



Contents

Mineral Resources and Mineral Reserves statement	2
Highlights of the 2020 Mineral Resources and Mineral Reserves	۷
Booysendal mine	18
Eland mine	28
Zondereinde mine	34
Dwaalkop prospect	42
Kokerboom prospect	44
General notes on reporting criteria	45
Glossary of terms	46
Administration and contact information	48

Mineral Resources are the product of mineral assets and exploration processes

241.85 Moz 4E

Group total Mineral Resources

F2019: 243.49 Moz 4E

Mineral Reserves are the outcome of mine planning and scheduling, as well as the consideration of capital

29.75 Moz 4E

Group total Mineral Reserves F2019: 30.34 Moz 4E

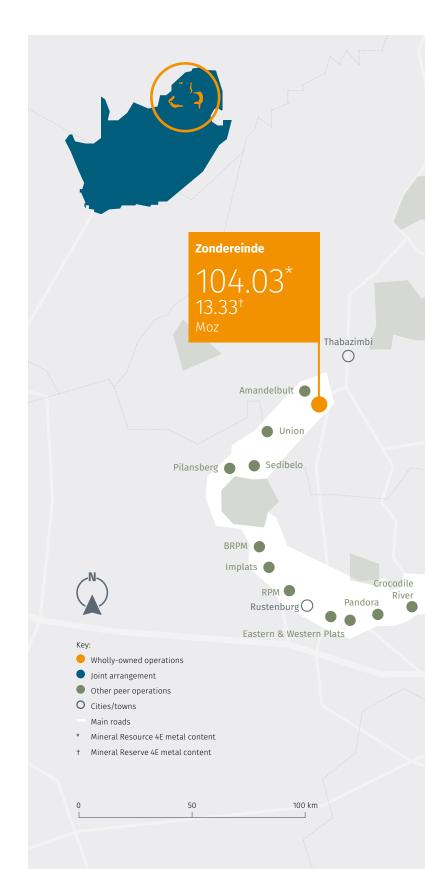
Core to the group's operational growth strategy has been the growth and strengthening of our Mineral Resources and Mineral Reserves base. This has been facilitated through the acquisition of quality assets in strategic locations, backed up by robust and continuing planning processes following best practice in line with the prescripts and principles of the SAMREC code (2016).

We consider the group's current Mineral Resources and Mineral Reserves positions to be of a sufficient quantum and quality to support a sustainable production profile in line with our strategic intent.

Mineral Resources and Mineral Reserves statement

Northam's attributable combined Mineral Resources for 2020 expressed as metal content comprises 241.85 Moz 4E, a decrease of 1.64 Moz 4E on the previous year, 2019. The corresponding combined Mineral Reserves comprises 29.75 Moz of 4E. a decrease of 0.59 Moz 4E from 2019. Both Mineral Resources and Mineral Reserves rest entirely within the Merensky and UG2 Reefs of the Bushveld Complex, South Africa, and estimates have been prepared using the guidelines of the South African Code for the Reporting of Exploration Results, Mineral Resources and Mineral Reserves (2016), the SAMREC Code. Mineral Resources (total Measured, Indicated and Inferred) are reported inclusive of the Mineral Reserves (total Proved and Probable) and are expressed as 4E, being the combined platinum, palladium, rhodium and gold grade or content.

Booysendal, Eland and Zondereinde are wholly owned PGM mines of Northam Platinum Limited, having a 100% attributable interest. The Zondereinde mine includes the Middledrift section to the east, as well as the Western extension section to the west, formerly known as the "Tumela block", all being consolidated into a single mining right. Northam also has a 50% attributable stake in the Dwaalkop prospect through its wholly owned subsidiary Mvelephanda Resources Proprietary Limited (Mvelaphanda). Dwaalkop is managed by Sibanye-Stillwater Limited (Sibanye-Stillwater).



Bushveld location indicating current PGM mining operations and Northam's attributable combined Mineral Resources and Mineral Reserves, expressed as Moz 4E



Highlights of the 2020 Mineral Resources and Mineral Reserves

Northam's attributable combined Mineral Resources as at 30 June 2020 expressed as metal content comprises 241.85 Moz 4E, a decrease of 1.64 Moz 4E on the previous year. The changes are attributed mostly to mining depletions at the Booysendal and Zondereinde mines, there being no changes to the Mineral Resources at the Eland mine and Dwaalkop prospect in 2020.

Northam is continuing with the independent review of all Mineral Resources and Mineral Reserves. In 2020, the Mineral Resources and Mineral Reserves estimates for Eland mine have been verified and endorsed through an independent external audit undertaken by Pivot Mining Consultants.

At the Booysendal mine, a decrease in Mineral Resources of 0.92 Moz 4E is the net result of mining depletions (0.30 Moz 4E) and a re-evaluation of the North mine's Merensky Reef cut from 210 cm to 190 cm. At the Zondereinde mine, the Mineral Resources estimate is comparable with the previous reporting year, barring mining depletions (0.40 Moz 4E).

The combined Mineral Reserves as at 30 June 2020 comprises 29.75 Moz 4E, a decrease of 0.59 Moz 4E on the previous year.

The Booysendal Mineral Reserves were assessed on updated Mineral Resources models, and this, together with boundary changes and mining depletions resulted in a net decrease of 0.38 Moz 4E. The Zondereinde Mineral Reserves estimate is comparable with the previous reporting year, barring mining depletions (0.27 Moz 4E). There was a net increase of 0.01 Moz 4E Mineral Reserve at Eland, attributed to an updated evaluation of the Merensky open pits.

Summary of the total Mineral Resources and Mineral Reserves by confidence category



Consideration of mining, metallurgical processing, infrastructural, economic, marketing, legal, environmental and social factors (the modifying factors)

Mineral Resources

- The total Mineral Resources at Booysendal mine decreased by 0.92 Moz 4E in 2020. This is attributed to the net effect of a decrease in the UG2 Mineral Resources (0.68 Moz 4E) and a decrease in the Merensky Mineral Resources (0.24 Moz 4E), the latter being subject to a review of the mining cut and estimation
- A decrease in the Zondereinde mine's total Mineral Resources of 0.72 Moz 4E is mostly due to mining depletions of Merensky and UG2 Reefs

Attributable Total Mineral Resources Moz 4E



Annual net change in Total Mineral Resources



Mineral Reserves

The Northam attributable combined Mineral Reserves as at 30 June 2020 comprises 29.75 Moz 4E, a decrease of 0.59 Moz 4E from the previous financial year. The decrease is attributed to the net result of mining depletion (0.27 Moz 4E) and an increase of 0.05 Moz 4E from re-evaluation at the Zondereinde mine, together with a decrease of 0.38 Moz 4E at the Booysendal mines, offset by a marginal increase in the Merensky Probable Mineral Reserve (0.01 Moz 4E) at Eland. Notable changes on the previous year are:

- The Booysendal Merensky Mineral Reserves increased from 2.93 Moz 4E in 2019 to 2.99 Moz 4E in 2020, a net result of mining depletion, the change in the North mine mining cut and an area extension of the South mine boundary. The corresponding UG2 Mineral Reserves decreased from 10.83 Moz 4E in 2019 to 10.39 Moz 4E in 2020, this being the result of mining depletion
- The Eland UG2 Reef Mineral Reserves were unchanged at 2.89 Moz 4E in 2020, whilst open pit Merensky Reef Mineral Reserves marginally increased by 0.01 Moz 4E

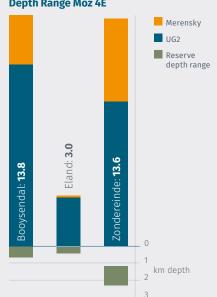
Attributable Total Mineral Reserves Moz 4E



Annual net change in Total Mineral Reserves Moz 4E



Total Mineral Reserves Depth Range Moz 4E



Highlights of the 2020 Mineral Resources and Mineral Reserves – continued

Compliance

In compliance with Section 12.13 of the JSE Listings Requirements, Northam confirms that the annual public reporting of Mineral Resources and Mineral Reserves is disclosed in compliance with the South African Code for the reporting of Exploration Results, Mineral Resources and Mineral Reserves, the SAMREC Code (2016) and, where applicable, the relevant Section 12 and Table 1 requirements.

Further, the company declares that it has written confirmation from the Lead Competent Person that the information disclosed in this report is compliant with the SAMREC Code (2016) and, where applicable, the relevant JSE Section 12 and SAMREC Code (2016), Table 1 requirements have been complied with, and that it may be published in the form and context in which it was intended.

The Mineral Resources for the Dwaalkop joint venture were prepared and assessed by Sibanye-Stillwater Limited and have been reported using the guidelines of the SAMREC Code (2016) as at 31 December 2019 in the Sibanye-

Stillwater Mineral Resources and Mineral Reserves Statement 2019.

Northam's Mineral Resources and Mineral Reserves estimates and statements for 2020 were prepared by the company's Competent Persons who are duly registered with their respective professional affiliations. Northam has adopted the definitions of Mineral Resources, Mineral Reserves and their respective confidence categories as defined in the SAMREC Code (2016). These can be found at www.samcode.co.za.

Northam has continued with a program commenced in 2019 of independent reviews and audits of its Mineral Resources and Mineral Reserves. A process and verification audit on the Booysendal mine was conducted in 2019, and on Eland mine in 2020. No substantial findings were identified at either operation, and the auditors, Pivot Mining Consultants, have endorsed the Mineral Resources and Mineral Reserves estimates of the Booysendal mine for 2019 and the Eland mine for 2020. Further

independent audits of Zondereinde mine's Mineral Resources and Mineral Reserves are scheduled for the coming years.

Northam's board of directors confirms that it is not aware of any legal or arbitration proceedings, either pending or threatened, or other material conditions which may impact on the company, or any of its subsidiaries, ability to continue mining or exploration activities. Further to this, the reader is referred to the managing risks and opportunities section included in Northam's annual integrated report 2020, which summarises management's analyses of material risk factors which may impact the company's operations.

The company's environmental obligations are managed in terms of approved environmental management plans. Compliance with the plans is audited by independent external parties on a regular basis. Details of the environmental liabilities and funding thereof are contained in Northam's annual financial

Mineral rights held and managed by Northam

Property	Type of right	DMRE Reference number	Status
Zondereinde mine (held by: Northam Platinum Limited)	Converted mining right	LP37MR	Valid 12 July 2041
Booysendal mine* (held by: LP188MR Micawber 278 (Pty) Limited;	Converted mining right	LP188MR	Valid 09 September 2039
MP127MR Booysendal Platinum (Pty) Limited)		MP127MR	Valid 22 November 2021
Eland mine* (held by: Eland Platinum (Pty) Limited	Converted mining right	NW280MR	Valid 20 December 2036
		NW341MR	Renewal application submitted and in process
Dwaalkop prospect (held by: the Dwaalkop JV, Managed by Sibanye-Stillwater)	New order prospecting right	LP352PR	An application for a new order mining right was submitted in 2009 and is still in process. In addition, a renewal application for the prospecting right has been submitted and is also in process
Kokerboom prospect (held by: Mvelaphanda Resources (Pty) Limited)	New order prospecting rights	SNC848PR, SNC849PR, SNC850PR, SNC844PR, SNC845PR, NC1767PR, SNC847PR, NC1766PR, NC1803PR, NC1804PR	Applications for closure of these rights have been submitted and are in process

^{*}Consolidation of mining rights through section 102 is in process for each mine.

statements on the Northam website www.northam.co.za

Mineral rights

Mineral Resources and Mineral Reserves reflected in this statement include those of the Booysendal, Eland and Zondereinde mines, which are wholly owned by Northam or its wholly owned subsidiaries, and the company has the legal entitlement to such minerals. In addition, they include the attributable content of the Dwaalkop prospect, in which Northam holds a 50% stake. This is managed by Sibanye-Stillwater's subsidiary, Western Platinum Proprietary Limited (Western Platinum).

Northam holds, either directly or through its subsidiaries, new order mining rights over the Booysendal, Eland and Zondereinde mines. All mineral rights are held in good order, and Northam perceives no risk to its rights to continue prospecting for and mining of minerals over any of its properties.

In terms of section 102 of the Mineral and Petroleum Resources Development Act,

No 28 of 2002, Northam has applied to consolidate the individual mining rights for the Booysendal mine and for the Eland mine into their respective consolidated mining right for each mine, these being in process. Furthermore, Northam applied, during January 2019, to exclude a small portion from the Zondereinde mining right, (LP37MR) which application is still pending. This portion will ultimately transfer to Amandelbult mine as part of the previously reported "Tumela" transaction.

The Dwaalkop joint venture holds a new order prospecting right over the Dwaalkop prospect (LP352PR). This right is subject to the approval of a renewal application. An application for a new order mining right was submitted to the Department of Mineral Resources and Energy (DMRE) in 2009 and is still in process.

Northam further holds eight new order prospecting rights over the Kokerboom prospect, granted in 2009. Kokerboom is an iron oxide copper gold and massive sulphide copper zinc exploration prospect covering some 1 000 000

hectares of the Northern Cape Province. A prospecting work program was suspended in 2019 and applications for closure of these rights have been submitted to the DMRE and are currently in process.

Competent Persons

Several Competent Persons (CPs), as defined by the SAMREC Code (2016), have contributed to the estimation and tabulation of the Mineral Resources and Mineral Reserves within this statement.

Northam's Group Geologist and Lead Competent Person, Mr. Damian Smith BSc (Hons), MSc, a Fellow of the Geological Society of South Africa and registered with the South African Council for Natural Scientific Professions, takes full accountability for the reporting of the Mineral Resources and the Mineral Reserves.

Competent Persons for the compilation of Mineral Resources and Mineral Reserves

Company	Competent Person	Area of responsibility	Professional registration ²	Years of relevant experience
Northam	Damian Smith³	Group Mineral Resources and Mineral Reserves	SACNASP (400323/04)	29
	Coenie Roux³	Eland Mineral Reserves	IMSSA (2438)	25
	Charl van Jaarsveld³	Zondereinde Mineral Reserves	SACNASP (400268/05)	16
	Willie Swartz³	Booysendal Mineral Reserves	SAIMM (709852)	25
	Paula Preston³	Eland Mineral Resources	SACNASP (400429/04)	11
	Meshack Mqadi³	Booysendal Mineral Resources	SACNASP (400703/15)	11
	Mpumelelo Thabethe³	Zondereinde Mineral Resources	SACNASP (400309/14)	10
Sibanye Stillwater	Andrew Brown ¹	Dwaalkop Mineral Resources	SAIMM (705060)	35

¹ Mineral Resources for the Dwaalkop joint venture are declared by Sibanye-Stillwater Limited. Northam has consent from Sibanye-Stillwater's Lead Competent Person for their managed PGM operations and projects to publish the Mineral Resources as at 31 December 2019.

² SACNASP – South African Council for Natural Scientific Professions; IMSSA – Institute of Mine Surveyors of Southern Africa; SAIMM – The Southern African Institute of Mining and Matallurgy

³ All Competent Persons other than Andrew Brown are employees of Northam Platinum Limited

Highlights of the 2020 Mineral Resources and Mineral Reserves – continued

Group Mineral Resources and Mineral Reserves

The following tables summarise the Mineral Resources and Mineral Reserves attributable to Northam for both the current and previous year. Applicable general notes on reporting criteria are given at the back of the document. More specific notes on the reporting criteria for each operation are found at the end of the individual sections.

Breakdowns of the Mineral Resources and Mineral Reserves into their respective confidence categories are reported in the sections specific to each mining operation or exploration prospect.

