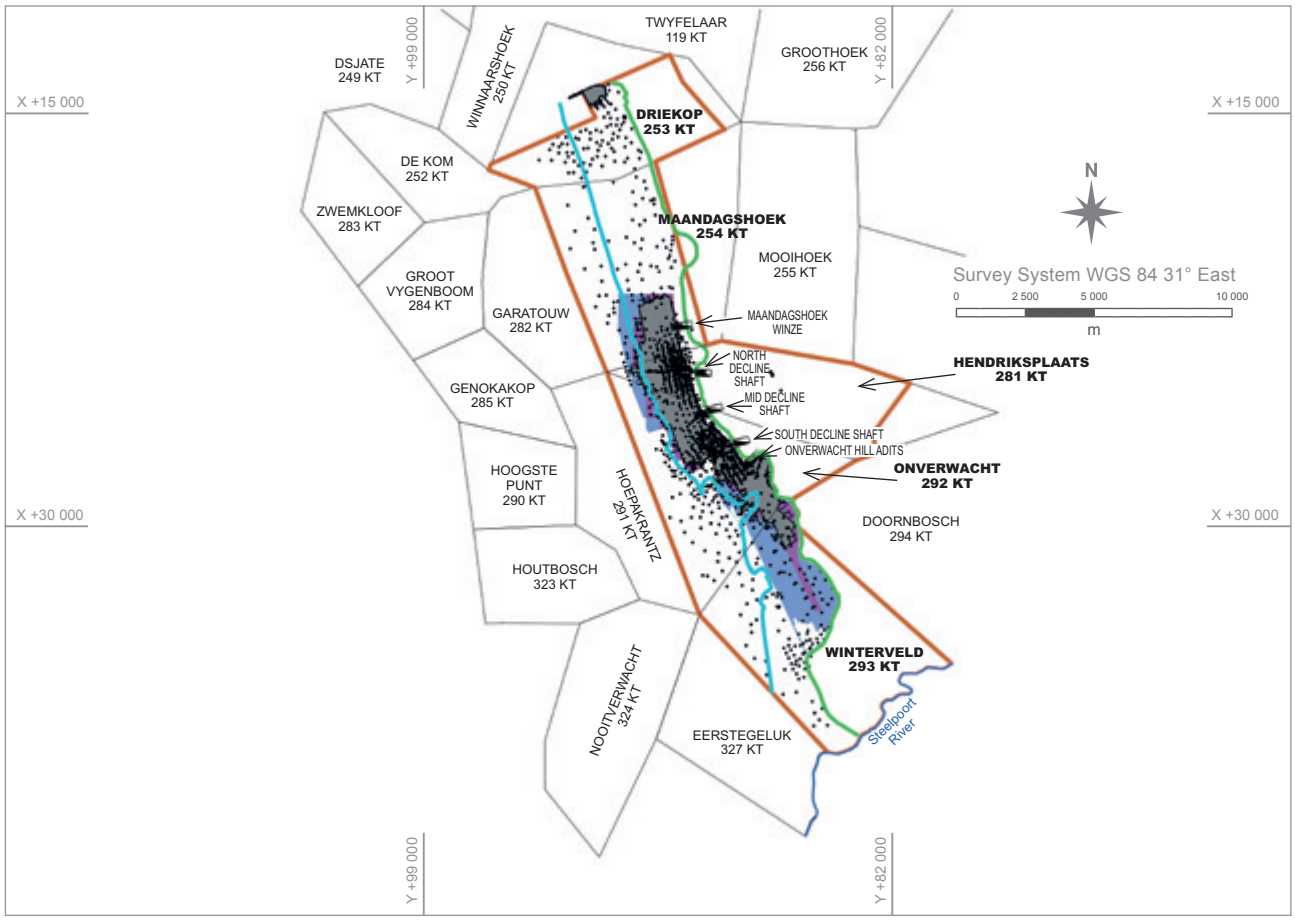
Legend

Measured	Indicated	Inferred	UG2 outcrop	Merensky outcrop
Boreholes	Mining Right boundary	Mined out area	Shaft positions	

Modikwa plant

ARM Platinum continued

Modikwa Platinum Mine UG2 Mineral Reserves classification

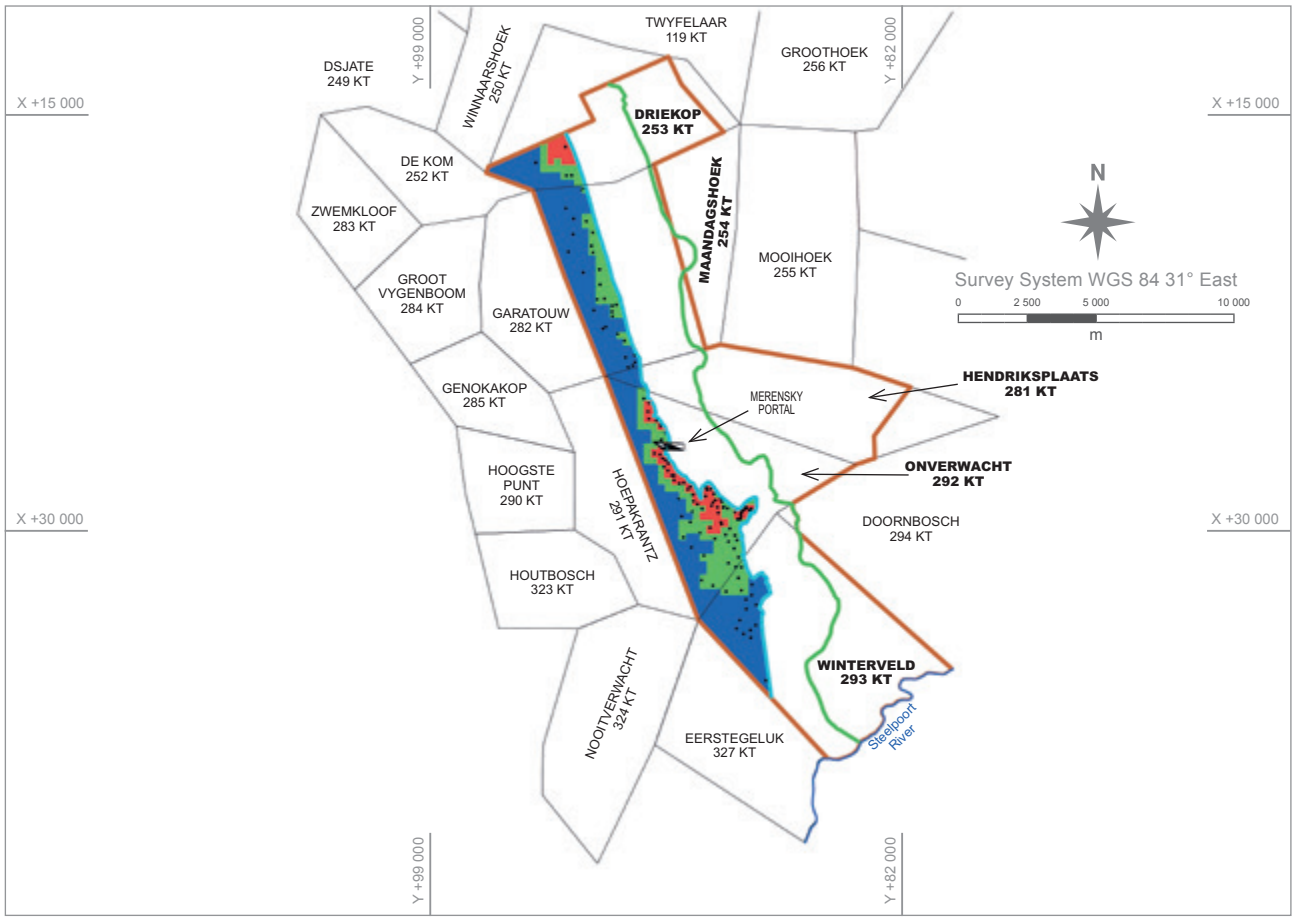


Modikwa Platinum Mine: Merensky Reef Mineral Resources estimates as at 30 June 2021

	MINERAL RESOURCES		
Mineral Resources are reported on a 100% basis*	Mt	4E g/t	4E Moz
Measured	20.70	3.15	2.10
Indicated	53.88	2.90	5.02
Total Measured and Indicated 2021	**74.58**	**2.97**	**7.12**
Total Measured and Indicated 2020	74.58	2.97	7.12
Inferred 2021	**139.33**	**2.84**	**12.72**
Inferred 2020	139.33	2.84	12.72

4E *= platinum + palladium + rhodium + gold.*
Totals are rounded off.
Key assumptions for Mineral Resources:
Geological loss factor applied: 10.91%-38.78%.
Grade and thickness cut-off: No cut-off grade applied.
*** ***Modikwa Platinum Mine attributable interests (ARM 41.5%; Modikwa communities 8.5%; Anglo American Platinum 50%).***

Modikwa Platinum Mine Merensky Mineral Resources classification



Legend

Measured · Indicated · Inferred · UG2 outcrop · Merensky outcrop

Boreholes · Mining Right boundary · Mined out area · Merensky portal

Modikwa year-on-year change

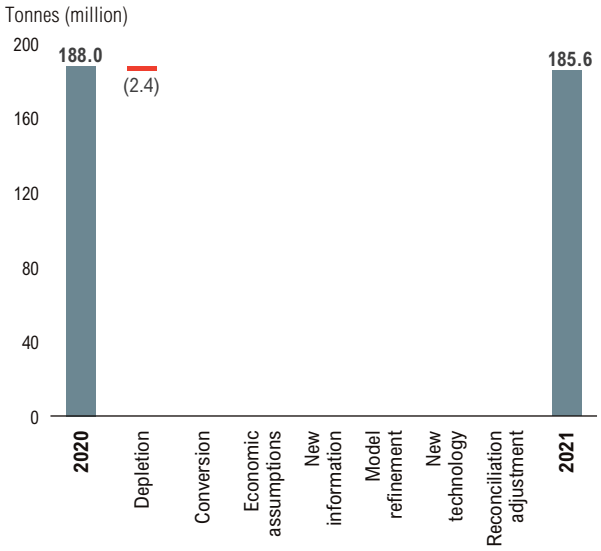
Modikwa plant

ARM Platinum continued

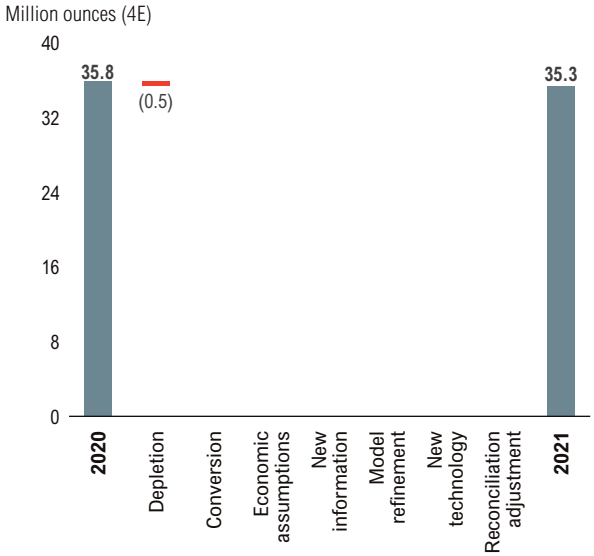
The UG2 Reef Measured and Indicated Mineral Resources decreased from 188.00 million tonnes at 5.92 g/t (4E) to 185.60 million tonnes at 5.92 g/t (4E) mainly due to depletion.

MODIKWA MINE UG2 MINERAL RESOURCES

Modikwa Mine UG2 year-on-year reconciliation Mineral Resources*



Modikwa Mine UG2 year-on-year reconciliation Mineral Resources*

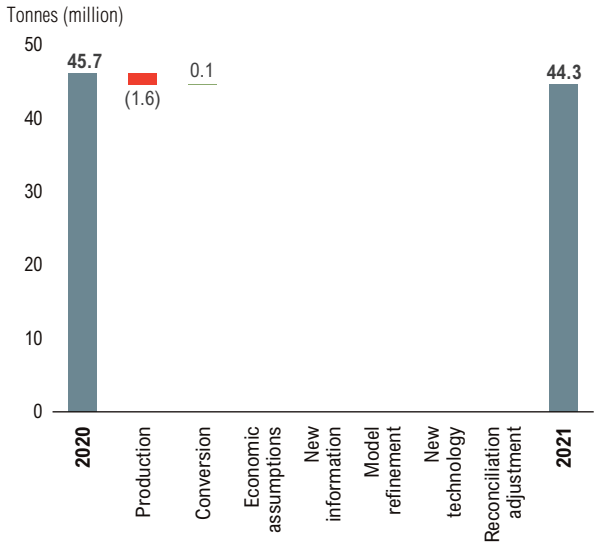


** Mineral Resources represents Measured and Indicated only.*

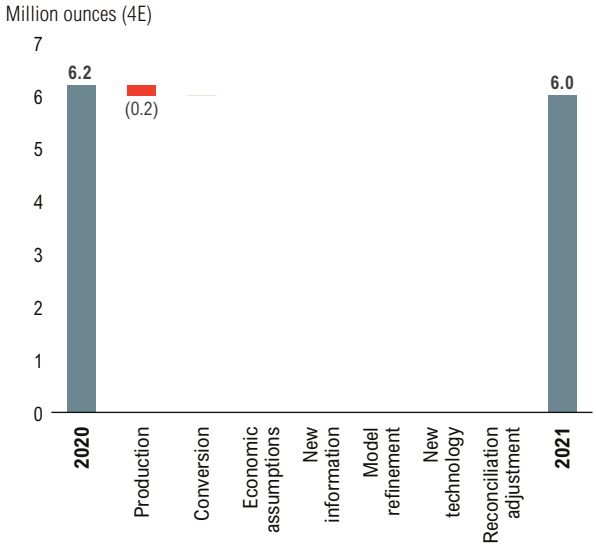
Mineral Reserves of the UG2 Reef decreased from 45.73 million tonnes at 4.22 g/t (4E) to 44.26 million tonnes at 4.21 g/t (4E) mainly due to mining production.

MODIKWA MINE UG2 MINERAL RESERVES

Modikwa Mine UG2 year-on-year reconciliation Mineral Reserves



Modikwa Mine UG2 year-on-year reconciliation Mineral Reserves



ARM Platinum continued

Modikwa Mine Merensky Mineral Resources remains unchanged compared to F2020.

Historical production at Modikwa Platinum Mine (UG2 Reef)

	ROM		MILLED	
Financial year	Mt	Grade g/t (4E)	Mt	Grade g/t (4E)
2016/2017	2.05	4.96	2.01	4.60
2017/2018	2.06	5.26	2.43	4.22
2018/2019	2.06	4.17	2.29	4.18
2019/2020	1.91	4.24	1.94	4.09
2020/2021	**1.95**	**4.12**	**2.05**	**3.83**

IAR Additional information on production figures can be found in the ARM Platinum operational review of the 2021 ARM integrated annual report which can be found at **www.arm.co.za.**

Modikwa plant

ARM Platinum continued

Nkomati nickel-copper-cobalt-PGM-chromite mine

ARM's attributable beneficial interest at Nkomati Mine is 50%. The other 50% is held by Norilsk Nickel Africa (Pty) Ltd.

Nkomati Plant

Locality

Nkomati Nickel Mine is located approximately 300 kilometres east of Johannesburg in the Mpumalanga province of South Africa. Situated at latitude 25°40'S and longitude 30°30'E, the mine is accessed via the national N4 highway between Johannesburg and Machadodorp, the R341 provincial road and the R351 tarred road.

History

Nickel, copper, cobalt, PGM and chromite mineralisation is hosted by the Uitkomst Complex, a layered mafic-ultramafic, Bushveld satellite intrusion. The Uitkomst Complex outcrops on the farms Slaaihoek 540JT and Nkomati 770JT. In 1929, the Mineral Rights on Slaaihoek were purchased by ETC, an Anglovaal subsidiary, to mine gold at the old Mamre and Slaaihoek mines. In the early 1970s, an Anglo American/INCO JV began exploring Uitkomst for nickel. In 1990, AngloAmerican (AAC) completed a feasibility study on an open-pit operation exploiting the large disseminated sulphide resource on Uitkomst, with negative results.

Exploration on Slaaihoek by Anglovaal began in 1989, and in 1991, the massive sulphide body (MSB) was discovered by surface drilling. In 1995, the Nkomati JV between Anglovaal and AAC was formed. In January 1997, underground production started on the MSB. In 2004, Anglovaal acquired AAC's interest and in 2005, following the merger of Anglovaal and ARM, a 50:50 JV was formed between ARM and LionOre, then a global nickel producer and owner of the Activox technology. In February 2006, Nkomati approved the Phase 1 expansion project to exploit the Main Mineralised Zone (MMZ), one of the disseminated sulphide orebodies, by underground and open-pit mining at a rate of 100 000 tonnes per month of ore to maintain annual nickel production at approximately 5 000 tonnes in concentrate, after output from the MSB started declining. The project was completed in 2007. In the same year, Norilsk Nickel acquired LionOre, together with its 50% share in Nkomati. The MSB orebody is now mined out.

The Phase 2a expansion project, increasing MMZ ore production to 375 000 tonnes per month with the construction of a new plant, was commissioned during 2010. The Phase 2b expansion, involving the upgrading of the 100 000 tonnes per month MMZ plant to a 250 000 tonnes per month Chromititic Peridotite Mineralised Zone

(PCMZ) plant, was completed during F2011. The PCMZ, which was being mined only in the open-pit, is a disseminated chromite-rich sulphide body within the Chromititic Peridotite (PCR) Unit (overlying the MMZ), which has to be treated separately to liberate the chromite fines.

Nkomati has also been producing lumpy chromite, chips and fines from the Oxidised Massive Chromitite since 2006, a layer which overlies the PCMZ orebody.

A chrome washing plant to treat the fines stockpile was commissioned in 2008. In addition, the Oxidised PCR, which is the highly weathered PCR Unit immediately below the Oxidised Massive Chromitite, was being stockpiled for future processing for its chromite content.

The Nkomati operation was placed on care and maintenance at the end of the third quarter of F2021 as continued mining became financially unviable.

Competence

The following competent persons were involved in the estimation of Mineral Resources and Mineral Reserves for the Nkomati Mine. They are employed by Nkomati Mine.

COMPETENT PERSON	PROFESSIONAL ORGANISATION	MEMBERSHIP NUMBER	QUALIFICATIONS	RELEVANT EXPERIENCE
N Strydom (Mineral Resources)	SACNASP	400148/04	NHD (Economic Geology), MBA	22 years
T Mogano (Mineral Reserves)	SAIMM	708776	Certificates in Advanced Mine Survey and Advanced Mine Valuation	11 years

Mining authorisation

LEGAL ENTITLEMENT	MINERALS COVERED BY MINING RIGHT	COMMENT	PERIOD OF MINING RIGHT (YEARS)	KNOWN IMPEDIMENTS ON LEGAL ENTITLEMENT
Mining Rights MP 146 MR and MP 147 MR	Nickel, copper, cobalt, platinum, palladium, rhodium, iridium, ruthenium, osmium, gold, silver and other contained minerals and metals.	None	25 years: 6 June 2012 to 5 June 2037	None

Geology

Sulphide and chromite mineralisation occurs within the Uitkomst Complex, a Bushveld-age, layered, mafic-ultramafic intrusion, which concordantly intrudes dolomite/chert of the Malmani Subgroup and shales/quartzites of the Timeball Hill Formation. The Uitkomst Complex, which lies unconformably on an Archaean basement, is a north-west/south-east tubular shaped body which outcrops in the Slaaihoek Valley for approximately nine kilometres before dipping at 4º below an escarpment where it has been drilled down-dip for another four kilometres and is still open-ended to the north-west.

From the base to top, the stratigraphy of the Uitkomst Complex comprises the Basal Gabbro Unit (up to 15 metres thick), the Lower Pyroxenite Unit (average 35 metres), the Chromititic Peridotite Unit (30 to 60 metres), the Massive Chromitite Unit (up to 10 metres), the Peridotite Unit (330 metres), the Upper Pyroxenite Unit (65 metres), the Gabbronorite Unit (250 metres), and the Upper Gabbro Unit (50 metres). The complex and surrounding sediments are intruded by numerous diabase sills up to 30 metres in thickness.

