Exhibit 96.4

we are one
Sibanye Stillwater

TECHNICAL REPORT SUMMARY ON THE MATERIAL ASSETS OF THE

KROONDAL OPERATIONS

Situated near Rustenburg,
North West Province, South Africa

31 December 2023

Prepared by:

Qualified Persons from Sibanye-Stillwater, PGM Operations

COMMITMENT ACCOUNTABILITY RESPECT ENABLING SAFETY

Important Notices

Mineral Resources and Mineral Reserves are declared as attributable to Sibanye-Stillwater Ltd (registrant). Sibanye-Stillwater operates the Kroondal Operations and as such may accrue benefits in addition to the income from the attributable portions of the Mineral Reserves. For the purposes of transparency and because it is not possible to accurately separate out the non-attributable interests in these models, the Life-of-Mine plan and financial analyses are given for the full Mineral Reserve.

Wherever mention is made of "Kroondal Operations", for the purposes of this Technical Report Summary, Kroondal Operations refers to a 50 - 50 Pool and Share Agreement between Kroondal Operations Proprietary Limited and Sibanye-Rustenburg Platinum Mines Proprietary Limited (SRPM) to mine the Mineral Reserves under an exclusive agreement. Kroondal Operations Proprietary Limited manages the operation.

In this document, a point is used as the decimal marker, and the comma is used for the text's thousands separator (for numbers larger than 999). In other words, 10,148.32 denotes ten thousand one hundred and forty-eight point three two.

The word 'tonnes' denotes a metric tonne (1,000 kg). The abbreviation "lb" denotes the weight pounds in the sense understood in the USA.

The Platinum, Palladium, Rhodium and Gold (4E) prices are quoted in US dollars per troy ounce (USD/oz.) or South African Rand per kilogram (ZAR/kg).

6E denotes a basket of PGM's Platinum, Palladium, Rhodium, Gold, Iridium and Ruthenium.

Chrome refers to Chromium Oxide Cr_2O_3.

The pay limit (cm.g/t or g/t) of an operation is the average value or grade for that operation which

The pay limit (cm.g/t or g/t) of an operation is the average value or grade for that operation which includes all direct and indirect costs i.e., the value at which it is estimated that ore can be mined without profit or loss.

The cut-off grade (cm.g/t or g/t) of an operation is the minimum value or grade at which an area can be mined to maintain an average value in line with the pay limit. The cut-off is unique to the orebody being mined and is dependent on maintaining a mining mix that follows the orebody's value distribution.

NOTE: The UG2 Reefs at the Kroondal Operations and the contiguous Sibanye-Stillwater owned Rustenburg Operations are single orebodies and are estimated as single geological units across the two properties. A portion of the SRPM Mineral Reserves will be accessed through the Kroondal Infrastructure through a Pool-and-share agreement. This tonnage is reflected in the Kroondal Operations Life-of-Mine Schedule and financial model, not Rustenburg Operations. However, Mineral Resources and Mineral Reserves are divided and reported within their respective mineral rights boundaries.

Trademarks. Certain software and methodologies may be proprietary. Where proprietary names are mentioned, TM or © are omitted for readability.

Date and Signature Page

Qualified Persons	Position	Signature	Signature Date
Hermanus Jacobus Keyser	Vice President Mining Technical Services	/s/ Manie Keyser	24 April 2024
Leonard Changara	Unit Manager Geology - Operations	/s/ Leonard Changara	24 April 2024
Nicole Wansbury	Unit Manager Geology Mineral Resources	/s/ Nicole Wansbury	24 April 2024
Brian Smith	Unit Manager Survey	/s/ Brian Smith	24 April 2024
Stephan Botes	Unit Manager – Surface and Mineral Rights	/s/ Stephan Botes	24 April 2024
Phillip Ramphisa	Environmental Unit Manager	/s/ Phillip Ramphisa	24 April 2024
Dewald Cloete	SVP Processing	/s/ Dewald Cloete	24 April 2024
Roderick Mugovhani	SVP Finance	/s/ Roderick Mugovhani	24 April 2024

Table of Contents

List of Figures

List of Tables

1 Executive Summary

1.1 Introduction

Sibanye-Stillwater Limited (Sibanye-Stillwater or Registrant) is a multinational mining and metals processing Group with a diverse portfolio of mining and processing operations and projects and investments across five continents.

Sibanye-Stillwater is domiciled in South Africa and listed on both the Johannesburg Stock Exchange (JSE or JSE Limited) and the New York Stock Exchange (NYSE).

This report updates of the Technical Report Summary (TRS) filed by Sibanye-Stillwater on the Kroondal Operations on 22 April 2022, named Exhibit 96.5 Technical Report Summary of Kroondal Operations, which was effective 31 December 2021.

Owing to the integrated nature of the different shaft complexes and the ore processing operations, Kroondal constitutes a single unit (material property).

There has been no material change to the information between the effective date and the signature date of the Report. The effective date of the Mineral Resource and Mineral Reserve is 31 December 2023, and the Report date is 24 April 2024.

This TRS for the Kroondal Operations has been prepared in accordance with the disclosure requirements set out under Subpart 1300 of Regulation S-K (SK-1300).

1.2 Property Description, Mineral Rights and Ownership

The Kroondal Operations are ongoing, established mines and ore processing plants extracting the UG2

Reef (also known as the UG2 chromitite layer) to produce PGMs and base metals. The site is situated in a well-developed area and is easily accessible by major roads 123km west of Pretoria and 126km northwest of Johannesburg. Mining operations are not affected by climatic extremes.

Kroondal Operations comprising Kroondal PSA1 and Marikana PSA (Kroondal Operations) refer to a 50 - 50 Pool and Share Agreement (PSA) between Kroondal Operations (South Africa) Proprietary Limited and Sibanye Rustenburg Platinum Mines (Pty) Ltd (SRPM)to mine the Mineral Reserves under an exclusive agreement. Kroondal Operations (South Africa) Proprietary Limited manages the PSA properties. Detailed information about the PSA is found in Section 21.2.

Kroondal Operations (South Africa) Proprietary Limited, a wholly owned subsidiary of Sibanye Platinum Bermuda Proprietary Limited, itself a wholly owned subsidiary of Sibanye-Stillwater, is the holder of five converted mining rights in respect of the Kroondal Operations, under the Department of Mineral Resources and Energy (DMRE) reference numbers NW30/5/1/2/2/104MR, NW30/5/1/2/2/113MR, NW30/5/1/2/2/368MR, NW30/5/1/2/2/369MR, NW30/5/1/2/2/370 MR.

The mining rights NW30/5/1/2/2/104MR and NW30/5/1/2/2/113MR expired in October 2022 and are in the process of being renewed. The remaining mining rights are valid until 4 March 2042. The five mining rights total approximately 4,937.88 hectares. The two mining rights held by SRPM and accessed through the Kroondal infrastructure expire in 2040.

All mining rights are located in the Magisterial District of Rustenburg in the North West Province.

There are no material legal proceedings in relation to the Kroondal Operations.

The Mining Rights referred to in this document are issued in terms of the Mineral and Petroleum Resources Development Act 28 of 2002 in South Africa. The principal terms and conditions are not materially different from other similar operations in South Africa.

1.3 Geology and Mineralisation

The majority of PGM resources are located in Southern Africa, which accounts for over 55% of global PGM resources. Most of these are contained in the Bushveld Complex.

The Bushveld Complex is approximately 2,060 million years old and is a mafic to ultramafic rock sequence. The Rustenburg Layered Suite (RLS) is the world's largest known mafic igneous layered intrusion. In addition to PGMs, extensive deposits of iron, tin, chromium, titanium, vanadium, copper, nickel, and cobalt also occur. The Bushveld Complex extends approximately 450km east to west and approximately 250km north to south. It underlies an area of some 67,000km^2, spanning parts of Limpopo, North West, Gauteng, and Mpumalanga Provinces.

Interlayered in the Upper Critical Zone of the RLS, the Merensky and Upper Group No.2 Chromitite (UG2) Reefs are preserved as narrow tabular structures. The Kroondal Operations are situated on the western limb of the Bushveld Complex and produce the PGMs and associated Base Metals from the mining and processing of the UG2 Reef.

1.4 Exploration Status, Development, Operations and Mineral Resource Estimates

The discovery and development of the reefs in the Rustenburg area can be traced back to 1925. After intense exploration in the Rustenburg area, the first vertical shaft (West vertical) was commissioned in 1928 to exploit the Merensky Reef. The Klipfontein Plant (Phase 1) was constructed in 1928. Exploitation of the UG2 Reef began in the 1970's.

The Kroondal Operations have been extensively evaluated by surface and underground exploration drilling, geophysical surveys (airborne magnetic), trenching and geological mapping over a period of more than 55 years. This exploration has proven the extension of the Merensky and UG2 Reefs to the north-northeast.

The Initial geological understanding of the area was developed from observations made from the surface and underground mapping, combined with exploration drill hole information and extrapolations of features observed in other platinum mines in the western Bushveld Complex. Current interpretations of the geological and structural framework applicable to the UG2 Reef have evolved as new and more detailed geological information and datasets were obtained.

There has been a significant decline in surface exploration drilling over the past five years with a limited amount of surface exploration conducted. Surface drilling comprises 40% of the planned drilling metres for 2024 with the remainder as underground drilling.

The Mineral Resource estimation process used at the Kroondal Operations is based on surface and underground drill holes and underground channel samples.

The most fundamental control of PGM mineralisation is rock chemistry. PGMs are associated with thin (1-5m) chromitite layers and base metals sulphides. These layers are distinct and consistent over large distances. The facies and structural models that form the basis of this report have evolved over time and are updated annually with the latest drilling and underground sampling results.

The Mineral Resources declared (Table 1 and Table 2) are estimated based on the geological facies and constrained by appropriate geostatistical techniques, using Ordinary Kriging for areas with sufficient data and ID^2 (Inverse distance to the power of two) estimates for areas with limited data. Areas close to current workings will have smaller block sizes at 125m. Areas further away will have block sizes of 500m. The facies and structural models that form the basis of this report have evolved based on a large amount of data. The Mineral Resource classification follows geostatistical and geological guidelines. The Mineral Resources are declared inside the structural blocks and outside of the mined-out areas. All Mineral Resources reported are considered to be of sufficient quality to justify reasonable prospects for economic extraction. The underlying grade control and reconciliation processes are considered appropriate.

The Mineral Resources are in-situ estimates of tonnage and grades reported at a minimum mining width of 200cm, with applicable mechanised bord and pillar mining methods employed at the Operation.

The Mineral Resources have been discounted by 1.1860Moz from the 2023 Mineral Resource declaration due to the removal of open pit Mineral Resources that will be sterilised as a result of the planned new Marikana PSA tailings facility.

Table 1: Prill Split of the area covered by Mineral Resource as at 31 December 2023

Reef	Pt (%)	Pd (%)	Rh (%)	Au (%)
UG2	58.1	31.1	10.2	0.7

Table 2: Attributable Mineral Resource Exclusive of Mineral Reserves as at 31 December 2023

Classification – 4E	Tonnes (Mt)		4E Grade (g/t)		4E (Moz)	
	31 Dec 23	31 Dec 22	31 Dec 23	31 Dec 22	31 Dec 23	31 Dec 22
Underground						
Measured	25.3	15.5	3.3	3.4	2.7	1.7
Indicated	4.8	4.7	3.3	3.8	0.5	0.6
Total Measured and Indicated	30.2	20.3	3.3	3.5	3.2	2.3
Inferred	0.0	2.5	0.0	2.9	0.0	0.2
Total Underground	30.2	22.7	3.3	3.4	3.2	2.5
Surface TSF						
Measured TSF	0.0	0.0	0.0	0.0	0.0	0.0
Total Surface	0.0	0.0	0.0	0.0	0.0	0.0
Total Resource	30.2	22.7	3.3	3.4	3.2	2.5

1. Mineral Resources are not Mineral Reserves.
2. Mineral Resources have been reported in accordance with the classification criteria of SK-1300.
3. Attributable Mineral Resource is 87.00% of the total Mineral Resource.
4. Mineral Resource is calculated on available blocks. Due to non-selective mining, no cut-off grade is applied.
5. Mineral Resources Reported after the removal of Geological losses.
6. Quantities and grades have been rounded to one decimal place; therefore minor computational errors may occur. Values<0.05Moz report as zero due to rounding.

1.5 Mining Methods, Ore Processing, Infrastructure and Mineral Reserves

Kroondal Operations is a large, established shallow level mechanised PGM mine accessed from the surface utilizing decline systems. There are five access tunnels with the same decline systems with one shaft on care and maintenance. The primary mining method applied at all Kroondal Operations is mechanised bord and pillar. There are however a few sections where handheld drill and blast operations take place. All facilities are in good condition.

All the permanent infrastructure required to access and mine is already established and in use. Detailed LoM plans for every shaft complex at Kroondal support the Mineral Reserve presented in Table 3 and Table 4.

All mine designs, as well as strategic planning and major design issues, such as shaft pillar extraction, are done in conjunction with input from qualified rock engineers. The mining methods employed are designed based on geotechnical engineering inputs bearing in mind the mining width, depth of mining and geology. Mine design is done in line with the mine and stability pillar design applicable to the area. Payability, stability pillars and geological features determine the extraction ratio, which will vary with depth across the mine.

The LoM production plans for Kroondal Operations were developed through a Mineral Resource to Mineral Reserve conversion process that utilised dilution factors and mining (stoping and development) parameters as well as other modifying factors, informed by historical reconciliation results and performance. The use of factors aligned to historical performance enhances the likely achievability of the plans.

Economic viability testing of the LoM plans demonstrated that extraction of the scheduled Measured and Indicated Mineral Resources is economically justified, and the declaration of Mineral Reserves is appropriate.

All fresh ore from the Kroondal shafts are delivered to a dense media separation (DMS) plant which is designed to remove excess waste material through a density flotation process, before being treated by the mineral processing facilities at the Kroondal Operations. Mineral Processing facilities are located at two sites: K1 concentrator adjacent to Kopaneng shaft and K2, adjacent to Bambanani shaft. Both mineral processing plants are operated and maintained under contract by Minopex, a contract processing firm. K1 Plant was commissioned in October 1999 and K2 was commissioned in April 2005. Both plants are still in good condition. As the production profile declines, the plants will be scaled down in line with the expected fresh ore supply.

There is adequate storage capacity for the tailings resulting from ore processing at the processing facilities, and the Tailings Storage Facilities are in good condition.

Table 3: Prill Split and Recovery for Mineral Reserves

Prill Split	Pt (%)	Pd (%)	Rh (%)	Au (%)	Recovery (%)
UG2	58.1	31.1	10.2	0.7	58.1
Combined (weighted average)	58.1	31.1	10.2	0.7	58.1

Table 4: Attributable Mineral Reserve as at 31 December 2023

Classification – 4E	Tonnes (Mt)		4E Grade (g/t)		4E (Moz)	
	31 Dec 23	31 Dec 22	31 Dec 23	31 Dec 22	31 Dec 23	31 Dec 22
Underground						
Proven	9.1	7.4	2.5	2.5	0.7	0.6
Probable	0.0	0.0	0.0	0.0	0.0	0.0
Total Underground	9.1	7.4	2.5	2.5	0.7	0.6
Surface TSF						
Proven TSF	0.0	0.5	0.0	3.4	0.0	0.1
Probable TSF	0.0	0.0	0.0	0.0	0.0	0.0
Total Surface	0.0	0.5	0.0	3.4	0.0	0.1
Total Proven	9.1	8.0	2.5	2.6	0.7	0.7
Total Probable	0.0	0.0	0.0	0.0	0.0	0.0
Total Mineral Reserve	9.1	8.0	2.5	2.6	0.7	0.7

1. Mineral Reserve was reported in accordance with the classification criteria of S-K 1300.
2. Mineral Reserve was estimated on all available blocks and no cut-off grade was applied.
3. Attributable Mineral Reserve is 87.00%.
4. Values <0.05Moz report as zero due to rounding.
5. Mineral Reserves are estimated using the prices in Section 16.4.
6. The average recovery factor for the UG2 is 82%.

1.6 Capital and Operating Cost Estimates and Economic Analysis

There are no Capital Projects for the Kroondal Operations.

Ongoing capital expenditure estimates, reported as sustaining capital are based on a provision of an approximate 4% of operating cost expenditures for shallow mines, this percentage is based on historical spend, and the current business plan. They generally are included for the first year of the LoM plan. These amounts cater for expenditures of a capital nature and are considered prudent provisions (contingencies) to maintain the operations infrastructure, given that limited detail is provided beyond the current three-year horizon.

The forecast operating costs included in the LoM plans are based on historical experience at the operations and a price risk of +/- 10% of the Basket price. All capital expenditure and operating cost estimates have been estimated to a maximum of +/- 20% accuracy and a Pre-Feasibility level of accuracy.

The budgeted capital expenditure and operating costs forecast metal prices and other economic assumptions utilised for economic viability testing of the LoM plans are reasonable. The post-tax flows for Kroondal derive the Discounted cash-flow (DCF), which results in the Net Present Values (NPVs)of the LoM plan contained in Table 5 at a Discount Rate as at 31 December 2023, of 5%. This discount rate is in line with the local inflation rate in the recent past and the expected rate near future. The table also indicates the sensitivity of the NPV to the long-term 4E PGM commodity price.

Table 5: NPV (Post-tax) Relative to ZAR/4Eoz PGM Basket Prices at 5% Discount Rate

	Sensitivity Range						
	-20%	-10%	-5%	base case	5%	10%	20%
NPV@ the base case Discount Rate 5% (ZARm)	-3,143	1,416	3,695	5,975	8,254	10,534	15,093

Calculated at 100%, not attributable portion.

Table 6 shows two-variable sensitivity analysis of the NPV Post-Tax to variance in capital costs at the 5% Discount Rate.

Table 7 shows two-variable sensitivity analysis of the NPV Post-Tax to variance in Revenue and in operating cost at the 5% Discount Rate. This demonstrates sensitivity to the increase in operating costs and the leverage potential to higher 4E prices.

Table 6: Twin Parameter NPV (Post-Tax) Sensitivity at 5% Discount Rate (Capital Costs)

Post-Tax NPV@5% (ZARm)		Revenue Sensitivity Range						
		-20%	-10%	-5%	0%	5%	10%	20%
Total Capital Cost Sensitivity Range	-20%	-2,924	1,635	3,914	6,194	8,473	10,753	15,312
	-10%	-3,034	1,525	3,805	6,084	8,364	10,643	15,202
	-5%	-3,089	1,470	3,750	6,029	8,309	10,588	15,147
	0%	-3,143	1,416	3,695	5,975	8,254	10,534	15,093
	5%	-3,198	1,361	3,640	5,920	8,199	10,479	15,038
	10%	-3,253	1,306	3,585	5,865	8,144	10,424	14,983
	20%	-3,363	1,196	3,476	5,755	8,035	10,314	14,873

Calculated at 100%, not attributable portion.

Table 7: Twin Parameter NPV (Post-Tax) Sensitivity at 5% Discount Rate (Revenue, Operating Costs)

Post-Tax NPV@5% (ZARm)		Revenue Sensitivity Range						
		-20%	-10%	-5%	0%	5%	10%	20%
Total Operating Cost Sensitivity Range	-20%	s	8,667	10,946	13,226	15,505	17,785	22,344
	-10%	482	5,041	7,321	9,600	11,880	14,159	18,718
	-5%	-1,331	3,228	5,508	7,787	10,067	12,346	16,905
	0%	-3,143	1,416	3,695	5,975	8,254	10,534	15,093
	5%	-4,956	-397	1,882	4,162	6,441	8,721	13,280
	10%	-6,769	-2,210	69	2,349	4,628	6,908	11,467
	20%	-10,395	-5,836	-3,556	-1,277	1,003	3,282	7,841

Calculated at 100%, not attributable portion.

While the profitability of the entire operation is tested on a total cost basis, the point at which each individual shaft closure is determined, is after direct operational cost. As soon as a shaft does not contribute to its own mining and operational cost, it is closed. The direct allocated costs include the overheads specific to the operation while indirect allocated costs refer to those items which belong to the entire group, and which are allocated back to each operation based on a formula.

1.7 Permitting Requirements

The Kroondal Operations have all the necessary rights and approvals in place to operate, e.g., mining, processing, TSFs, and ancillary facilities associated with the operations.

Any permit and license infringements are corrected as they occur, and environmental impacts are managed in close consultation with the appropriate departments. The operator's tenure to operate on these premises is secure for the foreseeable future unless terminated by regulatory authorities for legally these premises is secure for the foreseeable future unless terminated by regulatory authorities for legally justified reasons. Furthermore, based on the assessment of the current permits, technical submittals, regulatory requirements and compliance history, continued acquisition of permit approvals should be possible and there is a low risk of rejections of permit applications by the regulator for the foreseeable future.

1.8 Conclusions and Recommendations

The Qualified Persons have conducted a comprehensive review and assessment of all material issues likely to influence the future activities of Kroondal Operations based on information available up to 31 December 2023.

There is a comprehensive Risk Register that is reviewed quarterly by the Operations' management. All the risks have detailed mitigation plans designed to reduce the risk to a manageable level. The Qualified Persons could not identify any unmanaged material risks that would affect the Mineral Resources and Mineral Reserves reported for Kroondal Operations.

The views expressed in this report were based on the fundamental assumption that the required management resources and proactive management skills will be focused on meeting the LoM plans and production targets.

There are no recommendations for additional work or changes.

2 Introduction

2.1 Registrant

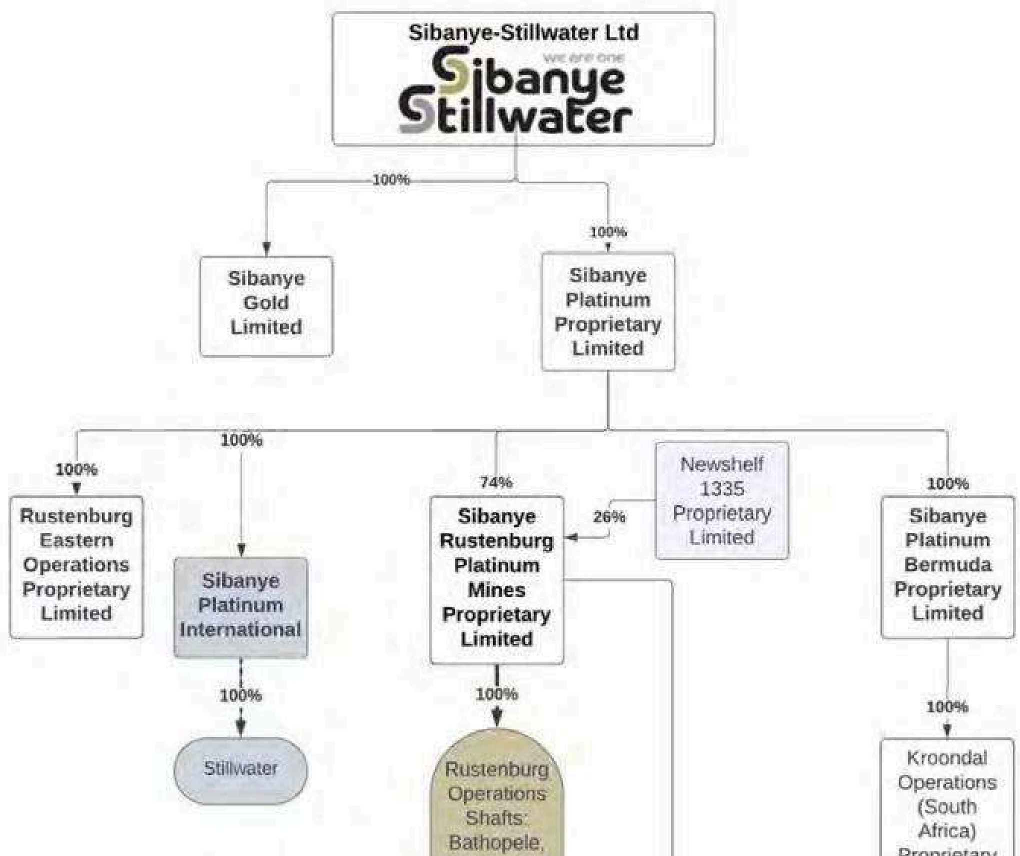
Sibanye-Stillwater is an independent international precious metals mining company with a diverse mineral asset portfolio comprising platinum group metal (PGM) operations in the United States and Southern Africa, gold operations and projects in South Africa, and copper, gold and PGM exploration properties in North and South America. It is domiciled in South Africa and listed on both the Johannesburg Stock Exchange (JSE or JSE Limited) and New York Stock Exchange (NYSE).

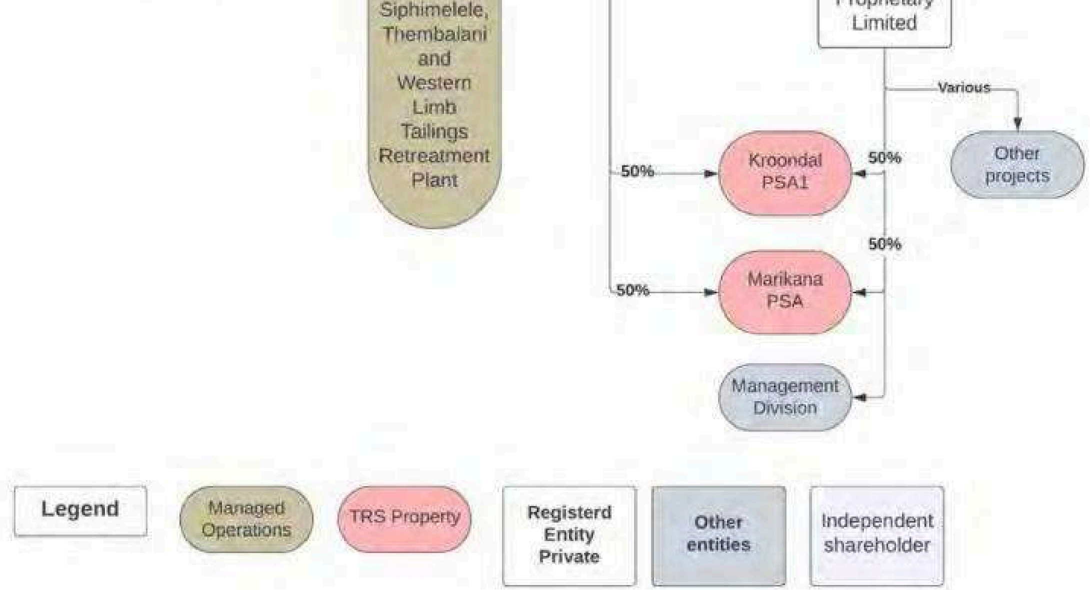
This TRS covers the Kroondal Operations. The Kroondal Operations are managed by Kroondal Operations (South Africa) Proprietary Limited, a wholly owned subsidiary of Sibanye Platinum Bermuda Proprietary Limited, which is itself a wholly owned Subsidiary of the Registrant (Figure 1). The Anglo-American Platinum(AAP) share of the 50 – 50 Pool and Share Agreement (PSA) was taken over by Sibanye-Rustenburg Platinum (Pty) Ltd, a 74% owned subsidiary of the Registrant, in 2023. Additional details on the PSA are given in Section 3.2 and Section 21.2

The Kroondal Operations include shafts, processing facilities and associated infrastructure (the Material Assets) located in the North West Province, South Africa.

As per Group Methodology, the combined Kroondal Operations (South Africa) Proprietary Limited Mineral Resources and Mineral Reserves are 87% Attributable to the Registrant.

Figure 1: Ownership and Company Structure for the Kroondal Operations




Siphimelele, Thembalani and Western Limb Tailings Retreatment Plant
Proprietary Limited
Various
Other projects
50%
Kroondal PSA1
50%
50%
Marikana PSA
50%
Management Division
Legend
Managed Operations
TRS Property
Registerd Entity Private
Other entities
Independent shareholder

2.2 Compliance

Sibanye-Stillwater is listed on the NYSE (Code SBSW) and JSE (Code SSW). Mineral Resources and Mineral Reserves contained in this TRS were compiled and reported following the United States Securities and Exchange Commission's (the SEC's) Subpart 1300 of Regulation S-K.

2.3 Terms of Reference and Purpose of the Technical Report Summary

This Technical Report Summary reports the Mineral Resources and Mineral Reserves for Sibanye-Stillwater's Kroondal Operations as at 31 December 2023. The Kroondal Operations are an ongoing, established mine extracting platinum group metals (PGM) from the Upper Group No. 2 Chromitite Seam (UG2 Reef) of the Bushveld Complex. It also extracts chrome and base metals (Ni and Cu) as a by-product. The ore produced is processed onsite and produces concentrate. The concentrate is further beneficiated by AAP, a refinery in Rustenburg.

This report is the first update of the TRS filed by Sibanye-Stillwater on the Kroondal Operations superseding the TRS filed on 22 April 2022 named Exhibit 96.4 Technical Report Summary of Kroondal Operations dated 31 December 2021.

The PGM-rich layers mined are well known from extensive mining which has taken place, at Rustenburg and the greater Bushveld Complex, over the last 90 years. The Mineral Resource for Kroondal Operations contained in this Technical Report Summary is estimated from the extensive surface and underground drill hole database and signed-off by internal Qualified Persons (QPs). These Mineral Resources are the basis for the Mineral Reserve estimates reported for the operation. Furthermore, the Mineral Reserve estimates are based on detailed Life of Mine (LoM) plans and technical studies (at least to a Prefeasibility Study level) completed internally by Sibanye-Stillwater personnel utilizing modifying factors and Capital and Operating Costs informed by the historical performance at the operations.

This Technical Report Summary was compiled by in-house QPs for Mineral Resources and Mineral Reserves appointed by Sibanye-Stillwater. The QPs are Technical Experts/Specialists registered with professional bodies that have enforceable codes of conduct. A list of the QPs, their role, Qualifications, and sections which they have prepared is given in Table 8.

Table 8: Details of QPs Appointed by Sibanye-Stillwater

Name	Position	Area of Responsibility	Academic and Professional Qualifications	Section Sign-off
Hermanus Jacobus Keyser	Vice President Mining Technical Services	Qualified Person, Mineral Resources and Mineral Reserves – SA PGM Operations	MEng Mining Engineering, GDE, NHD MRM, ND Survey SACNASP 400284/06	1-5, 7.8, 7.9,13,15, 16.1-16.3, 17.1-17.3, , 20-25
Leonard Changara	Unit Manager Geology -Operations	Qualified Person, Geology - SA PGM Operations	MSc Geology; MBA SACNASP 400089/08 GSSA No 967490	5,6,7.1 to 7.7
Nicole Wansbury	Unit Manager Geology Mineral Resources	Qualified Person Mineral Resources – SA PGM Operations	MSc Geology SACNASP 400060/11 GSSA No 965108	1.4,8-11
Brian Smith	Unit Manager Survey	Qualified Person Mineral Reserves – SA PGM Operations	MEng MRM SAGC GPr MS 0218	1.5, 12
Stephan Botes	Unit Manager – Surface and Mineral Rights	Mineral Title	LLB, LLM, Postgraduate Certificate in Prospecting and Mining Law, Postgraduate Certificate in Company Law I, Admitted Attorney of the High Court of RSA	1.7, 3.2,3.4
Phillip Ramphisa	Environmental Manager (SA PGM)	Natural Environment	MSc, MBA SACNASP 400333/11	17.4
Dewald Cloete	SVP Processing	Mineral Processing	ND, NHD Extractive Metallurgy, HD0968	14

			SAIMM	
Roderick Mugovhani	SVP Finance	Financial Evaluation	B,Comm Accounting, Post Graduate Diploma in Acc Education, MBA, Executive Management Programme, Certified Professional Accountant (SA. Management Development Programme (MDP)	1.6, 18, 19
SAIMM - Southern African Institute of Mining and Metallurgy SACNASP – South African Council for Natural Scientific Professions SAGC – South African Geomatics Council GSSA – Geological Society of South Africa SAATCA – South African Auditor and Training Certification Authority				

2.4 Sources of Information

Sibanye-Stillwater Kroondal Operations and Sibanye-Stillwater (the Registrant) provided most of the technical information utilised to prepare this report. This information is contained in various technical studies undertaken in support of the current and planned operations, historical geological work and production performance at the Kroondal Operations and forecast economic parameters and assumptions. Other supplementary information was sourced from the public domain and these sources are acknowledged in the body of the report and listed in the References Section (Section 23).

2.5 Site Inspection by QPs

The QPs for Mineral Resources and Mineral Reserves who authored this TRS, and the supporting Technical Experts/Specialists are all employees of Sibanye-Stillwater working at the Kroondal Operations or Corporate Offices. By virtue of their employment, the QPs, except Mr Botes, visit the Kroondal Operations while carrying out their normal duties. Mr Botes does not visit the operations directly but visit the shared services office in Rustenburg during 2023.

2.6 Units, Currencies and Survey Coordinate System

In the Republic of South Africa (RSA), metric units are used for all measurements and, therefore, the reporting of quantities is in metric units unless otherwise stated.

All the metal prices and costs are quoted in US Dollars (USD) or South Africa Rand (ZAR). An exchange rate of 17.00ZAR/USD is used in this document.

The coordinate system employed for most of the surface and underground surveys and maps shown in this report is based on the Gauss Conform Projection (UTM), Hartebeeshoek 94 Datum, Ellipsoid WGS84, Central Meridian WG27 (Y +0; X+2,800,000). Some regional-scale maps in this report may be referenced with Latitude and Longitude coordinates for ease of reading.

Units of measurement used in this report are described in Table 9.

Table 9: Units Definitions

Units	Description
cm	centimetre(s)
g	gram(s), measure of mass
g/cm³	density - grams per cubic centimetre
g/t	grade grams per tonne
ha	hectares = 100m x 100m
kg	kilograms = 1000 grams, measure of mass
km	kilometre(s) = 1000 metres
km²	square kilometres, measure of area
Koz	kilo ounces= 1000 ounces (troy)
kt	kilotonnes
ktpm	kilotonnes per month
litre	Metric unit of volume = 1000cm3
m	metre(s)
m²	square metres
m³/a	cubic metres per annum
mamsl	metres above mean sea level
metre	metric unit of distance
mm	millimetre(s) = metre/1000
Moz	Million ounces (troy), measure of weight
Mt	Million metric tonnes
Mtpa	Million tonnes per annum

MVA	Million Volt-Amps(Watts)
MW	Megawatts
oz	Troy ounces = 31.1034768 grams
ppb	parts per billion
ppm	parts per million (grams/metric tonne)
sec	second
t	metric tonne = 1000 kilograms = 1.10231131 short ton
tonnes	metric tonnes = 1000 kilograms = 1.10231131 short ton
USD	United States Dollars
4Eoz	troy ounces of Platinum, Palladium, Rhodium and Gold combined.
lb	pound USA = measure of weight
WGS84	World Geographic System 1984- map projection system
wt%	weight percent
ZAR	South African Rand
ZARm	Million Rand

2.7 Reliance on Information Provided by Other Experts

The QPs for Mineral Resources and Mineral Reserves have sought input from in-house Technical Experts/Specialists on aspects of the modifying factors for the disciplines outside their expertise. Kroondal is a large operation, and it is not possible for any one person to have the required expertise to comment on all aspects of the operation and inputs to the Mineral Resources and Mineral Reserves. Kroondal and Sibanye-Stillwater employ a large team of Technical Experts and Services Specialists. The QPs consider it reasonable to rely upon the information provided by these experts by virtue of their role in the company. A list of the in-house Technical Experts/Experts and their areas of competency are summarized in Table 10.

Table 10: Technical Experts/Specialists Supporting the QPs

Name	Position	Area of Competency	Academic Qualifications
B Burger	Manager Finance	Financial Evaluation	B.Com (Accounting and Information Science)
R Craill	Vice President: Engineering	Infrastructure	B. Eng Mechanical. Pr Eng
R Cooper	Vice President Tailings Engineering	Tailings Management	BSc Civil Engineering, GDE (Civil), Pr Eng
B Chaponda	Technical Manager	Concentrators	MSc Chem Eng, BMin Sc, Pr Eng
S Durapraj	Manager: Rock Engineering	Rock Engineering	B.A, MSc Mining Engineering, MSANIRE, AREC, COMRMC
L Koorsse	Unit Manager Survey	Survey, Reporting and Historical Mining Factors	MSCC, NHD MRM, ND Survey IMSSA PMS0134
G Mackenzie	Manager: Human Resources	Human Resources Management	Nat Dipl. HRM. Adv. IR
E Malherbe	Superintendent Geology	Mineral Resource Estimation	BSc (Hons) (Geology) SACNASP 400131/08
T Naude	Unit Manager: Environment	Rehabilitation and closure costs	BA Geography and Environmental Studies
M Neveling	Senior Manager: Health and Safety	Safety	MO COC, MMDP, Ncert Safety
H Olivier	Manager Asset Management	Equipment	B. Eng. Mechanical (Hons), GCC: Mines & Works (5999)
K Pillay	EVP: Sales and Marketing	Metal sales and Marketing	BSc Eng (Chem), MSc Eng (Chem), MBA.
T Phume	Executive Vice President (EVP):	Social and Labour	BA Hons (Corp Comm), APR

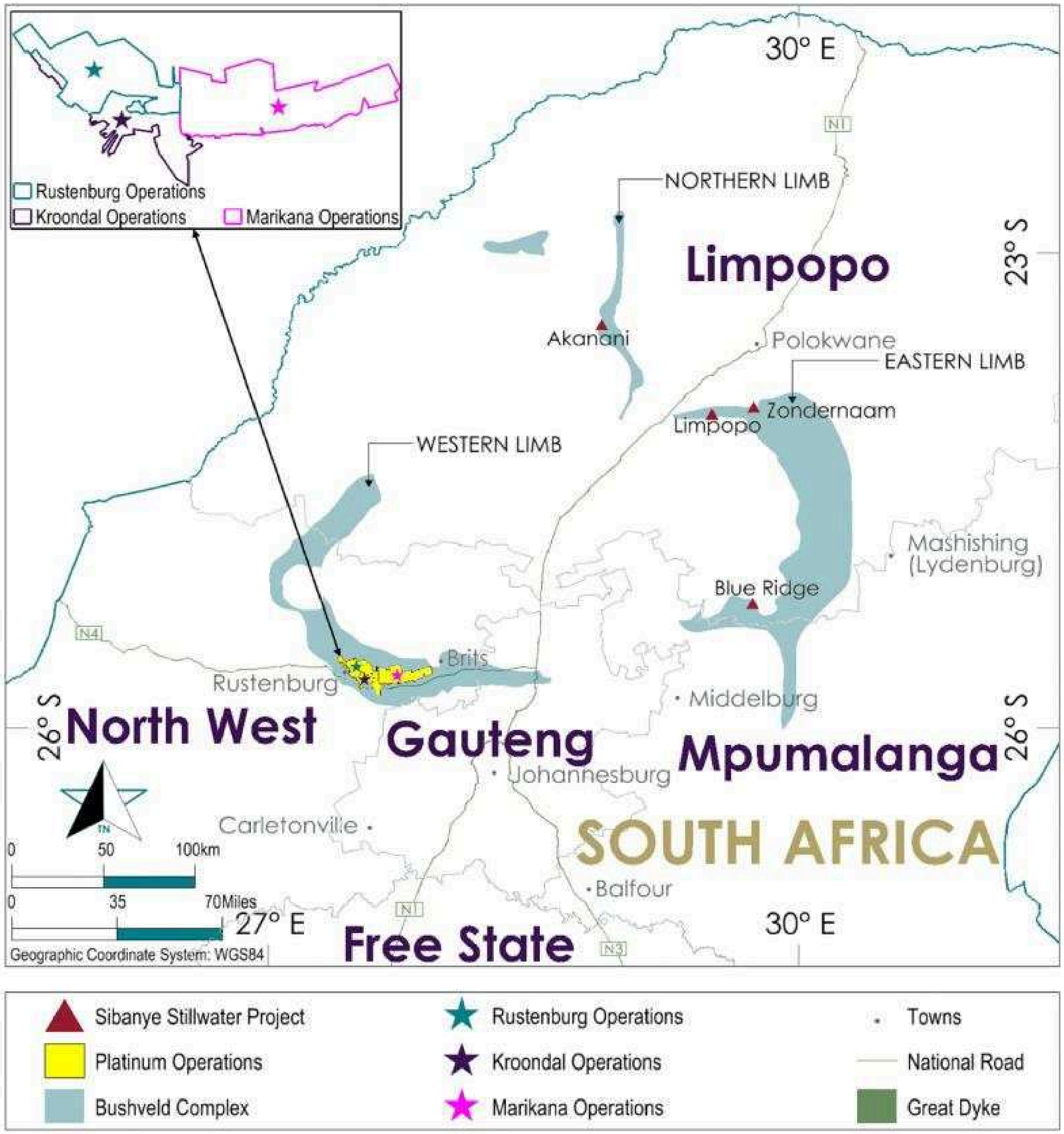
T Phumo	Stakeholder Relations (SA)	Social and Labour	Diploma Project Management
S Swanepoel	Manager Occupational Hygiene and Ventilation	Occupational Hygiene, Ventilation	BSc (Hons), MSc, MEC, NDSM, SAIOH (0309)

3 Property Description

3.1 Location and Operations Overview

The Kroondal Operations are located in the North West Province, east of the towns of Rustenburg and Kroondal, at latitude 25°42'S and longitude 27°20'E. Kroondal Operations are 123 km west of Pretoria and 126 km northwest of Johannesburg (Figure 2). The total area of the Kroondal Operations Proprietary Limited is 4,937.88 hectares. The Total area of the property under the PSA is 8352.81 hectares.

Figure 2: General Location of the Material Assets



Rustenburg town is surrounded by agricultural land. The Kroondal Operations are situated to the southeast of Rustenburg town. Various mines owned by Impala Platinum, Glencore and Royal Bafokeng are also located in and around Rustenburg. Figure 3 provides additional location details of the Kroondal Operations.

The Kroondal Operations include shafts, integrated processing facilities and associated infrastructure (the "Material Assets") located in the Northwest Province, South Africa (Figure 3). This TRS for the Kroondal Operations reports the Mineral Resources and Mineral Reserves as at 31 December 2023.

Kroondal Operations include:

- Mining units utilising five operating shafts:
    - Kwezi Shaft and K6 Shaft (Kroondal West),
    - Bambanani Shaft and Kopaneng Shaft (Kroondal East), and
- Two Mineral Processing Plants:
    - K1 Plant and
    - K2 Plant.
- Other infrastructure is necessary for the production of saleable products and for compliance with environmental, health, safety, and social laws and regulations.

The Mineral Resource is accessed from the surface using decline systems and bord and pillar mining method. The average mining depths at Kwezi and K6 Shafts are 300m and 250m below the surface, respectively. At Simunye Shaft, the lowest mining level is currently 550 m below the surface and at Bambanani Shaft, the current lowest mining level is 450 m below the surface, whilst at Kopaneng Shaft, it is 500 m below the surface. The location of the shafts is shown in Figure 3.

3.2 Mineral Title

The Mining and Prospecting rights referred to in this document are issued in terms of the Mineral and Petroleum Resources Development Act 28 of 2002 in South Africa. The principal terms and conditions

Petroleum Resources Development Act 28 of 2002 in South Africa. The principal terms and conditions are not materially different to other similar rights within South Africa. Mining Rights for the Kroondal Operations are held by Rustenburg Platinum Mines Ltd and Kroondal Operations (Pty) Ltd, as shown in Table 11.

The Mining Rights held by Kroondal Operations (Pty) Ltd and Sibanye Rustenburg Platinum Mines (Pty) Ltd authorize Kroondal to mine Platinum Group Metals and, in the case of NW30/5/1/2/2/113 MR, Chrome, Copper, Nickel and Gold in addition to PGM's. A summary of the Mining Rights for Kroondal is given in Table 11.

A list of farms comprising the Mineral Rights is given in Table 12. Surface rights have various owners. The Kroondal Operations have sufficient rights and access to land to conduct operations.

The details of the Mining Rights are in Figure 3.

Kroondal Operations (Pty) Ltd holds one New Order Mining Right and 4 Converted Mining Rights in terms of the provisions of the MPRDA, whereas Sibanye Rustenburg Platinum Mines (Pty) Ltd is the holder of one converted Mining Right. Each of the rights has its own commencement and expiry dates (Table 11). Mineral Rights are obtained through the normal application process mandated by the South African Department of Mineral Resources and Energy.

Only the Mining Rights under Kroondal Operations (South Africa) Proprietary Limited are shown in the table below.

Table 11: Kroondal Mining Right Status

Right Holder	Right Number/s	Size (ha)	Minerals	Key Permit Conditions	Expiry date	Future Requirements	Future Intentions	Brief summary of Violations/fines
Kroondal Operations (Pty) Ltd	NW30/5/1/2/2/104MR	1,722.20	PGMs	See the summary of permit conditions, general EMP regulatory reporting requirements and SLP regulatory reporting requirements.	16-Oct-22	A renewal application was submitted in July 2022, along with an updated MWP and SLP. An S102 application was also submitted for ministerial consent to incorporate portions of the farm Kroondal 304 JQ (being the location of the Kroondal Operations KP1 TSF) and exclude other portions of the said farm which the company has no interest. The mentioned applications remain pending with the DMRE. The mining right will remain in [illegible]	Application for Ministerial consent to amend NW 30/5/1/2/2/113 MR to incorporate area covered by NW30/5/1/2/2/104 MR was submitted to the DMRE in February 2024.	None.

						force despite the expiry date until the DMRE makes a		

Right Holder	Right Number/s	Size (ha)	Minerals	Key Permit Conditions	Expiry date	Future Requirements	Future Intentions	Brief summary of Violations/fines
						decision in respect of the renewal application (Section 24(5) of the MPRDA).		
Kroondal Operations (Pty) Ltd	NW30/5/1/2/2/113MR	2,508.00	PGMs, (Gold, Nickel, Copper, Chrome in UG2)	See the summary of permit conditions, general EMP regulatory reporting requirements and SLP regulatory reporting requirements.	16-Oct-22	A renewal application was submitted in July 2022, along with an updated MWP and SLP. An S102 application was also submitted for ministerial consent to exclude portions of the farm Kroondal 304 JQ from the mining right area. Both applications are still pending with the DMRE. The mining right will remain in force despite the expiry date until the DMRE makes a decision in respect of the renewal application (Section 24(5)) of the MPRDA	Application for Ministerial consent to amend NW 30/5/1/2/2/113 MR to incorporate area covered by NW30/5/1/2/2/104 MR was submitted to the DMRE in February 2024.	None.