Northam group total Mineral Resources estimates

(combined Measured, Indicated and Inferred)^{1,2,3,4,5}

		30	June 2020 4E		30	June 2019 4E	
Reef	Mine	Mt	g/t	Moz	Mt	g/t	Moz
Merensky	Booysendal prospect	242.38	3.86	30.06	242.35	3.87	30.17
	Booysendal North mine	19.96	3.12	2.00	22.16	2.99	2.13
	Booysendal South mine	27.44	2.72	2.40	27.44	2.72	2.40
	Dwaalkop prospect ⁶	38.05	2.98	3.64	38.05	2.98	3.64
	Eland	4.82	1.05	0.16	4.82	1.05	0.16
	Zondereinde	207.00	7.49	49.88	207.88	7.50	50.11
	Total	539.65	5.08	88.14	542.70	5.08	88.61
UG2	Booysendal prospect	425.24	4.09	55.87	426.01	4.09	56.01
	Booysendal North mine	49.63	3.31	5.28	52.65	3.36	5.68
	Booysendal South mine	118.56	3.67	14.00	119.17	3.69	14.14
	Dwaalkop prospect ⁶	37.56	4.35	5.25	37.56	4.35	5.25
	Eland	147.43	4.04	19.16	147.43	4.04	19.16
	Zondereinde	333.98	5.04	54.15	336.34	5.05	54.64
	Total	1112.40	4.30	153.71	1119.16	4.30	154.88
Combined	Booysendal prospect	667.62	4.00	85.93	668.36	4.01	86.18
	Booysendal North mine	69.59	3.25	7.28	74.81	3.25	7.81
	Booysendal South mine	146.00	3.49	16.40	146.61	3.51	16.54
	Dwaalkop prospect ⁶	75.61	3.66	8.89	75.61	3.66	8.89
	Eland	152.25	3.95	19.32	152.25	3.95	19.32
	Zondereinde	540.98	5.98	104.03	544.22	5.99	104.75
	Total	1652.05	4.55	241.85	1661.86	4.56	243.49



Northam group total Mineral Reserves estimates

(combined Proved and Probable)^{1,2,4,5}

		30	June 2020 4E		30	June 2019 4E	
Reef	Mine	Mt	g/t	Moz	Mt	g/t	Moz
Merensky	Booysendal North mine	12.99	2.75	1.15	12.80	2.79	1.15
	Booysendal South mine	22.16	2.58	1.84	21.50	2.58	1.78
	Eland	5.27	0.89	0.15	5.04	0.86	0.14
	Zondereinde	26.41	5.74	4.87	26.88	5.69	4.92
	Total	66.83	3.73	8.01	66.22	3.75	7.99
UG2	Booysendal North mine	40.74	3.09	4.04	42.24	3.04	4.13
	Booysendal South mine	57.44	3.44	6.35	58.93	3.54	6.70
	Eland	25.71	3.50	2.89	25.50	3.53	2.89
	Zondereinde	61.57	4.27	8.46	62.86	4.27	8.63
	Total	185.46	3.65	21.74	189.53	3.67	22.35
Combined	Booysendal North mine	53.73	3.00	5.19	55.04	2.98	5.28
	Booysendal South mine	79.60	3.20	8.19	80.43	3.28	8.48
	Eland	30.98	3.05	3.04	30.54	3.09	3.03
	Zondereinde	87.98	4.71	13.33	89.74	4.70	13.55
	Total	252.29	3.67	29.75	255.75	3.69	30.34

- Mineral Resources and Mineral Reserves estimates are reported on a Northam Platinum Limited attributable basis. These include those which are either from properties wholly-owned by Northam or its wholly owned subsidiaries (these being the Booysendal, Eland and Zondereinde mines), or from joint venture companies

- in which Northam holds an interest (this being Dwaalkop, in which Northam has a 50% interest).

 Mineral Resources and Mineral Reserves rest entirely within the Merensky and UG2 ore bodies of the Bushveld Complex, South Africa.

 Mineral Resources are reported inclusive of Mineral Reserves.

 PGM grade is expressed as 4E (combined platinum, palladium, rhodium and gold); this being synonymous with 3PGE+Au and 4E PGE.

 Rounding of numbers in the tables may result in minor computational discrepancies. Where this occurs, it is deemed insignificant.

 Current Mineral Resources for Dwaalkop are quoted as at 31 December 2019 while those of the previous year are at 30 September 2018. There are no Mineral Reserves declared for Dwaalkop. Sibanye-Stillwater are currently in the process of revising and updating a feasibility study for the project.

Highlights of the 2020 Mineral Resources and Mineral Reserves – continued

Geological setting – the Bushveld Complex

The two billion year old Bushveld Complex is the largest layered igneous complex in the world, and is the repository for *circa* 85% of known global PGM resources. Extending over an area of some 67 000 km² within the north-eastern portion of the Republic

of South Africa, it contains the intrusive, mafic-ultramafic Rustenburg Layered Suite (RLS), which outcrops as three main acicular limbs, namely the western, eastern and northern limbs, and ranges in thickness from 7 km to 12 km.

The magmatic layering in the RLS is laterally persistent and can be correlated

throughout most of the complex. Layering is generally shallow dipping towards the centre of the complex. The RLS stratigraphy is subdivided into five zones, which are, from lowest to highest, the Marginal Zone, the Lower Zone, the Critical Zone (which is further subdivided into a lower and upper unit), the Main Zone and the Upper Zone.

Within the western and eastern limbs,

in or adjacent to chromitite seams located within the Upper Critical Zone

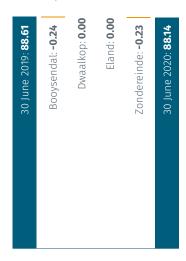
PGMs and associated precious and base metal mineralisation is generally hosted

of the RLS. There are two significant ore

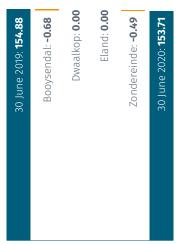
bodies from which over 60% of global primary PGM production is derived, these being the UG2 and Merensky Reefs. The vertical separation between the UG2 and Merensky Reefs is variable across the Bushveld Complex, ranging from 20 m to 200 m on the western limb and between 170 m and 400 m on the eastern limb.

Changes in the Mineral Resources and Mineral Reserves

Merensky Reef Mineral Resources



UG2 Reef Mineral Resources



production was concentrated on the western limb. However, over the past 20 years, the eastern and northern limbs have become the focus of

Historically, South African PGM

limbs have become the focus of new mine development.

The three wholly-owned Northam properties, the Booysendal, Eland and

Zondereinde mines, contain Mineral

and Merensky Reefs.

Resources estimated in both the UG2

Merensky Reef Mineral Reserves

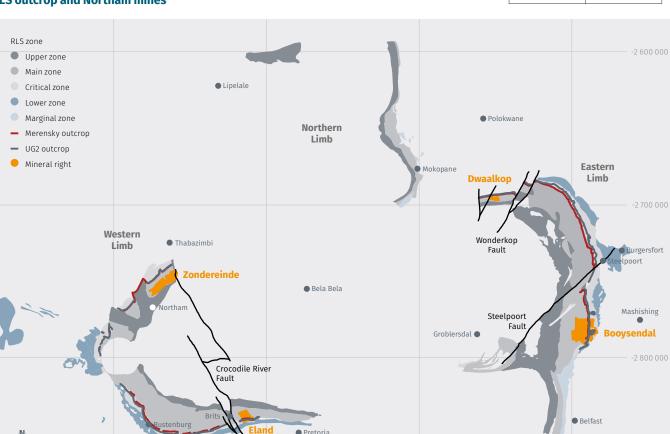


UG2 Reef Mineral Reserves



100 km

RLS outcrop and Northam mines



Exploration

The focus of Northam's exploration is routine upgrading of Mineral Resources through underground and surface infill drilling, specific geotechnical evaluation drilling necessary for the placing of future mining infrastructure and continuing underground channel sampling. In particular, infill drilling has been undertaken in recent years immediately ahead of mining at the Booysendal mine. A deep level geotechnical drilling campaign has been

400 000

pursued at the Western extension section of Zondereinde mine, in support of mitigating risk around future planned mining infrastructure and was completed in 2019. Ad hoc drilling at the Eland mine has focused on testing geological continuity for future surface mining and resolving structural geological domains. Furthermore, extensive trenching was undertaken at Eland in 2020 to delineate the outcrop of the Merensky and UG1 horizons.

During 2020, 4 176 m of surface drilling was conducted together with 44 279 m of underground drilling from 446 boreholes. In addition, 954 underground channel sampled sections were cut, assayed and evaluated. This program carried a total cost of circa R47.5 million.

-100 000

Summary of exploration & evaluation work conducted in 2020

Surface drilling				Unde	rground Drilling		Channel Sampling & Assay		
Operation	Number Boreholes	Metres Drilled	Cost (R 000)	Number Boreholes	Metres Drilled	Cost (R 000)	Number Channel Sections	Cost (R 000)	
Booysendal	_	_	-	193	19 325	13 108	344	4 575	
Eland	21	4 176	3 305	13	1 130	2 552		_	
Zondereinde	-	-	-	240	23 824	14 627	610	9 308	
Total	21	4 176	3 305	446	44 279	30 287	954	13 883	

Highlights of the 2020 Mineral Resources and Mineral Reserves – continued

Mining Studies

The conversion of Mineral Resources to Mineral Reserves, at Northam, proceeds either through a mining study at a minimum of pre-feasibility level of confidence or an extension of the life of mine. In 2019, the *Kukama Feasibility Study* and in 2020, the update of the Merensky open pit pre-feasibility study for the Eland mine were completed internally by a team of Competent Persons comprising Northam personnel. The results thereof have been used to support the declaration of the Eland Mineral Reserves.

Historic Production

The production history for the group's operations over the past five years are given in the table below. Overall, the combined group PGM metal in concentrate from own production increased from 452 080 oz 4E in 2016 to 529 979 oz 4E in 2020.

Summary five year production statistics

Area mined	Units	2020	2019	2018	2017	2016
Area Mined						
Eland	m²	-	-	-	-	-
Booysendal	m²	377 930	317 635	267 984	253 101	196 368
Zondereinde	m ²	286 944	377 439	369 780	155 894	154 250
Tonnes Milled						
Eland	Kt	1 063 139	-	-	-	-
Booysendal	Kt	3 013 141	2 868 282	2 669 072	2 326 460	2 072 958
Zondereinde	Kt	1 676 124	2 023 828	1 932 804	1 147 878	1 205 258
Mill head Grade						
Eland	g/t 4E	2.73	-	-		
Booysendal	g/t 4E	2.59	2.72	2.71	2.00	1.90
Zondereinde	g/t 4E	5.03	4.96	4.95	5.80	5.90
Metal from own operations						
Platinum in concentrate	OZ	324 494	325 030	301 637	294 187	272 665
Palladium in concentrate	OZ	150 913	154 296	144 481	141 995	131 659
Rhodium in concentrate	OZ	47 894	48 171	44 590	46 218	43 189
Gold in concentrate	OZ	6 679	7 195	6 950	5 043	4 567
PGM (total 4E)	OZ	529 979	534 693	497 659	487 444	452 080
Gross margin						
Eland	%	16.0	-121.0	-	_	-
Booysendal	%	41.5	31.3	22.8	17.0	8.9
Zondereinde	%	16.8	12.8	5.0	3.6	4.2

Assessment process

The compilation of the Mineral Resources and Mineral Reserves at each operation is based on digital systems. There is ongoing development within the group of an integrated approach towards the management of its Mineral Resources and Mineral Reserves with the alignment and standardisation of the process and systems. This is being achieved by the compilation of group wide policies, protocols and standard procedures. The Northam operations Mineral Resources Management (MRM)

process includes assessment of the exploration results, updating of geological and grade models, evaluation of production data, compilation of mine production plans, reconciliation with previous estimates and the identification of optimisation opportunities for ore extraction.

There are several MRM focus areas, these being categorised into Geological, Mine Design & Scheduling, MRM Systems, Operational Controls and Opportunities.

MRM Focus Areas

Geological	 Drilling Strategy – timeous exploration drilling Optimised underground drilling 	Routine geological mappingChannel sample optimisationQAQC processes
Mine Design & Schedule	 Booysendal mining pillar optimisation Zondereinde optimised mining schedule 	 Eland secondary extraction (pillar mining)
MRM System	 Group borehole and channel sample database Conceptual design of Booysendal Evaluation system 	 Evaluation of 3D geological/ stratigraphic tool Group wide grade estimation process
Operational Controls	 Hangingwall strata control & shear plane modeling using rock drillhole camera data Hangingwall GPR scans 	
Opportunities	 Booysendal down-dip mine design and evaluation Eland – Maroelabult acquisition and integration 	■ Eland UG1

Highlights of the 2020 Mineral Resources and Mineral Reserves – continued

Geological process

The process commences with the compilation of a digital geological model which is predominantly informed by surface borehole data. Geological information is derived from the following sources:

- Surface and underground boreholes, as well as surface trenching
- Aeromagnetic information, 3D seismic information (Zondereinde Western extension) and other geophysical data (TEMS at Eland)
- Underground geological mapping and channel sampling

These data are used to construct an integrated geological model. Aligning these to predicted geological structures within the underground exposures, a

reliable geological discount model is developed. Underground mapping and channel sampling allows for detailed delineation of reef sub-types. For example, the differentiation of the Merensky Reef at Zondereinde mine into the Normal, P2, NP2 and FWP2 sub-types allows for accurate ore accounting and grade estimation; whereas at Booysendal and Eland mines, these types of data are essential for grade control and Mineral Resources cut delineation.

Grade models

Estimation parameters are applied to discrete mining areas in order to estimate tonnage and metal content and are derived from the interrogation of extensive sampling databases. The resulting grade models are two-or three-dimensional representations of the in-situ 4E grade, thickness of the

Mineral Resources cut and density, either into blocks or points in space. These are developed by interpolating the individual elements using a variety of estimation methods, with Ordinary Kriging of the elements or accumulation being widely used at the Booysendal and Zondereinde mines. The grade models are reviewed annually, these being informed using additionally acquired data and revised estimation parameters.

Mine Design & Scheduling

An initial mine design is captured in a group approved mining study. Thereafter, modifications are applied to adjust the mining layout to suit the local varying conditions associated with geological structures. These modifications are influenced by mining method, depth of extraction and

Selected mine design criteria and modifying factors used in the 2020 mine planning

Parameter	Reef	Booysendal	Eland	Zondereinde	
Mineral Resources Channel Width (cm)	Merensky	102 (SRC)		Pothole facies = 120	Normal facies = 160
	UG2	257 (UT3MB)	156	146	
Stope Dilution	Merensky	20 cm		Pothole facies = 9%	Normal facies = 2%
	UG2	BNU 10 cm BCU 5 cm	23 cm	1%	
Mining Method	Merensky	Mechanised Bord & Pillar	Open pit	Scattered breas	t
	UG2	Mechanised Bord & Pillar	Conventional Hybrid	Scattered breast	
Stope Back Length (m)	Merensky	108 (9 Bords per rig section)	-	185	
	UG2	108 (9 Bords per rig section)	220	185	
Panel Length (m)	Merensky	8 – Bords	25 – 36		
	UG2	8 – Bords	20	25 – 36	
In stope Extraction (%)	Merensky	80		Pothole facies = 64	Normal facies = 77
	UG2	77	71 59		
Mining Efficiency	Merensky	1 544		284	
(m² per panel per month)	UG2	1 626	320	311	

variability of the orebody. They typically include consideration of additional dilution to facilitate extraction, losses attributed to extraction such as pillars, together with mining efficiency.

