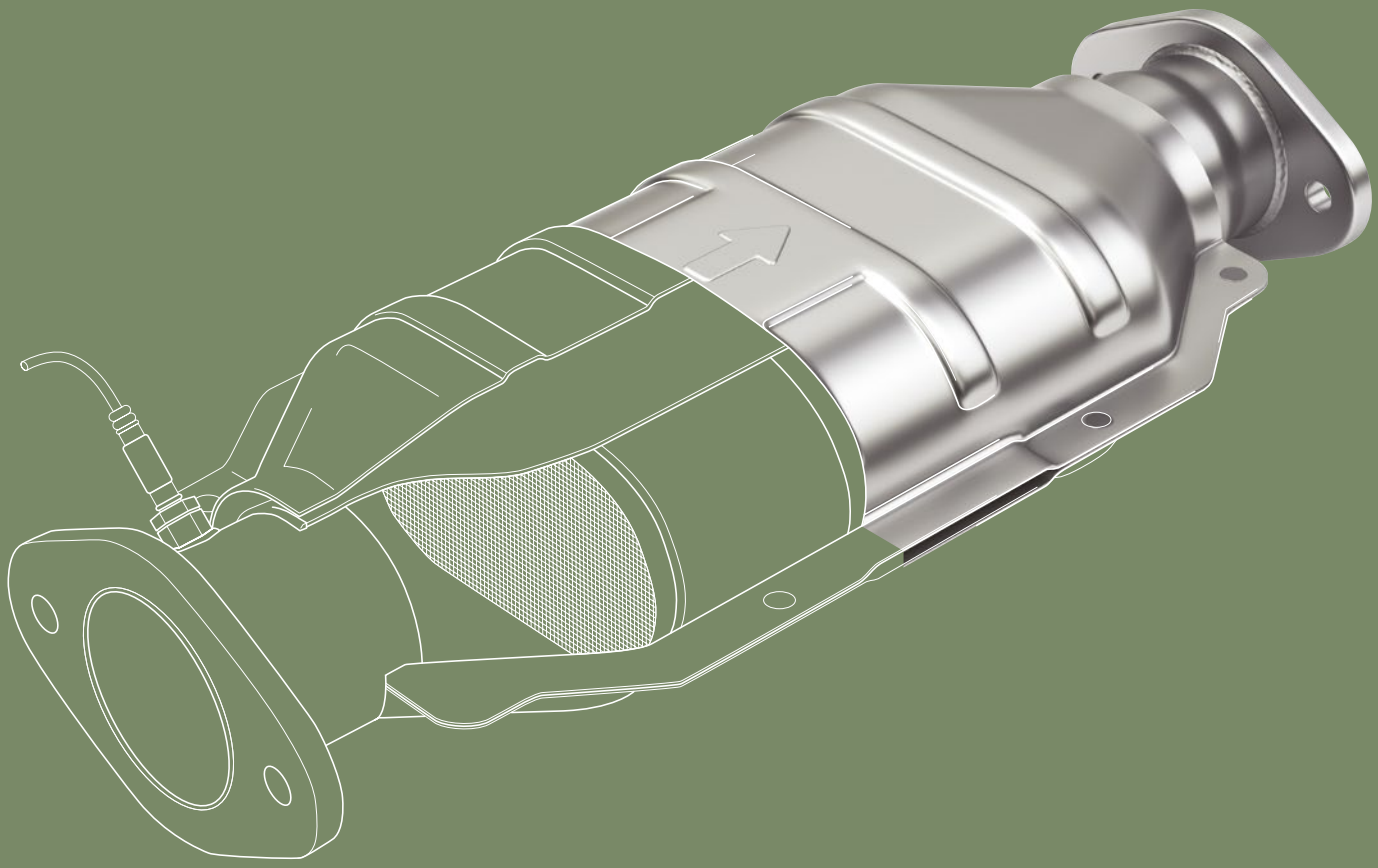
NORTHAM
PLATINUM LIMITED



SOLID SUSTAINABLE GROWTH

MINERAL RESOURCES AND MINERAL RESERVES STATEMENT 2019

Booysendal South
Aerial Rope Conveyor

Contents

***Mineral Resources** are the product of mineral assets and exploration processes.*

243.49 Moz 4E

Group Total Mineral Resources

F2018: 238.48 Moz 4E

***Mineral Reserves** are the outcome of mine planning and scheduling, as well as the application of capital.*

30.34 Moz 4E

Group Total Mineral Reserves

F2018: 28.49 Moz 4E

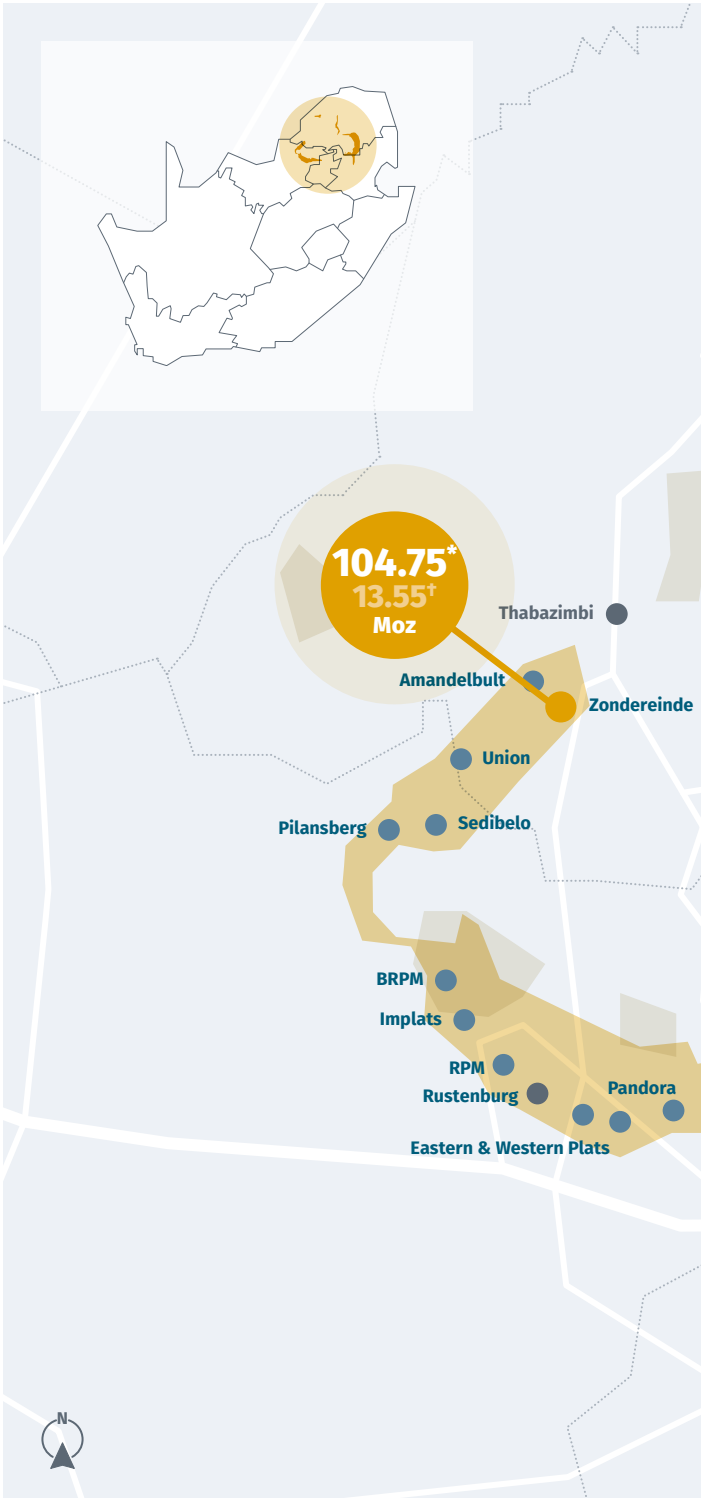
Core to the group's operational growth strategy has been the growth and strengthening of our mineral resource and mineral reserve base. This has been facilitated through the acquisition of quality resources in strategic locations, backed up by robust and exhaustive planning processes following best practice in line with the prescripts and principles of the SAMREC Code.

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 total Mineral Resources for 2019, expressed as metal content, comprise 243.49 Moz 4E, an increase of 5.01 Moz 4E on the previous year, 2018. The total Mineral Reserves comprise 30.34 Moz, an increase of 1.85 Moz from 2018. Both Mineral Resources and Mineral Reserves rest entirely within the Merensky and UG2 Reefs of the Bushveld Complex, South Africa. The 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 are reported inclusive of Mineral Reserves. All Mineral Resources and Mineral Reserves 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 middeldrift 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. Booysendal comprises North and South mine sections, together with the Booysendal Prospect. Northam also has a 50% attributable stake in the Dwaalkop PGM prospect through its wholly owned subsidiary Mvelephanda Resources. Dwaalkop is managed by Sibanye Gold Limited, trading as Sibanye-Stillwater (Sibanye-Stillwater), previously Lonmin plc.



KEY:

- **Wholly-owned operations**
- **Joint arrangements**
- **Other peer operations**
- **Cities/towns**
- **Main roads**

*** Mineral Resource 4E metal content**

† Mineral Reserve 4E metal content

0 50 100km

Bushveld location indicating current PGM mining operations and Northam's attributable 4E Mineral Resources and Mineral Reserves

Highlights of the 2019 Mineral Resources and Mineral Reserves

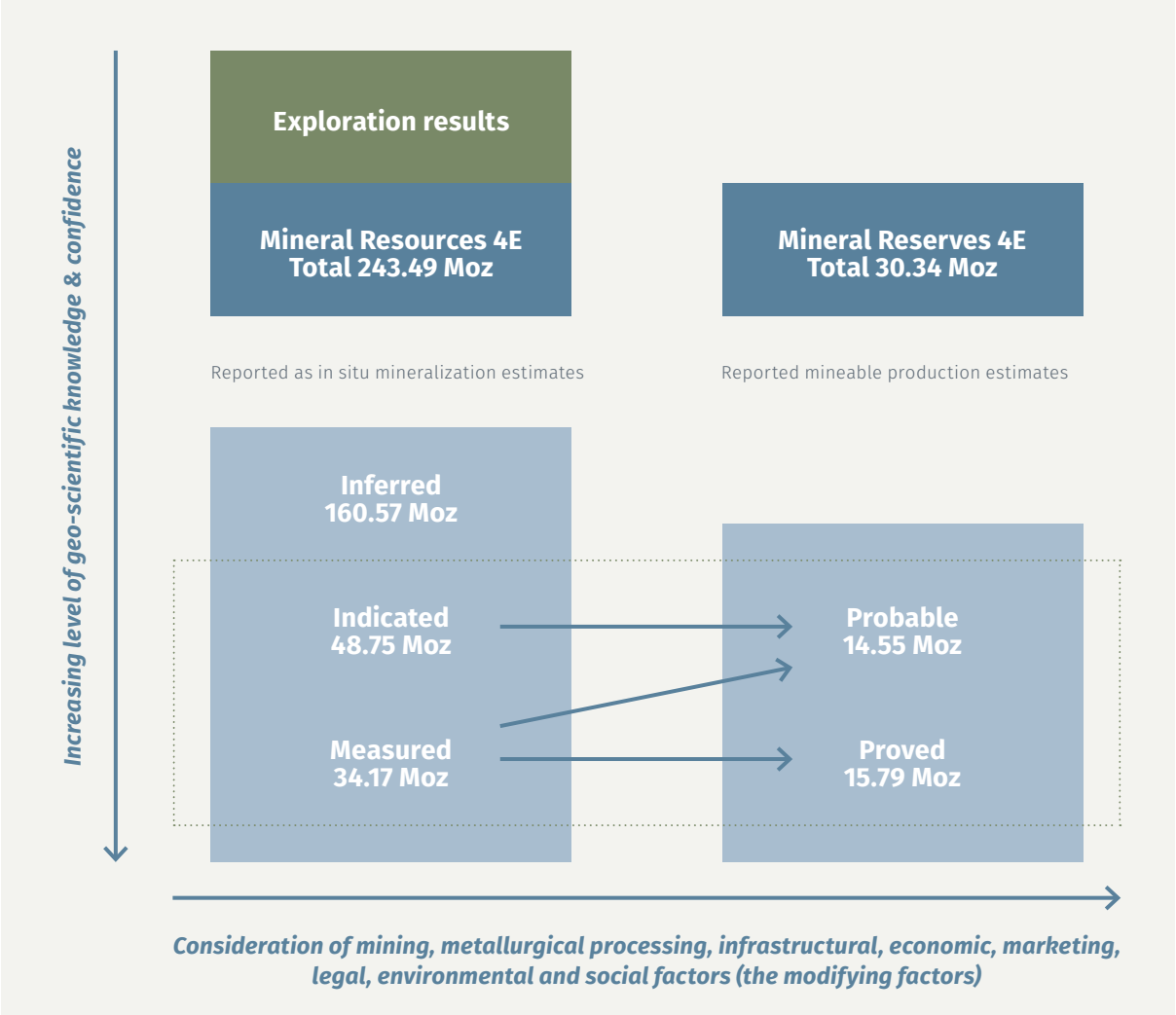
Northam's attributable total Mineral Resources at 30 June 2019 comprise 243.49 Moz, an increase of 5.01 Moz on the previous year. The change was attributed mostly to Booysendal mine; there being no changes to the Mineral Resources at the Eland mine and Dwaalkop Prospect in 2019.

During the financial year, the Mineral Resources and Mineral Reserves estimates for Zondereinde mine were comparable with the previous reporting year, barring mining depletions (0.46 Moz) at Zondereinde.

At the Booysendal mine, a revision of the grade estimates, geological loss models and the cut-off grade has led to a net increase of 5.47 Moz in the Mineral Resources. The Booysendal Mineral Reserves were assessed on revised Mineral Resources models, and this, together with boundary changes and mining depletions resulted in a net decrease of 0.30 Moz.

The Booysendal Mineral Resources and Mineral Reserves have been verified and endorsed through an independent external audit by Pivot Mining Consultants.