Right Holder	Right Number/s	Size (ha)	Minerals	Key Permit Conditions	Expiry date	Future Requirements	Future Intentions	Brief summary of Violations/fines
Kroondal Operations (Pty) Ltd	NW30/5/1/2/2/368MR	265.92	PGMs	See the summary of permit conditions, general EMP regulatory reporting requirements and SLP regulatory reporting requirements.	04-Mar-42			None.
Kroondal Operations (Pty) Ltd	NW30/5/1/2/2/369MR	409.21	PGMs	See the summary of permit conditions, general EMP regulatory reporting requirements and SLP regulatory reporting requirements.	04-Mar-42			None.
Kroondal Operations (Pty) Ltd	NW30/5/1/2/2/370MR	32.55	PGMs	See the summary of permit conditions, general EMP regulatory reporting requirements and SLP regulatory reporting requirements.	11-Mar-42			None.

KEY PERMIT CONDITIONS

MINING

- Mining right renewal applications are to be submitted 60 working days prior to the date of expiry of the right.
- The holder of a mining right must continue with mining operations, failing which the right may be suspended or cancelled.
- The terms of the right may not be varied or amended without the consent of the Minister of the Department of Mineral Resources and Energy.
- The holder shall be entitled to abandon or relinquish the right or the area covered by the right entirely or in part. Upon abandonment or relinquishment, the holder must:
    - Furnish the Regional Manager with all prospecting and/or mining results and/or information, as well as the general evaluation of the geological, geophysical and borehole data in respect of such abandoned area; and
    - Apply for a closure certificate in terms of section 43(3) of the MPRDA.
- The holder shall pay royalties to the State in accordance with section 25(2)g of the MPRDA throughout the duration of the mining right.
- Mining Operations must be conducted in accordance with the Mining Work Programme (MWP) and any amendment to the MWP and an approved Environmental Management Plan (EMP).
- The holder shall not trespass or enter into any homestead, house or its curtilage nor interfere with or prejudice the interests of the occupiers and/or owners of the surface of the Mining Area except to the extent to which such interference or prejudice is necessary for the purposes of t enabling the holder to properly exercise the holder's rights under the mining right.
- The holder must dispose of all minerals derived from mining at competitive market prices which shall mean in all cases, non-discriminatory prices, or non-export parity prices.
- A shareholding, an equity, an interest or participation in the mining right or joint venture, or a controlling interest in a company/JV may not be encumbered, ceded, transferred, mortgaged, let, sublet, assigned, alienated or otherwise disposed of without the written consent of the Minister, except in the case of a change of controlling interest in listed companies.
- All boreholes, shafts, adits, excavations, and openings created by the holder shall be sealed, closed, fenced, and made safe in accordance with the approved Environmental Management Programme and the Mine Health and Safety Act.
- The holder of the mining right, while carrying out mining operations, should safeguard and protect the environment, the mining area and any person using to entitled to use the surface of the mining area for possible damage or injury.
- The Minister or a person authorized by the Minister shall be entitled to inspect the Mining Area and

execution of the approved mining right conditions.

- A mining right may be cancelled or suspended subject to S47 of the MPRDA if the holder:

- Submits inaccurate, incorrect and/or misleading information in connection with any matter required to be submitted under this Act;
  - Fails to honour or carry out any agreement, arrangement or undertaking, including the undertaking made by the Holder in terms of the Broad-Based Socio-Economic Empowerment Charter and Social and Labour Plan;
  - Breaches any material term and condition of the mining right;
  - Conducts mining in contravention of the MPRDA;
  - Contravenes the requirements of the approved Environmental Management Programme;
  - Contravenes any provisions of this Act in any other manner.

- The holder shall submit monthly returns contemplated in S 28 (2) A of the MPRDA no later than the 15th of every month and maintain all such books, plans, and records in regard to mining on the mining area as may be required by the Act.
- The Holder shall, at the end of each year, following the commencement of this mining right, inform the Regional Manager in writing of any new developments and of the future mining activities planned in connection with the exploitation/mining of the minerals in the mining area.
- Provisions relating to section 2(d) and section 2(f) of the MPRDA, relating to the Broad-Based Socio-Economic Empowerment Charter, differ in each mining right.
- The Mining right does not exempt the holder from complying with the Mine Health and Safety Act or any Act in South Africa.
- Annually, no later than three months before the financial year end, submit a detailed implementation plan to give effect to Regulation 46(e)(i), (ii) and (iii) in line with the Social and Labour Plan.
- Annually, no later than three months after the finalization of its audited annual report, submit a detailed report on the implementation of the previous year's SLP.

- New Social and Labour Plan to be submitted and reviewed every 5 years.
- Social and Labour Plan Implementation Plans to be submitted annually.
- Social and Labour Plan Annual Report to be submitted annually.

ENVIRONMENTAL MANAGEMENT COMPLIANCE REQUIREMENTS

- Performance assessment relating to the Environmental Management Programme to be conducted Bi-annually.
- Performance assessment relating to Water Use License to be conducted annually.
- Performance assessment relating to Atmospheric Emission License to be conducted annually.

Figure 3: Plan Showing Kroondal Mineral Right and Shafts

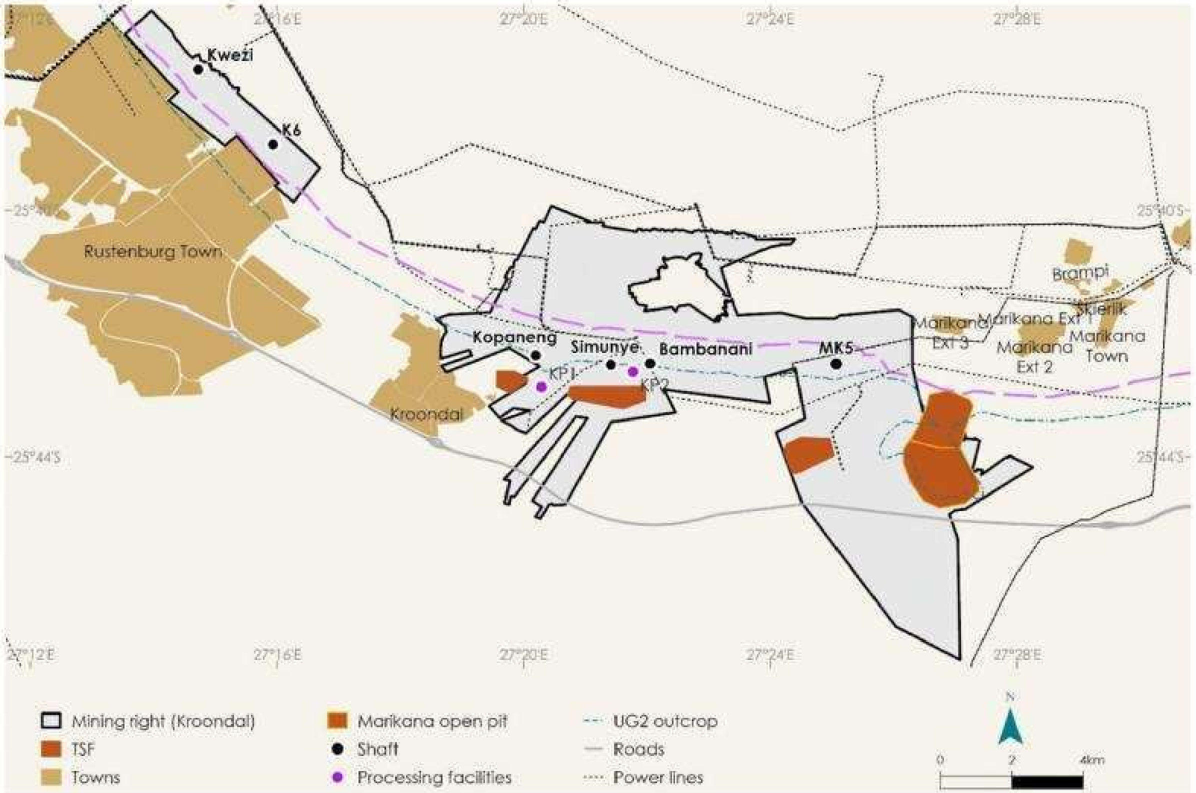


Table 12: Mining Rights Status for the Kroondal Operations (NW 104, 113, 368, 369, 370, 80)

Farm Name	Farm Portion	Magisterial District
Kroondal 304	Portions 2,4,6,8,9,10,22,23,24,25,25,21, Portion 83 Portion 84 RE Portion 85 Portion 99 Portion 85 Portion 95 Portion 93 Portion 91 RE Portion 92 RE Portion 94 Portion 151 (a Portion of Portion 94) Portion 158 Portion 129 (a Portion of Portion 85) Portion 157 (a Portion of Portion 85) Portion 52	Rustenburg

3.3 Royalties

Sibanye-Stillwater Kroondal Operations is not a royalty company, nor does it receive royalties from any other operation.

3.4 Legal Proceedings and Significant Encumbrances to the Property

The QPs have been advised by Sibanye-Stillwater that there are no material legal proceedings in relation to the Kroondal Operations. It should, however, be noted that Sibanye-Stillwater may be involved in various non-material legal matters such as employment claims, third-party subpoenas, and collection matters on an ongoing basis, which are not material to the Mineral Resources and Mineral Reserves for the Kroondal Operations reported in this TRS.

From the documentation reviewed and input by the relevant Technical Specialists and Experts, the QPs could not identify any significant encumbrances or any other significant factors or risks with regard to the title permitting, access, surface ownership, environmental and community factors that would prevent the mining or the ability to perform work on the Kroondal Operations, and the declaration and disclosure of the Mineral Resources and Mineral Reserves for the Kroondal Operations. The Kroondal Operations comply with all title and environmental permitting requirements of the RSA.

4 Accessibility, Climate, Local Resources, Infrastructure and Physiography

4.1 Topography, Elevation and Vegetation

The Rustenburg area within which the Kroondal Operations are situated is characterised by undulating terrain, varying between 1,050m above mean sea level (mamsl) and 1,180 mamsl. The topography to the north, west and east of Kroondal Operations is dominated by well-established non-perennial watercourses. The topography of the mine area is relatively flat, with sporadic hillocks and rocky outcrops. To the south of the mine area is the Magalies mountain range and to the east is a number of small hills.

The major rivers in the Kroondal Operations area include the Hex River bisecting through the western and central sections of the licence area and the Sterkstroom River on the eastern perimeter.

The natural vegetation comprises open grasslands and shrubs, but most of the area surrounding Rustenburg has been and is, to a certain extent, still used for agriculture developments, in particular sunflowers and tobacco. With the growth in the mining sector due to extensive platinum and chrome deposits in the region, agriculture is on the decline. Urban development has taken place mainly in the town of Rustenburg, but informal settlements also exist, including in the Rustenburg Operations Lease Area.

The licence area comprises two primary vegetation types, namely:

- Clay Thorn bushveld/ Other Turf Thornveld
    - This veld type occurs on the black vertic clay soils of the flat plains of the North West and Northern Provinces. Acacia tortilis, Acacia karroo and Acacia nilotica dominate the tree layer within this vegetation type. The Clay Thorn Bushveld is the main veld type found within the Rustenburg Operations area.
- Mixed Bushveld
    - This veld type is very variable depending on soil type, soil depth and aspect, and is represented by many different plant communities and habitat types. It occurs mainly on the undulating to flat plains of the Northern and North-West Provinces. The soil is mostly shallow, sandy, sometimes coarse, and gravelly, overlying granite, quartzite, sandstone, or shale. The vegetation may vary from short, dense, sometimes shrubby bushveld to tall, open tree savanna. Mixed Bushveld occurs in small parts of the Rustenburg Operations licence area.

4.2 Access, Towns and Regional Infrastructure

The Kroondal Operations are situated near Rustenburg town in the North West Province of South Africa. The site is accessed via the multiple networks of well-maintained tarred roads. From Pretoria, the operations are accessed via the N4 highway into Rustenburg town, then the R104 to the Operations. From Johannesburg, Rustenburg town is accessed via the R24 road passing through Magaliesburg or the R512 (regional dual carriage tarred road) from Johannesburg, which intersects with the N4. A railway line runs through the town of Rustenburg. Major international airports including OR Tambo and Lanseria international airports are in Gauteng Province.

Sections 4.4 and 14 and Figure 2 contain additional information on Infrastructure.

4.3 Climate

Rainfall occurs throughout the year, but predominantly between November and March, mainly as thunderstorms. Annual rainfall averages approximately 650 mm. The wettest month of the year is January, with an average monthly total rainfall of 132 mm. The driest month is July, with an average monthly rainfall of approximately 2 mm.

Mean annual air temperatures range from 11.8°C in June/July to 23.8°C in January. Average daily maxima range from 20.4°C to 30.3°C, and minima from 2.8°C to 17.2°C.

Winds are mainly light to moderate and blow from the north-easterly sector, except for short periods during thunderstorms or weather changes when they have a southerly component.

The lightning ground flash density in the area is a moderate risk to the concentrators with between 5 to 7 strikes/km^2/year (on a scale of 0 to 19).

No severe climatic effects influence the mining and ore processing operations at the Kroondal Operations, which proceed all year round.

4.4 Infrastructure and Bulk Service Supplies

The Kroondal Operations have been operational for decades. The regional and onsite infrastructure for mining and ore processing is well established. There is a good supply chain for all required consumables and equipment in or near the mine site. The Kroondal Operations, through Sibanye-Stillwater, is well connected to the international supply markets for any materials and equipment not available locally.

The Kroondal Operations are supplied with bulk electricity from the regional grid owned and operated by the state-owned company, Eskom. Details for Power supplies are supplied in Section 15.3 and for Water supplies in Sections 15.4 and 17.4.6.

Most services and supplies needed are found in the surrounding towns and cities.

4.5 Personnel Sources

The Kroondal Operations have specific policies, procedures, and practices in place, which address, on an integrated basis, its human resource requirements. Recruitment is informed in the main by the operational requirements of the Kroondal Operations for specific skills, by the extent of labour turnover levels and by relevant legislation.

The organisational structure currently in place, together with operational management, will remain until such time as planned shaft closures occur, following which downsizing will be assessed. Organisational structures and staffing requirements (Table 13) are, by and large, determined by operational requirements and the production profile of the operation. The economic climate, cost infrastructure and Mineral Reserve profile also influence the organisation structures and required labour complement.

Table 13: Number of Employees

	2020	2021	2022	2023*
No. of Permanent Employees	5,489	5,397	5,312	5,088

*Total Includes 35 temporary employees

Manpower is sourced from different areas of South Africa and beyond, although preference is given to manpower from local communities within the Northwest Province in support of local economic development. Table 14 provides a breakdown of the origin of employees as per province, including beyond the border of South Africa. Many of the Kroondal Operations' employees live in Rustenburg and neighbouring towns.

Table 14: Origin of Employees

Province	Number of Permanent Employees	Number of Contractors	Percentage
Eastern Cape	867	582	17,99%
Free State	252	130	4,74%
Gauteng	312	187	6,20%
KwaZulu-Natal	73	123	2,43%
Limpopo	403	357	9,44%
Mpumalanga	177	153	4,10%
North West	1870	1317	39,57%
Northern Cape	53	30	1,03%
Western Cape	2	3	0,06%
Non-South Africans	1079	84	14,44%
Total	5088*	2966	100,00%

*Total Includes 35 temporary employees

5 History

Operations were started in 1996 by Aquarius Platinum Limited until the acquisition by Sibanye-Stillwater in 2016. Relevant historical information is presented as a table. The drilling history and relevant geophysical surveys are described. The last five years' production history is presented.

5.1 Ownership History

The historical development of the Kroondal Operations is summarised in Table 15.

Table 15: Historical Development

Company / Ownership/ Operator	Date	Activity
Aquarius Platinum Limited	1996	A pre-feasibility study on the Kroondal Platinum Project was completed.
Aquarius Platinum Limited	1997	The bankable feasibility study of the Kroondal Platinum Project was completed and confirmed a Mineral Resource of 25Mt at a cut-off grade of 5.4g/t
Aquarius Platinum Limited	1998	Mine development began and an initial off-take agreement was signed with Implats that continues until 2008
Aquarius Platinum Limited	1999	Mining via two decline shafts (originally the Central and East shafts, now Kopaneng and Simunye) began in March and by year-end, full production was achieved, and the initial plant commissioned
Aquarius Platinum Limited	2000	Aquarius increased its stake in Kroondal to 94.57% and then to 100%
Aquarius Platinum Limited	2001	Initial joint venture (50:50) agreement entered into with Rustenburg Platinum Mines, a subsidiary of Anglo-American Platinum that was effective 1 July 2001 and included a second concentrator plant
Aquarius Platinum Limited	2003	Aquarius enters into a 50:50 pool and share agreement with Anglo American Platinum aimed at doubling output. This agreement was effective November 2003 and included an off-take agreement with Anglo Platinum for the Mineral Resources covered by the agreement
Aquarius Platinum Limited	2005	Second concentrator plant commissioned
Aquarius Platinum Limited	2006	Construction of fourth shaft, Kwezi (K5), begins, Marikana 6 Shaft placed on Care and Maintenance
Aquarius	[illegible]	Production ramp-up at Kwezi began and continued into the following year with a total of four

Platinum Limited	2008	decline shafts in production.
Aquarius Platinum Limited	2011	Development of a fifth shaft, K6, was started.
Aquarius Platinum Limited	2012	Marikana 4,5 shafts placed on care and maintenance
Aquarius Platinum Limited	2013	The extent of the resource included in the PSA agreement was extended, thus further prolonging Kroondal's life-of-mine
Aquarius Platinum Limited	2015	Production ramp-up at K6 completed.
Aquarius Platinum Limited/ Sibanye-Stillwater r	2016	Sibanye-Stillwater acquired a 50% stake in Kroondal following the acquisition in full of Aquarius Platinum Limited on 12 April 2016.
Sibanye-Stillwater r	2017	The full operational period under Sibanye-Stillwater. Delivered highest 4Eoz output in history
Sibanye-Stillwater	2020-21	The Covid-19 Pandemic and the associated national lockdown affected all production from April 2020 to the middle of May 2020, at which point a gradual build-up in production was initiated with a return of employees continuing right up into December 2020 in line with regulatory requirements.
Sibanye-Stillwater	2021	Optimisation of mine boundaries between Bathopele (SRPM), K6 and Kopaneng (Kroondal) and deepening of the Kroondal East complex (Kopaneng and Bambanani) into Siphumelele

Company / Ownership/ Operator	Date	Activity
		ground resulted in an extended LoM for Kroondal as part of the new agreement between AAP and Sibanye-Stillwater.
Sibanye-Stillwater	2021-22	A 50 -50 PSA was reached in 2021 with Anglo American Platinum that allows Kroondal to mine into the Rustenburg mining right situated down-dip of the original PSA agreement area. In 2022 Anglo American Platinum agreed to Sibanye-Stillwater taking full ownership of Kroondal upon the conclusion of certain commercial agreements. Meccano Feasibility Study is being advanced.
Sibanye-Stillwater r	2022-2023	Klipfontein UG2 Open Pit comes into Production. Meccano Feasibility study is being revised

5.2 Previous Exploration and Mine Development

5.2.1 Previous Exploration

The Kroondal Operations have been intensively explored by surface and underground exploration drilling, geophysical surveys (airborne magnetics), trenching and geological mapping carried out over a period of more than 55 years by previous owners including AAP and Aquarius. This intensive exploration has proven the extension at depth of the UG2 Reefs to the north-northeast.

Initial geological understanding of the area was developed from observations made from the surface and underground mapping, combined with exploration drill hole information and extrapolations of features observed in other platinum mines in the south-western Bushveld Complex. Current interpretations of the geological and structural framework applicable to the Merensky Reef and the UG2 Reef have evolved as new and more detailed geological information and datasets were obtained.

There has been a decline in surface exploration drilling over the years with limited amount of surface exploration conducted at the Bambanani Shaft, Kwezi Shaft, Kopaneng Shaft and Klipfontein UG2 Open Pit by Sibanye-Stillwater. However, exploratory visits are conducted in previously mined areas to confirm structure and facies.

Drilling history is given in Table 16. Drilling information above includes cover drilling and structural drilling. It does not include legacy data for which there is no complete/detailed drillhole log captured in the drilling database.

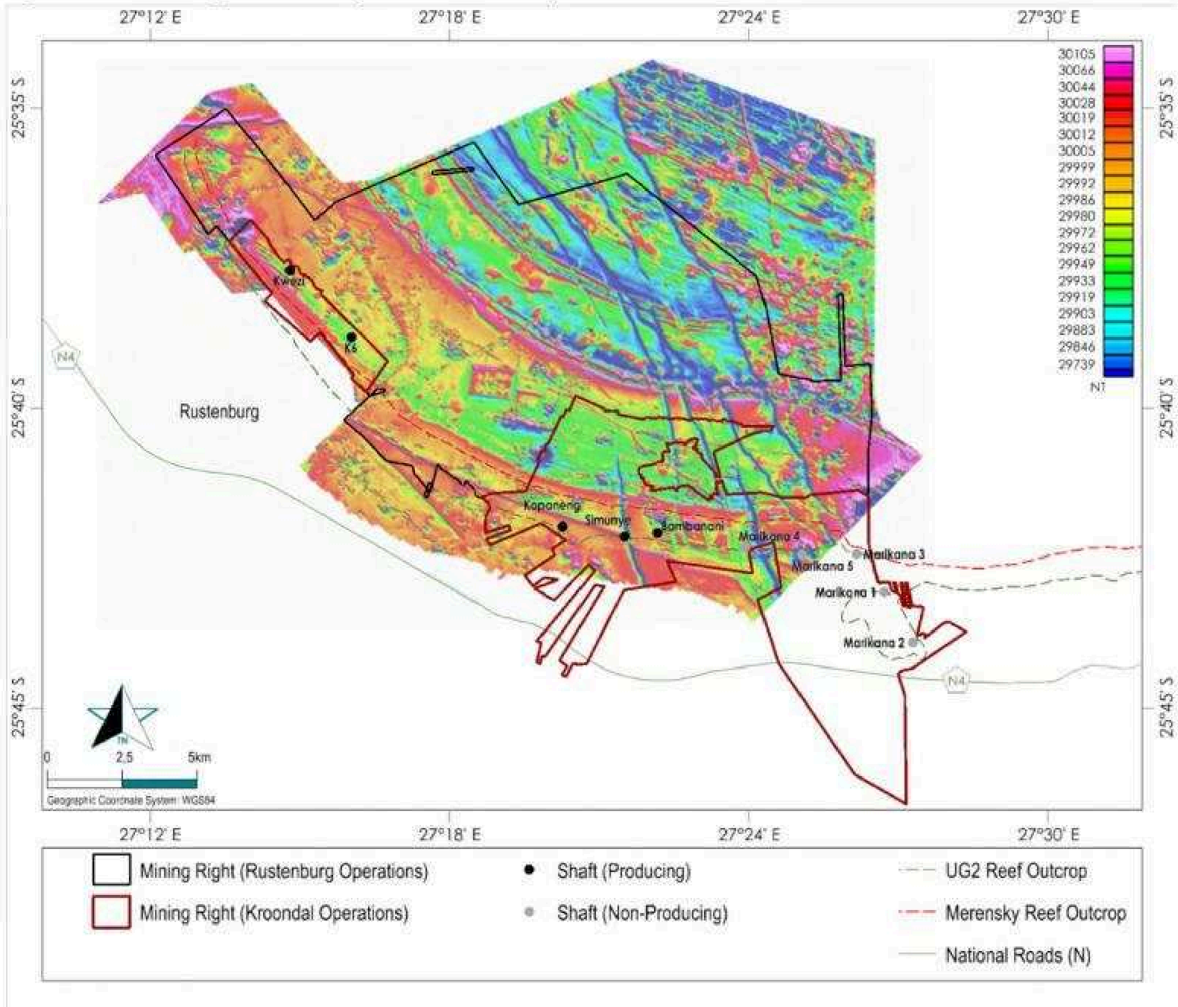
Table 16: Drilling History

Year	Total No. of Holes	Total Metres	Merensky Reef Intersections	UG2 Reef Intersections
<2000	19	2888	0	19
2000-2005	199	18057	0	199
2005-2010	164	28356	0	164
2010-2015	12	4052	0	12
2015-2020	215	10557	0	215
2020-2021	80	4789	0	80
2021-2022	142	15592	0	142
2022-2023	229	20054	0	229
Totals	1060	104345	0	1060

5.2.1.1 Aeromagnetic Surveys

The entire Kroondal Operations area has been covered by a high-resolution helicopter-borne aeromagnetic ('AM') and radiometric survey, carried out in late 2002 and early 2003 by Fugro Airborne Surveys, on behalf of Anglo-American Platinum, at a line spacing of 50m and a sensor clearance of 20m with results shown in Figure 4. Various image processing techniques were used to enhance and aid interpretation of this data, and this allowed the interpretation of major northwest-southeast structural trends and east-west striking faults. In addition, two dominant trends of magnetically susceptible dykes have been recognised; the northwest-southeast striking positively and negatively magnetised dolerite dykes as well as the east-west trending dolerite dykes. The AM data has also assisted with the identification of dunite pipes as well as potential Iron-rich replacement pegmatites (IRUP) areas. The QPs' experience at the Kroondal Operations has however shown that the dimensions of actual IRUPs at the Merensky Reef and UG2 Reef elevations are commonly smaller than the dimensions of the associated magnetic anomaly. Consequently, the actual IRUPs have a smaller impact on geological losses than suggested by the AM data. Also apparent is the magmatic layering of Bushveld stratigraphy as an indication of the strike of the orebody.

Figure 4: Aeromagnetic Survey for Kroondal Operations



5.2.1.2 3D Seismics

There are no known seismic surveys over the area. Seismics were only done over the areas with Merensky Reef.

5.2.2 Previous Development

Refer to Table 17 for details of the historical production and financial parameters in calendar years (C) from 2019 to 2023.

Table 17: Historical Production and Financial Parameters

Item	Location	Unit	Financial Years				
			2019	2020	20211	20222	2023
Main development	Advanced	(km)	12	8	9	9	12
Area mined		('000m²)	983	733	884	710	569
Tonnes milled	Underground	('000)	8,120	5,994	7,050	5,929	4,993
	Surface	('000)				573	455
	Total	('000)	8,120	5,994	7,050	6,502	5,448
Grade-Yield (ROM Grade*Rec)	Underground	(g/t)	2.46	2.46	2.40	2.4	2.22
	Surface	(g/t)					2.98
	Combined	(g/t)	2.46	2.46	2.4	2.4	2.29
4E produced @ 100%	Underground	(Moz)	0.530	0.394	0.453	0.404	0.296
	Surface	(Moz)					0.034
	Total	(Moz)	0.530	0.394	0.453	0.404	0.330
Operating Costs	Underground	(ZAR/t)	709	883	896	1 049	1 282
	Surface	(ZAR/t)					0
	Total	(ZAR/t)	709	883	896	1 049	1 282
Operating Costs		(USD/oz)	751	817	943	1 033	1,146
		(ZAR/oz)	10,862	13,440	13,941	16,907	21,111

All in cost		(USD/oz)	745	821	875	948	1,062
		(ZAR/oz)	10,768	13,512	12,943	15,514	19,549
Capital Expenditure		(ZARm)	426	376	536	546	480

Note:

1. Tonnes are from operations at the time of reporting at the shaft head.
2. Ounces and kilograms are based on 4E.
3. Yield is in 4E.

6 Geological Setting, Mineralisation and Deposit Types

This section contains descriptions of the regional geology of the Bushveld Complex, descriptions of similar deposits in other locations and a brief outline of the major components of the property geology.

6.1 Regional Geology

The majority of the world's PGM resources are located in Southern Africa, which accounts for over 55% of global PGM resources. Most of these are contained in the Bushveld Complex.

The Bushveld Complex (Figure 5) is approximately 2,060 million years old. Its mafic to ultramafic rock sequence, the Rustenburg Layered Suite (RLS), is the world's largest known mafic igneous layered intrusion. In addition to PGMs, extensive deposits of iron, tin, chromium, titanium, vanadium, copper, nickel, and cobalt also occur. The Bushveld Complex extends approximately 450 km east to west and approximately 250km north to south. It underlies an area of some 67,000km², spanning parts of Limpopo, North West, Gauteng, and Mpumalanga Provinces in South Africa.

The RLS which was derived from the differential crystallisation of multiple magma injections, occurs geographically as five discrete compartments termed 'limbs,' three of which are being exploited for PGMs. These are the Western, Eastern, and Northern Limbs. The Kroondal Operations are on Western Limb (Figure 6). The RLS comprises rocks ranging from dunite and pyroxenite through norite, gabbro and anorthosite to magnetite- and apatite-rich diorite, subdivided in terms of a mineralogically based zonal stratigraphy into five principal zones.

Figure 5: Geology of the Bushveld Complex, South Africa

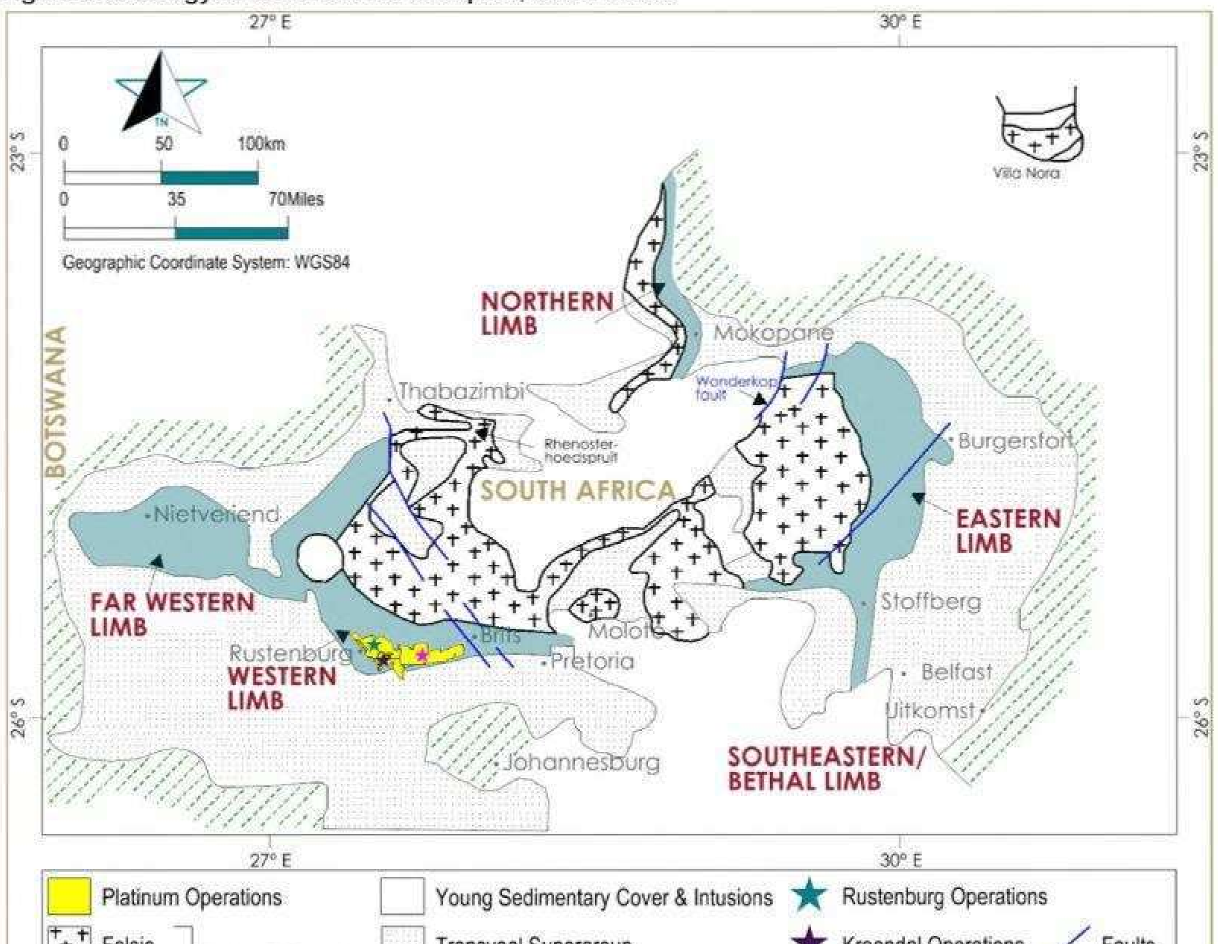
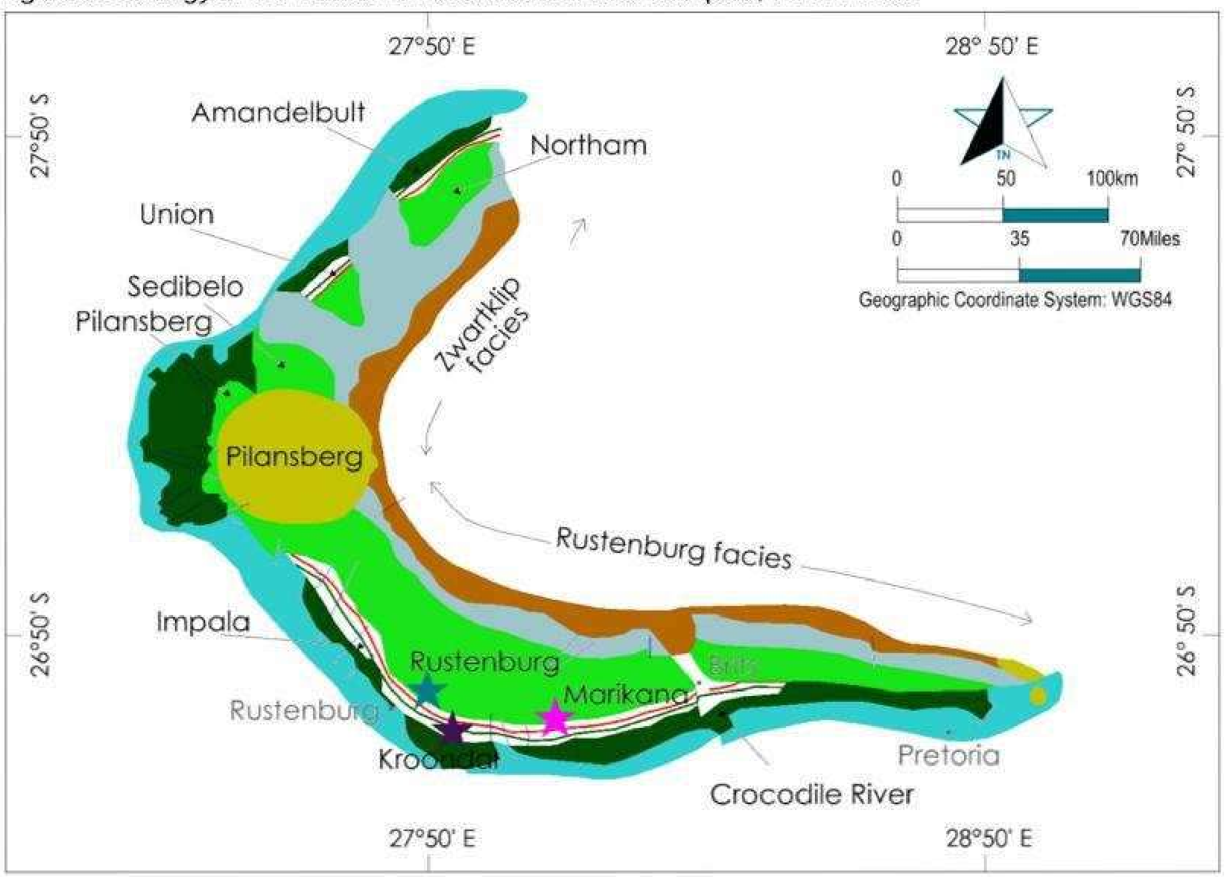


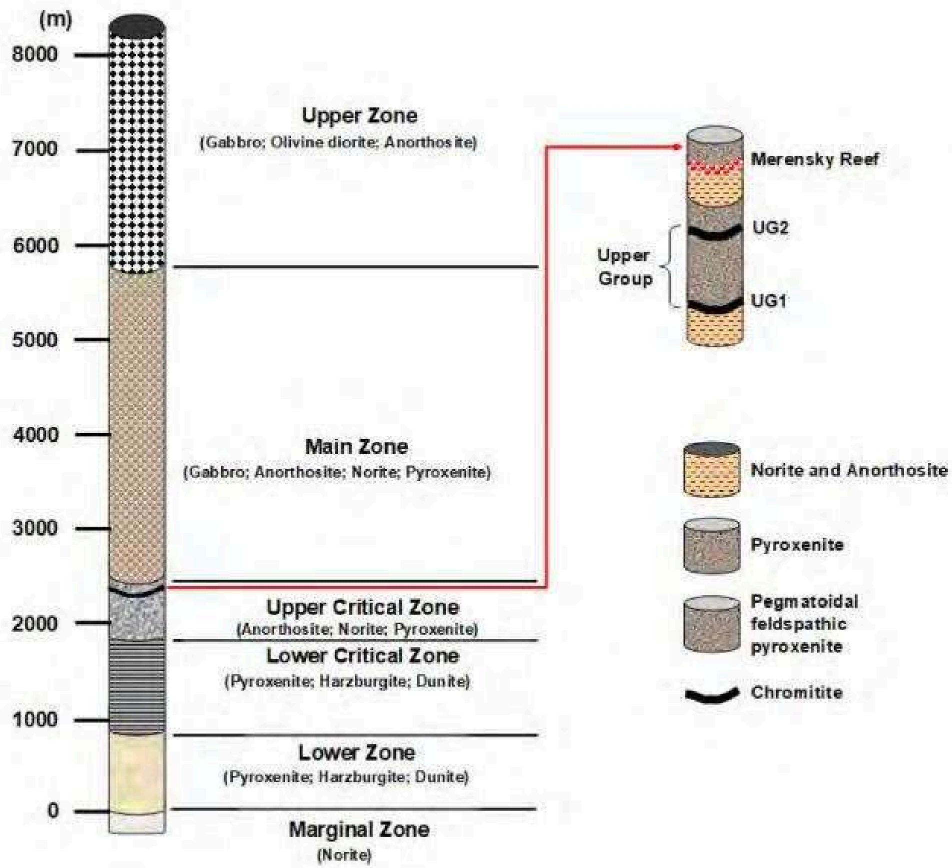
Figure 6: Geology of the Western Limb of the Bushveld Complex, South Africa



From the bottom of the sequence to the top (Figure 7), these zones are the 1) Marginal Zone, 2) ultramafic-rich Lower Zone, 3) mafic-rich Critical Zone which hosts multiple chromitite and PGM layers, 4) a mafic-rich Main Zone consisting mostly of gabbro-norites and norites, 5) and the final Upper Zone derived from the crystallisation of iron-rich residual fluids.

The RLS varies in vertical thickness, reaching up to 8km in places with some individual layers traceable for over 150km. However, the PGM-bearing reefs are typically only 0.3m to 15m thick, although much greater thicknesses are recorded in the Platreef of the Northern Limb. In the Eastern and Western Limbs, the Critical Zone contains the two principal PGM-bearing reefs: the Merensky Reef and the UG2 Reef. The Merensky Reef at the Kroondal Operations is mined out and the UG2 Reef accounts for all Mineral Resources and Mineral Reserves reported for the operations.

Figure 7: Regional Stratigraphic Column of the Rustenburg Layered Suite



6.2 Deposit Type

6.2.1 Formation of Deposit

PGM reef-type deposits are deposits where the PGM are the main products and Ni and Cu are the by-products (e.g., the UG-2 and Merensky reefs of the Bushveld Complex, or the J-M reef of the Stillwater Complex, Montana and the MSZ of the Great Dyke of Zimbabwe). The deposits generally contain less than 1-2 % sulphide minerals and tend to form laterally relatively persistent stratiform horizons in large, layered intrusions that are often relatively easy to trace once they have been intersected.

Most mineral deposits can be classified into specific groups or types and exhibit common features and mineralogical associations which relate to the geological processes that ultimately formed them. Ni-Cu-

PGM deposits can be found in a variety of deposit types including: (a) magmatic, (b) hydrothermal, (c) sedimentary/placer, and (d) residual/laterites; however, they are almost exclusively dominated by magmatic processes. Magmatic Ni-Cu-PGM deposits have been some of the most sought after and important deposits in the world. At a basic level, the formation of these deposits relies on magma generated from the Earth's mantle, which then intrudes its way into the crust, often melting and incorporating the surrounding rocks causing 'contamination' within the original magma. Slow cooling

of these magmas generates immiscibility between sulphur and silicate liquids, ultimately leading to the formation of Ni-Cu-PGM enriched sulphide rocks embedded within mafic and ultramafic igneous rocks. Many of these deposits around the world have been identified and are well documented in the literature, including the largest one, Stillwater Complex (United States of America), Norilsk (Russia), Sudbury Complex (Canada) and Great Dyke (Zimbabwe) as well as the Bushveld Complex (South Africa). Ni-Cu-PGM deposits are associated with mafic-ultramafic magmatism with a few key differences to mention between these deposits.

6.2.2 Stillwater Complex

The Stillwater Complex is the world's fourth largest PGM deposit known today and comprises a large irregular sheet-like ultramafic intrusion. The intrusion can be divided into Ultramafic Basal Series, Lower Banded, Middle Banded and Upper Banded series, which show evidence of multiple injections of magma.

The most economically important series is the Lower Banded series, which contains a broadly continuous zone of PGM-rich olivine units known as the J-M Reef (McCallum, 1996). The J-M Reef is hosted within a sequence of harzburgitic and troctolitic rocks and can be traced along strike for approximately 36km with an average thickness of 2m (McCallum, 1996). The reef contains 1-2% disseminated sulphides at 20-25ppm Pt + Pd with 3.6 times the Palladium to Platinum content. Due to the steeply dipping nature of this reef, underground mining methods have had to be implemented.

6.2.3 Norilsk Province

Norilsk is the third-largest Ni-Cu-PGM deposit in the world. The Norilsk Province represents a large extrusive or volcanic sequence of basaltic lavas with rare komatiite lavas intruded by isolated layered ultramafic magmas. Like the Stillwater Complex, the Ni-Cu-PGM deposits within the Norilsk Province are associated with these layered ultramafic intrusions. Unlike Stillwater, the sulphides within this province are found with these layered ultramafic intrusions. Unlike Stillwater, the sulphides within this province are found ranging from massive, veinlet-disseminated to disseminated ore bodies at varying intervals throughout the layered intrusives. The mineralised zones within the layered intrusives are complex and variable in size and shape, therefore emphasis has only been placed upon the massive ore bodies. The massive ore bodies are by far the most economical in value, which are recorded to reach hundreds of metres in lateral extent ranging from centimetres to 45m in thickness (Krivolutskaya et al., 2014). Ni content is extremely high with these massive ores, up to 3.21 wt %, with Ni/Cu ratios ranging from 0.23 to 0.45. PGM contents within these zones reach 1.5 – 2.0 ppm Pt and 7.0 – 9.0 ppm Pd, mostly confined to the margins of the massive ore bodies (Krivolutskaya et al., 2014).

6.2.4 Sudbury Complex

The Sudbury Basin is a unique type of Ni-Cu-PGM deposit, as it is the only deposit that is related to a meteorite impact as well as the world's largest Ni deposit. The complex has been suggested to have formed by the impact melting of originally mafic rock types, which have generated a magmatic body consisting of a lower melanocratic norite overlain by leucocratic norite. Then lower norite unit is recorded to have elevated Ni (40 – 1000 ppm), Cu (40 – 1140 ppm), and Pt + Pd (3.7 – 15.1 ppb) with the upper more felsic norite being only somewhat enriched in these elements (Keays & Lightfoot, 2004). Due to the complicated relationship of this deposit with the meteorite impact, several types of mineralised zones have been described, which include a contact layer, footwall breccias, large radial structured dykes and vein-like deposits (up to 1,000m from the centre of the impact structure). The impact structure itself has been measured up to 200km in diameter, displaying an oblate-like shape. The deposits found within the Sudbury Complex are mainly confined to the margins of the magmatic body and are relatively scattered throughout. The average grade of the deposits mined shows roughly 1.2 wt% Ni, 1.1 wt% Cu, and 0.8 g/t Pt + Pd. Therefore, they have been targeted mainly for their Ni and Cu contents with PGM mainly as a by-product (Keays & Lightfoot, 2004).

6.2.5 The Great Dyke

The Great Dyke is a linear intrusion that trends north-south that cuts across the Archaean granites and greenstone belts of the Zimbabwe craton consisting of layered mafic and ultramafic rocks (Chaumba and Musa, 2020; Wilson and Prendergast, 2001). The length of the Great Dyke is 550 km, and its thickness varies between 4 km and 11 km in width. The Great Dyke acts as host to the second-largest resource of PGMs in the world (Wilson and Prendergast, 2001). Four sub-chambers make up the Great Dyke, namely Musengezi, Darwendale, Sebakwe and Wedza sub-chambers (Wilson and Prendergast, 2001). Two economically viable zones have been identified: the Main Sulphide Zone (MSZ) which is the most economically viable and the thicker but lower grade, and the Lower Sulphide Zone (LSZ) which contains fewer sulphides. The Main Sulphide zone is 1 to 15m thick, and the Lower Sulphide Zone is 30 to 80m thick. Both the MSZ and LSZ occur within the pyroxenite of the uppermost ultramafic cyclic unit (Wilson, 1996; Wilson and Prendergast, 2001). The average grades reported from mining operations at Ngezi, Unki and Mimosa have shown roughly 3.86 g/t 6E.

6.2.6 The Bushveld Complex

The Bushveld Complex comprises several intrusive and extrusive bodies, including the RLS, the Lebowa Granite Suite, the Rashoop Granophyre Suite, and the Rooiberg Group Volcanics. The RLS comprises many layers grouped into stratigraphic units from base to roof: Marginal Zone, Lower Zone, Critical Zone, Main Zone, and Upper Zone, which are distinguished on geological maps or cross-sections. These stratigraphic units show evidence for repeated injections of magma and the changes in mineral composition with stratigraphic position show trends and patterns consistent with the expected crystallisation pattern of mafic magma. The Bushveld Complex is a remarkably well-preserved, extremely large mid-Proterozoic intrusion that has escaped regional metamorphism and extensive deformation.