The mine design criteria and modifying factors in subsequent reporting periods may also be adjusted to align with parameters derived from recent mining results. Northam's mines have considerable variability with respect to channel width, mining method and extraction depth. Selected mine design criteria used for the 2020 Mineral Reserves estimation process are compared and contrasted in the table on the previous page.

Reasonable prospects for eventual economic extraction

Ore extraction underground takes place at all three of Northam's mines within a wide range of depths from shallow/near surface at the Booysendal and Eland mines to depths of 2 400 m below surface at the Zondereinde mine. The access to the deeper Mineral Resources has been achieved through conventional mining using an integrated strategy incorporating back-fill, hydropower and refrigeration. Based on our mining experience, Northam's Mineral Resources that extend to maximum depths of between 2 200 m to 2 900 m are considered to be within technical realistic prospects for future extraction. Furthermore, the Northam Mineral Resources accessed from underground have high revenue potential as demonstrated through the in-situ

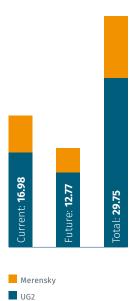
grades and prill splits, where the 4E metal content per unit area and metal ratios are favorable at all operations.

Mineral Reserves relative to Infrastructure

The location of the Mineral Reserves relative to key infrastructure at the various operations provides insight into current access and some indication of what contained metal will likely require future capital investment.

The Northam Mineral Reserves occur at a wide range of depths, these being shallow at Booysendal and Eland mines, and deeper at the Zondereinde mine. The varying mining depths have necessitated differing mining extraction strategies and mine designs. These are dealt with in detail in the subsequent sections.

Mineral Resources relationship to key infrastructure Moz 4E



Reserve depth range

Mineral Reserves Depth Range Moz 4E







Booysendal mine

Booysendal is a relatively young, multi-modular mining complex, with overall ore production ramping up to planned steady-state over the next three years.

The Booysendal mining complex, comprising two contiguous mining rights (LP188MR & MP127MR), is located in the southern compartment of the eastern limb of the Bushveld Complex, approximately 35 km west of the town of Mashishing (formerly Lydenburg), straddling the border of Limpopo and Mpumalanga Provinces.

Business overview

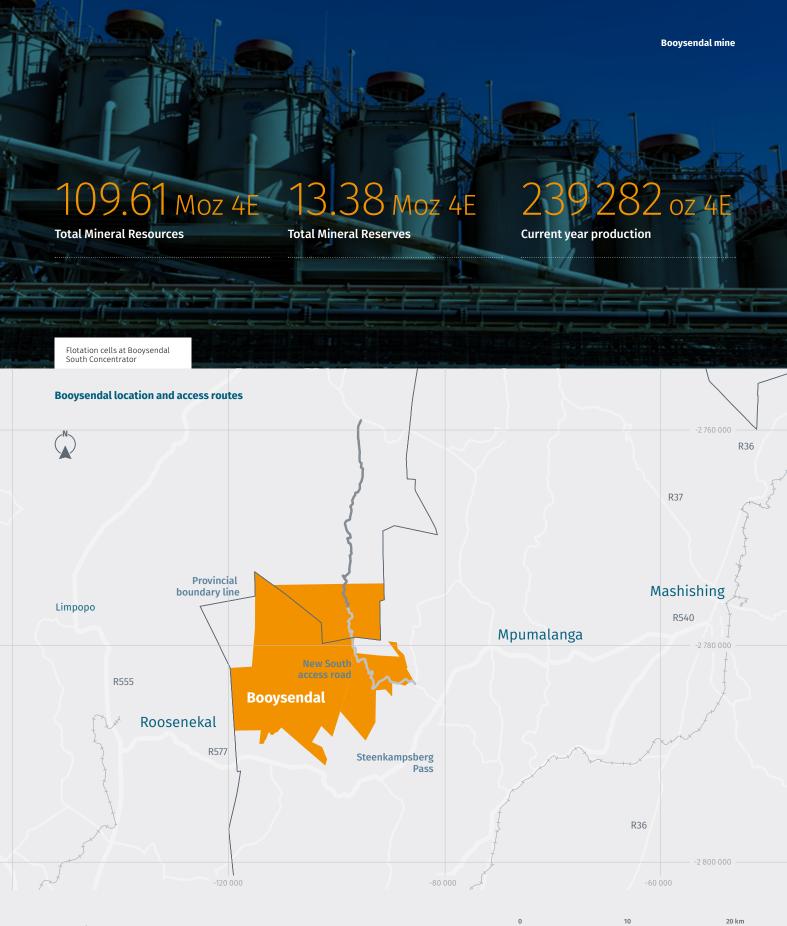
The Booysendal complex is separated into the North and South mines, with UG2 and Merensky mining modules currently either in production or development and mining ramp up. The currently unplanned extension to these mining areas down dip and along strike is known collectively as Booysendal prospect, which is available for future mine planning. Separate concentrator plants process ore from the North and South mines, producing PGM-bearing and chromite-bearing concentrates. The PGM-bearing concentrate is transported to Northam's smelter and base metal removal complex at Zondereinde for further down-stream processing. Chromite-bearing concentrate is sold through a third party to customers.

Initial production was from the Booysendal North mine. This was the outcome of a feasibility study in 2009, which favored the extraction of the UG2 Reef within the north-eastern portion of the mining right. The development of the first mining module, North UG2 mine (BNU), extracting from a Mineral Resources block extending over approximately 4 km on strike and 2 km on dip from outcrop, commenced in May 2010 and reached its original steady state production rate of 2.1 Mt per annum in October 2015. A mine expansion program was initiated during the latter part of 2015. This achieved the planned new production rate of 2.4 Mt, generating *circa* 185 000 oz of 4E metal in concentrate per annum, in October 2018.

In December 2015, a feasibility study of mining Merensky Reef over a similar footprint to BNU was completed - these two modules collectively comprise Booysendal North mine. The development of the Phase 1 Merensky module (BNM) commenced immediately following conclusion of the feasibility study. Steady state production of 0.3 Mt per annum was achieved in April 2017, annually generating 25 000 oz of 4E metal in concentrate. A Phase 2 extension is planned which would grow production to approximately 0.65 Mt, or 55 000 oz of 4E metal in concentrate, per annum.

A further study to determine the feasibility of mining both UG2 and Merensky Reefs from four mining modules in the central and southern

portions of Booysendal was completed in 2016. These modules comprise the Booysendal South mine. Development of three modules, being BSU1, BSU2 (South UG2 modules) and BSM1 (South Merensky module) has commenced and they are expected to reach a total combined steady state production rate of 2.8 Mt per annum in June 2023. The recent COVID-19 disruption has led to a temporary curtailment of the development of the BSM1 module. This will not however impact the steady state production rate. Development of a fourth module, BSU4 UG2 has commenced and is expected to ramp up to a steady state of approximately 25 000 oz 4E metal in concentrate over the coming three years.



Location

The complex covers some 17 950 hectares and hosts both the Merensky and UG2 Reefs, which outcrop over a strike length of 14.5 km and dip at 10° to the west.

Booysendal mine – continued

Geological Setting

The Bushveld Complex stratigraphic sequence at Booysendal is similar to that found across the southern compartment of the eastern limb. The Critical Zone stratigraphy is fully developed. The middling between the UG2 and Merensky Reefs is in the order of 175 m in the northern and central portions of the property. The sequence is, however, subject to thinning in the far southern portion, which is linked to the RLS strata abutting onto a basement high. The impact of this 'abutment' is further manifested in localised zones of disruption to surface morphology and internal structure of the two reefs. This has led to the characterisation of three geozones within the Booysendal site, these being the Normal, Slump and Abutment geozones. Despite this progressive disruption to the south, the

reef surfaces are interpreted to be continuous across the property.

The internal structure of the UG2 Reef is similar to that found on the western limb, whereas the Merensky Reef is typical of the thick pyroxenite-type unit of the northern portion of the eastern limb as well as that of the south-eastern portion of the western limb.

Merensky Reef

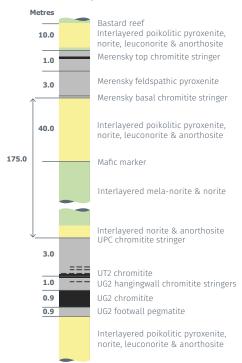
The Merensky Reef rests in the upper mineralised portion of the Merensky pyroxenite unit, generally extending over 110 cm. It is immediately overlain by a sequence of competent, norite bearing strata. A stringer chromitite layer may be present approximately 10 cm below the top of the Merensky pyroxenite. PGM and base metal mineralisation is uni-modal, generally with highest concentrations

occurring just below the elevation of the stringer chromitite, tailing off rapidly into the overlying norite and more gradually into the underlying pyroxenite. In the absence of the stringer chromitite, the grade peak amplitude is generally reduced and the stratigraphic extent of appreciable mineralisation extended.

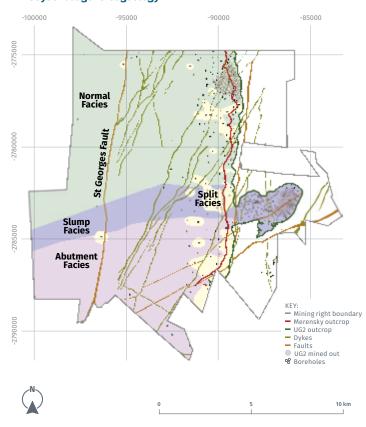
UG2 Reef

The UG2 Reef consists of the upper Leader and lower Main chromitite layers with a combined average thickness of approximately 1.4 m. These seams are generally juxtaposed or merged, but can display variable internal silicate partings. Overlying this is a pyroxenite of variable thickness, up to 3.5 m, containing up to five narrow chromitite layers. The middling between these narrow layers and the top of the Leader chromitite gradually increases towards the west.

Booysendal Stratigraphy between UG2 and Merensky Reefs



Booysendal general geology



Geological Discounts

Geological losses were discounted from the Mineral Resources for both reefs. There is no change in estimated losses from 2019. Within the mining blocks, there is higher degree of geological confidence on the losses due to closer spaced drilling and mining exposure. Geological losses are *circa* 13% and 17% for the UG2 and Merensky Reefs, respectively.

The geological losses for the Booysendal prospect, comprising pothole and structural features, are estimated to range between 24% and 32% loss for the UG2, and between 22% and 26% loss for the Merensky Reef. Additional geological losses for the Booysendal prospect are applied as a contingency where drilling is sparse.

Exploration

Prior to mining, exploration drilling comprised 520 boreholes. Since the onset of mining, Booysendal has conducted two surface drilling campaigns, completing 29 622 m of drilling from 108 boreholes. No surface drilling was undertaken in 2020. During the past year, the assaying of 92 outstanding Merensky and UG2 sampled intersections was completed and the data were used to enhance the understanding of geological and grade continuity. Infill evaluation drilling is planned for the North and South mine areas in the coming year. Furthermore, underground delineation drilling of a further 19 325 m from 193 boreholes was conducted in the past year to assist with identifying potholes and geological structures.

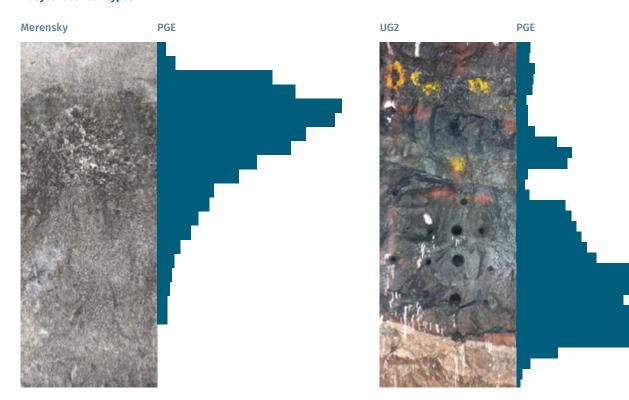
In addition to the diamond drilling, 344 underground channel sections were cut and sampled during the year, these being used to inform the grade models.

Underground channel sampling and ad-hoc surface drilling campaigns immediately ahead of mining is ongoing to support evaluation and mining control.

Mining Configuration

The relatively large vertical separation of the reefs leads to separate districts for the UG2 and Merensky mining, accessed via separate development tunnels. The Booysendal North and South mines are underground, mechanised bord and pillar mines, accessed from surface via ramp decline systems.

Booysendal Reef-types



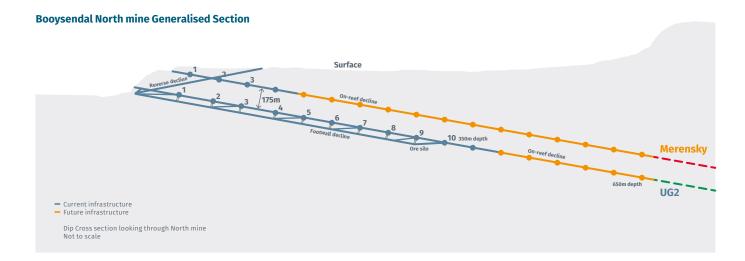
Booysendal mine - continued

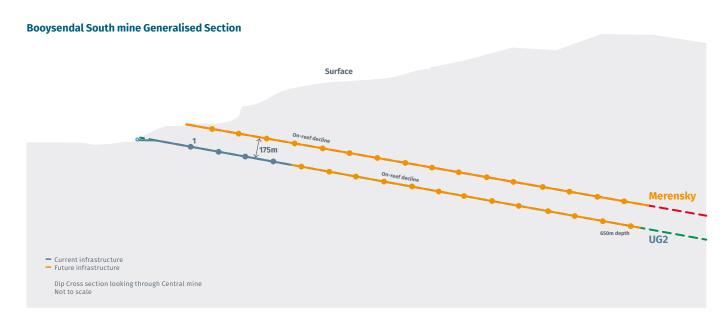
The North UG2 mine decline system comprises three declines on the plane of reef and one decline situated 20 m into the footwall of the reef, containing a belt for ore handling. This footwall belt decline extends to 1300 m in the down dip direction from the UG2 outcrop, after which all decline development is on the plane of reef. An ore silo decouples the footwall and on-reef belt systems. Decline systems for the South UG2

mines comprise four declines on the plane of reef.

Mining sections extend over a dip length of 144 m, equating to a vertical interval of 25 m. Strike drives are inclined at 5° above the line of strike. Mechanised boom rigs and LHDs are employed in mining and development. Strike belts within the drives transport ore to the central decline dip belt system for hoisting to surface. From there, transport to the respective concentrator plant is via terrestrial or aerial rope conveyor belts (Ropecon) or trucking.

North UG2 mine is planned, with a current remaining life of more than 20 years, to produce 2.4 Mt of ore per annum at steady state, generating in the order of 185 000 oz of 4E metals in





concentrate, together with associated precious and base metal by-products.

The two initial UG2 mining modules of South mine have estimated lives of greater than 20 years at a combined steady state production rate of 2.5 Mt of ore per year, generating *circa* 200 000 oz of 4E metals in concentrate, together with associated precious and base metal by-products.

A Ropecon is used to transport ore from the two South mine modules from the portals in the valley to the Booysendal South concentrator, located 4.8 km away on higher topography. This ore transportation system was carefully chosen to unlock the orebody potential in an environmentally sensitive area with efficiency, safety and lower cost. A second Ropecon is currently being constructed between North and South mines. This will allow overspill production from North mine to be transported to the South concentrator.

