

MINERAL RESOURCE AND MINERAL RESERVE STATEMENT

Introduction

The Mineral Resource and Mineral Reserve of Tharisa Minerals was prepared under the guidance of the Competent Person ('CP') in accordance with the requirements of the South African Code for the Reporting of Exploration Results, Mineral Resources and Mineral Reserves, 2016 ('SAMREC Code'). The estimates are as of 30 September 2019.

The previous declaration of the Mineral Resource and Mineral Reserve was dated September 2018. The current Mineral Resource declaration relies on the geological model and resource model of April 2019 for the MG Chromitite Layers, the June 2018 model for the UG1 chromitite layer and the end of FY2019 mining faces. The Mineral Reserve declaration is based on the latest pit design and LOM schedule.

Overview

Since the commencement of operations at the Tharisa Mine, additional geological information was obtained from observation in the operating pits and resource drilling. The Mineral Resource and Mineral Reserve information in the tables on the following pages are based on information compiled by the CP.

Definitions

The declaration of the Mineral Resource and Reserve was undertaken in terms of the guidelines of SAMREC Code (2016 edition).

Location

The Tharisa Mine is located 35 km east of Rustenburg and 120 km northwest of Johannesburg in the North West Province of South Africa.

Statement by Competent Person

Ken Lomborg of Pivot Mining Consultants Proprietary Limited (previously Coffey Mining South Africa Proprietary Limited), is the CP for the Mineral Resource declaration, registered with the South African Council for Natural Scientific Professions (Private Bag X540, Silverton, 0127, Gauteng province, South Africa), registration number 400038/01. He holds a BSc (Hons) Geology, BCom and MEng (Mining engineering). Mr Lomborg is a geologist with 34 years' experience, including the Mineral Resource estimation in respect of PGM and chromitite in the Bushveld Complex.

The Mineral Reserve declaration is by Jaco Lotheringen of Ukwazi Mining Studies, who is the CP for the Mineral Reserve declaration. He holds a BEng (Mining). He is registered with the Engineering Council of South Africa (ECSA, Private Bag X691, Bruma, South Africa), registration number 20030022. He is a principal mining engineer with appropriate experience in the estimation, assessment and evaluation of relevant Mineral Reserves based on the class of deposit and mining methodology.

The Company has written confirmation from Ken Lomborg and Jaco Lotheringen that the information disclosed is in compliance with the SAMREC Code (2016) and that they have consented to the inclusion of this information in the form and context in which it appears.

Mining rights summary

Tharisa Minerals holds a mining right, granted by the Department of Mineral Resources and Energy ('DMRE') (then the Department of Minerals and Energy ('DME') in terms of MPRDA on 19 September 2008, for a period of 30 years, to various portions of the farm 342 JQ and the whole of the farm Rooikoppies 297 JQ. On 13 August 2009, the mining right was registered in the Mining and Petroleum Titles Registration Office, under Reference No 49/2009(MR). In July 2011, an application was granted in terms of section 102 of the MPRDA, to amend the existing mining right by the addition of Portions 96, 183 and 286 of

the property 342 JQ to the mining right 49/2009(MR).

Mineral Resource

Geology and mineralisation

The Tharisa Mine is situated on the southwestern limb of the Bushveld Complex and is underlain by the Middle Group ('MG') and Upper Group ('UG') Chromitite Layers straddling the boundary between the Marikana and Rustenburg facies. The MG Chromitite Layers outcrop is on the property, striking roughly east to west with a gentle change in strike to northwest-southeast in the far west. The layers dip at between 9° and 15° to the north. Towards the western extent of the outcrop, the dip is steeper. The stratigraphy typically narrows to the west and the dip steepens. The dip typically shallows out at depth across the extent of the mine area.

The MG Chromitite Layer package consists of five groups of Chromitite Layers, being the MG0 Chromitite Layer at the bottom, followed by the MG1 Chromitite Layer, the MG2 Chromitite Layer (sub-divided into C, B and A Chromitite Layers), the MG3 Chromitite Layer and the MG4 Chromitite Layer (sub-divided into 4(0), 4 and 4A Chromitite Layers). The layers between the Chromitite Layers frequently include stringers or disseminations of chromite. The MG Chromitite Layers at the Tharisa Mine are a typical stack of tabular deposits.