The Critical Zone is the most economically important stratigraphic unit within the RLS, which hosts the world's largest chromite and platinum deposits. These deposits are usually situated in successive well-defined layers and are locally termed 'reefs.' The PGM deposits occur within the well-defined Merensky and UG2 Reefs. The Merensky and UG2 Reefs are Cu-Ni-PGM-enriched contact-type and stratiform chromitite deposits respectively, with low sulphur content. The PGM mineralised layers are typically in stratigraphic intervals that mark a major lithologic and petrologic change in the layered igneous intrusion.

6.3 Local and Property Geology

6.3.1 Stratigraphy

The recognised stratigraphy underlying the Kroondal Operations comprises the Main and Critical Zones of the RLS. The stratigraphy of the RLS as formalised by the South African Committee for Stratigraphy (SACS, 1980) is used in this report. The Main Zone predominantly comprises gabbro–norite and norite rock types, whereas, in the Upper Critical Zone, pyroxenite, norite, anorthosite, and chromitite lithologies are found.

The Upper Critical Zone stratigraphy of the RLS, which contains the units of economic interest, the Merensky and UG2 Reefs, comprises well-developed cyclic units divided into six sub-units as follows (Figure 8):

- Bastard Pyroxenite
- Merensky Reef
- Merensky Footwall
- UG2 Hangingwall
- UG2 Chromitite Layer/Reef
- UG1 Chromitite Layer

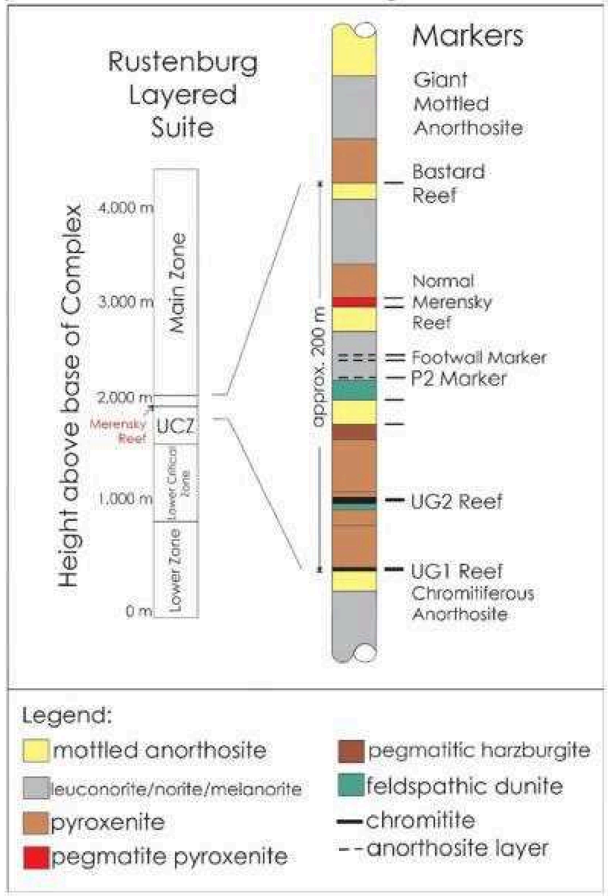
Figure 10 shows the dip cross-section through the reefs. In Kroondal Operations, there are local variations in the thicknesses of individual stratigraphic units.

The Giant Poikilitic Anorthosite (GPA) generally defines the start of the Critical Zone, which normally occurs 5m to 10m above Bastard Pyroxenite and approximately 20m to 25m above Merensky Reef. The GPA is normally about 7m to 10m in thickness.

The Merensky Reef at the Kroondal Operations is mined out and will not be discussed further.

The Merensky Reef at the Kroondal Operations is mined out and will not be discussed further.

Figure 8: General Stratigraphic Column of the Local Geological Succession



After Smith et al (2004)

6.3.2 The Mineralized Horizons

6.3.2.1 UG2 Reef

The UG2 Reef consists of the Main Seam chromitite. Overlying the UG2 Main Seam is an unmineralized pyroxenite layer, locally termed the pyroxenite parting or simply parting (UG2P). Above the pyroxenite parting (UG2P) another chromite layer, the UG2L, locally referred to as the Leader Seam, is the topmost mining mineralised lithological unit.

It is these three units which form the mineable reef portion at Kroondal Operations. The thickness of the Main Seam ranges from 65cm to 80cm, whilst the pyroxenite parting varies from 10cm to 4m, and the Leader Seam thickness varies from 12cm to 25cm. In areas where the pyroxenite parting is too wide, (greater than 250cm), then only the Main Seam is exploited. The UG2 and UGL display a mottled appearance due to the presence of large bronzite crystals within the chromite.

UG2 Main Seam

The UG2 Main Seam is chromitite rich but lower in gold, copper, and nickel values compared to Merensky Reef. It is consistently developed in the RLS, occurring vertically between 90m to 150m below the Merensky Reef in the Kroondal Operations. The UG2 Reef dips in a northerly direction.

The hangingwall to the UG2 Reef is a 6m to 7m thick feldspathic pyroxenite interlayered by a succession of multiple chromitite layers that are referred to as Leader Seam and triplets layers.

The Leader Seam

The Leader Seam is a chromitite band that is approximately 15cm thick. The stratigraphic separation between the Main Seam and the Leader Seam is a feldspathic pyroxenite with a vertical thickness ranging between 20cm to 250cm.

The Triplet Chromitite Layers

These chromitite layers above the Leader Seam are interlayered with feldspathic pyroxenite. This succession is between 30cm to 70cm thick. The triplets are found between 2m to 10m above the UG2 Main Seam.

The variation in the separation between chromitite layers and the UG2 Main Seam affects the mining of the UG2 Reef. The UG2 Main Seam, Leader Seam and triplets layers are variably separated in thicknesses which result in thinning and thickening of the stratigraphic package. The geotechnical consideration is where the separation distance between the Leader Seam and the Main Seam is less than 30cm. The geotechnical beam for a stable hangingwall to the mining excavation is required to be greater than 30cm thick.

Underlying the UG2 Main Seam is the pegmatoidal feldspathic pyroxenite which varies in thickness from a few centimetres up to 2m. The normal footwall stratigraphy comprises pegmatoidal pyroxenite, which is in turn, underlain by a succession of norite, pyroxenite, and anorthosite. The UG2 Main Seam is occasionally unconformably underlain by norite footwall.

For the UG2 Reef, the number and position of the chromitite layers associated with the pyroxenite hangingwall stratigraphy determine the geozone definition. In-situ mineralisation of the UG2 Reefs is captured by the definition of geozones (see Section 11.1.2, Figure 20)

6.3.3 Structure

The UG2 and Merensky Reefs form an east-west trending open arc, with a strike varying between 90° in the east to 145° in the west. The general dip of the reefs is 9° to 10°. The middling between UG2 and Merensky Reefs varies between 120m to 140 m. The dip of the encompassing regional stratigraphy also varies between 9° and 10° with a general east-west strike direction. Other dip decreases locally between 1° to 5° and increases to between 15° to 30° along a monocline trending east-west at depth. The dip decreases from 3° to 7° across the farms of Klipgat and Turffontein, also roughly striking east-west.

Localised geological discontinuities associated with the Merensky and UG2 Reefs include potholes, faults, joints, shears zones, dykes and IRUP bodies. The structure map is shown in Figure 9. Figure 10 shows a typical cross-section of the reefs in the Kroondal area.

Figure 9: Structural Interpretation

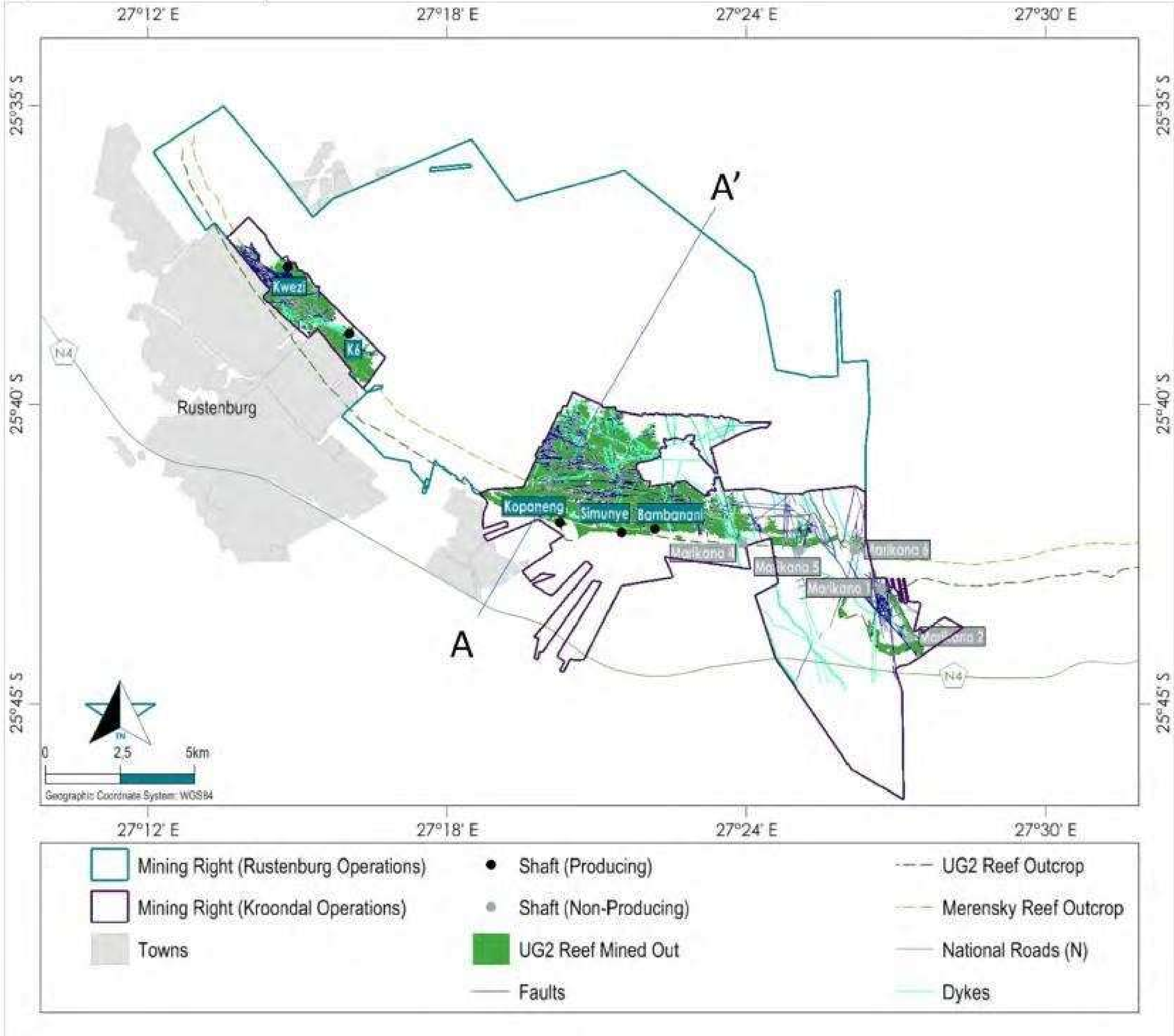
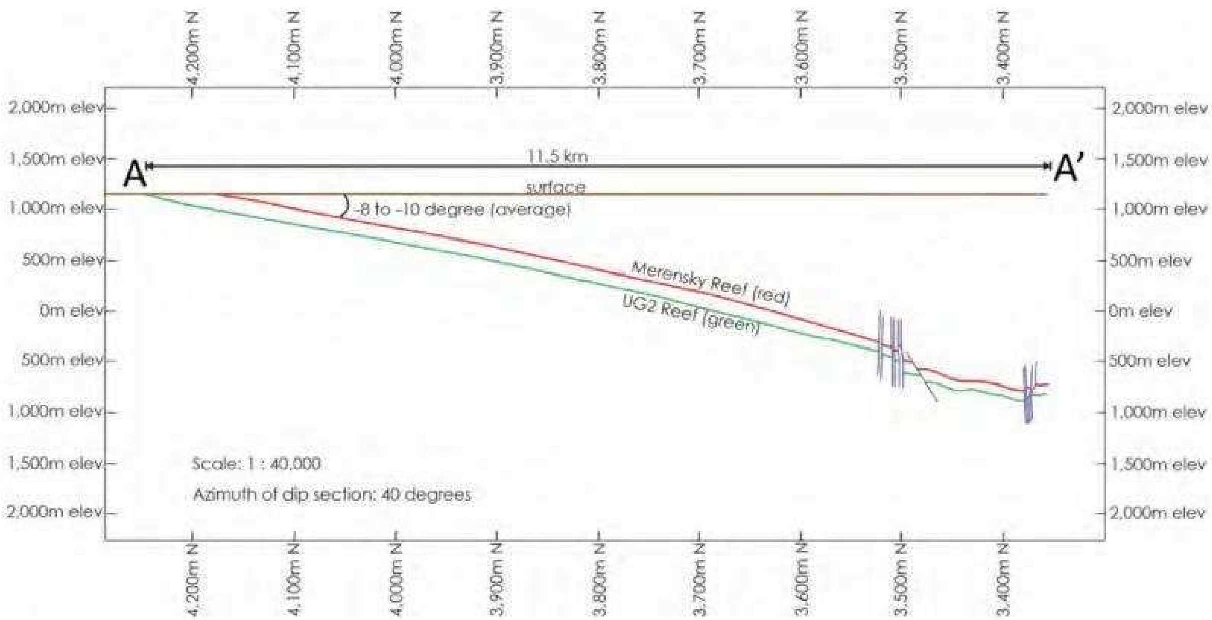


Figure 10: A Down Dip Cross-section Showing Merensky and UG2 Reefs (S-N)



6.3.3.1 Faults

The Qualified Person has defined faults that transect the mining operation. Low angle faults exist with very small displacements but are very important to understand to ensure correct hanging wall support recommendations. At depth, the farms of Klipgat and Turffontein have various strike-orientated faults trending in a west-northwest to east-southeast direction with varying throws. The F-series faults are boundary faults: The Turfontein shear cuts across the eastern Kroondal Operations and is a fault zone with multiple faults of various throws with both strike and dip displacements.

6.3.3.2 Dykes

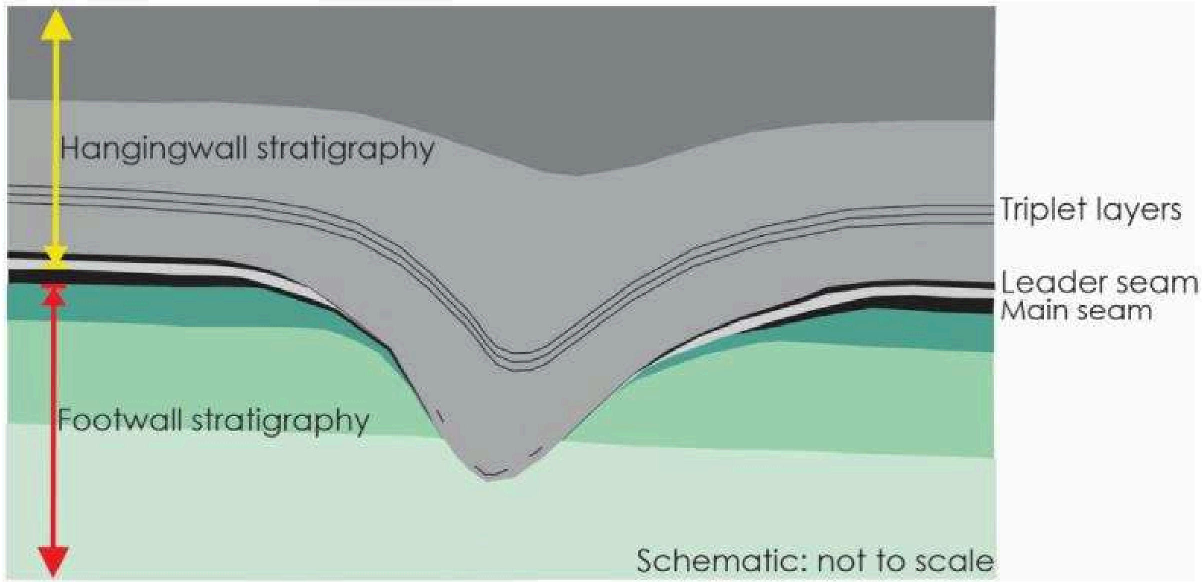
Post-mineralisation dykes of various scales are prominent across the property. These structures typically define strike mining limits as well as influence reef continuity. Dyke occurrences are between 1cm and 30 meters wide, and they have steep dips varying between 70° and 90°. Dykes may be water-bearing.

6.3.3.3 Potholes and slumps

The term Pothole is applied to features that affect the Merensky and the UG2 Reef and refers to the downward transgression of the reef through single or multiple underlying footwall layers, only to stabilize (unless catastrophic, which occur sporadically) on a specific footwall layer, lower than the original or normal stratigraphic position. The hypotheses for pothole formation involve several mechanisms, including downward erosion, upward fluid movement, or syn-magmatic deformation (Watson et al., 2021).

Potholes associated with the UG2 Reefs are generally observed as semi-circular features at the Kroondal Operations. They vary in size from a few meters to hundreds of metres in diameter. The depth of the potholes is highly variable. There is no definitive relationship between the depth and the size of potholes. To a certain degree, the following relationship between the dip and size of potholes has been observed by the QP: the steeper the dip of the pothole, the smaller the size. Potholes and certain steep dipping roll structures in the reef result in geological losses. The schematic section in Figure 11 describes the type of potholing of the UG2 Reef.

Figure 11: Schematic Diagram Showing the Model of the Pothole from the UG2

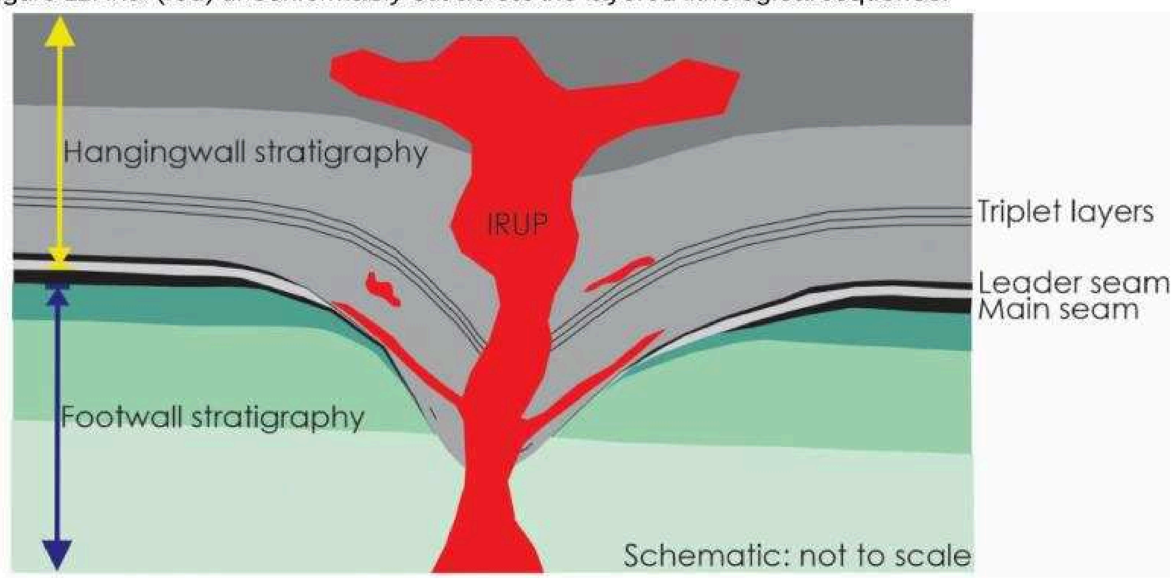


6.3.3.4 Iron-rich replacement pegmatites (IRUP)

The IRUP comprises a suite of coarse crystalline and unconformable bodies, which occur throughout the Bushveld Complex. They range from small, irregular, and vein-like features to large sheet-like bodies up to hundreds of meters across and pipe-like plugs up to 1.5km wide (Figure 12).

Close to the IRUPs, the UG2 Reef is mostly partially replaced and thus recognizable, or even not replaced at all where the IRUPs are situated either in the hangingwall or footwall stratigraphy. However, the mineralogy of the reefs is changed due to the high temperature, high pressure, and volatiles associated with the replacement process that reduces plant recoveries of the PGM assemblage.

Figure 12: IRUP(red) unconformably cut across the layered lithological sequence.



6.3.4 Mineralogy

UG2 Reef

The UG2 consists predominantly of chromite (60 to 90% by volume) with lesser silicate minerals 5 to 30% pyroxene and 1 to 10% plagioclase. Other minerals, present in minor concentrations, can include the silicates: phlogopite and biotite, the oxides: ilmenite, rutile and magnetite, and base metal sulphides. Secondary minerals include quartz, serpentine and talc. The Cr_2O_3 content of the UG2 Reef varies from

30 to 35%. The PGMs present in the UG2 Reef are highly variable, but generally, the UG2 is characterised by the presence of various PGM sulphides, comprising predominantly laurite (RuOsIr sulphide), cuperite (PtS), braggite (Pt, Pd, NiS), and an unnamed PtRhCuS. The PGMs only reach an average size of approximately 12µm, with particles larger than 30µm being extremely rare.

Most of the PGMs occur in association with the base metal sulphides and silicates. It is only the mineral laurite that exhibits a preferred association with the chromite grains. Both the grain size and associations are extremely important as these affect the metallurgical behaviour during subsequent processing. The major base metal sulphides constitute chalcopyrite, pentlandite and pyrrhotite. The base metal sulphides occur almost entirely within the interstitial silicate and are only very rarely enclosed within the chromite particles. The grain size of the base metal sulphides rarely exceeds 30µm.

The distribution of grades within the layer is not uniform. However, PGMs are generally concentrated at the upper and lower contacts of the main chromitite seam, with lesser concentrations in the Leader seams. The highest PGM concentration is generally recorded at the base of the UG2 Reef chromitite.

In the UG2 Reef, Cu, Ni and Sulphur values are extremely low.

7 Exploration

Surface Exploration drilling is currently taking place at Bambanani Mine and Klipfontein UG2 Open Pit. Recent Surface Exploration drilling (2021 – 2023) has also taken place at Kwezi, K6, Kopaneng and MK5. At Bambanani, the objective for drilling is to firm up the geology as this area had sparse historical drilling and there are a number of structural complexities in this area. At Klipfontein UG2 Open pit, the drilling is to evaluate the western extension of the current UG2 Open Pit which is almost mined out. This area was not drilled previously due to surface infrastructure which has since been removed. This section describes the drilling, survey, density, underground mapping, and geotechnical data collection methods. Section 17.4.6 contains information on hydrology.

7.1 Exploration Data

Kroondal Operations are established mining operations in a mature mining district. There are no greenfields exploration programs associated with this operation. However, underground (brownfield) evaluation drilling and ad hoc surface definition drilling continue.

The property is an established mine, and the extent of the mineralization is well defined. Non drilling exploration is not relevant to the property at this stage of development.

7.2 Geophysical Surveys

No geophysical surveys have been flown over the property recently. A brief description of historical aeromagnetic surveys is given in Section 5.2.1.

7.3 Topographic Surveys

The topography in the lease areas is well-mapped from historical surveys and any recent changes to the surface topography will not affect the geological interpretation or infrastructure. There have been no new surveys related to exploration recently.

7.4 Exploration and Mineral Resource Evaluation Drilling

7.4.1 Overview

Geological models are based on all available information comprising diamond drilling and underground channel sample data, underground mapping as well as remote geophysical and remote sensing data (including Aeromagnetic and Wireline surveys). This information is available for the entire Kroondal Operations area.

Surface diamond drill holes (DDH) were generally drilled on irregular grid intervals of 150m-1,000m, depending on historical exploration strategy, depth of the mineralised horizons and geological uncertainty.

Underground Drilling

At all Kroondal Operations, mining takes place on the plane of the reef, so the only underground drilling that takes place is to delineate geological structures, especially potholes, for geological modelling

purposes but not for Mineral Resource estimation. Historically, several drill holes targeting the UG2 Reef were collared at the Merensky Reef elevation from underground excavations resulting from the mining of the Merensky Reef.

Surface Drilling

The Kroondal Operations were drilled extensively by the previous owners resulting in most areas classified as Measured Mineral Resources. Therefore, surface drilling is undertaken on an ad-hoc basis when there is a need to firm up geological grade models and investigation of the UG2 Reef behaviour where underground drilling is not suitable because of the general orientation of reef relative to mine infrastructure. The core is halved using a diamond saw, with one half retained for records and the other half assayed.

Sample sections are captured directly into the SABLE database, where the spatial validity is checked. Planned and unplanned task observations are some of the quality control procedures used to ensure sampling protocol is maintained. The final submission of each sample into the Sibanye-Stillwater SABLE database is only completed following a series of checks and approvals. Kroondal Operations rely on Quality Laboratory Services, a South African National Accreditation System (SANAS) accredited laboratory for geochemical analysis of the samples.

Kroondal Operations Drillhole Inventory

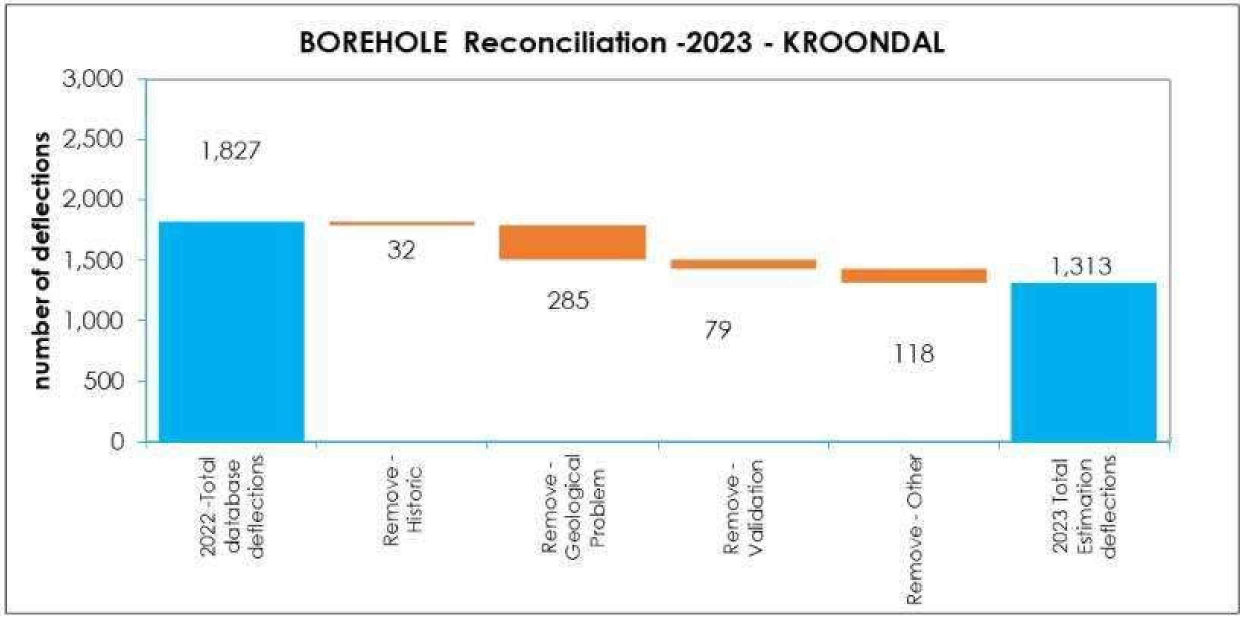
A total of 1,827 drillhole intersections are included in the drillhole dataset. These can be divided as follows:

- 975 drillholes (including deflections) are derived from surface drilling campaigns up to 2023.
- 852 drillholes are derived from underground drilling collared at the Merensky Reef elevation and the UG2 Reef intersections were sampled and assayed.
- 285 drillholes were removed due to geological disturbances i.e. potholes, faults, IRUP etc.

- [illegible] drillholes were removed due to geological disturbances i.e. potholes, faults, incl. etc.
- 79 drillholes were removed due to specific validation errors detailed in the data processing macros.
- 118 drillholes were removed due to other reasons e.g., cover holes or flat dipping holes < less 60 degrees that could not be accurately corrected for length compositing.
- 32 drillholes were excluded from Mineral Resource estimation due to historical problems.
- 1,313 drillholes (including deflections) in the SABLE database are authorised and validated for Mineral Resource estimation:

Changes in the drillhole inventory in 2023 are shown in Figure 13. A single surface hole may have several deflections. Each deflection/intersection is counted as a "drillhole" for the purposes of reconciliation.

Figure 13: Reconciliation of Drillhole Data



7.4.2 Planned Evaluation Drilling for 2024

Table 18 represents the drilling that was carried out at Kroondal Operations in 2023, planned drilling for 2024 compared to the actual drilling results of 2023, 2022 and 2021.

Table 18: Kroondal Operations Evaluation Drilling Costs

Exploration (WC & Capital All Reefs)	2024 Plan		2023 Actual		2022 Actual		2021Actual	
	Meters Planned	ZAR Million	Meters Drilled	ZAR Million	Meters Drilled	ZAR Million	Meters Drilled	ZAR Million
Kwezi UG	1,440	1.20	1,055	1.17	562	0.8	1,118	0.92
Kwezi Surface	-	-	1,358	3.18	5,347	6.54	-	-
K6 UG	1,040	0.78	560	0.63	174	0.34	336	0.24
K6 Surface	-	-	272	0.55	488	0.6	-	-
Kopaneng UG	479	1.10	471	0.40	789	0.61	1,555	0.91
Kopaneng Surface	-	-	697	1.54	-	-	-	-
Simunye UG	-	-	306	0.26	-	-	1,370	1.03
Bambanani UG	3,120	3.06	2,037	2.11	523	0.54	1,726	1.49
Bambanani Surface	4,096	9.79	214	0.70	6,708	8.21	1,181	1.27
MK5 and Klipfontein Surface	150	0.59	223	0.75	3,652	5.16	21	0.02
Total	10,325	16.51	7191	11.30	18,242	22.81	7,308	5.89

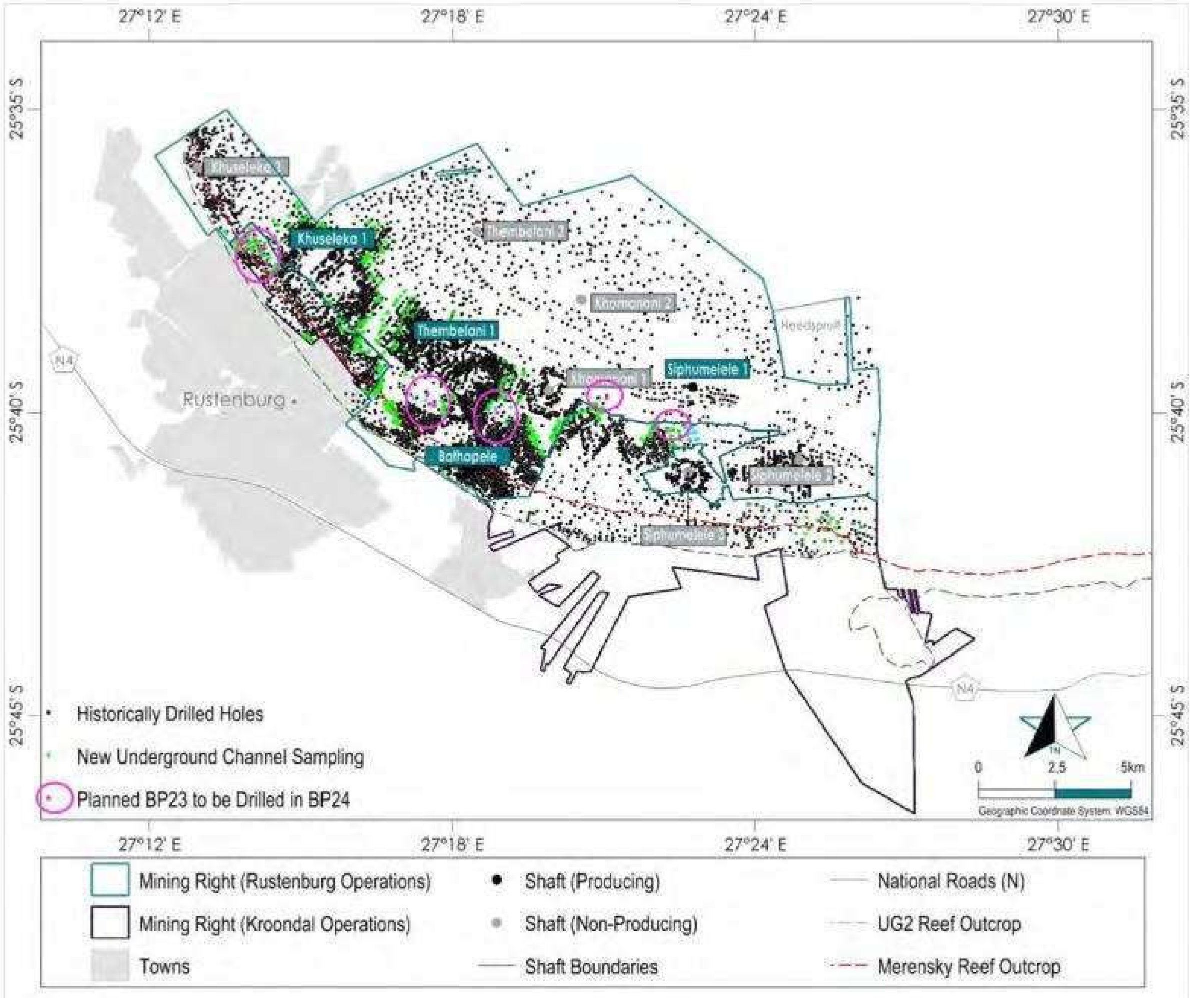
An overview of the drilling is provided in Figure 14 which shows areas of recent Surface Exploration Drilling (2021 – 2023) and planned Surface Exploration Drilling for 2024.

At Bambanani, drilling is planned to improve the grade block model estimates as there are areas where the drilling spacing is too wide. Drilling will also assist in structural investigations of the area as there areas with structural complexity

At Klipfontein UG2 Open pit, the drilling is to evaluate the western extension of the current UG2 Open Pit which is almost mined out. This could open up an extension to the current pit.

For shaft locations, see Figure 30, Section 11.3.2.1.

Figure 14: Overview of Drilled Boreholes Kroondal and Rustenburg



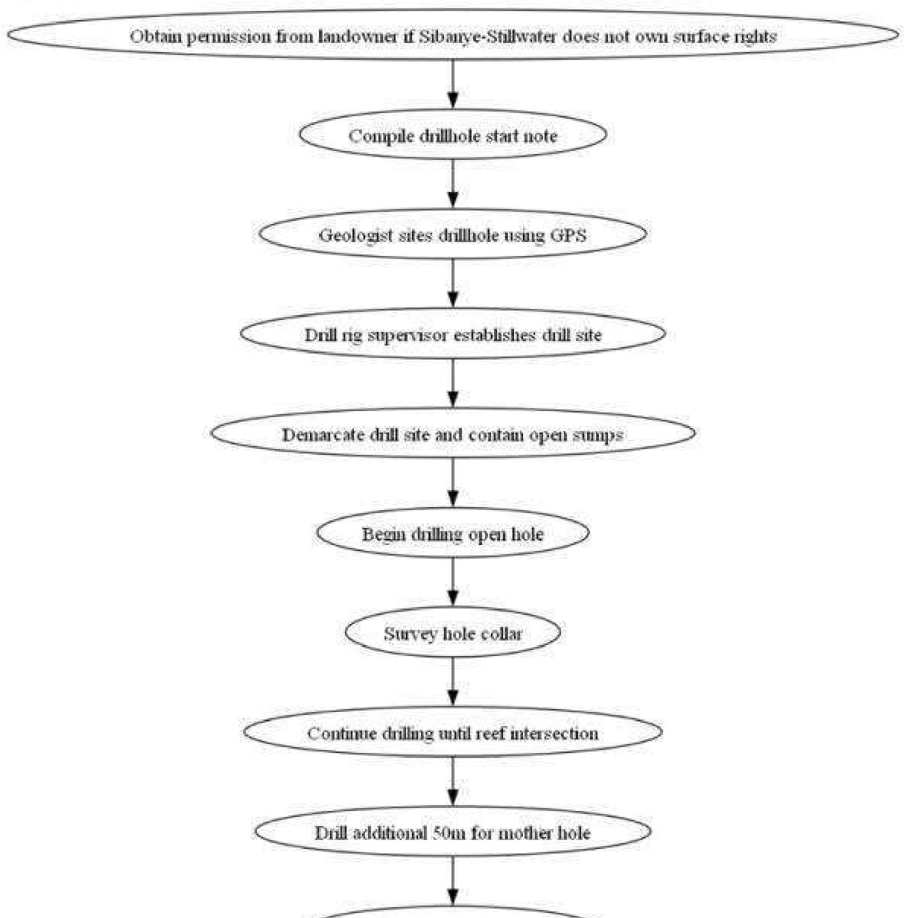
7.4.3 Drilling Methods

7.4.3.1 Surface

Historically surface boreholes were drilled in the area from the early 1900's to late 2000's, on a scattered grid of between 50m to 2,000 km spacing. Diamond drill coring is the preferred method of drilling at the Kroondal Operations.

The drilling pattern in a typical hole is shown in Figure 15. It consisted of a motherhole, and short deflections to acquire a minimum of three to acceptable intersections per reef. Horizontal distance between the mother hole and intersections were generally 10-20cm between intersections.

The typical steps followed would have been:



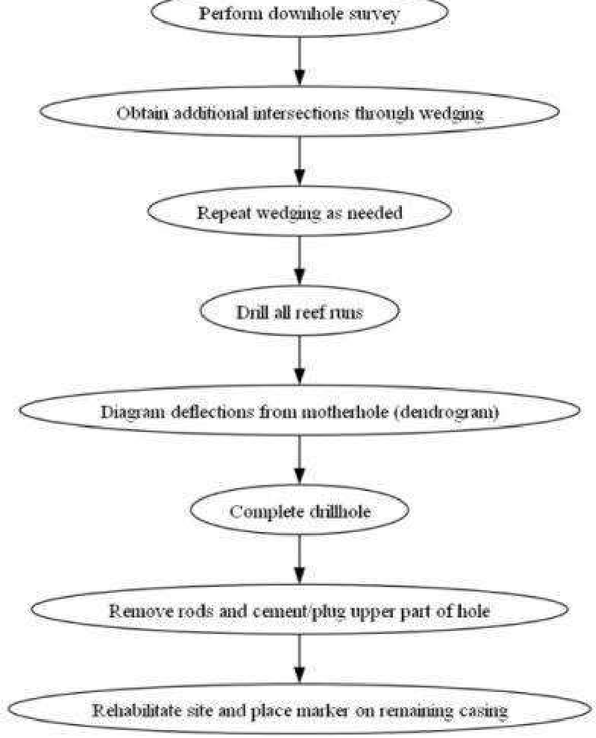
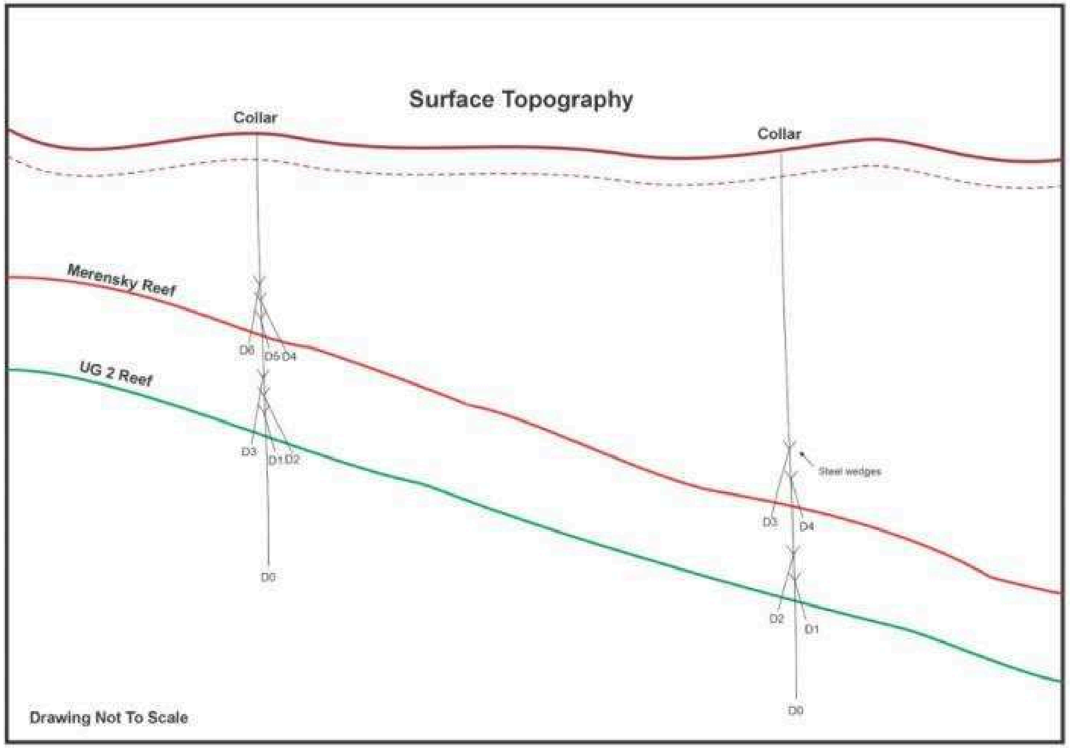

Perform downhole survey
Obtain additional intersections through wedging
Repeat wedging as needed
Drill all reef runs
Diagram deflections from motherhole (dendrogram)
Complete drillhole
Remove rods and cement/plug upper part of hole
Rehabilitate site and place marker on remaining casing

Figure 15: Schematic Vertical Section of a Typical Surface Drillhole



7.4.3.2 Underground Drilling

Underground drilling (i.e., the machine itself is underground during drilling) takes place for three distinct reasons, these are:

- Cover drilling,
- Short exploration holes (working cost),
- Mining Holes (drain holes, holes for geophones, etc.)

Cover drilling refers to the drilling of generally flat or slightly inclined holes ahead of mining to detect the presence of water and flammable gasses, which could potentially result in injury, fatalities and property damage.

A digital plan depicting all the development ends per shaft is constructed annually and submitted to the Department of Mineral Resources and Energy (DMRE). The shafts are divided into different hydrological, or risk areas based on the geology and historic water intersections. The type of water/flammable gas cover required for each area is clearly shown by this plan.

The following types of cover are specified on the Water Plan:

- Single Cover – A single set of staggered 120m cover holes with no less than a 15m overlap.
- Double Cover – A double set of 120m staggered cover holes with a 60m overlap.

- Start of cross-cuts, tramming loops, lay-bys and any excavation that is within 30m of haulage excavation is deemed to be in cover.

Short hole exploration

These holes are targeted for reef intercepts from the underground workings that are in place to exploit the same reef. As a result, these holes tend to be a maximum length of about 120m for air-powered drilling or 250m for hydraulic-powered drilling.

Unlike surface drilling, short-hole exploration seldom uses wedges to get additional reef intersections, and accordingly, one reef intersection per hole is the norm.

There is no fixed pattern for this type of drilling, but holes are roughly spaced to get an intercept at every raiseline tip position, approximately every 30 to 50m depending on the mining layout. Holes are aimed to be drilled in a cubby alongside the haulage which services the reef.

This type of drilling is also used to gather further information for certain structures such as dykes or faults and the target might not necessarily be for reef intersections. The frequency of drilling would increase in structurally complicated areas if required.

These short holes remain reasonably straight on azimuth and dip and are not surveyed with down-hole instruments. Occasionally the collars of these short holes are surveyed by the Survey Department where necessary.

Mining holes

Where the intersection of water or flammable gas quantity is deemed significant, the intersection can be allowed to bleed under a controlled environment, or it can be sealed at the source. All sealing work is to be done through a sealing company contractually appointed on behalf of Sibanye-Stillwater.

7.4.4 Core Logging and Reef Delineation

For both drillhole and underground diamond saw-cut channel samples, Kroondal Operations have a comprehensive standard defining the specific methodology for sampling, which is designed to ensure as far as possible unbiased and representative samples as well as to ensure the consistency of the sampling.

7.4.4.1 Surface

The following is a brief description of the procedures in place for diamond core processing of surface drilling.

All drillhole core, whether from the surface or underground, is logged the same way, whereas sampling is only done for the surface drilling core.

The core is obtained from the core barrel, once the driller has completed a drill run, or preferably daily and emptied into a suitably sized (Core sizes AX, BQ, HQ, etc.) core tray.

This tray is transported to the coreyard of the operation where the core is cleaned and marked with the depths of the run, the drillhole name and meter marks. Any losses are identified, and core loss amount noted. This mark-up is completed by the drill contractor.

The core is then transferred into a differing 'permanent' core tray so that the transporting tray can return to the drill site.

The geologist then observes the core and immediately checks for stratigraphic correctness.

The following is an extract from Sibanye-Stillwater's geological logging and sampling procedure which details the process:

- Check that the core is clean, fits together and is orientated correctly per the core box.
- Core boxes are laid out from shallowest to deepest, with the ends of core in each box clearly marked.
- Determine core loss (or gain) and note position.
- Any changes in lithology without faulting are noted and the core is checked to see if it fits together on either side.
- Any discrepancies identified above are discussed and resolved with the Diamond Drill Foreman.
- Before logging in detail, determine the major stratigraphic units and form a general impression of the hole.
- Mark reef and major lithological contacts with a permanent marker.
- Logging is recorded on the logging sheet with all the required fields captured.
- Description of the reef as per standard.
- Layering and fault dips are measured parallel to the core axis and recorded and,
- Safety precautions.

Capture – Drillhole Data

- Logging and sampling are captured and uploaded into the SABLE Database
- All quality control analysis on logging and assays is carried out via standard routines in SABLE and
- Once authorised, drillhole data is safely stored in the SABLE database.

7.4.4.2 Underground Channel Sampling

Within underground workings, exposures of the reef have channel samples taken. Individual channels are cut using a diamond saw cutter, generally on the pillars left from the bord and pillar mining method or on the face of the mining panels. A detailed sampling record is kept showing the reef geometry at each section. Sampling intervals are generally at 40m spacings. Channels are defined perpendicular to the reef plane and each section's position is fixed by offsetting from survey pegs. The reef is segregated into lithological units and is correlated between sample sections, and individual samples of 15cm – 25cm in length are taken to reflect the internal geometry of the reef, with not less than a 10cm sample being taken on contact. The sample mass taken is in the order of 300g to 500g. Adjacent samples spanning the hanging wall or footwall contact may be taken to increase the sample volume in the contact area.