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



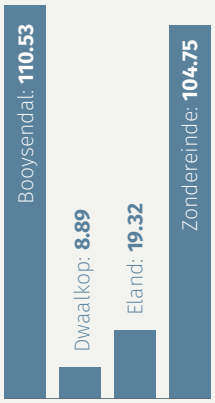
- The total Mineral Resources at Booysendal increased by 5.47 Moz in 2019. This is attributed to the net effect of an increase in the UG2 Mineral Resource (9.48 Moz) and a decrease in the Merensky Mineral Resource (4.01 Moz), these all being subject to a review of the mining cut, estimation, classification and cut-off grade.
  - The increased total UG2 Mineral Resource is attributed to the Inferred confidence category (7.39 Moz), an increase in the Measured (2.68 Moz) and a decrease in the Indicated (0.59 Moz) categories.
  - The decreased total Merensky Mineral Resource is mostly due to a decrease in the Indicated confidence category (5.26 Moz) attributed to re-evaluation, classification and boundary changes. The Measured Mineral Resources increased by 1.88 Moz, and a minor decrease in the Inferred Mineral Resources (0.62 Moz).
- The decrease in the total Zondereinde mine's Mineral Resources of 0.46 Moz is due to mining depletions of Merensky and UG2 reefs.

The Northam attributable Mineral Reserves at 30 June 2019 comprise 30.34 Moz, an increase of 1.85 Moz. The increase is attributed to the net result of an increased Mineral Reserve at Eland (2.51 Moz) being offset by mining depletion and re-evaluation at the Zondereinde and Booysendal mines (0.66 Moz). The notable changes on the previous year are:

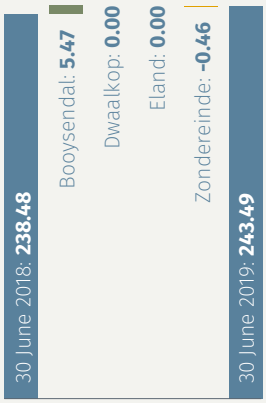
- The Booysendal Merensky Mineral Reserve increased from 2.57 Moz in 2018 to 2.93 Moz in 2019, the result of extending the South mine's boundary towards the south. This is due to planning and rescheduling of mining modules. The UG2 Mineral Reserve decreased from 11.49 Moz in 2018 to 10.83 Moz in 2019. The decrease in the UG2 Mineral Reserve is the result of reassessment of the Mineral Resource model and a reduction in the dilution applied in the modifying factors, this having the benefit of a higher grade.
- The Eland Mineral Reserve changed from 0.52 Moz in 2018 to 3.03 Moz in 2019, the increase attributed to the extension of the UG2 Probable Mineral Reserve arising from consideration of a mining feasibility assessment of the Kukama section.

Mineral Resources

Attributable Mineral Resources Moz 4E

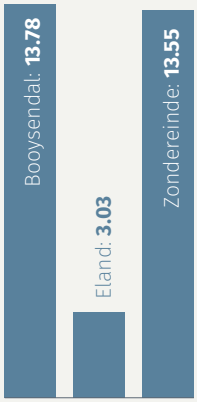


Annual change in Mineral Resources Moz 4E

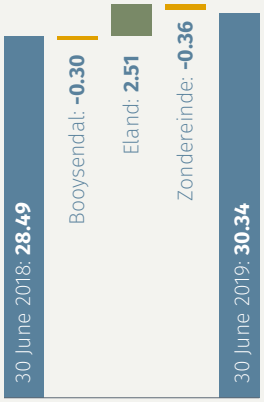


Mineral Reserves

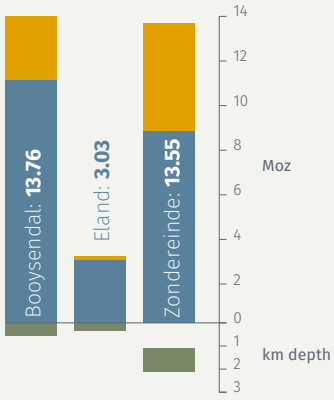
Attributable Mineral Reserves Moz 4E



Annual change in Mineral Reserves Moz 4E



Mineral Reserves Depth Range Moz 4E



Compliance

The JSE prescribes that the public reporting of Mineral Resources and Mineral Reserves complies with the guidelines defined in the South African Code for the reporting of Exploration Results, Mineral Resources and Mineral Reserves, the SAMREC Code (2016). The 2019 Northam Mineral Resources and Mineral Reserves 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 that defined in the SAMREC Code (2016). These can be found at www.samcode.co.za.

Northam has commenced with an independent review and audit of its Mineral Resources and Mineral Reserves. A process and verification audit on the Booysendal mine was conducted in 2019. No substantial findings were identified, and the auditors, Pivot Mining Consultants, have endorsed the Mineral Resources and Mineral Reserves estimates for the Booysendal mine. Further independent audits on the Zondereinde and Eland mines Mineral Resources and Mineral Reserves are scheduled for the coming years.

The company confirms that it is not aware of any legal or arbitration proceedings, either pending or threatened, which may have any material effect on the financial position of the company and its subsidiaries. Further to this, the risk management section on page 20 of the Northam annual integrated report 2019 summarizes management's analyses of the risks which may impact the company's ability to continue its activities.

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 on page 84 of the Northam annual financial statements 2019.

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. In addition, they include the attributable content of the Dwaalkop joint venture prospect, in which Northam holds a 50% stake. This is managed by Sibanye-Stillwater's subsidiary, Western Platinum Proprietary Limited.

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 applied, during January 2019, to exclude a small portion from the Zondereinde mining right, 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. This right is subject to a renewal application. An application for a new order mining right was submitted to the Department of Mineral Resources 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 million hectares of the Northern Cape Province. A prospecting work program was in progress and no mineral resources or mineral reserves have been estimated. Closure applications for these prospecting rights have been submitted to the Department of Mineral Resources.

Mineral rights held and managed by Northam

Property	*Type of right*	*Status*
Zondereinde mine	New order mining right	Converted mining right
Booysendal mine	New order mining rights	Converted mining rights
Eland mine	New order mining rights	Converted mining rights
Dwaalkop prospect	New order prospecting right	Application for a new order mining right in process
Kokerboom prospect	New order prospecting rights	Closure applications submitted

Competent persons

Numerous Competent Persons (CPs), as defined by the SAMREC Code (2016) have contributed to the estimation and tabulation of the Mineral Resources and Mineral Reserves. Mr Damian Smith BSc (Hons), MSc, Group Geologist for Northam, is the lead CP for the Northam Group and accordingly takes overall accountability for the Mineral Resources and Mineral Reserves estimates, these being compliant with the SAMREC Code (2016). The Northam CPs for each discipline have given written confirmation of their consent to publish these Mineral Resources and Mineral Reserves estimates.

Competent person	*Appointment*	*Years experience*	*Registration*
Damian Smith	Group Lead Resources & Reserves	29	PrSciNat 400323/04
Mpumelelo Thabethe	Zondereinde Resources	10	PrSciNat 400309/14
Charl Van Jaarsveld	Zondereinde Reserves	16	PrSciNat 400268/05
Meshack Mqadi	Booysendal Resources	11	PrSciNat 400703/15
Willie Swartz	Booysendal Reserves	25	SAIMM 709852
Paula Preston	Eland Resources	11	PrSciNat 400429/04
Coenie Roux	Eland Reserves	25	IMSSA 2438

The Mineral Resources estimate for the Dwaalkop prospect was compiled by Mr. David Gray, a competent person affiliated to Snowden Mining Consultants at the time of compilation (2006), under supervision of Lonmin, now Sibanye-Stillwater.

Group Mineral Resources and Mineral Reserves

The following tables summarize the Mineral Resources and Mineral Reserves attributable to Northam for both the current and previous year. General notes to these Mineral Resources and Mineral Reserves 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 concession.

Northam Group total Mineral Resources estimate

(combined measured, indicated and inferred)[1, 2, 3, 4, 5]

		30 June 2019			*30 June 2018*		
		4E			*4E*		
Reef	***Mine***	***Mt***	***g/t***	***Moz***	***Mt***	***g/t***	***Moz***
Merensky	Booysendal Prospect[7]	242.35	3.87	30.17	273.67	4.02	35.41
	Booysendal North mine	22.16	2.99	2.13	21.71	3.19	2.23
	Booysendal South mine	27.44	2.72	2.40	11.98	2.78	1.07
	Dwaalkop[6]	38.05	2.98	3.64	38.05	2.98	3.64
	Eland	4.82	1.03	0.16	4.82	1.03	0.16
	Zondereinde	207.88	7.50	50.11	208.88	7.45	50.05
	Total	**542.70**	**5.08**	**88.61**	**559.11**	**5.15**	**92.56**
UG2	Booysendal Prospect[7]	426.01	4.09	56.01	381.10	3.84	46.99
	Booysendal North mine	52.65	3.36	5.68	46.12	4.53	6.72
	Booysendal South mine	119.17	3.69	14.14	129.05	3.05	12.64
	Dwaalkop[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	336.34	5.05	54.64	340.00	5.05	55.16
	Total	**1 119.16**	**4.30**	**154.88**	**1081.26**	**4.20**	**145.92**
Combined	Booysendal Prospect[7]	668.36	4.01	86.18	654.77	3.91	82.40
	Booysendal North mine	74.81	3.25	7.81	67.83	4.10	8.95
	Booysendal South mine	146.61	3.51	16.54	141.03	3.02	13.71
	Dwaalkop[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	544.22	5.99	104.75	548.88	5.96	105.21
	Total	**1 661.86**	**4.56**	**243.49**	**1 640.37**	**4.52**	**238.48**

Northam group total Mineral Reserves estimate

(combined proved and probable) [1, 2, 4, 5]

		30 June 2019			30 June 2018		
		4E			4E		
Reef	*Mine*	*Mt*	*g/t*	*Moz*	*Mt*	*g/t*	*Moz*
Merensky	Booysendal Prospect[7]	0.00	0.00	0.00	0.00	0.00	0.00
	Booysendal North mine	12.80	2.79	1.15	18.99	2.87	1.75
	Booysendal South mine	21.50	2.58	1.78	9.84	2.59	0.82
	Dwaalkop[6]	0.00	0.00	0.00	0.00	0.00	0.00
	Eland	5.04	0.86	0.14	5.04	0.86	0.14
	Zondereinde	26.88	5.69	4.92	28.38	5.57	5.08
	Total	**66.22**	**3.75**	**7.99**	**62.25**	**3.89**	**7.79**
UG2	Booysendal Prospect[7]	0.00	0.00	0.00	0.00	0.00	0.00
	Booysendal North mine	42.24	3.04	4.13	51.85	2.95	4.92
	Booysendal South mine	58.93	3.54	6.70	77.54	2.64	6.57
	Dwaalkop[6]	0.00	0.00	0.00	0.00	0.00	0.00
	Eland	25.50	3.53	2.89	3.77	3.14	0.38
	Zondereinde	62.86	4.27	8.63	64.54	4.26	8.83
	Total	**189.53**	**3.67**	**22.35**	**197.70**	**3.26**	**20.70**
Combined	Booysendal Prospect[7]	0.00	0.00	0.00	0.00	0.00	0.00
	Booysendal North mine	55.04	2.98	5.28	70.84	2.93	6.67
	Booysendal South mine	80.43	3.28	8.48	87.38	2.63	7.39
	Dwaalkop[6]	0.00	0.00	0.00	0.00	0.00	0.00
	Eland	30.54	3.09	3.03	8.81	1.84	0.52
	Zondereinde	89.74	4.70	13.55	92.92	4.66	13.91
	Total	**255.75**	**3.69**	**30.34**	**259.95**	**3.41**	**28.49**

Notes:

1 *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).*

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

3 *Mineral Resources are reported inclusive of Mineral Reserves.*

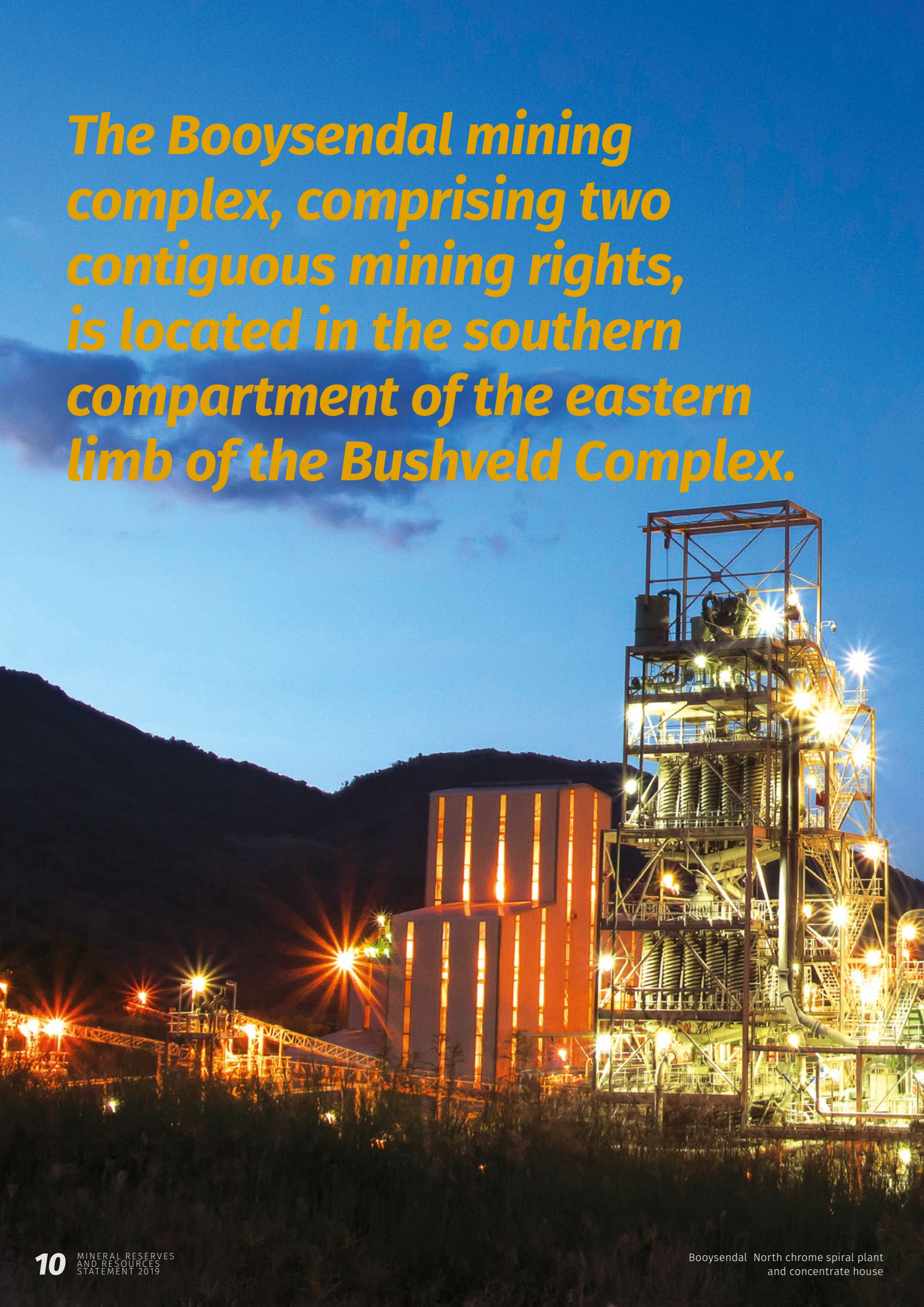
4 *PGM grade is expressed as 4E (combined platinum, palladium, rhodium and gold); this being synonymous with 3PGE+Au.*

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

6 *Current Mineral Resources for Dwaalkop are quoted as at 30 September 2018 while those of the previous year are as at 30 September 2017. There are no Mineral Reserves declared for Dwaalkop, these being removed in 2015 due to the prevailing economic viability at the time of assessment.*

7 *Booysendal Prospect comprises the previously defined and reported areas of Booysendal North and Booysendal South.*

The Booysendal mining complex, comprising two contiguous mining rights, is located in the southern compartment of the eastern limb of the Bushveld Complex.