Figure 1: Location of the Tharisa Mine



Mineral Resource and Mineral Reserve statement

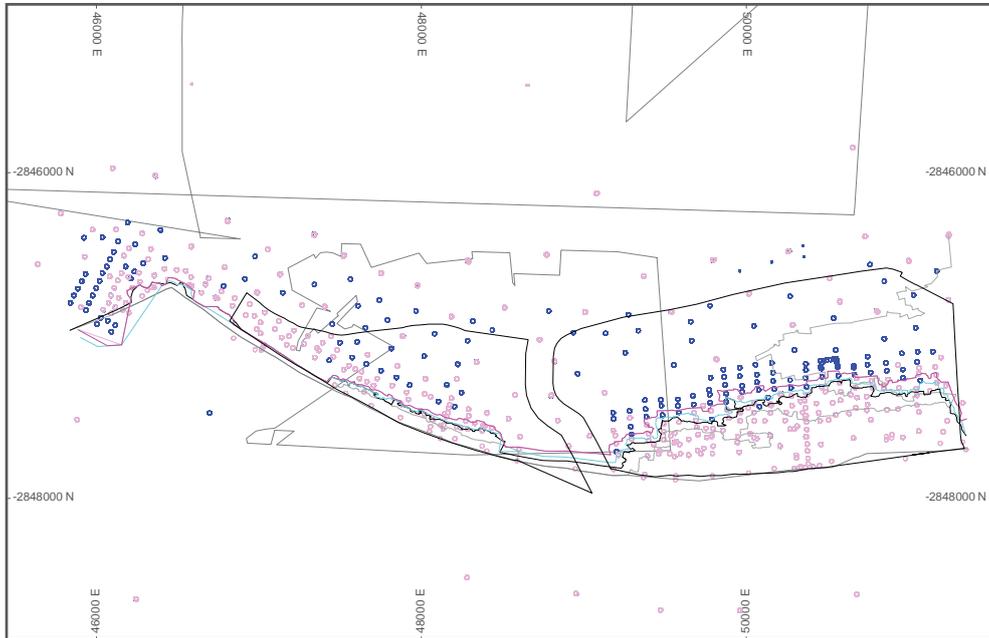


Figure 2: Image of the Tharisa Mine plan showing borehole locations and the extent of the open pits.

The structural interpretation of the Tharisa Mine geology is based on the aeromagnetic data, the available drilling and observations in the operating open pits. The only significant fault is a steeply dipping northwest-southeast trending normal fault with a downthrow of less than 30 m to the east. This fault occurs only on the far north-eastern corner of the property and will have little effect on mining of the MG Chromitite Layers on the mine. A northwest-southeast sub-vertical dyke of some 10 m thickness was exposed in the east pit. The dyke is not expected to have a major impact on mining. The other major feature of interest is the Spruitfontein upfold or pothole which is located on the properties immediately west of the mine. It affects the UG2 Chromitite Layer and the rest of the critical zone below. No new major structural features were exposed by the current mining operation.

The Mineral Resource estimate was completed over the mining right of Tharisa Minerals to a depth of 750 m for the MG Chromitite Layers. The UG1 Chromitite Layer Mineral Resource estimate was limited to the area within the planned pit perimeter.

The previous declaration of the Mineral Resource and Mineral Reserve was dated September 2018. The current Mineral Resource declaration relies on the geological model and resource model of April 2019 for the MG Chromitite Layers, the geological and resource model of June 2018 for the UG1 Chromitite Layer and the end of FY2019 mining faces. An additional 84 diamond drill boreholes, since the 2016 estimation, were included in the updated Mineral Resource and Mineral Reserve statement. These boreholes are located immediately ahead of the current highwall, along the full strike length of the mine.

The results from the samples confirmed the geological assumptions and the grades of the various Chromitite Layers, providing additional confidence in the mining operations. Observations on the operation confirm the details observed from the drilling. In-pit drilling continues for the purposes of mining operations, mine planning and grade control. Additional resource drilling has been planned for the next financial year.

Prior to the estimation, the data was collated and verified with the quality controls for logging, sampling and assays being used. The Mineral Resource estimate was undertaken on each Chromitite Layer and interburden independently. Each element was estimated separately. Changes to the Mineral Resource declaration are due to the production during the previous financial year, a revision of the UG1 Chromitite Layer declaration and a revision of the Inferred Resource.

