

Mineral reserve and resource estimates

The two Northam properties, the Zondereinde mine and the Booyensdal exploration prospect contain resources of both the UG2 and Merensky reefs.

Regulatory compliance

The mineral resource and mineral reserve estimate for the Northam group has been prepared under the guidance of the company's competent persons who are duly registered with the South African Council for Professional and Technical Surveyors (PLATO) and with the South African Council for Natural Scientific Professions (SACNASP). This ensures that the mineral resource and mineral reserve statements comply with the provisions of the South African Code for Reporting of Mineral Resources and Mineral Reserves (SAMREC 2007). The company's competent persons have taken cognisance of definitions included in the code, and the mineral resource and mineral reserve quantities reported here are considered to be fully compliant in all material respects with the requirements of the code.

Definitions of the various mineral resource and mineral reserve categories as well as the requirements for reporting of exploration results may be found at www.saimm.co.za/codes/samrec.asp.

Competent persons

The Zondereinde mine resource and reserve statement has been compiled by:

- JC Roberts, MSc (Mining Engineering); Professional Mine Surveyor (PLATO 0187); chief surveyor with 19 years' experience in platinum valuation.

The Booyensdal project resource statement has been compiled by:

- Damian Smith; BSc (Hons), MSc, Pr.Sci.Nat. (400323/04); 19 years' experience in mining and exploration geology, with 13 of these in Bushveld Complex related geology.
- Willem vd Schyff; BSc (Hons) Geology, Pr.Sci.Nat. (400176/05); five years' experience in mining and exploration geology; 16 years' experience in resource modelling and estimation, with two of these in Bushveld Complex related geology.

Resource and reserve estimates for the Zondereinde mine have been reviewed by Damian Smith.

Resource estimates for the Booyensdal project have been reviewed by The Mineral Corporation as part of Independent Competent Persons Report for the Booyensdal prospect.

Status of mineral rights

Northam currently holds old order mining rights over the Zondereinde mine. An application to convert these old order rights to new order rights in terms of the Mineral and Petroleum Resources Development Act, 2002 [Act No. 28 of 2002] (MPRDA) was submitted in April 2006 but had not been granted by 30 June 2009.

The Booyensdal prospect comprises three sub-areas; a portion comprising nine farms over which Northam holds new order mining

rights, granted on 10 September 2009; two farms over which Northam holds new order prospecting rights, for which an application for new order mining rights has been submitted and is being processed; and a portion in the north of the Booyensdal prospect, the Booyensdal extension, which is in the process of transfer from the previous owners of this concession.

A summary of mineral rights held by Northam is tabulated below:

Property	Type of right	Status
Zondereinde mine	Old order mining right	In process of conversion to new order mining right
Booyensdal mine	New order mining	Mining right converted and executed
Booyensdal exploration prospect	New order prospecting right	Application for new order mining right in process
Booyensdal extension	New order mining right	In process of transfer from previous holder