Booysendal North chrome spiral plant and concentrate house

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 km^2 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 (see figure on page 13), and ranges in thickness from 7 to 12 km.

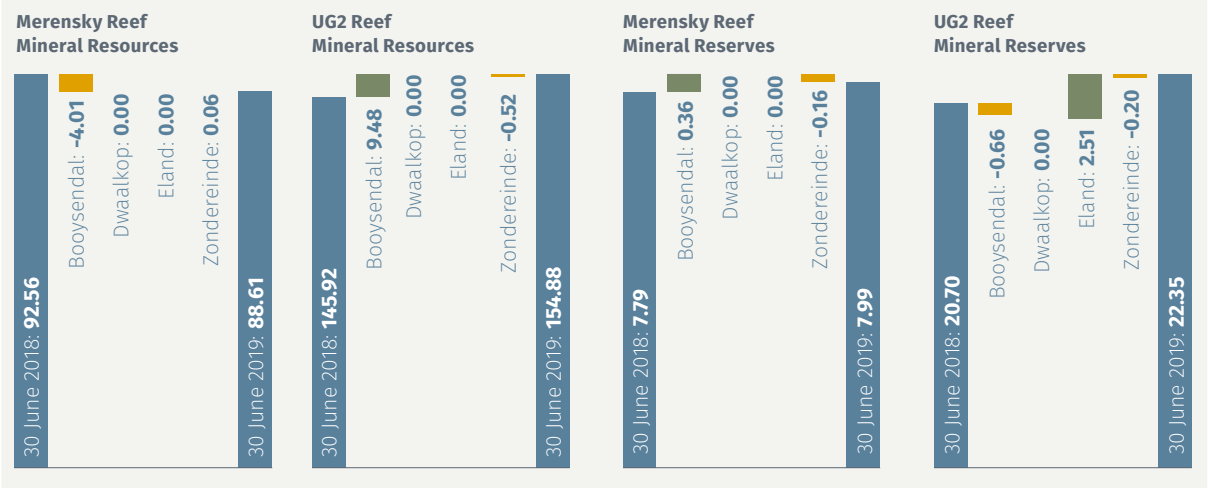
The magmatic layering in the RLS is laterally persistent and can be correlated throughout most of the complex. Layering is generally shallow dipping towards the centre of the complex. The RLS stratigraphy is sub-divided into five zones, which are, from lowest to highest, the Marginal Zone, the Lower Zone, the Critical Zone (which is further subdivided into a lower and upper unit), the Main Zone and the Upper Zone.

PGMs and associated precious and base metal mineralisation is hosted in or adjacent to chromitite seams located within the Upper Critical Zone of the RLS. There are two significant ore bodies from which 75% 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 to 200 m on the western limb and between 170 and 400 m on the eastern limb.

Historically, South African PGM production was concentrated on the western limb. However, over the past 15 years, the eastern and northern limbs have become the focus of new mine development.

The three wholly-owned Northam properties, the Booysendal, Eland and Zondereinde mines, contain Mineral Resources of both UG2 and Merensky Reefs.

Changes in the Mineral Resources and Mineral Reserves, Moz 4E



Exploration

The focus of Northam's exploration is routine mineral resource upgrading through infill drilling campaigns, and specific geotechnical evaluation drilling necessary for the placing of future mining infrastructure. In particular, infill drilling has been done in recent years immediately ahead of mining at the Booysendal mine. In 2019, a deep level geotechnical drilling campaign was conducted at the western extension section of Zondereinde in support of mitigating risk around future planned mining infrastructure. Ad hoc drilling at the Eland mine has focused on testing geological continuity for future surface mining, and resolving structural geological domains.

Assessment process

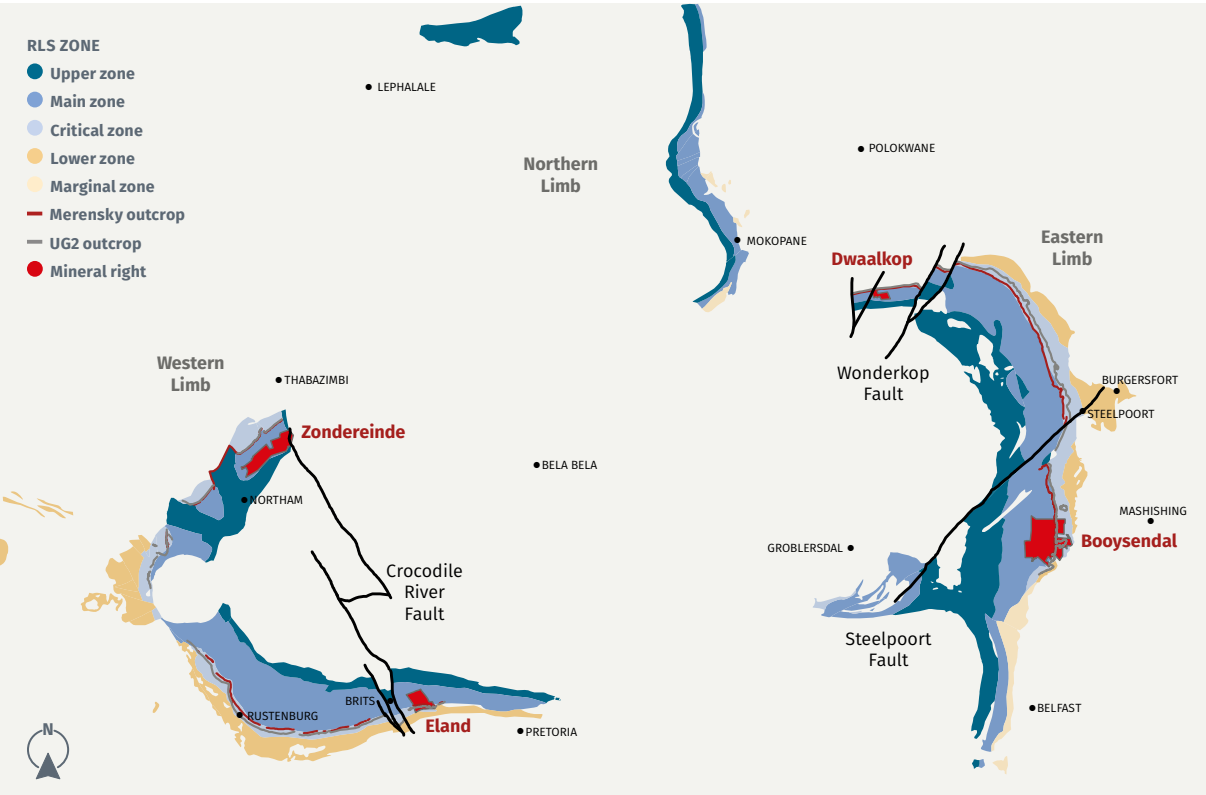
The compilation of the Mineral Resources and Mineral Reserves at each operation is based on digital systems, the processes currently being aligned and standardized between mines.

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
- Aeromagnetic information
- Underground geological mapping and channel sampling
- 3D seismic information (Zondereinde western extension)

RLS outcrop and Northam mines



These data are used to construct an integrated geological model by aligning the predicted geological structures with the underground exposures, and thus further developing a reliable geological discount model. Underground mapping and the channel sampling allows for detailed delineation of reef sub-types. For example, the differentiation of the Merensky Reef at Zondereinde into the Normal, P2, NP2 and FWP2 sub-types (or facies) allows for accurate ore accounting and grade estimation; whereas at the Booysendal mine, these type of data are essential for grade control and Mineral Resource cut delineation.

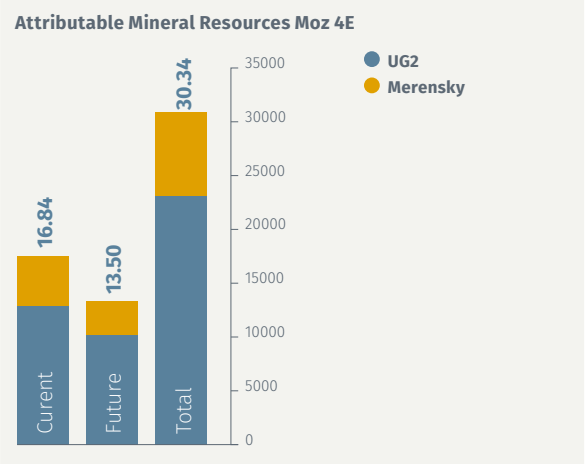
Grade models

Grade models are developed by interpolating the individual grade elements using a variety of estimation methods, with ordinary kriging of the elements or accumulation being widely used at the Booysendal and Zondereinde mines.

Mine design & schedule

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 attributed to geological structures. Similarly, the modifying factors in subsequent reporting periods may also be adjusted to align with parameters derived from recent mining results.

Mineral Reserves relationship to key infrastructure



Reporting process

Important findings – Mineral Reserves

The location of the Mineral Reserves relative to the operations key infrastructure provides insight to access and some indication of what 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 deep at the Zondereinde mine. The mining depth has necessitated different mining extraction strategies and mine designs, which are dealt with in detail in the subsequent sections.

Working on agitators at the PGM concentrator

Booysendal mine

Booysendal is a relatively young, multi-modular mine, with ore production ramping up to reach steady state within the next three years.

Business overview

The initial production at the Booysendal North mine was the outcome of a feasibility study in 2009, which favoured 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, extracting from a resource block extending over approximately 4 km on strike and 2 km on dip from outcrop commenced in May 2010 and reached its 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 metal on concentrate per annum in October 2018.

Below
Boysendal South Concentrator, PGM float cells

110.53 Moz 4E
Total Mineral Resource

13.76 Moz 4E
Total Mineral Reserve

217 483 oz 4E
Current year production

In December 2015, the feasibility study of mining Merensky Reef over a similar footprint to the North UG2 mine was completed. These two modules collectively comprise Booysendal North mine. The development of the Phase 1 Merensky module commenced immediately following this. Steady state production of 0.3 Mt per annum was achieved in April 2017 generating 25 000 oz of metal in concentrate. A Phase 2 extension is planned which would grow production to approximately 0.65 Mt per annum.

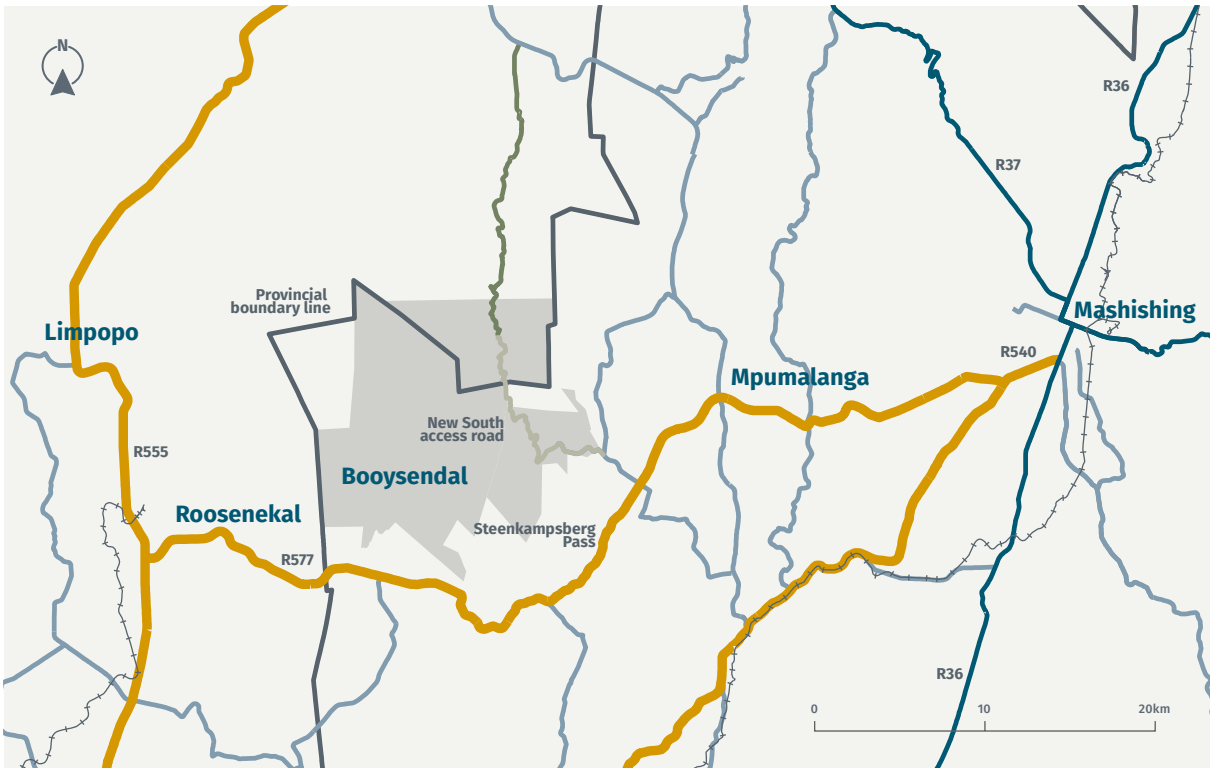
A further study to determine the feasibility of mining both UG2 and Merensky Reef from four mining modules in the central and southern portions of Booysendal was completed in June 2016. These combined modules comprise the Booysendal South mine. Development of three modules; being BS1, BS2 and BCM has commenced and they are expected to reach a total steady state production rate of 2.8 Mt per annum in June 2023.