Capture - Underground Sampling

All underground channel samples are captured in the MRM database. This database is linked to the Sable Database for sample submission to the laboratory and QAQC.

7.4.4.3 Quality Control in Drilling.

Quality control in drilling has been practised over many decades and was a standard feature of drilling procedures, both historical and current. Table 19 shows the typical quality control measures adopted for drilling.

Table 19: Quality Control Drilling

Risk/Mistake	Cause	Mitigation/Remedial Action
Mixed core	Dropped core tray	Ensure pieces lock & stratigraphy lithology 'flows'
	Mixed on transfer box to box	
	Transfer core barrel to tray	
	Core tray to sample bag	
Ground core	Core left in the core barrel too long	Core loss should indicate how much ground away, stick up required
	Friable ground	Cement and redrill
Core loss	Ground core	Cement and redrill
	Friable / void ground	
Depth markings	Driller's rule / tape incorrect	Get the correct length instrument & remark
	Incorrect from - to recorded	Regular reviews by the responsible person
	Differing core barrel lengths or incorrect lengths used	Increased supervision of drillers
	Incorrect from - to recorded	Regular reviews by the responsible person
	Differing core barrel lengths or incorrect lengths used	Increased supervision of drillers

The QPs are satisfied with the core logging and reef delineation carried out at Kroondal Operations. These activities are performed by trained geologists who are supervised by experienced geologists. The use of a common manual for core logging and reef delineation and marking ensures consistent core logging and sampling at Kroondal Operations, which facilitates the integration of the datasets during interpretation.

7.5 Survey Data

Typically, two survey types are required for each drillhole:

- Collar survey and
- Downhole survey.

Collar surveys for surface holes are usually carried out by a qualified land surveyor, either historically using trigonometric beacons and triangulation, or latterly by using a differential GPS System. Accuracy is within the 10cm range.

Collar surveys for underground holes are usually taken from the nearest survey underground peg and measured using tapes and a clinorule. Accuracy is of the order of 20cm.

Downhole survey methods have changed over the lifetime of the mine. Generally the most up to date methods were used. This have included acid bottle, Photographic downhole, and gyroscope Surveys.

The QPs are satisfied with the surveying methodology at the Kroondal Operations. These activities are performed by trained surveyors who have sufficient experience with this type of orebody and mining method. The surveys are deemed to be of sufficient quality for use in Mineral Resource estimation.

7.6 Density Determination

All surface exploration holes and underground diamond saw cut channels reef intersections densities are determined in the laboratory using a gas pycnometer. Every sample assayed has a density measurement taken. The QPs are aware of the potential overestimation of tonnage and metal content by up to 3% due to the use of the pycnometer density.

The defaults were determined by carrying out a classical statistical analysis per stratigraphic unit (length and density weighted). The following default mean densities were applied:

- UG2 Leader Seam 3.60 t/m³
- UG2 Leader Seam Parting 3.10 t/m³
- UG2 Main Seam 3.99 t/m³
- UG2 Footwall 3.36 t/m³
- UG2 Norite 2.80 t/m³
- TSF 1.70 t/m³

7.7 Underground Mapping

The principal objectives of underground mapping are to:

- Identify and record the positions of faults, dykes, and any other geological disturbances in a working place so that projections can be made ahead of the face and/or up to reef plane.
- Record the thickness and nature of the reef to delineate facies and later reconcile with sampling data.
- Record and bring to the attention of the Mining Department any areas where reef remains in the hanging or footwall of the stope and/or new geological structures identified.

Mapping is carried out on a routine basis, using a set of documented procedures, and plans updated as data is collected.

7.8 Hydrological Drilling and Testwork

Refer to Sections 15.4 and 17.4.6 for information on hydrology.

7.9 Geotechnical Data, Testing and Analysis

Surface and underground exploration diamond drilling (core drilling) is undertaken at Kroondal operations. The core is logged for geological and geotechnical information. Core logging is an integral part of the Mineral Resource definition and must be performed with due diligence.

7.9.1 Data Collection

Rock engineering and support designs have been developed using a combination of geotechnical drill core logging and underground mapping data. Geotechnical drill core logging is the primary method of gathering rock strength and quality parameters. Geotechnical logging is completed by geologists on drill cores recovered from surface exploration and underground cover and diamond drilling.

Geotechnical core logging entails the collection of structural information from the cores. There are many parameters that are recorded during geotechnical core logging, but the following are the main ones;

- Depth defining the start of each geotechnical unit
- Depth representing the end of each geotechnical unit
- Unique identification of each geotechnical unit
- Detailed description of the geotechnical feature (type, of plane, number of discontinuities, angle of discontinuity, infill type and integrity, thickness of infill, small scale and large-scale roughness, alteration type).

Underground mapping includes scanline mapping techniques, rock mass classification (RMC) data collection techniques and data collected using borehole cameras, Ground Penetrating Radars (GPRs) and Sub-Surface Profilers (SSPs). Rock mass classification data is collected regularly during routine inspections. Scanline mapping and geotechnical core logs by rock engineering personnel are done on an ad-hoc basis.

Various tests are then commissioned based on the data obtained from drill core runs and the information derived. Samples from drill cores are sent to the laboratory to determine the properties of intact rock and joint walls. Data is collected from laboratories approved by the International Society for

Rock Mechanics (ISRM), South African National Bureau of Standards (SANBS) using ISRM testing techniques. It is expected that the laboratories perform all the preparation and testing according to the ISRM standards and procedures. At these laboratories, preparation tools and testing machines are calibrated annually. Samples from Sibanye-Stillwater operations will be tested at these laboratories over a number of weeks. Therefore, ad hoc visits to these laboratories will be conducted by Sibanye-Stillwater geotechnical staff to visually verify the preparation, calibration, and testing of the samples.

In addition, data is also collected and reviewed from various other sources, including academic research institutions, as well as various internal and external research projects and underground mapping where excavations exist.

7.9.2 Testing Methods

There are various methods available to test the material strength of rocks. Two of the most valid, reliable, cost effective and easy to use methods are Rock Quality Designation (RQD) and Point Load Index (PLI). The former provides an estimation of rockmass properties and the latter is designed to give specific rock properties. These are typically conducted as routine tests on site and are performed by site rock engineering and/or geotechnical staff.

Where required, International Society for Rock Mechanics and Rock Engineering (ISRM) testing methods are used to assess rock properties at accredited rock testing laboratories in South Africa. These are significantly more expensive than the tests conducted on site and are performed on an ad hoc basis. Typically, during a feasibility study, and/or where the rock engineer is unsure of specific rock strength or stress data for mine design purposes, will these tests be commissioned. Intact core samples are usually required for such tests and should be handled as per the ISRM sample collection and preparation methods.

As the rockmass is not homogeneous, a number of samples are usually submitted for testing and these generate a range of values. The laboratory data is then downgraded (according to specific criteria) for underground in-situ representation for mine design purposes. The information is used to calibrate numerical models for the mine design. As the mine design is being executed, monitoring of the excavations is conducted and the data is used to provide a back analysis of the numerical models. Further optimisation can then be done based on the outcomes of these numerical models.

This process is used by all rock engineers in the South African Mining Industry.

7.9.2.1 Rock Quality Designation

Rock Quality Designation (RQD) is a standard technique in the Mining and Engineering Industries for the qualitative and quantitative assessment of rock quality using the degree of jointing, fracturing, and shearing in a rock mass. RQD is defined as the percentage of intact drill core pieces recovered that are >10cm for a single core run. It is therefore indicative of a measure of the strength of the rockmass and is used for preliminary macro designs.

Therefore, low RQDs will indicate low-quality rockmasses which will require additional geotechnical work to understand the rockmass further before any design work continues. Contrary to popular belief, high RQD rockmasses will also generate similar needs for design work as the geophysical and geomechanical properties of rocks and rockmasses are not uniform.

The general equation for RQD is expressed as:

RQD index (%) = 100 × Σ (Length of core pieces ≥ 0.10 m)/(Total length of core run)

7.9.2.2 Point Load Index (PLI) Summary

Point Load (PL) is a test that aims at characterizing intact rock strengths. It is an index test, meaning that it can be performed relatively quickly and without the necessity of sophisticated equipment to provide important data on the mechanical properties of rocks. Many more tests can be conducted in this way, as it does not need a laboratory or perfect rock specimens to perform the tests.

The test apparatus consists of a rigid loading frame, a loading measuring system, and a simple system of measuring the distance between the two platens. Rock samples are compressed between the platens, which are usually about 1.5-10cms apart, so that various sizes of similar rock materials can be tested.

tested.

The point load index (I s) is the force needed to fracture a sample of rock between conical points:

I s = P/D2, where P is force and D is the distance between the points, both at failure.

I s is related to uniaxial compressive strength (approximately equal to I s × 24). As such, this test can be used crudely to infer the rock UCS strength value. This technique is not widely used.

7.9.3 Geotechnical Rockmass Characterisation

The main aim of geotechnical characterization is to employ the best possible mine design and support rationale to cater for the varying rockmass conditions. Therefore, the appropriate characterization of the rockmass is imperative. The Sibanye-Stillwater Kroondal Operations' MANDATORY CODE OF PRACTICE (MCOP) to combat Rockfall and Rockburst Accidents, the MCOP, adopts a geotechnical Ground Control District (GCD) methodology to classify areas of the mine plan with different geotechnical parameters. There are 4 MCOPs, at SA PGM, that typically consider, depth, type of reef, thickness of the seams and the relative position thereof, hangingwall types and distances to unstable and less cohesive partings; driving forces from joints, major fault zones and shear zones, minor shears and faults, domes, dykes, IRUP, water, pegmatite intrusions, variations in middling between chromitite layers as a result of rolling reefs and potholes, etc. These aspects feed into the geotechnical design of the surface and underground workings.

In the Bord and Pillar operations, the UG2 chromitite Main Seam and the overlying chromitite Leader seam, together with the intervening waste parting, form the mineable reef horizon. The thickness of the Main Seam, the waste parting and the Leader Seam varies across the entire property and in most instances the Leader Seam is mined simultaneously with the Main Seam; however, if the width of the feldspathic pyroxenite parting becomes excessive only the Main Seam is mined, in which case, mining is done along the LT Geotech chromitite parting.

The thicknesses of the individual seams that make up the Doublets are also highly variable, as is the distance between the bands forming the Doublets/ triplets horizon. Where the Doublets are situated less than 0.4 m above the top of the Leader Seam, it is mined out, to avoid falls-of-ground.

Merensky Reef is not discussed here as none of the Kroondal Operations mined this type of reef during 2021.

The majority of the joints are steep dipping. Contributors to major collapses are shallow dipping structures, parting planes and major fault zones. Water generally acts as an accelerator for deterioration in the jointed rock mass. The operations mine through dykes and fault zones that outcrop, with some operations in close proximity to the Hex River. Major geological structures such as the Turfontein shear traverse several operations and ground conditions are challenging characterized by blocky and friable rock mass. Cover holes are drilled in all declines to check for ground water and/or gas. These cover holes are coverage ahead of the advancing excavations. Cover drilling is also done in sections mining towards or through major structures and large potholes.

Methods employed to monitor the middling between the various chromitite partings include borehole inspections using borehole cameras, GPRs and SSPs).

Current mining depth ranges from 75mbs to 650mbs, which is technically considered ultra-shallow to a shallow depth. At such depth, strategies are aimed at controlling the tensile zone on a regional basis to prevent large scale rock failure and immediate stope hangingwall to prevent local FOGs in the working area. Stress levels are low at shallow depth however, undermining of surface structures is a concern. As such, pillars are designed to support the overburden up to the surface.

Kroondal Operations use the Institute of Mine Seismology (IMS) Vantage program to monitor pillar compliance. Reports on Average Pillar Stresses and pillar factors of Safety are generated on a monthly basis and areas of concern are addressed accordingly.

Seismicity is not a concern for bord and pillar operations.

A tributary of the Hex River, known as the Kroondal tributary, drains to the west across the Kroondal property; however it is seasonal and a minor contributor to the flow of the Hex River. No adverse interactions between the mine workings and the Kroondal tributary have been experienced or are expected.

Previous hydrogeological investigations have indicated that there are two main aquifer systems present in the Kroondal orebody: a shallow weathered aquifer between depths of 14 m and 22 m below surface and a deeper, confined weathered and/or rock aquifer at depths ranging from 24 m to 29 m below surface. However, mining currently does not extend to 29 m below surface at Kroondal Operations. Underground working intersects water only in areas mining through major geological structures.

7.9.4 Geotechnical Results and Interpretation

Using widely used empirical techniques (Bieniawski's RMR and Barton's Q rating), rockmasses are classified and included into the GCDs. Both scanline mapping and RMC data are conducted using industry best practices. In the deeper sections of the mine, Rock Condition Factor (RCF) is used to determine the theoretical susceptibility of a particular excavation to damage. This forms part of a suite of geotechnical numerical modelling packages that are used to quantify the susceptibility of excavations to damage and to determine the support strategy to mitigate such hazard. The appointed rock engineer is responsible for overseeing the collection and capturing of the data, as well as the data and back analyses required to run the numerical models. In addition, geotechnical instrumentation data is collected and used as input parameters to the numerical modelling. The modelling assesses the mine design using established, approved, and recognized numerical modelling techniques. These are various outputs, including stress states (e.g. sigma 1), Energy Release Rates (ERR) and Excess Shear Stress (ESS) that can be used to pin-point elevated levels of susceptibility and optimize layouts to reduce the susceptibility to damage. The visual evidence of hand samples, observations made underground, the results of selective laboratory testing and data from geotechnical instrumentation, show that the dominant hanging wall and footwall rocks are typical of the Critical Zone rocks found across the western Bushveld summarizes their average material properties.

The UCS values summarized in Table 20 show that the rocks are of moderate to high strength as per the ISRM grading.

As we have established, general rockmass conditions are catered for with the use of GCDs. However, in some cases, variations in the middling between the chromitite layers may exist, and data is then collected from surface and underground additional core drilling. This is confirmed using geotechnical instrumentation specific to the investigation required. In the instance of variable stable beam thickness, data from instrumentation is used to refine the original geology isopachs that were historically constructed using surface and underground core drilling.

In addition, using underground observations and drill core results, RMR and Q are calculated. Kroondal RMR values range between 50 and 70 (fair to good rockmasses) for the majority of the mining areas. E Anomalies exist closer to major geological intersections where RMR values may be <35. These areas are treated as Special Areas as per the requirements contained in the MCOP. In general, joint properties are generally dry, planar, smooth/rough and with little to no infill for higher RMR values, and for lower

RMR values, discontinuities are damp, smooth, planar/undulating and with thick infill as shown in Table 21.

Table 20: Summary of the material properties of the dominant hanging wall and footwall rock types

Sample position	Triaxial compressive strength	UCS Tests			
	Density	Strength UCS	Tangent elastic modulus @ 50% UCS	Poisson's ratio @50%UCS	Brazilian tensile strength
	g/cm³	MPa	GPa	GPa	MPa
Reef - UG2	4.16	136.9	133.3	0.32	5.3
Hangingwall - Feldspathic pyroxenite	3.26	156.4	159.0	0.24	18.9
Footwall - Pegmatoidal pyroxenite	3.31	121.9	152.3	0.27	14.8

Table 21: Rock mass classes determined from RMR total ratings and meaning

RMR Ratings	81-100	61-80	41-60	21-40	<20
Rock Mass Class	A	B	C	D	E
Description	very good rock	good rock	fair rock	poor rock	very poor rock

8 Sample Preparation, Analyses and Security

This Section addresses sampling related to geological samples only. For sampling related to plant operations, please refer to Section 14.3; geotechnical sampling is discussed in Sections 7.9 and 13.3. Hydrology and environmental studies monitoring and sampling is discussed in Section 17.4.

Geological samples consist of drill core from both surface and underground boreholes, face sampling. and mapping. Krondal Operations uses a third-party Laboratory for sample preparation and analyses of geological samples. Kroondal Operations has set protocols for sampling, recording, and storing results. Assaying is carried out at a third-party laboratory. The service provider has it own set of audited and certified protocols for assaying. Kroondal has a full industry standard quality control programme to ensure the security of the samples and the accuracy of the results.

8.1 Sampling Governance, Quality Assurance and Security

The governance system at Kroondal Operations relies on directive control measures and makes use of internal manuals (standard procedures) to govern and standardize data collection, validation, and storage. The QPs are satisfied with the standard procedures, which prescribe methods aligned with industry norms. Furthermore, the standard procedures are mandatory instructions that prescribe acceptable methods and steps for executing various tasks relating to the ongoing gathering, validation, processing, approval, and storage of geological data, which is utilised for Mineral Resource estimation. In addition to internal standard procedures, Sibanye-Stillwater implements an analytical quality control protocol that assesses the extent of contamination and analytical precision at the laboratory. Batches of samples sent to the laboratory include routine "blank" samples (Magaliesburg quartzite) and certified reference material (CRM). The results of the analytical quality control are discussed in Section 8.5.2.

The governance system also emphasises training to achieve the level of competence required to perform specific functions in data gathering, validation and storage. Lithological data is acquired through the logging of the drill core recovered from the surface and underground drilling. The logging is undertaken by trained geologists, who are familiar with the various reefs, footwall and hanging wall stratigraphy and rock types. The core logging is also guided by existing drillhole information from previous core logging. Routine validations are undertaken by experienced geologists at various stage gate points in the data collection process flows, with the ultimate validation performed by the QP.

Another aspect of the governance system is the documentation of the geological data gathering process flow (i.e., data collection, processing, and validation). The QPs acknowledge that this documentation facilitates the auditability of the process flow activities and outcomes as well as the measures undertaken to rectify anomalous or spurious data.

Historic surface core is stored at a Central Facility in the Waterval Core yard, near Rustenburg. Storage facilities are secured to prevent unauthorised entry, with limited access.

8.2 Reef Sampling – Surface

The surface drilling core is sampled using a comprehensive standard procedure which includes QAQC procedures. The core is split in half where one half is retained for reference, whereas the other half is sent to the laboratory for analysis. Samples include bottom and top contacts together with 2cm of footwall and a minimum of 2cm of hangingwall, with the contact samples being no less than 10cm. In addition, at least one sample of unmineralized footwall and hangingwall is included. Samples are broken into individual pieces no less than 20cm for BQ core size to ensure enough material is available for analysis. Furthermore, for the BQ size core, the entire drill core sample is submitted to the analytical laboratory and no core splitting is performed.

The samples are assigned unique sample identification numbers and tags before the Evaluation Team Leader transports them to the laboratory. In addition, the samples for each drillhole and the associated quality control samples (CRM and blanks) are submitted to the laboratory. The Geologists prepare sample submission sheets that accompany the samples. Records of the sample data are captured in the SABLE database.

8.3 Reef Sampling – Underground

8.3.1 Channel Sampling

Within underground workings, exposures of the reef have channel samples taken. Individual channels are cut from the underground development-working faces using a diamond saw. A representative section of the target reef intersection should be recorded in the field book and the respective sample numbers, relative to their sequential position, should be reflected relative to the profile, from footwall to

hangingwall. The Kroondal Operations development channel sampling interval standards vary per shaft and facies. For the UG2 Reef at all shafts samples are taken at 30m intervals on dip and the strike component varies by mining method. Channel samples are defined perpendicular to the reef plane and each section's position is fixed by offsetting from survey pegs. The reef is segregated according to a sampling pattern and is correlated between sample sections, and individual samples of 10cm – 15cm in length are taken to reflect the internal geometry of the reef, with not less than a 10cm sample being taken on top and bottom contacts. The sample mass taken is in the order of 300 g to 500g.

The data is stored in one database but linked to the assay laboratory automatically via a second system. The following capture process is followed:

The sampling data is captured in MRM System which is linked to Sable Database. Sable is used to submitting samples to the laboratory via an automated process. The laboratory uses a Laboratory Information Management System (LIMS), which then reports the results automatically back into Sable where QAQC is done. Once QAQC is completed, the information is relayed back into the MRM system. At the Operations, the MRM data is authorised before it is used for evaluation.

8.4 Sample Preparation and Analysis

8.4.1 Laboratory

The surface and underground sampling assays are analysed by various ISO-accredited laboratories for the Kroondal Operations. The following International Organisation for Standardisation (ISO) accredited laboratories have been utilised since January 2010:

- Anglo American Research Laboratory ('AARL'),
- Genalysis Laboratory Services (SA) (Pty) Limited ('Genalysis'),
- SGS South Africa (Pty) Ltd ('SGS'),

- Mintek (Pty) Limited ('Mintek'),
- SetPoint Industrial Technology (Pty) Limited ('Setpoint') and
- Quality Laboratory Services Limited (QLS).

All current Kroondal samples are analysed at Quality Laboratory Services, an independent South African National Accreditation System (SANAS) accredited laboratory (SANAS17025) for geochemical analysis (4E, 6E plus Ni and Cu).

The laboratory has facilities for sample preparation and chemical analysis (via fire assay and instrumental techniques) and is equipped with the LIMS software, which facilitates effective and efficient management of samples and associated data. It handles geological drilling, grade control samples, and samples from concentrators.

8.4.2 Sample Preparation and Analysis

Samples received at the laboratory are labelled with a unique laboratory identifier and logged. The samples are then emptied into a drying pan and dried to a constant mass in drying ovens at 105°C. After drying, the sample is pulverised to a 95% pass rate on a -75µm and emptied into a labelled sample bag for further processing.

Samples are assayed for 6E (i.e. Pt, Pd, Rh, Au, Ru and Ir), Cu, Ni, and density. PGMs contained in concentrate samples are collected in a single fusion step, using nickel sulphide (NiS). The resulting NiS buttons are subjected to leaching and filtration processes to separate the PGMs. The PGMs are dissolved using aqua regia. The resulting solutions are analysed by Inductively Coupled Plasma (ICP) to determine the concentrations of Pt, Pd, Rh, Ir, Ru and Au contained in a sample. Cu and Ni are analysed using a sodium peroxide and sodium carbonate fusion to decompose the sample. Nitric acid is added to dissolve the fused sample. The cooled solutions are transferred into labelled 250ml volumetric flasks and send to the ICP for analysis. The determination of density (SG) is achieved by using the AccuPyc 1340 Pycnometer which is a fully automated gas displacement pycnometer. Density and volume are determined by pressure change of helium within calibrated volumes.

Assays, including the results from laboratory internal standards, are reported within one to three months turn-around time.

QLS has in place quality assurance and control procedures for the analysis and handling of the samples. An overall high level of cleanliness is maintained to minimize contamination. Furthermore, the laboratory also included standards and blanks in each sample batch and any anomaly identified in the quality control samples is addressed as required.

The QAQC procedures include regular audits, Proficiency Testing Schemes, round-robin benchmarking, as well as the submission of blanks and standards to the laboratory. In addition to external audits, the Mine Technical Services Management (MTS) Department conducts regular audits of the laboratory.

8.4.3 QP Opinion

The QPs are satisfied with the sample preparation, analytical methods, accuracy and precision and the level of cleanliness at the analytical laboratory. The security methods employed are appropriate for the level of risk to the samples. The analytical methods employed are suited to the mineralisation style and grades. The analytical data from the laboratory is suitable input for grade estimation.

Note on historical assays: Assay procedures used at Kroondal are well-established and have been used in South African mines for many decades. The results are well validated and changes in procedures over time have not significantly affected the accuracy and comparability over the life of the mine.

8.5 Analytical Quality Control

8.5.1 Nature and Extent of the Quality Control Procedures

Kroondal Operations implements an analytical quality control protocol requiring ongoing monitoring of laboratory performance. Ad hoc and unannounced visits are done to the laboratory to check all the processes taking place at the laboratory.

8.5.2 Quality Control Results

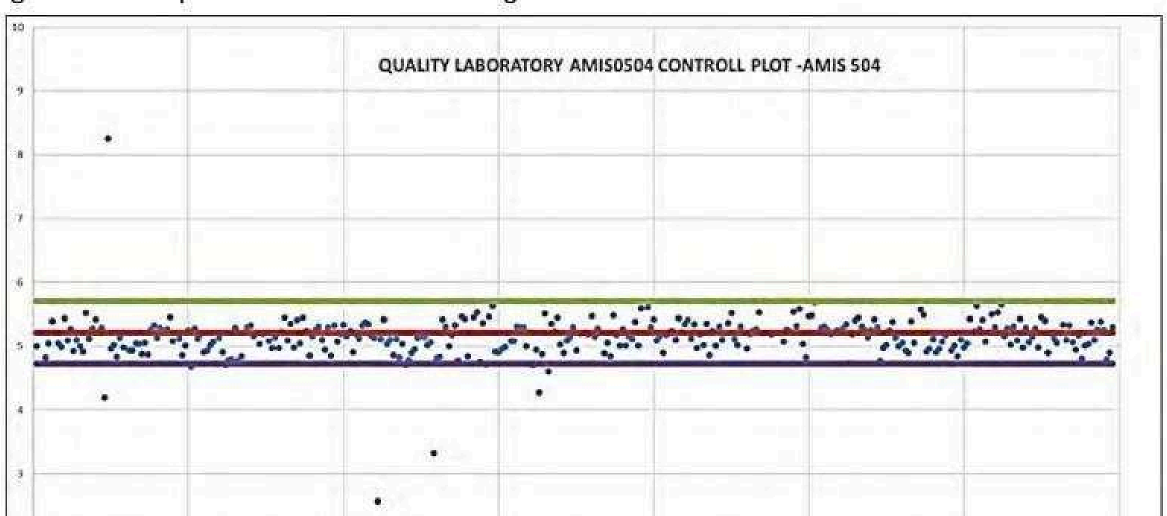
Analytical results for the blank and standards are analysed graphically on control charts to facilitate the identification of anomalous data points. Where the standard result is reported outside three standard deviations of certificate value – re-assay is requested for the whole batch from the laboratory. A

sufficient number of standards and blanks are inserted into the sample stream (equivalent to between 5% and 15% of all samples). Standards consist of in-house standards as well as external "AMIS" CRMs. All in-house standards have been South African Bureau of Standards ("SABS") certified using a round-robin process.

The blank material utilised has no certified value, and the blank sample data is analysed visually on plots to identify anomalous values that may suggest overwhelming contamination or sample swapping. Blank samples are accepted to 0.25g/t, after which a re-assay is requested.

Figure 16 and Figure 17 show the typical control plots of a CRM and a blank used to assess the quality of assay results.

Figure 16: Example of CRM Result Monitoring



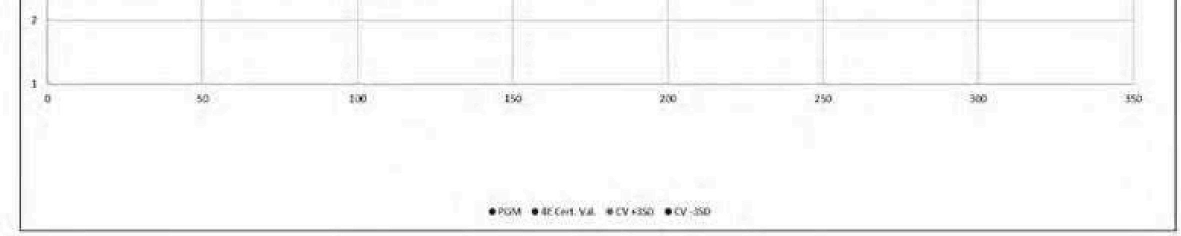
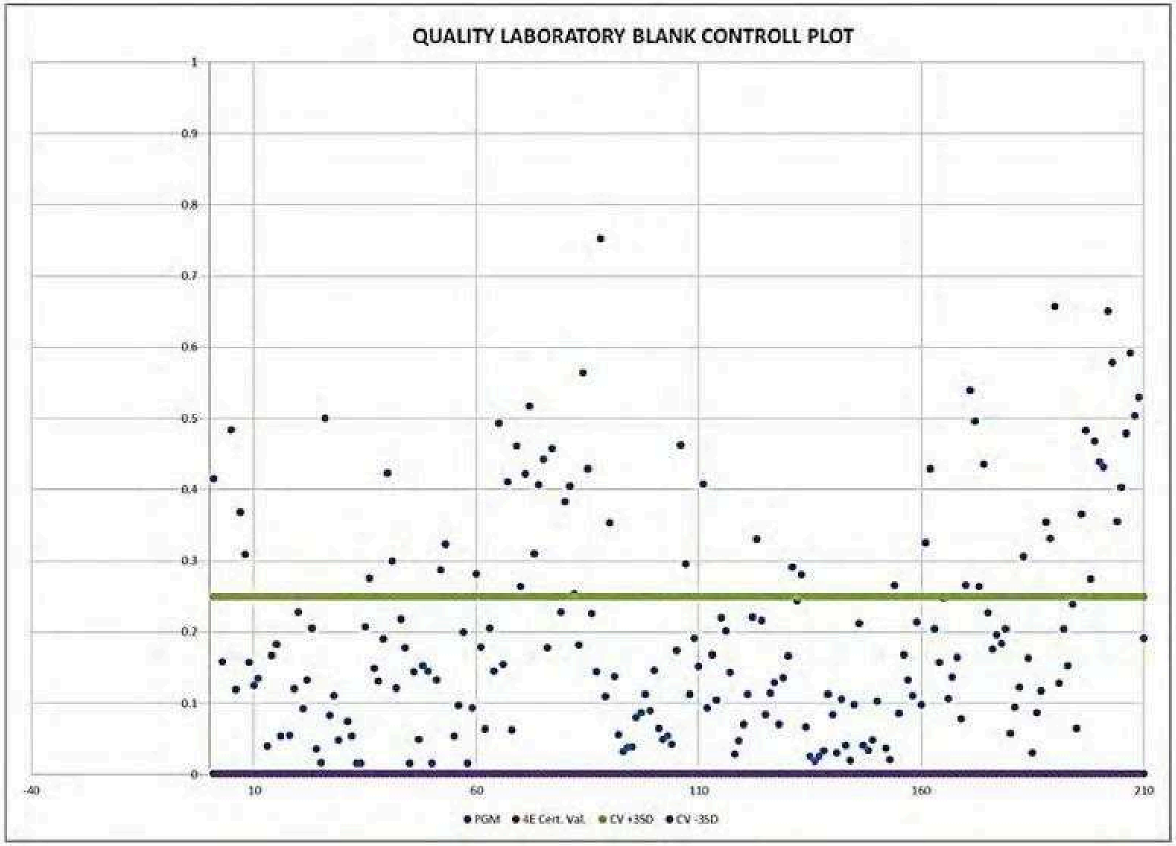

2
1
0
50
100
150
200
250
300
350
PGM
4E Cert. Val.
CV +3SD
CV -3SD

Figure 17: Example of Blank Result Monitoring



8.5.3 QP Opinion

The QP is satisfied that the laboratory's analytical data shows overall acceptable precision and accuracy, and no evidence of overwhelming contamination by the laboratory that would affect the integrity of the data. Security methods employed are appropriate to the level of risk to the samples. As a result, the analytical data from the laboratories is of acceptable integrity and can be relied upon for Mineral Resource estimation.

9 Data Verification

This Section contains information about data verification of geological data for Mineral Resources estimation. For Information on data sources and validation for Mineral Reserve modifying factors or other types of data, please see the relevant sections. For Mineral Reserves see Section 12, for geotechnical data see section 7.9, for hydrology see Sections 15.4 and 17.4.

Short Descriptions are given for database management, data validation and the procedures for capturing face-mapping, drillholes and underground channel sampling.

9.1 Data Storage and Database Management

Procedures are in place to ensure the accuracy and security of the databases. Mine data are split into two databases: exploration drilling and underground sample sections. All the surface and underground exploration drilling data is captured and stored using SABLE Data Warehouse software. The underground sample section data is stored in a separate database known as the MRM database. However, a new interface has now been created between the MRM and SABLE Databases such that all laboratory dispatches of the MRM data are done through SABLE where QC and data analysis for the MRM data is carried out in SABLE. The SABLE database administrator oversees data management procedures while the database manager on-site oversees exploration drillhole data. Data capture is continuous, regularly monitored and validated. Information stored in the database includes collar coordinates, dates of completion of each stage, survey data, lithological logging, alteration logging, structural logging, mineralisation, core size, sampling, CRM information and assay data. The SABLE database is stored on the central IT server, where it is backed up and has rigorous controls (e.g., password protection and access restrictions) to ensure the security and integrity of the data.

The QPs are satisfied with data storage and validation as well as database management practices, which are all aligned to industry practice. There are sufficient provisions to ensure the security and integrity of the data stored in the SABLE database.

9.2 Database Verification

Internally generated channel samples, surface and underground diamond drilling and mapping data is the primary data utilised for geological interpretation and Mineral Resource estimation. This data has been generated over a long period of time and is stored in an electronic database. The primary software used at Kroondal is SABLE, a well-known database software used throughout the mining industry. The imports into the database and validations are performed by experienced personnel. All data has been through multiple rounds of verification by the operators of the mine at the time the Data was collected and periodically over the life of the mine. Due to the large volume of information collected, it is not possible for the QPs to directly validate all information. Kroondal has quality control systems in place to ensure the integrity of the data and identify deficiencies. The QPs rely on these systems to identify and remove any material errors in the data before authorizing the data for use in Mineral Resource and Reserve estimations or other decision-making tools. Any error remaining are not material to the outcome of the Mineral Resource estimation results.

Any limitations in the data are considered to be confined to the historical data, which may not have been subjected to the current standards but are considered acceptable due to industry standard practices in place at the time and confirmed from continuous mining over several decades.

9.2.1 Mapping

Underground mapping is undertaken on a routine basis and covers all major development tunnels as well as those that have intersected reef or are designed to expose reef. This mapping is plotted at 1:200 scale on a mapping report and later digitised onto Microstation.

The principal objectives of underground mapping are to:

- Identify and record the positions of faults, dykes, and any other disturbances in a working place, so that projections can be made ahead of the face and/or up-to reef plane.
- Record the thickness and nature of the reef so that facies can be delineated and later reconciled with sampling data.
- Record and bring to the attention of the Mining Department any areas where reef remains in the hanging or footwall of the stope and/or new geological structures identified.

Mapping is carried out continuously, using a set of documented procedures, and plans updated as data is collected.

Mapping is checked underground by the responsible geologist when conducting start-up assessments. The responsible geologist will print a plan when proceeding underground and will ensure that the geological mapping is correct and that all features are recorded.

9.2.2 Drillholes

The validation of drillhole data is a continuous process completed at various stages during data collection, before and after import into the SABLE database and during geological interpretation and Mineral Resource estimation. As the QPs are fulltime employees of Sibanye-Stillwater working at the Kroondal Operations, they either performed or supervised the validation of the drillhole data after which they approved and signed-off the validated data used for Mineral Resource estimation.

The logging is guided by a standard procedure, which standardises data gathering, and the type of detail required for each drillhole log, and any deviations or anomalous entries are flagged by the inbuilt validations tools available in the SABLE database.

Geologists validate the survey data by comparing it against planned coordinates and through visual checks in the Datamine environment.

9.2.3 Channel Sampling

The validation of face samples is a continuous process completed at various stages during data collection. Unique barcoded sample numbers are generated and printed on the surface, preventing duplicate ticket numbers. Samples are captured into the SABLE database with controls in place, which includes drawing of sections and validation of location and geology by experienced full-time includes drawing of sections and validation of location and geology by experienced full-time employees.

Plots using the final authorised assays and location data, along with the workings, are printed to ensure that the spatial distribution is correct.

Planned Task Observations are conducted quarterly in order to ensure sampling procedures are followed correctly.

9.3 QP Opinion

The QPs acknowledge the rigorous validation of the extensive database utilised for the Mineral Resource estimation at the Kroondal Operations. The data was validated continuously at critical points during collection, in the SABLE database and during geological interpretation and Mineral Resource estimation. There are no limitations placed on the QP when conducting the data verification. Similar practices which were inherited by Kroondal Operations, were in use by the previous owners for the collection of historical data. The QPs have assessed the historical data and concluded that it was suitable for Mineral Resources estimation. In general, the data validations are consistent with industry practice and the quantity and type of data are appropriate for the nature and style of the mineralisation and the evaluations reported in this TRS.

10 Mineral Processing and Metallurgical Testing

There is no metallurgical testwork that is material to the operational this stage of operation.

The plants are well established and no changes are planned. Accordingly, there has not been any recent testwork completed for the purposes of process design and metallurgical amenability assessment as these are unnecessary for operating plants. The type of ore material is consistent with historical processing, and any metallurgical testwork conducted is to support short term operational issues. The plant recovery factors are benchmarked to actual recoveries achieved by the plants .

Concentrator Samples are sent to an external laboratory for testing. Additional details are given in Section 8.4.1. Analytical methods are the same as for the geological samples (Section 8.4.2). There are no unmanaged processing factors or deleterious elements that could have a significant effect on potential economic extraction.

For mineral processing, refer to Section 14 and for ongoing sampling in the plant, refer to Section 14.3.

QP Opinion

The Qualified Person is satisfied that the historical mineral processing testwork and data to the extent still relevant is adequate for the purposes of this TRS. The mineral processing is appropriate to the deposit and there is no material risk to the planned plant recovery factors.

11 Mineral Resource Estimates

This Section describes the evaluation of the Mineral Resources of Kroondal, key assumptions, parameters, and methods used to estimate the Mineral Resources include the following:

- Mineral Resources are derived from Underground Sources only.
- The Merensky Reef is mined out, only the UG2 Reef was modelled.
- Mineral Resource blocks are estimated for 4E grade(Pt, Pd, Rh and Au), thickness, accumulation (product of grade and thickness), density and, in addition, base metals: Cu and Ni, Cr and 6E prill splits (Pt, Pd, Rh, Ir, Ru and Au). Mineral Resource estimates are classified and reported for 4E, and 4E prill splits and tonnage.
- Estimation methodologies are Ordinary Kriging (OK) and Inverse Distance power 2 (IDP2) as appropriate to the geological domain.
- Mineral Resource classifications are based on the scoring and rating of five statistical parameters (kriging variance, kriging efficiency, slopes of regression, search volume, and number of samples) and seven non-statistical parameters: aeromagnetic survey, seismic interpretation, structural model, facies interpretation, geological loss estimates, historical data (mining history), and quality assurance/quality control (QA/QC) reports.
- As a point of reference, Mineral Resources are quoted at an appropriate in-situ economic cut-off grade, with tonnages and grades based on the planned minimum mining width of 200cm. They may also include estimates of any material below the cut-off grade required to be mined and are quoted as at 31 December 2023.
- The integrated Mineral Resource model is constructed combining the UG2 Reef at both the Rustenburg and Kroondal Operations. Mineral Resources are divided and reported within their respective Mineral Rights boundaries.

11.1 Estimation Domains

Geological interpretations based on structural, thickness and grade data are used to construct the estimation domains (geozones) (Section 6).

11.1.1 Compositing – UG2

Composites per lithological unit (i.e. drillhole and channel sample data composted by lithology) are used to inform the Mineral Resource model. Composite boundaries are determined by geological contacts and grade distribution for the following primary components:

- Geotechnical Components – Chromitite Layers- not always developed,
- Leader Seam,
- Main Seam, and
- Footwall Unit

- Footwall unit.

A minimum thickness of 200cm is modelled for the Kroondal Operations (Figure 18). The composites include the Main and Leader Seams, 25cm (minimum) Footwall Pegmatoid and any additional Chromitite Layers (geotechnical component), (Figure 19).

Figure 18: Composite Width

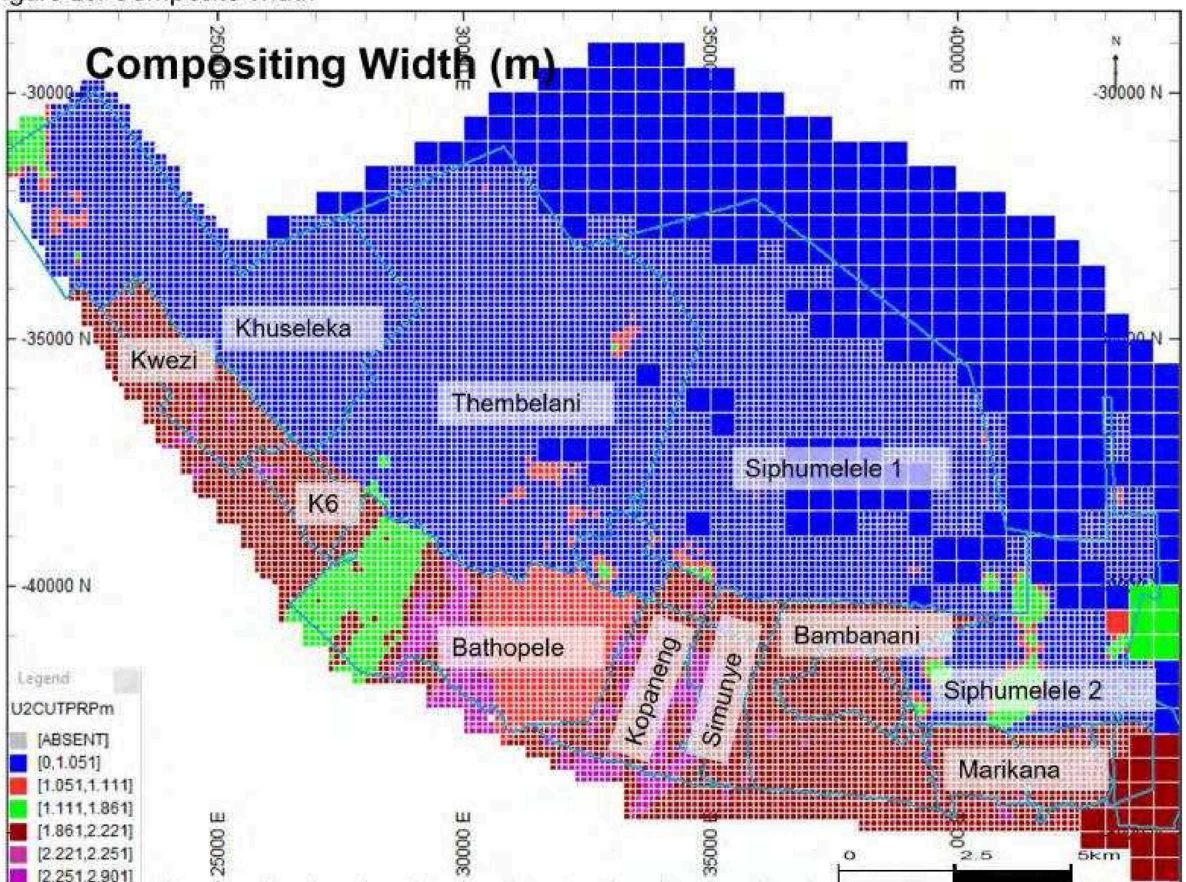
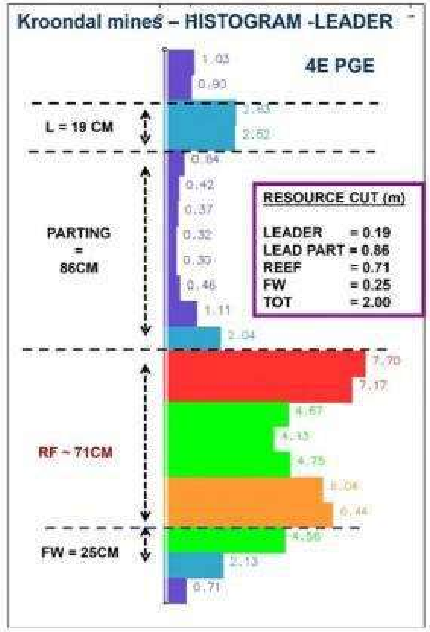


Figure 19: Example of UG2 Reef Composite cut for the Kroondal mines

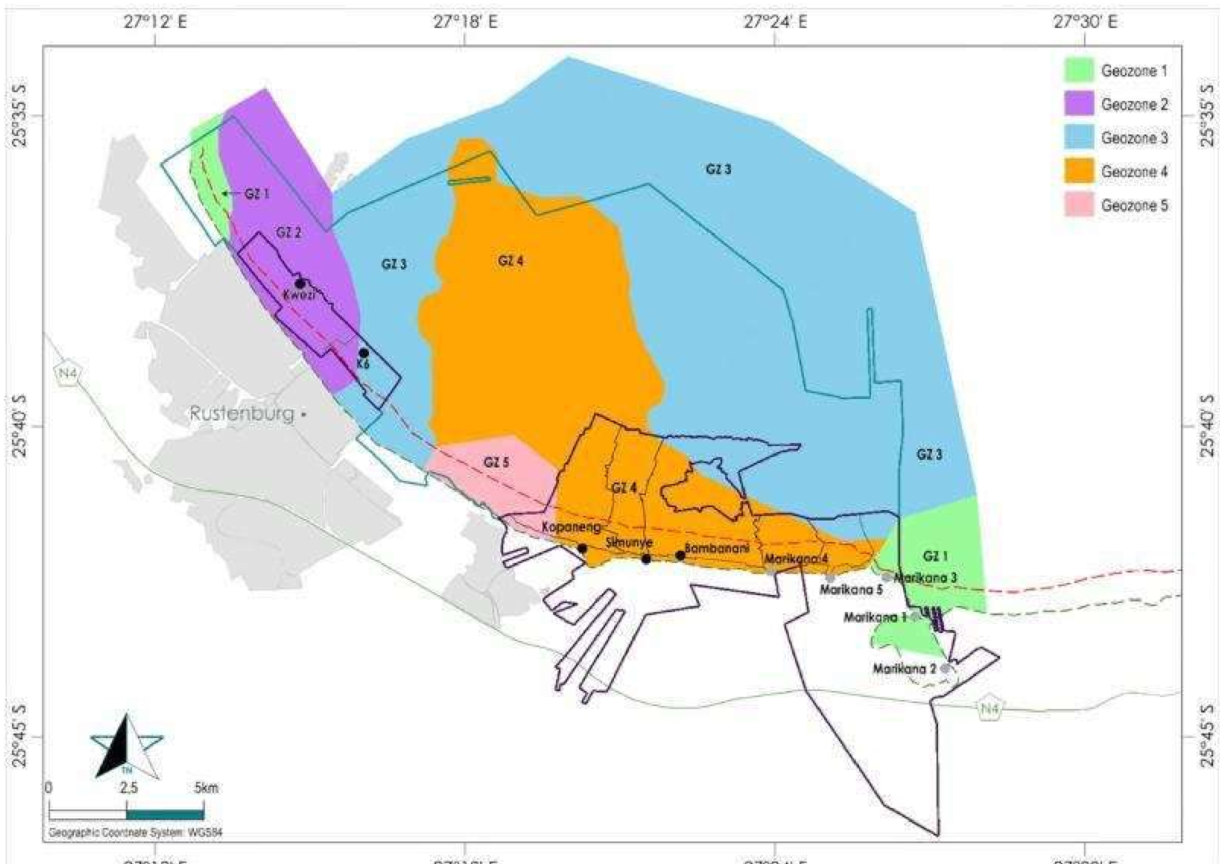


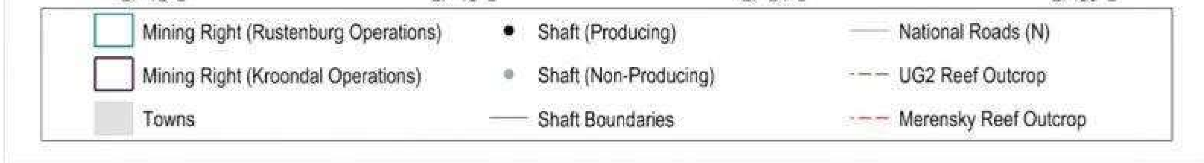
11.1.2 Estimation Domains

The UG2 facies classification (Figure 20) is based on a combination of thickness and the PGM value distribution. For the UG2 Reef, the estimation domains are defined by facies and resource cut. The width of the reef between the facies varies from 71cm for facies 4 to 85cm for facies 1. A high profile minimum composite thickness of 200cm was modelled for the mechanised mines where a low-profile trackless mining method is applied. The variable width composite includes the UG2 Main seam, 10cm (minimum) Footwall Pegmatoid, Leader Seam and parting width between the UG2 Main Seam and Leader.