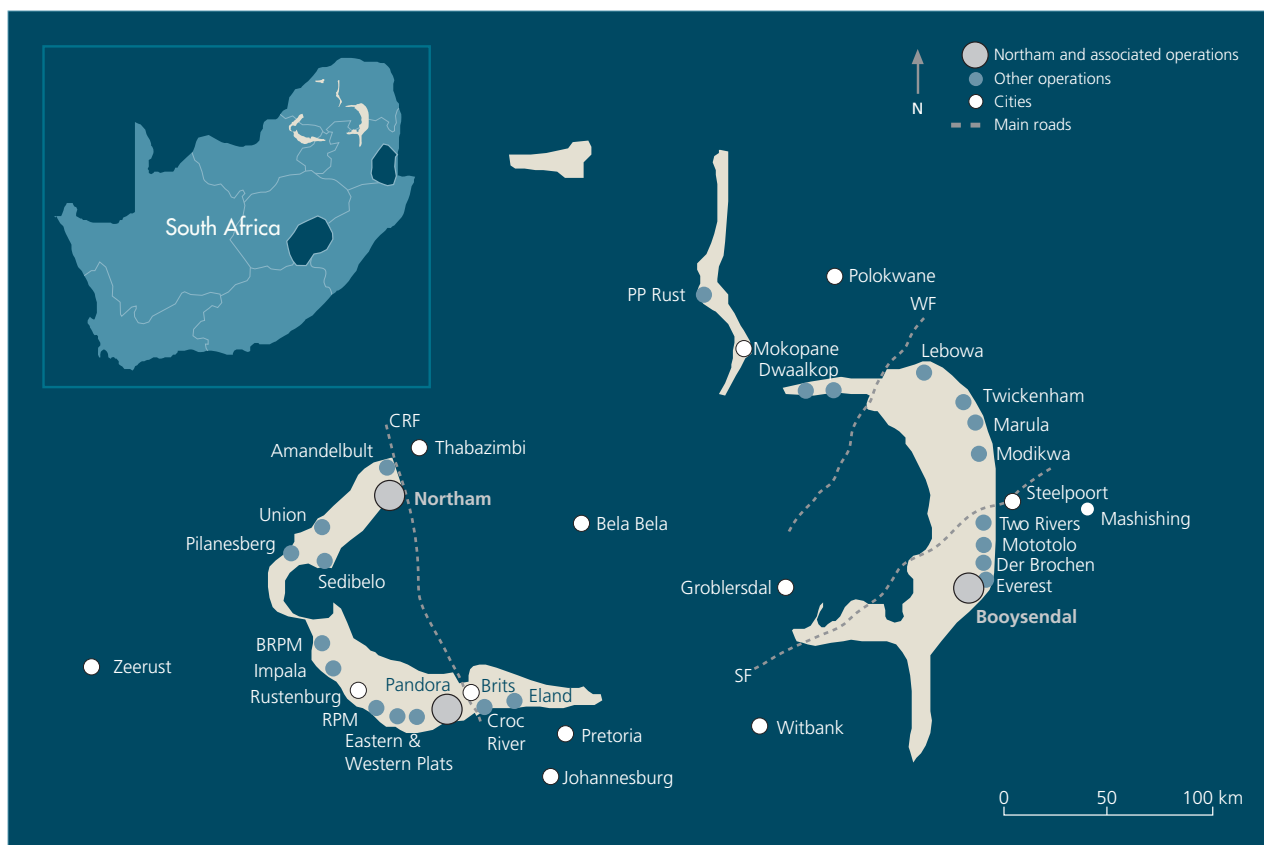
Prospecting rights and mining rights are held in good order, and Northam perceives no threat to its rights to continue prospecting for and mining of minerals over any of its properties.

Geological setting – the Bushveld Complex

The 2 billion year old Bushveld Complex is the largest layered igneous complex in the world, and is the repository for around 85% of the known global platinum group metal (PGM) resources. Extending over an area of some 67 000km² 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 7km to 12km.

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.

PGM and associated base metal mineralisation, is hosted in or adjacent to chromitite seams located within the Critical Zone of the RLS. There are two significant orebodies from which 75% of world 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 metres to 140 metres on the western limb, to between 170 and 400 metres on the eastern limb.

Historically, PGM production was concentrated on the western limb, but in recent years the eastern limb has been the focus of new mine development.

Zondereinde mine

The Zondereinde mine is situated on the northern portion of the western limb of the Bushveld Complex, approximately 30km south of the town of Thabazimbi in the Limpopo province of the Republic of South Africa.

The mining concession covers some 7 625 hectares which is underlain by both the Merensky and UG2 orebodies, which dip at approximately 20° and extend from a depth of 1 200 metres below surface (mbc) to 2 900 mbc.

The company exploits both the Merensky and UG2 reefs of the Upper Critical Zone of the Bushveld Igneous Complex. While there is lateral continuity of both reefs across the mine property, the Merensky reef displays a variety of reef types. The distribution of these is determined from a combination of ongoing prospect drilling from underground development, complemented by reef mapping in development and

stopping. In contrast to the Merensky reef, the UG2 reef manifests little variation in reef attributes.