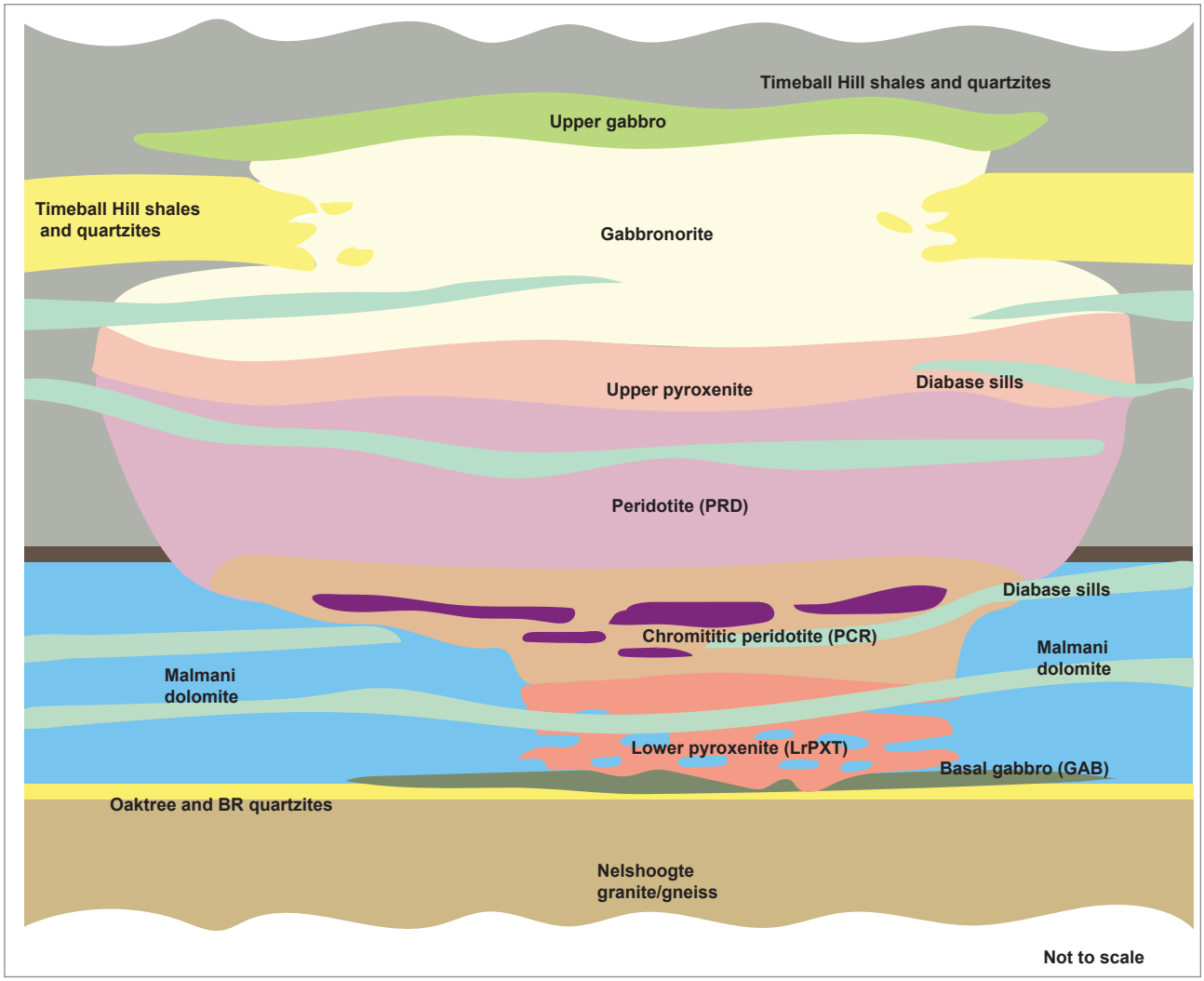
Apart from the now mined-out Massive Sulphide Body (MSB), situated at and below the base of the Uitkomst Complex, there are three main economic sulphide mineralised zones:

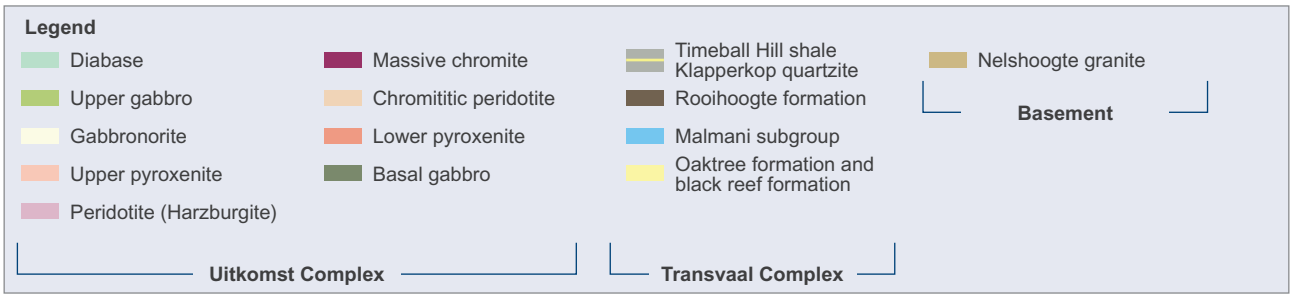
- The Basal Mineralised Zone (BMZ) within the Basal Gabbro
- The Main Mineralised Zone (MMZ) occurring within the Lower Pyroxenite Unit
- The Chromititic Peridotite Mineralised Zone (PCMZ) which occurs within the Chromititic Peridotite (PCR).

In addition, the Peridotite Unit contains the Peridotite Mineralised Zone (PRDMZ) which is a low-grade disseminated sulphide mineralisation zone not yet included in the mine's Mineral Resource base. The dominant sulphide minerals are pyrrhotite, pentlandite and chalcopyrite. Cobalt is mostly in solid solution in the pentlandite, and the platinum group metals (PGMs) occur as separate minerals, with merenskyite being dominant. The chromite is contained within the Massive Chromitite Unit (MCHR) in the open-pit area.

ARM Platinum continued

Idealised geological section of Uitkomst Complex





ARM Platinum continued

Exploration activities

There was no exploration drilling conducted during F2021. A total of 560 Reverse Circulation (RC) boreholes were drilled between 1 July 2020 and 30 June 2021 for the purposes of infill drilling and grade control in the open-pit. Total metres drilled are 35 122 metres at a cost of R14.40 million. There are no plans to resume exploration drilling in F2022.

Mining methods and infrastructure

Mining operations comprise open-pit mining operation which feeds two concentrators (MMZ and PCMZ) producing concentrate containing PGMs, nickel, copper and cobalt. Previously, MMZ was also mined by underground mechanised mining methods but this operation is now on care and maintenance. Final products are transported to various third parties for toll smelting and refining. Chrome products from Oxidised Massive Chromitite and the PCMZ, produced from the chrome washing plant and the PCMZ plant, are sold to local and export markets.

Mineral Resources

There have been numerous diamond, percussion and RC drilling campaigns since 1972. Consequently, various sampling and assaying protocols as well as varying standards of QA/QC have been used. Core sizes are mainly NQ and TNW. Before 1990 (Anglo American boreholes), half core samples over widths ranging from 1 metre to 5 metres were taken. Samples were assayed at the Anglo American Research Laboratory (AARL) for total nickel, copper and cobalt using Atomic Absorption (AA) and for "sulphide" nickel using a peroxide leach/AA finish. Composite samples were assayed for platinum and palladium by Pb-collection fire-assay/ICP, S by combustion, and a range of major elements by fusion and density using the Archimedes bath method. Between 1990 and 1997 (Anglovaal boreholes), assays were carried out at the Anglovaal Research Laboratory (AVRL), with internal standard checks. Nickel analyses were also carried out by the partial digestion methods. Comparisons between AARL and AVRL were undertaken to ensure that the data was compatible.

In 2003, a 50 metre-spaced drilling programme was carried out in the shallow open-pit area. Samples from this drilling were analysed at AVRL for nickel, copper and cobalt using an aqua regia partial extraction/AA finish. Platinum, palladium, rhodium and gold were analysed by Pb-collection fire-assay/AA finish. Analyses also included Cr_2O_3, MgO, FeO and S. Density was also determined by gas pycnometer. Duplicates and internal standards were used and a suite of referee samples were analysed at the Genalysis Laboratory in Perth. Comparisons indicated good correlations between laboratories. In 2005, it was decided to resample many of the Anglo American drillholes to improve the sample density for PGEs in the open-pit area. Drill core was resampled (quarter core) at 1 metre intervals. Assays were carried out by the SGS Laboratory in Johannesburg for Pt, Pd and Au by Pb-collection fire-assay/AA finish and for Ni, Cu and Co by aqua regia leach/AA finish. Blanks, duplicates and standards were included for quality control.

Nkomati plant

ARM Platinum continued

In 2007/2008, a 50 metre in-fill diamond drilling programme (116 holes – 18 000 metres) was completed in the shallower part of Pit 3. In the Pit 2 area, another 44 holes (3 450 metres) were added to the database. Half-core samples from the Pit 3 drilling were analysed at Genalysis Laboratory Services in Perth for Ni, Cu and Co by aqua regia partial digestion/ICP finish; for Pt, Pd and Au by Pb-collection fire-assay/ICP finish; high chrome samples for Cr_2O_3 by fusion/ICP and density by gas pycnometer. AMIS standards, duplicates and blank samples were used for internal QA/QC. Half-core samples from the Pit 2 drilling were analysed at Nkomati Mine's laboratory for Ni, Cu and Co by aqua regia partial digestion/AA finish.

The underground MMZ and PCMZ Mineral Resources are based on surface and underground diamond drilling as well as RC holes. Underground holes are spaced 10 to 20 metres apart and the drill core is sampled at 1 metre intervals. The Nkomati Mine laboratory analysed samples for Ni, Cu and Co using aqua regia leach/ICP finish, while the PGE assays are carried out by SGS and Mintek Laboratories in Johannesburg. Both laboratories use blanks, standards and check assays for quality control.

Nkomati plant

Geological wireframe models are generated from the entire borehole database (boreholes and RC holes) in Datamine Studio 3. All data is used for the variography. Grade estimation is by Ordinary Kriging. In addition to the estimation of Ni, Pt, Pd, Rh, Au, Co and Cu, density is also estimated for each model cell. Block sizes for the resource model are at 50 x 50 x 2.5 metres for poorly informed areas, 25 x 25 x 2.5 metres for moderately informed areas and 12.5 x 12.5 x 2.5 metres for well-informed areas. Grade cut-offs used for the Mineral Resources are 0.16% Ni for MMZ and PCMZ (open-pit) and 0.30% Ni for MMZ and PCMZ (underground).

The underground and open-pit Mineral Resources were based on the 2016 and 2019 Mineral Resource models respectively, which were created on-mine and internally reviewed. An external audit was undertaken by MSA in March 2019 to review the open-pit Mineral Resource estimate. No fatal flaws or critical issues were identified. There were, however, some issues necessary to implement as well as some continuous improvement items which have since been addressed.

A three-dimensional approach to the Mineral Resource classification is applied. It allows for the classification of each block model cell based on a combination of model cell geostatistical parameters and geological confidence. The geostatistical parameters considered are search volume, Kriging variance, Kriging efficiency and regression slope. The geological confidence is based on geological continuity, influence of geological structures and the quality of geological data.

The Mineral Resources for Nkomati Mine have reasonable prospects for eventual economic extraction on the basis of the following:

- Location, quality, grade and geological continuity which are known and are supported by drilling information which includes sampling
- Appropriate grade cut-offs used for the Mineral Resources are 0.16% Ni for MMZ and PCMZ (open-pit) and 0.30% Ni for MMZ and PCMZ (underground). These grade cut-offs are based on material that can be processed in the current plants and on material that is economic now or historically
- Mining and processing methods are well established at the operation and are currently used to exploit the orebody
- All other considerations such as legal, infrastructural, environmental, marketing, social and economic factors are covered as part of the mining plan for the operation.

Mineral Reserves

Nkomati was placed on care and maintenance from the end of February 2021 after production at the mine ceased. No Mineral Reserves have been declared for F2021.

Nkomati Mine: Mineral Resources estimates as at 30 June 2021

Mineral Resources are reported on a 100% basis*		Underground		Open-pit		Total 2021 Mineral Resources	Total 2020 Mineral Resources
		MMZ	PCMZ	MMZ Pit 3	PCMZ Pit 3		
Measured Resources	Mt	10.08	1.05	30.70	31.06	**72.89**	75.61
	Ni%	0.57	0.37	0.34	0.22	**0.32**	0.32
	Cu%	0.20	0.12	0.16	0.06	**0.12**	0.12
	Co%	0.03	0.02	0.02	0.01	**0.02**	0.02
	4E g/t	1.18	0.95	0.97	0.71	**0.89**	0.89
	Cr_2O_3%		10.11		14.00		
Indicated Resources	Mt	37.37	12.68	19.04	25.53	**94.62**	94.64
	Ni%	0.48	0.38	0.37	0.21	**0.37**	0.37
	Cu%	0.21	0.12	0.16	0.06	**0.15**	0.15
	Co%	0.02	0.02	0.02	0.01	**0.02**	0.02
	4E g/t	1.19	0.92	0.98	0.71	**0.98**	0.98
	Cr_2O_3%		10.77		12.95		
Total Measured and Indicated Resources	Mt	47.45	13.73	49.74	56.59	**167.51**	170.25
	Ni%	0.50	0.38	0.35	0.22	**0.35**	0.35
	Cu%	0.21	0.12	0.16	0.06	**0.14**	0.14
	Co%	0.02	0.02	0.02	0.01	**0.02**	0.02
	4E g/t	1.19	0.92	0.97	0.71	**0.94**	0.94
	Cr_2O_3%		10.72		13.53		
Inferred Resources	Mt	6.30	40.05			**46.35**	46.35
	Ni%	0.41	0.40			**0.40**	0.40
	Cu%	0.20	0.12			**0.13**	0.13
	Co%	0.02	0.02			**0.02**	0.02
	4E g/t	1.26	0.92			**0.97**	0.97
	Cr_2O_3%		10.52				

4E *= platinum + palladium + rhodium + gold. Prill split: Pt: 26%; Pd: 63%; Rh: 7%; Au: 5% (Based on Measured and Indicated grades): MMZ and PCMZ.*
Totals are rounded off.
Key assumptions for Mineral Resources:
Grade cut-off: Underground: 0.30% Ni MMZ and 0.30% Ni PCMZ. Open-pit: 0.16% Ni MMZ and 0.16% Ni PCMZ.
**** Nkomati Mine attributable interests (ARM 50%; Norilsk Nickel Africa (Pty) Ltd 50%).***

ARM Platinum continued

Nkomati Mine: MMZ and PCMZ stockpile Mineral Resources estimates as at 30 June 2021

Mineral Resources are reported on a 100% basis*		MMZ	PCMZ	Total 2021 Mineral Resources	Total 2020 Mineral Resources**
Measured Resources	Mt	0.10	0.24	**0.34**	
	Ni%	0.30	0.18	**0.22**	
	Cu%	0.12	0.06	**0.08**	
	Co%	0.02	0.01	**0.01**	
	4E g/t	0.59	0.64	**0.63**	
	Cr_2O_3%		11.86		
Indicated Resources	Mt				
	Ni%				
	Cu%				
	Co%				
	4E g/t				
	Cr_2O_3%				
Total Measured and Indicated Resources	Mt	0.10	0.24	**0.34**	
	Ni%	0.30	0.18	**0.22**	
	Cu%	0.12	0.06	**0.08**	
	Co%	0.02	0.01	**0.01**	
	4E g/t	0.59	0.64	**0.63**	
	Cr_2O_3%		11.86		
Inferred Resources	Mt				
	Ni%				
	Cu%				
	Co%				
	4E g/t				
	Cr_2O_3%				

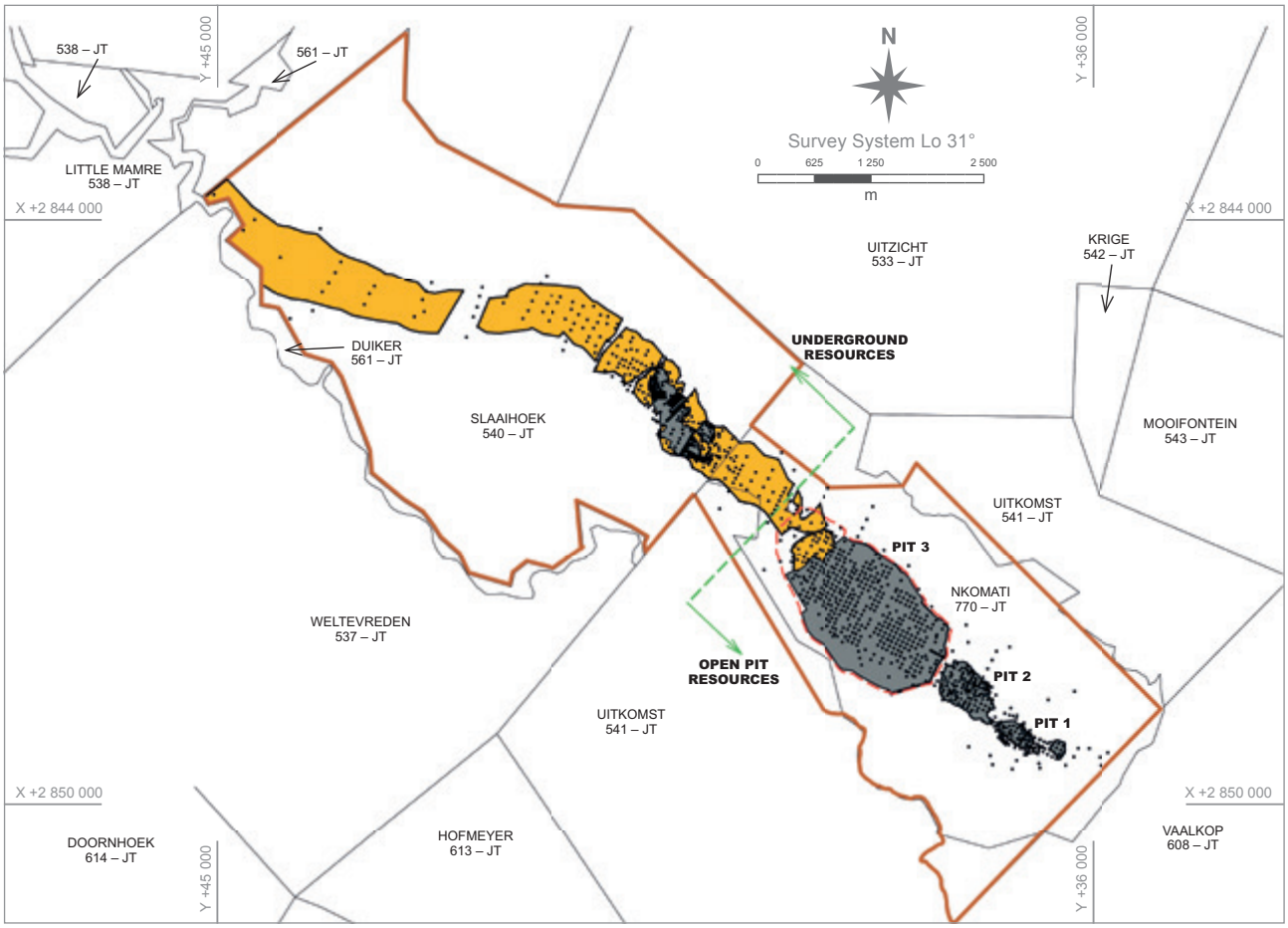
4E *= platinum + palladium + rhodium + gold*
Totals are rounded off.
Grade cut-off: 0.16% Ni.
**** Nkomati Mine attributable interests (ARM 50%, Norilsk Nickel Africa (Pty) Ltd 50%).***
***** MMZ and PCMZ stockpile Mineral Resources were not reported in F2020 as the stockpiles were reported as Mineral Reserves. Due to Nkomati Mine being placed on care and maintenance, all remaining stockpile Mineral Reserves were transferred to stockpile Mineral Resources in F2021 until economic viability of processing the stockpiles is re-established.***

Nkomati Mine: Chromite Mineral Resources estimates as at 30 June 2021

Mineral Resources are reported on a 100% basis*	Measured Resources		Indicated Resources		Measured and Indicated Resources		Inferred Resources	
	Mt	Cr_2O_3%	Mt	Cr_2O_3%	Mt	Cr_2O_3%	Mt	Cr_2O_3%
Oxidised Massive Chromitite Pit 3 2021	**0.13**	**27.16**	**0.05**	**23.28**	**0.18**	**26.14**		
Oxidised Massive Chromitite Pit 3 2020	0.13	27.16	0.05	23.28	0.18	26.14		
Un-oxidised (fresh) Massive Chromitite Pit 3 2021	**0.12**	**25.16**	**0.21**	**24.43**	**0.32**	**24.89**		
Un-oxidised (fresh) Massive Chromitite Pit 3 2020	0.12	25.16	0.21	24.43	0.32	24.89		

Totals are rounded off.
Key assumptions for Mineral Resources:
Grade cut-off: 20% Cr_2O_3.
**** Nkomati Mine attributable interests (ARM 50%, Norilsk Nickel Africa (Pty) Ltd 50%).***

Nkomati Mine Mineral Resources map



Legend
Extent of Mineral Resources | Mining Right boundary | Proposed/final pit outlines | Boreholes | Mined out area

Nkomati year-on-year change

The Measured and Indicated Mineral Resources for Nkomati Mine decreased from 170.25 million tonnes at 0.35% Ni to 167.51 million tonnes at 0.35% Ni mainly due to mining production.

A total of 0.34 million tonnes at 0.22% Ni of MMZ and PCMZ stockpile Mineral Resources were reported.

No Mineral Reserves have been declared for Nkomati Mine which has now been placed on care and maintenance.

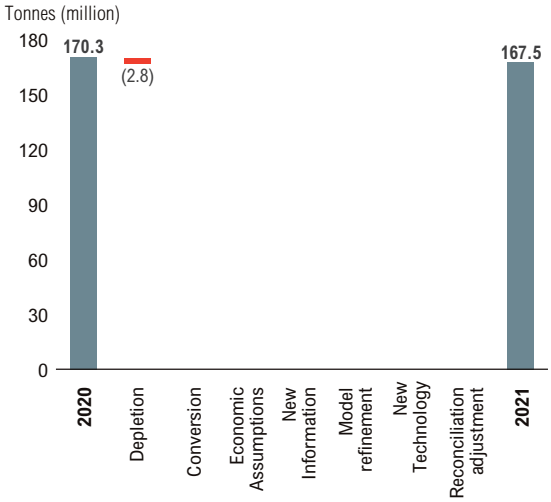
Historical production at Nkomati Nickel Mine (MMZ AND PCMZ)

	ROM		MILLED	
Financial year	Mt	Ni%	Mt	Ni%
2016/2017	5.20	0.38	7.49	0.30
2017/2018	5.90	0.26	8.04	0.24
2018/2019	7.09	0.28	8.15	0.26
2019/2020	5.18	0.27	6.62	0.25
2020/2021	**3.51**	**0.25**	**4.70**	**0.25**

IAR Additional information on production figures can be found in the ARM Platinum operational review of the 2021 ARM integrated annual report which can be found at **www.arm.co.za.**

NKOMATI MINE MMZ AND PCMZ MINERAL RESOURCES

Nkomati Mine year-on-year reconciliation Mineral Resources*



** Mineral Resources represents Measured and Indicated only.*

Top: Khumani plant
Bottom: Loadout at Black Rock

ARM Ferrous

Assmang Proprietary Limited (Assmang) operations

ARM's attributable beneficial interest in Assmang operations is 50%. The other 50% is held by Assore Ltd. Assmang operations comprise Black Rock manganese mines as well as Khumani and Beeshoek iron ore mines.