The North & South Merensky mines are essentially analogs of the South UG2 mine, with all development on reef. The phase 1 North Merensky mine is producing at steady state of 0.3 Mt of ore per annum generating in the order of 25 000 oz of 4E metals in concentrate, together with associated precious and base metal by-products. North Merensky mine will be ramped up to 0.65 Mt per annum upon commissioning of the second Ropecon. The South Merensky mine is planned to produce,

initially at 0.3 Mt of ore per annum, producing some 20 000 oz of 4E metals in concentrate, ultimately growing to 0.65 Mt per annum and 45 000 oz of 4E metals in concentrate.

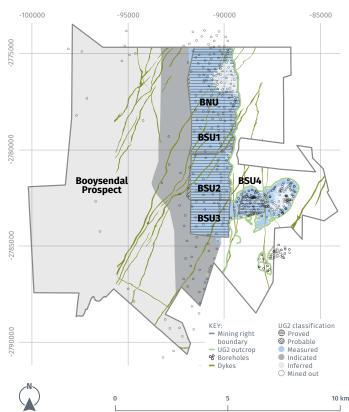
Mineral Resources and Mineral Reserves

The Mineral Resources estimate for the Booysendal mining complex has three major components, these being; the combined North UG2 and Merensky mines (North Mine); the combined South UG2 and Merensky mines (South Mine), and the remainder enclosing area of the property for which no Mineral Reserves have been declared (Booysendal prospect). Mineral Reserves estimates are presented for the North and South mines.

Booysendal Merensky Reef Confidence Plan

-100000 -95000 -85000 BNM BSM1 Booysendal Próspect Merensky classification Proved .. Mining right boundary Merensky Measured Measureu Indicated outcrop % Boreholes Inferred O Mined out Dykes

Booysendal general geology



Booysendal mine - continued

North mine

UG2 Reef

The estimated UG2 combined Measured and Indicated Mineral Resources have decreased from 52.65 Mt (5.68 Moz 4E) in June 2019 to 49.63 Mt (5.28 Moz 4E) in June 2020 as a result of mining depletion.

The estimated UG2 combined Proved and Probable Mineral Reserves have decreased from 42.24 Mt (4.13 Moz 4E) in June 2019 to 40.74 Mt (4.04 Moz 4E) in June 2020, this being mostly attributed to mining depletion over the past year.

Merensky Reef

The estimated Merensky Measured Mineral Resources have decreased from 22.16 Mt (2.13 Moz 4E) in June 2019 to 19.96 Mt (2.00 Moz 4E) in June 2020. This is the net result of mining depletion and the revision of the Mineral Resources cut from 210 cm to 190 cm.

The estimated Merensky Proved Mineral Reserves have increased from 12.80 Mt (1.15 Moz 4E) in June 2019 to 12.99 Mt (1.15 Moz 4E) in June 2020. This increase in Mineral Reserves is attributed to extending the footprint of the scheduled area by 33 400 m², this offsetting the mining depletion and the narrower mining cut.

Booysendal North mine Mineral Resources

booyselldat North III	ille Millerat Resources	30	30 June 2020 30 June 4E 4				
Reef	Mine	Mt	g/t	Moz	Mt	g/t	Moz
Merensky	Measured	19.96	3.12	2.00	22.16	2.99	2.13
	Indicated	0.00	0.00	0.00	0.00	0.00	0.00
	Inferred	0.00	0.00	0.00	0.00	0.00	0.00
	Total	19.96	3.12	2.00	22.16	2.99	2.13
UG2	Measured	48.66	3.30	5.17	51.68	3.35	5.57
	Indicated	0.97	3.59	0.11	0.97	3.63	0.11
	Inferred	0.00	0.00	0.00	0.00	0.00	0.00
	Total	49.63	3.31	5.28	52.65	3.36	5.68
Combined	Measured	68.62	3.25	7.17	73.84	3.24	7.70
	Indicated	0.97	3.59	0.11	0.97	3.55	0.11
	Inferred	0.00	0.00	0.00	0.00	0.00	0.00
	Total	69.59	3.25	7.28	74.81	3.25	7.81

Booysendal North mine Mineral Reserves

		30 June 2020 30 June 2019 4E 4E						
Reef	Mine	Mt	g/t	Moz	Mt	g/t	Moz	
Merensky	Proved	12.99	2.75	1.15	12.80	2.79	1.15	
	Probable	0.00	0.00	0.00	0.00	0.00	0.00	
	Total	12.99	2.75	1.15	12.80	2.79	1.15	
UG2	Proved	39.93	3.09	3.96	41.40	3.04	4.05	
	Probable	0.81	3.24	0.08	0.84	3.04	0.08	
	Total	40.74	3.09	4.04	42.24	3.04	4.13	
Combined	Proved	52.92	3.00	5.11	54.20	2.98	5.20	
	Probable	0.81	3.24	0.08	0.84	2.95	0.08	
	Total	53.73	3.00	5.19	55.04	2.98	5.28	
Prill splits%	Pt	Pd	Rh	Au	Cr ₂ O ₃ %	Cu%	Ni%	
UG2	53.2	36.3	9.5	1.0	17.5	0.002	0.040	
Merensky	57.4	31.1	2.7	8.8	0.2	0.091	0.197	

South mine

UG2 Reef

The estimated UG2 Measured Mineral Resources have decreased from 119.17 Mt (14.14 Moz 4E) in June 2019 to 118.56 Mt (14.00 Moz 4E) in June 2020 as a result of mining depletion.

The estimated UG2 Mineral Reserves have decreased, in line with the Measured Mineral Resources, from 58.93 Mt (6.70 Moz 4E) in June 2019 to 57.44 Mt (6.35 Moz 4E) in June 2020. This is the net result of mining depletion and re-evaluation of the mining footprint.

Merensky Reef

The estimated Measured Mineral Resources for the Merensky Reef were unchanged at 27.44 Mt (2.40 Moz 4E) in June 2020.

The estimated Merensky Mineral Reserves have increased from 21.50 Mt (1.78 Moz 4E) in June 2019 to 22.16 Mt (1.84 Moz 4E) in June 2020 attributed to a minor increase in the scheduled footprint and additional footwall dilution of 5 cm.

Booysendal South mine Mineral Resources

Booysendat South m	ine Mineral Resources	30	30 June 2020 4E				
Reef	Mine	Mt	g/t	Moz	Mt	g/t	Moz
Merensky	Measured	27.44	2.73	2.40	27.44	2.73	2.40
	Indicated	0.00	0.00	0.00	0.00	0.00	0.00
	Inferred	0.00	0.00	0.00	0.00	0.00	0.00
	Total	27.44	2.73	2.40	27.44	2.73	2.40
UG2	Measured	116.67	3.67	13.77	117.26	3.69	13.91
	Indicated	1.89	3.77	0.23	1.91	3.77	0.23
	Inferred	0.00	0.00	0.00	0.00	0.00	0.00
	Total	118.56	3.67	14.00	119.17	3.69	14.14
Combined	Measured	144.11	3.49	16.17	144.70	3.51	16.31
	Indicated	1.89	3.77	0.23	1.91	3.75	0.23
	Inferred	0.00	0.00	0.00	0.00	0.00	0.00
	Total	146.00	3.49	16.40	146.60	3.51	16.54

Booysendal South mine Mineral Reserves

		30 June 2020 4E				30 June 2019 4E		
Reef	Mine	Mt	g/t	Moz	Mt	g/t	Moz	
Merensky	Proved	22.16	2.58	1.84	21.50	2.58	1.78	
	Probable	0.00	0.00	0.00	0.00	0.00	0.00	
	Total	22.16	2.58	1.84	21.50	2.58	1.78	
UG2	Proved	56.03	3.43	6.19	57.65	3.54	6.56	
	Probable	1.41	3.64	0.16	1.28	3.49	0.14	
	Total	57.44	3.44	6.35	58.93	3.53	6.70	
Combined	Proved	78.19	3.19	8.03	79.15	3.28	8.34	
	Probable	1.41	3.64	0.16	1.28	3.49	0.14	
	Total	79.60	3.20	8.19	80.43	3.28	8.48	
Prill splits%	Pt	Pd	Rh	Au	Cr ₂ O ₃ %	Cu%	Ni%	
UG2	56.1	33.0	10.0	0.9	20.7	0.010	0.053	
Merensky	58.1	30.9	2.3	8.7	0.1	0.078	0.185	

Booysendal mine - continued

Booysendal prospect

The estimated combined Merensky and UG2 Mineral Resources for the Booysendal prospect decreased by 0.25 Moz 4E from the previous reporting period, the net result of a decrease of 0.64 Moz 4E in Indicated & Measured being offset by an increase of 0.39 Moz 4E in the Inferred class.

No Mineral Reserves have been estimated for the Booysendal prospect.

Booysendal prospect Mineral Resources			30	June 2020 4E		30 June 2019 4E			
Reef	Mine		Mt	g/t	Moz	Mt	g/t	Moz	
Merensky	Measured		29.51	3.76	3.57	29.45	3.77	3.57	
	Indicated		34.03	4.05	4.43	34.05	4.05	4.44	
	Inferred		178.84	3.84	22.06	178.85	3.86	22.16	
	Total		242.38	3.86	30.06	242.35	3.87	30.17	
UG2	Measured		1.42	4.45	0.20	1.43	4.56	0.21	
	Indicated		97.99	4.00	12.60	99.11	4.15	13.22	
	Inferred		325.83	4.11	43.07	325.46	4.07	42.58	
	Total		425.24	4.09	55.87	426.00	4.09	56.01	
Combined	Measured		30.93	3.79	3.77	30.88	3.80	3.78	
	Indicated		132.02	4.01	17.03	133.16	4.12	17.66	
	Inferred		504.67	4.01	65.13	504.31	3.99	64.74	
	Total		667.62	4.00	85.93	668.35	4.01	86.18	
Prill splits%		Pt	Pd	Rh	Au	Cr ₂ O ₃ %	Cu%	Ni%	
UG2	5	59.8	29.9	9.5	0.8	29.9	0.010	0.086	
Merensky	5	8.4	31.5	2.5	7.7	0.1	0.103	0.226	

Notes on Mineral Resources and Mineral Reserves

- The Mineral Resources estimate is informed by exploration data, including 628 boreholes, together with 2 890 UG2 channel sections from on-reef development and stoping within the Booysendal North and South mines. A further 366 Merensky channel sections from on-reef development and stoping within the Booysendal North mine have been included in the estimation database. The greater part of the exploration drilling (circa 90%) has been conducted within 2.5 km down-dip of the outcrop. Drill hole spacing in this area ranges from 130 m to 300 m. Channel samples are located at 15 m to 60 m intervals within on-reef development and stoping.
- Mineral Resources were estimated over a mineable cut. Within the North and South mine areas, Mineral Resource channels for both the UG2 and Merensky Reefs have been selected to support mechanised mining. The UG2 Mineral Resources cut has a minimum thickness of 210 cm and encompasses both the UG2 Leader and Main chromitite seams, together with the overlying chromitite layers where the middling between these represents both dilution and geotechnical constraints. The Merensky Mineral Resources cuts are 190 cm thick for the North mine and 210 cm thick for the South mine. The Mineral Resource cuts extends 20 cm and 50 cm for the North and South mines, respectively, above the top contact of the Merensky Pyroxenite, such that all appreciable mineralisation can be captured.
 Within the Booysendal prospect; the UG2 Mineral Resource cut is defined from the top of the Leader chromitite to the base of the Main chromitite unit, whereas that of the Merensky Reef
- extends from the top of the Merensky pyroxenite to a sample grade cut off of 1 g/t 4E, with a minimum channel thickness of 100 cm.

 The Mineral Resources were derived from surface borehole and underground channel sampled composites, cut over the vertical length of the reef intersection. The surface borehole
- assays were conducted at a number of commercial laboratories, these including SGS, Mintek and Anglo Research Laboratory. The channel samples were assayed at the on-site mine laboratory. QAQC programs are in place to assess and accept data into the estimation databases.
- A cut-off grade of 2.0 g/t 4E has been applied to estimated blocks in the Booysendal prospect, those below being excluded from the Mineral Resources. No Mineral Resources blocks from the mining districts have been excluded, these all having realistic prospect of extraction.
- The extraction of Mineral Resources from the three established mining modules over the past five years has been demonstrated to meet the Northam investment criteria. Further extraction of Mineral Resources from the Merensky South mine and the UG2 South Four mine are scheduled to commence in 2026 and 2022, respectively. Future extraction is considered by extending the modules at depth and along strike of the orebody.

 The Mineral Resources confidence classification is based upon a combination of quantitative geostatistical parameters, together with a qualitative appreciation of ore body continuity
- informed by data from within the property and data from surrounding properties. A scoring template using weighted criteria comprising minimum number of composites, search distance, degree of geological and mining confidence and estimation variance inform the model. This is used to separate Measured from Indicated confidence categories. Beyond the Measured
- score threshold the Indicated category is where boreholes are spaced within 800 m. The Inferred category is informed by sparse data to the limit of the mining right.

 The prill split values reported are derived from borehole samples and are indicative of the global proportions of Pt, Pd, Rh and Au as a percentage of 4E. The prill split values reported are derived from borehole samples and are indicative of the global proportion of Pt, Pd, Rh and Au expressed as a percentage 4E, whereas base metals are expressed in weight percent.

 Mineral Reserves for Booysendal relate to the current and planned mining modules, the Booysendal North and South mines. No Inferred Mineral Resources were used to inform the
- mining production schedule.



Eland mine

Mining at Eland commenced in 2007, with initial open pit mining of the UG2 Reef from sub-crop to a maximum depth of 80 m.

Two contiguous mining rights (NW280MR and NW341MR) cover some 3 982 hectares and host both the Merensky and UG2 ore bodies, which sub-outcrop over the entire 6.7 km east-west strike of the property and dip at approximately 19° to the north. The vertical separation between the Merensky and UG2 Reefs is approximately 200 m.

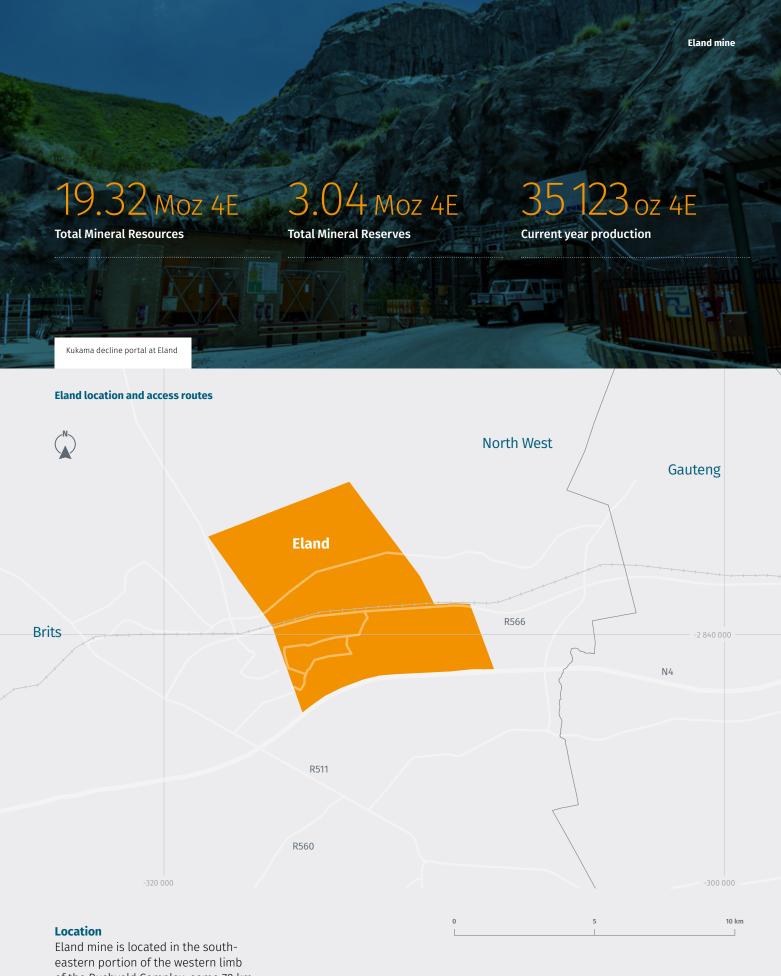
Business Overview

Mining at Eland commenced in 2007, with initial open pit mining of the UG2 Reef from sub-outcrop to a maximum depth of 80 m. Open pit mining continued until mid-2009, when sinking of the Kukama decline was started from the pit high-wall, followed a year later by the Nyala decline. Underground mining continued until 2015 when the then owners, Glencore, placed the mine on care and maintenance. Northam purchased the mine in late 2017 and commenced a study for restarting the operations.