The Bushveld sequence at Zondereinde is typical of the northern portion of the western limb. The Critical Zone stratigraphy is telescoped and dominated by mafic lithologies. Middling between the UG2 and Merensky reefs is in the range of 20 to 40 metres.

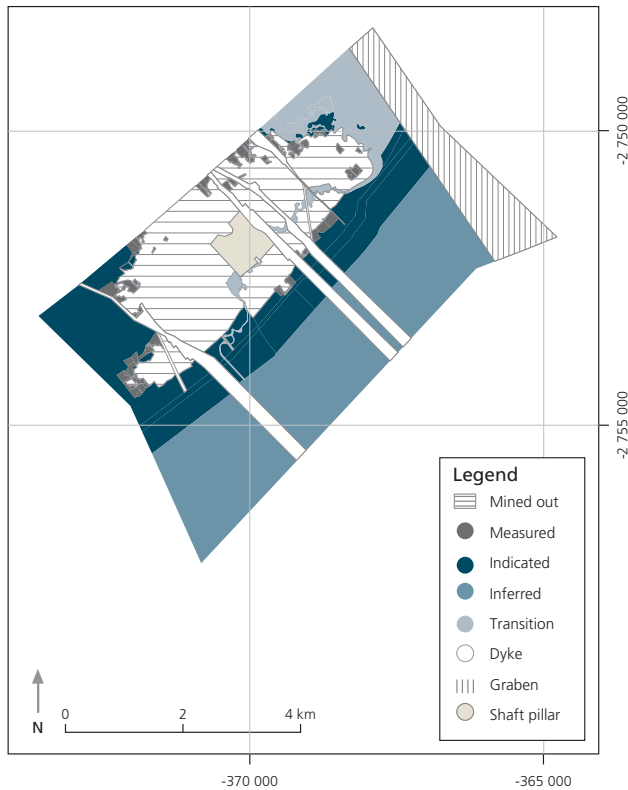
Combined geological and extraction losses were discounted from the resources for both reefs. These comprised pothole and structural losses as well as other pillar losses.

Merensky reef

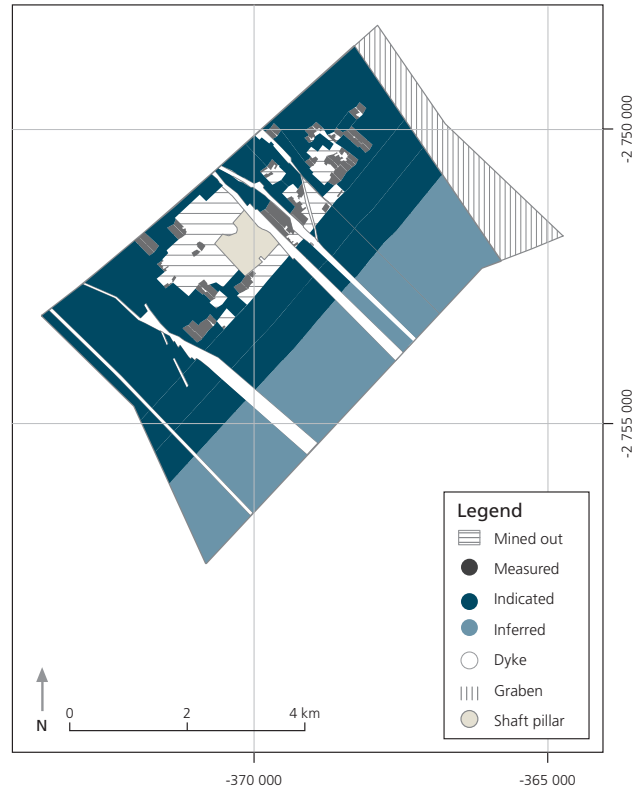
The Merensky reef is a zone of mineralisation which straddles the base of the Merensky Cyclic Unit. In the area of the Zondereinde mine the Merensky reef consists of two sub-facies of the Zwartklip facies of the RLS, namely the normal and regional pothole sub-facies. The latter may be further sub-divided into three reef 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. Although the FWP2 whilst not considered a primary mining target owing to its nature, it is successfully exploited in the south-western quadrant of the current mining area where it displays lesser disruption.