Manganese mines

Locality

Black Rock manganese mines encompass Nchwaning and Gloria mines which are situated approximately 80 kilometres north-west of the town of Kuruman in the Northern Cape province of South Africa. Located at latitude 27°07'50"S and longitude 22°50'50"E, the mines are accessed via the national N14 route between Johannesburg and Kuruman, and the provincial R31 road.

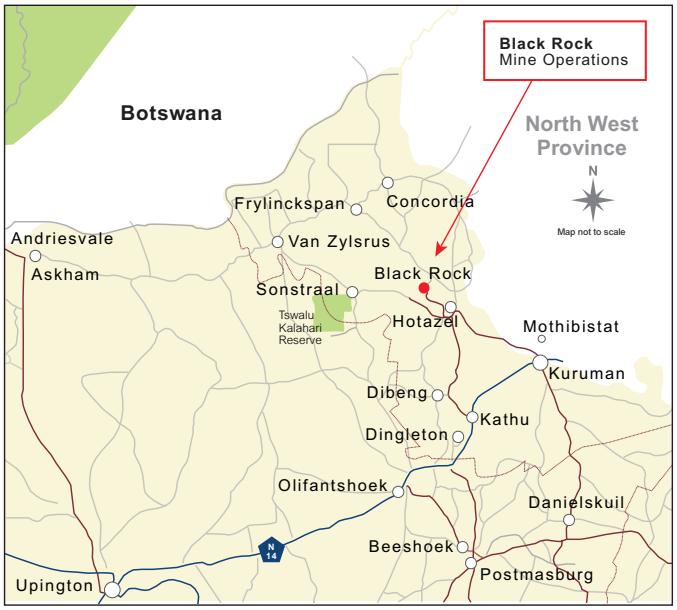
Nchwaning 3 and Nchwaning 2 (including Graben area) shafts are situated on portions of Nchwaning 267, Belgravia 264 and Santoy 230 farms while Gloria Mine is on Portion 1 of Gloria 266. The Nchwaning and the adjoining Gloria Mining Rights are bounded by the farms Wessels 227, Dibiaghomo 226 and Dikgathlong 268 in the north, Rhodes 269, East 270 and Kipling 271 in the east, Umtu 281 and Mukulu 265 to the south.

ARM Ferrous continued

History

In 1940, Assmang acquired a manganese ore outcrop on a small hillock known as Black Rock. Several large properties underlain by ore were subsequently found and acquired. Today, the Black Rock area is considered to be one of the largest and richest manganese deposits in the world. Manganese mining operations were extended and today include the Gloria and Nchwaning underground mines. Manganese ore is supplied locally to the Assmang-owned Cato Ridge Smelter, and is exported through Port Elizabeth and Saldanha ports.

Locality map of Black Rock manganese operations



Competence

The following competent persons were involved in the estimation of Black Rock Mineral Resources and Mineral Reserves. They are employed by Assmang.

COMPETENT PERSON	PROFESSIONAL ORGANISATION	MEMBERSHIP NUMBER	QUALIFICATIONS	RELEVANT EXPERIENCE
B Ruzive (Mineral Resources)	SACNASP	400238/07	BSc, BSc Hons (Geology), MSc (Exploration Geology), MBA	21 years
J Smuts (Mineral Reserves)	ECSA	201270097	B Tech (Mining Engineering)	10 years

Mining authorisation

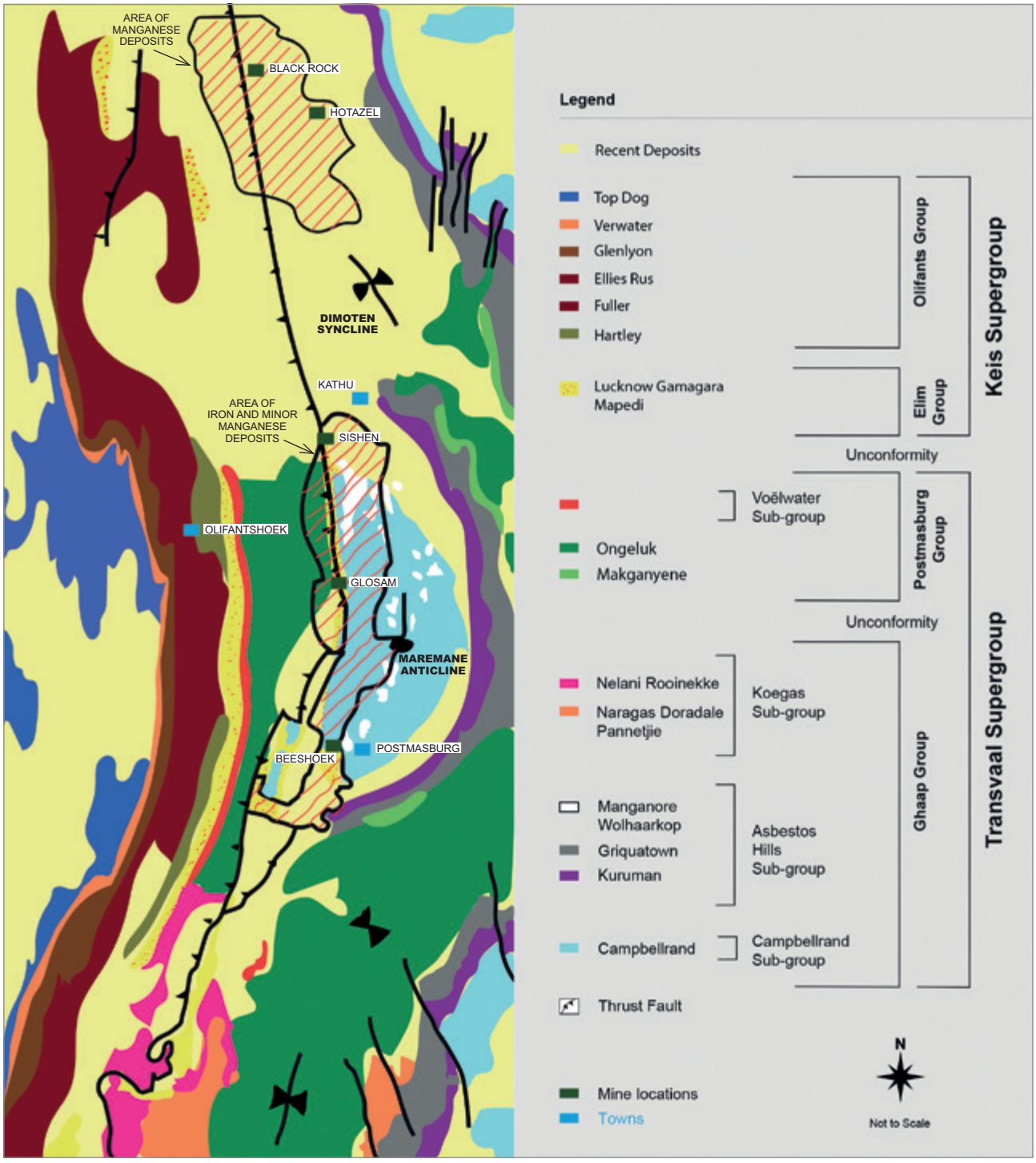
LEGAL ENTITLEMENT	MINERALS COVERED BY MINING RIGHT	COMMENT	PERIOD OF MINING RIGHT (YEARS)	KNOWN IMPEDIMENTS ON LEGAL ENTITLEMENT
Mining Right NC 30/5/1/2/2/203 MRC	Manganese ore	None	30 years: 13 July 2011 to 12 July 2041	None

Geology

The manganese ores of the Kalahari Manganese Field are contained within sediments of the Hotazel Formation in the Postmasburg Group of the Griqualand West Sequence, a sub-division of the Proterozoic Transvaal Supergroup. The Griqualand West Sequence comprises a basal dolomite and banded ironstones dominating the Ghaap, Postmasburg and the Olifantshoek Groups. The Postmasburg Group consists of basal basaltic andesites of the Ongeluk lava and banded ironstone and manganese of the Hotazel Formation.

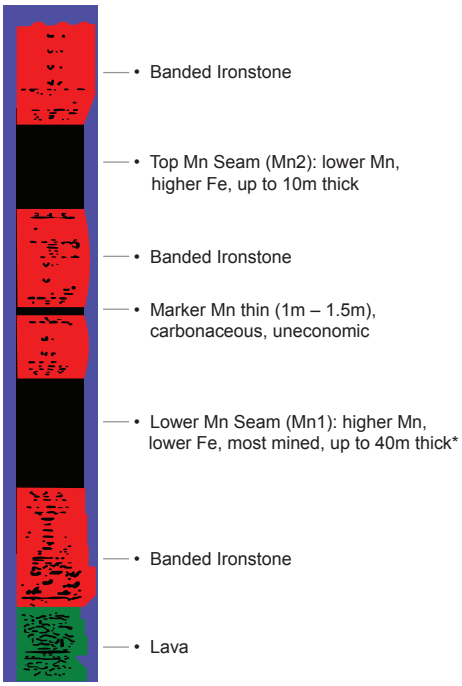
ARM Ferrous continued

Regional geological map



On Belgravia, Santoy and Nchwaning farms the Hotazel Formation and overlying Mapedi shales and Lucknow quartzite sequences have been duplicated by thrusting. The thrusted orebodies were mined from surface at the Kalahari Manganese Field discovery outcrop, the Black Rock Koppie and at two other down dip interconnected Belgravia 1 and Belgravia 2 shafts. Mining reached depths of approximately 200 metres. The manganese resources hosted in the thrusted orebodies are reported, collectively, under Black Rock (Koppie area) orebodies. The average thickness of the Hotazel Formation is approximately 75 metres, with the banded iron formation (BIF) hosted manganese orebodies occurring as three stratabound and stratiform units of variable thickness. The lowermost orebody (Seam 1) is of a higher grade in comparison to the topmost orebody (Seam 2). Seam 3, which occurs in between Seams 1 and 2, is thin and uneconomic.

Generalised stratigraphy of manganese units in the Hotazel Formation



** Mn seams tend to be thicker in lower-grade Mamatwan/Gloria type ore compared to the higher-grade Wessels/Nchwaning type ore.*

The manganese orebodies exhibit a complex mineralogy and more than 200 ore and gangue mineral species have been identified. Hydrothermal upgrading has resulted in zoning of the orebody adjacent to fault positions in most instances. Distal areas exhibit more original and low-grade kutnohorite and braunite assemblages, while areas immediately adjacent to faults typically exhibit high-grade hausmannite rich ore. The intermediate areas exhibit mineralogy which includes bixbyite, braunite and jacobsite among a host of other manganese-bearing minerals. Similar zonation also exists in the vertical sense.

At the top and bottom contacts it is common to have high iron (Fe) and low manganese (Mn) contents while the reverse is true towards the centre of the seam. This vertical zoning has given rise to a mining practice where only the 4.0 to 5.0-metre-high centre portion of the seam is being mined.

Exploration activities

The current exploration project commenced at the end of the F2019. Black Rock exploration programme is split into two projects, Nchwaning and Gloria projects, which are executed concurrently but managed on separate capital votes. Exploration boreholes are planned with the aim to gaining geological insight in areas covered by the 1-5 years' production plan footprint and areas with structural complexities. Drilling occurs in stages and involves two distinct drilling techniques, percussion and diamond drilling, which take effect in direct succession of each other. Percussion drilling is utilised in piloting holes through the thick unconsolidated sediments of the Kalahari Sequence and parts of the Dwyka tillites. Diamond drilling succeeds percussion drilling and is limited to drilling through solid formations of the Transvaal Supergroup.

Nchwaning drilling comprised 16 holes and entailed piloting of 11 holes planned for the year F2021 and five holes are planned for the F2022 in the upper Graben area. Diamond drilling of eight boreholes was completed at end of F2021. The eight completed surface holes have all intersected the Hotazel Formation with all three manganese seams preserved. Holes drilled south of Nchwaning 3 were drilled in the low-grade domain and are texturally similar to Gloria type ore albeit highly fractured, a characteristic consistent with what is observed underground in "R5-ore type" production areas. In total 6 703.42 metres was drilled in F2021 at a cost of R8.64 million.

Gloria drilling comprised 19 holes and entailed piloting 12 boreholes planned for the F2021 and diamond drilling of seven holes piloted in F2020. Diamond drilling had completed all 19 holes as at end of F2021. The completed holes have intersected Hotazel Formation and all manganese seams have been preserved in core with exception of two boreholes that appear to have been drilled along a dyke contact. The core preserved a near vertical contact, which divides the core into two halves comprising the Hotazel Formation Sequence and dyke on opposite sides. The total metres drilled for F2021 were 5 839.26 metres. The cost for drilling these boreholes was R8.46 million.

Mining methods and infrastructure

Trackless mechanised equipment is used in the Bord and Pillar mining method. Two manganese seams are mined. The lowermost (Seam 1) at Nchwaning 3 is up to 6 metres thick, of which up to 5 metres is mined. There is, therefore, minimum dilution. Mining of Nchwaning Seam 2 has also been done on an optimum cut of 4.0 metres. Gloria Seam 1 is approximately 14 metres thick, but only an optimum cut of 4.2 metres is mined. No mining has been undertaken to date on Gloria Seam 2.

Nchwaning Mine Mineral Resources

Nchwaning Mine was diamond drilled from surface at 330 metre grid centres and the data was captured in a Geological Database Management System (GDMS)

ARM Ferrous continued

developed by Datamine. The core is logged and 0.5 metre-long, half-core, diamond-saw cut samples are submitted to Assmang's laboratory at Black Rock for X-ray fluorescence (XRF) analyses. Mn and Fe values are checked by Wet Chemical analyses. Several standards are used to calibrate the XRF equipment, and results are compared with other laboratories on a regular basis.

At Nchwaning, boreholes and underground sample sections were considered in the geological modelling and grade estimation for Nchwaning Seams 1 and 2. The geological modelling and the grade estimation was undertaken using Datamine Studio 3 and Datamine Strat 3D software. The resource models were built on 50 metre x 50 metre x optimal minable cut. The optimal mineable cuts were 4–5 metres for Nchwaning Seams. The blocks were sub-split in the X and Y directions to accurately follow the geological boundaries.

Statistical and geostatistical analysis was done on the following variables: Mn, Fe, Al_2O_3, BaO, CaO, K_2O, MgO, Na_2O, P, S and SiO_2. Ordinary Kriging interpolation within Datamine Studio 3 was used to estimate the grade of each block. Borehole and/or underground sample data composited to the optimal mineable cut was used in the estimation of grades.

The relative density of the Nchwaning manganese Seams 1 and 2 was determined as 4.3 t/m³ in the past and the figure has been applied historically as a default density. Recent work of measuring density of borehole cores of manganese Seams 1 and 2 using Archimedes principles has resulted in the accumulation of sufficient data to determine new densities. The available density data has been used to do density estimates in the block models with the following being the averages for the Nchwaning seams:

- Nchwaning Seam 1 (high-grade domain) in Nchwaning 3 area: 4.3 t/m³
- Nchwaning Seam 1 (high-grade domain) in Nchwaning 2 area: 4.4 t/m³
- Nchwaning Seam 1 (low-grade domain) in Nchwaning 3 area: 3.7 t/m³
- Nchwaning Seam 1 (low-grade domain) in Nchwaning 2 area: 3.8 t/m³
- Nchwaning Seam 2: 4.4 t/m³.

Mineral Resource classification at Nchwaning Mine is based on a number of parameters: Kriging variance, Kriging efficiency, regression slope, geological continuity of the manganese seams, geological structures and quality of assay data. Each of these parameters contributes to the overall classification. Measured and Indicated Resources have been declared for Nchwaning.

The Mineral Resources declared have reasonable prospects for eventual economic extraction having considered the following:

- Location, quality, grade and geological continuity which are known and are supported by drilling information which includes sampling
- Only manganese seams greater than 2 metres thick with a grade of approximately 30% Mn and above are considered as Mineral Resources
- Mining and processing methods are well established at the operation and are currently used to exploit the orebody
- All other factors such as legal, infrastructural, environmental, marketing, social and economic factors are covered as part of the mining plan for the operation.

Nchwaning Mine Mineral Reserves

Conversion of the Mineral Resources to Mineral Reserves is done for the Measured and Indicated Mineral Resources. The main modifying factors for the conversion are: plant recovery factor, manganese prices, rand to US dollar exchange rate and mining extraction factors. Details of these factors are listed below the Mineral Reserves tables.

Mining in the eastern extremity of Nchwaning occurs at a depth of 200 metres, while the deepest (current) excavations are 519 metres below surface. Ore from Nchwaning No 2 Mine is crushed underground before being hoisted to a surface stockpile via a vertical shaft. Similarly, ore from the Nchwaning No 3 Mine is crushed underground before being conveyed to a surface stockpile via a declined conveyor system. Ore is withdrawn from the surface stockpile and undergoes

two stages of crushing, dry screening and wet screening to yield lumpy and fine products.

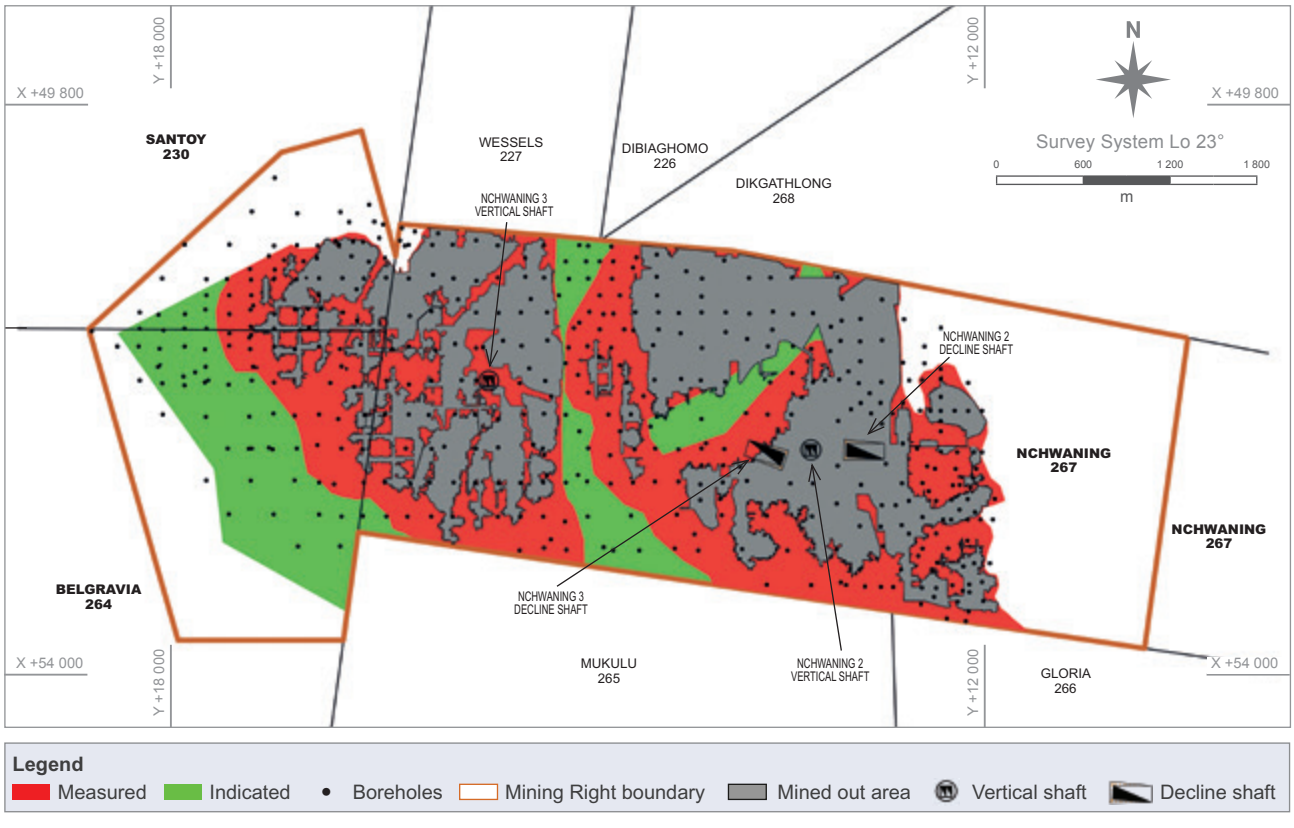
At the plant, the finer fractions are stockpiled while the coarser fractions are extracted from the respective product boxes into road haulers, sampled, weighed and stored on stacks ahead of dispatch. Samples from each stack are analysed for chemical content and size distribution. This ensures good quality control and enables the ore control department to blend various stacks according to customer requirements.