The area of the Mineral Resource blocks was corrected for the dip and discounted for geological losses based on the 3D structural interpretation. From the resultant dip corrections and density data, volume and tonnage are calculated. Estimation domains were used as hard boundaries in the estimation for the 125m by 125m and 500m by 500m blocks.

Figure 20: UG2 Geozones





Geozone 1 Thick Reef

In Geozone 1, the Main Seam has an average 4E grade of 5.66g/t over the thickness of 85cm. In this zone, the Leader band is included as part of the geotechnical unit. The Leader band has an average 4E grade of 2.92g/t over an average thickness of 24cm. The average 4E grade of the footwall over a thickness of 40cm is 0.55g/t. The minimum and maximum densities are 3.68t/m^3 and 4.58t/m^3, respectively.

Geozone 2 Normal Reef

Geozone 2 has an average Main Seam thickness of 70cm with an average 4E grade of 6.72g/t. The Leader Seam varies between 10cm to 20cm with an average 4E grade of 2.57g/t. No geotechnical parting is included in Geozone 2. The footwall has an average 4E grade of 0.91g/t. The minimum and maximum density are 3.22t/m^3 and 5.23t/m^3, respectively.

Geozone 3 Thin Reef

The UG2 Main Seam, referred to as Thin reef, in Geozone 3 has an average 4E grade of 6.87g/t over an average thickness of 64cm. In Geozone 3, the Leader band is narrowing down dip to less than 10cm and is included in the resource cut. The Leader Seam has an average 4E grade of 1.03g/t. The footwall has an average grade of 1.56g/t. The minimum density is 3.57t/m^3 whereas the maximum density is 5.08t/m^3.

Geozone 4 Central Reef

Geozone 4, the UG2 Main Seam has an average thickness of 71cm and an average grade of 6.39g/t. The minimum density is 3.57t/m^3 and the maximum density is 5.65t/m^3.

Geozone 5 Upper Reef

The Upper Reef of Geozone 5 has an average 4E PGM grade of 6.31g/t over an average thickness of 77cm. This Geozone includes a mixture of Leader Seam and/or triplet stringer chromitites, depending on where the geotechnical beam is found in the hangingwall stratigraphy. The minimum density is 3.16t/m^3, whereas the maximum density is 5.18t/m^3.

11.2 Estimation Techniques

11.2.1 Grade and Tonnage Estimation

11.2.1.1 Statistics and Capping

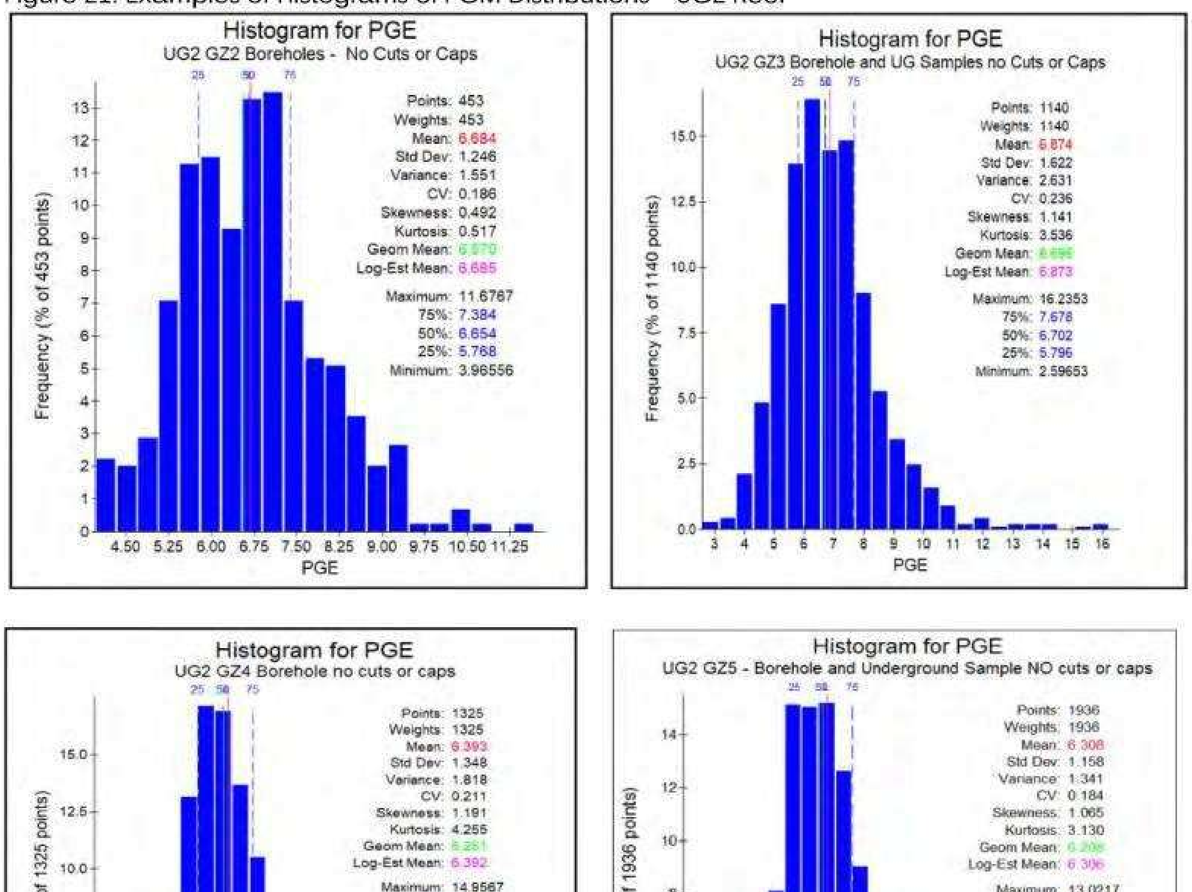
The primary software used was Datamine Studio RM for estimation and Snowden Supervisor for statistics and variogram modelling.

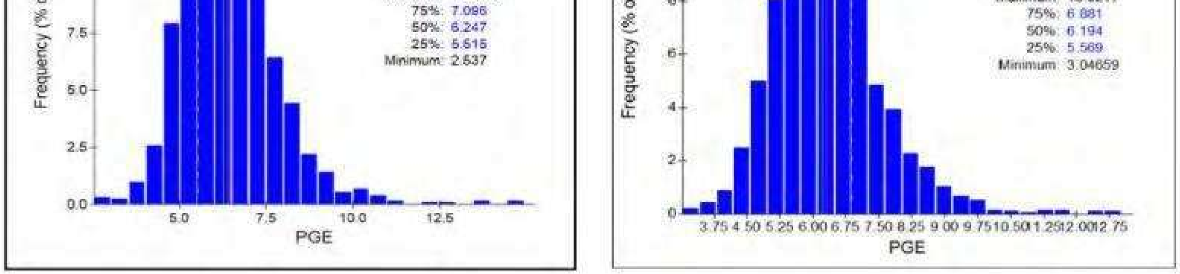
The Mineral Resource footprint was divided into various estimation domains based on the geological facies. Detailed exploratory data analysis included sample verification, histogram, and cumulative distribution plots.

No declustering was applied for variography, given the relatively even data point distribution across the operations.

No cutting or capping was applied for the Main Seam grade (4E PGM) and width models because there are no extreme values in the distributions (Figure 21). Cuts and caps were applied to the Prill Element (Pt+Pd+Rh+AU) and Base Metals (Cu+Ni) on the lithological units above and below the UG2 Main Seam. Capping was generally applied at the 99th percentile per domain to reduce the effects of extreme high grades on each estimated block.

Figure 21: Examples of Histograms of PGM Distributions – UG2 Reef





11.2.1.2 Variogram Modelling and Estimation Parameter Selection

The variography analyses for the UG2 Reefs' individual geozones were conducted using the validated composites for the combined underground channel and surface drillhole data.

No transformation of the data was applied to the variograms as the data distribution approaches a normal distribution for thickness and grade where there are sufficient composites.

The variograms were treated as isotropic as there are no trends, and no convincing anisotropy effect was noticed (Figure 22 and Figure 23). This is a common phenomenon of the PGM Reefs within the Bushveld Complex. Search distances for grade and width estimation were based on variogram ranges for each element (4E, Prill grades, Ni, and Cu). An Example of the type of variogram parameters used for kriging are available in Table 22.

Search distances for grade and width estimation were based on variogram ranges for each element.

Snowden Supervisor is used for variogram maps (Figure 22), and variography, as per examples in Figure 23.

Figure 22: Example of a Variogram Map

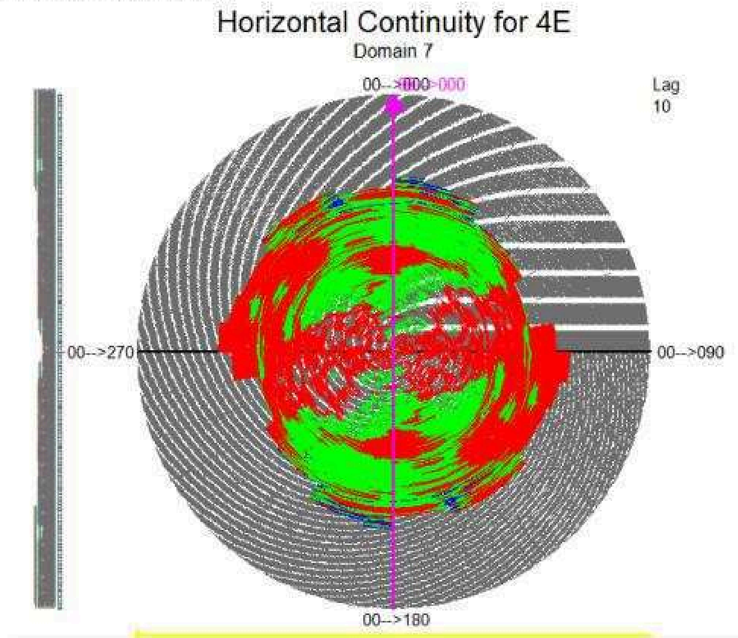
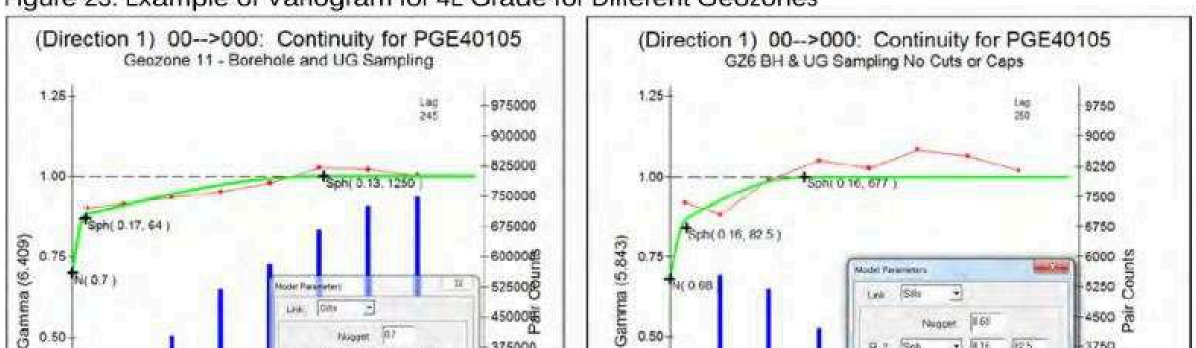


Figure 23: Example of Variogram for 4E Grade for Different Geozones



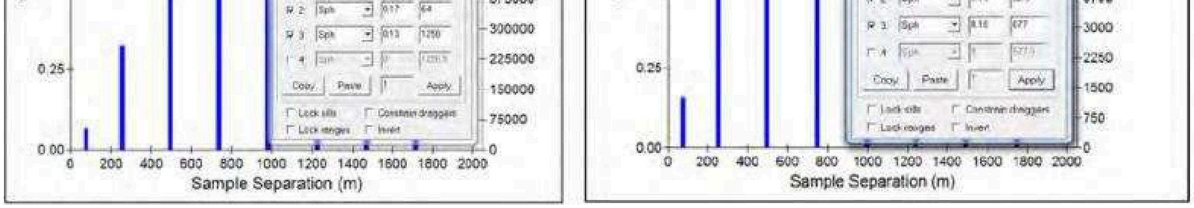


Table 22: Example of Variogram Model Parameters for selected the UG2 Geozones

PARAMETER	FACIES	VREFNUM	VANGLE1	NUGGET	ST1PAR1	ST1PAR2	ST2PAR1	ST2PAR2	ST3PAR1	ST3PAR2
PGE (g/t)	1	1	-90	0.59	8	8	245.5	245.5	808.5	808.5
PERPLENG (m)	1	2	-90	0.2	61	61	349	349	654.5	654.5
PT (g/t)	1	4	-90	0.71	133	133	467	467		
PD (g/t)	1	5	-90	0.55	33.5	33.5	325.5	325.5		
RH (g/t)	1	6	-90	0.62	96.5	96.5	583.5	583.5		
AU (g/t)	1	7	-90	0.47	34.5	34.5	355.5	355.5		
CU (%)	1	8	-90	0.23	70.5	70.5	650.5	650.5		
NI (%)	1	9	-90	0.06	88.5	88.5	650.5	650.5		
PGE (g/t)	2	11	-90	0.45	37.5	37.5	402	402	729	729
PERPLENG (m)	2	12	-90	0.37	22.5	22.5	83.5	83.5	1,273.5	1,273.5
PT (g/t)	2	14	-90	0.44	80	80	860.5	860.5		
PD (g/t)	2	15	-90	0.57	13.5	13.5	164	164	683	683
RH (g/t)	2	16	-90	0.29	64	64	1488	1488		
AU (g/t)	2	17	-90	0.31	113.5	113.5	951	951		
CU (%)	2	18	-90	0.22	96	96	1765.5	1765.5		

NI (%)	2	19	-90	0.16	129	129	917	917		
PGE (g/t)	3	21	-90	0.57	0.15	0.15	207.5	207.5	1,837	1,837
PERPLENG (m)	3	22	-90	0.38	37.5	37.5	298.5	398.5	1,553	1,553
PT (g/t)	3	24	-90	0.36	39	39	316.5	316.5	2,266.5	2,266.5
PD (g/t)	3	25	-90	0.54	28.5	28.5	43	43	1,393	1,393
RH (g/t)	3	26	-90	0.31	80	80	423.5	423.5	1,871	1,871
AU (g/t)	3	27	-90	0.5	41.5	41.5	282.5	282.5	812.5	812.5
CU (%)	3	28	-90	0.3	64	64	719	719	2,381.5	2,381.5
NI (%)	3	29	-90	0.42	46	46	347.5	347.5	2171	2171

Kriging Neighbourhood Analysis (KNA) is a tool which assists in determining the appropriate estimation parameters as per the examples below. KNA provides appropriate block sizes of 125m x 125m and 500m x 500m blocks (Figure 24 and Figure 25). These have positive kriging efficiencies (KE) and slope of regression (SR). The QP decided to use 125m x 125m for the well-informed current mining areas and 500*500m for the deeper areas with sparse data points.

The KNA for the number of samples for the 125m x 125m blocks provides the KE vs. SR relationship.

Table 23 shows the parameters used in modelling.

Figure 24: KNA for Block Sizes – Well Informed Blocks

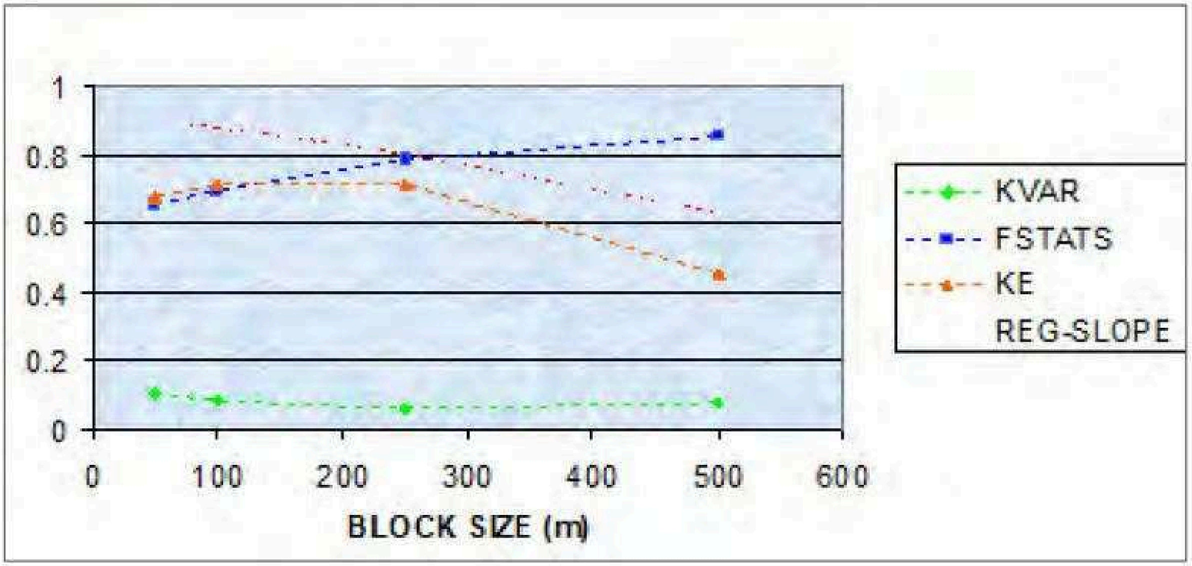


Figure 25: KNA for Discretization – Poorly Informed Blocks

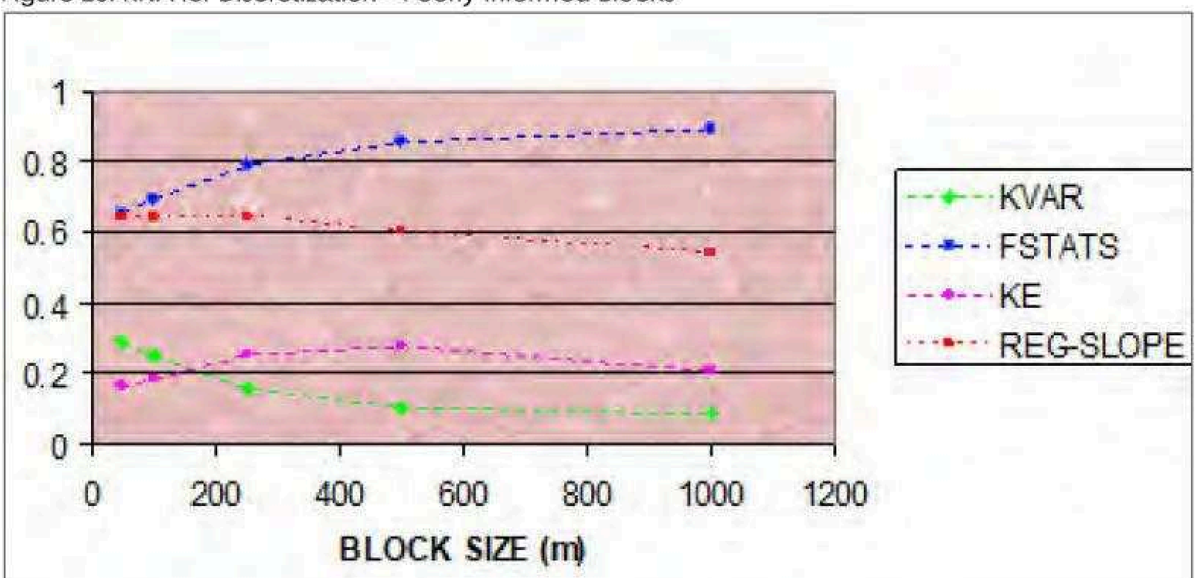


Table 23: Kriging Parameters

Data	Block Size	Minimum number of samples	Maximum number of samples	Search Volume No. 2	Minimum number of samples	Maximum number of samples	Search Volume No. 3	Minimum number of samples	Maximum number of samples
Point Data	125m x 125m	7	20	1.5	7	20	50	20	40
Point Data	500m x 500m	7	20	1.5	7	20	50	20	40

11.2.1.3 Interpolation Methods

Estimation was by ordinary kriging was done for elements with sufficient data and ID^2 (Inverse distance to the power of two) estimates for elements with limited data. No arithmetic mean values were applied to the model blocks. A 2D block modelling approach was used after converting the 3D geological interpretations to 2D. Because faulting is post-mineralisation, the 2D estimation is preferred as this removes statistical discontinuities due to faulting. Smaller blocks of 125m by 125m were used in well-informed areas and bigger blocks of 500m by 500m were used in the deeper areas (poorly informed) based on a KNA Study.

The QP validated the block models on several levels, including visual checks comparing block grades to composite grades, section plots comparing model grades to actual sampling grades, as well as reconciliations comparing previous estimations to the current estimation. An example of a section plot and data versus modelled visual plots that were used for validation is shown in Figure 26. A grade plot for the UG2 Reef is shown in Figure 27. Block comparisons showing the previous vs new models are shown in Figure 28.

Figure 26: Section Plot UG2 – Data versus Model

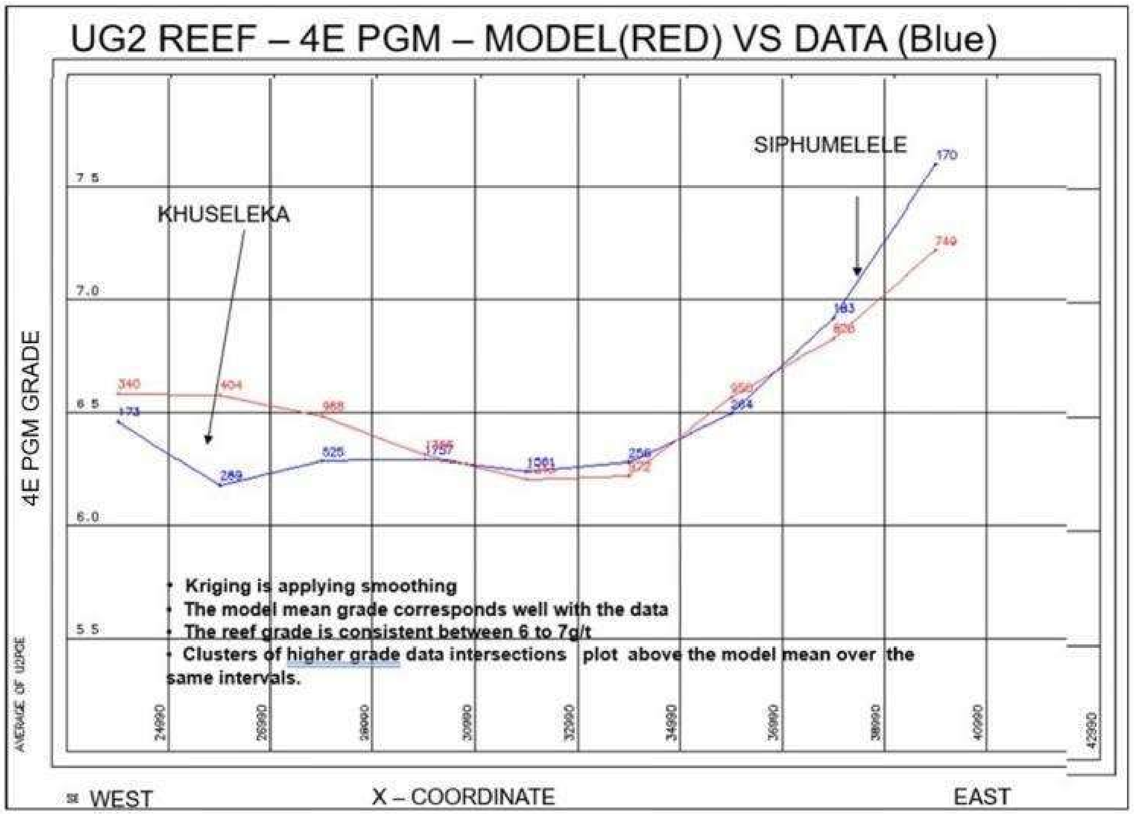
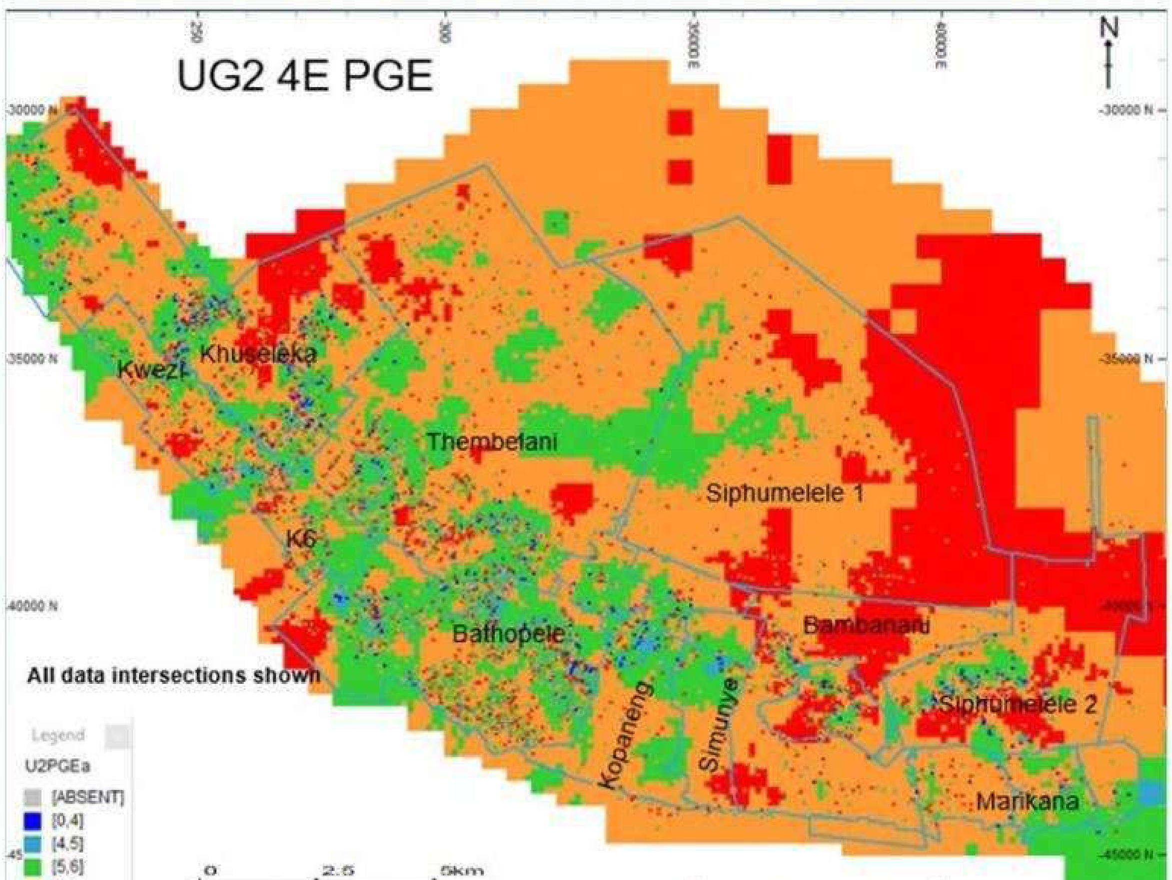
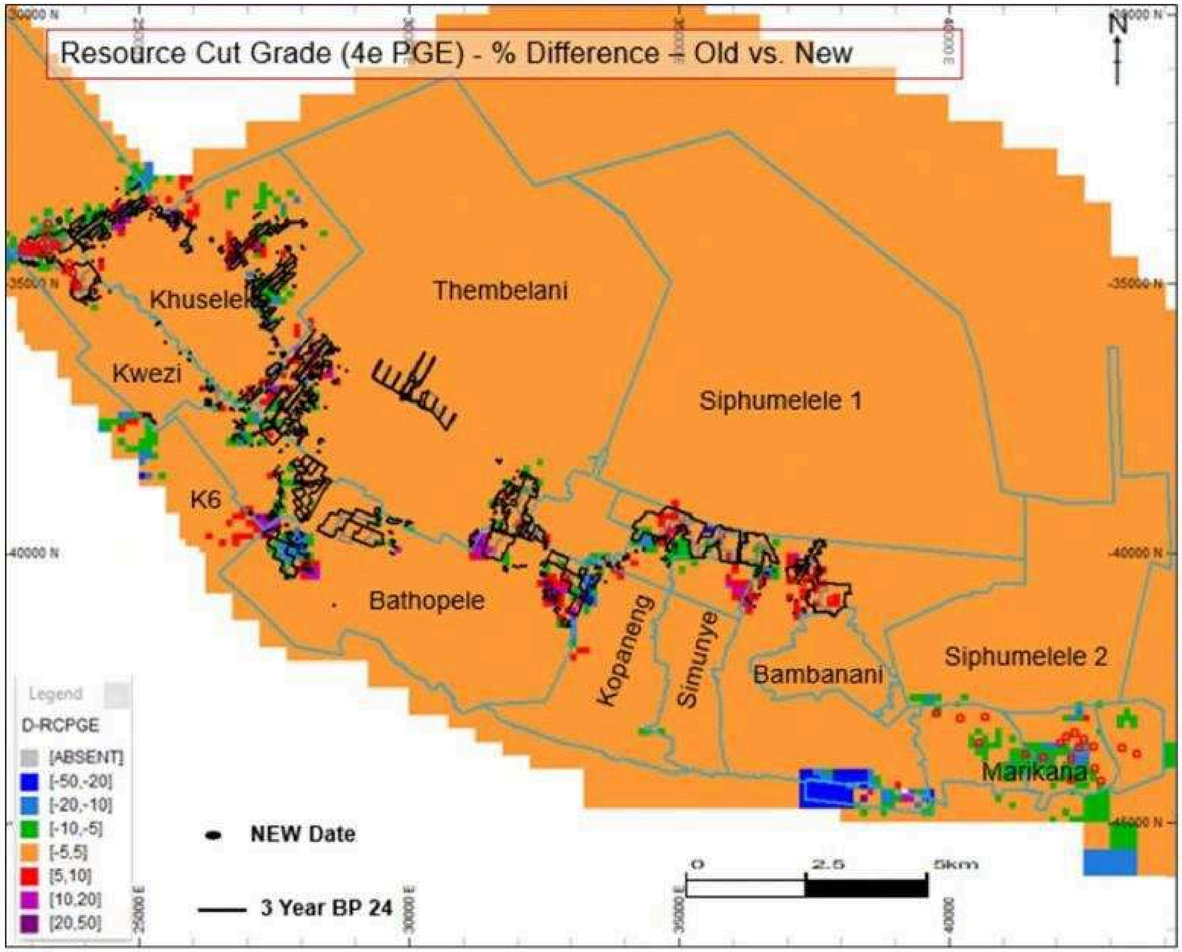


Figure 27: UG2 Reef Grade -4E –Data versus Model




[6,7]
[7,11]

Figure 28: UG2 Reef Grade -4E – Old versus New Model



11.2.2 Grade Control and Reconciliation

Grade control and reconciliation practices follow similar procedures to those applied elsewhere within the Bushveld Complex platinum mining operations. The reefs, hanging wall and footwall lithologies are visually identifiable, and channel sampling ensures that the face grade is monitored accordingly. As part of the reconciliation exercises, physical factors, including Channel Width, Stoping Width, dilution, and Mine Call Factor ('MCF'), are monitored, and recorded on a monthly basis. These results are used to reconcile Mineral Resource and Mineral Reserve estimates with actual mined tonnages and grades.

Monthly evaluation is carried out by means histograms drawn from the Mineral Resource model that evaluate the current mining block against the business plan. Histograms are updated periodically from the Mineral Resource models.

Stoping and development are measured monthly to provide an accurate broken ore tonnage and 4E PGM ounces estimate that is compared to the budgeted tonnes hoisted, trammed, and milled on a

monthly basis. The 4E PGM grade accounted for by the Plant is in turn compared to the Survey Called For grade to determine the Mine Call Factor ('MCF').

Belt sampling is performed daily at all shafts to verify underground grades.

The underlying grade control and reconciliation processes are considered appropriate by the QP.

11.3 Mineral Resource Classification

11.3.1 Classification Criteria

The Mineral Resource is reported as an in-situ Mineral Resource (reference point) inclusive and exclusive of Mineral Reserves. Mineral Resource blocks are estimated for 4E grade, thickness, accumulation (product of grade and thickness), density and, in addition, base metals; Cu and Ni, Cr and 6E prill splits (Pt, Pd, Rh, Ir, Ru and Au). Mineral Resource estimates are classified and reported for 4E, and 4E prill grades and tonnage. Several attributes, like classification and geological loss, are allocated to the Mineral Resource blocks.

The Mineral Resource is classified into Measured, Indicated and Inferred Mineral Resources with varying levels of confidence ranging from high confidence (Measured), in current mining and sampling areas to low confidence (Inferred) in areas further away from current workings, whilst Indicated lies between these two categories. Table 24 shows several factors considered in applying confidence measurements to the Mineral Resource.

The Mineral Resource Classification is determined using the classification matrix method, which has been implemented across the PGM segments of Sibanye-Stillwater. Mineral Resource classifications are based on the scoring and rating of five statistical parameters (kriging variance, kriging efficiency, slopes of regression, search volume, and number of samples) and seven non-statistical parameters: aeromagnetic survey, seismic interpretation, structural model, facies interpretation, geological loss estimates, historical data (mining history), and quality assurance/quality control (QA/QC) reports. Table 24 shows several factors considered in applying confidence measurements to the Mineral Resource.

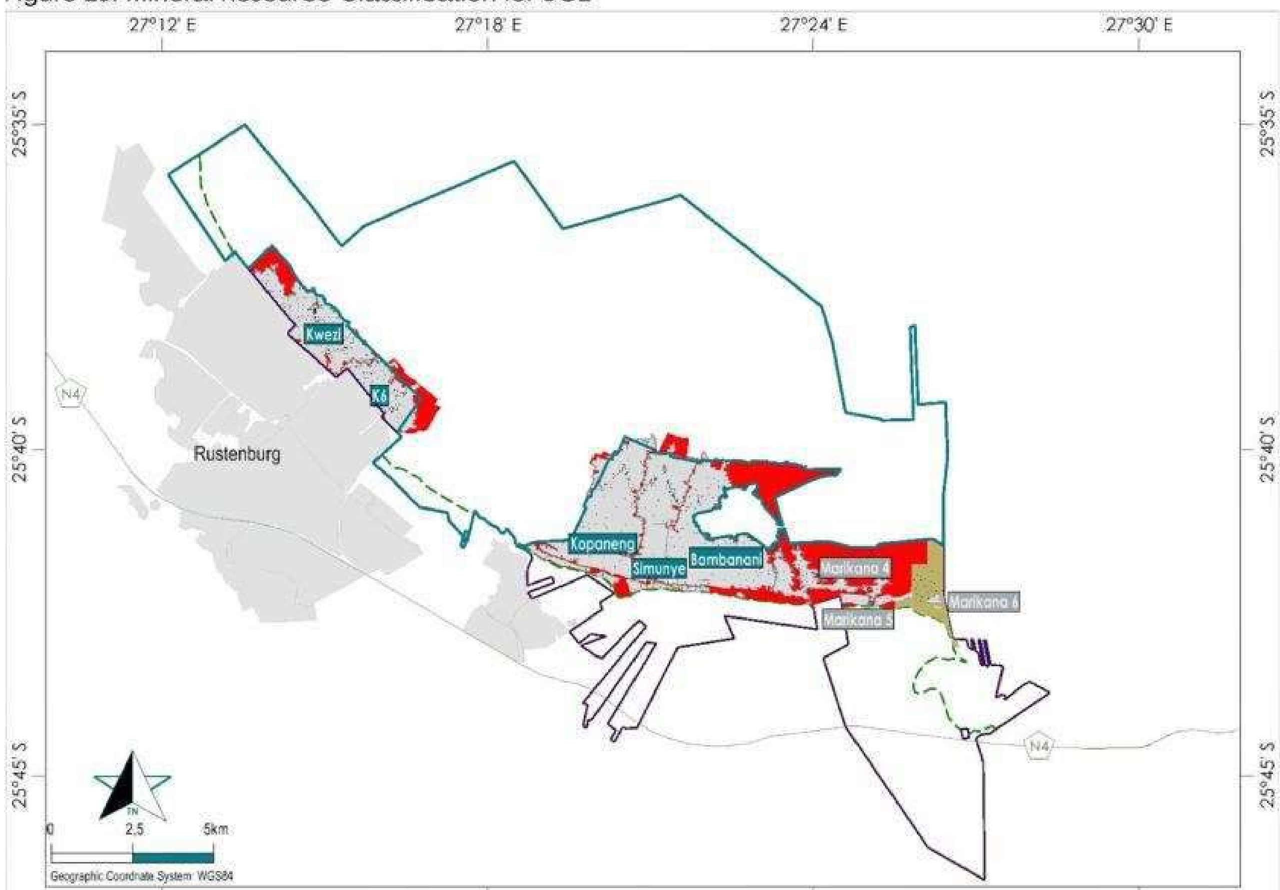
The Mineral Resource categorisation is based on the robustness of the various data sources available, confidence of the geological interpretation, variography and various estimation parameters (e.g., distance to data, number of data, maximum search radii etc.). Specific confidence rankings in individual factors do not map directly to one of the three levels of confidence i.e. Measured, Indicated, or Inferred. The factors are considered as an aggregate and assigned an overall score.

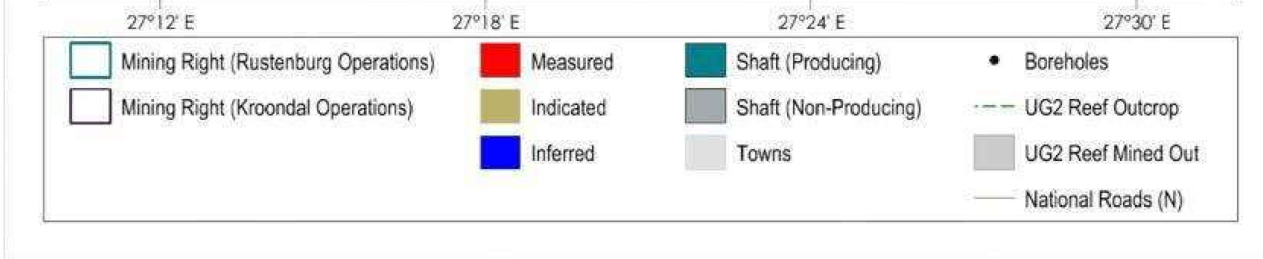
Figure 29 depicts the Mineral Resource Classification for the UG2 Reef. There was no material change from the previous estimate. An extensive surface and underground exploration drilling programme completed previously resulted in more Measured Resource that is defined for the UG2 Reef beyond the current mining areas.

Table 24: Confidence Levels for Key Criteria for Mineral Resource Classification

Items	Discussion	Confidence
Aeromagnetic survey	Aeromagnetic data and interpretation are available and are of reasonable quality and has been derived from internationally recognised and procedures and techniques.	High
Seismic interpretation	Seismic data is available, and data is of reasonable quality and has been derived from internationally recognised procedures and techniques.	High
Structural model	Stratigraphic definition and delineation are considered of reasonable quality. Major structures are identified.	High
Geozones (Facies) interpretation	Geozones definition and delineation are considered of reasonable quality.	High
Geological Loss estimates	Geological loss estimates are considered of reasonable quality and has been derived from internationally recognised procedures and techniques. Major structures are accounted for, and historical actuals form the basis of calculations.	High
Historical data	Available historical data is of reasonable quality and has been derived from internationally recognised procedures and techniques.	High
Assay - QAQC	A comprehensive QAQC program was employed. QAQC monitoring is in place and regular follow-ups occur with the mine laboratory.	Moderate to High
Kriging variance	Parameter is based on the standardized kriging variances (KV). Ranked values assigned are where KV<0. 2, the ranked value is given a value of 1 (high confidence); where 0.2≤KV<0.4, a value of 2 is assigned; and where KV≥0.4, a value of 3 is applied (low confidence).	Moderate
Kriging efficiency	Ranked values for kriging efficiency assigned are where KE≥0.5, the ranked value is given a value of 1 (high confidence); where 0.3<KE<0.5, a value of 2 is assigned; and where KE≤ 0.3, a value of 3 is applied (low confidence).	Moderate
Search volume	Ranked values assignment are: first search radii = 1 (high confidence); second search radii = 2; third search radii = 3.	High
Number of samples	The range between the minimum and maximum number of samples is divided into three and assigned values of 1, 2 and 3 where 1 would represent the maximum number of samples interval.	High
Regression slope	Ranked values assigned are where RS≥0.6 the ranked value is given a value of 1 (high confidence); where 0.2<RS<0.6, a value of 2 is assigned; and where RS≤0.2 a value of 3 is applied (low confidence).	Moderate

Figure 29: Mineral Resource Classification for UG2





11.3.2 Mineral Resource Technical and Economic Factors

11.3.2.1 Mining Width and Geological losses

The minimum mining width, which represents the minimum practical selection unit, is dependent largely on the mining method and other mining constraints, including rock engineering.

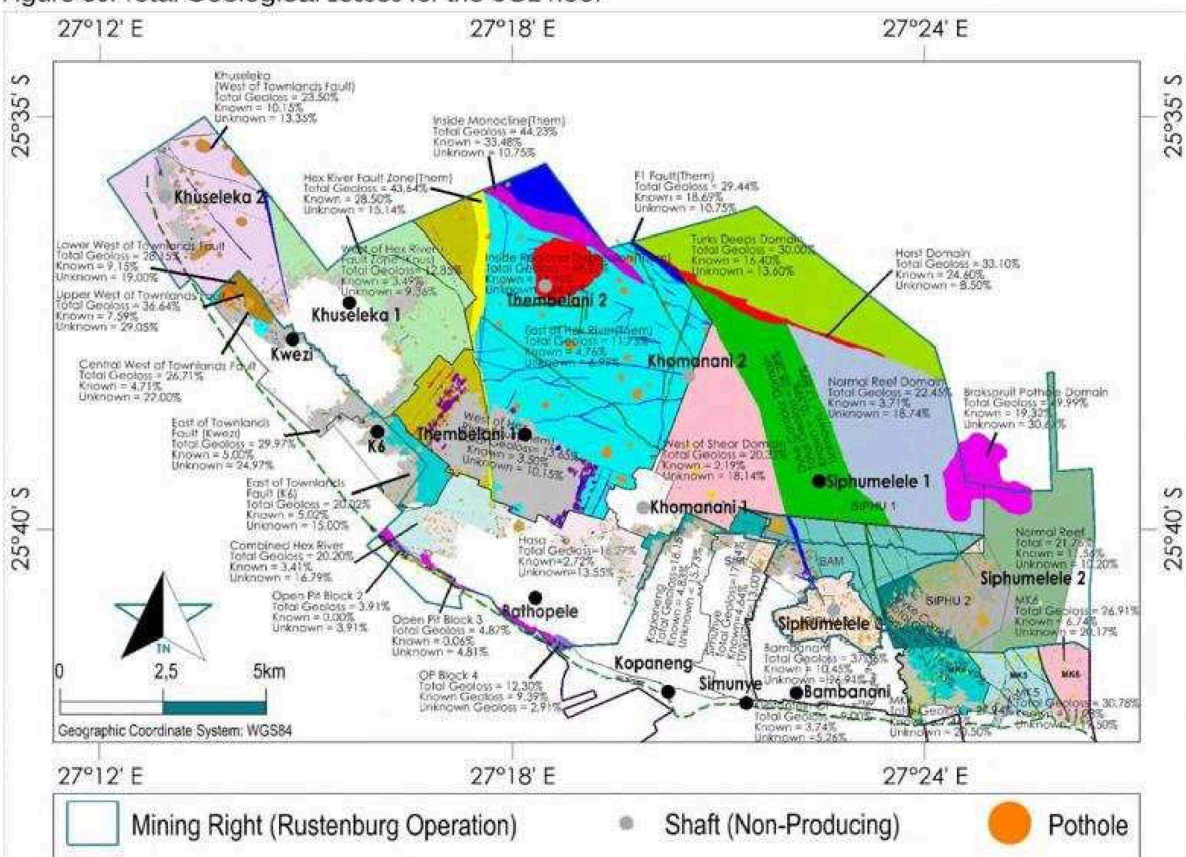
The Mineral Resource tabulations are discounted for geological losses.