Location

The Booysendal mining concession, comprising two contiguous mining rights, 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.

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

Booysendal location and access routes



Geological setting

The Bushveld stratigraphic sequence at Booysendal is similar to that found across the southern compartment of the eastern limb. The Critical Zone stratigraphy is fully developed, and middling between the UG2 and Merensky Reefs is in the order of 175 m in the northern and central portions of Booysendal, become wider further south. 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 concession, 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 Bushveld's western limb, whereas the Merensky Reef is typical of the thick pyroxenite-type unit of the northern portion of the Bushveld's eastern limb and south-eastern portion of the western limb.

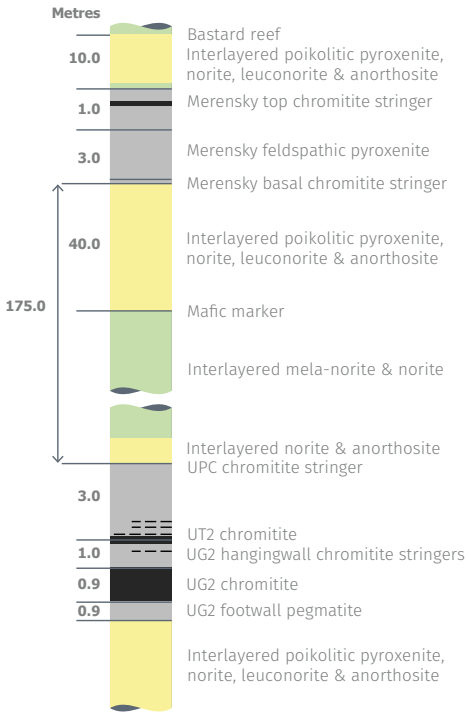
Merensky Reef

The Merensky Reef rests in the upper mineralized portion of the Merensky pyroxenite unit, generally extending over 110 cm. The Merensky Reef is immediately overlain by a sequence of competent norite bearing strata. PGM and base metal mineralisation is uni-modal, generally with highest concentrations occurring 10-15 cm below the top of the Merensky pyroxenite unit and tailing off rapidly into the overlying norite and more gradually into the underlying pyroxenite.

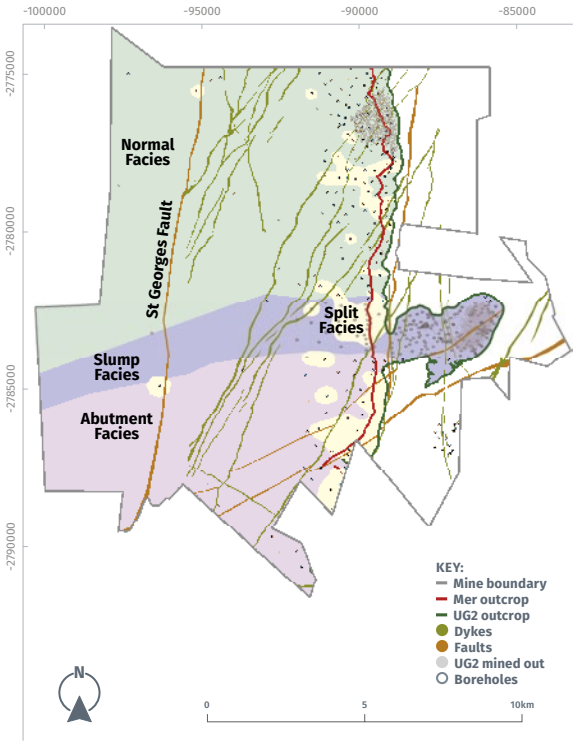
UG2 Reef

The UG2 Reef consists of the upper Leader Chromitite and a lower Main Chromitite with a combined thickness of approximately 140 cm. 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. These, for the Booysendal Prospect, comprise pothole and structural losses which, combined, range between 24% and 32% loss for the UG2, and between 22% and 26% loss for the Merensky Reef. These include additional unknown losses as a contingency in the prospect areas where drilling is sparse. Within the mining blocks, there is higher degree of geological confidence on the losses from closer spaced drilling and mining exposure, these being c. 13% and 17% for the UG2 and Merensky Reef respectively.

Exploration

Prior to mining, exploration drilling comprised 520 boreholes. Since the outset of mining, Booysendal has conducted two surface drilling campaigns, completing a total of 29 622 m drilling from 108 boreholes. In 2019, geological evaluation of the existing boreholes continued with sampling and geological modelling. Infill evaluation drilling is planned for the North mine area, accessing the UG2 Reef from the overlying Merensky Reef excavations in the coming year. Further, underground delineation drilling of 13 200 m, identifying potholes and geological structures continued in the past year.

Mining configuration

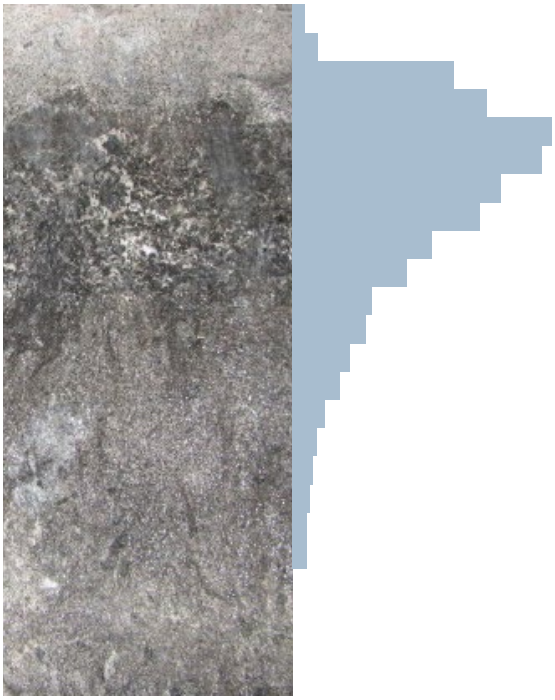
The relatively large vertical separation of the reefs leads to separate districts for the UG2 and Merensky mining, accessed via separate development tunnels. The Booysendal North and South mines are underground, mechanised bord and pillar mines, accessed from surface via ramp decline systems.

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 1 300 m in the down dip direction from the 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. Strike belts within the drives transport ore to the central decline dip belt system for transport to a UG2 concentrator plant on surface. Mechanised boom rigs and LHDs are employed in mining and development.

Booysendal Reef-types

Merensky **PGE**



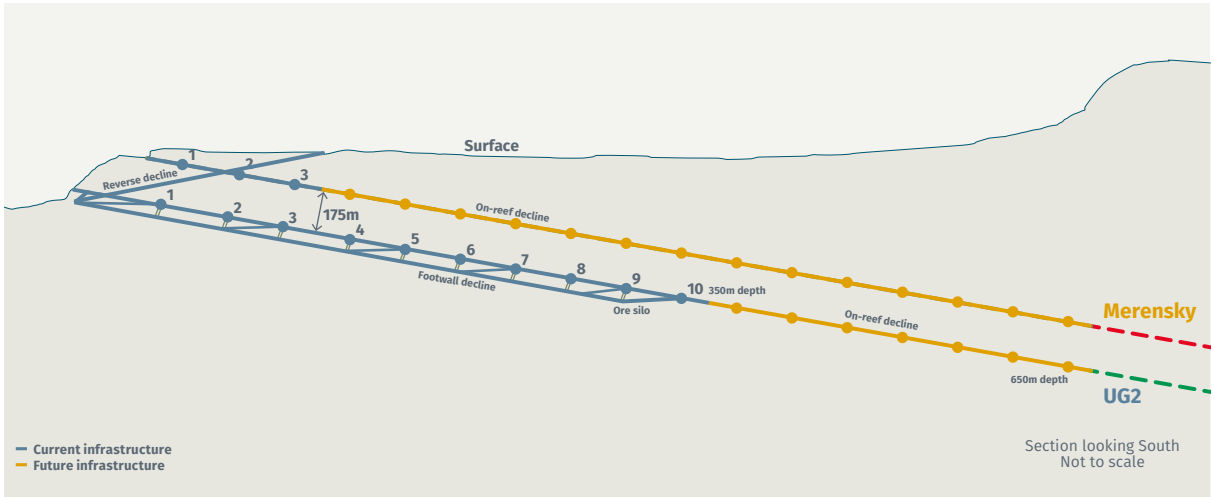
UG2 **PGE**

North UG2 mine is planned, with a current remaining life of more than 20 years, to produce 2.2 Mt of ore per annum at steady state, generating in the order of 180 000 4E oz of metals in concentrate, together with associated precious and base metal by-products.

The initial two UG2 modules of South mine have estimated lives of greater than 20 years at a combined steady state production rate of 2.6 Mt of ore per year, generating circa 250 000 4E oz of metals in concentrate, together with associated precious and base metal by-products.

The North & South Merensky mines are essentially analogs of the South UG2 mine with all development on reef. Dependent upon prevailing market conditions, the Phase 1 North Merensky mine is planned to produce at 0.3 Mt of ore per annum at steady state, generating in the order of c. 25 000 oz 4E of metals in concentrate, together with associated precious and base metal by-products. The South Merensky mine is planned to produce 0.65 Mt of ore per annum, producing some 55 000 oz 4E metals in concentrate.

Booysendal North mine Generalised Section



Booysendal South mine Generalised Section

Mineral Resources and Mineral Reserves

The Mineral Resources estimate for the Booysendal mining right has three major components, these being; the combined UG2 and Merensky North mines (North mine); the combined UG2 and Merensky South mines (South mine), and the remainder enclosing area of the concession for which no Mineral Reserves have been declared (Booysendal Prospect). The Booysendal Prospect comprises the previously defined and reported areas of Booysendal North and Booysendal South. Mineral Reserves estimates are presented for the North and South mines.

North mine

UG2 Reef

The UG2 combined Measured & Indicated Mineral Resource for the Booysendal North mine has increased from 46.12 Mt (6.72 Moz) in June 2018 to 52.65 Mt (5.68 Moz) in June 2019, a result of a revision of the Mineral Resource cut.

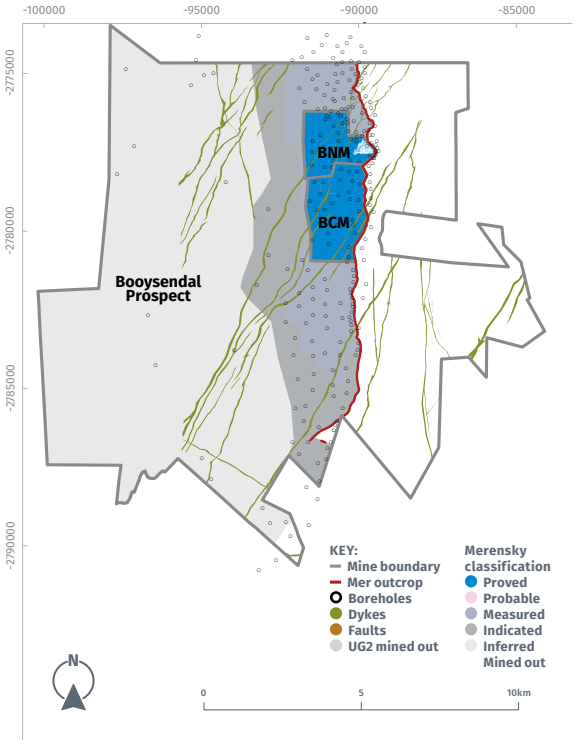
The UG2 combined Proved and Probable Mineral Reserve has decreased from 51.85 Mt (4.92 Moz) in June 2018 to 42.24 Mt (4.13 Moz) in June 2019, this being mostly attributed to changes in mining cut impacting dilution and metal content.

Merensky Reef

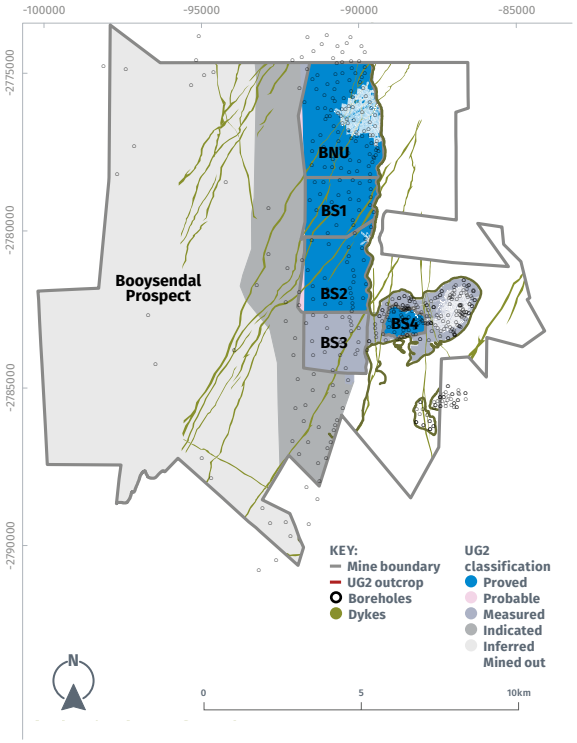
The Merensky Measured Mineral Resource for the Booysendal North mine has increased from 21.71 Mt (2.23 Moz) in June 2018 to 22.16 Mt (2.13 Moz) in June 2019. This is the net result of extension of the boundary in the down dip direction and smaller reduction in the southern strike direction.