Nchwaning Mine: Seam 1 manganese Mineral Resources and Mineral Reserves estimates as at 30 June 2021

Mineral Resources and Mineral Reserves are reported on a 100% basis*	MINERAL RESOURCES Mt	Mn%	Fe%		MINERAL RESERVES Mt	Mn%	Fe%
Measured	79.72	45.03	8.97	Proved	35.01	44.42	8.95
Indicated	39.03	40.29	7.56	Probable	27.38	42.06	7.73
Total Measured and Indicated (Seam 1) 2021	**118.75**	**43.47**	**8.51**	**Total Reserves (Seam 1) 2021**	**62.39**	**43.38**	**8.41**
Total Measured and Indicated (Seam 1) 2020	126.00	43.13	8.51	Total Reserves (Seam 1) 2020	60.57	43.68	8.65

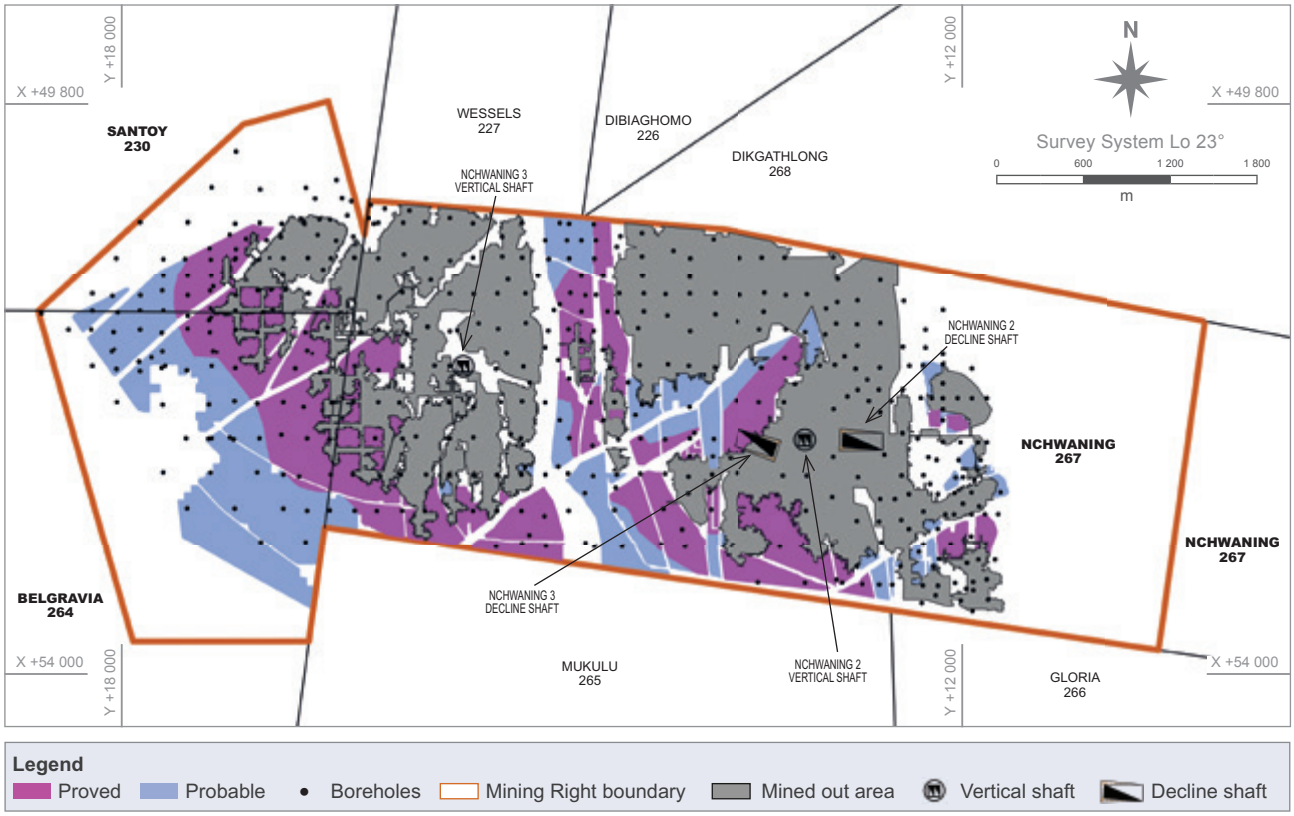
The Measured and Indicated Mineral Resources are inclusive of those modified to produce Mineral Reserves.
Totals are rounded off.
Key assumptions for Mineral Resources:
True thickness cut-off: 4.0 metres-5.0 metres.
Modifying factors for the conversion of Mineral Resources to Mineral Reserves include:
Cut-off grade: 35% Mn.
Tramming loss factor: 1%.
Plant recovery: 91%.
Mine extraction factor: 72%-78%.
Price ranges: Based on market-related long-term view.
Exchange rate used: Market-related.
Life-of-mine: >30 years.
**** Black Rock Manganese Mine attributable interests (ARM 50%; Assore 50%).***

Nchwaning manganese Seam 1 Mineral Resources classification



ARM Ferrous continued

Nchwaning manganese Seam 1 Mineral Reserves classification

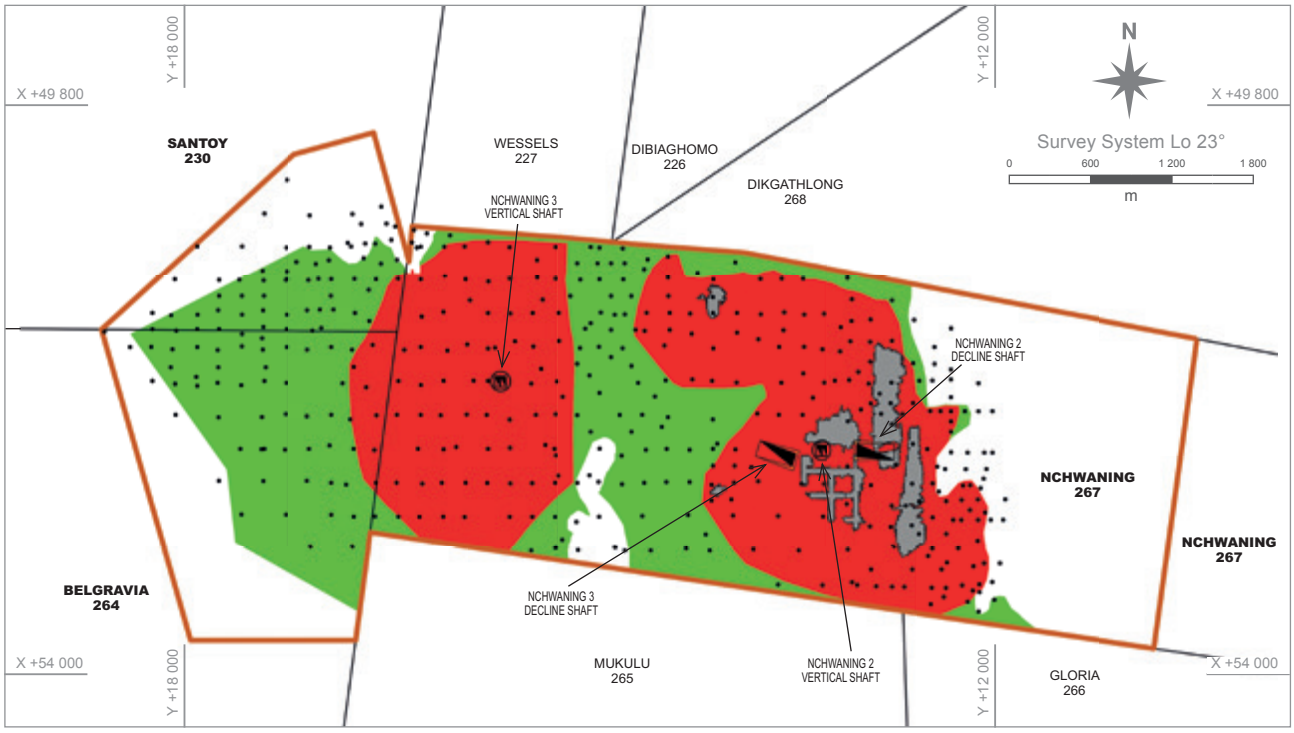


Nchwaning Mine: Seam 2 manganese Mineral Resources and Mineral Reserves estimates as at 30 June 2021

Mineral Resources and Mineral Reserves are reported on a 100% basis*	MINERAL RESOURCES Mt	Mn%	Fe%		MINERAL RESERVES Mt	Mn%	Fe%
Measured	106.08	42.81	15.52	Proved	70.44	42.49	15.56
Indicated	68.83	42.20	14.92	Probable	35.57	42.86	15.23
Total Measured and Indicated (Seam 2) 2021	**174.91**	**42.57**	**15.28**	**Total Reserves (Seam 2) 2021**	**106.01**	**42.61**	**15.45**
Total Measured and Indicated (Seam 2) 2020	174.76	42.61	15.32	Total Reserves (Seam 2) 2020	108.66	42.77	15.52

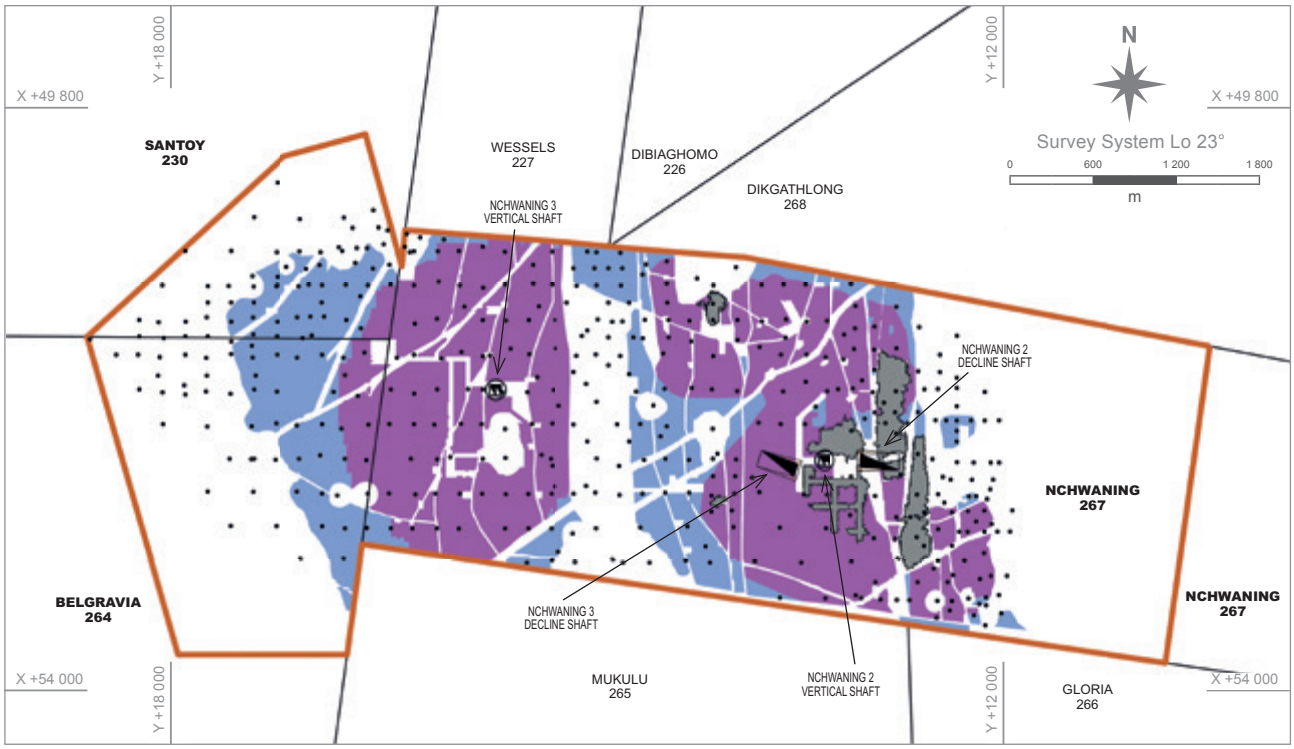
The Measured and Indicated Mineral Resources are inclusive of those modified to produce Mineral Reserves.
Totals are rounded off.
Key assumptions for Mineral Resources:
True thickness cut-off: 4.0 metres – 5.0 metres.
Modifying factors for the conversion of Mineral Resources to Mineral Reserves include:
Cut-off grade: 38% Mn.
Tramming loss factor: 1%.
Plant recovery: 91%.
Mine extraction factor: 72%-78%.
Price ranges: Based on market-related long-term view.
Exchange rate used: Market-related.
Life-of-mine: >30 years.
**** Black Rock Manganese Mine attributable interests (ARM 50%; Assore 50%).***

Nchwaning manganese Seam 2 Mineral Resources classification



Legend
Measured Indicated Boreholes Mining Right boundary Mined out area Vertical shaft Decline shaft

Nchwaning manganese Seam 2 Mineral Reserves classification



Legend
Proved Probable Boreholes Mining Right boundary Mined out area Vertical shaft Decline shaft

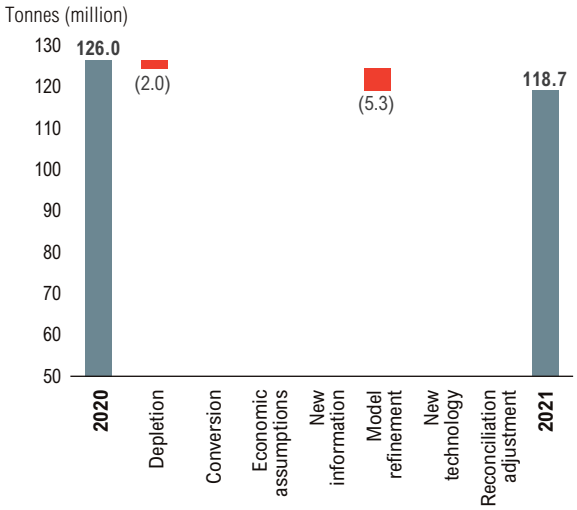
ARM Ferrous continued

Nchwaning year-on-year change

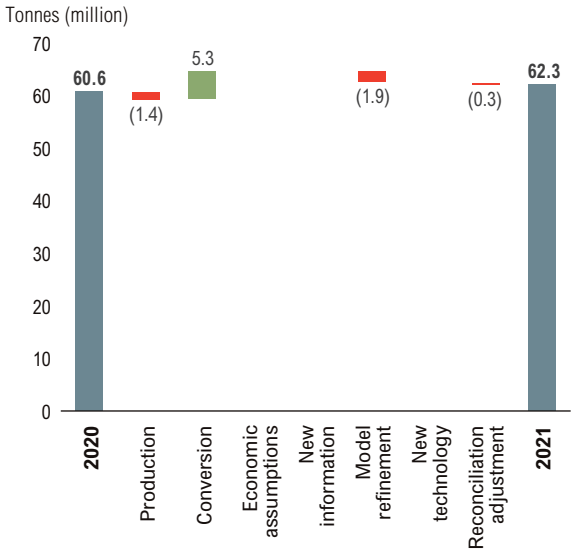
The Measured and Indicated Mineral Resources for Nchwaning Seam 1 decreased by 6% to 118.75 million tonnes at 43.47% Mn due to production depletion and model refinements. Nchwaning Seam 1 Mineral Reserves marginally increased by 3% to 62.39 million tonnes at 43.38% Mn due to modelling changes related to the mining cut.

NCHWANING SEAM 1

Nchwaning Seam 1 year-on-year reconciliation Mineral Resources*



Nchwaning Seam 1 year-on-year reconciliation Mineral Reserves

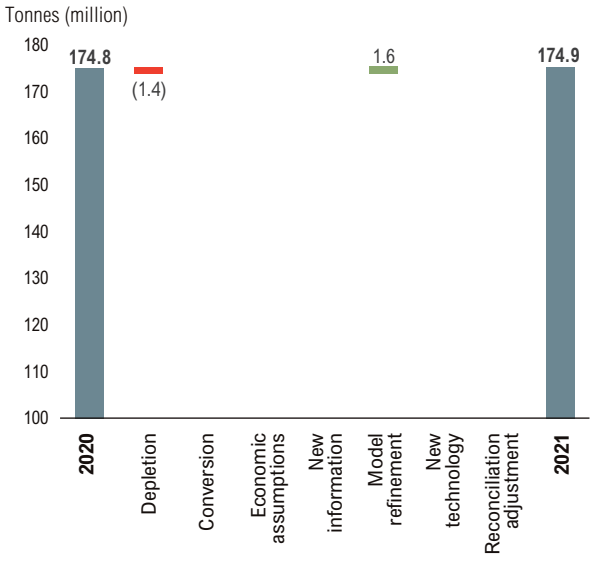


** Mineral Resources represents Measured and Indicated only.*

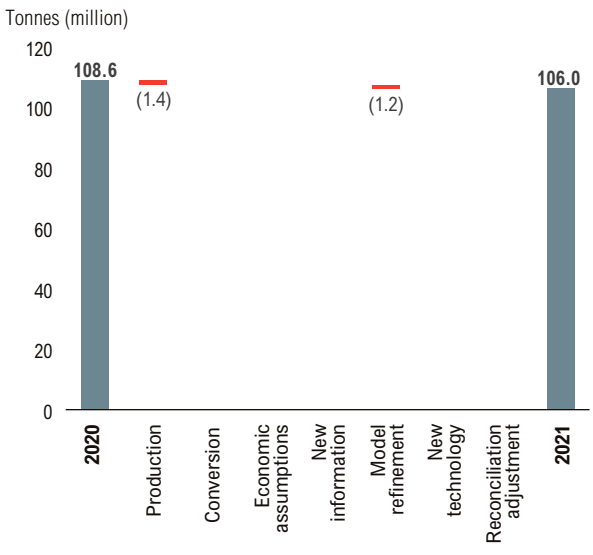
The Measured and Indicated Mineral Resources for Nchwaning Seam 2 at 174.91 million tonnes at 42.57% Mn remained almost the same as in F2020. Mineral Reserves decreased from 108.66 million tonnes at 42.77% Mn to 106.01 million tonnes at 42.61% Mn mainly due to production depletion.

NCHWANING SEAM 2

Nchwaning Mine Seam 2 year-on-year reconciliation Mineral Resources*



Nchwaning Mine Seam 2 year-on-year reconciliation Mineral Reserves



** Mineral Resources represents Measured and Indicated only.*

Historical manganese production at Nchwaning Mine (Seam 1 and 2)

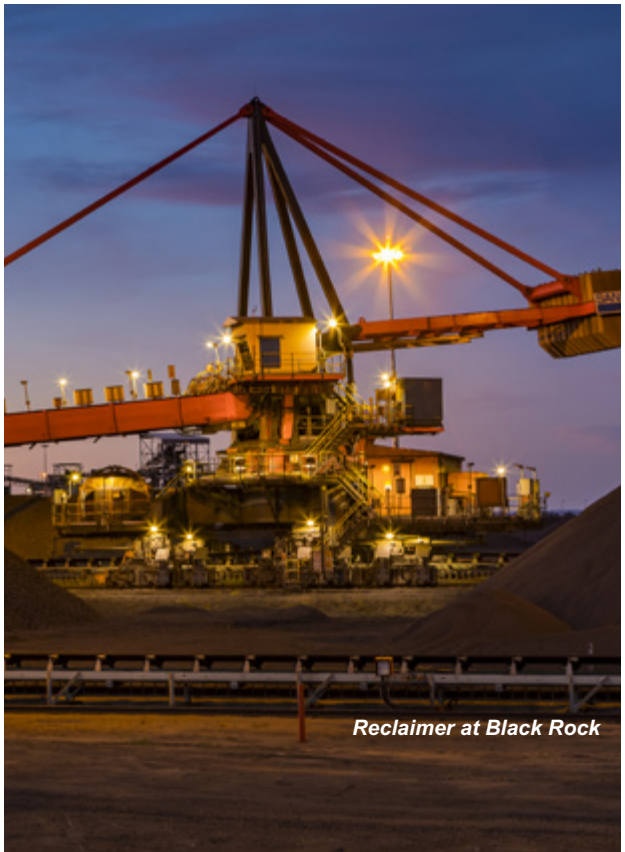
Financial year	ROM Mt	SALEABLE Mt
2016/2017	2.79	2.35
2017/2018	3.45	3.00
2018/2019	3.29	2.99
2019/2020	3.15	2.90
2020/2021	**3.46**	**3.24**

IAR Additional information on production figures can be found in the ARM Ferrous operational review of the 2021 ARM integrated annual report which can be found at **www.arm.co.za**.

Black Rock Koppie Mineral Resources

The Black Rock orebodies occur in the Black Rock Koppie, Belgravia 1 and Belgravia 2 areas. They are all part of a large thrust complex. Modelling of these orebodies was undertaken using 151 Nchwaning boreholes that intersected the thrust complex and 174 Black Rock in-fill boreholes. During 2020, the Black Rock Koppie Mineral Resource model was updated.

A 30% Mn cut-off was used in the modelling. Seams 1 and 2 were modelled at variable thicknesses. Surface exploration borehole data, underground geological mapping, mine survey plans and peg data sets were utilised in the geological modelling of the Black Rock orebodies. A total of 22 structurally discrete orebodies were identified and grouped into Seam 1 and Seam 2 based on stratigraphic positioning and grades.



Reclaimer at Black Rock

No mining is currently being done at Black Rock Koppie. The RPEEE factors considered for Nchwaning are applicable for Black Rock Koppie.