Tharisa Minerals Resource at 30 September 2019 is reported inclusive of Mineral Reserve. The drilling which was located ahead of the open pit mining faces has allowed the CP to declare additional Measured Mineral Resources. As the drilling has not occurred beyond the previously declared Indicated Mineral Resource, the Indicated Mineral Resource was reduced. Additional drilling further downdip is expected to allow the extension of the Indicated Mineral Resource downdip.

MINERAL RESOURCE AND MINERAL RESERVE STATEMENT

CONTINUED

As a result of the additional information, the boundary was moved northwards and down dip increasing the reported Measured Mineral Resource. The Indicated Mineral Resource was decreased as no additional information was obtained ahead of this boundary. Additional work was undertaken on the MGO Chromitite Layer which resulted in a redefinition of the MGO package into three identified units. These were reclassified as Indicated Mineral Resource. Work on the area in the far west was largely responsible for the increase in the reported tonnage of the Mineral Resource.

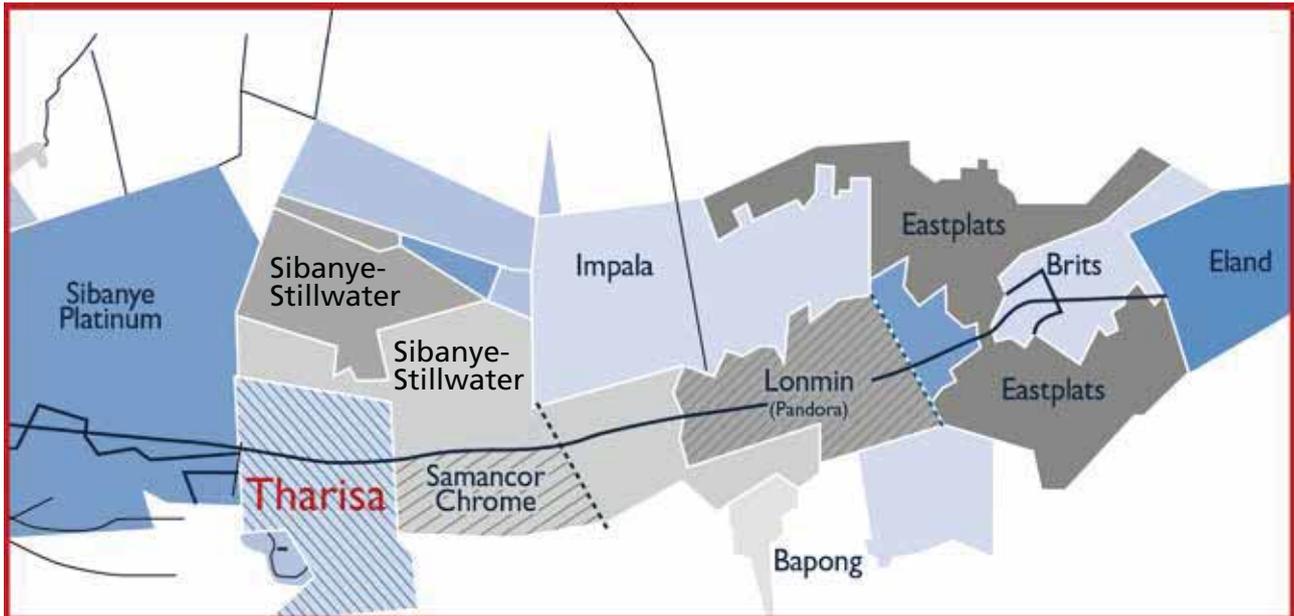


Figure 3: Map of the location of the Tharisa Mine

Mineral Resource estimate

2019	Unit	Measured	Indicated	Inferred	Total
Tonnes	Mt	111.51	87.99	691.20	890.70
6PGE + Au grade	g/t	1.73	1.48	1.52	1.54
5PGE + Au grade	g/t	1.67	1.37	1.47	1.49
3PGE + Au grade	g/t	1.29	1.06	1.12	1.14
Cr ₂ O ₃ grade	%	22.40	21.72	19.79	20.31
Contained 6PGE + Au	Moz	6.18	4.18	33.86	44.22
Contained 5PGE + Au	Moz	5.99	3.87	32.67	42.54
Contained 3PGE + Au	Moz	4.61	3.00	24.92	32.53
Contained Cr ₂ O ₃	Mt	24.98	19.11	136.79	180.88