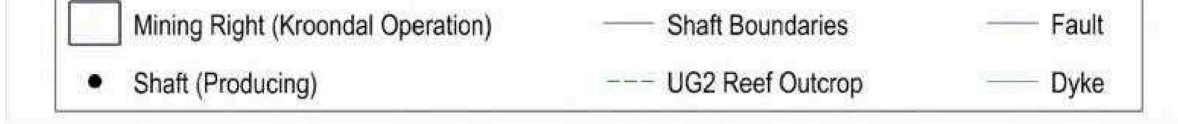
Geological losses can be segregated into known and unknown losses. Typically, faults and dykes, which have been positioned through various exploration/exposure methods, can be reasonably quantified as known losses and with high or medium degrees of confidence. Where the measurements become conjectural, then these losses become low confidence and would then form part of the unknown loss quantification.

Geological losses for the Kroondal Operations UG2 were estimated and signed off by the QP with the assistance of respective Shaft Geologists and Central Geologists per structural domain for each shaft. Losses are estimated in the underground mining operations and are then projected into future mining areas. Additional data sources that include aeromagnetic survey, seismic interpretation and borehole information are also used for the projected loss (Figure 30).

In summary, the UG2 total weighted average geological loss at the Kroondal Operations for the remnant Mineral Resource is 30.85% and represents a 1% increase from the previous year's geological losses.

Figure 30: Total Geological Losses for the UG2 Reef





11.3.2.2 Pay limits and Cut-off Grade

Historically, Kroondal Operations has not applied cut-off grades in their Mineral Resource /Mineral Reserve declaration. No cut-off grade is applied to the Mineral Resources quoted due to there being no mining selectivity based on the grades being applied at any of the Shafts at Rustenburg. The ore bodies are continuous and have persistent metal distribution profiles which has been used as the basis for reef identification, modelling, and exploitation.

To illustrate the prospects of economic extraction at the Mineral Resources cut-off grade, calculations were made based on economic and mining assumptions. The metal prices assumed in the calculation are the long-term prices (as at 2023) in Table 25. See Section 16.4 for a discussion on price determination.

Table 25: Commodity Price and Exchange Rate Assumptions for Mineral Resource Cut-off Calculations

6E Metals	Units	Long Term Mineral Resource Prices 2023
Platinum	USD/oz	1,500
Palladium	USD/oz	1,500
Rhodium	USD/oz	8,000
Gold	USD/oz	1,800
Iridium	USD/oz	3,000
Ruthenium	USD/oz	350
ZAR/USD		17.00

A basket price for the 6E metals was calculated by weighting each price by the metal's contribution to the 6E value for each reef package per individual operation. The contribution of base metals was not considered. The prill splits used per operation are shown in Table 26.

Table 26: 6E Prill Split Percentages Applied per Reef

Element	UG2 (Proportion)
Platinum	0.49
Palladium	0.26
Rhodium	0.09
Gold	0.01
Iridium	0.03
Ruthenium	0.13

Certain parameters were used in the cut-off calculations and include mining assumptions below and in Section 12.4. The first factor used is the Mineral Resource to Mineral Reserve factor and is calculated by factoring in the percentage of grade lost in the conversion from Mineral Resource to Mineral Reserve grade. Typically this would be due to dilution, Mine Call Factor and other modifying factors applied to the Mineral Resource. The total mining cost applied was the cost to deliver the ore to the concentrator before any processing costs or recoveries are applied.

The parameters assumed for the cut-off calculation for the UG2 Reef is detailed in Table 27.

Table 27: Parameters used in the cut-off calculation for the UG2 Reef

Operation	Parameters	Unit	UG2
Kroondal	Total Mining Cost	ZAR/t	870
	Mining Recovery grade adjustment	%	-65
	MCF	%	95

Based on the parameters assumed above for the cut-off calculation for the UG2 package, the following cut-off grade was calculated for the Kroondal Operations and these are detailed in Table 28. The 6E grades were used in the cutoff grade calculation and a conversion factor of 1.19 is used to estimate the 4E cut-off grade (Table 28).

Table 28: 4E Cut-off grades calculated for the UG2 Reef

	UG2
Cut-off grade (4E g/t))	1.14

The Mineral Resource tonnes and metals available at the cut-off grades calculated is no different from what is obtained using a 0 g/t cut-off grade. The UG2 Mineral Resources have no tonnes or metals below the cut-off. Due to this, all available blocks are reported to be available for mining.

11.4 Mineral Resource Statements

11.4.1 Mineral Resources

Mineral Resources are stated as both Exclusive (Table 30 and Table 31) and Inclusive of Mineral Reserves (Table 32 and Table 33). Mineral Resources are estimates of in-situ mineralisation (reference point) assessed to have reasonable prospects for economic extraction by the QP. These are the underground Mineral Resources at the shafts.

The Mineral Resource as stated, are not sensitive to changes in the PGM basket price, nor the ZAR/USD exchange rates. Therefore, no sensitivity analysis has been completed for Mineral Resources.

The Prill Split for the Mineral Resources is given in Table 29.

Table 29: Prill Split of the area covered by Mineral Resource as at 31 December 2023

Reef	Pt %	Pd %	Rh %	Au %
UG2	58.1	31.1	10.2	0.7

Notes on the Mineral Resource Tabulations:

- Mineral Resources are not Mineral Reserves.
- Mineral Resources have been reported in accordance with the classification criteria of Subpart 1300 of Regulation S-K.
- Information on metal prices is found in Section 16.
- Attributable Mineral Resources are 87%.
- Mineral Resource is calculated on available blocks. Due to non-selective mining, no cut-off grade is applied, and no recovery is considered at this stage.
- Mineral Resources are reported after the removal of geological losses.
- Quantities and grades have been rounded to one decimal place; therefore minor computational errors may occur.
- Technical and economic factors are discussed in Section 11.3.2.
- Risks are discussed in Section 21.

Table 30: Mineral Resources Exclusive of Mineral Reserves at 100% as at 31 December 2023

Classification – 4E	Tonnes (Mt)		4E Grade (g/t)		4E (Moz)	
	31 Dec 23	31 Dec 22	31 Dec 23	31 Dec 22	31 Dec 23	31 Dec 22
Underground						
Measured	29.1	31.0	3.3	3.4	3.1	3.4
Indicated	5.6	9.5	3.3	3.8	0.6	1.2
Total Measured and Indicated	34.7	40.5	3.3	3.5	3.7	4.5
Inferred	0.0	4.9	0.0	3.0	0.0	0.5
Total Underground	34.7	45.5	3.3	3.4	3.7	5.0

Table 31: Attributable Mineral Resource Exclusive of Mineral Reserves as at 31 December 2023

Classification – 4E	Tonnes (Mt)		4E Grade (g/t)		4E (Moz)	
	31 Dec 23	31 Dec 22	31 Dec 23	31 Dec 22	31 Dec 23	31 Dec 22
Underground						
Measured	25.3	15.5	3.3	3.4	2.7	1.7
Indicated	4.8	4.7	3.3	3.8	0.5	0.6
Total Measured and Indicated	30.2	20.3	3.3	3.5	3.2	2.3
Inferred	0.0	2.5	0.0	3.0	0.0	0.2
Total Resource	30.2	22.7	3.3	3.4	3.2	2.5

Table 32: Mineral Resources Inclusive of Mineral Reserves at 100% as at 31 December 2023

Classification – 4E	Tonnes (Mt)		4E Grade (g/t)		4E (Moz)	
	31 Dec 23	31 Dec 22	31 Dec 23	31 Dec 22	31 Dec 23	31 Dec 22
Underground						
Measured	42.6	48.4	3.3	3.3	4.5	5.2
Indicated	5.6	9.5	3.3	3.8	0.6	1.2
Total Measured and Indicated	48.2	57.9	3.3	3.4	5.1	6.3
Inferred	0.0	4.9	0.0	3.0	0.0	0.5
Total Resource	48.2	62.9	3.3	3.3	5.1	6.8

Table 33: Attributable Mineral Resource Inclusive of Mineral Reserves as at 31 December 2023

Classification – 4E	Tonnes (Mt)		4E Grade (g/t)		4E (Moz)	
	31 Dec 23	31 Dec 22	31 Dec 23	31 Dec 22	31 Dec 23	31 Dec 22
Underground						
Measured	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Measured	37.0	24.2	3.3	3.3	3.9	2.6
Indicated	4.8	4.7	3.3	3.8	0.5	0.6
Total Measured and Indicated	41.9	29.0	3.3	3.4	4.4	3.2
Inferred	0.0	2.5	0.0	2.9	0.0	0.2
Total Resource	41.9	31.4	3.3	3.4	4.4	3.4

11.4.2 Mineral Resources per Mining Area (Inclusive of Mineral Reserves)

The Full Mineral Resource(100%) statements per mining area at 31 December 2023 is given in Table 34 Table 35, exclusive and inclusive of Mineral Reserves.

Table 34: Mineral Resource Exclusive of Mineral Reserves per Mining Area as at 31 December 2023 at 100%

4E PGM per Mining Area	Measured			Indicated			Inferred		
	Tonnes (Mt)	4E Grade (g/t)	4E PGM (Moz)	Tonnes (Mt)	4E Grade (g/t)	4E PGM (Moz)	Tonnes (Mt)	4E Grade (g/t)	4E PGM (Moz)
Kwezi	0.7	2.9	0.1	0	0	0	0	0	0
K6	0.3	3.0	0.0	0	0	0	0	0	0
Kopaneng	0.5	2.9	0.0	0	0	0	0	0	0
Simunye	0.0	3.1	0.0	0	0	0	0	0	0
Bambanani	5.4	3.2	0.6	0.05	0	0	0	0	0
Marikana	22.2	3.4	2.4	5.5	3.3	0.6	0	0	0
Grand Total Underground	29.1	3.3	3.1	5.6	3.3	0.6	0	0	0

Table 35: Mineral Resource Inclusive of Mineral Reserves per Mining Area as at 31 December 2023 at

100%

4E PGM per Mining Area	Measured			Indicated			Inferred		
	Tonnes (Mt)	4E Grade (g/t)	4E PGM (Moz)	Tonnes (Mt)	4E Grade (g/t)	4E PGM (Moz)	Tonnes (Mt)	4E Grade (g/t)	4E PGM (Moz)
Kwezi	4.0	3.1	0.4	0	0	0	0	0	0
K6	0.9	3.0	0.1	0	0	0	0	0	0
Kopaneng	1.0	2.7	0.1	0	0	0	0	0	0
Simunye	0.0	3.1	0.0	0	0	0	0	0	0
Bambanani	14.4	3.2	1.5	0	0	0	0	0	0
Marikana	22.2	3.4	2.4	5.5	3.3	0.6	0	0	0
Grand Total Underground	42.6	3.3	4.5	5.5	3.3	0.6	0	0	0

11.4.3 Changes in the Mineral Resources from Previous Estimates (Inclusive of Mineral Reserves)

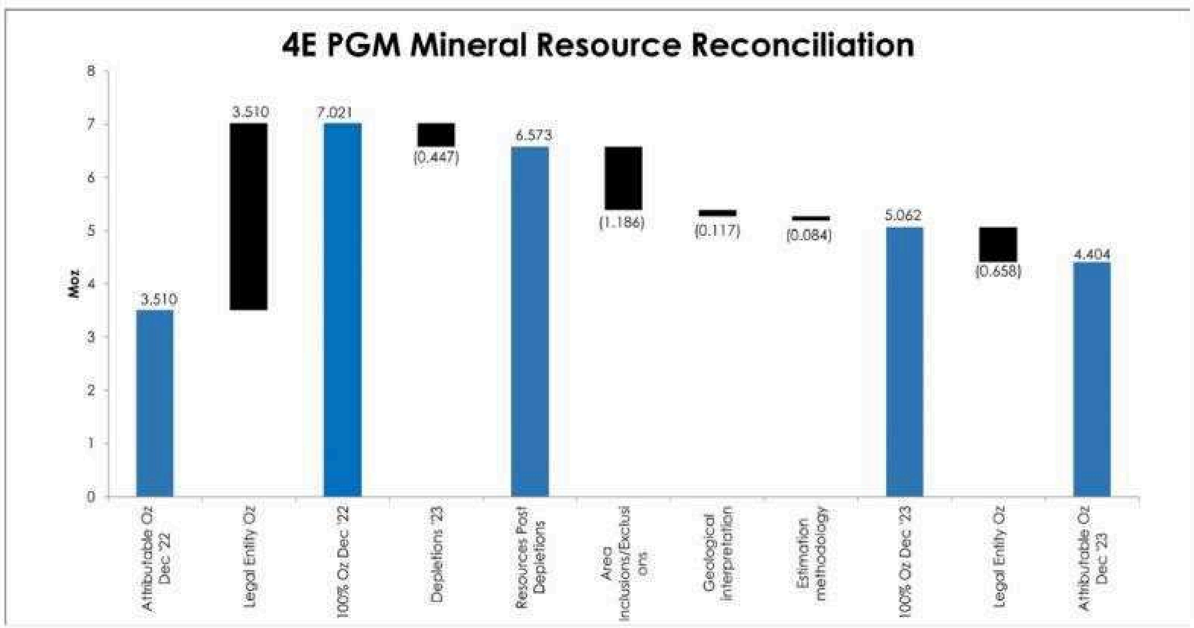
The 2023 estimation varies from the 2022, as shown in the waterfall (Figure 31). Mineral Resource depletion due to mining is 0.45 Moz. Changes due to geological losses, new data and area exclusions mines resulted in a decrease of 0.2 Moz. The 1.186 Moz in area exclusions is due to the removal of open pit Mineral Resources that will be sterilised as a result of the planned new Marikana PSA tailings facility. The Klipfontein open pit is mined out and is no longer reported in Mineral Resources or Mineral Reserves.

It is not possible to fully separate changes only to the exclusive Mineral Resources as geology, methodology, rock engineering, pillars and economic parameters are global estimates and cannot be localized to exclusive Mineral Resources.

There were no material changes to the estimation or classification parameters between December 2022 and December 2023.

The portion attributable to other stakeholders (3rd Party) is 0.7Moz.

Figure 31: Kroondal Operations Underground Mineral Resource Reconciliation



11.4.4 Metal Equivalents

All estimates are presented as 4E comprising various proportions of platinum, palladium, rhodium, and gold. This is discussed in detail in Section 11.3.2 and the proportions are presented in Table 29, Section 11.4.1.

11.5 QP Statement on the Mineral Resource Estimation and Classification

The Mineral Resources declared are estimated based on the geological facies (geozones) and constrained by appropriate geostatistical techniques, using Ordinary Kriging for elements with sufficient data and ID (Inverse distance to the power of two) estimates for elements with limited data. The Mineral Resource classification follows geostatistical and geological criteria developed by Sibanye-Stillwater for PGM Mineral Resource classification. The Mineral Resources are declared inside the structural blocks and outside of the mined-out areas. All Mineral Resources reported are considered to be of sufficient quality to justify a reasonable prospect for economic extraction. The underlying grade control and reconciliation processes are considered appropriate.

It is the QP's opinion that all issues relating to any technical or economic factors that would be likely to influence the condition of reasonable prospects for economic extraction are addressed or can be resolved with further work.

12 Mineral Reserve Estimates

This section includes discussion and comments on the conversion of Mineral Resources to Mineral Reserves. Specifically, comment is given on the mine planning process, historical production from the last five years, cut-off grades and modifying factors, Life-of Mine- plan (LOM) and specific inclusions and exclusions. The mineral reserves statement includes the global Mineral Reserves and Mineral Reserves per shaft, as well as comments on the sensitivity of the Mineral Reserves to cut-off grades and input costs. Mining methods and Infrastructure are discussed in Sections 13 and 15. A map of the LOM layout l is found in Section 13.9. Commodity pricing and financial information are found in Sections 16, 18 and 19.

Section 12.4.2 and Table 38, Section 13.9 provide details of the LoM plan from 2024 to 2037.

12.1 Mineral Reserve Methodology

The economic unit is the shaft and its Mineral Resources. Mine planning is done on a 100 metre strike section with 10m panels in a section with an advance of 25-30m per month. There is no block selection using a cut-off grade in the Mineral Reserve classification. The following factors are considered in aggregate for mine planning and Mineral Reserve:

- Mining
- Metallurgical
- Processing
- Infrastructural
- Economic
- Marketing
- Legal and
- Environmental, social, and governmental factors.

Mineral Reserve classification follows from the Mineral Resource classification i.e., Proven Mineral Reserves are derived from Measured Mineral Resources, Probable Mineral Reserves are derived from Indicated Mineral Resources and No Inferred Mineral Resources are included in the LOM plan or converted to Mineral Reserves.

12.2 Mine Planning Process

The following planning process applies at the Kroondal Operations:

- Appoint and ensure competence in mine planning responsibilities per section;
- Consider the planning cycle for which the plan is to be prepared;
- Obtain an updated geological structural model for design purposes;
- Obtain/determine future planning levels for the Operation. Identify output levels for the Operation (4E target/tonnage required, development targets);
- Break these down per individual operating level;
- Liaise with all Senior Vice Presidents, Vice Presidents of Operations and business unit management teams and brief anticipated production levels and efficiency rates;
- Evaluate historical efficiencies against future planned efficiencies and reach an agreement on planning performance levels;
- Provide base plans for each business unit and determine the numbers of crews and scheduling systems per business unit;
- Document and file all tunnel dimensions and advance rates;
- Review tunnel dimensions with Ventilation, Rock Engineering, Evaluation and Mining Engineering teams;
- Agree and reach consensus on all stoping layouts, ledging and extraction sequencing/methodologies;
- Review and sign-off with all appropriate Mining Unit Management Teams;
- Document the planned parameters in a shaft or unit planning brief;
- Commence designing of mine plan. Specify capital and preferably separate individual elements for later revision. Ensure naming of working place, etc.
- Review development and stoping mine design with appropriate business unit management team members and ancillary support staff, including Mineral Resource Management department competencies;
- Modify if required, or accept and commence with scheduling based on agreed scheduling parameters per area;
- Review schedules and outputs in terms of production with Vice Presidents of Operations to ensure appropriate levels of production and volume efficiencies are obtained for that unit;
- Communicate with all service staff (occupational health (environmental ventilation), rock engineering), and engineering for shaft capacities;
- Modify and revise as required with appropriate staff;

- Consolidate all sections to create an overall operational performance plan;
- Run evaluation module/grid and determine 4E output;
- Provide shaft or unit-based data in terms of volume and grade into the acceptable standard database and reporting format;
- Review total plan with MRM staff competencies heads;
- Revise and review again if required;

- Submit for final review with Senior Vice Presidents and Vice Presidents of Operations to ensure operational targets and performance levels are reached;
- Submit to the Unit Manager Mine Planning to prepare an appropriate format and for submission to the Financial Department for total mine financial evaluation;
- Identify all areas where differences in design can or may require additional feasibility study work in the future. These would include declines, new shafts, and alternative layouts. Generate cost models in conjunction with the Project Office;
- Review mining plan with rock engineers and provide data sets for design modelling. Obtain the support of acceptance of plan as far as rock engineering is concerned;
- Review mining plan with occupational health (ventilation) engineers and provide data sets for design modelling. Obtain written support of acceptance of plan as far as occupational health is concerned;
- Review with all mining engineering staff and gain acceptance and commitment to plan. Generate and provide appropriate schedules and plans for all Manager Operations;
- Consider alternative scenarios relating to rates of advance, alternative layouts, and risk mitigation;
- Formally document all capital projects and compile consolidated project reports for each project;
- Reconcile the planning Mineral Reserves per shaft with scheduled and designed Mineral Reserves and account for all differences. Modify the plan to eliminate all differences. This reconciliation is an MRM competency head process;
- Prepare Operational/ Strategic Plan presentation to SA Regional EXCO;
- Modify and amend where required;
- Complete the final cycle of the planning process and document all parameters. Make a digital backup of the Mineral Reserve model, design model, schedule model, and all associated worksheets/presentation;
- Roll out and communicate the final plan to all Business Units with prints of appropriate plans and spreadsheets. Confirm and identify all critical development; and,

- Review and modify on a monthly basis actual achievement vs planned volumes.

12.3 Historical Mining Parameters

The planning parameters are primarily based on historical achievements. Table 36 provides the historical mining performance for the Kroondal Operations, where mining expenditures are stated in nominal terms.

Historical mining statistics for the shafts from 2019 to 2023, as well as historical averages are presented in Table 36.

Table 36: Historical Mining Statistics by Section

Shaft	Units	2019	2020	2021	2022	2023
Kwezi						
Primary Reef Development	(m)	2,984	1,432	1.909	1.790	1,078
Primary Waste Development	(m)	92	325	136	371	56
Stoping Square metres	(m2)	225,907	159,417	157.314	122.116	96,754
Tonnes Milled	(kt)	1,782	1,273	1.235	997	784,296
4E ounces M&C	(oz)	118,941	86,237	79.450	61.603	47,630
K6						
Primary Reef Development	(m)	2,147	1,378	1.653	1.611	1,888
Primary Waste Development	(m)	34	78	-	-	
Stoping Square metres	(m2)	197,268	148,749	199.430	184.016	185,789
Tonnes Milled	(kt)	1,720	1,318	1.660	1.525	1,487
4E ounces M&C	(oz)	116,578	88,898	112.122	98.157	92,961
Simunye						
Primary Reef Development	(m)	1,443	196	109	515	675
Primary Waste Development	(m)	99	657	-	-	
Stoping Square metres	(m2)	208,728	161,127	191.590	91.437	4,753
Tonnes Milled	(kt)	1,729	1,256	1.434	843	326
4E ounces M&C	(oz)	109,348	78,894	92.325	52.193	17,480
Bambanani						
Primary Reef Development	(m)	2,593	2,198	2.055	2.939	3,805
Primary Waste Development	(m)	-	-	45	-	565
Stoping Square metres	(m2)	155,371	119,803	146.005	141.066	123,512
Tonnes Milled	(kt)	1,199	925	1.117	1.055	1,017
4E ounces M&C	(oz)	83,202	63,515	71.526	64.053	61,571
Kopaneng						
Primary Reef Development	(m)	2,668	1,824	1.809	1.879	3,676
Primary Waste Development	(m)	44	276	791	249	
Stoping Square metres	(m2)	195,775	143,428	189.516	171.343	158,500
Tonnes Milled	(kt)	1,688	1,222	1.561	1.508	1,378
4E ounces M&C	(oz)	101,742	76,151	95.672	87.804	76,807
Total Underground Kroondal Operations						
Primary Reef Development	(m)	11,835	7,028	7.428	8.736	11,122

Primary Waste Development	(m)	269	1,336	1.083	620	621
Stoping Square metres	(m2)	983,048	732,524	883.855	709.978	569,308
Tonnes Milled	(kt)	8,119,781	5,993,797	7.007	5.929	4,993
4E ounces M&C	(oz)	529,811	393,695	451.096	363.810	296,450

12.4 Shaft and Mine Pay limits

12.4.1 Pay limits

- No pay limits are applied to the Mineral Resources and Mineral Reserves. There is no mining selectivity based on the grades applied at any of the Shafts at Kroondal Operations.
- Costs for the LoM plan were derived from the actual 2023 costs and are based on the 2024 production plan. Costs used in the Operational Plan have been benchmarked against current costs with adjustments made for inflation and labour costs.
- With the UG2 Reefs having low grade variability, all available blocks are reported to be mined, essentially a blanket mining approach is applied.
- Refer to section 11.3.2.2 for more information on pay limits and cut-off grades.

12.4.2 Modifying Factors

Table 37 provides details of the projected modifying factors. Table 38 and Table 39present the LoM plan. Dilution is variable across the property and is included in the stope widths. A separate dilution factor is not used as a modifying factor.

Recent history is used to determine an appropriate Mine Call Factor for the LoM Plan.

The Mineral Reserve classification of Proven and Probable was largely a function of the Mineral Resource classification with due consideration of the minimum criteria for the "Modifying Factors" as considered:

- Mining
- Metallurgical
- Processing
- Infrastructural

- Economic
- Marketing
- Legal and Environmental, Social and Governmental factors.

Table 37: Mineral Reserve Modifying Factors – Underground Operations

Kroondal	Unit	2021	2022	2023	2024
Survey Called For Grade					
UG2 Reef	g/t	2.6	2.5	2.5	2.6
Stope Width					
UG2 Reef	(cm)	223	225	225	223
Waste Mining Percentage					
UG2 Reef	(%)	7	7	6	7
Scalping					
UG2 Reef	(%)	3	4	3	3
Reef Development to Mill					
UG2 Reef	(%)	6	7	11	4
Mine Call Factor					
UG2 Reef	(%)	95	95	95	95
Plant Recovery Factor					
UG2 Reef	(%)	83	83	82	82

Table 38: LoM Plans – Current Operations 2024-2033

Kroondal Operations	Units	LoM	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
			1	2	3	4	5	6	7	8	9	10
Underground												
Primary On-Reef Development	(m)	20,774	10,607	7,185	2,621	361	0	0	0	0	0	0
Primary Off-Reef Development	(m)	2,868	1131	1178	466	92	0	0	0	0	0	0
ROM (Mil)l Tonnes**	(kt)	28,618	5,403	4,845	4,320	2,668	1,795	1,172	1,135	1,221	1,192	1228
ROM Grade (g/t)	g.t	2.44	2.37	2.39	2.39	2.39	2.41	2.56	2.33	2.55	2.59	2.56
Recovery	(%)	81.8	81.5	81.6	81.6	81.6	81.4	81.4	80.8	82.5	82.7	82.5
Yield	(g/t)	2.00	1.93	1.95	1.95	1.95	1.96	2.11	1.89	2.11	2.14	2.11
4E Produced	kg	57,145	10,454	9,451	8,424	5,172	3,518	2,474	2,142	2,574	2,555	2,592
4E Produced	(kOz)	1,837	336	304	271	271	113	80	69	83	82	83

**Includes tonnage from Rustenburg Mine accessed through the Kroondal infrastructure see Section 21 for more information.

Table 39: LoM Plans – Current Operations 2034-2037

Kroondal Operations	Units	LoM	2034	2035	2036	2037
			1	2	3	4
Underground						
Primary On-Reef Development	(m)	20774	0	0	0	0
Primary Off-Reef Development	(m)	2,868	0	0	0	0
ROM (Mil)l Tonnes**	(kt)	28,618	1,202	1,106	788	541
ROM Grade (g/t)	(g/t)	2.44	2.53	2.56	2.69	2.64
Recovery	(%)	81.8	82.3%	82.5%	83.4%	83.1%
Yield	(g/t)	2.00	2.08	2.11	2.24	2.19
4E Produced	kg	57,145	2,503	2,332	1,768	1,186
4E Produced	(kOz)	1837	80	75	57	38

**Includes tonnage from Rustenburg Mine accessed through the Kroondal infrastructure see Section 21 for more information.

12.5 LoM Projects

There are no LOM projects.

12.6 Specific Inclusions and Exclusions

The decision on whether to include or exclude potential mining areas is based on a detailed review, which includes:

- Health and safety considerations,
- Economic viability,
- Technical justification,
- Ability to mine the area and,
- Infrastructure availability constraints.

All areas included in the LoM plan are mined from the current infrastructure and are a normal continuation of mining.

12.6.1 Specific Exclusions:

- Areas with adverse ground conditions after evaluation by Rock Engineering and other service departments and mining,
- Off-reef areas where there are no requirements such as ventilation or infrastructure.

12.6.2 Specific Inclusion:

- Areas required for Ventilation or specific infrastructure development.

12.7 Mineral Reserve Estimation

The tonnage and grades scheduled in Measured Mineral Resources are classified as Proven Reserves and those in the Indicated Mineral Resources are classified as Probable Reserves. No Measured Mineral Resources were converted to Probable Reserves (Figure 32).

The Mineral Reserve estimation process at the Kroondal Operations is based on the development of an appropriately detailed and engineered LoM plan, which accounts for all necessary access development and stope designs.

Further, in presenting the Mineral Reserve statements and associated sensitivities, the following key assumptions apply:

- All Mineral Reserves are quoted as of 31 December 2023.
- All Mineral Reserves are quoted at prices listed in Table 55 in Section 16.4.
- Mineral Reserves are attributable at 87% with respect to ownership.
- All Mineral Reserves are quoted in terms of the expected RoM grades and tonnage delivered to the metallurgical processing facilities, and the quantities reported account for dilution.
- Mineral Reserves include only Measured and Indicated Mineral Resources modified to produce Mineral Reserves and contained in the LoM plan.

- All Mineral Reserves are evaluated to at least a Pre-Feasibility level within cost limits as given in Section 21.1.1 and,

- All references to Mineral Resources and Mineral Reserves are stated in accordance with Subpart 1300 of Regulation S-K.

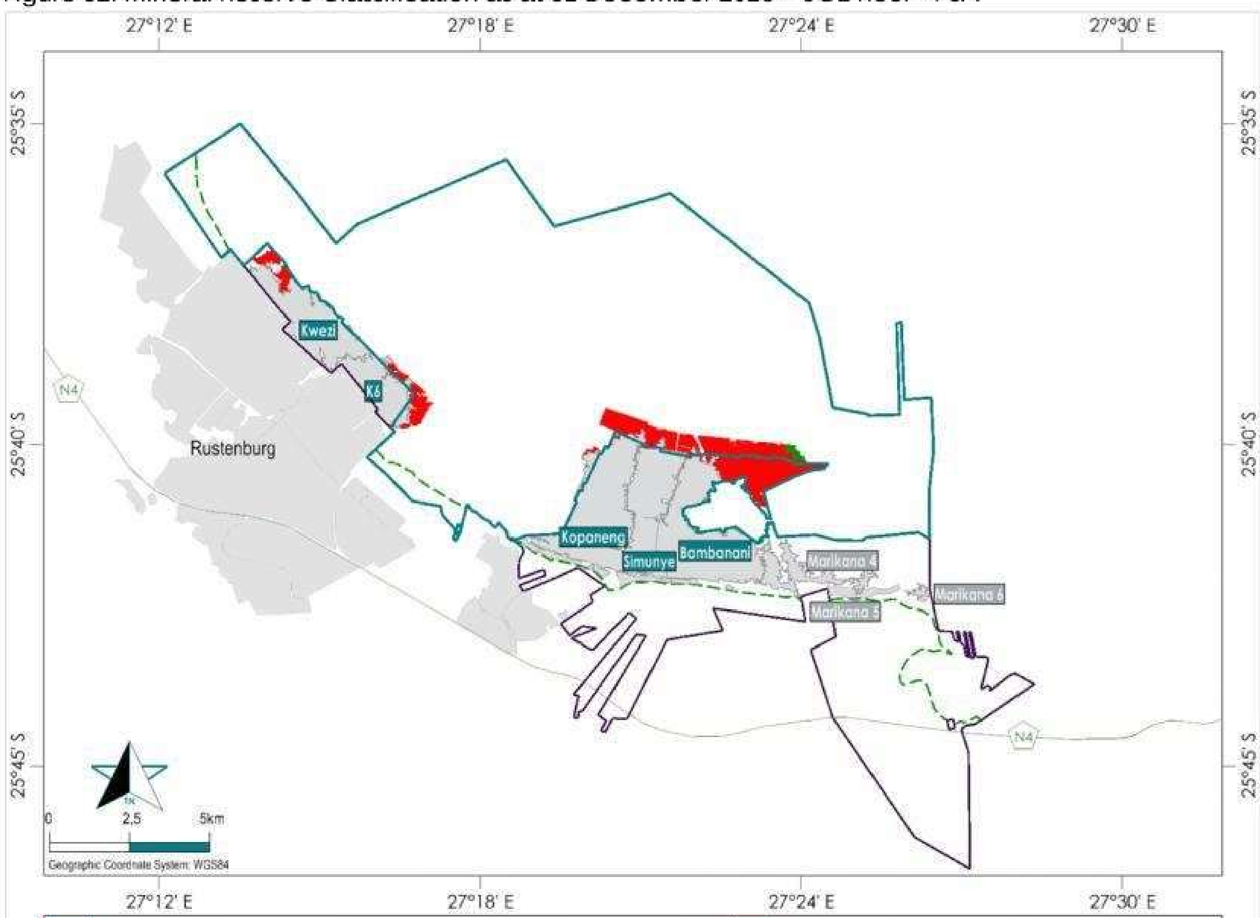
The Mineral Reserves are derived following the production of a LoM plan by incorporating Modifying Factors into the Mineral Resource model. All design and scheduling work is undertaken within Cadsmine, a mine planning and scheduling program. The planning process incorporates appropriate Modifying Factors based on the reconciliation exercises described and technical economic investigations.

The mill tonnes are quoted as the expected metric tonnes delivered to the concentrator. Grades are inclusive of all mining dilutions and 4E losses except mill recovery.

Mine dilution includes other material, which is waste that is broken on the mining horizon, other than on the stope face and includes unknown geological losses.

Mineral Reserves classification is given in Figure 32.

Figure 32: Mineral Reserve Classification as at 31 December 2023 – UG2 Reef - PSA




Mining Right (Rustenburg Operations)
Mining Right (Kroondal Operations)
Mineral Reserves Category
Proved
Probable
Shaft (Producing)
Shaft (Non-Producing)
Towns
UG2 Reef Outcrop
UG2 Reef Mined Out
National Roads (N)

12.8 Surface Sources

There are no surface sources in the Mineral Reserves.

12.9 Mineral Reserves Statement

The Prill Split for the Mineral Reserves is given in Table 40.

The Mineral Reserves are given in Table 41 and Table 42.

Mineral Reserve per shaft is given in Table 43 and Table 44.

Figure 33 shows the main changes year on year are due to various factors.

Notes on the Mineral Reserve Tables

- Mineral Reserve was reported in accordance with the classification criteria of Regulation SK1300.
- Mineral Reserve was estimated on all available blocks accessible from the infrastructure and no cut-off grade was applied.
- Attributable Mineral Reserve is 87.00%.
- Where 4E, Pt, Pd, Rh, Au is less than 0.05Moz, the value will reflect as zero(0) in the table.
- The prices used to estimate Mineral Reserves as well as the explanations for the selected prices and material assumptions underlying such selections are discussed in Section 16.4.
- The average recovery factor for the UG2 is 82% (Section 12.4.2).
- Risks are discussed in Section 21.1.2.

Table 40: Prill Split and Recovery for Mineral Reserves

Prill Split	Pt	Pd	Rh	Au	Recovery
	%	%	%	%	%
UG2	58..1	31.1	10.2	0.7	82%

Table 41: Mineral Reserve as at 31 December 2023 at 100%

Classification – 4E	Tonnes (Mt)		4E Grade (g/t)		4E (Moz)	
	31 Dec 23	31 Dec 22	31 Dec 23	31 Dec 22	31 Dec 23	31 Dec 22
Underground						
Proven	10.5	14.9	2.5	2.5	0.8	1.2
Probable	0	0	0	0	0	0
Total Underground	10.5	14.9	2.5	2.5	0.8	1.2
Surface						
Proven	0	1	0	3.4	0	0.1
Probable	0	0	0	0	0	0
Total Surface	0	1	0	3.4	0	0.1
Total Proven	10.5	15.9	2.5	2.6	0.8	1.3
Total Probable	0.0	0.0	0.0	0.0	0.0	0.0
Total Mineral Reserve	10.5	15.9	2.5	2.6	0.8	1.3

Table 42: Attributable Mineral Reserve as at 31 December 2023 at 87%

Classification – 4E	Tonnes (Mt)		4E Grade (g/t)		4E (Moz)	

	31 Dec 23	31 Dec 22	31 Dec 23	31 Dec 22	31 Dec 23	31 Dec 22
Underground						
Proven	9.1	7.4	2.5	2.5	0.7	0.6
Probable	0.0	0.0	0.0	0.0	0.0	0.0
Total Underground	9.1	7.4	2.5	2.5	0.7	0.6
Surface TSF						
Proven TSF	0.0	0.5	0.0	3.4	0.0	0.1
Probable TSF	0.0	0.0	0.0	0.0	0.0	0.0
Total Surface	0.0	0.5	0.0	3.4	0.0	0.1
Total Proven	9.1	8.0	2.5	2.6	0.7	0.7
Total Probable	0.0	0.0	0.0	0.0	0.0	0.0
Total Mineral Reserve	9.1	8.0	2.5	2.6	0.7	0.7

Figure 33: The Kroondal Operations Mineral Reserve Reconciliation at 31 December 2023

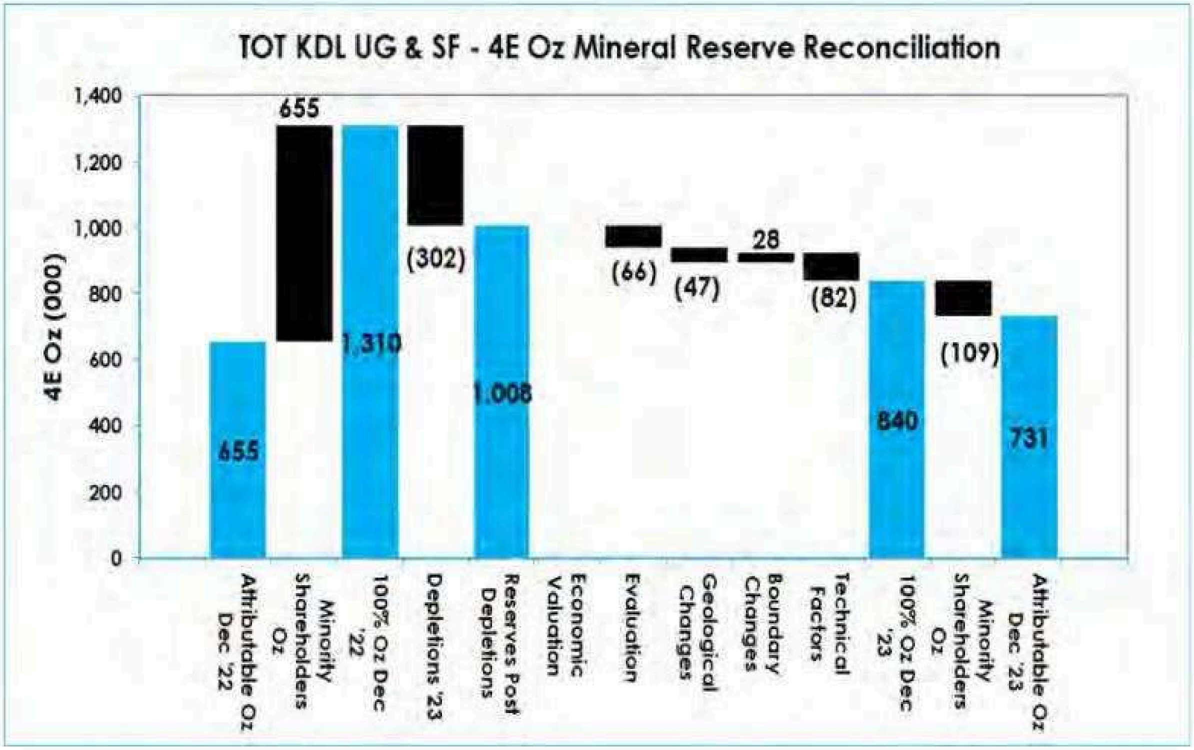


Table 43: Mineral Reserve per Mining Area as at 31 December 2023 at 100%

4E PGM per Mining Area	Proven			Probable			Total Dec-23		
	Tonnes (Mt)	4E Grade (g/t)	4E PGM (Moz)	Tonnes (Mt)	4E Grade (g/t)	4E PGM (Moz)	Tonnes (Mt)	4E Grade (g/t)	4E PGM (Moz)
Kwezi	1.9	2.2	0.1	0	0	0	1.9	2.2	0.1
K6	0.4	2.6	0	0	0	0	0.4	2.6	0
Kopaneng	0.1	2.4	0	0	0	0	0.1	2.4	0
Simunye	0	0	0	0	0	0	0	0	0
Bambanani	8.1	2.6	0.7	0	0	0	8.1	2.6	0.7
Total Underground	10.5	2.5	0.8	0	0	0	10.5	2.5	0.8
Total: Surface Open-pit	0	0	0	0	0	0	0	0	0
Grand Total (Underground and Surface)	10.5	2.5	0.8	0	0	0	10.5	2.5	0.8

Table 44: Mineral Reserve per Mining Area as at 31 December 2023 at 87%

4E PGM per Mining Area	Proven			Probable			Total Dec-23		
	Tonnes (Mt)	4E Grade (g/t)	4E PGM (Moz)	Tonnes (Mt)	4E Grade (g/t)	4E PGM (Moz)	Tonnes (Mt)	4E Grade (g/t)	4E PGM (Moz)
Kwezi	1.7	2.2	0.1	0.0	0.0	0.0	1.7	2.2	0.1
K6	0.3	2.6	0.0	0.0	0.0	0.0	0.3	2.6	0.0
Kopaneng	0.1	2.4	0.0	0.0	0.0	0.0	0.1	2.4	0.0
Simunye	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bambanani	7.1	2.6	0.6	0.0	0.0	0.0	7.1	2.6	0.6
Total Underground	9.1	2.5	0.7	0.0	0.0	0.0	9.1	2.5	0.7
Total: Surface Open-pit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Grand Total (Underground and Surface)	9.1	2.5	0.7	0.0	0.0	0.0	9.1	2.5	0.7

12.10 Mineral Reserve Sensitivity

- Mineral Reserves like Mineral Resources are not sensitive to grade for three reasons:
- Blocks that cannot be mined for geological or other technical reasons are excluded from the Mineral Resource and are not available for Mineral Reserves,
- The UG2 Reef has a low-grade variability, and
- All available blocks in the Mineral Resource are above the nominal cut-off grade (Section 11.3.2.2), and are reported to be mined, essentially a non-selective mining approach.

The primary factors limiting the Mineral Reserves are:

- Access to Mineral Resource blocks (infrastructure)
- Exclusions listed in Section 12.6 and
- Long term major changes in prices or input costs which can affect shaft sustainability or new project introduction.

12.11 QP Statement on the Mineral Reserve Estimation

The Mineral Reserves declared are estimated from detailed LoM plans developed per shaft and are based on the Mineral Resource Estimates as at 31 December 2023 together with a set of modifying factors based on recent historical achievements. The assumptions applied in determining the modifying factors are reasonable and appropriate. The mine plan has sufficient detail to ensure achievability. All the inputs used in the estimation of the Mineral Reserves have been thoroughly reviewed and can be considered technically robust. The QP considers the modifying factors to be based on a robust historical database of several years history and no material changes are anticipated that will have a significant bearing on the estimation process. Risks to the Mineral Reserve are further discussed in Section 21.

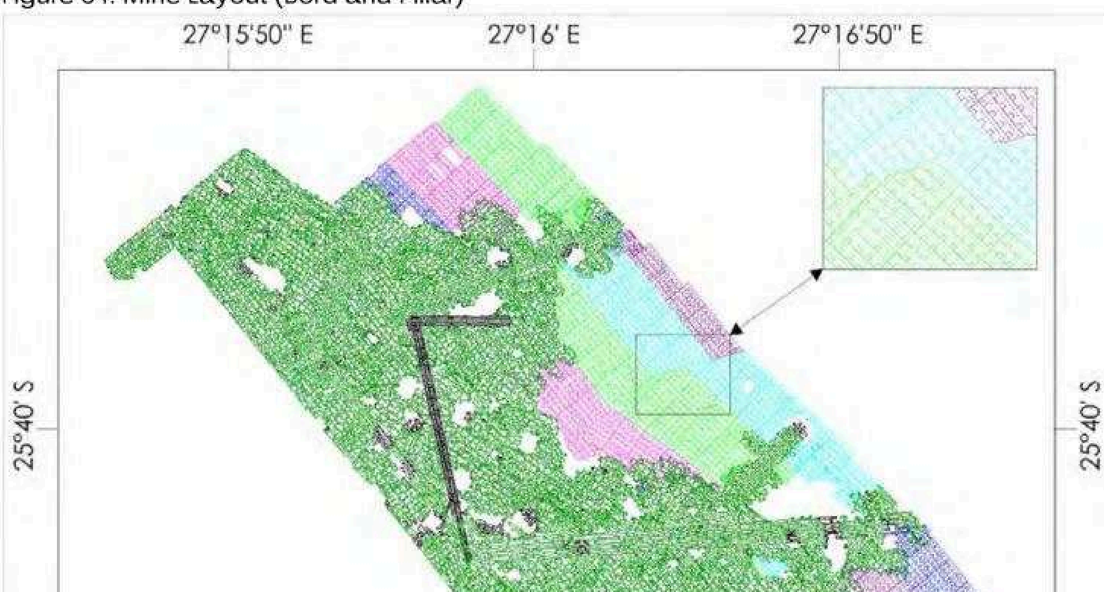
13 Mining Methods

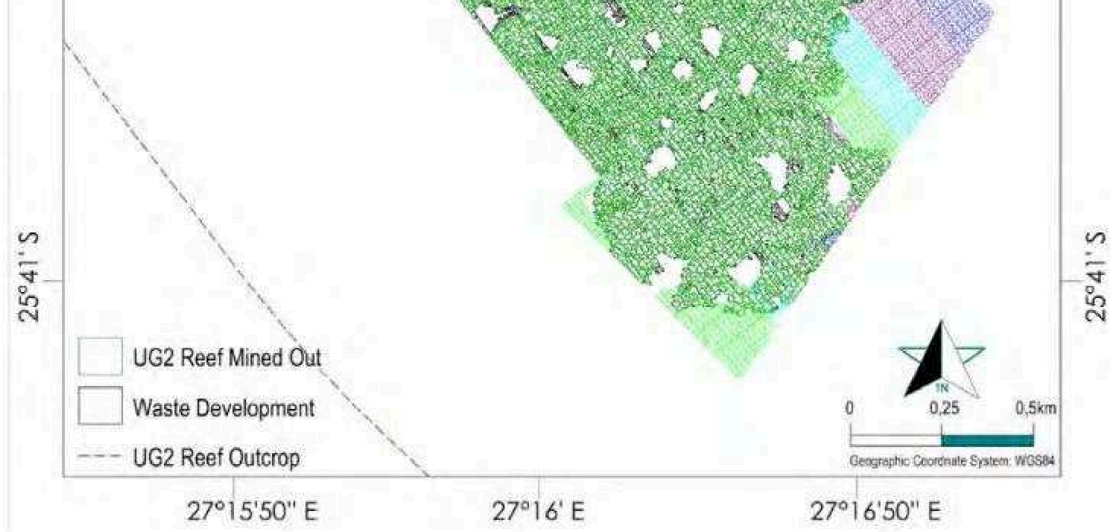
13.1 Introduction

This section includes discussion and comments on the mining engineering related aspects of the LoM plan associated with Kroondal Operations. Specifically, the comment is given on the mine planning process, mining methods, geotechnics, underground environment management.

The mine layout is presented in Figure 34.