The Merensky Proved reserve has consequently decreased from 18.99 Mt (1.75 Moz) in June 2018 to 12.80 Mt (1.15 Moz) in June 2019. This decrease in Mineral Reserve is attributed to reducing the southern footprint of the scheduled reserve and not having scheduled into the down dip extension.

Booysendal Merensky Reef Confidence Plan



Booysendal UG2 Reef Confidence Plan



Booysendal North mine Mineral Resources

		30 June 2019 4E			30 June 2018 4E		
Reef	*Classification*	*Mt*	*g/t*	*Moz*	*Mt*	*g/t*	*Moz*
Merensky	Measured	22.16	2.99	2.13	21.71	3.19	2.23
	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	**22.16**	**2.99**	**2.13**	**21.71**	**3.19**	**2.23**
UG2	Measured	51.68	3.35	5.57	41.56	4.46	5.96
	Indicated	0.96	3.63	0.11	4.56	5.15	0.76
	Inferred	0.00	0.00	0.00	0.00	0.00	0.00
	Total	**52.65**	**3.36**	**5.68**	**46.12**	**4.53**	**6.72**
Combined	Measured	73.84	3.24	7.70	63.27	4.03	8.19
	Indicated	0.96	3.55	0.11	4.56	5.15	0.76
	Inferred	0.00	0.00	0.00	0.00	0.00	0.00
	Total	**74.81**	**3.25**	**7.81**	**67.83**	**4.10**	**8.95**

Booysendal North mine Mineral Reserves

		30 June 2019 4E			30 June 2018 4E		
Reef	*Classification*	*Mt*	*g/t*	*Moz*	*Mt*	*g/t*	*Moz*
Merensky	Proved	12.80	2.79	1.15	18.99	2.87	1.75
	Probable	0.00	0.00	0.00	0.00	0.00	0.00
	Total	**12.80**	**2.79**	**1.15**	**18.99**	**2.87**	**1.75**
UG2	Proved	41.39	3.04	4.05	45.77	2.95	4.34
	Probable	0.84	3.04	0.08	6.08	2.96	0.58
	Total	**42.24**	**3.04**	**4.13**	**51.85**	**2.95**	**4.92**
Combined	Proved	54.20	2.98	5.20	64.76	2.92	6.09
	Probable	0.84	2.95	0.08	6.08	2.96	0.58
	Total	**55.04**	**2.98**	**5.28**	**70.84**	**2.93**	**6.67**

Prill splits %	*Pt*	*Pd*	*Rh*	*Au*	*Cr_2O_3%*	*Cu%*	*Ni%*
UG2	53.8	35.6	9.7	0.9	17.7	0.008	0.039
Merensky	57.5	31.1	2.7	8.7	0.2	0.091	0.197

South mine
UG2 Reef

The tonnage of the UG2 Measured Mineral Resource for the Booysendal South mine has decreased from 129.05 Mt (12.64 Moz) in June 2018 to 119.17 Mt (14.14 Moz) in June 2019 as a result of re-evaluation of the orebody associated with the Split facies. The more constrained Split facies domain with less internal dilution has resulted in an increase in the Mineral Resource grade from 3.05 g/t to 3.69 g/t.

The tonnage of the UG2 Proved Mineral Reserve has decreased, in line with the Measured resource, from 77.54 Mt (6.57 Moz) in June 2018 to 58.93 Mt (6.70 Moz) in June 2019. This is a result of the narrower Mineral Resource cut associated with the Split facies. However, the Mineral Reserve has benefited from a concomitant increase in grade.

Merensky Reef

The Measured Mineral Resource for the Merensky Reef of the Booysendal South mine has increased from 11.98 Mt (1.07 Moz) in June 2018 to 27.44 Mt (2.40 Moz) in June 2019, a result of the boundary change to the south.

The Merensky Proved Mineral Reserve has increased from 9.84 Mt (0.82 Moz) to 21.50 Mt (1.78 Moz) in line with the revised boundary for the Mineral Resources.

Booysendal South mine Mineral Resources

		30 June 2019 4E			30 June 2018 4E		
Reef	*Classification*	*Mt*	*g/t*	*Moz*	*Mt*	*g/t*	*Moz*
Merensky	Measured	27.44	2.73	2.40	11.98	2.78	1.07
	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**	**11.98**	**2.78**	**1.07**
UG2	Measured	117.26	3.69	13.91	107.73	3.01	10.41
	Indicated	1.91	3.77	0.23	20.20	3.24	2.10
	Inferred	0.00	0.00	0.00	1.12	3.53	0.13
	Total	**119.17**	**3.69**	**14.14**	**129.05**	**3.05**	**12.64**
Combined	Measured	144.70	3.51	16.31	119.71	2.98	11.48
	Indicated	1.91	3.75	0.23	20.20	3.24	2.10
	Inferred	0.00	0.00	0.00	1.12	3.53	0.13
	Total	**146.60**	**3.51**	**16.54**	**141.03**	**3.02**	**13.71**

Booysendal South mine Mineral Reserves

		30 June 2019 4E			30 June 2018 4E		
Reef	*Classification*	*Mt*	*g/t*	*Moz*	*Mt*	*g/t*	*Moz*
Merensky	Proved	21.50	2.58	1.78	9.84	2.59	0.82
	Probable	0.00	0.00	0.00	0.00	0.00	0.00
	Total	**21.50**	**2.58**	**1.78**	**9.84**	**2.59**	**0.82**
UG2	Proved	57.65	3.54	6.55	69.92	2.64	5.93
	Probable	1.28	3.49	0.14	7.62	2.61	0.64
	Total	**58.93**	**3.53**	**6.70**	**77.54**	**2.64**	**6.57**
Combined	Proved	79.15	3.28	8.33	79.76	2.63	6.75
	Probable	1.28	3.49	0.14	7.62	2.61	0.64
	Total	**80.43**	**3.28**	**8.48**	**87.38**	**2.63**	**7.39**

Prill splits %	*Pt*	*Pd*	*Rh*	*Au*	*Cr_2O_3%*	*Cu%*	*Ni%*
UG2	53.5	35.7	9.9	0.9	18.9	0.006	0.044
Merensky	58.1	30.9	2.3	8.7	0.1	0.078	0.185

Booysendal Prospect

The combined Merensky and UG2 Mineral Resources for the Booysendal Prospect increased by 3.78 Moz on the previous reporting period, the net result of an increase of 0.22 Moz in Measured and 6.91 Moz in Inferred categories being offset by a decrease of Indicated Mineral Resources of 3.33 Moz.

Booysendal Prospect Mineral Resources

		30 June 2019 4E			*30 June 2018* 4E		
Reef	***Classification***	***Mt***	***g/t***	***Moz***	***Mt***	***g/t***	***Moz***
Merensky	Measured	29.45	3.77	3.57	24.12	3.77	2.93
	Indicated	34.05	4.05	4.44	77.27	3.91	9.70
	Inferred	178.85	3.86	22.16	172.28	4.11	22.79
	Total	**242.35**	**3.87**	**30.17**	**273.67**	**4.02**	**35.42**
UG2	Measured	1.43	4.56	0.21	3.69	5.36	0.64
	Indicated	99.11	4.15	13.22	94.17	3.73	11.29
	Inferred	325.46	4.07	42.58	283.24	3.85	35.06
	Total	**426.01**	**4.09**	**56.01**	**381.10**	**3.84**	**46.99**
Combined	Measured	30.88	3.80	3.78	27.81	3.98	3.57
	Indicated	133.16	4.12	17.66	171.44	3.81	20.99
	Inferred	504.31	3.99	64.75	455.52	3.95	57.85
	Total	**668.36**	**4.01**	**86.19**	**654.77**	**3.91**	**82.40**

Prill splits %	***Pt***	***Pd***	***Rh***	***Au***	***Cr_2O_3%***	***Cu%***	***Ni%***
UG2	59.7	30.0	9.5	0.8	30.0	0.009	0.086
Merensky	58.4	31.5	2.4	7.7	0.2	0.106	0.230

Notes on Booysendal Mineral Resources and Mineral Reserves

1. *The Mineral Resources estimate is informed by exploration data, including 648 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. Borehole spacing in this area ranges from 130 to 300 m apart. Channel sample sections are located at 15 to 60 m intervals within on-reef development and stoping.*
2. *Mineral Resources were estimated over a mineable cut. Within the North mine and South mine areas, both the UG2 and Merensky Mineral Resource channels have been selected to support mechanized mining. The UG2 Mineral Resource 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 mining cut is 210 cm thick, and extends from 50cm above the top of the Merensky Pyroxenite, such that all mineralization can be captured.*
3. *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, with a minimum thickness width of 100 cm.*
4. *A cut-off grade of 2.0 g/t 4E has been applied to estimated blocks in the Booysendal Prospect, these below being excluded from the Mineral Resource. No Mineral Resource blocks from the mining districts have been excluded, these all having realistic prospect of extraction.*
5. *The Mineral Resource confidence categorization was based upon a combination of quantitative geostatistical parameters, together with a qualitative appreciation of ore body continuity informed by the resource database together with data from surrounding properties.*
6. *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 of 4E.*
7. *Mineral Reserves for Booysendal relate to the current and planned mining modules, the Booysendal North and South mines.*

Booysendal mine

In-mine exploration drilling

Eland mine

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

Business overview

This 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 of 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. Mining operations are currently suspended, however mining of Kukama utilizing a conventional hybrid mining method will commence in F2020.

Below
Eland mine chrome stacker pad

Location

Eland mine is located in the south-eastern portion of the western limb of the Bushveld Complex, some 70 km north of Johannesburg and 12 km east of Brits, in the North-West Province of South Africa.

Two contiguous mining rights 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, dipping at approximately 19° to the north. The vertical separation between Merensky and UG2 Reefs is approximately 200 m.

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 in 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 two reefs. 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 into Normal, Split and Zilkaats sub-type domains.

Merensky Reef

The Merensky Reef is the upper mineralised portion of the Merensky pyroxenite, generally extending over 2 to 3 m of the pyroxenite that reaches up to 20 m thickness. 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.

UG2 Reef

The internal structure of the UG2 Reef is similar to that found in the remainder of the Bushveld western limb, albeit thicker and lacking chromitite stringers or leaders in the immediate hangingwall.

Eland location and access routes

The UG2 Normal and Split facies consist of massive, upper Leader and lower Main seam chromitites 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. 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 thickness interval of silicate rocks. This generally renders the lower seam portion to be sub-economic.

Geological discounts

An average of 12% unknown geological loss was applied to the Merensky Reef and 22% unknown loss for the UG2 Reef. Geological losses include those from dykes, fault loss and potholes and are applied to mineral resource block areas in addition to other areas removed as a result of known major geological structures in which no Mineral Resources are believed to be developed.

Exploration

Surface exploration activity during the year was focused on near sub-crop delineation of the Merensky, UG2 and UG1 ore bodies.

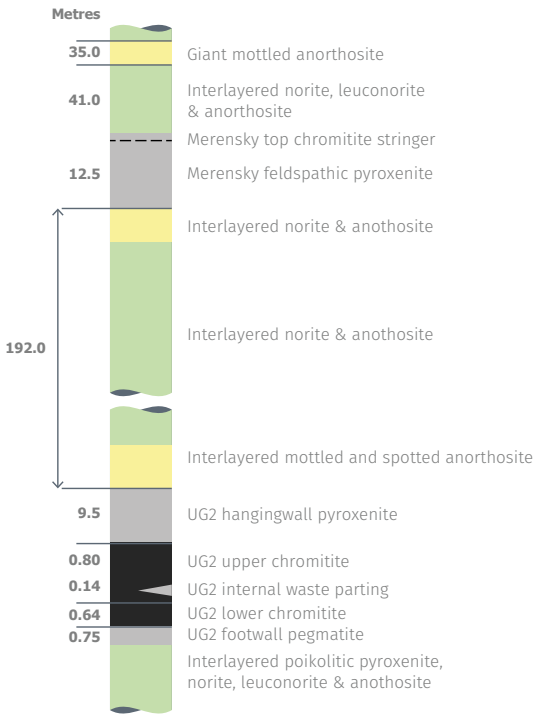
This comprised diamond core drilling and trenching to retrieve samples for analysis, together with an electromagnetic geophysical survey, specifically of the UG2 in eastern portion of the mining right.

16 Merensky trenches were excavated and mapped and 76 samples collected and analysed. Five UG2 trenches were excavated on the eastern UG2 sub-crop, which are still to be mapped. 10 UG1 trenches were excavated and mapped and 31 samples were collected and analysed.

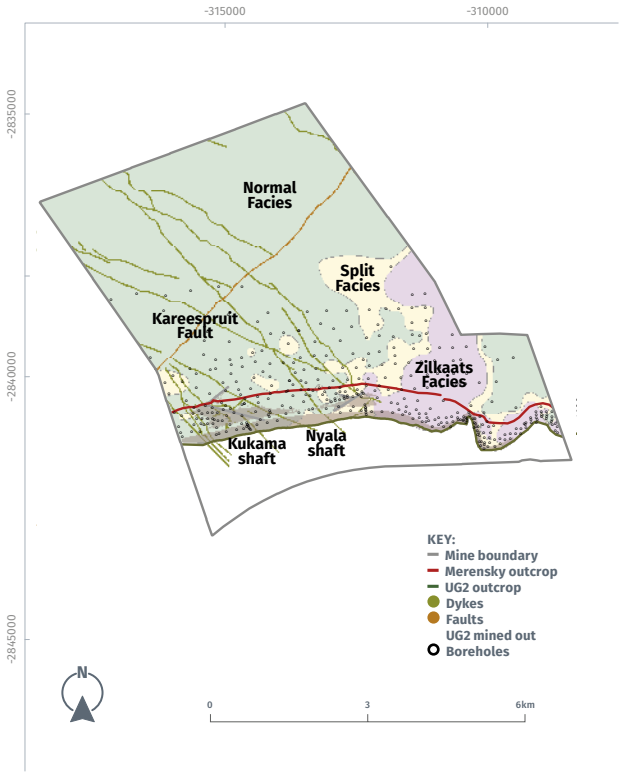
14 diamond boreholes were drilled to the UG1, totalling 1700 metres. These are currently being logged and sampled.

Underground geological and geotechnical mapping and drilling is ongoing.