Black Rock (Koppie area): Seam 1 manganese Mineral Resources estimates as at 30 June 2021

Mineral Resources are reported on a 100% basis*	MINERAL RESOURCES Mt	Mn%	Fe%
Measured	15.80	40.0	19.0
Indicated	23.00	39.3	18.2
Total Resources (Seam 1) 2021	**38.80**	**39.6**	**18.5**
Total Resources (Seam 1) 2020	38.80	39.6	18.5
Inferred (Seam 1) 2021	**25.20**	**41.1**	**18.3**
Inferred (Seam 1) 2020	25.20	41.1	18.3

Totals are rounded off.
Key Resources assumptions:
Cut-off: 30% Mn.
Density: 4.0 t/m³.
**** Black Rock Manganese Mine attributable interests (ARM 50%; Assore 50%).***

Black Rock (Koppie area): Seam 2 manganese Mineral Resources estimates as at 30 June 2021

Mineral Resources are reported on a 100% basis*	MINERAL RESOURCES Mt	Mn%	Fe%
Measured	7.30	39.1	19.3
Indicated	8.00	35.8	21.6
Total Resources (Seam 2) 2021	**15.30**	**37.4**	**20.5**
Total Resources (Seam 2) 2020	15.30	37.4	20.5
Inferred (Seam 2) 2021	**18.70**	**38.2**	**19.7**
Inferred (Seam 2) 2020	18.70	38.2	19.7

Totals are rounded off.
Key Resources assumptions:
Cut-off: 30% Mn.
Density: 4.0 t/m³.
**** Black Rock Manganese Mine attributable interests (ARM 50%; Assore 50%).***

Black Rock Koppie year-on-year change

Measured, Indicated and Inferred Mineral Resources for Black Rock Koppie Seam 1 and Seam 2 remained unchanged.

The relative density applied for both seams is 4.0 t/m³.

ARM Ferrous continued

Gloria Mine Mineral Resources

Procedures for drilling and assaying at Gloria Mine are the same as at Nchwaning. Both boreholes and underground sample sections were considered in the evaluation of Gloria Seam 1 and Seam 2. Gloria was modelled similarly to Nchwaning using Datamine Studio 3 and Datamine Strat 3D software for the geological modelling and for the grade estimation. The geological block model was created for an optimum cut of 4.5 metres for Seams 1 and 2. Block sizes in the X and Y directions were 50 x 50 metres allowing for sub-splitting. The relative density which was at 3.8 t/m^3 for both seams in the past has now been determined using Archimedes methods. The available density data collected was used to estimate density for all the blocks in the model. The average densities in the models were:

- Gloria Seam 1 density: 3.6 t/m^3
- Gloria Seam 2 density: 3.5 t/m^3

Statistical and geostatistical analysis for the following variables: Mn, Fe, Al_2O_3, BaO, CaO, K_2O, MgO, Na_2O, P, S and SiO_2 was undertaken. Ordinary Kriging interpolation within Studio 3 was used to estimate the grade in the 50 x 50 x 4.5 metre blocks using borehole and/or underground sample data. Mineral Resource classification methods were similar to those applied at Nchwaning Mine.

The RPEEE factors considered for Nchwaning are applicable for Gloria Mine.

Gloria Mine Mineral Reserves

Conversion of the Gloria Seam 1 Mineral Resources to Mineral Reserves is done for Measured and Indicated Mineral Resources. The main modifying factors for the conversion are: plant recovery factor, manganese prices and mining extraction factors. Details of these factors are listed below the Mineral Reserves tables.

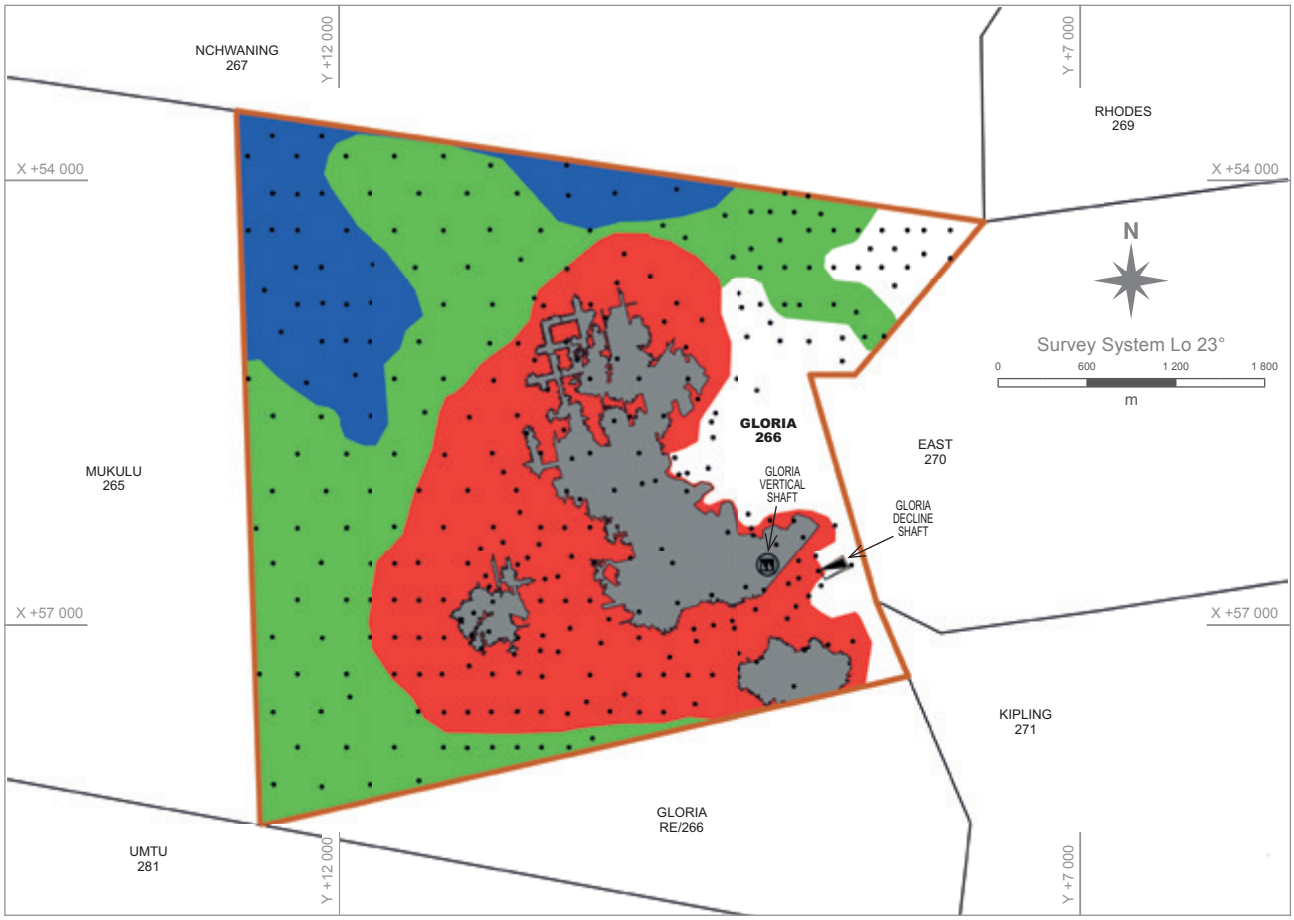
Manganese is extracted at depths that vary between 180 to 250 metres. Ore is crushed underground before being conveyed to a surface stockpile via a decline shaft. Ore is withdrawn from the surface stockpile and forwarded to two stages of crushing, dry screening, and wet screening to yield lumpy and fine products. At the plant, the ore is processed similarly to Nchwaning run-of-mine ore.

Gloria Mine: Seam 1 manganese Mineral Resources and Mineral Reserves estimates as at 30 June 2021

Mineral Resources and Mineral Reserves are reported on a 100% basis*	MINERAL RESOURCES Mt	Mn%	Fe%		MINERAL RESERVES Mt	Mn%	Fe%
Measured	77.41	37.29	4.82	Proved	44.10	37.20	4.80
Indicated	90.11	37.49	4.86	Probable	61.60	37.28	4.78
Total Measured and Indicated (Seam 1) 2021	**167.52**	**37.40**	**4.84**	**Total Reserves (Seam 1) 2021**	**105.70**	**37.25**	**4.79**
Total Measured and Indicated (Seam 1) 2020	149.47	37.43	4.89	Total Reserves (Seam 1) 2020	104.98	37.27	4.83
Inferred 2021 (Seam 1)	**33.90**	**36.77**	**5.32**				
Inferred 2020 (Seam 1)	30.19	36.91	5.46				

The Measured and Indicated Mineral Resources are inclusive of those modified to produce Mineral Reserves.
Totals are rounded off.
Key assumptions for Mineral Resources:
True thickness cut-off: 4.5 metres.
Modifying factors for the conversion of Mineral Resources to Mineral Reserves include:
Cut-off grade: 35% Mn.
Tramming loss factor: 1%.
Plant recovery: 92%.
Mine extraction factor: 82%.
Price ranges: Based on market-related long-term view.
Exchange rate used: Market-related.
Life-of-mine: >30 years.
**** Black Rock Manganese Mine attributable interests (ARM 50%; Assore 50%).***

Gloria manganese Seam 1 Mineral Resources classification

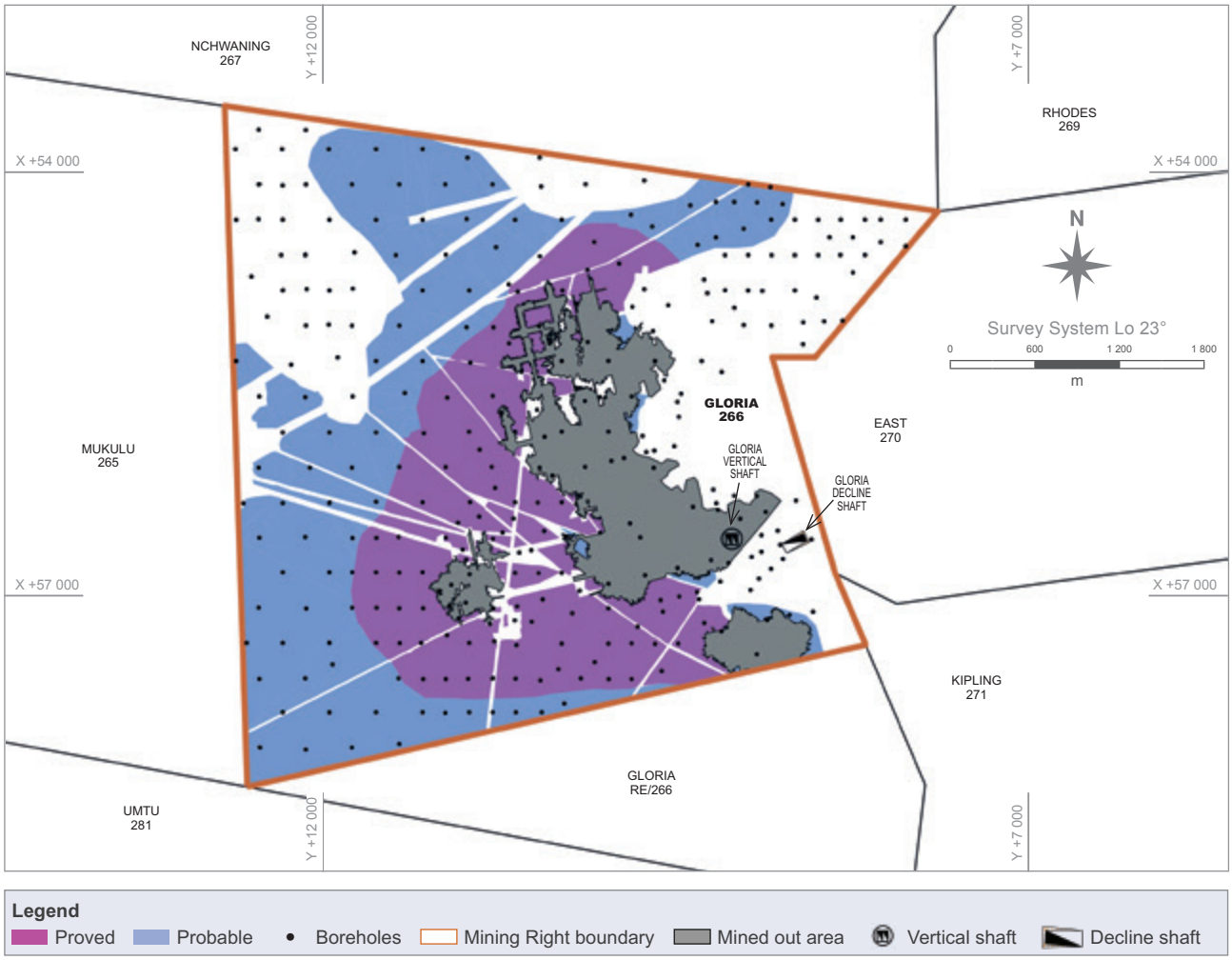


Procedures for drilling and assaying at Gloria Mine are the same as at Nchwaning. Both boreholes and underground sample sections were considered in the evaluation of Gloria Seam 1 and Seam 2.

Black Rock plant

ARM Ferrous continued

Gloria manganese Seam 1 Mineral Reserves classification

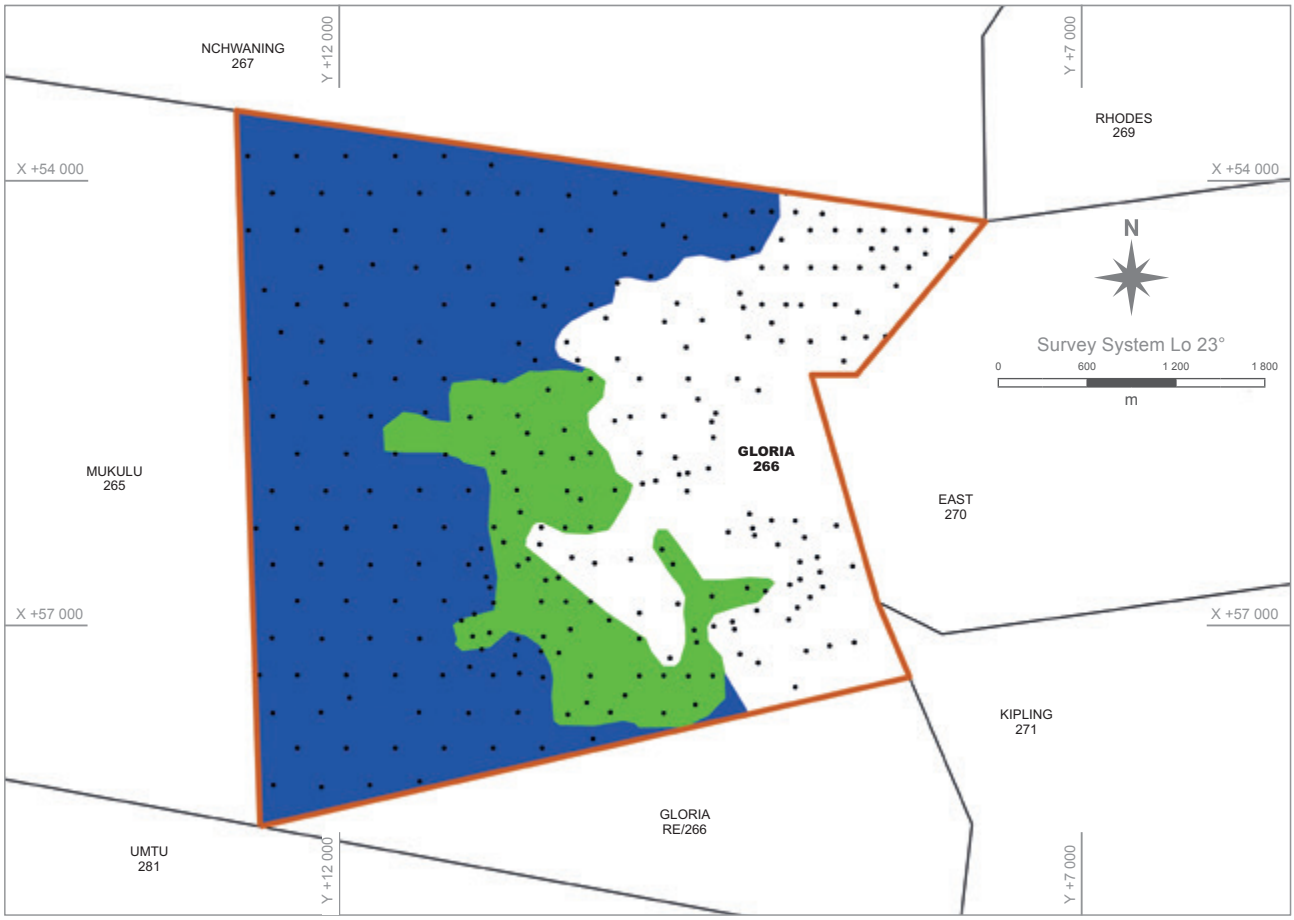


Gloria Mine: Seam 2 manganese Mineral Resources estimates as at 30 June 2021

	MINERAL RESOURCES		
Mineral Resources are reported on a 100% basis*	Mt	Mn%	Fe%
Measured			
Indicated	30.97	28.35	9.35
Total Measured and Indicated (Seam 2) 2021	**30.97**	**28.35**	**9.35**
Total Measured and Indicated (Seam 2) 2020	32.06	28.41	9.39
Inferred 2021 (Seam 2)	**121.28**	**30.00**	**9.60**
Inferred 2020 (Seam 2)	122.92	30.03	9.67

Totals are rounded off.
Key assumptions for Mineral Resources:
True thickness cut-off: 4.0 metres.
**** Black Rock Manganese Mine attributable interests (ARM 50%; Assore 50%).***

Gloria manganese Seam 2 Mineral Resources classification



Legend

Indicated | Inferred | Boreholes | Mining Right boundary

Gloria shaft

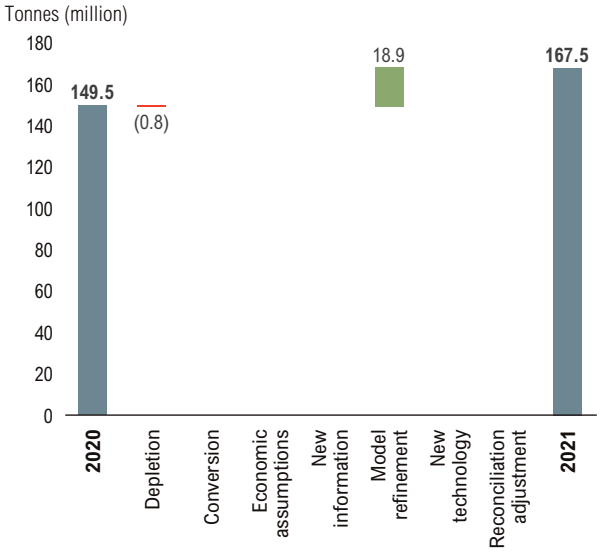
ARM Ferrous continued

Gloria year-on-year change

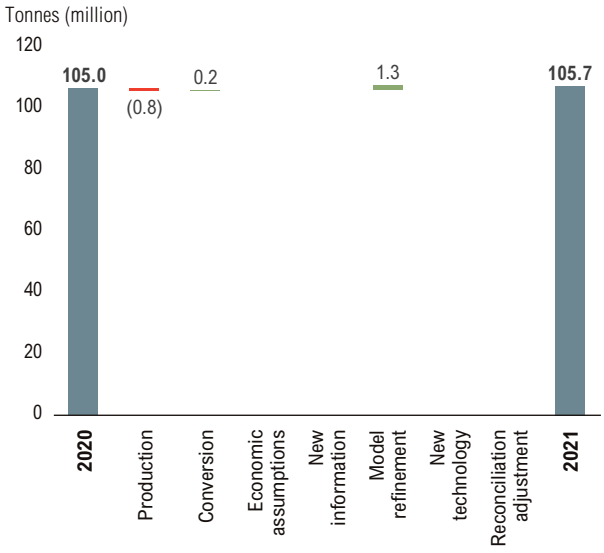
Gloria Mine Seam 1 Measured and Indicated Mineral Resources increased from 149.47 million tonnes at 37.43% Mn to 167.52 million tonnes at 37.40% Mn mainly due to model refinements which included the increase in the mining cut from 4 metres to 4.5 metres. Inferred Mineral Resources increased from 30.19 million tonnes at 36.91% Mn to 33.90 million tonnes at 36.77% Mn as a result of the model refinements. Mineral Reserves increased by less than 1% to 105.70 million tonnes at 37.25% Mn mainly due to minor changes in the modelling.

GLORIA SEAM 1

Gloria Seam 1 year-on-year reconciliation Mineral Resources*



Gloria Seam 1 year-on-year reconciliation Mineral Reserves

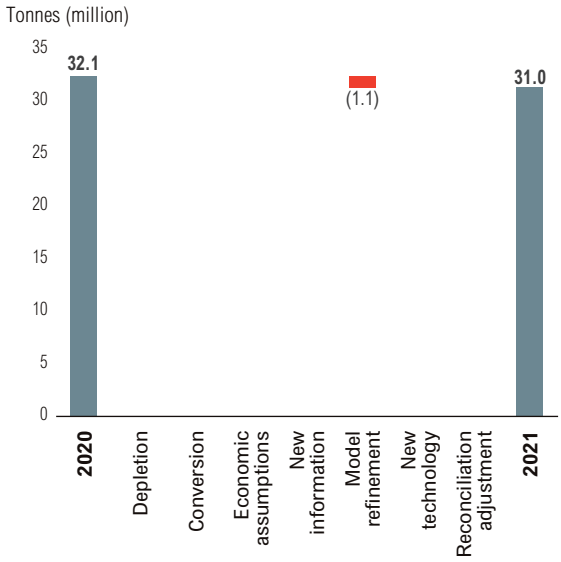


** Mineral Resources represents Measured and Indicated only.*

Gloria Seam 2 Indicated Mineral Resources decreased from 32.06 million tonnes at 28.41% Mn to 30.97 million tonnes at 28.35% Mn due to model refinements.