Historical mining has been limited to the UG2 Reef, exploiting the Mineral Resources with open pit and underground, mechanised bord and pillar mining methods. Underground access to the UG2 Reef is via two decline shafts, namely Kukama (west) and Nyala (east), which have exposed Mineral Resources to depths of 250 m and 170 m below surface respectively.

A feasibility study to bring the Kukama shaft to a steady state of 137 000 tonnes per month, annually producing 150 000 oz 4E of metal in concentrate was completed in August 2019. The study allows for extending the mining infrastructure down dip and along strike of the orebody, and is based on a hybrid mining method. This comprises standard conventional stoping with a semimechanised primary development and ore transport along strike.

Mining has commenced, with the development of the first conventional raise on Level 1 West at Kukama shaft, together with that of the decline system to open up access to future Mineral Reserves.



of the Bushveld Complex, some 70 km north of Johannesburg and 12 km east of Brits, in the North-West Province of South Africa.

Fland mine - continued

Geological Setting

The Bushveld sequence at Eland is similar to that within the broader south-eastern portion of the western limb, but shows variation from west to east. The Critical Zone sequence, being fully developed in the west, thins within the far eastern portion of the property. This is similar to the southern portions of Booysendal, and is also related to the Bushveld sequence abutting onto basement highs. The impact of this abutment manifests itself in disruption to the morphology and internal structure of the UG2 Reef. Despite this, both reefs are continuous across the property. This has led to the characterisation of three UG2 Reef sub-types (facies) transitioning from west to east as the Normal, Split and Zilkaats sub-type domains.

Merensky Reef

The Merensky Reef is the upper mineralised portion of the 13 m thick Merensky pyroxenite, generally extending over 2 m to 3 m. The Merensky Reef is immediately overlain by a sequence of competent norites. No facies have been defined, but surface morphology disruption is evident in the far east of the property. The Mineral Resource channel is defined as a fixed cut of 3 m.

UG2 Reef

The internal structure of the UG2 Reef is similar to that found in the remainder of the western limb, albeit thicker and lacking chromitite stringers or leaders in the immediate hangingwall. Three reef facies have been defined; Normal, Split and Zilkaats. The UG2 Normal and Split facies consist of massive, upper Leader and lower Main seam chromitite layers with an average combined thickness of 160 cm. In the case of the Normal facies, these seams are vertically juxtaposed or merged. In the Split facies, the seams are separated by a metal-barren, silicate waste parting of up to 120 cm thickness. The Zilkaats facies is defined where a massive Leader seam, with a mean thickness of 95 cm, overlies a lower, Main seam that comprises either a multitude of chromitite stringers or disseminated

chromite within a variable interval of silicate rocks. This generally renders the lower seam sub-economic. The Mineral Resources cuts applied are variable and dependent on both the facies and the UG2 chromitite thickness.

UG1 Reef

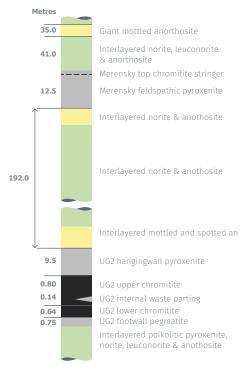
The UG1 Reef comprises two chromitite seams of between 180 cm to 200 cm thickness separated by an internal silicate parting of between 20 cm and 370 cm. The UG2 Reef is bound by massive norite units in the hangingwall and footwall. The PGE grade across the chromitite seams is below 1 g/t 4E and concentrated along the top and basal contacts.

No Mineral Resources have been declared for the UG1 Reef.

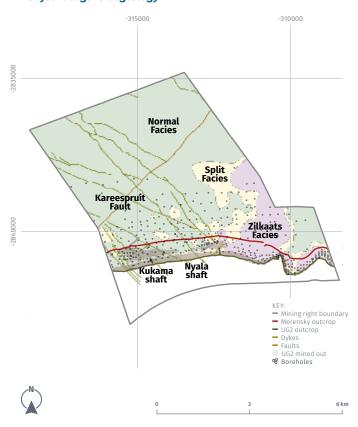
Geological discounts

An average of 12% geological loss was applied to Mineral Resources estimate for the Merensky Reef and an average of 22% loss to those of the UG2 Reef. Geological losses include those from dykes, faults

Eland Stratigraphy between UG2 and Merensky Reefs



Booysendal general geology



and potholes and are applied in addition to other areas removed from the Mineral Resources estimate as a result of known geological structures and potholes in which no Mineral Resources are believed to be developed.

Exploration

Surface exploration comprises 677 earlier generation surface boreholes over the property which were drilled between late 1980 and 2013. Surface boreholes are spaced typically at 200 m apart in the upper part of the central mining right, to a depth of 400 m below surface. Thereafter, the boreholes are spaced at 200 m to 400 m apart to a depth of 700 m below surface.

During the past year, surface exploration activity primarily comprised trenching and diamond drilling, targeting the Merensky, UG2 and UG1 Reefs. A total of 21 boreholes, totaling 4 176 m of diamond drilling. A further 106 trenches were dug.

The bulk of the exploration of the UG2 Reef comprised 80 trenches in the eastern, more geologically complex portion of the ore body. This was supported by seven surface boreholes, together with surface geophysical surveys, these being used to explore the potential for open pit mining. Two further

surface boreholes were drilled to assist with understanding of reef morphology in proximity to the Kukama mining declines.

Exploration of the UG1 Reef horizon was targeted for chromite potential.

11 diamond drilled boreholes and
10 trenches were dug to delineate sub outcrop and morphology.

The Merensky sub outcrop which is continuous over the 6 km strike within the property was confirmed by 16 trenches and four borehole intersections.

The continuation of surface drilling is planned to improve on the confidence in the geological continuity of the UG2 and Merensky Reefs. The starting of routine underground channel sampling will be done along with the build-up in mining production.

Mining Study

A feasibility study for the extraction of UG2 Reef in the Kukama shaft block that started in 2018, which extends the existing mining infrastructure down dip and along strike of the orebody was completed. The study was based on a hybrid mining method, which allows for standard conventional stoping with semi-mechanised primary development along strike. The removal and transport of the ore material to the central decline

system will continue with strike conveyors. The Kukama mine's primary infrastructure consists of a three decline system on the reef horizon which is also equipped with four dip conveyors for ore movement out of the mine workings; as well as two chairlifts to transport the employees.

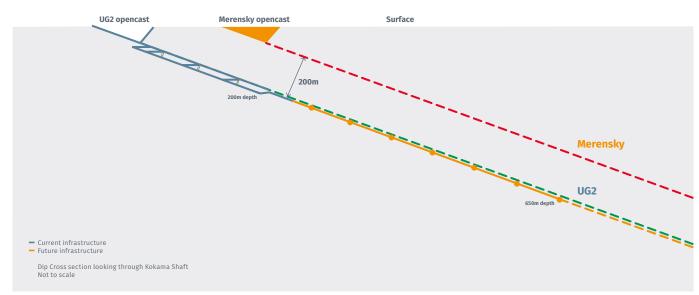
The project aim for the future mining of new ground is to convert the primary underground access from an on-reef decline system to an off-reef decline system. This new decline system combined with a hybrid mining approach will enable steady state production of 137 000 tonnes per month from a maximum of 12 half levels and an annual metal output of around 150 000 oz 4E in concentrate to be achieved.

The pre-feasibility of the Merensky Reef open pits was updated in 2020. Here the concurrent mining of the Merensky Reef to a maximum depth of 50 metres through open pit mining to be viable, with added benefits from the sulphide in concentrate to the down stream smelting process.

Mining Configuration

Initial underground mining of UG2 at Eland, prior to 2015, employed a mechanised bord and pillar method. Both the Kukama and Nyala mines are

Eland mine Generalized Section



Eland mine - continued

accessed via a system of three declines, two on the plane of reef and the third, containing a belt for ore handling, situated approximately 25 m into the footwall of the reef. These footwall belt declines extend to distances of 1 400 m and 850 m down dip of the outcrop for Kukama and Nyala respectively. Mining sections extend over a dip length of 225 m, equating to a vertical interval of 70 m. Strike drives are inclined at 5° above the line of strike. Strike conveyors within the drives transport ore to the central decline dip belt system for hoisting to a concentrator plant on surface. Mechanised boom drill rigs and LHDs were employed in mining and development.

This stoping method proved unsuccessful, due mainly to the excessive regional dip. The feasibility study completed in August 2019, and the subsequent current mine plan has adopted a conventional hybrid mining method, in which ore generated from conventional breast stoping panels

feeds on to strike conveyors along the existing on-reef strike drives, which is then transferred to the decline belt system for hoisting to the concentrator plant on surface.

The planned breast stoping layout allows for 9 panels of 24 m each per raise, including rib pillars. Raises will be spaced at 120 m strike intervals, with single-sided stoping only. In-stope strike gullies are inclined at 15° above strike. Hydro-powered rock drilling is employed. Ore is moved by scrapers from the mining panel, via the strike gullies, to a dip gully, which feeds a vibrating grizzly feeder loading the strike conveyor.

The strike development is planned with twin drives, one for the strike conveyor and personnel, the other for trackless machinery. The strike drives will be developed with hand held hydro-powered rock drills and cleaned with LHDs onto the tail end of the strike conveyors.

The dip decline system has been redesigned to a three barrel array situated in the immediate footwall (between 5 m to 8 m) below the UG2 Reef.

Four of the existing strike conveyors from the previous bord and pillar layout will be utilised in establishing the first hybrid levels.

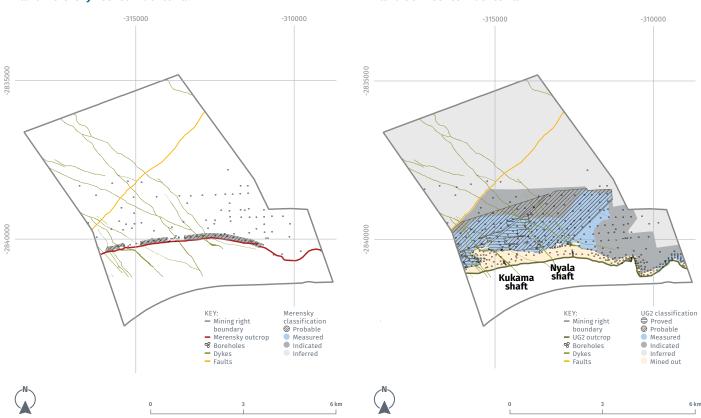
UG2 Reef

The estimated total UG2 Mineral Resources of 147.43 Mt (19.16 Moz 4E) for Eland are unchanged from the previous reporting period. Measured Mineral Resources of 32.33 Mt (4.11 Moz 4E) occur within the central part of Eland to a maximum depth of 500 m below surface.

The estimated total UG2 Mineral Reserves increased marginally from 25.50 Mt (2.89 Moz 4E) in 2019 to 25.71 Mt (2.89 Moz 4E) in 2020. Proved Mineral Reserves of 2.27 Mt (0.23 Moz 4E) have been defined to within the first five years of mining, and Probable Mineral Reserves of 23.44 Mt (2.66 Moz 4E) extend to the

Eland Merensky Reef Confidence Plan

Eland UG2 Reef Confidence Plan



limit of the accessed half levels at this time, circa 2 km to 3 km from the main decline along strike of the orebody.

Merensky Reef

No Measured Mineral Resources or Proved Mineral Reserves are estimated for the Merensky Reef. The estimated Merensky Indicated Mineral Resources are unchanged from the previous reporting period at 4.82 Mt (0.16 Moz 4E), whereas estimated Probable Mineral Reserves marginally increased to 5.27 Mt (0.15 Moz 4E). These occur within five

open pit shells extending from subcrop to a high wall of 50 m depth from surface and over a strike length of approximately 4.1 km.

Fland Mineral Resources

Etanu minerat resources		30	30 June 2019 4E				
Reef	Mine	Mt	g/t	Moz	Mt	g/t	Moz
Merensky	Measured	0.00	0.00	0.00	0.00	0.00	0.00
	Indicated	4.82	1.05	0.16	4.82	1.05	0.16
	Inferred	0.00	0.00	0.00	0.00	0.00	0.00
	Total	4.82	1.05	0.16	4.82	1.05	0.16
UG2	Measured	32.33	3.95	4.11	32.33	3.95	4.11
	Indicated	26.37	3.75	3.18	26.37	3.75	3.18
	Inferred	88.73	4.16	11.87	88.73	4.16	11.87
	Total	147.43	4.04	19.16	147.43	4.04	19.16
Combined	Measured	32.33	3.95	4.11	32.33	3.95	4.11
	Indicated	31.19	3.33	3.34	31.19	3.33	3.34
	Inferred	88.73	4.16	11.87	88.73	4.16	11.87
	Total	152.25	3.95	19.32	152.25	3.95	19.32

	Mine	30	30 June 2020 4E			30 June 2019 4E		
Reef		Mt	g/t	Moz	Mt	g/t	Moz	
Merensky	Proved	0.00	0.00	0.00	0.00	0.00	0.00	
	Probable	5.27	0.89	0.15	5.04	0.86	0.14	
	Total	5.27	0.89	0.15	5.04	0.86	0.14	
UG2	Proved	2.27	3.16	0.23	2.22	3.16	0.23	
		23.44	3.53	2.66	23.28	3.56	2.66	
	Total	25.71	3.50	2.89	25.50	3.53	2.89	
Combined	Proved	2.27	3.16	0.23	2.22	3.16	0.23	
	Probable	28.71	3.04	2.81	28.32	3.07	2.80	
	Total	30.98	3.05	3.04	30.54	3.09	3.03	

Prill splits%	Pt	Pd	Rh	Au	Cr ₂ O ₃ %	Cu%	Ni%
UG2	59.5	29.3	10.2	0.9	29.8	0.009	0.097
Merensky	55.3	30.9	3.2	10.6	0.0	0.042	0.104

Notes on Eland Mineral Resources and Mineral Reserves

- The geological model and Mineral Resources estimate are informed by exploration data including 201 surface borehole intersections and 16 trenches for the Merensky Reef and 551 boreholes intersections and 80 trenches for the UG2 Reef; together with an interpreted aeromagnetic & TEM surveys and geological mapping of the underground and surface mining excavations.