Eland Stratigraphy between UG2 and Merensky Reefs



Eland general geology



Mining configuration

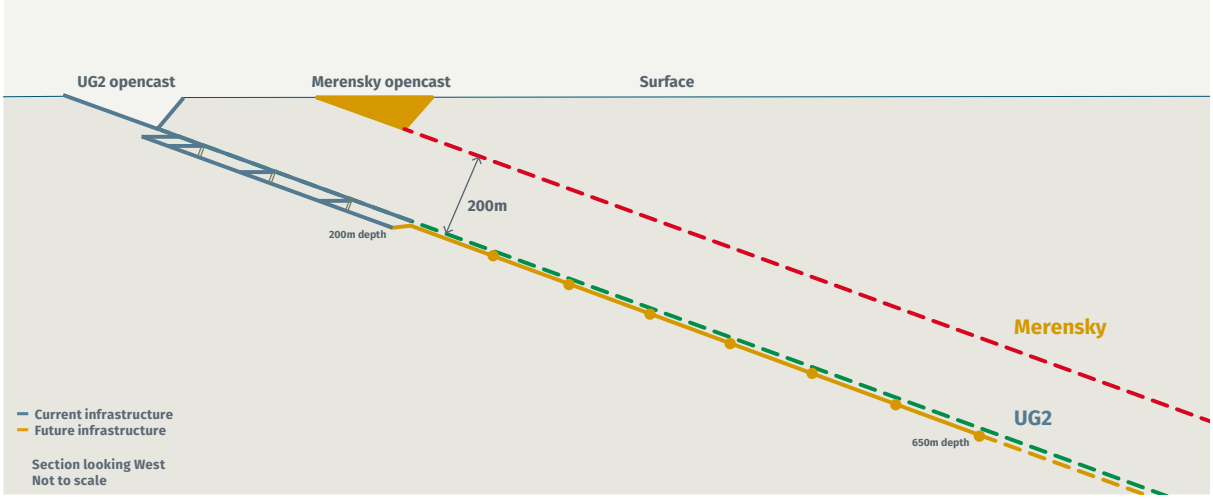
Mechanised bord and pillar mining was the underground mining method employed at Eland up until 2015. Both the Kukama and Nyala sections are accessed via a system of three declines, two on the plane of reef and the third decline, containing a belt for ore handling, situated approximately 25 m into the footwall of the reef. The footwall belt declines extend to 1 400 m and 850 m for Kukama and Nyala, respectively, down dip of outcrop. 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 belts within the drives transport ore to the central decline dip belt system for transport to a UG2 concentrator plant on surface. Mechanised boom drill rigs and LHDs were employed in mining and development.

This stoping method proved unsuccessful, due in the main to the excessive regional dip. The current feasibility study adopts a conventional hybrid mining method, in which ore generated from conventional breast stoping feeds on to strike belts in the existing on-reef strike drives, which is then transfered to the dip belt system for transport to the UG2 concentrator.

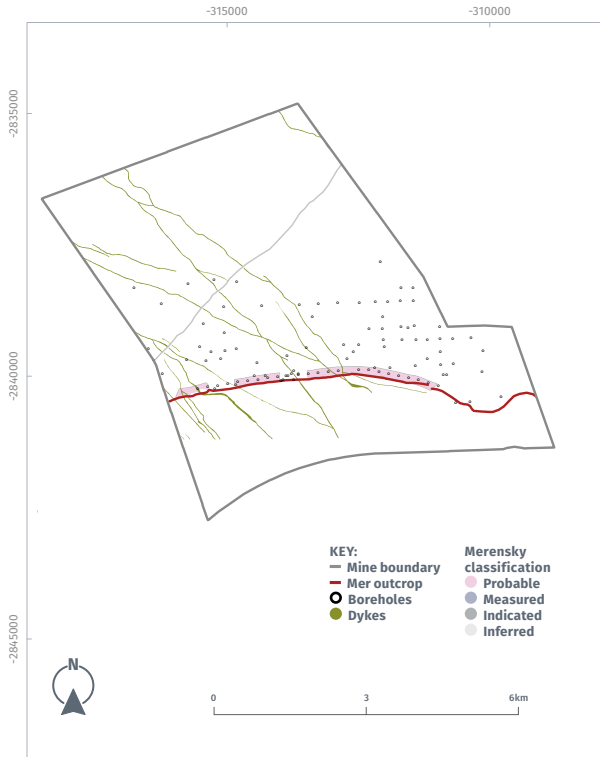
The planned breast stoping layout allows for 9 panels per raise of 24 m each, including grid pillars. Raises will be spaced at 120 m strike intervals, with single-sided stoping planned. In-stope strike gullies are inclined at 5° above strike. Hydro-powered rock drilling will be employed. Ore is moved by scrapers, from the mining panel, via the strike gullies, to a dip gully, which feeds a vibrating grizzly feeder loading the strike belt.

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.

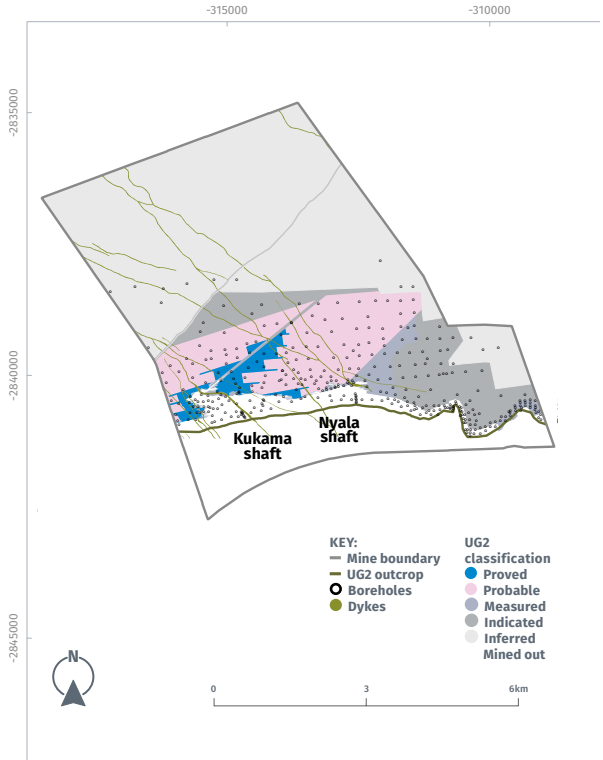
Eland mine Generalized Section



Eland Merensky Reef Confidence Plan



Eland UG2 Reef Confidence Plan



UG2 Reef

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

A review of the mining study at the Kukama mine has resulted in an increase in the Mineral Reserves from 3.77 Mt (0.38 Moz) in June 2018 to that of 25.50 Mt (2.89 Moz) in June 2019. A Proved Mineral Reserve, 2.22 Mt (0.23 Moz) has been defined to within the limit of the first five years of mining, and the Probable Mineral Reserve of 23.28 Mt (2.66 Moz) extend to the limit of the accessed half levels at this time, circa 2 to 3 kms from the main decline along strike of the orebody.

Merensky Reef

No Measured Mineral Resource or Proved Mineral Reserve are reported for the Merensky Reef. The Merensky Indicated Mineral Resource for Eland is unchanged from the previous reporting period at 4.82 Mt (0.16 Moz) in June 2019, and the Probable Mineral Reserve is 5.04 Mt (0.14 Moz), unchanged on the previous year.

Eland Mineral Resources

		30 June 2019 4E			30 June 2018 4E		
Reef	*Classification*	*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**	**1.03**	**0.16**	**4.82**	**1.03**	**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**

Eland Mineral Reserves

		30 June 2019 4E			30 June 2018 4E		
Reef	*Classification*	*Mt*	*g/t*	*Moz*	*Mt*	*g/t*	*Moz*
Merensky	Proved	0.00	0.00	0.00	0.00	0.00	0.00
	Probable	5.04	0.86	0.14	5.04	0.86	0.14
	Total	**5.04**	**0.86**	**0.14**	**5.04**	**0.86**	**0.14**
UG2	Proved	2.22	3.16	0.23	0.00	0.00	0.00
	Probable	23.28	3.56	2.66	3.77	3.14	0.38
	Total	**25.50**	**3.53**	**2.89**	**3.77**	**3.14**	**0.38**
Combined	Proved	2.22	3.16	0.23	0.00	0.00	0.00
	Probable	28.32	3.07	2.80	8.81	1.84	0.52
	Total	**30.54**	**3.09**	**3.03**	**8.81**	**1.84**	**0.52**

Prill splits %	*Pt*	*Pd*	*Rh*	*Au*	*Cr_2O_3%*	*Cu%*	*Ni%*
UG2	59.5	29.3	10.3	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

1. *The geological model and Mineral Resources estimate is informed by exploration data including 201 surface borehole intersections and 14 trenches for the Merensky Reef and 551 boreholes intersections and 4 trenches for the UG2 Reef; together with an interpreted aeromagnetic survey and geological mapping of the underground and surface mining excavations.*
2. *Mineral Resources were estimated over the mineable reef channels (Mineral Resource cut), considering practical mining requirements.*
3. *The UG2 Mineral Resource cut is 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 resource channel extends from the top to a minimum of 10 cm below the base of the Leader chromitite, with a minimum channel width of 95 cm applied.*
4. *The Merensky Reef Mineral Resource is currently limited to four open pit mining blocks, extending over a combined strike length of 3.4 km, and a dip extent of 170m, representing a high-wall limit of 50 m. The Merensky Mineral Resource channel is 3 m in thickness, extending below the top the Merensky pyroxenite.*
5. *Mineral Resource categorization was 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 the resource database together with data from surrounding properties.*
6. *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.*
7. *Mineral Reserves for Eland relate to planned mining modules; Kukama UG2 and Merensky open pits.*

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 orebodies (reefs) are accessed via a twin vertical shaft system, where mining occurs between depths of 1100 m and 2000 m below surface, with deeper access via a decline system to a current mining depth of 2300 m. Mine development commenced 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 2.2 Mt of ore per annum, generating circa 300 000 oz metal in final concentrate together with associated precious and base metal by-products. The commissioning of a second smelter furnace in 2017 has added additional processing capacity, specifically for chromite bearing, UG2 concentrates.

Below
Plated copper cathode at the base metal removal plant

In 2017, the tumela block, now referred to as the western extension section, was acquired. This is a contiguous extension of the Merensky and UG2 Reef horizons along strike, towards the west, of approximately 4 km. The current annual ore production is circa 0.8 Mt Merensky Reef and circa 1.4 Mt UG2 Reef, with the Merensky Reef production planned to increase to 1.1 Mt and UG2 Reef to decrease to 1.2 Mt over the next five years.

Location

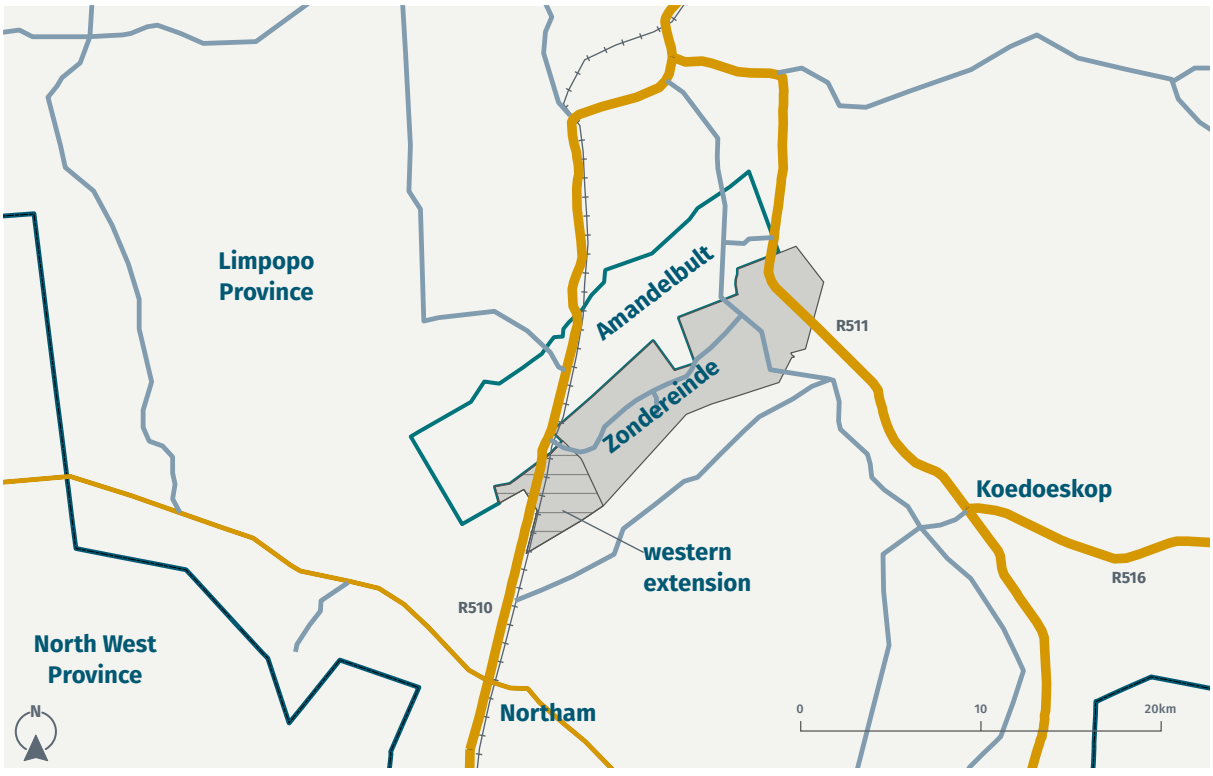
The Zondereinde mine is situated in the northern portion of the Western Limb of the Bushveld Complex, approximately 30 km south of the town of Thabazimbi in the Limpopo Province. The mining right covers 9 257 hectares, and is underlain by both the Merensky and UG2 Reefs, which dip at 20˚ towards the south-east and extend from a depth of 1 100 to 2 900 m below surface.

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 and 40 m.

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 by a combination of surface exploration boreholes, continuing prospect drilling from underground development and on-reef mapping in mine excavations.

Booysendal location and access routes



Merensky Reef

The Merensky Reef is a zone of mineralisation which 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 reef sub-facies. These being 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 less disruption. This trend is expected to continue in the western extension section.