2018	Unit	Measured	Indicated	Inferred	Total
Tonnes	Mt	62.82	112.35	685.49	860.66
6PGE + Au grade	g/t	1.78	1.70	1.55	1.59
5PGE + Au grade	g/t	1.73	1.65	1.50	1.54
3PGE + Au grade	g/t	1.32	1.25	1.14	1.17
Cr ₂ O ₃ grade	%	23.69	22.57	20.11	20.11
Contained 6PGE + Au	Moz	3.61	6.16	34.26	43.02
Contained 5PGE + Au	Moz	3.49	5.94	33.05	42.48
Contained 3PGE + Au	Moz	2.67	4.52	25.17	32.35
Contained Cr ₂ O ₃	Mt	14.88	25.36	137.84	173.06



Mineral Resource and Mineral Reserve statement

Mineral Reserve declaration

The Mineral Reserve estimate for September 2019 was based on a revised, updated LOM for the open pit and the underground mining areas. This re-estimation was underpinned by an updated mining model and incorporates the current economic conditions, current on-mine mining methodology and survey depletion. Appropriate technical aspects were considered in the mine design and schedule as basis for the Mineral Reserve estimate, including economic pit limits, underground target layers, geotechnical parameters, mining methodology and sequence, pit access, ramp placement, equipment capability, production rates and practical mining considerations. The mining-related modifying factors applied included geological losses, mining losses, mining dilution and metallurgical recovery. The variance between the 2018 and 2019 Mineral Reserve estimation is due to:

- depletion
- updated LOM pit design
- geological structural updates
- revised underground design aligned with the open pit limits
- updated geotechnical parameters.

The LOM plan was designed to extract the MG Chromitite Layers, firstly from open pit mining to a maximum depth of 220 m and subsequently from underground extraction (MG2 and MG4 Chromitite Layers) by means of a bord and pillar mining method.

The Mineral Reserve tonnage increased by 4.9% as a result of increasing the open pit and underground mining areas, geological structure changes, mining depletion and treatment with a decrease in PGM (3PGE + Au) and Cr₂O₃ grades by 2.8% and 1.6% respectively. All previous Inferred Mineral Resources within the open pit economic limit were upgraded due to infill drilling. No Inferred Mineral Resources are included in the open pit LOM. The Inferred Mineral Resource was included in the underground section of the mine plan, but not included as part of the Mineral Reserve estimate. If excluded from the underground mine plan, the underground project may not be feasible.

The 14-year LOM schedule targets an average of 5.69 Mtpa before tapering down in the last two years when the open pit transitions to underground

mining. The final ore from the open pit is produced in 2033. The open pit LOM reduced by one year due to mining depletion and an increased ore production rate.

The Mineral Reserve declared for the underground project was derived from the Measured and Indicated Mineral Resource portion that was included in the underground LOM plan. The underground section is planned to ramp up during the final phase of the open pit operation. A pre-feasibility study was completed in 2013 with an update of the study during 2019 for the underground mining of the MG2 and MG4 Chromitite Layers from the limit of the open pit highwall. The Mineral Reserve for the underground section extends to a maximum depth of 270 m, constrained by the Mineral Resource classification. However, the underground LOM can be expected to extend to a maximum depth of 700 m, pending further fieldwork and study work.