GLORIA SEAM 2

Gloria Seam 2 year-on-year reconciliation Mineral Resources*



** Mineral Resources represents Measured and Indicated only.*

Historical manganese production at Gloria Mine (Seam 1)

	ROM	SALEABLE
Financial year	Mt	Mt
2016/2017	0.71	0.72
2017/2018	0.67	0.71
2018/2019	0.45	0.42
2019/2020	0.70	0.72
2020/2021	**0.80**	**0.80**

Additional information on production figures can be found in the ARM Ferrous operational review of the 2021 ARM integrated annual report which can be found at **www.arm.co.za.**

ARM Ferrous continued

Khumani plant

ARM Ferrous continued

Iron ore mines

Locality

The iron ore mines are made up of Beeshoek Mine located on the farms Beesthoek 448 and Olyn Fontein 475 and Khumani Mine situated on farms Bruce 544, King 561 and Mokaning 560. All properties are approximately 200 kilometres west of Kimberley in the Northern Cape. The Beeshoek open-pit operations are situated 7 kilometres west of Postmasburg and the Khumani open-pits are adjacent to, and south-east of Kumba Iron Ore's Sishen Mine. Beeshoek and Khumani mines are located at latitude 28°30'00"S and longitude 23°01'00"E, and latitude 27°45'00"S and longitude 23°00'00"E respectively.

History

Mining of iron ore (mainly specularite) was undertaken as early as 40 000 BC on the farm Doornfontein which is due north of Beeshoek. The potential of iron ore in this region was discovered in 1909, but, due to lack of demand and limited infrastructure, this commodity was given little attention. In 1929, the railway line was extended from Koopmansfontein (near Kimberley) to service a manganese mine at Beeshoek. In 1935, the Associated Manganese Mines of South Africa Limited (Assmang) was formed. In 1964, Beeshoek Iron Ore Mine was established, with a basic hand-sorting operation. In 1975, a full washing and screening plant was installed at Beeshoek Mine. The Khumani Iron Ore Mine was commissioned in 2007.

ARM Ferrous continued

Competence

The following competent persons were involved in the estimation of Mineral Resources and Mineral Reserves for the iron ore operations. R Jooste is employed by ARM while the other competent persons are employed by Assmang.

COMPETENT PERSON	PROFESSIONAL ORGANISATION	MEMBERSHIP NUMBER	QUALIFICATIONS	RELEVANT EXPERIENCE
Beeshoek Mine				
R Jooste (Mineral Resources)	SACNASP	400163/05	BSc, BSc Hons (Geology), MEng (Mining Engineering)	20 years
A Burger (Mineral Reserves)	SACNASP	400233/08	BSc (Geology), BSc Hons (Geology), GDE (Mining Engineering)	20 years
Khumani Mine				
M Burger (Mineral Resources and Mineral Reserves)	SACNASP	400086/03	BSc (Geochemistry), BSc Hons (Geochemistry), GDE (Mining Engineering)	38 years
I van Niekerk (Mineral Resources)	SACNASP	400006/94	BSc Hons (Geology)	31 years
B Muzima (Mineral Reserves)	SAIMM	707708	BTech (Mining Engineering)	14 years

Mining authorisation

LEGAL ENTITLEMENT	MINERALS COVERED BY MINING RIGHT	COMMENT	PERIOD OF MINING RIGHT (YEARS)	KNOWN IMPEDIMENTS ON LEGAL ENTITLEMENT
Beeshoek Mine				
Mining Right NC 30/5/1/2/2/223 MRC	Iron ore	None	30 years: 16 March 2012 to 15 March 2042	None
Khumani Mine				
Mining Right NC 50/5/1/2/5/2/70 MR	Iron ore	None	30 years: 25 January 2007 to 24 January 2037	None

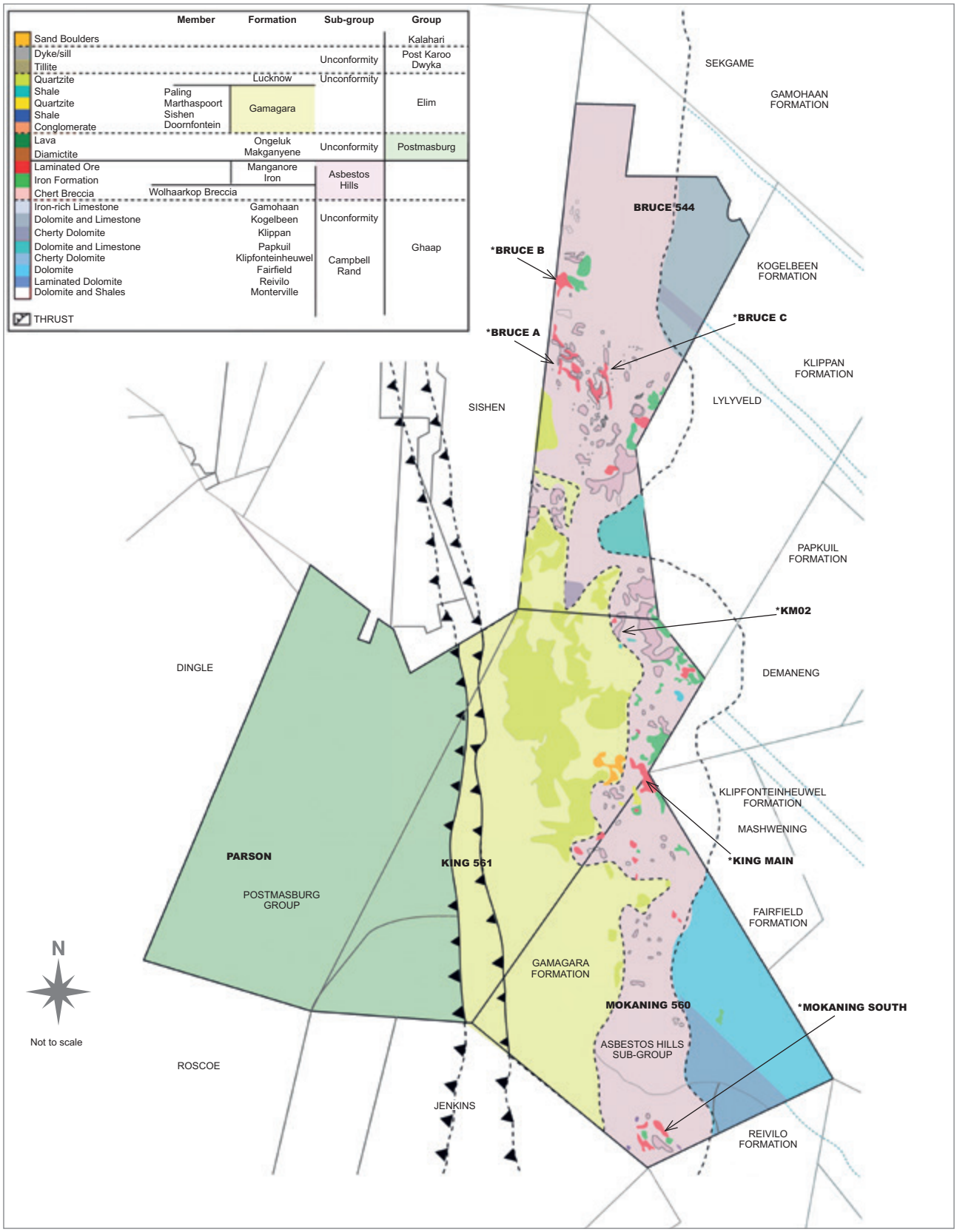
Geology

Beeshoek and Khumani mines are situated within a sequence of early Proterozoic sediments of the Transvaal Supergroup. Both mines are symmetrically located on the Maremane Anticline in the Griqualand West Sequence of the Transvaal Supergroup, as well as the Elim Group of the Keis Supergroup. Refer to the regional geological map on page 44 (Beeshoek Mine) and detailed surface map on page 60 (Khumani Mine).

In general, two ore types are present: laminated hematite ore, forming part of the Manganore Iron Formation, and conglomerate ore, belonging to the Doornfontein Conglomerate Member at the base of the Gamagara Formation. The laminated ore types occur in the upper portion of the Manganore Iron Formation as enriched high-grade hematite bodies. The boundaries of high grade hematite orebodies cross-cut primary sedimentary bedding, indicating that secondary hematitisation of the iron formation took place. In all of these, some of the stratigraphic and sedimentological features of the original iron formation are preserved. The conglomeratic ore found in the Doornfontein Conglomerate Member of the Gamagara Formation, is lenticular but not consistently developed along strike. It consists of stacked, upward fining conglomerate-gritstone-shale sedimentary cycles.

ARM Ferrous continued

Khumani surface geology map



** Khumani Mine consists of Bruce A, Bruce B, Bruce C, KM02, King Main and Mokaning.*

The lowest conglomerates and gritstones tend to be rich in subrounded to rounded hematite ore pebbles and granules and form the largest part of the resource. The amount of iron ore pebbles decreases upwards in the sequence so that upper conglomerates normally consist of poorly sorted, angular to rounded chert and banded iron formation pebbles. Hematite is the predominant ore mineral, but limonite and specularite also occur.

Erosion in the Khumani area is less than in the Beeshoek area. This results in Khumani being characterised by larger stratiform bodies and prominent hanging wall outcrops. The down-dip portions are well preserved and developed, but in the outcrop the deposits are thin and isolated. Numerous deeper iron ore extensions occur into the basins due to karst development. A prominent north-south strike of the orebodies dipping to the west is notable. The southern Beeshoek orebodies were exposed to more erosion and hence are more localised and smaller. Outcrops are limited to the higher topography on the eastern side of the properties. Down-dip to the west, the ore is thin and deep. The strike of the orebodies is also in a north-south direction dipping to the west, but less continuous.

Exploration activities

The exploration effort for F2021 at Khumani Mine was concentrated in three areas: Bruce, King and Mokaning. The Assmang-owned reverse circulation (RC) drill rigs were fully utilised in the active pits on Bruce and King. These rigs assisted with rapid infill drilling within the pits close to active mining faces. A fleet of diamond drill rigs has been deployed away from any mining activities: three at King and three at Mokaning. One percussion drill rig fulfilled additional exploration drilling on Bruce, and likewise one on King. One additional percussion rig served to do dolomite cover drilling and large diameter drilling for geotechnical purposes at King. The main purpose for exploration was to upgrade the confidence in the models by means of infill drilling and to collect samples and accurate stratigraphic data. This resulted in improved mine planning and accurate grade control. The Mokaning drilling contributed to an increase in the Mineral Resource. A total of 29 729 metres was drilled as follows: 11 441 metres reverse circulation, 13 640 metres percussion and 4 648 metres diamond drilling. The cost of percussion and diamond drilling was R20.65 million, while the RC drilling cost was covered by working cost.

Exploration activities at Beeshoek Mine were focused on the south-west area of the Village Pit as well as to the south and west of East Pit. The total number of boreholes drilled was 96. The total number of metres drilled for the period July 2020 to June 2021 was 14 976.19 metres.

Total amount spent on exploration was approximately R23 million, for both diamond and percussion drilling. In the areas west, south-west and south of Village Pit, 92 new exploration holes have so far been drilled outside of the extent of the current Mineral Resource, with 62 of these holes intersecting ore. These intersections have the potential to increase the Village Pit Mineral Resources. The Resource model for Village Pit will be updated with the results of this drilling in the F2022 reporting period. Refer to Beeshoek deposits and Khumani deposit maps on page 64 and page 67 for location of areas drilled.

Mining methods and infrastructure

Mining operations are all open-pit, based on the conventional drill-and-blast, truck-and-shovel operations. Run-of-mine ore is crushed and stored as “on-” or “off-grade” on blending stockpiles. Ore from the stockpiles is either sent to the wash-and-screen plants or, if “off-grade”, to the beneficiation plants. The washing and screening plants consist primarily of tertiary crushing, washing, screening, conveying and stacking equipment. The beneficiation plants consist of tertiary crushers; scrubbers; coarse and fine jigs; lumpy and fines product stockpiles; and a rapid load-out facility. No chemicals are being used in any of the processing plants.

Mineral Resources

The methodology followed to identify exploration targets is initiated with geological mapping, followed by geophysics (ground magnetics and gravity). Numerous exploration programmes have been completed in the past. Percussion drilling is used to pilot holes through overlying waste rock down to the iron orebodies. Diamond drilling is the next phase, which is usually on a 200 x 200 metre grid. Further in-fill drilling is carried out at spacing ranging from 100 x 100 metres to 25 x 25 metres, depending on the complexity of the geological structures. Core samples are logged and split by means of a diamond saw and the half-core is sampled at 0.5 metre intervals. The half-cores are crushed, split and pulverised and submitted to the owner-managed laboratory for assaying. All holes and blast holes in mineralisation are sampled and analysed for Fe, K_2O, Na_2O, SiO_2, Al_2O_3, P, S, CaO, MgO, Mn and BaO. The analytical technique for elemental analyses is XRF spectroscopy. Volumetric titration is used as verification method for the determination of total iron in the ore. International standards (eg SARM11) and in-house iron standards are used for the calibration of the XRF spectrometer. The Khumani laboratory undertakes stringent quality control and assurance methods, including “round robin” analysis with 11 laboratories

ARM Ferrous continued

for verification of assay results. A Datamine "fusion" database with all the borehole data has been established at Khumani while the borehole data is in a Microsoft Access database at Beeshoek Mine.

The Khumani Mine geological model is built with Datamine's Strat 3D modelling functionality to create a 3D representation of the stratigraphy using all validated borehole information. The stratigraphy is modelled from the surface geology to the stratigraphic unit below the lowest mineralised zone.

Within the host stratigraphic units, Doornfontein (conglomeritic mineralisation) and Manganore (laminated mineralisation) outlines for mineralisation above a cut-off of 55% Fe are interpreted and solid wireframes created. Any lower-grade samples inside the orebody are defined as internal waste and modelled separately. Ordinary Kriging interpolation is used to estimate the grade of each 25 x 25 x 10 metre block generated within the geological model for the following separate units: mineralised envelopes (Fe of 55% and above), and the internal shales and banded iron stone. Densities in the resource model are calculated using a polynomial fit applied to the estimated Fe grade. Mineral Resource classification is based on both geostatistical parameters as well as the geological continuity of the mineralisation. The geostatistical parameters that are considered are: Kriging efficiency, Kriging variance, number of samples, search volume and regression slope. The final assessment of the classification is done by the lead competent person who may make adjustments as necessary.

The geological modelling of the orebody at Beeshoek is similar to Khumani, although the cut-off grade used is 60% Fe.

The Mineral Resources declared have reasonable prospects for eventual economic extraction on consideration of the following:

- Location, quality, grade and geological continuity are known and are supported by drilling information which includes sampling
- Only iron ore bodies greater than 2 metres in thickness with a grade of 55% Fe and above (Khumani Mine) or 60% Fe and above (Beeshoek Mine) are considered as Mineral Resources
- Mining and processing methods are well established at the operations and are currently used to exploit the orebody
- All other factors such as legal, infrastructural, environmental, marketing, social and economic factors are covered as part of the mining plan for the operation.

During F2021, SRK geological consultants completed a process audit on the Village Pit Mineral Resource estimate of Beeshoek iron ore mine. No material findings were highlighted but a number of continuous improvement items were listed as recommendations and these are currently being addressed on-site.

Drilling at Beeshoek Mine

Mineral Reserves

Only Measured and Indicated Mineral Resources are converted to Proved and Probable Mineral Reserves respectively. Modifying factors are applied to these Mineral Resources and are financially optimised. The financial parameters are used to define the optimal pit outline. The pit designs are based on mining and geotechnical parameters, mining fleet and selective mining unit (SMU). Some of these parameters are listed below the Mineral Reserves tabulations. The combined waste and mineralisation models are reblocked at 6.25 x 6.25 x 10 metre blocks at Khumani Mine. At Beeshoek Mine, a dilution model is created and used in the conversion from Mineral Resources to Mineral Reserves. The Resources within this mining constraint (optimised pit-shell) with grades of 54% Fe and above at Khumani and Beeshoek mines, are defined as Mineral Reserves. These are categorised into different product types, destined for the different plant processes and then scheduled for mining. The average Fe, K_2O, Al_2O_3, Mn and SiO_2 grades of the SMUs are used to define "on-grade" (wash and screen) feed as well as "off-grade" (jig) feed.

Beeshoek Iron Ore Mine: Mineral Resources and Mineral Reserves estimates as at 30 June 2021

Mineral Resources and Mineral Reserves are reported on a 100% basis*	MINERAL RESOURCES								MINERAL RESERVES					
	Measured Resources		Indicated Resources		Total Measured and Indicated Resources		Inferred Resources		Proved Reserves		Probable Reserves		Total Reserves	
	Mt	Fe%	Mt	Fe%	Mt	Fe%	Mt	Fe%	Mt	Fe%	Mt	Fe%	Mt	Fe%
Pit/Area														
BN Pit	6.35	63.13			6.35	63.13			3.61	63.05	0.36	55.92	3.97	62.40
HF/HB Pit	13.23	64.58	0.01	60.38	13.24	64.58			11.58	64.60	0.22	56.11	11.80	64.44
BF Pit	5.27	63.89	0.11	62.78	5.38	63.87			1.25	63.15	0.05	63.43	1.30	63.16
East Pit	2.69	65.11	0.02	64.53	2.71	65.11			0.87	65.95	0.00	64.54	0.87	65.95
Village Pit	38.99	64.21	4.82	63.44	43.81	64.13	2.99	64.95	28.13	64.20	5.22	60.48	33.35	63.62
GF Pit	2.95	64.59			2.95	64.59								
HH Ext Pit	0.29	65.19			0.29	65.19								
HL Pit	2.40	64.87	0.03	65.19	2.43	64.87			1.87	65.07			1.87	65.07
West Pit	8.82	63.70	0.47	62.70	9.29	63.65	0.00	62.46	8.19	63.69	0.34	62.54	8.53	63.64
Detrital**							2.50	60.00						
Total 2021	**80.99**	**64.18**	**5.46**	**63.37**	**86.45**	**64.13**	**5.49**	**62.70**	**55.50**	**64.17**	**6.19**	**60.20**	**61.69**	**63.77**
Total 2020	86.71	64.06	5.11	63.44	91.82	64.02	5.35	62.58	26.05	64.64	0.13	63.35	26.18	64.63

The Measured and Indicated Mineral Resources are inclusive of those modified to produce Mineral Reserves.
Totals are rounded off.
*** Detrital is loose fragmented material occurring in various areas at Beeshoek Mine.*
Key assumptions for Mineral Resources:
Grade cut-off: 60% Fe.
Modifying factors for the conversion of Mineral Resources to Mineral Reserves include:
Grade cut-off: 54% Fe.
Mining loss: 2%.
Plant yield: On-grade (85%);
Jig yield: Off-grade (depending on material type): 45%
Price used for iron ore (US$/t): Based on market-related long-term view and customer contracts.
Exchange rate used: Market-related.
Life-of-mine: 14 years.
**** Beeshoek Iron Ore Mine attributable interests (ARM 50%; Assore 50%).***

Beeshoek Iron Ore Mine: Stockpiles Mineral Reserves estimates as at 30 June 2021

Mineral Resources and Mineral Reserves are reported on a 100% basis*	MINERAL RESERVES					
	Proved Reserves		Probable Reserves		Total Reserves	
	Mt	Fe%	Mt	Fe%	Mt	Fe%
Area						
North Mine (ROM on-grade)			0.00	64.00	0.00	64.00
North Mine (B ROM off-grade**)			0.05	55.00	0.05	55.00
North Mine HF Pit (ROM on-grade)			0.27	64.00	0.27	64.00
North Mine HF Pit (B ROM off-grade)			0.20	55.00	0.20	55.00
South Mine Village Pit (on-grade)			0.21	64.00	0.21	64.00
South Mine Village Pit (off-grade)			0.23	55.00	0.23	55.00
South Mine East Pit (ROM on-grade)			0.03	64.00	0.03	64.00
South Mine East Pit (B ROM off-grade)			0.37	55.00	0.37	55.00
Total 2021 stockpiles			**1.37**	**58.45**	**1.37**	**58.45**
Total 2020 stockpiles			1.22	60.02	1.22	60.02

Totals are rounded off.
*** ROM off-grade ore is beneficiated to produce a saleable product.*
**** Beeshoek Iron Ore Mine attributable interests (ARM 50%; Assore 50%).***