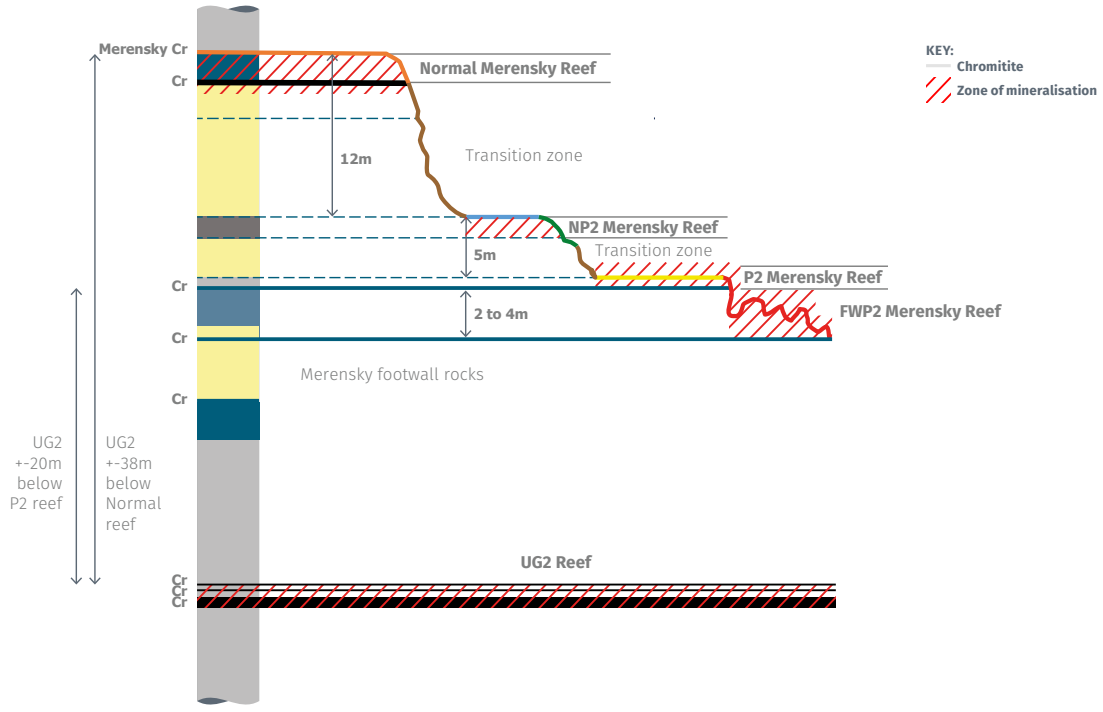
The Mineral Resource cut (mining cut) on the Merensky Reef is dependent upon the reef sub-type mined and the geozone in which it is located. In all mining cuts, the Merensky chromitite is exposed with a minimum of 10 cm of the overlying mineralized Merensky pyroxenite as hangingwall.

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 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. Total reef thickness, inclusive of a portion of the mineralised reef footwall, is in the order of 150 to 160 cm. There is no geological basis for subdividing the UG2 Reef into facies types.

Historically, UG2 mining has been limited to de-stressed areas underlying previously mined Merensky Reef. Furthermore, a full reef cut is mined, which 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.

Zondereinde Stratigraphy between UG2 and Merensky Reefs



Geological discounts

Combined geological and extraction losses were 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 category, but average at 29% for the Merensky Reef. Discount losses for the UG2 Reef average at 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

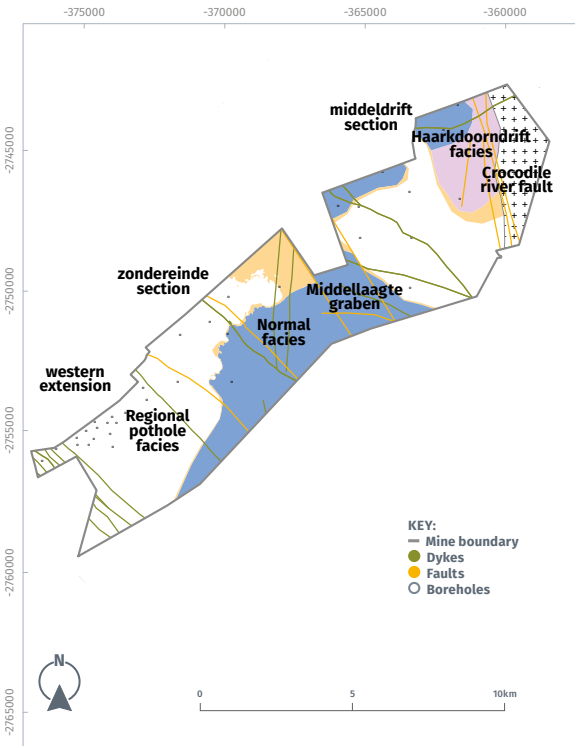
The Zondereinde Mineral Resources estimate is informed by significant exploration data, including; 59 boreholes drilled from surface, 8 351 boreholes drilled from underground, 102 940 Merensky and 30 761 UG2 channel sample sections cut on a 15 m grid in on-reef development and stoping. In F2019, the third geotechnical borehole consisting of 1581 m was drilled, the previous two boreholes being completed in F2018, to test the geotechnical conditions along the 10 Line, a zone under investigation for future shaft development.

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.

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 (1 724 m below surface). The shafts are 90 m apart and are interconnected at an intermediate pump chamber (IPC) at 1 019 m below surface, and also on 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 broken rock. The relatively narrow vertical separation between the two ore bodies allows for both to be accessed via the same primary tunnel development.

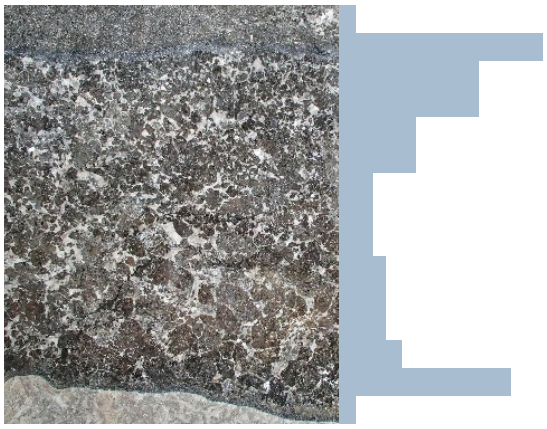
Geological Setting of Zondereinde



Zondereinde Reef-types, with Merensky sub-types

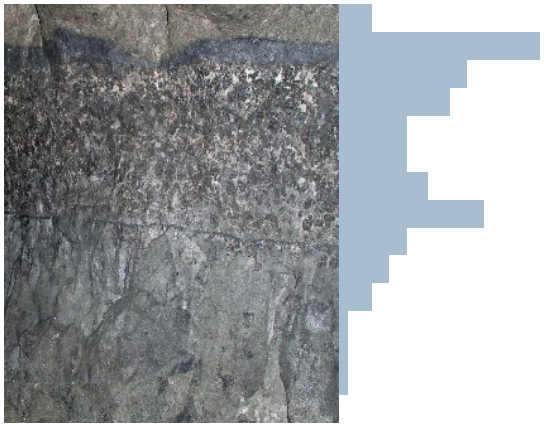
Merensky

Normal **PGE**

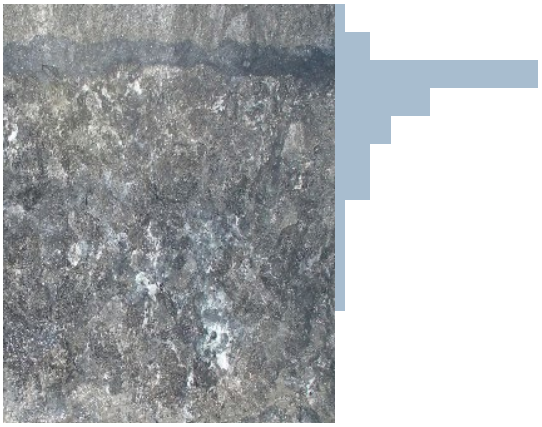


NP2 **PGE**

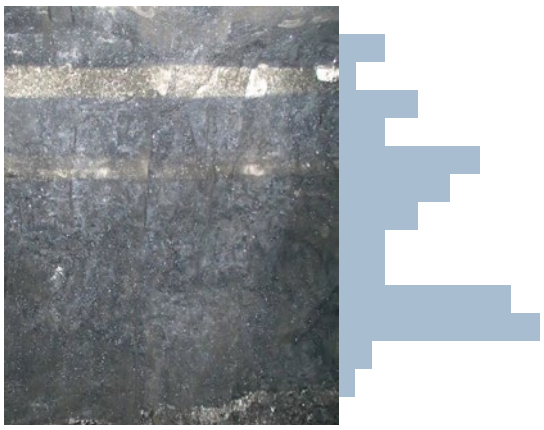
P2



FWP2



UG2



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

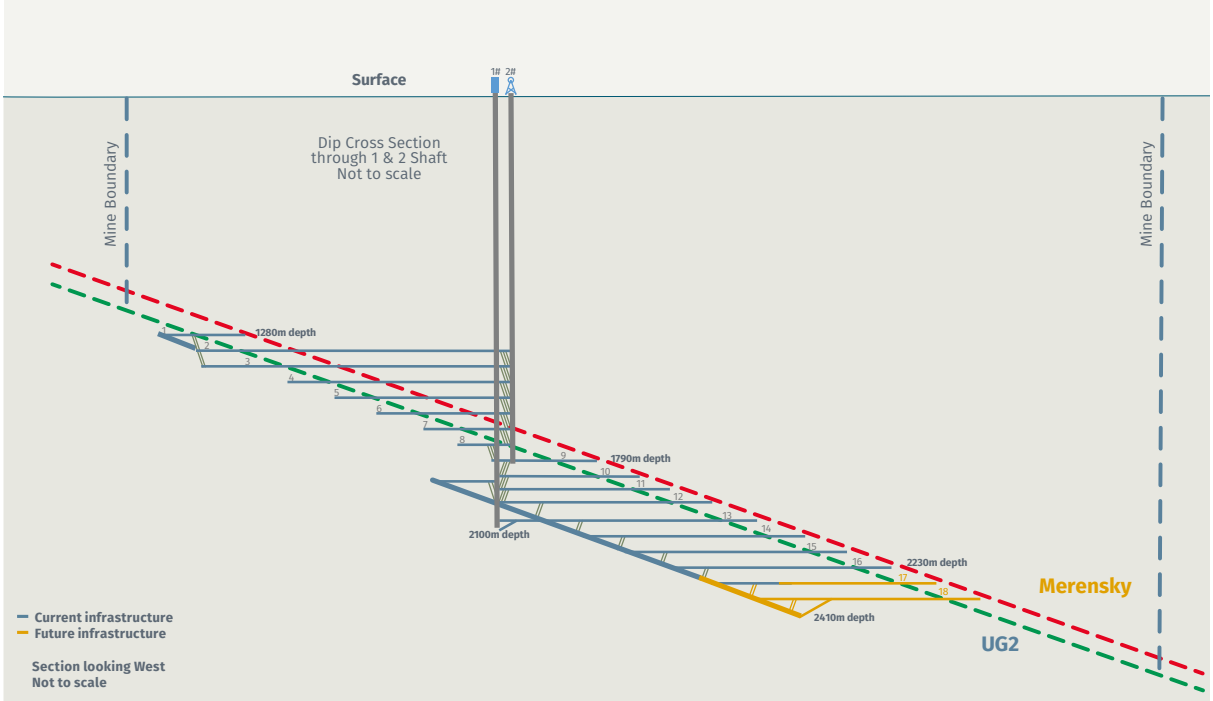
Mineral Resources and Mineral Reserves

At Zondereinde, the Mineral Resources and Mineral Reserves confidence categorization 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 central section. The Mineral Reserves in the western extension is the subject of a mining assessment investigation to sequentially introduce access to the orebody from surface for hoisting, services and ventilation. The decline system from 12 to 18 Levels will provide access to the deeper resting Mineral Reserves in the central and western parts of the mine. The Mineral Resources in the middledrift section to the far east are part of future Mineral Reserve potential and does not form part of the current life of mine plan.

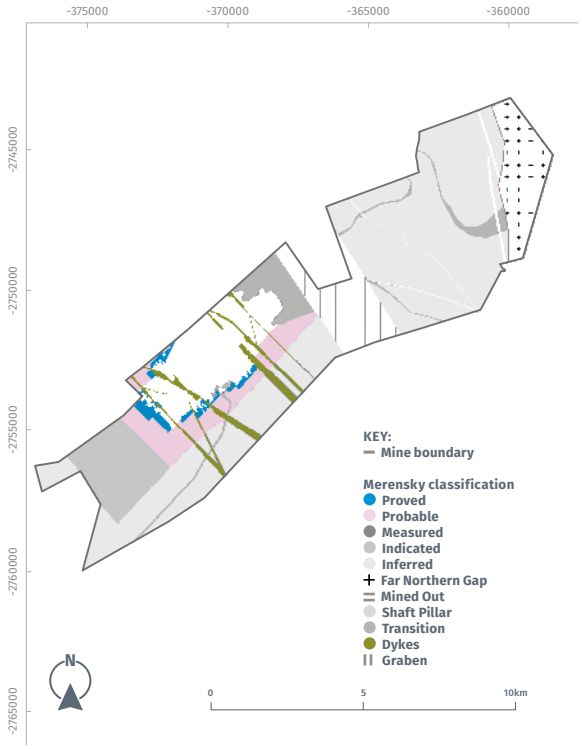
Merensky Reef

The Merensky Measured Mineral Resource has increased from 2.92 Mt (0.71 Moz) in June 2018 to 3.12 Mt (0.81 Moz) in June 2019, the net result of mining development in the western extension and mining depletion. The Merensky Indicated Mineral Resource has decreased by 1.30 Mt (0.26 Moz)

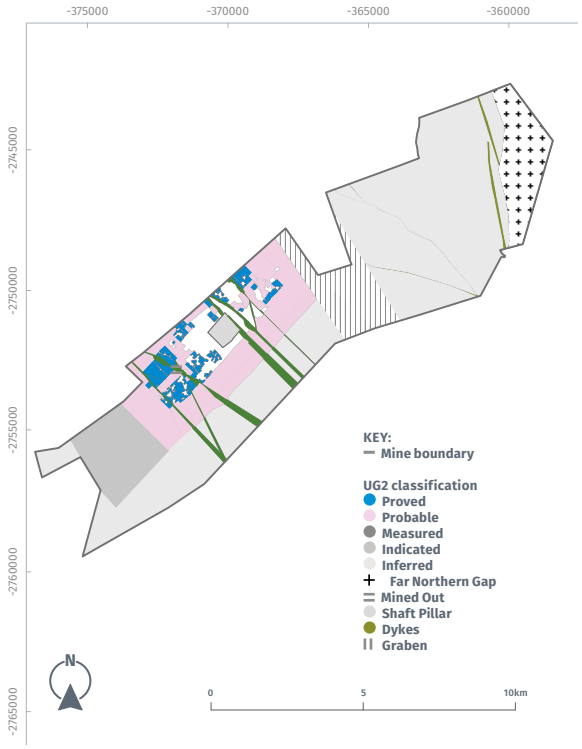
Zondereinde Generalized Mining Cross-Section



Zondereinde Merensky Reef Confidence Plan



Zondereinde UG2 Reef Confidence Plan



attributed to the loss on conversion to the Measured confidence category and re-evaluation. There were no changes to the Mineral Resource in the Inferred confidence category.