OPEN PIT 2019	Unit	Proved	Probable	Total
Tonnes	Mt	64.5	7.8	72.4
5PGE + Au grade	g/t	1.35	1.09	1.32
3PGE + Au grade	g/t	1.03	0.82	1.01
Cr ₂ O ₃ grade	%	18.9	15.2	18.5
Contained 3PGE + Au ⁽¹⁾	Moz	2.1	0.2	2.4
Contained Cr ₂ O ₃ ⁽²⁾	Mt	12.2	1.2	13.4

OPEN PIT 2018	Unit	Proved	Probable	Total
Tonnes	Mt	47.7	26.5	74.2
5PGE + Au grade	g/t	1.39	1.38	1.39
3PGE + Au grade	g/t	1.06	1.06	1.06
Cr ₂ O ₃ grade	%	19.2	18.3	18.9
Contained 3PGE + Au	Moz	1.6	0.9	2.5

MINERAL RESOURCE AND MINERAL RESERVE STATEMENT

CONTINUED

Contained Cr ₂ O ₃	Mt	9.2	4.8	14.0
UNDERGROUND 2019	Unit	Proved	Probable	Total
Tonnes	Mt	8.1	17.1	25.1
5PGE + Au grade	g/t	1.57	1.62	1.60
3PGE + Au grade	g/t	1.23	1.24	1.24
Cr ₂ O ₃ grade	%	19.3	20.6	20.1
Contained 3PGE + Au ⁽¹⁾	Moz	0.3	0.7	1.0
Contained Cr ₂ O ₃ ⁽²⁾	Mt	1.6	3.5	5.1
UNDERGROUND 2018	Unit	Proved	Probable	Total
Tonnes	Mt	–	18.7	18.7
5PGE + Au grade	g/t	–	1.52	1.52
3PGE + Au grade	g/t	–	1.17	1.17
Cr ₂ O ₃ grade	%	–	19.3	19.3
Contained 3PGE + Au	Moz	–	0.7	0.7
Contained Cr ₂ O ₃	Mt	–	3.6	3.6
TOTAL OPEN PIT AND UNDERGROUND 2019	Unit	Proved	Probable	Total
Tonnes	Mt	72.6	24.9	97.5
5PGE + Au grade	g/t	1.38	1.15	1.40
3PGE + Au grade	g/t	1.06	0.87	1.07
Cr ₂ O ₃ grade	%	18.9	15.8	18.9
Contained 3PGE + Au ⁽¹⁾	Moz	2.5	0.9	3.4
Contained Cr ₂ O ₃ ⁽²⁾	Mt	13.7	4.7	18.4
TOTAL OPEN PIT AND UNDERGROUND 2018	Unit	Proved	Probable	Total
Tonnes	Mt	47.7	45.2	92.9
5PGE + Au grade	g/t	1.25	1.40	1.41
3PGE + Au grade	g/t	0.96	1.07	1.09
Cr ₂ O ₃ grade	%	17.3	18.4	19.0
Contained 3PGE + Au	Moz	2.2	1.6	3.2
Contained Cr ₂ O ₃	Mt	9.2	8.5	17.6

(1) The contained metal is stated on a ROM basis. Plant recovery to convert to a saleable concentrate range from 81.3% to 85.7%

(2) The contained Cr₂O₃ is stated on a ROM basis. Plant yield to convert to a saleable product range from 37.3% to 40.9%

Material risks

Year-on-year deferral of waste stripping could result in a substantial impact on the open pit Mineral Reserve and sustained delivery of chrome and PGM products.

An auditable reconciliation process could add significant value to the appropriate understanding of the systematic contribution of process plant recoveries and dilution and losses on the mining operations related to plant feed grades, mining methodology and equipment allocation to sustain cost-effective production performance.

Current long-term PGM and chrome prices were adopted with a full optimisation process completed for the open pit area from which the economic pit limit was selected. Sustained low commodity prices over the long term materially influence the overall value of the operation and can have a material impact on the size of the open pit portion of the Mineral Reserve.

Due to the selection of an ultimate pit with value and extended life strategy, sustained low cost and efficient mining with specific focus on waste backfill and

processing recoveries are critical to creating sustained value from the open pit operation.

Reporting codes and compliance

The Mineral Resource and Mineral Reserve estimates for Tharisa Minerals is stated in accordance with the principles and guidelines of the SAMREC Code. All the required regulatory permits have been obtained or applied for. The directors are unaware of any legal proceedings or impediments to the continued operation of Tharisa Mine.



Environmental management and funding

Tharisa Minerals has obtained all environmental approvals and authorisations required for the operation of the Tharisa Mine. The estimated long-term environmental provision, comprising rehabilitation and mine closure, was based on the Group's environmental policy, considering the current technological, environmental and regulatory requirements. Details of the Group's environmental liability and funding can be found in note 26 of the annual financial statements.