 Mineral Resources were estimated over the mineable reef channels (Mineral Resources cuts), considering practical mining requirements.

 The UG2 Mineral Resources cuts are dependent upon facies type. In the case of Normal and Split facies, this extends from the top of the Leader chromitite to 15 cm below the base of the
- Main chromitite seam, up to a maximum thickness of 2 m. The Zilkaats facies Mineral Resource cut extends from the top to a minimum of 10 cm below the base of the Leader chromitite, with a minimum Mineral Resource cut width of 95 cm applied.
- The Mineral Resources were derived from surface borehole composites, cut over the vertical length to the reef dip. The assays were conducted at a number of commercial laboratories, these including ALS Chemex and SGS Analytical Services. QAQC assessments conducted on the assay data, reveals that the data were considered reliable and accepted for the estimation process.
- The Merensky Reef Mineral Resources are currently limited to five open pit mining blocks, extending over a combined strike length of 4.1 km, and a dip extent of 170 m, representing a high-wall limit of 50 m. The Merensky Mineral Resources channel is 3 m in thickness, extending below the top the Merensky pyroxenite. Mineral Resources are derived from the estimation of 4E grade, channel thickness and density into grid nodes separated at 25 m intervals, using a method known as Growth Algorithm.
- These estimates have been reconciled with Ordinary Kriging estimates producing results within estimation tolerance.

 Mineral Resources classification is based upon a combination of quantitative parameters, including; borehole spacing, data quality, UG2 facies and structural complexity, together with a qualitative appreciation of ore body continuity informed by data from within the property and data from surrounding properties. The Measured confidence category has boreholes spaced 250 400 m apart. The Indicated confidence category extends to borehole spacing of 800 m and Inferred is then extrapolated to the limit of the mining right.

 The prill split values reported are derived from borehole samples and are indicative of the global proportion of Pt, Pd, Rh and Au expressed as a percentage 4E, whereas base metals are
- expressed in weight percent.
- Mineral Reserves for Eland relate to planned mining modules: Kukama UG2 and Merensky open pits. The first five years of the UG2 production build-up within the Measured Mineral Resources on Kukama shaft has been classified as Proved Mineral Reserves. The subsequent half levels opened and established within the ten year window within the Measured and Indicated Mineral Resources confidence categories are classified as Probable Mineral Reserves up to the half level boundaries.
- 10. Inferred Mineral Resources were used in the mining production schedule for the Kukama Feasibility Study completed in 2019. A further assessment was conducted excluding the Inferred Mineral Resources, there being no material impact on the results of the mining study.

Zondereinde mine

Zondereinde is a mature mine, which has successfully mined PGM ores from the narrow tabular Merensky and UG2 Reefs since 1992.

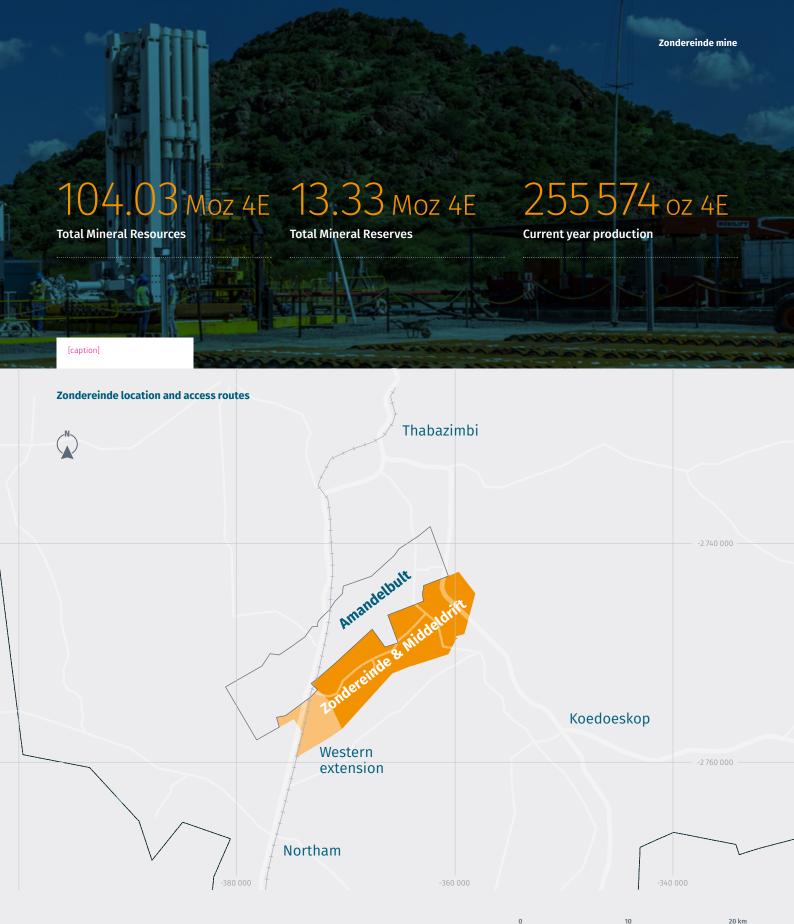
Business Overview

The Merensky and UG2 Reefs are accessed via a twin vertical shaft system, where mining occurs between depths of 1 100 m and 2 000 m below surface, with deeper access via a decline system to a depth of 2 400 m. Mine development started in 1986, with ore production commencing in the early 1990s.

The mine originally exploited only the Merensky Reef but the commissioning of a UG2 concentrator in 2000, together with the necessary underground ore handling systems, allowed mining and processing of UG2 Reef from this time onwards. The mine produces approximately 2.0 Mt of ore per annum, generating circa 300 000 oz 4E metal in concentrate together with associated precious and base metal by-products. The commissioning of a second smelter furnace at the adjoining Zondereinde metallurgical complex in 2017 has added additional downstream processing capacity, specifically for chromite bearing, UG2 concentrates.

Also in 2017, the Tumela block, now referred to as the Western extension section, was acquired. This is an approximately 4 km contiguous extension of the Merensky and UG2 Reef horizons along strike towards the west.

The current annual ore production is approximately 0.9 Mt Merensky Reef and 1.1 Mt UG2 Reef. Merensky Reef production is planned to increase to 1.1 Mt over the next five years.



Location

The Zondereinde mine is situated in the northern portion of the western limb of the Bushveld Complex, approximately 30 km south of the town of Thabazimbi in the Limpopo Province. The mining right covers 9 257 hectares, and is underlain by both the Merensky and UG2 Reefs.

7ondereinde mine – continued

Geological Setting

The Bushveld stratigraphic sequence at Zondereinde is typical of the northern portion of the western limb. The Critical Zone stratigraphy is compressed and dominated by mafic lithologies, with the vertical separation between the Merensky and UG2 Reefs ranging between 20 m and 40 m. Both reefs dip at 20° towards the south-east and extend from a depth of 1 100 m to 2 900 m below surface.

While there is lateral continuity of both reefs across the mine property, the Merensky Reef displays a variety of reef sub-types. The distribution of these is determined from a combination of surface exploration boreholes, ongoing prospect drilling from underground development and on-reef mapping in mine excavations.

Merensky Reef

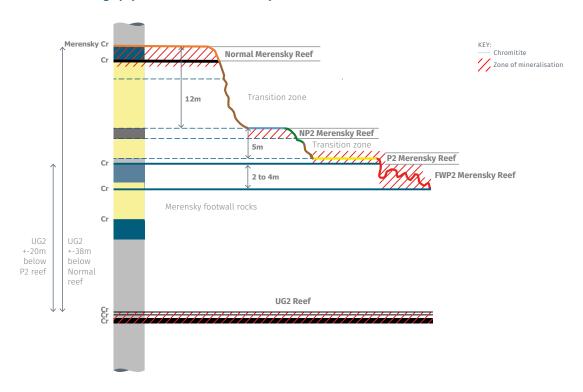
The Merensky Reef is a zone of mineralisation that straddles the base of the Merensky cyclic unit. In the area of Zondereinde mine, the Merensky Reef consists of two sub-facies of the Zwartklip facies, namely the Normal and Regional Pothole sub-facies. The latter may be further subdivided into three sub-types, each of which occurs at a specific stratigraphic level below that of the Normal sub-facies. Sub-types include NP2 and P2, which constitute the main sources of ore, and FWP2 which, whilst not historically considered a primary mining target due to its undulating morphology in the central portions of the mine, is now successfully exploited in the western portion of the current mining area where it displays lesser disruption. This trend is expected to continue throughout the Western extension section.

The Mineral Resources channel is the planned mining cut on the Merensky Reef and is dependent upon the reef sub-type mined and the geozone in which it is located. In all mining cuts, the Merensky chromitite is exposed with a minimum of 10 cm of the overlying mineralised Merensky pyroxenite as hangingwall.

UG2 Reef

The UG2 Reef at Zondereinde mine is remarkably conformable when compared with the Merensky Reef. Disruption, in the form of potholes and reef rolls, is extremely limited and localised. The reef consists of three chromitite seams separated by narrow pyroxenite partings. The lower seam, termed the Main member, is generally in the order of 85 cm thick, and is overlain by two Leader seams, each in the order of 15 cm thick. The Mineral Resources

Zondereinde Stratigraphy between UG2 and Merensky Reefs



cut, comprising these seams, inclusive of a portion of mineralised reef footwall, which is the planned mining cut, is in the order of 140 cm to 160 cm thickness. There is no basis for subdividing the UG2 Reef into sub-types.

Historically, UG2 mining has been limited to de-stressed areas underlying previously mined Merensky Reef. Furthermore, the full reef mining cut enhances metal output, hangingwall stability and safe working practices. UG2 operations are migrating to areas where there has been no previous Merensky mining. In these areas; support regimes and layouts similar to those employed on the Merensky Reef are adopted.

Geological Discounts

Combined geological and extraction losses are discounted from the Mineral Resources for both reefs. These

comprise pothole and structural losses as well as other pillar losses. Discount losses vary per reef type and Mineral Resources confidence class, with an average of 29% for the Merensky Reef. Discount losses for the UG2 Reef average 36% and are largely contained in regional support pillars designed to counter stress concentration resulting from mining in proximity to previously mined overlying Merensky Reef.

Exploration

The estimation of Zondereinde Mineral Resources is informed by significant exploration data, including; 59 boreholes drilled from surface, 8 591 boreholes drilled from underground, 105 940 Merensky and 33 761 UG2 channel section samples cut on a 15 m grid in on-reef development and stoping. Between 2018 and 2019, three geotechnical boreholes averaging

1500 m in length were drilled from surface to test the ground conditions in the Western extension section in proximity to an area under investigation for a potential future shaft development (Number 3 shaft).

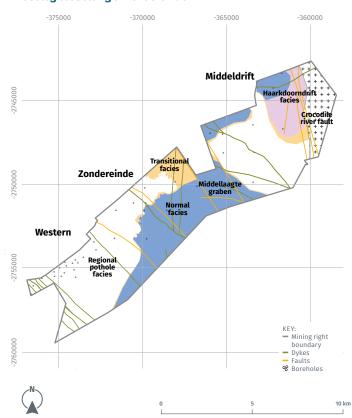
Mining Configuration

Mining of the narrow tabular orebodies in the intermediate to deep level mining environment is successfully conducted using a conventional mining method. The mining layout is a breast configuration on both the Merensky and UG2 Reefs. The Merensky Reef excavation is backfilled, which has, historically, then been followed by the extraction of UG2 Reef in a de-stressed mining zone. UG2 operations are migrating to areas where there has been no previous Merensky mining. In these areas; support regimes and layouts similar to those employed on the Merensky Reef are adopted.

The underground workings are accessed from a twin vertical shaft system. The Number 1 Shaft extends to 13 level (2 039 m below surface) and Number 2 Shaft serves workings down to 8 level (1724 m below surface). The shafts have a lateral separation of 90 m and are interconnected at an intermediate pump chamber (IPC) at 1 019 m below surface, as well as on mining levels 2, 4, 6, 7, 8 and 9. Workings below 13 level are serviced by decline access ways, designed to accommodate both people and materials, and equipped with a conveyor belt system that transports the ore and waste rock. The relatively narrow vertical separation between the two ore bodies allows for both to be accessed via the same primary tunnel development.

The vertical interval between levels is 63 m. With the ore body dipping at 20°, this provides a raise back length of 180 m and allows for six stoping panels of 30 m length each to be established either side of the raise. Strike gullies are

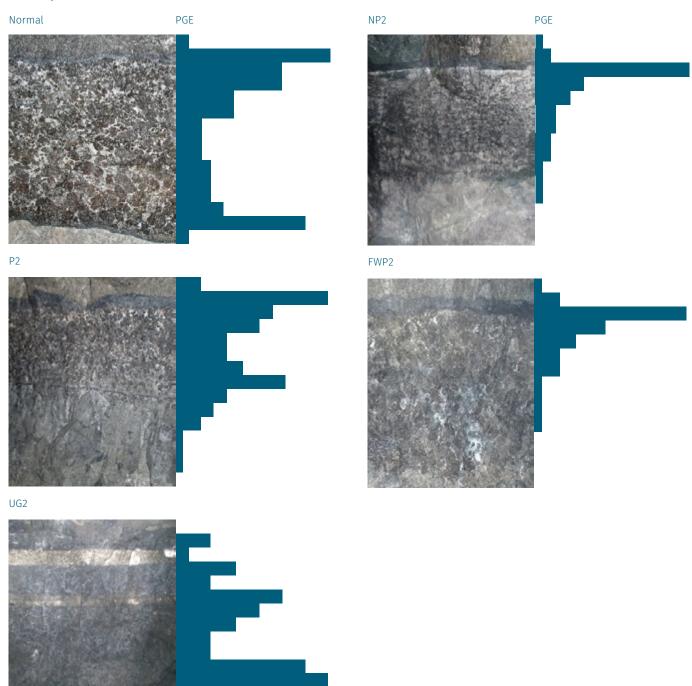
Geological Setting of Zondereinde



Zondereinde mine – continued

Zondereinde reef-types, with Merensky sub-types

Merensky



aligned at 10° above the strike direction. A dip gully handles the ore transported via the strike gullies to three ore passes situated in the original raise, all of which are fitted with radial-door control chutes. Ore is transported to the main shaft ore passes via strike drives located below the two reefs, using battery powered, rail bound, locomotives pulling spans of eight hoppers. Broken ore is tipped into a conventional shaft ore-pass system, with separate rock handling facilities for Merensky Reef, UG2 Reef and waste rock, and then hoisted to surface in skips. At surface, the ore is transported by conveyor belts to the separate Merensky and UG2 concentrator plants, whilst waste rock is transported to a waste rock pile.

A key success component of mining is the use of hydro-powered equipment such as rock drills and high-pressure water jets in conjunction with electric scraper winches. This equipment was developed and engineered from the outset of mining at Zondereinde and continues to function successfully.