The Merensky Mineral Reserve decreased by 1.50 Mt (0.16 Moz), the net result of depletion and new mining development. There is an increase in the Proved Mineral Reserve grade of 5% to 6.05 g/t 4E, attributed to an increase in the proportion of P2-type facies.

UG2 Reef

The UG2 Measured Mineral Resource has decreased from 10.30 Mt (1.65 Moz) in June 2018 to 9.20 Mt (1.47 Moz) in June 2019. This is the combined result of mining depletion and conversion from the Indicated confidence category. There were no material changes to the Mineral Resources in the Indicated and Inferred confidence categories.

The UG2 Mineral Reserve decreased by 1.69 Mt (0.20 Moz), being the result of mining depletion.

Zondereinde Mineral Resources

		30 June 2019 4E			30 June 2018 4E		
Reef	*Classification*	*Mt*	*g/t*	*Moz*	*Mt*	*g/t*	*Moz*
Merensky	Measured	3.12	8.09	0.81	2.92	7.57	0.71
	Indicated	39.14	7.76	9.76	40.44	7.71	10.02
	Inferred	165.62	7.43	39.54	165.52	7.39	39.32
	Total	**207.88**	**7.50**	**50.11**	**208.88**	**7.45**	**50.05**
UG2	Measured	9.20	4.97	1.47	10.30	4.98	1.65
	Indicated	78.99	5.00	12.71	80.26	4.98	12.86
	Inferred	248.15	5.07	40.46	249.45	5.07	40.65
	Total	**336.34**	**5.05**	**54.64**	**340.00**	**5.05**	**55.16**
Combined	Measured	12.32	5.75	2.28	13.21	5.56	2.36
	Indicated	118.13	5.92	22.47	120.70	5.90	22.88
	Inferred	413.77	6.01	80.00	414.97	5.99	79.97
	Total	**544.22**	**5.99**	**104.75**	**548.88**	**5.96**	**105.21**

Zondereinde Mineral Reserves

		30 June 2019 4E			30 June 2018 4E		
Reef	*Classification*	*Mt*	*g/t*	*Moz*	*Mt*	*g/t*	*Moz*
Merensky	Proved	3.76	6.05	0.73	3.51	5.76	0.65
	Probable	23.12	5.64	4.19	24.87	5.54	4.43
	Total	**26.88**	**5.69**	**4.92**	**28.38**	**5.57**	**5.08**
UG2	Proved	9.52	4.25	1.30	10.63	4.27	1.46
	Probable	53.34	4.27	7.33	53.91	4.25	7.37
	Total	**62.86**	**4.27**	**8.63**	**64.54**	**4.26**	**8.83**
Combined	Proved	13.28	4.76	2.03	14.14	4.64	2.11
	Probable	76.46	4.69	11.52	78.78	4.66	11.80
	Total	**89.74**	**4.70**	**13.55**	**92.92**	**4.66**	**13.91**

Prill splits %	*Pt*	*Pd*	*Rh*	*Au*	*Cr_2O_3%*	*Cu%*	*Ni%*
UG2	61.4	27.0	9.6	2.0	27.9	0.021	0.123
Merensky	63.0	29.2	5.2	2.6	0.80	0.072	0.164

Notes on Zondereinde Mineral Resources and Mineral Reserves

1. *Mineral Resources include those from the zondereinde, the middledrift and western extension sections of the mining right. Mineral Reserves are only declared for the zondereinde and western extension sections.*
2. *The Merensky Reef widths are based on a fixed mining width for each sub-reef type, that being 160 cm for Normal, 120 cm for P2, 110cm for NP2 and 120 cm for FWP2 facies. The UG2 Reef width is based on the exposure of the main Chromitite and the overlying Leaders typically being circa 140 cm.*
3. *Mineral Resources in the Measured confidence category are defined 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 defined in the enclosing areas, down to a depth of 2350 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.*
4. *All Mineral Reserves occur between 1150 and 2230 m below surface. Mineral Reserves for Zondereinde mine are quoted to 18 level (2 350 m below surface). Furthermore, the Mineral Reserves are also limited to the eastern 900 m of the western extension. A feasibility study of mining west of this limit is expected to be completed in October 2019.*
5. *Inferred Mineral Resources extend from 18 Level to the down dip limit of the mine boundary.*
6. *The prill split values reported are derived from borehole samples and are indicative of the global proportion of Pt, Pd, Rh and Au in 3PGE+Au*
7. *An average of 29% combined geological & extraction losses has been applied to the Merensky Reef and 36% from the UG2 Reef. Geological losses include those from dykes, faults, pothole and IRUP, whereas extraction losses allow for pillars.*

Dwaalkop Prospect

The Dwaalkop Prospect is an advanced exploration project, being the eastern extension of the Baobab mine along strike.

Business overview

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

Below
Matte tap hole on smelter furnace 1 at Zondereinde

Location

The Dwaalkop Prospect is located approximately 60 km south-east of the city of Polokwane in the Limpopo Province.

Geological setting

The Dwaalkop Prospect occurs towards the northern extremity of the Bushveld Complex's eastern limb. The Merensky and UG2 Reefs are steeply dipping at 60° to the south and have a stratigraphic middling of approximately 65 m. This equates to a horizontal separation of 130 m. Both reefs sub-crop below thin surface cover. Copper and Nickel grades in the UG2 Reef are elevated and in line with those of the Merensky Reef.

Mineral Resources

All categories of the Merensky and UG2 Mineral Resources are unchanged from the previous reporting period. All Mineral Reserves have been removed from the estimate. The Lonmin, now Sibanye-Stillwater, competent person attributes this to depressed economic conditions at the time of assessment and no progress having been made in a mining feasibility study.

Dwaalkop Mineral Resources

		30 September 2018 4E			30 September 2017 4E		
Reef	*Classification*	*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	2.34	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_2O_3%*	*Cu%*	*Ni%*
UG2	47.1	42.8	7.9	2.2	no data	0.090	0.140
Merensky	56.8	31.8	4.2	7.2	no data	0.110	0.170

Notes on Dwaalkop Mineral Resources

1. *Mineral Resources for Dwaalkop, reflects Northam's 50% attributable interest, and are quoted as at the end of September 2018 as provided by Sibanye-Stillwater.*

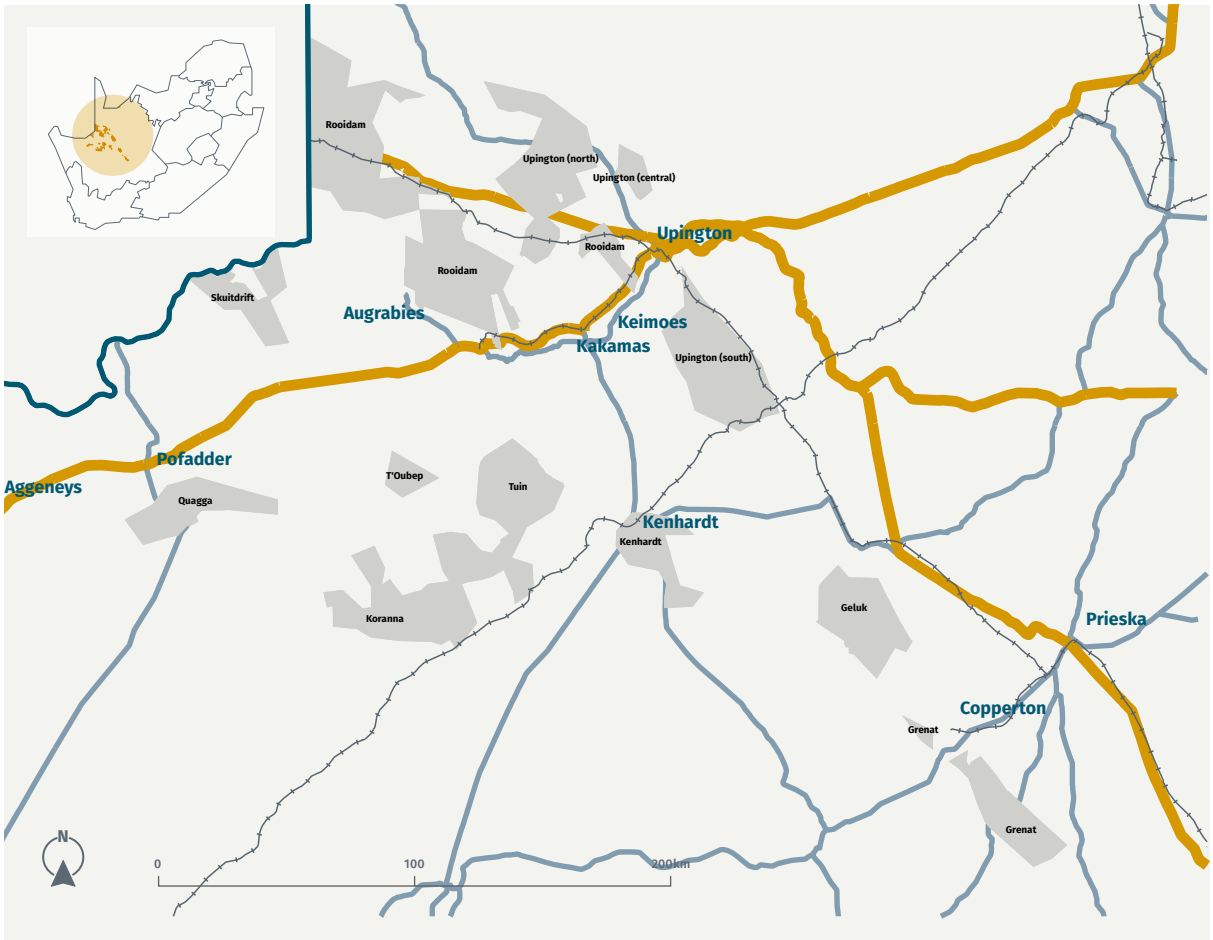
Kokerboom exploration prospect

Kokerboom is an iron oxide copper gold and massive sulphide copper zinc exploration prospect covering some 1 million hectares of the Northern Cape Province.

A prospecting work programme was in progress and no Mineral Resources or Mineral Reserves have been reported. Exploration conducted included; airborne magnetic and radiometric surveys, compilation and reviews of existing geochemical and surface mapping data, together with some limited surface mapping. Broad terrain delineation was undertaken, but no distinct targets were defined for follow up work.

Closure applications for these prospecting rights are in process.

Kokerboom location plan



General notes on reporting criteria

1. 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.
2. 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.
3. PGM grade and content are expressed as 4E (combined platinum, palladium, rhodium and gold) grade; this being synonymous with 3PGE+Au.
4. PGM metal prill splits (platinum, palladium, rhodium and gold) are expressed as percentages of the combined 4E value. These are indicative of the global proportions.
5. 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.
6. Structural losses due to faults, dykes and joints, include the volumes of expected bracket pillars required to be placed on such features.
7. 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.
8. Rounding of numbers in the tables may result in minor computational discrepancies. Where this occurs, it is deemed insignificant.
9. The most reasonable mining widths are applied to the Mineral Resource cuts, based on practical mining conditions. 4E grade, together with specific gravity are calculated for these widths.
10. Total Mineral Resources and mineral reserves attributable to Northam Platinum Limited are listed in the summary tables.
11. Mineral Resources are reported inclusive of mineral reserves.
12. Measured and Indicated Mineral Resources are reported separately and include those Mineral Resources modified to produce Proved and Probable Mineral Reserves.

Contact details for the Northam Group lead competent person is:

Mr D Smith
Northam Platinum Group Geologist
PO Box 412694
Craighall 2024

13. While Mineral Resources are quoted as in-situ resources, all Mineral Reserves provided by Northam 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.
15. In compliance with the SAMREC Code (2016), Inferred Mineral Resources are not included in the Mineral Reserves. Inferred Mineral Resources are also not considered in any Life of mine assessments.
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 seperators are full stops. Thousand seperators are spaces.
19. Location plans use the WGS 84 Lo 31 coordinate system.
20. 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

Ni	USD/metric tonne	11 181
Cu	USD/metric tonne	5 881
Chromite	USD/metric tonne	181
Average exchange rate	USD : ZAR	12.47

Precious metals

Pt	USD/troy ounce	1 357
Pd	USD/troy ounce	1 357
Rh	USD/troy ounce	3 846
Au	USD/troy ounce	1 176
Ru	USD/troy ounce	271
Ir	USD/troy ounce	1 357

22. The Northam Group lead CP is registered with the South African Council for Natural Scientific Professions (SACNASP), Private Bag X540, Silverton, 0127, South Africa, www.sacnasp.org.za

Zondereinde mine 2 shaft headgear

Administration and contact information

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Bond ISIN: ZAG000129024
Bond code: NHM006
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Bond code: NHM007
Bond ISIN: ZAG000158593
Bond code: NHM008
Bond ISIN: ZAG000158858
Bond code: NHM009
Bond ISIN: ZAG000158866
Bond code: NHM010
Bond ISIN: ZAG000159229
Bond code: NHM011
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