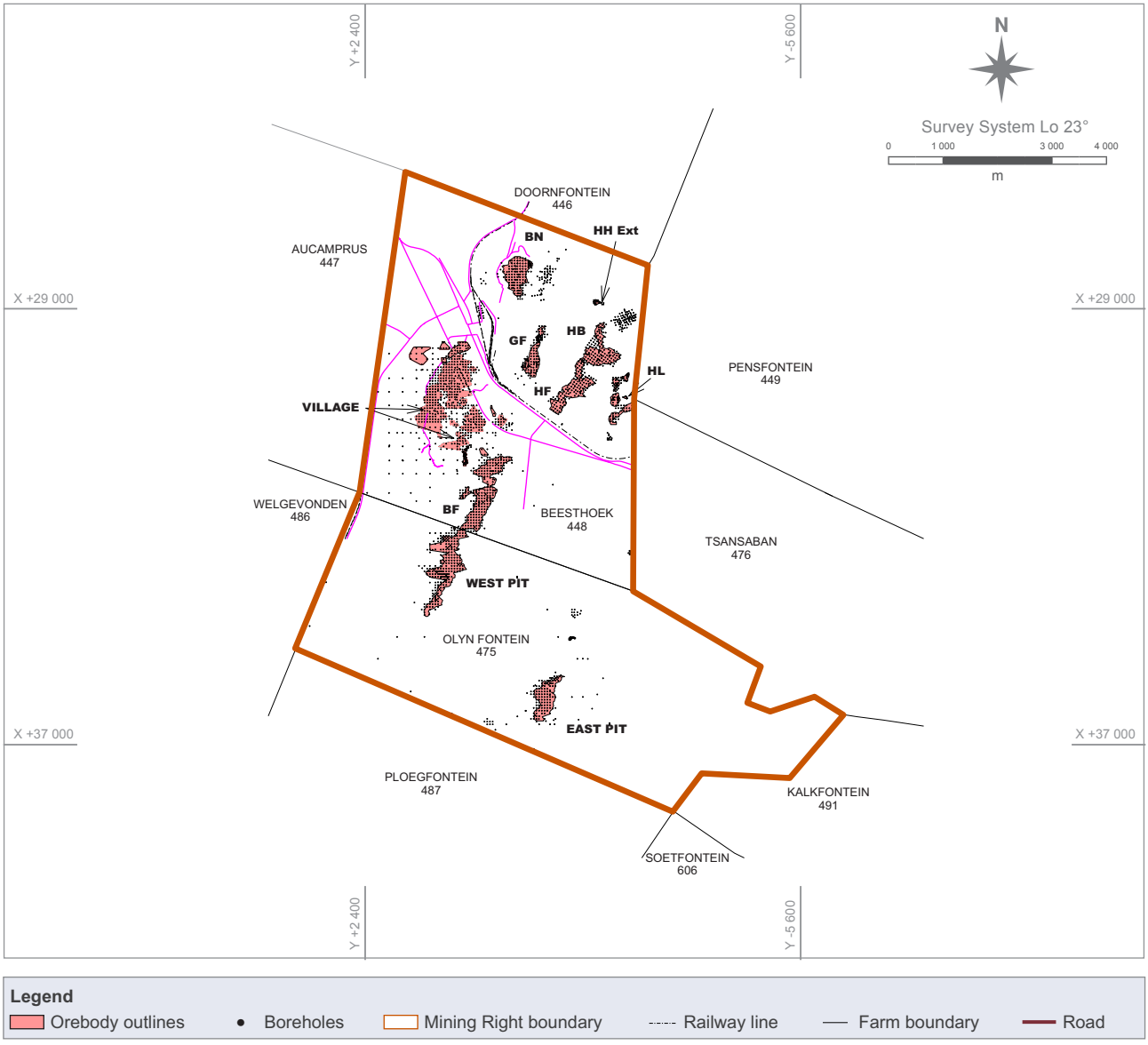
ARM Ferrous continued

Beeshoek Iron Ore Mine: Low-grade stockpiles Mineral Resources as at 30 June 2021

Mineral Resources are reported on a 100% basis*	Measured Resources		Indicated Resources		Total Measured and Indicated Resources		Inferred Resources	
	Mt	Fe%	Mt	Fe%	Mt	Fe%	Mt	Fe%
Stockpile								
Tailings stockpile	2.41	56.46	0.04	54.52	2.45	56.43		
Jig stockpile			14.60	52.72	14.60	52.72		
Total 2021	**2.41**	**56.46**	**14.64**	**52.72**	**17.05**	**53.25**		
Total 2020	2.41	56.46	12.64	53.22	15.05	53.74		

Totals are rounded off.
Key assumptions for Mineral Resources:
Jig stockpile cut-off grade: 45% Fe
**** Beeshoek Iron Ore Mine attributable interests (ARM 50%; Assore 50%).***

Locality map of Beeshoek Mine orebody



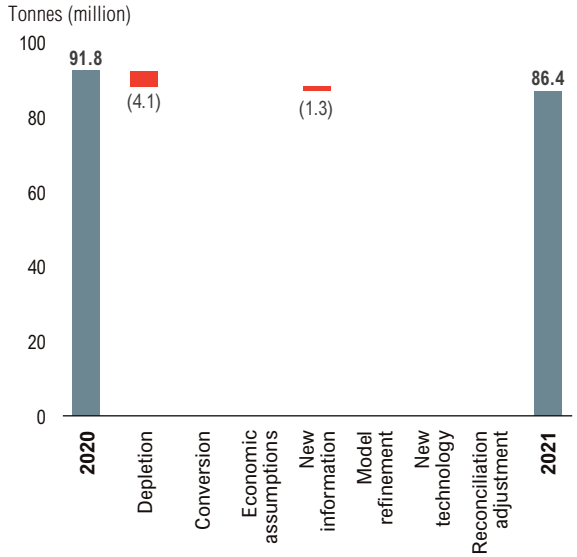
Beeshoek year-on-year change

Measured and Indicated Mineral Resources decreased from 91.82 million tonnes at 64.02% Fe to 86.45 million tonnes at 64.13% Fe. The reduction was mainly due to production depletion in Village, HF, BN and East pits.

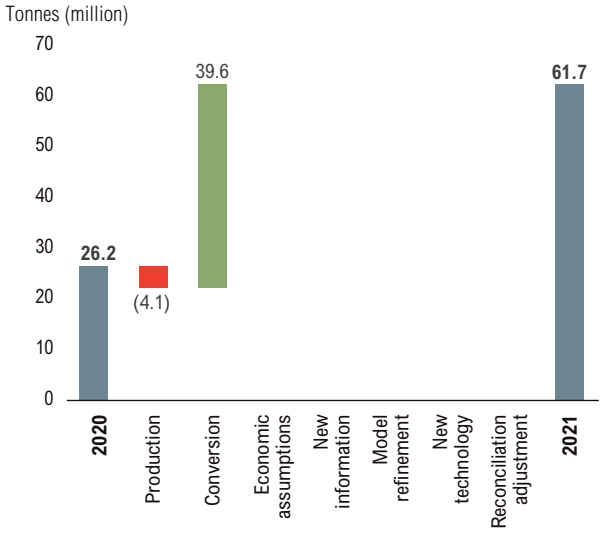
The Mineral Reserves significantly increased from 26.18 million tonnes at 64.63% Fe in F2020 to 61.69 million tonnes at 63.77% Fe in F2021 mainly due to the conversion from Measured and Indicated Mineral Resources to Proved and Probable Mineral Reserves as part of an optimisation study of all the Beeshoek Mine pits. The increase in Mineral Reserves was also due to the reduction in the cut-off grade from 60% Fe to 54% Fe, the latter being more representative of the ROM material produced and processed in the wash and screen as well as the jig plant.

BEESHOEK MINE ALL PITS

Beeshoek Mine year-on-year reconciliation Mineral Resources*



Beeshoek Mine year-on-year reconciliation Mineral Reserves



* *Mineral Resources represents Measured and Indicated only.*

Stockpile Mineral Reserves increased from 1.22 million tonnes at 60.02% Fe to 1.37 million tonnes at 58.45% Fe as additional material from mining activities was stockpiled.

The jig stockpile Mineral Reserves that were declared in F2020 of 11.97 million tonnes at 53.22% Fe were reported in the Mineral Resources category this year as the processing of this material is likely to take place at the end of the life of Beeshoek Mine and the technology of processing the jig material will require further assessment. The low grade stockpile Measured and Indicated Mineral Resources of tailings and jig discard increased from 15.05 million tonnes at 53.74% Fe to 17.05 million tonnes at 53.25% Fe as a result of continued production.

Historical at Beeshoek Mine

	ROM	SALEABLE
Financial year	Mt	Mt
2016/2017	3.39	3.15
2017/2018	4.17	3.88
2018/2019	4.44	3.64
2019/2020	4.26	2.99
2020/2021	**5.52**	**3.25**

Additional information on production figures can be found in the ARM Ferrous operational review of the 2021 ARM integrated annual report which can be found at **www.arm.co.za.**

ARM Ferrous continued

Khumani Iron Ore Mine: Mineral Resources and Mineral Reserves estimates as at 30 June 2021

Mineral Resources and Mineral Reserves are reported on a 100% basis*	MINERAL RESOURCES								MINERAL RESERVES					
	Measured Resources		Indicated Resources		Total Measured and Indicated Resources		Inferred Resources		Proved Reserves		Probable Reserves		Total Reserves	
	Mt	Fe%	Mt	Fe%	Mt	Fe%	Mt	Fe%	Mt	Fe%	Mt	Fe%	Mt	Fe%
Pit/Area														
Bruce A	96.19	63.62	17.38	63.03	113.57	63.53			87.52	62.56	15.06	62.03	102.58	62.48
Bruce B	72.01	61.92	2.51	61.09	74.52	61.89			52.41	61.03	1.33	60.89	53.74	61.03
Bruce C	10.75	63.25			10.75	63.25			5.21	61.85			5.21	61.85
Total for Bruce pits	**178.95**	**62.91**	**19.89**	**62.79**	**198.84**	**62.90**			**145.14**	**61.98**	**16.39**	**61.94**	**161.53**	**61.98**
King Main	284.40	62.94	41.16	62.53	325.56	62.89	8.01	59.17	205.47	62.52	6.72	62.91	212.19	62.53
Mokaning South	33.61	62.62	9.64	62.22	43.25	62.53	2.52	62.46	20.43	62.21	4.88	61.25	25.31	62.02
Mokaning East	10.53	62.94	5.62	62.22	16.15	62.69			9.66	62.38	5.47	61.55	15.13	62.08
Total King/Mokaning	**328.54**	**62.91**	**56.42**	**62.45**	**384.96**	**62.84**	**10.53**	**59.96**	**235.56**	**62.49**	**17.07**	**62.00**	**252.63**	**62.45**
Total 2021	**507.49**	**62.91**	**76.31**	**62.53**	**583.80**	**62.86**	**10.53**	**59.96**	**380.70**	**62.29**	**33.46**	**61.97**	**414.16**	**62.27**
Total 2020	449.08	62.88	132.76	63.12	581.84	62.93	35.18	61.87	341.01	62.20	83.57	62.58	424.58	62.28

The Measured and Indicated Mineral Resources are inclusive of those modified to produce Mineral Reserves.
Totals are rounded off.
Key assumptions for Mineral Resources:
Grade cut-off: 55% Fe.
Modifying factors for the conversion of Mineral Resources to Mineral Reserves include:
Mining loss factor: 2%.
Wash and screen recovery: 84% (on-grade).
Jig yield: 63% (off-grade)
Grade cut-off: 54% Fe.
Price used for iron ore (US$/t): Based on market-related long-term view and customer contracts.
Exchange rate used: Market-related.
Life-of-mine: 25 years.
**** Khumani Iron Ore mine attributable interests (ARM 50%; Assore 50%).***

Khumani Iron Ore Mine: Stockpiles Mineral Reserves estimates as at 30 June 2021

Mineral Resources are reported on a 100% basis*	MINERAL RESERVES					
	Proved Reserves		Probable Reserves		Total Reserves	
	Mt	Fe%	Mt	Fe%	Mt	Fe%
Area						
Bruce			4.22	58.67	4.22	58.67
King			1.80	61.75	1.80	61.75
Total 2021 Stockpiles**			**6.02**	**59.59**	**6.02**	**59.59**
Total 2020 Stockpiles			6.31	55.52	6.31	55.52

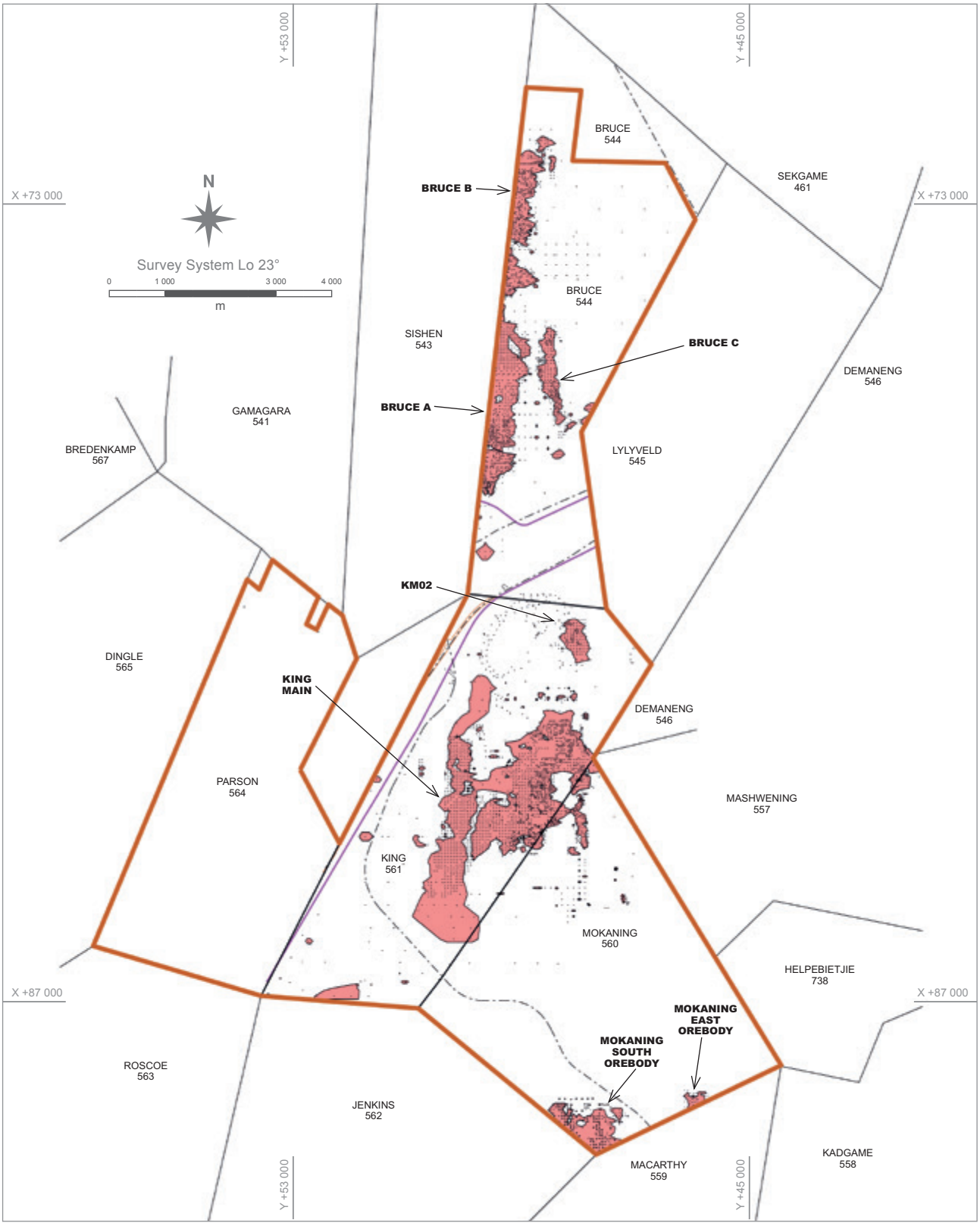
Totals are rounded off.
*** Stockpiles are beneficiated to produce a saleable product.*
**** Khumani Iron Ore mine attributable interests (ARM 50%; Assore 50%).***

Khumani Iron Ore Mine: Low-grade stockpiles Mineral Resources estimates as at 30 June 2021

Mineral Resources are reported on a 100% basis*	MINERAL RESOURCES							
	Measured Resources		Indicated Resources		Total Measured and Indicated Resources		Inferred Resources	
	Mt	Fe%	Mt	Fe%	Mt	Fe%	Mt	Fe%
Stockpile								
Jig stockpile			20.76	54.24	20.76	54.24		
Total 2021			**20.76**	**54.24**	**20.76**	**54.24**		
Total 2020			17.18	54.29	17.18	54.29	1.78	55.07

Totals are rounded off.
**** Khumani Iron Ore mine attributable interests (ARM 50%; Assore 50%).***

Locality map of Khumani Mine orebody



ARM Ferrous continued

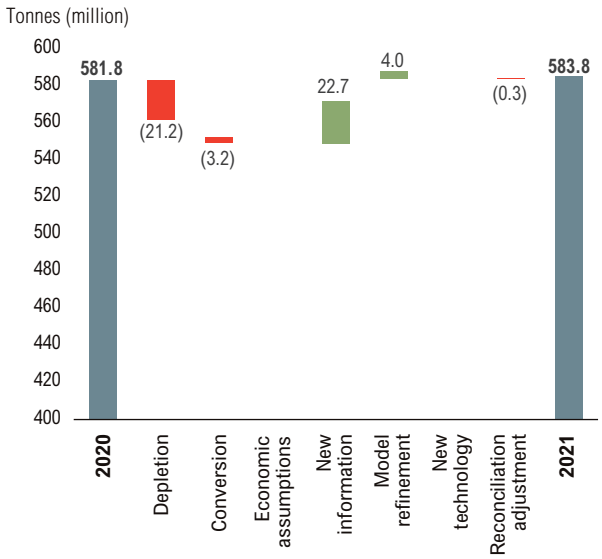
Khumani year-on-year change

The Measured and Indicated Mineral Resources increased from 581.84 million tonnes at 62.93% Fe to 583.80 million tonnes at 62.86% Fe mainly due to new information from recent drilling resulting in upgrading of some Inferred Mineral Resources although a total of 19.27 million tonnes of ROM was mined during the year.

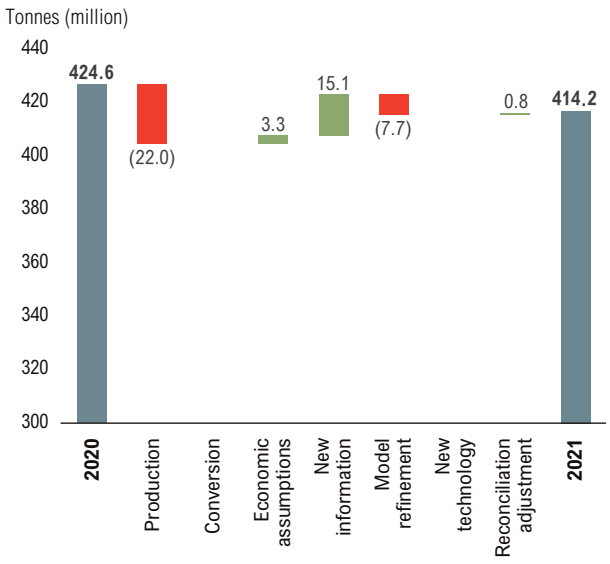
Khumani Mine Mineral Reserves decreased from 424.58 million tonnes at 62.28% Fe to 414.16 million tonnes at 62.27% Fe, mainly due to mining production which was partially offset by an increase in Mineral Reserves at Mokaning East and South where new pit shells were created.

KHUMANI MINE ALL PITS

Khumani Mine year-on-year reconciliation Mineral Resources*



Khumani Mine year-on-year reconciliation Mineral Reserves



** Mineral Resources represents Measured and Indicated only.*

Stockpile Mineral Reserves decreased from 6.31 million tonnes at 55.52% Fe to 6.02 million tonnes at 59.59% Fe as slightly more material was mined from the stockpiles compared to the feed from the pits.

Khumani low-grade jig stockpile increased from 17.18 million tonnes at 54.29% Fe of Indicated Mineral Resource and 1.78 million tonnes at 55.07% Fe Inferred Mineral Resource to a total of 20.76 million tonnes at 54.24% Fe Indicated Mineral Resource due to continued feed from the jig plant. No Inferred Mineral Resource is declared for this year for the low grade jig stockpile.

Historical production at Khumani Mine

	ROM	SALEABLE
Financial year	Mt	Mt
2016/2017	20.35	14.07
2017/2018	22.00	14.69
2018/2019	20.11	14.15
2019/2020	19.32	13.10
2020/2021	**19.27**	**12.67**

Additional information on production figures can be found in the ARM Ferrous operational review of the 2021 ARM integrated annual report which can be found at **www.arm.co.za.**

Top: Coal loading at Goedgevonden Mine
Bottom: Pit drilling at Goedgevonden Mine

ARM Coal

Goedgevonden Coal Mine

ARM's attributable beneficial interest in Goedgevonden's operations is 26%. The other 74% is held by Glencore Operations South Africa.

The JV with Glencore also includes other coal operations in South Africa, Participative Coal Business (PCB), in which ARM has an economic interest of 20.2%.

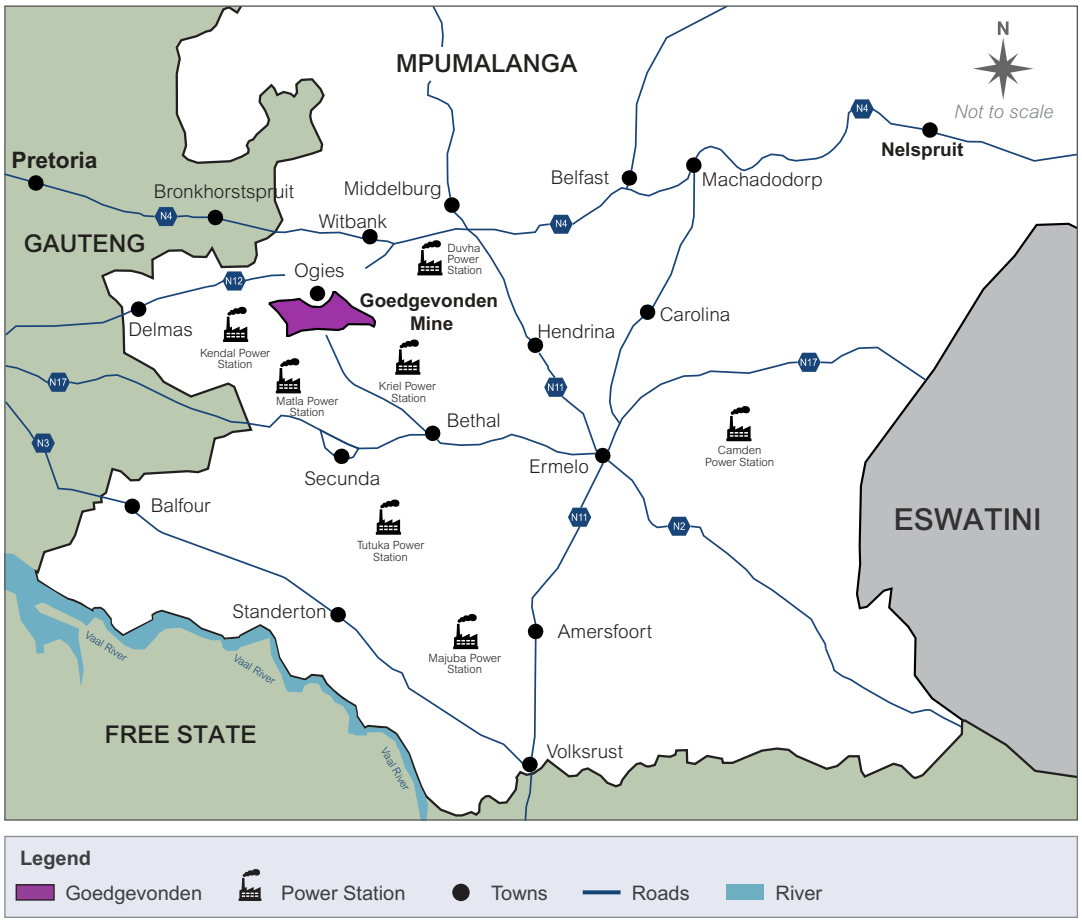
PCB Coal Resources and Coal Reserves are not included in this report but are published in the Glencore report which can be found at www.glencore.com.