Figure 34: Mine Layout (Bord and Pillar)




25°41' S
25°41' S
UG2 Reef Mined Out
Waste Development
UG2 Reef Outcrop
0
0,25
0,5km
Geographic Coordinate System: WGS84
27°15'50" E
27°16' E
27°16'50" E

13.2 Shaft Infrastructure, Hoisting and Mining Method

13.2.1 Shaft Infrastructure

Kroondal Operations consist of large, established shallow level mechanised PGM mines in the Bushveld Complex accessed from the surface utilizing decline systems.

Kroondal Operations comprise five shafts that have the same decline systems and mining method, i.e. bord and pillar.

Figure 35 shows the Townlands Section (Kwezi and K6 Shafts) infrastructure and Figure 36 shows longitudinal sections of the Eastern Kroondal Operations mining units (Kopaneng, Simunye and Bambanani).

Figure 35: Townlands Section Infrastructure (not to scale)

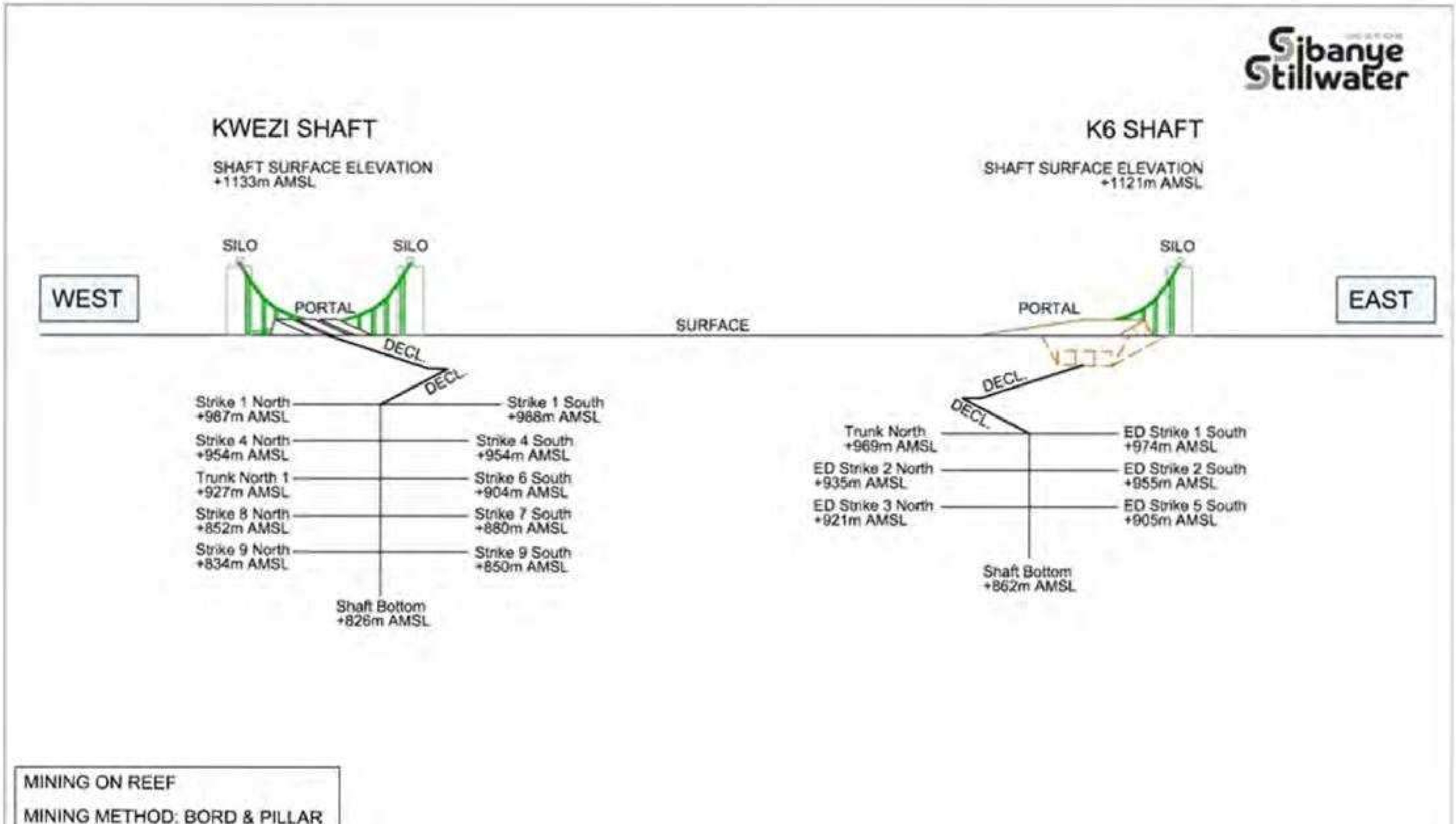
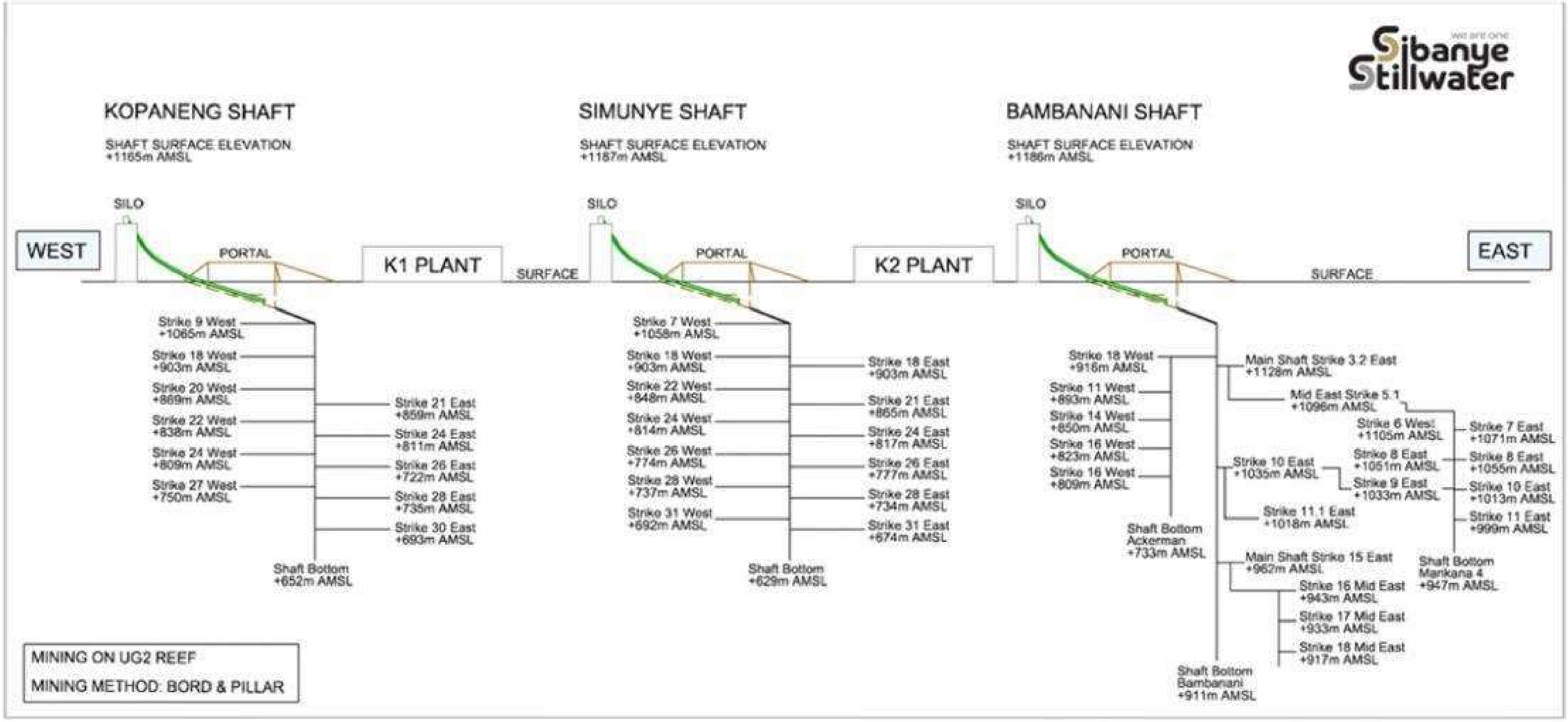


Figure 36: Kroondal Section Infrastructure (Not to scale)



13.2.2 Hoisting

All underground mining operations are accessed via decline ramp systems. The hoisting capacities are presented in Table 45.

Blasted material is transported to the tipping places underground with low profile Load Haul Dump (LHD) machines. At the tips, broken material is screened at grated grizzlies. From the grizzlies, the material is automatically loaded onto an intricate system of conveyor belts. Material is moved from underground via conveyor belt systems to surface storage silos before being transported again via the conveyor belt system, trains, and trucks to the processing plants.

Table 45: Hoisting Capacities of the Kroondal Shafts

Shaft	Operating Capacity (ktpm)	5-year Planned production (ktpm)
Kwezi	72	57
K6	135	101
Kopaneng	136	113
Simunye	160	0
Bambanani	108	102

13.2.3 Mining Methods

The mining method applied at all Kroondal Operations shafts is mechanised bord and pillar. There are, however, a few sections where handheld drill and blast operations take place. The mining unit at Kroondal Operations is the UG2 Reef which consists of a UG2L (Leader Seam), approximately 20 cm thick, a UG2P (parting waste) of variable thickness and the UG2 (Main Seam). The UG2P is unmineralized and hence undesirable but has to be mined to extract the mineralised UG2 and UG2L. Mining employs a specialized drilling pattern in the UG2P to create large rocks that will not pass through the grizzly so that they can be separated from the ore material going to the surface and packed in back areas underground. This technique improves the quality of the ore that is mined from underground to the processing plant.

No backfilling is used on underground operations. Open pit mining has ceased. There is no requirement for stripping in the open-pit operations.

The overall Mine layout is shown in Section 13.8.

13.3 Geotechnical Analysis

The TRS has been compiled with generally appropriate input from qualified rock engineers. Strategic planning and major design issues were completed with the relevant input from the responsible rock engineers. The primary aspects making up the geotechnical analysis are;

- Geotechnical conditions,
- Stress and seismological setting,

- Regional and local support.

13.3.1 Geotechnical Conditions

Major structures/fault zones intersect the orebody at most operations. Structures of note at each of the Kroondal Operations are outlined below;

- Kwezi Shaft – Prominent faulting affecting over 70% of the operation. These faults typically dip at less than 60° with throws of up to 5m. Potholes and reef rolls are a ubiquitous feature. These adverse geological conditions have been successfully managed with appropriate strategies such as reduced bord spans, secondary and tertiary support.
- K6 Shaft – Similar to Kwezi Shaft, K6 is affected by prominent faults, potholes, reef rolls and IRUPs. Mitigation strategies include reduced bord spans, secondary and tertiary support.
- Bambanani Shaft – the operation is affected by major geological features (a shear zone and N-S striking dolerite dykes) on the Eastern side. Bracket pillars, reduced bord spans, reduced advance per blast, secondary and tertiary support are some of the strategies that have been used to mitigate the risk posed by the prevailing geotechnical conditions.
- Kopaneng Shaft – the operation has experienced increased geotechnical complexities on the Western side due to faults and poor rock mass quality. Reduced panel spans and secondary support have been used to mitigate the risk.

13.3.2 Stress and Seismological Setting

All mining at the Kroondal Operations is at less than 1000m depth. This is classified as shallow mining with a concomitant low stress and seismicity risk. Seismic monitoring systems are not required these operations.

13.3.3 Regional and Local Support

In the bord and pillar operations, regularly spaced intact pillars are left as part of the layout. These pillars support the middling to the surface and should not be allowed to yield or fail. The protection of surface structures, i.e. buildings, roads, railway lines, etc., is achieved by ensuring that the pillars, in the stoping environment are capable of supporting the overburden. These pillars have a Factor of Safety (FoS) >2,0. This empirically derived FoS is a requirement of the Mandatory Code of Practice to combat rockfall and rockburst accidents.

13.4 Mine Ventilation

All projects and new infrastructure designs incorporate detailed ventilation modelling and recommendations as part of normal feasibility planning processes under the auspices of Environmental Engineering. All underground mines are divided into mining ventilation districts. The ventilation design is based on the velocity of 0.7 m/s for mechanized mining.

13.5 Refrigeration and Cooling

13.5 Refrigeration and Cooling

Refrigeration and Cooling become necessary at a mining depth deeper than approximately 1100m below the surface (thermal threshold). All Kroondal Operations are shallower than the thermal threshold and no refrigeration and cooling are required.

13.6 Flammable Gas Management

Sporadic flammable gas intersections are encountered on the shafts. These intersections are well controlled by the Flammable Gas Code of Practice and procedure. Continuous gas measuring instruments and a telemetry system are used to detect Carbon Monoxide in the operations.

13.7 Mine Equipment

The following major mine equipment (Table 46) is installed and utilised at the Kroondal Mechanized Operations:

Table 46: Major Equipment Quantity Summary

Major Equipment	Quantities
Chairlifts	20
Conveyors	210
Mini-Subs	178
Substations	17
Vent Fans	19

Summary of mobile equipment (Table 47)utilized at the Kroondal Operations:

Table 47: Mobile Equipment Summary - 2023

Asset Type	Jan-21
Ambulance	6
Forklift	0
Grader	4
LDV	119

LHD	133
Manitou	5
Roof-bolter	29
Drill Rig	28
Jeeps	0
UVS	59
UPC	1

The following major process equipment (Table 48) is installed and utilised at the Kroondal Minopex Concentrators:

Table 48: Major Process Equipment

Major equipment	Quantity
Ball mills	5
Cone crusher	3
Flotation cells	77
Jaw crusher	2
Thickeners	4

13.8 Personnel Requirements

Refer to Section 4.5 and 17.2 for personnel requirements.

13.9 Final Layout Map

Refer to Section 12.7 and Figure 32 for the distribution of Mineral Reserve and mined-out areas.

14 Processing and Recovery Methods

This section covers the metallurgical and mineral processing aspects associated with Kroondal Operations. The process metallurgy and process engineering aspects relating to plant capacity, metallurgical performance and metal accounting practices are incorporated in the LoM plan.

The mineral processing facilities at the Kroondal Operations are located at two sites. Both mineral processing plants are operated and maintained under contract by Minopex. The Kroondal 1 Concentrator Plant (K1 Plant) was commissioned in October 1999 and the Kroondal 2 Concentrator Plant (K2 Plant) was commissioned in April 2005. A summary of the main components for the operations is provided below.

14.1 Processing Facilities

Kroondal Operations incorporate the Kroondal 1 Concentrator Plant situated next to Kopaneng Shaft and the Kroondal 2 Concentrator Plant, situated about 2km East of K1 Concentrating Plant close to Simunye and Bambanani shaft. The K1 and K2 Plants have associated Chrome Spiral Plants (Namely K1 & K1.50 for the K1 Plant and K2 & K2.50 for the K2 Plant) situated next to the respective plants. The K1 & K2 Chrome plants are under Kroondal -- operated by Minopex whereas the K1.50 & K2.50 Chrome plants are run by Glencore. Presently, the K1 and K2 processing plants process 187 and 290 ktpm of ore, respectively.

- In addition to the PGM plants, the Kroondal Operations also include Chrome Tailings Retreatment Plant (CTRP) and Marikana concentrator are currently under care and maintenance
- The three Tailings Storage Facilities (TSFs), namely the K1, K150 and K2 TSF
- The two Dense Media Separation (DMS) waste stockpiles (K1 DMS Stockpile and K2 DMS Stockpile)

Current mineral processing plant parameters for the Kroondal Operations are shown in Table 49. Capacities are based on historical and current performance.

Kroondal has access to all materials needed for the operations.

Table 49: Mineral Processing Plant Parameters

Plant	Design Capacity (ktpm)	Current Operation Capacity(ktpm)	Average Recovery Factor(%)	Material Treated
K1	290	148	82	UG2
K2	300	255	80	UG2

14.1.1 K1 Plant

Mining started in March 1999 via two decline shafts (originally the Central and East shafts, now Kopaneng and Simunye) and by year-end, full production had been achieved and the initial plant commissioned. The original plant design made provision for the establishment of one mineral processing plant located to the south of the open-pit, now referred to as the K1 Plant. The original production capacity of the plant was 100 000 tonnes per month (tpm). This capacity was increased to 290 000 tpm as part of the Phase 1 Expansion project.

The Expansion Project that took place included the addition of the Secondary Ball Mill and Flotation circuit as well as Flash Float Cells at the DMS circuit. The original Primary Rod Mills were also converted to Ball Mills.

The QP considers the K1 Plant to be in good condition both mechanically and structurally and, subject to adequate ongoing maintenance, should meet the LoM requirements.

14.1.1.1 Production Plan

The recent history and budget operational parameters for the K1 concentrator are presented in Table 50, Figure 37and Figure 38. The FY18, FY19, FY20, FY21, FY22 and FY232 data presented reflect the actual annual performance, whilst the FY243 to FY2640 data represents current budget targets. The current operational methods and capacities are adequate. Metallurgical efficiencies projected have also been sustainably obtained historically and are thus reasonable budget targets.

Table 50: K1 Concentrator Production Forecast and Operational Data

Parameter	Actual						Budget		
	2018	2019	2020	2021	2022	2023	2024	2025	2026
Total Feed (tons)	3,892	4,025	2,875	3,532	3,249	2,277	1,937	1,497	1,513
Head Grade (g/t)	2.44	2.36	2.38	2.39	2.33	2.19	2.35	2.37	2.29
Concentrate Produced (kt)	29	31	24	28	27	17	16	12	13
4E Recovery (%)	83%	82%	83%	83%	82%	82%	82%	82%	81%
4E Metal Produced (koz)	253	251	182	225	199	131	120	94	91

Figure 37: K1 Concentrator Throughput Forecast

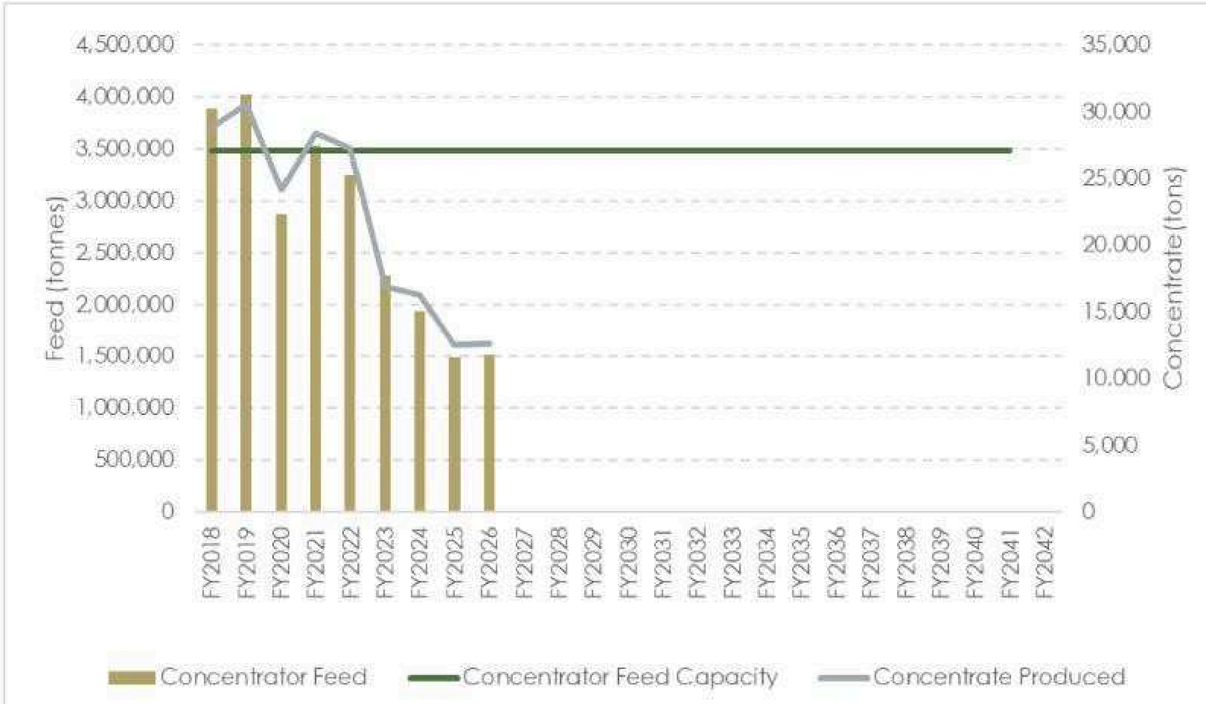
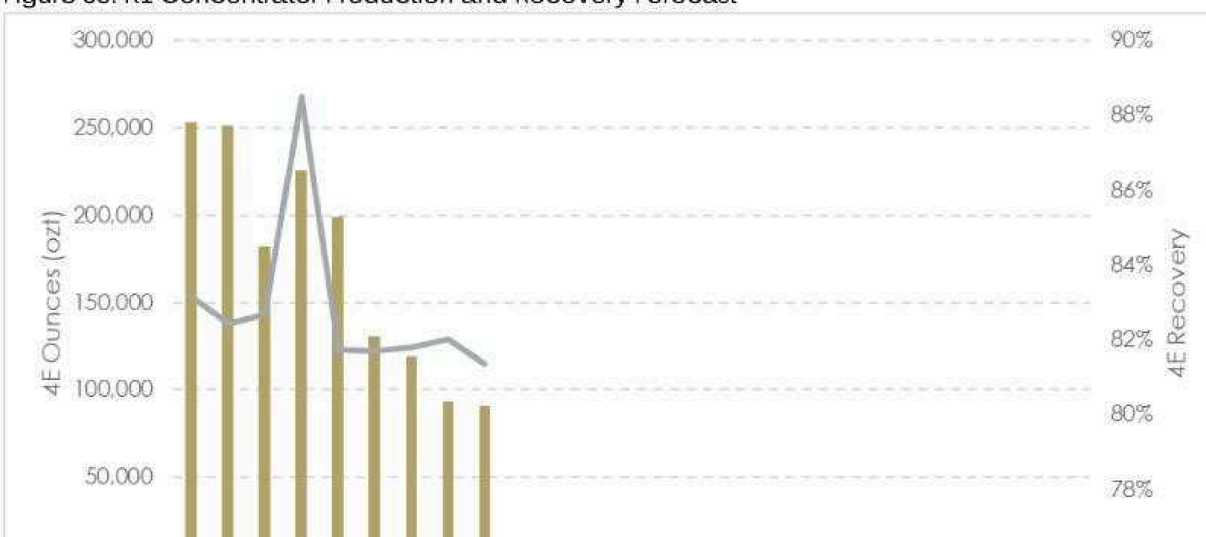
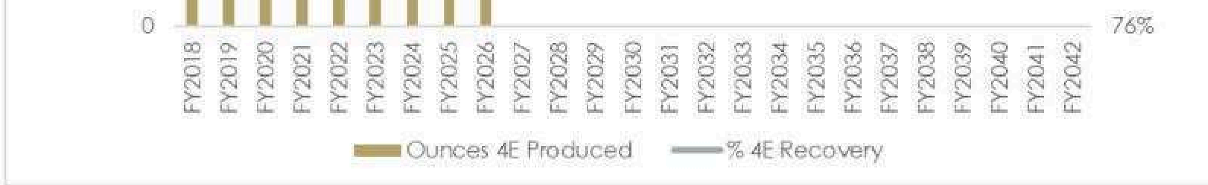


Figure 38: K1 Concentrator Production and Recovery Forecast





14.1.1.2 Process Description

Crushing

K1 Plant treats ROM ore from Kopaneng, Simunye and K6 shafts. ROM ore is transported by truck or conveyor to the primary crusher, where it is crushed and screened before being passed through a secondary crusher. The correctly sized material is then conveyed to the DMS feed silos.

As part of the Phase 1 expansion project, the capacity of the crushing plant was increased to 142 000 – 300 000tpm. A grizzly feeder is used to remove most of the fines before the ROM ore is sent to the Primary Crusher to better utilize the crusher. An intermediate silo with a capacity of 800t was developed between the primary and secondary crushing sections.

Dense Media Separation (DMS) Plant

To minimize the treatment of waste rock and to upgrade the ore head grade, a DMS plant is located between the crusher section and the milling section of each plant. The DMS plant is fed from the DMS feed silos, which are two concrete units with a total storage capacity of approximately 8000t and 2500t, respectively. An automated hammer sample cutter takes samples every few minutes to determine the feed head grade of the ore coming into the DMS circuit.

The DMS process treats coarse material (minus 30mm plus 2mm), whilst the fines (minus 2mm) bypass this process and are 'flash-floated' immediately after being screened ahead of the DMS section. The flash flotation cells recover the bulk of the PGM-bearing material from the fines before reporting to the primary milling-flotation circuit.

The separation in the DMS circuit is enabled through Ferrosilicon (FeSi) as the separation medium. The density of the medium is controlled between 3.0 and 3.1 density. This medium is continuously being recovered and circulated in circuit by means of 1) screening and washing of FeSi from the ore and 2) Magnetic Separators removing the FeSi from the slurry.

The DMS waste is passed onto a waste conveyor which transports the material to a DMS waste rock stockpile, situated to the east of the plant. The DMS product is then conveyed to the north feed bin. Regular interval samples of the DMS waste are taken from the waste conveyor using an automated sample cutter to minimise the loss of PGMs contained within the waste rocks to the waste rock stockpile. The DMS plant produces a maximum of 1,200,000 tpa of waste rock.

Milling

The primary milling-flotation circuit treats DMS 'sinks' material (together with the flash float fines), essentially the 'reef' proportion of the coarse RoM ore. Two primary mills are installed at the plant. The two circuits are identical and are described below. To maximise recovery of the PGM, the material must be ground. The PGM bearing material is fed into the front of the mill and is broken into smaller particles. Water is also fed into the mill and the material exists as a dense slurry and is then diluted. The slurry passes over vibrating screens to remove waste and scats and is pumped to the flotation section.

The Phase 1 expansion project made provision for the inclusion of a regrind ball mill circuit. The ball mill operates in an open-circuit to minimise losses. The cleaner flotation tailings are re-introduced to the ball mill circuit, which effectively 'closes' the primary cleaner flotation circuit, improves recovery, and reduces the likelihood of operational losses from the concentrator. The regrind flotation cell arrangement is similar to the primary rougher flotation circuit, resulting in parallel flotation trains.

Flotation (Addition of Reagents)

The floatation process is used to concentrate the PGMs. In the flotation process, the minerals of the PGM attach to bubbles of air and are thus separated from the slurry of milled ore. The concentrate collected on the bubbles is upgraded through a series of flotation steps.

Reagents for the flotation process are added to the slurry from the mill. These reagents are:

- Sodium isobutyl xanthate (SIBX) links up with sulphide minerals, these minerals are naturally hydrophobic and the SIBX enhances this.
- Poly-propylene-glycol (frother) which stabilises the bubbles.
- Carboxy-methyl-cellulose (CMC depressant) stops fine silica and slimes attaching to the bubbles and makes talc and gangue material in the solution fuse together.

Kroondal 1 operates an MF2 circuit, whereby the product of the primary mill feeds the primary rougher circuit with the tails from the primary roughers feeding the secondary mill. The secondary mill product feeds the secondary roughers. The primary roughers produce high grade and medium grade concentrate, the high-grade concentrate reports to the primary cleaner bank 1. The primary medium grade concentrate reports to the secondary cleaner bank 1. The secondary roughers produce high and medium grade concentrate. The high-grade concentrate from the secondary roughers reports to primary cleaner bank 1 and the medium grade concentrate from the secondary roughers reports to the secondary cleaner bank 1.

The primary cleaner circuit comprise of 4 banks of primary cleaners. The primary cleaner circuit like the secondary is an upgrading floatation circuit with concentrate from bank 1 upgraded in bank 2, bank 2 concentrate upgraded in bank 3 and bank 3 concentrate upgraded in bank 4 which is the final concentrate. The secondary cleaner section is similar to the primary cleaners section. The final concentrate is pumped to the concentrate thickener for thickening and dispatch via slurry trucks.

The tails from the secondary rougher flotation cells pass to the chromite removal section.

Chrome Removal

Associated with the processing plant is the Chrome Spiral Plant. The secondary rougher flotation tailings pass through the spiral plant to recover chromite from the milled product. The chrome recovery circuit of the K1 plant was upgraded to contain additional spiral concentrator units to increase the chromite concentrate yield. On average, the K1 Spiral Plant produces 26,000 tpm of chrome with a Cr_2O_3 grade of about 40.5%. The discard from the K1 spiral plant reports to the K150 Glencore facility for further chrome removal before reporting to tailings disposal.

Reagent Make-Up and Distribution

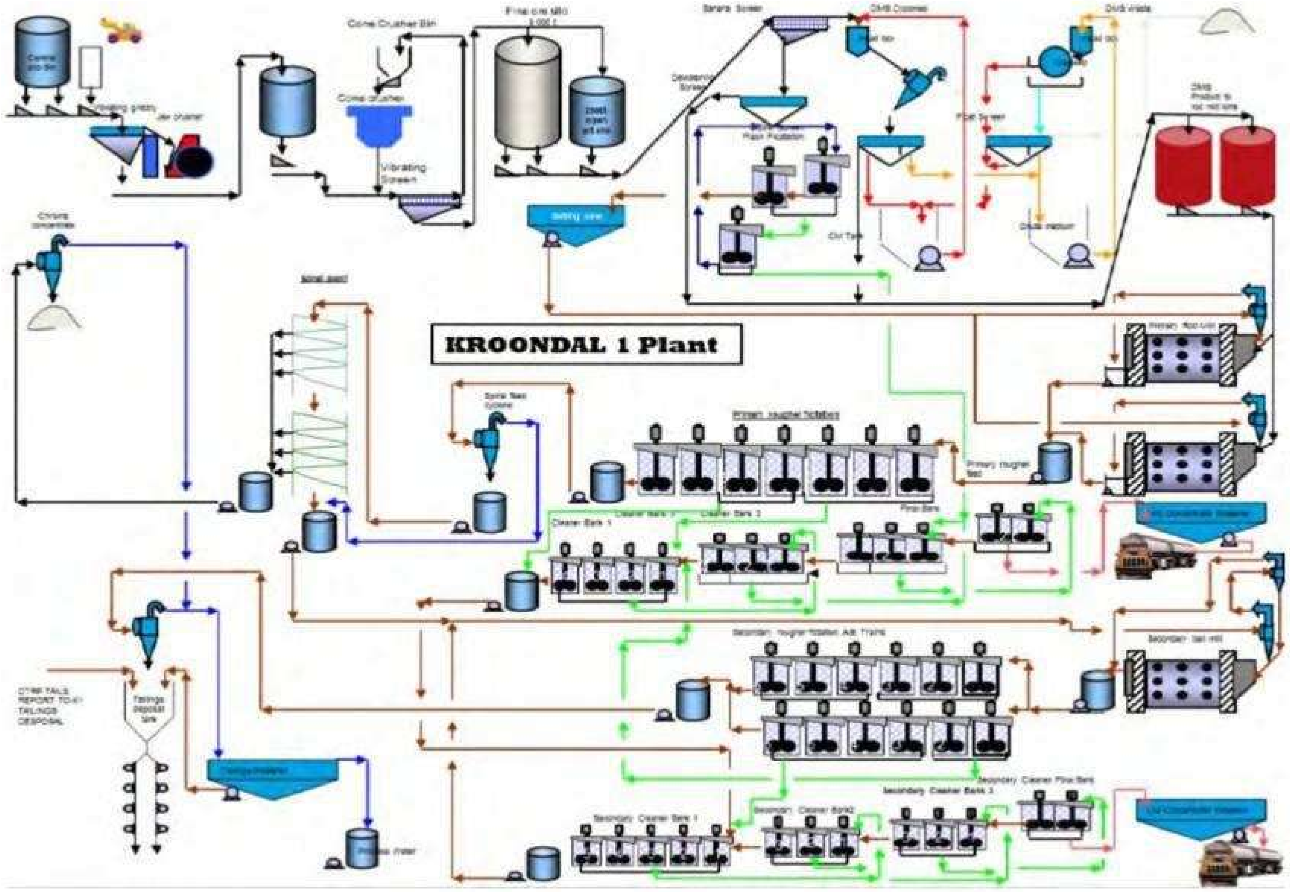
The chemicals used in the flotation process are delivered as either concentrated solutions or dry. Except for the frother, these chemicals must be made up, hydrated, or diluted prior to use in the flotation plant. Although the exact make-up system varies for each chemical, basically, each reagent is added to a tank, to which water is added and then the resultant solution is mixed and circulated and then pumped into the flotation plant.

Tailings Separation

Slurry from the secondary rougher flotation step is discarded as tailings, after the Chrome is removed by the Spirals. The tailings are thickened in thickeners and then discharged to one of the tailings storage facilities, namely K1 and K150 Tailings dams.

Flow diagram of the K1 Plant is given in Figure 39.

Figure 39: The Schematic Process Flow Diagram for K1 Processing Plant



14.1.2 K2 Plant

K2 Plant (Figure 40) was built and commissioned in 2005. At that stage, there were three operational shafts, with the construction of a fourth shaft (Kwezi) to start in the following year. In 2008 the production ramp-up began at Kwezi and continued into the following year with a total of four decline shafts in production.

The QP considers the K2 Plant to be in good condition both mechanically and structurally and subject to adequate ongoing maintenance to meet the LoM plan requirements.

Figure 40: Aerial View of the K2 Plant

14.1.2.1 Production Plan

The recent history and budget operational parameters for the K2 concentrator are presented in Table 51, Figure 41, and Figure 42. The 2018 to 2023 data presented reflect the actual annual performance whilst the 2024 to 2037 data represents current budget targets. The current operational methods and capacities are adequate. Metallurgical efficiencies projected have also been sustainably obtained historically and are thus reasonable budget targets.

Table 51: K2 Concentrator Production Forecast and Operational Data

Parameter	Actual						Budget					
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Total Feed (kt)	3,838	4,095	3,119	3,518	3,253	3,172	3,466	3,348	2,872	2,034	1,482	1,343
Head Grade (g/t)	2.54	2.58	2.53	2.42	2.38	2.36	2.39	2.40	2.43	2.46	2.56	2.56
Concentrate Produced (kt)	40	40	32	37	31	30	35	35	30	21	15	14
4E Recovery (%)	82%	82%	83%	83%	82%	83%	81%	81%	82%	82%	83%	83%
4E Metal Produced (koz)	257	278	211	228	205	201	216	210	183	132	100	91
Parameter	Budget											
	2030	2031	2032	2033	2034	2035	2036	2037				
Total Feed (kt)	1,220	1,224	1,190	1,147	1,118	1,013	830	515				
Head Grade (g/t)	2.44	2.59	2.57	2.57	2.54	2.58	2.56	2.34				
Concentrate Produced (kt)	13	13	12	12	12	11	9	5				
4E Recovery (%)	82%	83%	83%	83%	82%	83%	83%	81%				
4E Metal Produced (koz)	78	84	81	78	75	69	56	31				

Figure 41: K2 Concentrator Throughput Forecast

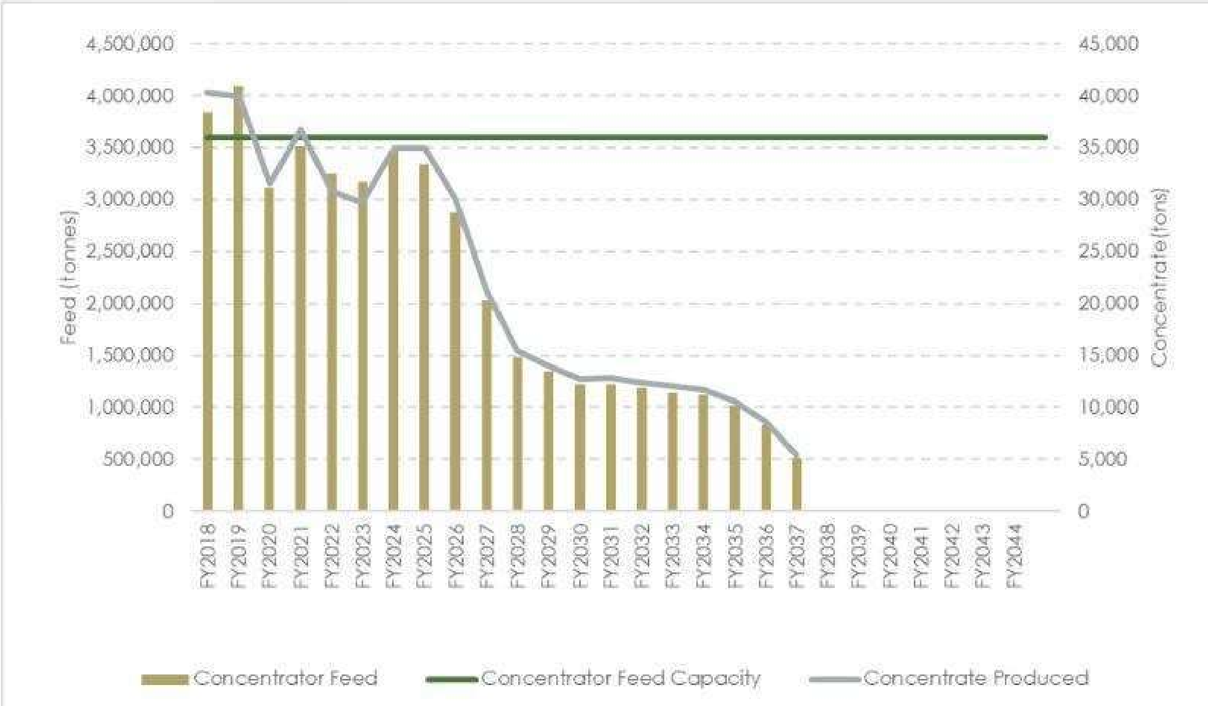
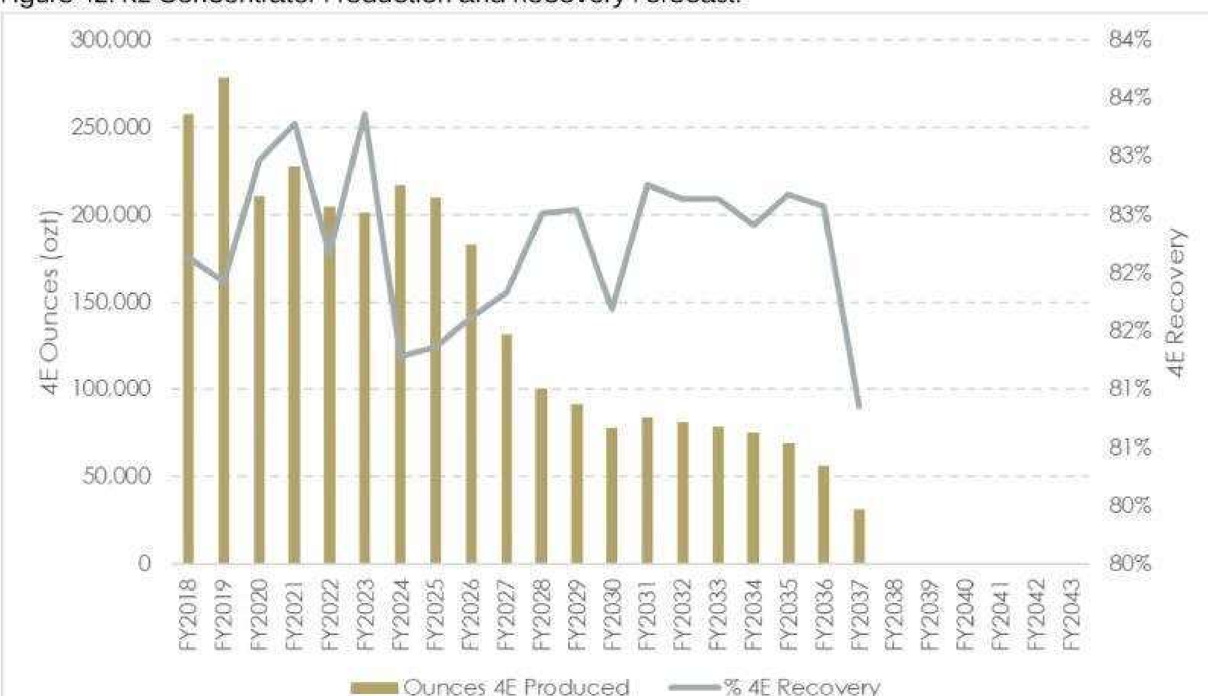


Figure 42: K2 Concentrator Production and Recovery Forecast.



14.1.2.2 Process Description

Crushing

The K2 Plant treats ROM ore from the Simunye, Kwezi and Bambanani shafts. The ROM ore is transported via train, truck, or conveyor to an elevated ROM silo. From this silo, it is crushed down to minus 20mm by a two-stage crushing circuit.

The primary crushing consists of a grizzly feeder feeding the jaw crusher, which crushes the ROM ore down to 75mm. This ore is then transported via an overland conveyor to the secondary crushing.

The secondary crushing consists of a vibrating screen that removes the minus 30mm particles. The oversize is sent to a small bin with a vibrating feeder that feeds the secondary cone crusher which has a closed side setting of 19-22mm. The cone crusher product will then go back to the vibrating screen. The secondary crushing thus operates in a closed loop. The undersize of the vibrating screen is then sent to a 4000t fine ore silo, also known as the DMS feed silo.

Dense Media Separation (DMS) Plant

The operation of the DMS at the K2 Plant is very similar to the DMS of the K1 Plant. Both are used to upgrade the feed ore head grade and to minimise the treatment of waste rock. Minor differences exist in the plant itself, such as original equipment manufacturer (OEM) designs of certain equipment and sizes due to the K2 Plant being able to feed 325 ktpm to the DMS.

Regular automated samples of the DMS feed, as well as the DMS floats (waste rock), are taken for metal accounting purposes, the same as at K1. K2 also has its own waste rock stockpile situated next to the plant, where conveyor belts transport waste rock to the stockpile. Around 3.7Mtpa of waste rock is produced by K2 Plant.

The sinks (product rock) from the DMS, together with the particles smaller than 2mm (the feed prep screen underflow), are sent by conveyor to the concrete mill feed silo, which has a capacity of 3,500t.

Milling

The primary milling phase is carried out in a single primary ball mill similar in design to the mills at the K1 Plant, but larger in capacity. Grinding balls (70mm diameter for primary mill and 40mm diameter for secondary mill) are used to grind the material down.

The K2 Plant also follows a mill-float-mill float (MF2) processing circuit, meaning that the discharge of the primary mills will be fed to the primary roughers. The tails of the primary roughers are then sent to the secondary ball mill to be re-grinded. The discharge of the secondary ball mill is then sent to the secondary floatation to be floated again.

Flotation (Addition of Reagents)

The floatation process of the K2 Plant has the same purpose as that of the K1 Plant, which is to concentrate the PGMs, but with a different flow in the process. The difference between the floatation circuit of the K1 and K2 Plants is that the K2 Plant has additional fast cleaners in the primary as well as the secondary circuit. The concentrate of these fast cleaners is considered by the QP to be of a grade high enough to go directly to the final concentrate.

Reagents for the flotation process at the K2 Plant are the same as the K1 Plant, except for the additional copper sulphide. These reagents are:

- SIBX, which links up with sulphide minerals, these minerals are naturally hydrophobic and the SIBX enhances this.
- Poly-propylene-glycol (frother) which stabilises the bubbles.
- CMC depressant which stops fine silica and slimes attaching to the bubbles and makes talc and gangue material in the solution fuse together.
- Copper sulphide (activator) acts as a promoter for the PGM's to be floated.
- K2 basically has four product streams which will all go to the final concentrate. These four streams are:

    - Flash float concentrate from the DMS section.
    - Fast cleaner concentrate from the primary floatation circuit
    - Secondary re-re-cleaner concentrate
    - Primary re-cleaner concentrate.

All of the above mentioned is blended to deliver a final concentrate of around 180 g/t PGM's. The secondary rougher tails are also pumped to the spiral section for the chrome removal.

Kroondal 2 operates a MF2 circuit, whereby the product of the primary mill feeds the primary rougher circuit with the tails from the primary roughers feeding the secondary mill. The secondary mill product feeds the secondary roughers. The primary roughers produce high grade and medium grade concentrate, the high-grade concentrate reports to the fast cleaners. The primary medium grade concentrate reports to the secondary cleaners. The secondary roughers produce medium and low-grade concentrate. The medium grade concentrate from the secondary roughers reports to primary cleaners and the low-grade concentrate from the secondary roughers reports to the secondary cleaners.

The primary cleaner circuit comprises of fast cleaners, primary cleaners, and primary re-cleaners. The concentrate from the fast and primary – re cleaners is the final concentrate and it is pumped to the concentrate thickener for dispatch. The secondary cleaner circuit is made up of the secondary cleaners, secondar re-cleaners and secondary re-re-cleaners. The concentrate from the secondary re-re-cleaners is the final concentrate from this circuit and is pumped to the concentrate thickener for dispatch.