Mineral Resources and Mineral Reserves

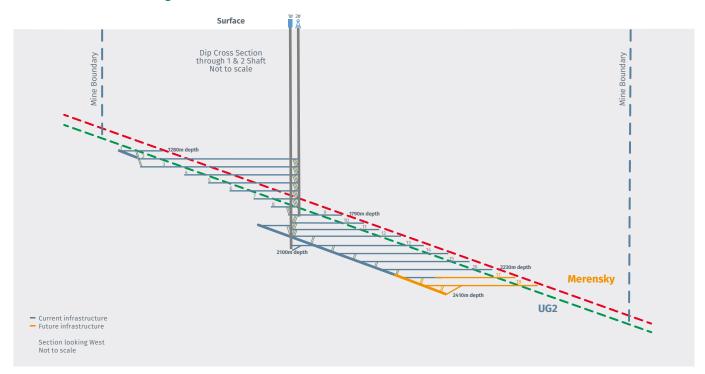
At Zondereinde, the Mineral Resources and Mineral Reserves confidence classification centres on a well-established understanding of the geological continuity and mining conditions acquired over an extensive period of more than 25 years. Access to the Mineral Resources and Mineral Reserves is through the continuation of mining development along strike into the Western extension section and the decline system in the deeper portion of the Zondereinde section. Estimation of the Mineral Reserves within the Western extension are the subject of a mining

assessment investigation to sequentially introduce access to the orebody from surface for hoisting, services and ventilation. The decline system accessing the mining levels 13 to 18 unlocks deeper resting Mineral Reserves in the central and western parts of the mine. The Mineral Resources in the Middeldrift section in the east of the property are part of future Mineral Reserve potential and do not form part of the current life of mine plan.

Merensky Reef

The estimated Merensky Measured Mineral Resources have increased from 3.12 Mt (0.81 Moz 4E) in June 2019 to 3.21 Mt (0.81 Moz 4E) in June 2020, the net result of mining development in the Western extension section offset by mining depletion. A marginal decrease in the 4E grade (3%) is due to change in the relative proportions of the reef

Zondereinde Generalized Mining Cross-Section



7ondereinde mine – continued

sub-types. Indicated Mineral Resources have decreased by 0.93 Mt (0.20 Moz 4E). This is attributed to the loss of Indicated Mineral Resources on conversion to the Measured confidence class. There was a negligible change to the Mineral Resources in the Inferred confidence class.

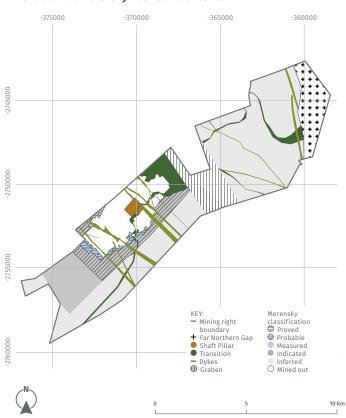
Estimated Merensky Mineral Reserves of 26.41 Mt (4.87 Moz 4E) decreased by 0.47 Mt (0.05 Moz 4E), the net result of depletion and new mining development. There is a marginal decrease in the Proved Mineral Reserves 4E grade in line with the change in the Measured Mineral Resources 4E grade.

UG2 Reef

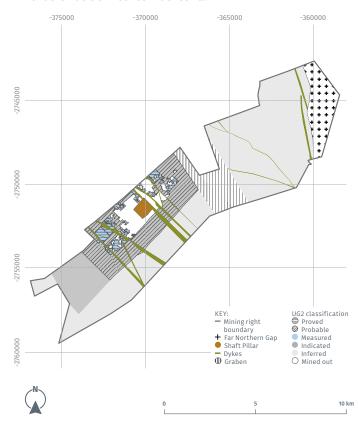
The estimated UG2 Measured Mineral Resources have decreased from 9.20 Mt (1.47 Moz 4E) in 2019 to 7.68 Mt (1.23 Moz 4E) in 2020. This is the combined result of mining depletion and limited conversion from the Indicated confidence class. Other than upgrade conversion, there were no material changes to the Mineral Resources in the Indicated and Inferred confidence classes.

Estimated UG2 Mineral Reserves of 61.57 Mt (8.46 Moz 4E) decreased by 1.29 Mt (0.17 Moz 4E), being the result of mining depletion.

Zondereinde Merensky Reef Confidence Plan



Zondereinde UG2 Reef Confidence Plan



Zondereinde Mineral Resource	S	30 June 2020 4E				30 June 2019 4E		
Reef	Mine	Mt	g/t	Moz	Mt	g/t	Moz	
Merensky	Measured	3.21	7.85	0.81	3.12	8.09	0.81	
	Indicated	38.21	7.78	9.56	39.14	7.76	9.76	
	Inferred	165.58	7.42	39.51	165.62	7.43	39.54	
	Total	207.00	7.49	49.88	207.88	7.50	50.11	
UG2	Measured	7.68	4.98	1.23	9.20	4.97	1.47	
	Indicated	78.56	4.98	12.58	78.99	5.00	12.71	
	Inferred	247.74	5.06	40.34	248.15	5.07	40.46	
	Total	333.98	5.04	54.15	336.34	5.05	54.64	
Combined	Measured	10.89	5.82	2.04	12.32	5.75	2.28	
	Indicated	116.77	5.90	22.14	118.13	5.92	22.47	
	Inferred	413.32	6.01	79.85	413.77	6.01	80.00	
	Total	540.98	5.98	104.03	544.22	5.99	104.75	
		30	June 2020 4E		30	June 2019		
			4E			4E		
Reef	Mine	Mt	g/t	Moz	Mt	4E g/t	Moz	
Reef Merensky	Mine Proved	Mt 3.84		Moz 0.74	Mt 3.76		Moz 0.73	
			g/t			g/t		
	Proved	3.84	g/t 6.00	0.74	3.76	g/t 6.05	0.73	
	Proved Probable	3.84 22.57	g/t 6.00 5.69	0.74 4.13	3.76 23.12	g/t 6.05 5.64	0.73 4.19	
Merensky	Proved Probable Total	3.84 22.57 26.41	g/t 6.00 5.69 5.74	0.74 4.13 4.87	3.76 23.12 26.88	g/t 6.05 5.64 5.69	0.73 4.19 4.92	
Merensky	Proved Probable Total Proved	3.84 22.57 26.41 8.00	g/t 6.00 5.69 5.74 4.27	0.74 4.13 4.87 1.10	3.76 23.12 26.88 9.52	g/t 6.05 5.64 5.69 4.25	0.73 4.19 4.92 1.30	
Merensky	Proved Probable Total Proved Probable	3.84 22.57 26.41 8.00 53.57	g/t 6.00 5.69 5.74 4.27	0.74 4.13 4.87 1.10 7.36	3.76 23.12 26.88 9.52 53.34	g/t 6.05 5.64 5.69 4.25 4.27	0.73 4.19 4.92 1.30 7.33	
Merensky UG2	Proved Probable Total Proved Probable Total	3.84 22.57 26.41 8.00 53.57 61.57	g/t 6.00 5.69 5.74 4.27 4.27	0.74 4.13 4.87 1.10 7.36 8.46	3.76 23.12 26.88 9.52 53.34 62.86	g/t 6.05 5.64 5.69 4.25 4.27	0.73 4.19 4.92 1.30 7.33 8.63	
Merensky UG2	Proved Probable Total Proved Probable Total Proved	3.84 22.57 26.41 8.00 53.57 61.57 11.84	g/t 6.00 5.69 5.74 4.27 4.27 4.27 4.83	0.74 4.13 4.87 1.10 7.36 8.46 1.84	3.76 23.12 26.88 9.52 53.34 62.86 13.28	g/t 6.05 5.64 5.69 4.25 4.27 4.76	0.73 4.19 4.92 1.30 7.33 8.63 2.03	
Merensky UG2	Proved Probable Total Proved Probable Total Proved Probable	3.84 22.57 26.41 8.00 53.57 61.57 11.84 76.14	g/t 6.00 5.69 5.74 4.27 4.27 4.27 4.83 4.69	0.74 4.13 4.87 1.10 7.36 8.46 1.84	3.76 23.12 26.88 9.52 53.34 62.86 13.28 76.46	g/t 6.05 5.64 5.69 4.25 4.27 4.76 4.69	0.73 4.19 4.92 1.30 7.33 8.63 2.03	
UG2 Combined	Proved Probable Total Probable Total Proved Probable Total Proved Probable Total	3.84 22.57 26.41 8.00 53.57 61.57 11.84 76.14 87.98	g/t 6.00 5.69 5.74 4.27 4.27 4.27 4.83 4.69 4.71	0.74 4.13 4.87 1.10 7.36 8.46 1.84 11.49	3.76 23.12 26.88 9.52 53.34 62.86 13.28 76.46	g/t 6.05 5.64 5.69 4.25 4.27 4.76 4.69	0.73 4.19 4.92 1.30 7.33 8.63 2.03 11.52	

Notes on Zondereinde Mineral Resources and Mineral Reserves

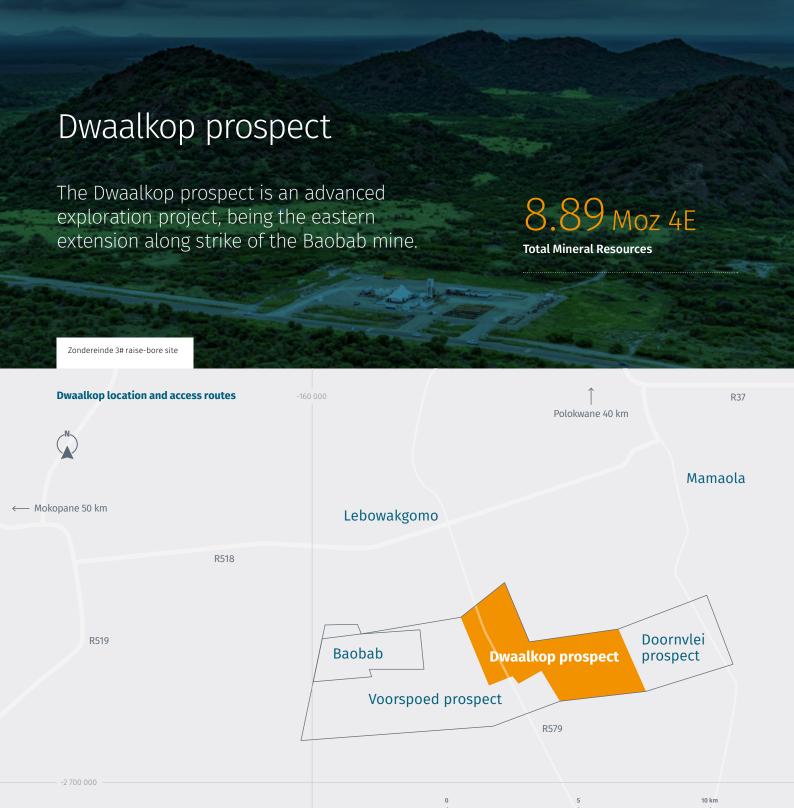
- Mineral Resources include those from the Zondereinde, Middledrift and Western extension sections of the property. Mineral Reserves are only estimated for the Zondereinde section, together with a portion of the Western extension section.
- together with a portion of the Western extension section.

 The Merensky Reef Mineral Resources widths are based on a fixed mining width for each reef sub-type, that being 160 cm for Normal, 120 cm for P2, 110 cm for NP2 and 120 cm for FWP2.

 The UG2 Reef Mineral Resources width is based on the exposure of the Main chromitite and the overlying Leaders, averaging 145 cm, this being the mining cut.

 The Mineral Resources were derived largely from underground channel samples, cut perpendicular to the reef dip. The assays are conducted at the on-site mine laboratory with QAQC reliant on the laboratory's internal controls, with ad-hoc checks using SGS, an independent laboratory.

 Mineral Resources in the Measured confidence class are estimated in the areas accessible from holed on-reef development within three months of the estimation run and/or bounded by
- haulage borehole intersections and the nearest stope exposures where channel sampling has taken place. Indicated Mineral Resources are estimated in the enclosing areas, down to a depth of 2 350 m below surface (18 level elevation). This is the depth to which the Zondereinde section has a feasible mine plan and in which it is currently implementing a deepening extension project.
- All Mineral Reserves occur between 1150 m and 2350 m below surface, these being the upper and lower limits of current and planned mining access. Furthermore, estimation of Mineral Reserves in the Western extension is limited to the eastern 900 m of this section along strike. A feasibility study of mining west of this limit is expected to be completed in September 2020.
- Inferred Mineral Resources extend from 18 level to the down dip limit of the mine boundary. No Inferred Mineral Resources were used to inform the mining production schedule
- The prill split values reported are derived from borehole samples and are indicative of the global proportion of Pt, Pd, Rh and Au as a percentage 4E. Base metals are global proportions expressed as weight percentage.
- 8. An average of 29% combined geological & extraction losses have been applied to the Mineral Resources estimate of the Merensky Reef and 36% to that of the UG2 Reef. Geological losses include those from dykes, faults, potholes and IRUP, whereas extraction losses allow for pillars.



Business overview

The prospect is a joint venture between Western Platinum, a subsidiary of Sibanye-Stillwater and Mvelaphanda, a wholly owned subsidiary of Northam. Northam, through Mvelaphanda holds a 50% attributable interest. The Dwaalkop prospect is one of the modules of the greater Limpopo mining complex which occurs adjacent to the Voorspoed prospect that hosts the Baobab mine.

Mineral Resources have been established by the joint venture partner, Western Platinum. The adjacent Baobab mine was placed on care and maintenance in 2009.

The steep orebody dip and width of the Merensky and UG2 Reefs makes this prospect potentially attractive to mechanisation. The favorable orebodies are located near existing mining infrastructure and the UG2 Reef prill

split, containing a high palladium proportion with concomitant elevated nickel and copper base metal sulphides, is attractive for future mining.

Location

The Dwaalkop prospect is located next to the town of Lebowakgomo, approximately 50 km south of the city of Polokwane and 50 km south-east of the town of Mokopane in the Limpopo Province.

Geological Setting

The Dwaalkop prospect is situated within the northern compartment of the eastern limb. The Merensky and UG2 Reefs are steeply dipping at approximately 60° to the south and have a stratigraphic middling of approximately 65 m. This equates to a horizontal separation of 130 m. Both reefs subcrop below thin surface cover. Copper and Nickel grades in the UG2 Reef are elevated and in line with those of the Merensky Reef.

Exploration

Between the 1960s and 2009 numerous phases of drilling were conducted by various mining companies. The depths of the drillholes vary from a few metres to 1500 m below surface. No exploration work has been conducted over the Dwaalkop prospect between 2010 and 2020.

Mineral Resources and Mineral Reserves

The Merensky and UG2 Mineral Resources for all confidence classes are unchanged from the previous reporting period, there being no exploration, depletion nor changes to the evaluation. A feasibility study on the viability of mining the Dwaalkop prospect was undertaken by Lonmin in 2017. No Mineral Reserves are declared for the Dwaalkop prospect. The Sibanye-Stillwater Competent Person reports a review and update of the 2017 mining feasibility study has been initiated, but has not yet been concluded.