Mineral reserves and resources (continued)

Zondereinde mine: Merensky classification



Zondereinde mine: UG2 classification



Zondereinde resource estimate

		as at 30 June 2009				as at 30 June 2008	
		Grade	Moz			Grade	Moz
Merensky reef	Mt	g/t (4E)	(4E)	Merensky reef	Mt	g/t (4E)	(4E)
Measured	2.04	8.33	0.55	Measured	2.10	7.79	0.53
Indicated	25.28	7.14	5.80	Indicated	28.24	7.28	6.61
Inferred	38.68	6.55	8.15	Inferred	41.21	6.71	8.89
Total	66.00	6.83	14.49	Total	71.55	6.96	16.02
UG2 reef				UG2 reef			
Measured	3.37	5.19	0.56	Measured	2.08	4.91	0.33
Indicated	38.86	5.19	6.48	Indicated	48.74	4.91	7.70
Inferred	24.65	5.19	4.11	Inferred	38.32	4.90	6.04
Total	66.88	5.19	11.16	Total	89.14	4.91	14.06
Combined reefs				Combined reefs			
Measured	5.41	6.38	1.11	Measured	4.18	6.36	0.86
Indicated	64.14	5.96	12.29	Indicated	76.98	5.78	14.30
Inferred	63.33	6.02	12.26	Inferred	79.53	5.84	14.92
Total	132.88	6.01	25.65	Total	160.69	5.82	30.08

Zondereinde reserve estimate

	as at 30 June 2009			as at 30 June 2008			
		Grade	Moz		Grade	Moz	
Merensky reef	Mt	g/t (4E)	(4E)	Merensky reef	Mt	g/t (4E)	(4E)
Proven	2.43	5.92	0.46	Proven	2.50	5.66	0.46
Probable	16.90	5.55	3.00	Probable	15.93	5.56	2.85
Total	19.33	5.57	3.46	Total	18.43	5.57	3.30
UG2 reef							
Proven	3.40	4.35	0.48	Proven	2.29	4.19	0.31
Probable	30.04	4.35	4.20	Probable	41.34	4.19	5.57
Total	33.44	4.35	4.68	Total	43.63	4.19	5.88
Combined reefs							
Proven	5.83	5.00	0.94	Proven	4.79	4.95	0.76
Probable	46.94	4.77	7.20	Probable	57.27	4.57	8.41
Total	52.77	4.80	8.14	Total	62.06	4.60	9.18

The stoping cut on the Merensky reef is dependent upon the reef type mined, and the geozone in which it is located. In all stoping cuts the Merensky Chromitite is exposed, with a minimum of 10cm of the overlying, mineralised Merensky Pyroxenite as hanging wall.

The measured resource is an estimate of the in situ tonnage, grade and PGM ounces that has been exposed through development and is immediately available for mining. The Merensky measured resource estimate has marginally increased from 2.10 Mt (526 000oz) in June 2008 to 2.04 Mt (547 000oz) in June 2009.

The Merensky indicated and inferred resources have decreased as a result of the application of more conservative extraction ratios to the resource estimates for the deeper portions of the mining lease area.

UG2 reef

The UG2 Reef at the Zondereinde mine is remarkably conformable when compared with the Merensky reef. 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 75cm thick, and is overlain by two leader seams, each in the order of 15cm thick. Total reef thickness, inclusive of a portion of mineralised reef footwall, is in the order of 140cm to 150cm. There is no basis for sub-dividing the UG2 reef into facies types.

UG2 mining has historically been limited to de-stressed areas underlying previously mined Merensky reef. Furthermore, a full reef cut is mined, which enhances metal output, hanging wall stability and safe working practices.

The measured resource is an estimate of the in situ tonnage, grade and PGM ounces that has been exposed through development and is immediately available for mining. The UG2 measured resource has increased materially from 2.08 Mt (329 000oz) in June 2008 to 3.37 Mt (561 000oz) in June 2009. This is in line with the planned development of the UG2 reef.

The UG2 indicated and inferred resources have decreased as a result of the application of more conservative extraction ratios to the resource estimates for the deeper portions of the mining lease area.