Locality

Goedgevonden Mine (GGV) is situated in the Witbank Coalfield about seven kilometres south of the town of Ogies in Mpumalanga province in South Africa.

ARM Coal continued

Locality map of Goedgevonden Coal Mine



History

A total of 548 surface diamond boreholes were drilled during 1964 to 2004 by Duiker Mining and Xstrata SA. Anglo Coal drilled an additional 102 boreholes for the Zaaiwater area. Most boreholes were drilled down to basement to define the seam locality and basement topography. Owing to the different campaigns, the database had to be validated to produce a consistent set of data.

Competence

The following competent person was involved in the reporting of Goedgevonden Coal Resources and Reserves, he is employed by Glencore.

COMPETENT PERSON	PROFESSIONAL ORGANISATION	MEMBERSHIP NUMBER	QUALIFICATIONS	RELEVANT EXPERIENCE
M Smith (Mineral Resources and Mineral Reserves)	SACNASP	400075/03	BSc Hons (Geology), MBA	29 years

Mining authorisation

LEGAL ENTITLEMENT	MINERALS COVERED BY MINING RIGHT	COMMENT	PERIOD OF MINING RIGHT (YEARS)	KNOWN IMPEDIMENTS ON LEGAL ENTITLEMENT
Mining Right MP 169MR	Coal	None	30 years: 13 November 2013 to 12 November 2043	None

ARM Coal continued

Geology

The stratigraphy of the Witbank Coalfield consists of five seams numbered from oldest to youngest: No 1 to No 5 Seam. The seams vary in thickness from less than 0.5 metres to over 6 metres and do not exceed 300 metres in depth from surface. The coal seams dip at less than 5°. However, coal seam morphology and qualities may be locally influenced by basement topography, surface weathering and intrusion of dolerite dykes and sills. The coal qualities vary both within and between individual coal seams.

Low-quality coals, suitable for the local steam coal market, have a calorific value of between 18 to 22 MJ/kg, whereas the high-quality export steam coal has a calorific value of greater than 27 MJ/kg. All five coal seams are developed on Goedgevonden. The No 1 Seam is of low quality, thin and only developed in paleo-low areas. The No 2 Seam is extensively developed and is of good quality and is, on average, 6 metres thick. The No 3 Seam is of good quality but, with an average thickness of only 0.3 metres, is uneconomic. The No 4 Seam, being closer to surface and although of the same thickness as the No 2 Seam, is influenced by weathering and is not as extensively developed. The No 5 Seam is of good quality, but is preserved as erosional remnants on the high ground only and thus not extensively developed over the area. No major faults, structural disturbances or intrusives were observed in the boreholes drilled to date.

Opencast dragline mining operations in the area are extracting the No 2, No 4 and No 5 Seams. The open-cut mine produces both export and domestic thermal coal.

Exploration activities

The exploration programme that ran from January 2020 to December 2020 targeted the mining area ahead of the current faces to be exploited during the 18 months window.
Thirteen TNW cored boreholes were drilled. All boreholes were drilled by Bokamoso Exploration Drilling, and were logged and sampled on-site by the resident geologist. The samples were sent to the SGS Laboratory.

Boreholes were drilled to the Pre-Karoo and most holes intercepted all the seams developed at GGV (5, 4, 3, and 2 seam). Full washability was conducted at an RD of 1.3 to 1.85 at 0.5 intervals. Proximate, as well as CV and sulphur analyses were conducted on all the floats and the sink fraction. The boreholes were incorporated into the 2021 geological model update. The total cost of all the drilling and laboratory analyses was R0.70 million.

Mining methods and infrastructure

Open-cut mining methods are utilised at Goedgevonden Coal Mine.

Coal Resources

Borehole data for the mine is captured into the Geobank database. Minex provides the geological and mine planning software solution for the mine. Two-dimensional resource models are generated with block sizes of 50 x 50 metres. All estimations of the individual blocks are done using inverse distance cubed with an isotropic search. Other software packages used in the evaluation are “Washproduct” and “Xpac”.

The Coal Resources declared have reasonable prospects for eventual economic extraction on consideration the following:

- Location, quality, grade and geological continuity which are known and are supported by drilling information which includes sampling
- Only coal in seams of specific thicknesses with coal qualities as specified under the coal Resources table are declared as they meet customer requirements
- Mining and processing methods are well established at the operation and are currently used to exploit the orebody
- All other factors such as legal, infrastructural, environmental, marketing, social and economic factors are covered as part of the mining plan for the operation.

Coal Reserves

Measured and Indicated Coal Resources are converted to Coal Reserves by applying the modifying factors such as mining losses, mining dilution, coal quality requirements, and seam thickness cut-offs. Details of these parameters are provided in the footnotes on the Coal Reserves tables.

The following tables show the Goedgevonden Coal Resources and Coal Reserves obtained from Glencore, reflecting the status as at 31 December 2020. Coal Resources and Reserves of the Glencore mines are the responsibility of the Glencore Coal Resources and Coal Reserves team.

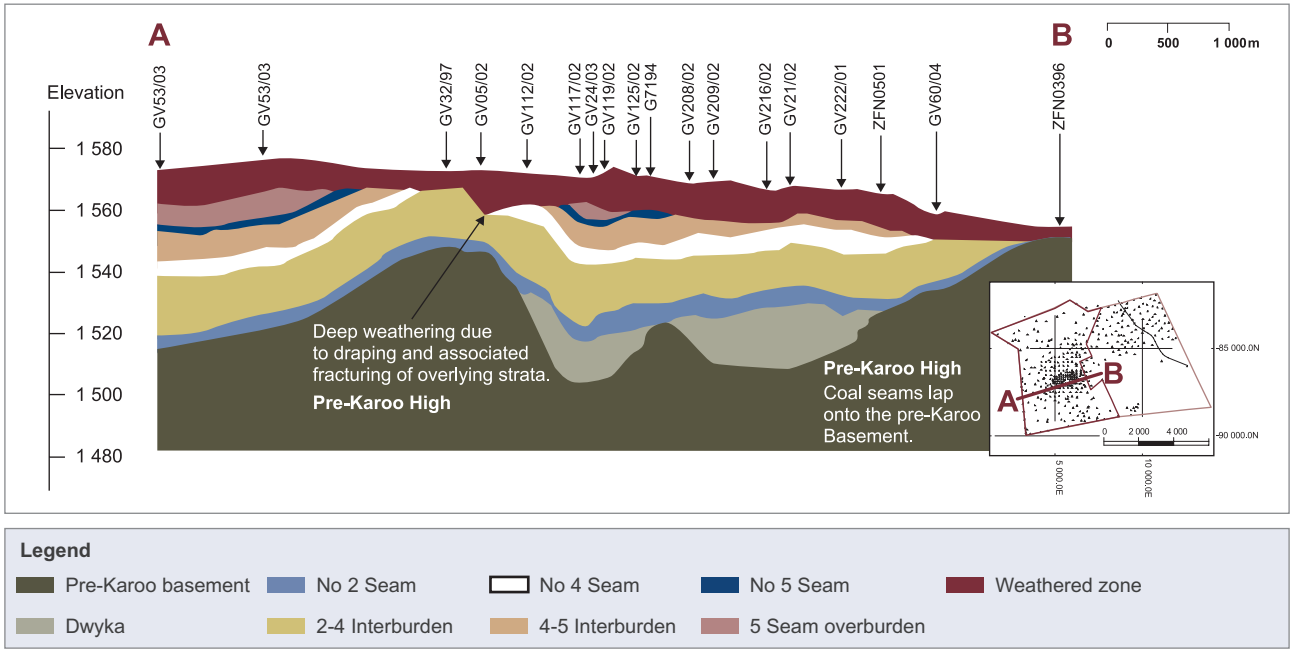
ARM Coal continued

Goedgevonden Coal Mine: Coal Resources estimates as at 31 December 2020^

Coal Resources are reported on a 100% basis*	Coal type and qualities	COAL RESOURCES Measured MTIS****	Indicated MTIS	Measured and Indicated MTIS	Inferred MTIS
Total 2021	**Thermal coal (Mt)**	**480**	**7**	**487**	**1**
	CV (MJ/kg)	**19.76**	**18.28**	**19.74**	**16.72**
	Ash (%)	**32.47**	**34.67**	**32.50**	**40.91**
	VM (%)	**21.82**	**21.29**	**21.81**	**18.96**
	S (%)	**1.17**	**1.07**	**1.17**	**0.85**
Total 2020	Thermal coal (Mt)	490	7	497	1
	CV (MJ/kg)	19.82	18.28	19.80	16.72
	Ash (%)	32.31	34.67	32.34	40.91
	VM (%)	21.86	21.29	21.85	18.96
	S (%)	1.16	1.07	1.16	0.85

^ Glencore's financial year end is 31 December. Mineral Resources and Reserves figures reported by ARM for its financial year end are based on Glencore's December report.
Coal Resources are inclusive of those modified to produce coal Reserves.
***** MTIS – Mineable tonnes in situ coal Resources are now reported as per SAMREC Code of 2016 requirements.*
Mining method is open-cut.
CV – calorific value; VM – volatile matter; S – sulphur.
Totals are rounded off.
Key assumptions for coal Resources:
Coal Resources qualities are reported on an air-dried moisture basis.
Geological loss: 6%.
Density ranges: 1.3 t/m³-1.8 t/m³.
Seam thickness cut-off: 1 metre (combined Seams 2 and 4); 0.5 metres (Seams 1 and 5).
Qualities cut-off: Ash: 50%; VM: 20%; S: 3%.
**** Goedgevonden Coal Mine attributable interests (ARM 26%; Glencore Operations 74%).***

Section showing Goedgevonden coal seams



Goedgevonden Coal Mine: Coal Reserves estimates as at 31 December 2020^

Coal Resources are reported on a 100% basis*	Coal type and qualities	COAL RESERVES (ROM) Proved	Probable	Total Reserves	Coal type and qualities	COAL RESERVES (SALEABLE) Proved	Probable	Total Reserves
Total 2021	**Thermal coal (Mt)**	**270**		**270**	**Thermal coal (Mt)**	**167**		**167**
	CV (MJ/kg)	**19.57**		**19.57**				
	Ash (%)	**33.73**		**33.73**	**HG export (Mt)**			**71**
	VM (%)	**20.71**		**20.71**	**Export CV (Kcal/kg)**			**6 000**
	S (%)	**1.03**		**1.03**	**LG export (Mt)**			**96**
					LG export CV (MJ/kg)			**21.50**
Total 2020	Thermal coal (Mt)	280		280	Thermal coal (Mt)	172		172
	CV (MJ/kg)	19.57		19.57				
	Ash (%)	33.73		33.73	Export (Mt)			73
	VM (%)	20.71		20.71	Export CV (Kcal/kg)			6 000
	S (%)	1.03		1.03	Domestic (Mt)			99
					Domestic CV (MJ/kg)			21.50

^ Glencore's financial year end is 31 December. Mineral Resources and Reserves figures reported by ARM for its financial year end are based on Glencore's December report.
Coal Reserves qualities are reported on an air-dried moisture basis.
Totals are rounded off.
Mining method is open-cut.
CV – calorific value; VM – volatile matter; S – sulphur.
Modifying factors for the conversion of coal Resources to coal Reserves include:
Mining loss factor: 6%.
Plant yields: Export – 15%; Domestic – 45%.
Price used: Short-term – based on the API4; Long term – based on market-related long-term view and customer contracts.
Exchange rate (R/US$): Market-related.
Seam thickness cut-off: 1 metre (combined Seams 2 and 4); 0.5 metres (Seam 5).
Qualities cut-off: Domestic: CV: 18 MJ/kg; Ash: 35%; VM: 20%; S: 1.5%. Export: All coal beneficiated.
Life-of-mine: 24 years.
**** Goedgevonden Coal Mine attributable interests (ARM 26%; Glencore Operations 74%).***

Stackers at Goedgevonden Mine

ARM Coal continued

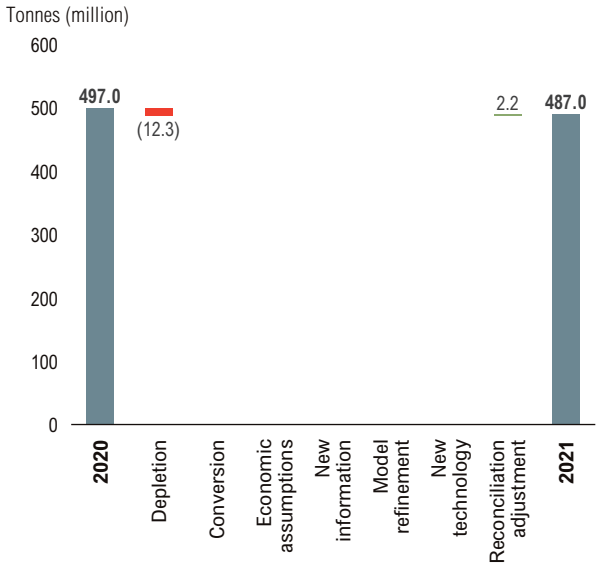
Goedgevonden year-on-year change

Measured and Indicated Coal Resources decreased from 497 million tonnes to 487 million tonnes mainly due to mining of 12.25 million tonnes.

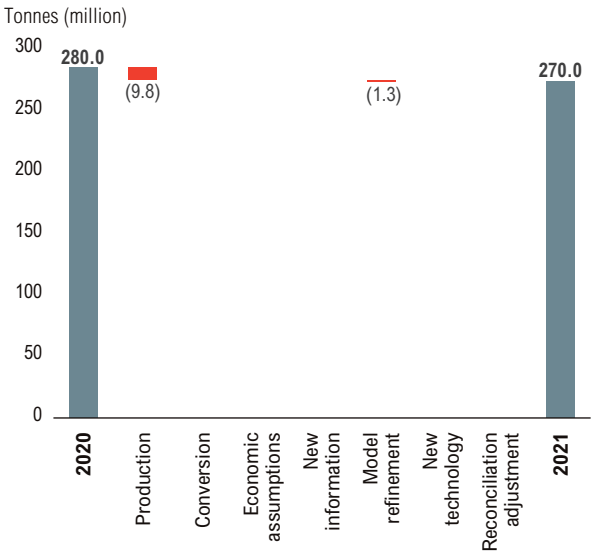
Coal Reserves (RoM) similarly decreased from 280 million tonnes to 270 million tonnes mainly due to mining of 9.8 million tonnes. A change in the mining plan due to the exclusion of uneconomic blocks accounted for a decrease of 1.6 million tonnes in the Coal Reserves (RoM).

GOEDGEVONDEN COAL MINE

Goedgevonden Mine year-on-year reconciliation Coal Resources*



Goedgevonden Mine year-on-year reconciliation Coal Reserves (ROM)



* *Mineral Resources represents Measured and Indicated only.*

Historical production at Goedgevonden Coal Mine

	ROM	SALEABLE
Financial year	Mt	Mt
2016/2017	10.8	6.5
2017/2018	9.6	6.0
2018/2019	11.4	7.0
2019/2020	10.9	6.8
2020/2021	**9.2**	**5.8**

IAR Additional information on production figures can be found in the ARM Coal operational review of the 2021 ARM integrated annual report which can be found at **www.arm.co.za**.

Harmony Gold

ARM owns 12.12% of Harmony's issued share capital. Harmony is separately run by its own management team. Mineral Resources and Mineral Reserves of the Harmony mines are the responsibility of the Harmony team and are published in Harmony's annual report.

Reconciliation graphs – category definitions

Opening balance	as at 30 June 2020 unless otherwise stated.
Production (from Reserve model)	The amount of material (expressed in terms of tonnage and content) removed by planned mining from the Mineral Reserves, ie the areas actually mined during the reporting period, which are removed from the Mineral Reserve model/s.
Depletion (from Resource model)	The amount of material (expressed in terms of tonnage and content) removed by planned mining from the Mineral Resources, ie the areas actually mined during the reporting period, which are removed from the Mineral Resource model(s).
Conversion	The effect of applying updated "modifying factors" to Mineral Reserves and Mineral Resources which include the consideration of mining, metallurgical, processing, infrastructural, economic, marketing, legal environmental, social and governmental factors.
Economic assumptions	The effect of RPEEE assumptions.
New information	The effect of additional Mineral Resource definition information which initiates an update to the geological model(s) and results in an updated classified Mineral Resource model.
Model refinement	No additional drilling has been undertaken but the interpretation of the orebody has been refined or change as a result of new geological losses. These also include change in the mine design.
New technology	Changes to Mineral Resources or Mineral Reserves in response to the application of new or improved mining and/or processing methods.
Reconciliation adjustment	Changes which cannot be allocated to a defined category or an adjustment necessary to mitigate inaccurate production/depletion estimates. This is limited to a minimum.
Closing balance	as at 30 June 2021 unless otherwise stated.

Glossary of terms

ABBREVIATIONS WITHIN THE REPORT	
ARM	African Rainbow Minerals Limited
ASSMANG	Assmang Proprietary Limited
IAR	Integrated annual report
JSE	Johannesburg Stock Exchange
QAQC	Quality Assurance Quality Control
RPEEE	Reasonable prospects for eventual economic extraction
API4	Benchmark price reference for coal exported from South Africa's Richards Bay terminal

PROFESSIONAL ORGANISATIONS	
ECSA	Engineering Council of South Africa
GSSA	Geological Society of South Africa
IMSSA	The Institute of Mine Surveyors of South Africa
SACNASP	South African Council for Natural Scientific Professions
SAIMM	South African Institute of Mining and Metallurgy

MASS UNITS	
tonnes	metric system unit of mass equal to 1 000 kilograms
Mt	million tonne; metric system unit of mass equal to 1 000 000 metric tonnes
Moz	million troy ounces
MTIS	Mineable tonnes in situ, adjusted for geological losses

GRADE UNITS AND OTHER ABBREVIATIONS			
g/t	grams per tonne		
4E	The sum of platinum, palladium, rhodium and gold grades in grams per tonne (g/t)		
6E	The sum of platinum, palladium, rhodium, ruthenium, iridium and gold in grams per tonne (g/t)		
Pt	Platinum	**CaO**	Calcium oxide
Pd	Palladium	**K_2O**	Potassium oxide
Rh	Rhodium	**NaO**	Sodium oxide
Au	Gold	**P**	Phosphorus
Ru	Ruthenium	**% Fe**	weight percent iron
Ir	Iridium	**% Mn**	weight percent manganese
PGM	Platinum Group Metals	**% Ni**	weight percent nickel
Cr_2O_3	Chrome oxide	**% Cu**	weight percent copper
MgO	Magnesium oxide	**% Co**	weight percent cobalt
S	Sulphur	**CV**	Calorific value
Al_2O_3	Aluminium oxide	**kcal/kg**	kilocalories per kilogram
SiO_2	Silica	**MJ/kg**	megajoules per kilogram
BaO	Barium oxide		

Contact details

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Incorporated in the Republic of South Africa
JSE share code: ARI
A2X share code: ARI
ISIN: ZAE000054045

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M Arnold**
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AD Botha*
JA Chissano (Mozambican)*
WM Gule*
AK Maditsi*
J Magagula
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PJ Mnisi*
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** Independent non-executive*
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Forward-looking statements

Certain statements in this document constitute forward-looking statements that are neither reported financial results nor other historical information. They include statements that predict or indicate future earnings, savings, synergies, events, trends, plans or objectives. Such forward-looking statements may or may not take into account and may or may not be affected by known and unknown risks, uncertainties and other important factors that could cause actual results, performance or achievements of the company to be materially different from future results, performance or achievements expressed or implied by such forward-looking statements. Such risks, uncertainties and other important factors include: economic, business and political conditions in South Africa; decreases in the market price of commodities; hazards associated with underground and surface mining; labour disruptions; changes in government regulations, particularly environmental, health and safety and tax regulations; changes in exchange rates; currency devaluations; inflation and other macro-economic factors; electricity supply disruptions, constraints and cost increases; supply chain shortages and increases in the price of production inputs; the unavailability of mining and processing equipment or transportation infrastructure; the impact of the Covid-19 pandemic; and the impact of tuberculosis. The forward-looking statements apply only as of the date of publication of these pages. The company undertakes no obligation to update publicly or release any revisions to these forward-looking statements to reflect events or circumstances after the date of publication of these pages or to reflect any unanticipated events.

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