Dwaalkon Mineral Resources

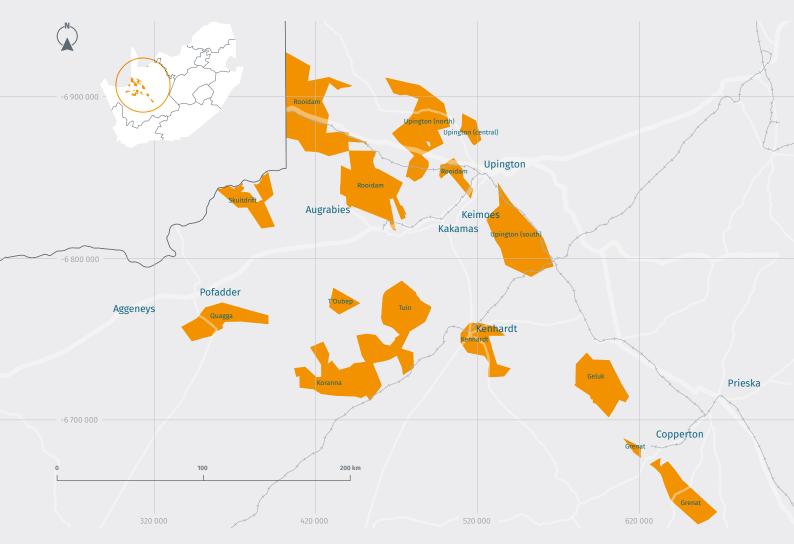
Dwaatkop Millerat Ke	sources		30 June 2020 4E			30 June 2019 4E		
Reef	Mine	_	Mt	g/t	Moz	Mt	g/t	Moz
Merensky	Measured		0.00	0.00	0.00	0.00	0.00	0.00
	Indicated		21.83	2.89	2.02	21.83	2.89	2.02
	Inferred		16.22	3.10	1.62	16.22	3.10	1.62
	Total		38.05	2.98	3.64	38.05	2.98	3.64
UG2	Measured		0.00	0.00	0.00	0.00	0.00	0.00
	Indicated		20.85	4.35	2.92	20.85	4.35	2.92
	Inferred		16.71	4.35	2.33	16.71	4.35	2.34
	Total		37.56	4.35	5.25	37.56	4.35	5.25
Combined	Measured		0.00	0.00	0.00	0.00	0.00	0.00
	Indicated		42.68	3.60	4.94	42.68	3.60	4.94
	Inferred		32.93	3.73	3.95	32.93	3.73	3.95
	Total		75.61	3.66	8.89	75.61	3.66	8.89
Prill splits%		Pt	Pd	Rh	Au	Cr ₂ O ₃ %	Cu%	Ni%
UG2		47.1	42.8	7.9	2.2	no data	0.090	0.140
Merensky		56.8	31.9	4.2	7.2	no data	0.110	0.170

- Notes on Dwaalkop Mineral Resources

 1. Mineral Resources for Dwaalkop reflect Northam's 50% attributable interest and are quoted as at the end of 31 December 2019 as provided by Sibanye-Stillwater.
- Mineral Resources are estimated from the results of surface diamond drilling. For the surface drillholes, typically three of these intersections are sampled and assayed at a commercial laboratory.
- The grade's and/or metal accumulations, density and thicknesses of the individual reef layers are estimated into block models using Ordinary Kriging. The Mineral Resources cut is selected from the individual reef layers and therefore may include some diluting material.
- Mineral Resources estimates are based on a practical mining cut of not less than 90 cm. The widths of the individual layers that comprise the reef vary across the property and the Mineral Resources channel widths also vary according to the layers incorporated into the reef cut. The average width of the UG2 Reef for each property varies between approximately 1.90 m and 3.05 m and the average width of the Merensky Reef for each property varies between approximately 0.90 m and 2.25 m.
 Confidence in the geological model, reef continuity, drilling density and geostatistical analysis is used to classify the Mineral Resources.
- Indicated Mineral Resources at Dwaalkop are typically declared in areas where drill spacing is less than 600 m. The Mineral Resources at Dwaalkop occur from surface to a maximum depth
- An average of approximately 20% geological loss has been discounted to both the Merensky Reef and UG2 Reef Mineral Resources estimates.
- 8. Geological losses include those from dykes, fault loss, potholes and IRUP.

Kokerboom prospect

Kokerboom is an iron oxide copper gold and massive sulphide copper zinc exploration prospect, which comprises several prospecting rights covering some 1000000 hectares of the Northern Cape Province.



Exploration conducted to date included; airborne magnetic and radiometric surveys, compilation and reviews of existing geochemical and surface mapping data, together with some limited surface mapping. No Mineral Resources nor Mineral Reserves have been estimated or reported.

The prospecting work program was suspended in 2019. Closure applications for these prospecting rights have been submitted to the DMRE and are in process.

General notes on reporting criteria

- Mineral Resources tonnages and grades for Zondereinde are reported as estimates discounted for geological and mining pillar losses. All other Mineral Resources are reported as estimates discounted for geological losses.
- Mineral Resources tonnages and grades are in-situ estimates inclusive of internal waste dilution but exclusive of external waste dilution necessary for mining, unless otherwise stated.
- Mineral Resources are reported inclusive of Mineral Reserves.
- PGM metal prill splits (platinum, palladium, rhodium and gold) are expressed as percentages of the combined 4E value. These are indicative of the global value.
- PGM grade and content are expressed as 4E (combined platinum, palladium, rhodium and gold) grade; this being synonymous with 3PGE+Au.
- Base metal contents (chromite, copper and nickel) are expressed as average grades in weight percentage. These grades represent total concentrations rather than acid soluble percentages of Nickel and Copper.
- Structural losses due to faults, dykes and joints include the volumes of expected bracket pillars required to be placed on such features
- 8. Kriging parameters are applied to discrete mining areas in order to estimate tonnage and metal content and are derived from the interrogation of extensive sampling databases. Estimation is done through the interpolation of the parameters of sampled assayed composites to blocks or grids through a variety of techniques which include Ordinary Kriging, Inverse Distance Squared, Growth Algorithm and Averaging.

- Rounding of numbers in the tables may result in minor computational discrepancies. Where this occurs, it is deemed insignificant.
- 10. The most reasonable mining widths are applied to the Mineral Resources cuts, based on practical mining considerations. 4E grade, together with specific gravity are calculated for these widths.
- Total Mineral Resources and Mineral Reserves attributable to Northam Platinum Limited are listed in the summary tables.
- Measured and Indicated Mineral Resources are reported separately and include those Mineral Resources modified to estimate Proved and Probable Mineral Reserves.
- 13. While Mineral Resources are quoted as in-situ, all Mineral Reserves are quoted at run-of-mine (ROM) grades and tonnages as delivered to the concentrator plants on site and are therefore, fully diluted.
- 14. Modification of Mineral Resources to Mineral Reserves is based on parameters derived from historical operating performance, current conditions and future planning criteria.
- In compliance with the SAMREC code (2016), Inferred Mineral Resources are not included in the reporting of Mineral Reserves
- 16. All references to tonnage are to the metric unit.
- 17. All references to ounces are troy with a conversion factor of 31.103475 used to convert from metric grams to ounces.
- 18. Decimal separators are full stops. Thousand separators are spaces.
- 19. Location plans use the WGS 84 Lo 31 coordinate system.

- Quality assurance and control programs are undertaken to ensure the integrity of raw data.
- 21. For economic studies and the determination of pay limits, consideration was made of both short and long term revenue drivers. The following long term real global assumptions (nominal) were used:-

Base metals USD/metric tonne Ni 9 027 Cu USD/metric tonne 4 374 Chromite USD/metric tonne 136 Average USD: ZAR 15.47 exchange rate **Precious metals** Pt USD/troy ounce 846 Ρd USD/troy ounce 1 817

USD/troy ounce

USD/troy ounce

USD/troy ounce

USD/troy ounce

7 267

1544

273

1 453

Rh

Au

Ru

l٢

Contact details for the Northam Group Lead Competent Person is:

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Professional Registration

South African Council for Natural Scientific Professions

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Glossary of terms

4E	Northam reports Mineral Resources, Mineral Reserves, production and grades in terms of combined platinum, palladium, rhodium and gold, collectively expressed as 4E this is synonymous with 3PGE & Au.
Aeromagnetic (airborne magnetic) survey	An airborne geophysical survey performed using a magnetometer. It measures the local magnetic field to discern structural features and strata with differing magnetic properties.
Average exchange rate	The average exchange rate achieved by the group for the purpose of converting USD sales to ZAR over a period/year, amounting to the sum of the daily close ZAR/USD exchange rate over a period/year divided by the number of days in that period/year.
Backfill	Deposition of classified (size sorted) tailings (or waste products) from a concentrator plant into underground stoping panels as a support method.
Bord and pillar	A mining layout generally supported by extraction using mechanised equipment, in which ore is extracted in a checkerboard pattern, with intervening support pillars.
Breast stoping	A stoping layout in which mining panels are developed from a raise and advanced parallel to reef strike.
Care and maintenance	Temporary closure of a mine when it has stopped production for various technical, environmental, financial or labour related reasons, where the holder of the mining right awaits improved economic conditions and not declared intent on mine closure.
Channel sampling	The collection of sample material cut from a narrow 5-7 cm slot, 3-4 cm deep, in an underground excavation, taken vertically or perpendicular across the reef intersection. Sample interval lengths vary depending upon rock-type and mode of known mineralisation. The assayed results thereof are composited across the selected Mineral Resources or Mining cuts.
Competent Person	As defined in the SAMREC Code, a person with sufficient expertise and relevant experience, who is registered with a recognised professional organisation, to estimate Mineral Resources and/or Mineral Reserves.
Composite	The weighted mean of a variety of attributes (generally length, grade, density, metal content) from a number of contiguous samples describing a Mineral Resource cut that have been acquired from boreholes, trenches or channel sampled intersections. The composite includes a spatial reference.
Conventional mining	A mining layout to support extraction from narrow tabular orebodies (reefs) where access is through rail bound haulages and cross-cuts often located in the footwall. The on-reef development is through smaller raises and gulley excavations that support various stope configurations. This mining is more labour intensive than mechanised mining.
Converted mining right	A converted mining right, is a new order mining right issued in terms of the Mineral and Petroleum Resources Development Act, No 28 of 2002, which entitles the holder to the exclusive right to mine for prescribed minerals over a prescribed area of land. A mining right may be granted for a period of up to 30 years and may be renewed for further periods, each of which may not exceed 30 years.
Decline	An inclined tunnel, generally developed in a down dip direction from surface to provide access to underground workings.
Dilution	Low or zero grade material that is mined during the course of mining operations and thereby forms part of the Mineral Reserve.
DMRE	Department of Mineral Resources and Energy of South Africa.
Environmental liability	The assessed cost of rehabilitating a mining sight post-closure, as defined in section 41 of Mineral and Petroleum Resources Development Act, No 28 of 2002.
Estimation	The process by which parameters such as thickness, density, grades and metal accumulation over part or full mining cut, has been interpolated into either blocks or nodes, from a valid estimation dataset using a defined technique (e.g. ordinary kriging or inverse distance squared). The process is done often within homogeneous domains (geozones).
Feasibility Study	A comprehensive technical and economic study of the selected development option for a mineral project that includes appropriately detailed assessments of applicable Modifying Factors together with any other relevant operational factors and detailed financial analysis that are necessary to demonstrate at the time of reporting that extraction is reasonably justified (economically mineable).
Footwall	Strata immediately underlying the orebody to be mined.
Geological loss	Assessment and quantification of geological disturbances on the reef horizons, which include potholes, faults, dykes and iron replacement pegmatite that renders the proportion that are unlikely to be extracted.
Hangingwall	Immediate strata overlying the orebody to be mined.
Hydro-power	Pressurised water used to power mechanised equipment such as rock drills.
IMSSA	The Institute of Mine Surveyors of Southern Africa.
JSE	Is the South African securities exchange based in Johannesburg. Formerly the JSE Securities Exchange and prior to that the Johannesburg Stock Exchange.
Life of mine (LoM) plan	The outcome of the scheduled areas of the Mineral Resources, expressed as tonnes and metal content delivered to the concentrator which can be done profitably beyond the first five years of production (Business Plan).
Mafic	Category of igneous rock-type (also referred to as basic) where dark minerals comprising olivine and pyroxenes, with a very low silica (less than 45%) generally high magnesium and iron and low potassium contents.

Metal in concentrate	Metal produced from mining operations during the reporting period, that has been concentrated ahead of smelting.
Mine design criteria	Factors that influence the mine design process, which includes parameters from the mineral resource, mining technical, logistical and economic.
Mineral Reserves	An estimate of mineable mineralisation as defined in the South African Code for Reporting of Exploration Results, Mineral Resources and Mineral Reserves (2016), the SAMREC code.
Mineral Resources	An estimate of in-situ mineralisation as defined in the South African Code for Reporting of Exploration Results, Mineral Resources and Mineral Reserves (2016), the SAMREC code.
Mineral Resources cut	The width (thickness) of the selected mineralisation to sustain a practical mining cut, this being dependent on the mining method, geotechnical conditions and the distribution of the PGM, base metal and chromite mineralisation. This is often used synonymously with Mining cut unless otherwise stated. The cut will include internal diluting material, but depending on the selection definition, it may not include additional diluting material necessary for mining extraction.
Mineral right	The collective term for mining, prospecting and reconnaissance rights. In South Africa, these are governed by Mineral and Petroleum Resources Development Act, No 28 of 2002.
Mining cut	The width (thickness) of the selected mineralisation to sustain a practical mining cut, this being dependent on the mining method, geotechnical conditions and the distribution of the PGM, base metal and chromite mineralisation. This is often used synonymously with Mineral Resources cut unless otherwise stated.
Modifying factors	Factors applied to Mineral Resources, including mining dilutions, losses and extractions, to convert them to Mineral Reserves.
New order mining right	A right to mine and process ore granted in terms of section 23(1) of the Mineral and Petroleum Resources Development Act No 28 of 2002.
Open pit mining	Mining method, also known as open cast mining, is a surface mining technique that extracts minerals from an open pit in the ground, with no underground tunnelling or activities.
Ounces (oz)	Troy ounces – one ounce equals 31.103475 grams.
Outcrop	Similar to subcrop, this is the trace of a dipping, tabular surface or orebody intersecting the earth's surface.
PGE	Platinum group elements, synonymous with PGM.
Pothole	Potholes are near circular to elongate depressions or slumps on the reef horizon normally existing as severe disruptions which prevent economic extraction. Within the pothole, the reef may either be attenuated, has lithological layers that are missing or highly deformed, this being the result of the overlying hangingwall strata having slumped down.
Pre-feasibility study	A comprehensive study of a range of options for the technical and economic viability of a mineral project that has advanced to a stage where a preferred mining method is established and an effective method of mineral processing is determined. It includes a financial analysis based on reasonable assumptions. It has a lower confidence than a feasibility study.
Prill split	The percentage by mass of individual PGEs within the 4E or 6E content.
Prospecting right	A prospecting right is a permit issued by the State, which allows for the exclusive right to survey or investigate an area of land for the purpose of identifying an actual or probable mineral deposit. A prospecting right is valid for five years.
Radiometric survey	A geophysical survey performed using a radiometer to measure radioactive emanations from rock to discern underlying rock types.
Ropecon	An aerial rope conveyor to transport run of mine ore material from the mine to the concentrator.
SACNASP	The South African Council for Natural Scientific Professions.
SAIMM	The Southern African Institute of Mining and Metallurgy.
SAMREC Code	South African Code for the Reporting of Exploration Results, Mineral Resources and Mineral Reserves (2016).
Seismic survey	A geophysical exploration technique in which sound waves are transmitted through the ground, are reflected off rock layers and measured at surface. Its usefulness is to confirm continuity of the reefs and define large scale geological structures.
Stoping	The process of extracting ore from an underground mine when the strength of the rock mass and the pillar design is such that it permits extraction without immediate collapse.
Stringer	A narrow discrete layer, generally comprising chromitite.
Subcrop	Similar to outcrop, this is the trace of a dipping, tabular surface or orebody intersecting the base of soil or other cover near surface.
TEMS	Transient electromagnetics – a geophysical exploration technique in which electric and magnetic fields are induced by transient pulses of electric current and the subsequent decay response measured. It is used for discerning depth of overburden/soil cover and structural features in the underlying strata.
Trenching	Excavating a trench through soil cover to expose the underlying rock, with a view to mapping and sampling an orebody.

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