Booyensdal prospect

Description

The Booyensdal concession is located in the southern compartment of the eastern limb of the Bushveld Complex, approximately 35km from the town of Mashishing (formerly Lydenburg), straddling the border of Limpopo and Mpumalanga provinces in the Republic of South Africa.

The concession hosts both the UG2 and Merensky ore bodies, which outcrop over a strike length of 14.5 km and dip at approximately 10° to the west within the area.

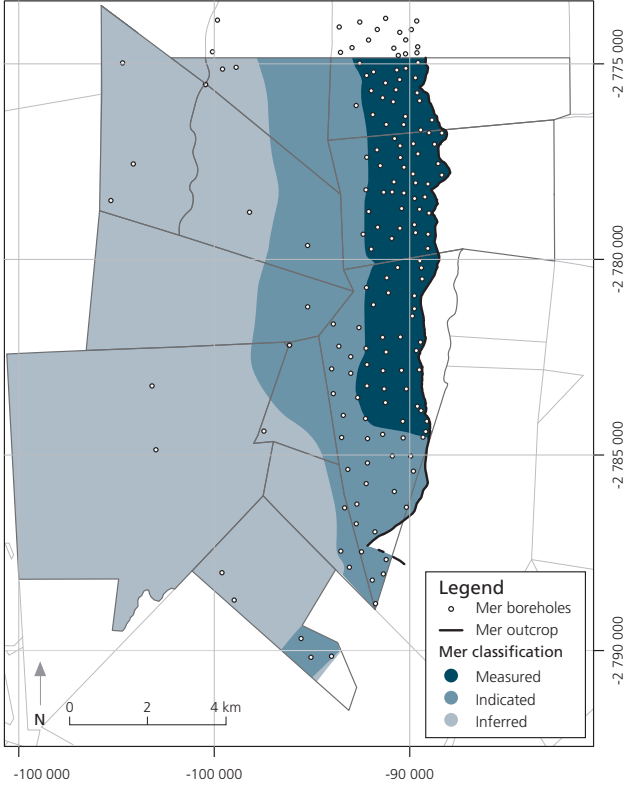
A study is in progress to determine the feasibility of mining UG2 and Merensky reefs within the northernmost 8km of Booyensdal strike, over a dip extent from outcrop of approximately 2km. No mineral reserve estimate is presented ahead of the conclusion of this feasibility study.

The Bushveld sequence at Booyensdal is similar to that found across the eastern limb. The Critical Zone stratigraphy is fully developed and middling between the UG2 and Merensky reefs is in the order of 175 metres in the northern portion of Booyensdal. The sequence is, however, subject to thinning in the southern portion, which is linked to the Bushveld rocks abutting basement highs. The impact of this abutment is further manifested in disruption to surface morphology and internal structure of the two reefs. This has led to the characterisation of three geozones within the Booyensdal concession, these being the normal, slump and abutment geozones. Despite this progressive disruption to the south, the continuity of the reef surfaces is robust across the property.

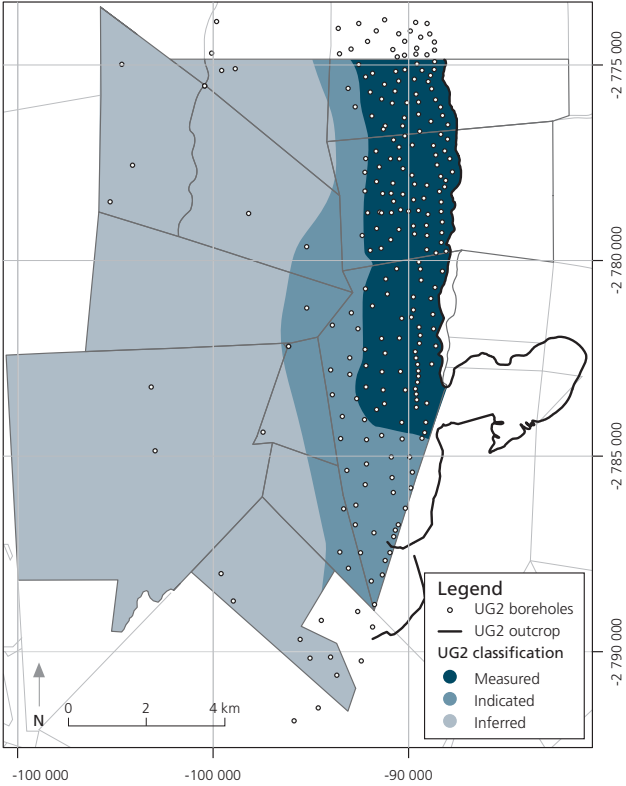
The internal structure of the UG2 reef is similar to that found on the Bushveld western limb, whilst the Merensky reef is typical of the northern portion of the Bushveld eastern limb.

Mineral reserves and resources (continued)

Booyensdal: Merensky classification



Booyensdal: UG2 classification



The Merensky reef is the upper mineralised portion of the Merensky pyroxenite, generally extending over 110cm. The Merensky reef is immediately overlain by a sequence of competent norites.

The UG2 reef consists of an upper Leader Chromitite and a lower Main Chromitite with a combined thickness of some 140cm. These seams are generally juxtaposed or merged, but can display variable internal silicate partings.

Exploration data that has informed this estimate included over 35 000 assay samples derived from 248 boreholes. 90% of drilling was conducted within 2.5km down-dip of outcrop, and drill hole spacing in this near outcrop area ranges from 150 to 400 metres.

Resources were estimated over the reef channels. For the UG2 reef, the reef channel extends from the top of the leader chromitite to the base of the main chromitite seam. For the Merensky reef, the reef channel extends from the top of the Merensky pyroxenite to a sample grade cut-off of 1g/t, with a mining channel width of 80cm applied.

Geological losses were discounted from the resources for both reefs. These comprised pothole and structural losses, which amounted to 24% and 23% respectively, as well as losses related to a 30 metre thick surface oxidised zone. A channel cut-off 4E grade of 2.5 g/t was applied to estimated blocks, whilst a pay limit percentage loss, set at the same cut-off grade value, was applied to non-estimated areas.

Resource categorisation 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.



Booyensdal resource estimate

Merensky reef	Mt	as at 30 June 2009	
		Grade g/t (4E)	Moz (4E)
Measured	37.15	5.08	6.06
Indicated	62.26	4.84	9.70
Inferred	156.07	4.54	22.78
Total	255.48	4.69	38.53
UG2 reef			
Measured	109.96	3.92	13.84
Indicated	99.11	4.01	12.78
Inferred	371.46	3.19	38.14
Total	580.53	3.47	64.76
Combined Reefs			
Measured	147.12	4.21	19.91
Indicated	161.37	4.33	22.47
Inferred	527.52	3.59	60.92
Total	836.01	3.84	103.30

Notes on reporting criteria

- Mineral resource tonnages and grades are in situ estimates reported inclusive of internal waste dilution, but exclusive of external waste dilution
- PGE grade is expressed as corrected 4E (combined platinum, palladium, rhodium and gold) grade
- Structural losses, due to faults, dykes and joints, include the volumes of expected bracket pillars required to be placed on such features
- Kriging parameters are applied to discrete mining areas in order to estimate tonnage and metal content
- Kriging parameters are derived from the interrogation of an extensive sampling database
- Rounding off numbers in the tables may result in minor computational discrepancies; where this occurs it is deemed insignificant
- The most reasonable mining width is assumed based on practical mining conditions. PGE grade, as well as specific gravity are calculated for these widths
- Total mineral resource and reserve attributable to Northam are listed in the summary tables
- Measured and indicated mineral resources are reported separately and include those mineral resources modified to produce proven and probable mineral reserves
- Whilst mineral resources are quoted as in situ resources, all reserves are quoted at run-of-mine (ROM) grades and tonnages as delivered to the concentrator plants on site and are therefore fully diluted
- Mineral reserves for Zondereinde mine are quoted to 15 level
- All references to tonnage are to the metric unit
- All references to ounces are troy with a conversion factor of 31.10348 used to convert from metric grams to ounces