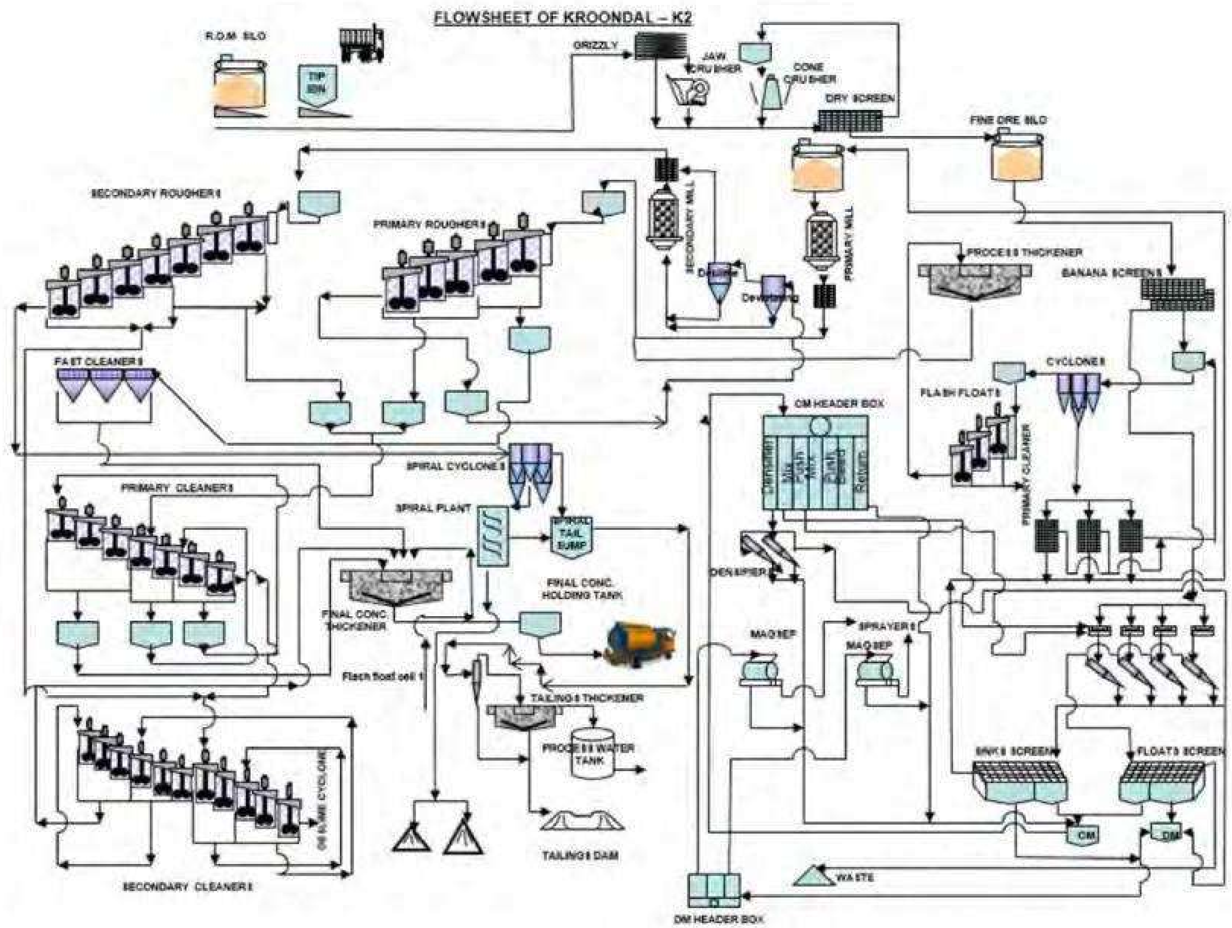
The tails from the secondary rougher flotation cells pass to the chromite removal section.

Chrome Removal

Like the K1 plant, the K2 Plant also has an associated Chrome Spiral Plant. The secondary rougher flotation tailings pass through the spiral plant to recover chromite from the milled product. A total of approximately 41 000t of chromite concentrate is produced per month from both plants.

Flow diagram of the K1 Plant is given in Figure 43

Figure 43: Flowsheet for K2 Plant



14.2 Future Projects

As part of the proposed West-West Open-Pit Rehabilitation and Surface Tailings Storage Facility Project for the Marikana PSA assets at the Kroondal Operations, modifications will be required for the Kroondal Mine Processing Plants to recover residual platinum in the current tailings. These modifications are necessary to ensure that further residual platinum, PGMs and chrome from the tailings are extracted, and that no viable resources are deposited in the tailings during the rehabilitation of the West-West Open-Pit.

A feasibility study is planned for Kroondal Operations to determine the economic and metallurgical viability of re-treating Kroondal floats discards. Scanning testwork done by a third-party using Sensor ore sorter XRT technology showed that there was a clear separability between UG2 bearing rock and waste bearing rocks. These results led to Kroondal Operations procuring a sensor ore sorter XRT unit to set up a pilot plant to reaffirm the scanning tests on bulk continuous process. The sensor ore sorter XRT pilot unit

has arrived on site – setting up of the pilot plant and feasibility testwork was planned for 2023, however, this project is currently on hold due to capital constrains.

14.3 Sampling, Analysis, PGM Accounting and Security

Generally, adequate attention is given to sampling and sample preparation. Samples are prepared in the on-site labs at both the K1 and K2 Plants whereafter they will go to external laboratories for PGM and Chrome analysis. A final analysis is conducted at the Waterfall smelter on the concentrate to complete the metal accounting. Whilst there are minor accounting anomalies, good accounting procedures are largely in place. Calibration of measuring equipment, i.e., weightometers, weighbridges, flowmeters and densitometers is done on a regular basis to ensure accurate measurements are taken at all times. Accountability checks are done on sample results to compare measured Head Grades and Tail Grades vs the Built-Up Head Grade (BUHG) and calculated tail grade. The concentrates dispatched to Anglo smelter is sampled at the Kroondal plants and at Anglo smelter, though the Anglo results are used for metals accounting – these results are compared and if big discrepancies are observed, a request can be made to re-test the samples and make the necessary corrections.

Plant feed tonnage is generally measured via weightometer scales after the Primary Crushing section, before the Secondary Cone Crusher as well as on the DMS Feed Conveyor and mill feed belts. The waste (floats) and product (sinks) material are also measured on the separate conveyor belts. Plant feed and waste are sampled on the DMS Feed conveyor and DMS floats conveyor, respectively, with a hammer sampler. Primary rougher feed, secondary rougher tails, flash float concentrate, primary and secondary cleaner concentrate and final concentrate before despatch samples are almost exclusively taken automatically, with cross-stream pulp cutters, although hand cut samples are taken in certain cases. Shift composites are accumulated and prepared as per the defined standard operating procedure.

There are no real security issues, as the final product is a concentrate which is transported in bulk and requires further processing at the smelter and refinery.

14.4 Plant Lock-up

The quantity of clean-up PGMs that can be anticipated on the closure of a concentrator or processing plant is uncertain.

14.5 Final Product

The final product of the K1 and K2 Plants is PGM concentrate in a slurry form. The Waterfall smelter (owned by Anglo American Platinum, Rustenburg), with whom there is an agreement, takes this slurry concentrate and smelts it to purify it even further before sending it to the refineries.

14.6 Personnel, Energy and Water Requirements

The budget for Energy, water and Personnel for the Kroondal plants is presented in Table 52.

Table 52: Kroondal Plants Projected Requirements for Energy, Water and Personnel (2023 Budget)

Plant	Electricity Usage (kWh)	Electricity Cost (ZAR)	Water Usage (Kl)	Water Cost (ZAR)	Stores Cost (ZAR)	Total Employees (No.)	Labour Costs (ZAR)
K1 Plant	61,090,708	96,157,212	54,088	1,020,990	127,681,169	114	N/A
K2 Plant	106,990,846	161,506,464	107,850	2,649,833	225,612,559	120	N/A

The complement at Kroondal is 234 permanent employees, with Kroondal 2 accounting for 120 and Kroondal 1 114. The management team is made up of an area manager who is looking after the two plants, a plant manager, plant engineer and a process superintended for each plant. Middle management is made up of materials controller, mechanical foreman, Instrumentation foreman, electrical foreman, lab supervisor and 4 shift supervisors. The operation runs 24 hours with 3 shifts on rotation.

South African power utility Eskom supplies energy to Kroondal Operations. Grinding mills are the highest consumer of power at Kroondal. The maximum rating for Kroondal 2 mills is 10.4kW, made up of two mills of equal rating. The maximum rating for Kroondal 1 mills is 7.6kW, this is made up of two mills rated 1.2kW and one mill rated 5.2kW. Kroondal 2 uses about 8,915MWh/month on average and Kroondal 1 uses about 5,090MWh/month on average.

Kroondal Operations receives water from Kroondal return water dams which are K150, K1, K2 and Marikana return water dams. The slurry from the plants in the form of tailings discards is pumped to Kroondal TSF's (Marikana, K1, K150, K2), these TSF's retain solids and through the penstock returns water to Kroondal return water dams. The major source of water for the Kroondal Operations is rainwater which is collected via the TSF's return water dams, Marikana pits and storm water dams. The water from the return water dams is pumped to both Kroondal plants process water dams for use in the plants. Rand Water Board supplies water to Kroondal Operations for domestic use.

14.7 QP Opinion on Processing

The QP considers the K1 and K2 Plants to be in good condition both mechanically and structurally and subject to adequate ongoing maintenance should meet the LoM plan requirements.

The QP is satisfied that the mineral processing and recovery methods are appropriate and sufficient to support the LoM plan and that all material issues have been addressed in this document.

15 Infrastructure

15.1 Overview of Infrastructure

Engineering infrastructure at the Kroondal Operations includes a wide range of operating technology, which varies in age and extent of mechanisation. Figure 44 shows the layout of the mine and the placement of shafts and other surface infrastructure within the mine boundaries. The infrastructure includes a wide range of underground Trackless Mobile Machinery (TMM) as well as the necessary underground infrastructure to support underground mechanised mining. Surface infrastructure includes processing plants, Tailing Storage Facilities as well as Electricity, Water and Road infrastructure. Shared services infrastructure not on the mine is not shown.

Underground operations comprise five Decline shafts (3 Barrel systems) and infrastructure to convey personnel, materials, and equipment to and from the working areas and associated services to support mining operations. Main Decline infrastructure includes Trunk (Main/Dip/Decline) conveyor systems with underground storage facilities (Bunkers), main roadways (for mobile machinery - TMM) and Chairlift infrastructure for the conveyance of people. The main infrastructure further includes permanent water and compressed air columns and Medium Voltage (MV) electrical reticulation. Main ventilation shafts and associated ventilation fans as well as permanent dams for water management form part of the main infrastructure.

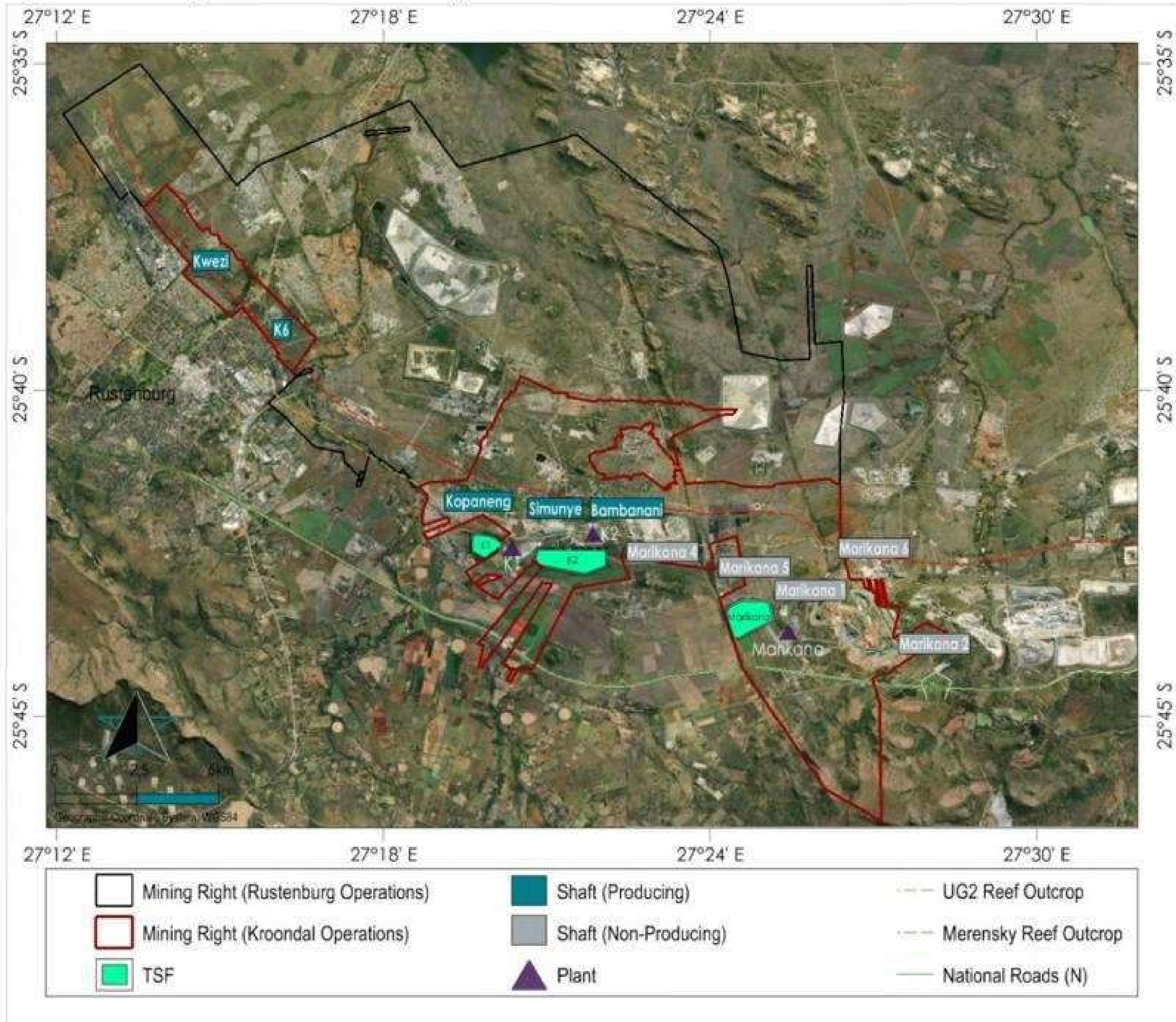
Surface infrastructure at the decline shafts includes TMM workshops, compressors, water supply and settler systems, and MV substations all in support of the underground operation. Other surface infrastructure includes primary ventilation, process facilities, office blocks and training centres, workshops and stores, lamp rooms, and change houses.

There are also several services and supply centres. These include compressed air supply stations and minor workshops for small repairs to plant and equipment.

Further surface infrastructure includes two Processing plants (K1 and K2 Plants), various Tailings Storage Facilities (TSF) and associated return water dams and waste rock dumps associated with the dense media separation in both processing plants. Office infrastructure, roads, Rand Water supply points, Eskom 88 kV overhead supply lines and surface water and electrical reticulation complete the surface infrastructure.

Notwithstanding the age of the general infrastructure, all surface and underground infrastructure is reasonably maintained and equipped. In conjunction with the planned maintenance programmes, including specific remedial actions, structural audits, and condition monitoring programmes, the QP considers the current infrastructure, hoisting capacities and logistical capacities more than adequate to satisfy the requirements of the LoM plan. Further, the power supply and distribution systems, water sourcing and reticulation systems are appropriate as envisaged in the LoM plan.

Figure 44: The Layout of the Kroondal Operations



15.2 Tailings Storage Facilities

A group tailings management system has been implemented and Tailings Storage Facilities (TSFs) are managed in accordance with all relevant legislation and SANS 10286: Code of Practice for Mine Residue deposits, 1998. The Global Industry Standard for Tailings Management (GISTM) was launched in August 2020. As a member of the International Council on Mines and Metals (ICMM), Sibanye-Stillwater has committed to aligning tailings management with the GISTM requirements. Significant progress was made during 2022 with 17 out of 22 active Very High and Extreme consequence TSFs compliant by the end 2022 and 2023 with all SA region's TSFs, regardless of consequence classification, being conformant with the GISTM by mid-December 2023.

The Kroondal Operations have four TSFs (Figure 45), namely:

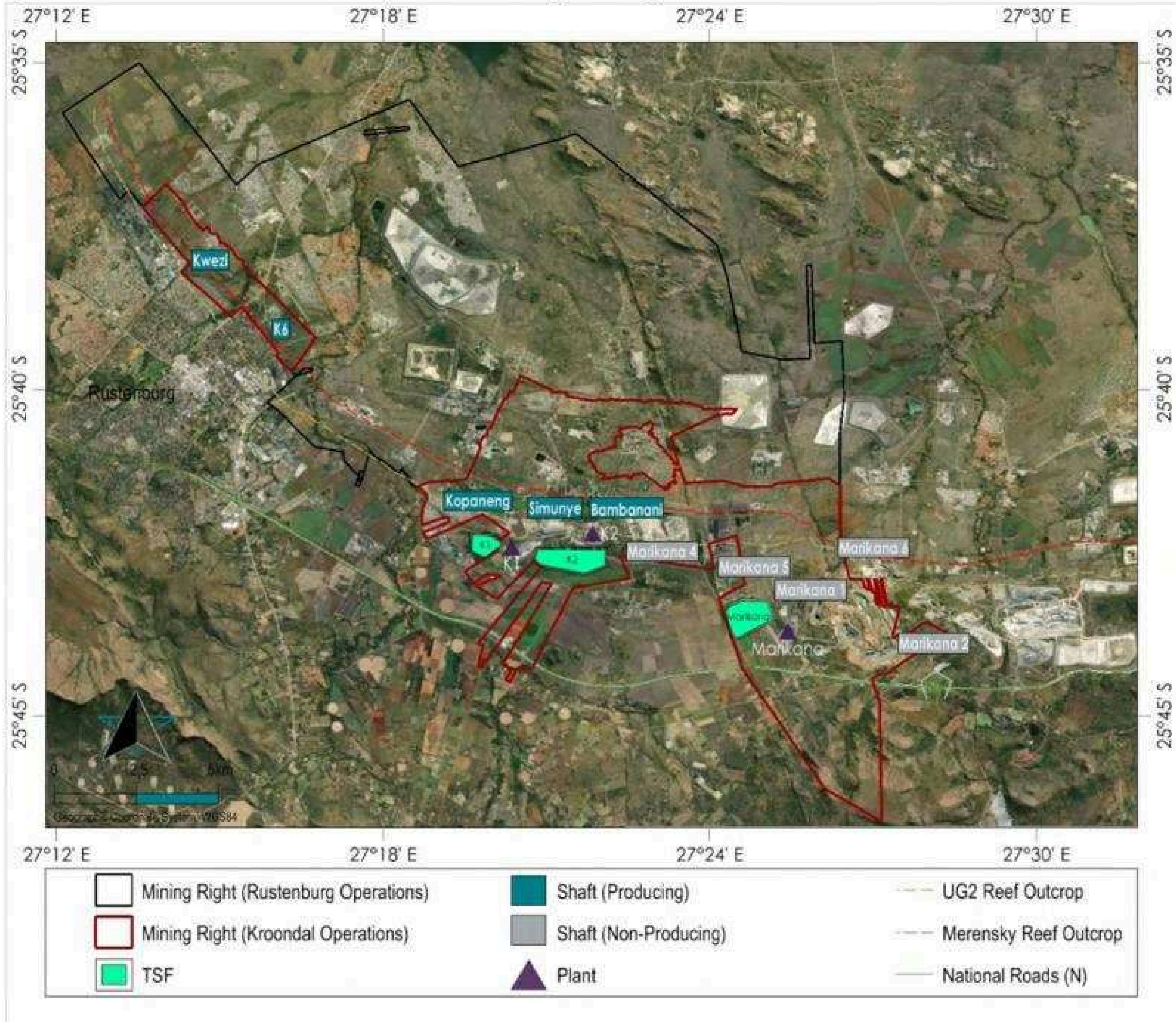
- K1 TSF which receives tailings from the K1 Plant and K2 Plant in emergencies.
- K150 TSF which receives tailings from the K1 Plant
- K2 TSF which receives tailings from the K1 Plant
- Marikana TSF which received tailings from the K2 Plant.

Plant residue is disposed on four TSFs located close to the K1 and K2 plants with the following properties:

- K1 TSF with a design capacity of 28,000tpm.
- K2 TSF with a design capacity of 86,000tpm.
- K150 dam, an extension next to K2 with a design capacity of 86 000tpm.
- Marikana TSF with a design capacity of 200 000tpm.

Tailings are transported and deposited by means of multi-stage pumping and tailings disposal lines discharging into spigots at the TSF, with decant water being returned to the process water circuit. K1 and K2 are raised using spigot systems. K150 is raised using cyclones.

Figure 45: Location of Kroondal Operations Tailings Storage Facilities



15.2.1 K1 TSF

This is the first TSF that was used at the Kroondal Operations in 1999. Currently, it is almost at its full capacity. A maximum of 28,000tpm of tailings can be pumped to the K1 TSF per month. Return water from this TSF is pumped back to the K1 Plant. The K1 TSF was used as an emergency deposition facility for the K2 Plant.

15.2.2 K150 TSF

K150 TSF is being used by the K1 Plant. Return water can also be transferred back to either the K1 Plant process water dam or the K2 Plant process water dam. Most of the water is pumped back to the K1

Plant as K150 is the plants' main source of water. K150 elevated Penstock project was completed in Q3 2022

15.2.3 K2 TSF

The K2 TSF is used by the K1 Plant. A buttress to control seepage on the south flank was completed at the end of February 2023.

15.2.4 Marikana TSF

The Marikana TSF was used during the time that Marikana Concentrator Plant was still operational. It has been utilised again by K2 Plant (2019) to deposit its tailings. A booster pump station (BPS) is situated between the K2 Plant and Marikana TSF due to the distance between the K2 Plant and the TSF. Dam stability Buttress is ongoing. Phase 3 was completed at the end of April 2022 and Phase 4 in April 2023. The buttress on K2 south flank is to be extended by approximately 100m during 2024.

15.2.5 LoM Requirements

There is adequate storage capacity for the tailings resulting from ore processing at the K1 processing facility (Table 53) for the LoM Plan till 2026, and the Tailings Storage Facilities are in good condition. The Kroondal TSFs (K1, K150 and K2) come to end of life December 2026. Due to various reasons, extending the life of the TSFs is not an option hence the alignment between LOM deposition and Capacity. Post 2025, tailings from the K1 concentrator are to be diverted to WLTR with deposition on Hoedspruit TSF at the neighbouring Rustenburg Operations.

There is sufficient capacity at Hoedspruit LOM.

Table 53: LoM Assessment of Tailings Facilities

[illegible]	[illegible]	[illegible]	[illegible]	Capital Requirement

Tailings Facility	LoM Deposition (Mt)	Available Capacity (Mt)	Surplus / (Shortfall) (%)	Capital Requirement (ZARm)
K1	0.9	0.9	0	
K150	2.9	2.9	0	
K2	2.9	2.9	0	
Marikana**	28.2	16.2	(42.5%)	
Total	34.9	22.9		
	**Additional capacity is possible if additional buttressing is approved for extension of the dam elevation an additional 10 metres.			

15.3 Power Supply

The Kroondal Operations are directly supplied with bulk electrical power from the national grid, which is operated by Eskom, a power utility company that is owned by the state. Power is delivered through Eskom substations which are dedicated to the various production business units od Sibanye. The Eskom substations are commonly referred to as Points of Delivery (PODs), and Table 1 enlist the Rustenburg PODs together with the production units that are supplied from the particular POD. The power demand and annual energy supplied from each POD is also indicated in Table 54.

Table 54: Eskom Points Of Delivery for Kroondal Operations.

Eskom POD	Production Units	Demand (MW)	Energy (MWh)/ pa.
Kaytoo	K2 (Concentrator), Bambanani (Mine)	27.5	183,826
Kroondal 304-JQ	K1 (Concentrator), Simunye (Mine), Kopaneng (Mine)	26.8	139,202
Spruitfontein	-	2.0	1,789
Total		56.3	324,816

The Kroondal operations are supplied from the Rustenburg Eskom 88kV power network. The 88kV network voltage is transformed at the PODs to 11kV medium voltage, which is the standard distribution voltage for Kroondal Operations. Associated with each POD would be a medium voltage intake substation which is owned by Sibanye, which then distributes power to the internal power network, via cables and overhead power lines. Electrical power is also distributed to non-production areas which include facilities that are under care and maintenance, central services areas, and pump stations.

15.4 Bulk Water, Fissure Water and Pumping

15.4.1 Bulk Potable Water Supply

- Kroondal operations are fed with potable water from Rand water through the Barnardsvlei System with two main supply and one back up supply lines (Figure 46).
- Lay-out of the main water reticulation infrastructure depicted below.
- Total daily potable water supplied into the system amounts to 2Ml/day.
- Third parties' consumption 0.1Ml/day.
- Emergency water is stored in one shared reservoir with Rustenburg operations with a capacity of 2Ml.

Figure 46: Main Potable Water Reticulation Lay-Out Kroondal Operations.

15.4.2 Secondary Water supply Kroondal Operations.

- Secondary water is fed into the concentrator systems via the Kroondal Return Water Dam (Figure 47) which is fed from the Marikana Pits and Voids. The voids and pits are a shared system with the Marikana operations. Boreholes also feed into the system. The total amount of 26Ml/day is pumped to the respective Kroondal concentrators from the Return Water Dam.
- Total secondary stored water:
- Marikana Pits – 1100Ml.
- Kroondal Voids – 1300Ml.
- Kroondal Return Water Dam – 50Ml.

Figure 47: Main Secondary Water Reticulation Lay-Out Kroondal Operations.

The risk that run-off from surrounding areas would enter the mine via the surface portals is well managed by measures to divert run-off away from the portals.

Fresh and processed water sent underground could be stopped immediately if circumstances threatened underground flooding, limiting the ingress of water to groundwater, i.e., from fissures.

Fissure water ingress varies considerably by the shaft. 'Other water' entering the system is as little as 5% of the total volume pumped to the surface at Kopaneng and Bambanani shafts, but as much as 35% at the K6 decline shaft, with the Kwezi decline shaft at 20% and the Simunye decline shaft at 25%. Since the area is already extensively mined, there is little likelihood of intersecting a significant underground lake.

Under normal circumstances, therefore, considering the installed pump capacity and the rate of fissure water ingress, accidental flooding at these operations is unlikely.

15.5 Roads, Rail, Ports, Pipelines and Other Infrastructure

The road network on the Kroondal Operations site consists of paved and unpaved roads, which are primarily used for the transport of personnel and for access to the offices, shafts, plants, and infrastructure positioned around the mine site. Rail and port infrastructure are not material as the product is transported by road to the smelter and refineries and by road or commercial airlines to the end consumer.

Pipelines are discussed in Section 15.1 and 17.4

15.6 Equipment Maintenance

15.6.1 Surface Workshops

Surface workshops for major repairs were converted to off-site repair facilities operated by third party suppliers in the neighbouring towns. Only minor repairs are done on the decline shafts.

15.6.2 Underground Workshops

Underground workshops are used for routine maintenance of equipment. All areas are well equipped. Facility configuration depends on the equipment that is being serviced to ensure compliance as per the requirements of the planned maintenance schedules. Workshop areas are well ventilated and illuminated, and floor areas are concreted.

15.7 Offices, Housing, Training Facilities, Health Services Etc.

The Kroondal Operations have central offices at various mines for shared services and offices at the shafts and plant for mine services. Support services for personnel are either provided at the central offices or in the surrounding cities and townships.

Kroondal Operations are near to several towns and cities at which some of the mine personnel live. The mine also provides mine housing and hostels for some of its personnel. Transportation from high population density areas serving the mine is operated by a third-party supplier. Otherwise, all transportation is public services or personal vehicles.

Training facilities are provided through the Sibanye Platinum Academy and central training near the Kroondal Operations (see adjacent properties Section 19).

Primary Health services are centralised at Operations shared by the Sibanye Platinum Operations.

15.8 QP Opinion on Infrastructure

The QP is satisfied that the infrastructure is appropriate and sufficient to support the LoM plan and that all material issues have been addressed in this document. There are no other infrastructure components that are material to the Kroondal operations.

16 Market Studies

16.1 Concentrates and Refined Products

Concentrate is sold to Anglo American Platinum (AAP) under a toll agreement where the downstream smelting and refining is carried out by AAP Rustenburg.

16.2 Metals and Marketing Agreements

The Kroondal Operations do not have direct Marketing agreements with parties other than AAP. AAP is responsible for the sale and marketing of the final product. The agreement was part of the original pool-and -share agreement which has been taken over by SRPM. The concentrate sale agreement is still in place as SPRM does not have facilities for smelting and refining.

16.3 Markets and Sales

16.3.1 Introduction

PGMs (also referred to as Platinum Group Elements or PGEs) comprise platinum, palladium, rhodium, ruthenium, iridium, and osmium. The Bushveld Complex in South Africa contains approximately 80% of the known global PGM mineralisation and produces approximately 80% of the world's annual PGM supply from the UG2 and Merensky Reefs.

Information on PGM markets is widely available in the public domain. Major refiner and manufacturer of products using PGM, Johnson Matthey, regularly publishes market reports. In addition, Sibanye-Stillwater commissioned an independent PGM market study by its research company, SFA Analytics (SFA Oxford), which was completed in October 2023. Information from these sources along with negotiated contracts, inform Sibanye-Stillwater's price and sales predictions. Given that palladium , platinum, and rhodium account for almost 100% of the revenue generated at Sibanye-Stillwaters Southern African PGM segment, this market review focuses on these three metals.

16.3.2 Platinum and Palladium Demand and Supply

16.3.2.1 Demand Drivers

The main uses of platinum are as a catalyst for automotive emissions control, in a wide range of jewellery pieces and in industrial catalytic and fabrication applications. Palladium is primarily used as a catalyst pieces and in industrial catalytic and fabrication applications. Palladium is primarily used as a catalyst in the automotive sector, mainly in gasoline-powered on-road vehicles, but alongside platinum in parts of the light-duty diesel engine after-treatment too. The second main use of palladium is in electrical components, specifically in multi-layer ceramic capacitors (MLCCs), as conductive pastes and in electrical plating.

Platinum

Through 2023, the platinum price oscillated in a narrow range between $1 080/oz and $904/oz, settling at $970/oz at the beginning of 2024. In 2023, global primary platinum supply is estimated to have grown by 1.4% year-on-year (y-o-y) to 5.56Moz, with production increases in South Africa, Zimbabwe and the North Americas offsetting a 1.2% (-8koz) y-o-y reduction in Russian production because of smelter maintenance at Nornickel. Through 2023, prolonged Eskom load curtailment in South Africa slowed the processing of an estimated 90koz of platinum contained in excess Work-in-Progress (WIP) stocks. Global primary platinum supply remains 8.8% (-538koz) lower than 2019's pre-COVID 19 pandemic production levels. Autocatalyst recycling provides the bulk of secondary PGM supply and contributed 1.4Moz of platinum in 2023, which is in line with 2022 recycling levels.

Platinum demand for all applications is projected to rise by 1% in 2024 to 7.7Moz, supported by growth in light vehicle production, which is recovering from the semiconductor chip shortage, and expanding use of platinum loaded gasoline autocatalysts. This autocatalyst demand accounted for some 3.5Moz or 44% of platinum demand in 2023 and is expected to continue at this level in 2024. Chemical, electrical, glass and medical demand for platinum is forecast to continue to rise steadily from 2023 demand levels of 1.7Moz. Through 2024, jewellery demand for platinum is expected to remain stable at or near 2023 levels (1.47Moz).

Platinum is required across the entire hydrogen value chain, including the upstream, mid-stream and downstream segments, and demand is predicted to rise from current levels of approximately 190koz per annum to some 365koz per annum by 2030. The hydrogen economy and industrial applications are therefore the long-term growth areas for platinum demand.

The platinum market's supply deficit of 450koz at the end of 2023 is forecast to continue through 2024 to a level of approximately 445koz by the end of the year.

Palladium

Palladium prices declined from $1 725/oz at the beginning of 2023 to $1 075/oz at the beginning of 2024.

Global primary palladium supply was reduced by 1.7% y-o-y in 2023 to 6.34Moz, with production increases in South Africa, Zimbabwe and the North Americas being eclipsed by reduced Russian production because of lower efficiencies related to alternative equipment sourcing (a consequence of the Russia-Ukraine conflict) and a period of smelter maintenance.

Global primary palladium supply in 2023 was 11.6% lower (-836koz) than pre-COVID 19 pandemic production levels in 2019, with Zimbabwe being the only jurisdiction to display growth since 2019 following the completion of the third concentrator at Ngezi Mine.

Primary palladium supply is forecast to increase 2.2% y-o-y in 2024, to approximately 6.42Moz, with higher palladium yields anticipated from mines in South Africa and the North Americas.

Over the next decade, secondary palladium supply from autocatalyst recycling is anticipated to grow from the 2023 level of 2.4Moz as the stock of aging light vehicles to be scrapped will progressively yield higher PGM loaded autocatalyst.

2023 is interpreted to have been a peak of all-application global palladium demand at 10.2Moz. Price-driven substitution for platinum in autocatalyst applications is anticipated to dampen 2024 demand to below 8.0Moz from the 2023 palladium-for-autocatalyst peak of 8.2Moz. Anticipated demand for palladium in all other applications, except for dental uses, is forecast to remain steady through 2024 at current levels of approximately 1.95Moz per annum. Dental use demand for palladium is forecast to continue to gradually decline from present levels of approximately 170koz per annum because of price driven substitution into alternative materials.

Palladium demand related to the hydrogen economy is restricted to the mid-stream and downstream segments including catalysts for methanol synthesis, and for sustainable aviation fuel and diesel manufacture. Some additional demand for palladium over the next decade will depend on the pace of development of these hydrogen economy segments.

It is anticipated that the 2023 palladium supply deficit of 1.49Moz will be reduced to a supply deficit of approximately 855koz in 2024.

16.3.2.2 Pricing Outlook

Palladium and Platinum Pricing Outlook

For business planning and Mineral Reserve estimation, Sibanye-Stillwater uses forward looking prices that it considers will stay stable for at least three to five years, and will significantly change if there is a fundamental, perceived long-term shift in the market, as opposed to basing it only on short term analyst consensus forecasts. Sibanye-Stillwater also considers its general view of the market, the relative position of its operations on the cost curve, as well as its operational and company strategy in its forecasting of forward-looking prices. On a monthly basis, Sibanye-Stillwater also receives an independent report from UBS Bank (Commodity Consensus Forecasts Report) which contains consensus outlooks from the various banks on a broad range of commodities. It benchmarks its forward-looking prices to the market consensus forecast.

Rhodium

Rhodium has been a significant revenue enhancer in the South African PGM mines. Rhodium prices have dropped dramatically in the last year from nearly USD16,000/oz to around USD4,000 oz in 2023. Recent news articles have attributed this in large part of the drop in demand from Chinese fibreglass manufactures producing a lower quality product that does not need Rhodium. Demand outlook for Automotive peaks at 1 Moz this year. Global rhodium demand peaks in 2025 at 1.1 Moz, after which automotive demand declines owing to ICE vehicles losing market share to BEVs. Industrial uses see some growth in the long term but remain a small part of overall demand. Total demand is expected to decline by 30% up to 2040.

Rhodium Supply is expected to decline in the long term mostly due to a 50% decline in production from the South African mines by 2040. Supply from Recycled autocatalysis is expected to rise by 60% by 2030. Despite reserve depletion South Africa will still be expected to account for 68% of the world supply in 2040.

The price demand and price outlook for Rhodium do not see any significant increases in the near to long term.

16.4 Metals Price Determination

Forward looking prices, based on market research that reflects "through the cycle" pricing, is considered in Mineral Resources and Mineral Reserves estimations. Mineral Resources price assumptions, which focus on longer timeframes, are based on moderately higher prices than for Mineral Reserves to reflect the ore-body flexibility. In this regard, rather than basing our assumption and referencing it to any one specific market study or report, it is derived via a management consensus view, taking into consideration market research. For this reason, and also taking into consideration that capital decisions on operating entities require price stability over long periods, for the PGM mineral properties, the USD based, forward looking commodity prices used for the 2023 life of mine Reserve estimates have largely been retained from 2022, with the only change relating to rhodium, where prices have been adjusted downwards to USD6,000/oz from US$8,000/oz. The longer-term outlook of USD1,250/oz for platinum and palladium are maintained based on our evaluation of sustainable, through the cycle, price assumptions.

The following are the commodities produced at Kroondal, the scenarios considered, and the final parameters chosen. Additional comment on Risk is provided in Section 21.1.2.

16.4.1 Exchange Rate

The two and three-year average and Mineral Reserve ZAR/USD exchange rate parameters are given in Table 55.

Table 55: Exchange Rates

	Two Year Average July 2021 to June 2023	30 Months Average January 2021 to June 2023	Forecast to December 2023	Three Year Average January 2021 to December 2023	Mineral Resource Price	Mineral Reserve Price
ZAR/USD exchange rate	16.48	16.09	18.80	16.54	17.00	17.00

16.4.1 Platinum Group Metals Price Deck

The two and three-year average prices for the Platinum Group Metals ("PGM") are tabulated below. For the Platinum Group Metals price deck, Sibanye-Stillwater forecasted the metal prices to the end of 2023 in order to determine a three-year average.

Sibanye-Stillwater has declared PGM Mineral Reserves with the metals prices as in Table 56.

Table 56: PGM Deck Price Scenarios

	Unit	Two Year Average July 2021 to June 2023	30 Months Average January 2021 to June 2023	Forecast to December 2023	Three Year Average January 2021 to December 2023	Mineral Resource Price	Mineral Reserve Price
Platinum	USD/oz	986	1,023	927	1,007	1,500	1,250
Palladium	USD/oz	1,982	2,104	1,245	1,961	1,500	1,250
Rhodium	USD/oz	13,680	15,726	3,933	13,761	8,000	6,000
Iridium*	USD/oz	4,187	4,381	4,341	4,375	3,000	2,500
Ruthenium*	USD/oz	491	482	393	467	350	300
Nickel*	USD/tonne	23,746	22,494	19,985	22,076	17,500	16,200
Copper*	USD/tonne	8,967	8,993	8,313	8,879	10,000	8,950
Cobalt*	USD/lb	26	25	15	23	25	22
Chrome*	USD/tonne	230	215	293	228	220	200
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Gold	USD/oz	1,723	1,644	1,806	1,671	1,800	1,659
Basket Price	USD/4Eoz	2,598	2,867	1,336	2,612	2,176	1,745
Basket Price*	R/4Eoz	42,808	46,144	25,121	43,216	36,995	29,668

*These metals are not used in the Mineral Resource or Mineral Reserve Estimation or Basket Price.

A comparision of the current Mineral Reserve price to the previous years is given in Table 57.

Basket price is an approximate price based on the metal proportions in Table 58. The projected metal proportions in the Technical- Financial Model (Table 76 to Table 79) use predicted proportions for the Mineral Resources and Mineral Reserves models.

Table 57: Comparison of Mineral Reserve Prices Current and Previous Year

	31-Dec-23			31-Dec-22		
Precious metals	USD/oz	ZAR/oz	ZAR/kg	USD/oz	ZAR/oz	ZAR/kg
Gold	1,650	28,050	901,827	1,657	24,855	799,106
Platinum	1,250	21,250	683,202	1,250	18,750	602,826
Palladium	1,250	21,250	683,202	1,250	18,750	602,826
Rhodium	6,000	102,000	3,279,371	8,000	120,000	3,858,084
Iridium	2,500	42,500	1,366,405	2,500	37,500	1,205,651
Ruthenium	300	5,100	163,969	300	4,500	144,678
Base metals	USD/lb	USD/tonne	ZAR/tonne	USD/lb	USD/tonne	ZAR/tonne
Nickel	7.35	16,200	259,198	7.35	16200	243,000
Copper	4.06	8,950	143,199	4.06	8,950	134,250
Cobalt	22.00	48,501	776,019	22.00	33,069	727,525
Chromium oxide (Cr_2O_3)[2], (42% concentrate)[1]	0.09	200	3,200	0.07	150	2,250

Table 58: Metal Proportions for Indicative Basket Price.

Metal	Proportion

Platinum	60%
Palladium	29%
Rhodium	10%
Gold	1%

17 Environmental Studies, Permitting, Plans, Negotiations/Agreements

17.1 Social and Community Agreements

17.1.1 Overview

Kroondal Operations' social performance is guided by our socio-economic development agenda, which is aimed at ensuring that Kroondal Operations contributes to the upliftment of the communities during and beyond mining activities. Sibanye-Stillwater's performance is supported by authentic stakeholder engagement, fit for purpose systems, credible data and capability that aligns with international standards and locally negotiated commitments. Sibanye-Stillwater's primary objective is to avoid harm to people and the environment, ensuring a stable operating environment in which all our stakeholders within the Company's footprint can derive value during the LoM. Sibanye-Stillwater will endeavour to create equitable engagement capability in host communities to ensure constructive dialogue with our neighbours. The key to responsible mining is protecting the Company's reputation as work continues building the Sibanye-Stillwater brand globally.

In line with Sibanye-Stillwater's approach to creating and sharing value, in 2020/1, Rustenburg operations conducted broad based stakeholder engagement and a socio-economic baseline to understand the socio-economic needs of stakeholders. The engagement highlighted gaps in the municipality-led Integrated Development Plan (IDP) process, which is meant to determine and prioritize the needs of communities that ultimately inform our social and labour plans (SLPs). There was also an apparent misunderstanding of SLP funding and related responsibilities. The company has a shared environment with Sibanye Rustenburg Platinum Mines (SRPM), which is responsible for the implementation of community development projects as part of the PSA.

Communities expressed frustration, believing that the mines do not respond to their grievances, particularly in relation to Corporate Social Investment (CSI) programs, procurement, and employment. To this end, the Company put in place a mechanism to ensure that a formal, proactive and responsive process is in place to deal with stakeholder grievances.

The findings support the feedback the Company regularly receives from its engagement partners and therefore, engagement and communication have been strengthened to ensure that stakeholders are informed and where applicable engaged and consulted on issues of mutual interest.

17.1.2 Legislation

The legislative framework is detailed in Section 17.5.1. As pertains to the social and community agreements, The Mining Charter includes Social and Labour Plan guidelines. Regulation 42 to the Minerals and Petroleum Resources Development Act requires mining companies to submit to the Department of Mineral Resources and Energy a Social and Labour Plan (SLP) as a pre-requisite for the granting of a mining right. These pans are required to be revised and resubmitted every five years during the life of a mining right.

Pillars within the Mining Charter III, endorsed through the SLP & Targets:

- Ownership
- Mine Community Development

- Housing and living conditions
- Employment equity
- Human Resource development
- Inclusive Procurement, Supplier and Enterprise development

17.1.3 Communities' Priorities

Kroondal community priorities are as follows:

- Supporting communities to deliver local social economic benefits through economic empowerment and the delivery on the Mining Charter and Social and Labour Plan commitments.
- Strengthening institutional capacity and unlocking and mobilizing partnerships and resources to resolve collective challenges.
- Deliver on programs that retain sustainable community benefits and its social impacts that are well understood by all stakeholders.
- Create shared value beyond compliance.
- Facilitate integrated spatial development by improving the living conditions and surrounding amenities for our workers.

Table 59 provides the status of current and planned SLP projects. Kroondal has three SLP's for the two mineral rights held and MR80 which is held by Sibanye Rustenburg Platinum (Pty) Ltd and is part of the pool and Share agreement (see Section 21.2)

Table 59: Kroondal (104MR) SLP Projects

No	Project Name	Partners	Status	Budget
Kroondal 5-year SLP Cycle (PSA): (2021-2025) MR 80 (approved)				
1	Extension of Kroondal Primary school	DOE	In progress	R15,539,770

2	Support to waste removal truck and skip bins	Commitment letter from RLM	In progress	R3,000,000
3	Construction of Tirelong secondary school	MOU with DOE	In progress	R31,504,000
4	Enterprise Development project	RLM	In progress	R20,774,000
Kroondal 5-year SLP Cycle:(2024-2028) 113 & 104 MR (submitted to DMRE Feb 2024)				
6	Early childhood Development programme- Learning and teaching support material and teacher development programme	DOE	To start in 2025	R2,784,000
7	Upgrade of water bulk connection at Ikemeleng	Glencore + RLM	In progress	R7,500,000
Kroondal 5-year SLP Cycle :(2024-2028) 368 MR (submitted to DMRE June 2023)				
8	Support to integration of Early childhood development to Basic Education learning and teaching	DOE	Start in 2025	R2,774,000

17.2 Human Resources

17.2.1 Introduction

This section includes discussion and comments on the human resources, health and safety-related aspects associated with the Kroondal Operations. Specifically, information is included on the current organisational structures and operational management, recruitment, training, productivity initiatives and remuneration policies, industrial relations, safety statistics and performance.

Kroondal follows the Sibanye-Stillwater Code of Ethics, which is fully compliant with the Sarbanes-Oxley Act of the United States of America. This policy was adopted and communicated to all employees. A Human Rights Policy has also been adopted, which confirms full compliance with all applicable International Labor Organisation Conventions.

17.2.2 Legislation

Various regulatory authorities, in addition to mining and labour codes, govern labour legislation in South Africa. In general, these are well established in conjunction with current operating policies and form the cornerstone of human resource management. High-level compliance in terms of the following key acts and associated regulations was assessed:

- Constitution of the RSA (Act 108 of 1996) (Constitution).
- Mine Health and Safety Act (Act 29 of 1996) and amendments (MHSA).
- The Occupational Health and Safety Act (85 of 1993) (OHSA).
- Labour Relations Act, 1995 as amended.
- Employment Equity Act, 1998 with specific reference to medical testing and HIV/AIDS.
- Compensation for Occupational Injuries and Diseases Act, 1993.
- Basic Conditions of Employment Act, 1997.
- Employment Equity, 1998 and
- Promotion of Equality and Prevention of Unfair Discrimination Act, 2000.

Kroondal is committed to promoting Historically Disadvantaged South African's (HDSA) in its management structure by instituting a framework geared toward local recruitment and human resources development. Vacancies are primarily filled by candidates from local communities. Where specialist skills are not available locally, they are sourced from outside local communities. The Mine's long-term objective is to have these skills shortages addressed via skills development programs(Table 60). Labour distribution and availability are shown in Table 61 to Table 63). Employee turnover is around 4-5% annually. Labour unavailability is approximately 13-14%% at with the primary reasons for absenteeism being annual leave and sick leave.

Table 60: Undertaking Guidelines

Undertaking	Kroondal is committed to attaining the 40% HDSAs in management target as set by the DMRE and recognizes that this refers to Management in the D, E and F Patterson bands.
Guidelines	Build capacity within the organisation through Human Resource Department (HRD) initiatives with preference given to individuals from designated groups. These employees to form the pipeline for the Company's talent pool and succession planning.

Table 61: HDSA in Management as at 31 December 2023

Occupational Level/Paterson Band	Prescribed Target	Current			Prescribed % by 2024
		Designated	Non-Designated	% Compliance	
Top Management (Board)*	50%				
Senior Management (EXCO)*	50%				
Senior Management (Other)*	60%	6	4	60,0%	60%
Middle Management Levels	70%	61	26	70,1%	70%
Junior Management Levels **	70%	728	193	79,0%	70%
Total HDSAs in Management		745	795	223	76.20%

*These numbers are reflected in accordance with the Mining Charter requirements and these individuals are not employed by the Operation. **Total Includes 35 temporary employees

Table 62: Kroondal Total Employees

Occupational Levels	Male				Female				Foreign		Total
	A	C	I	W	A	C	I	W	M	F	
Senior management	6	0	0	4	0	0	0	0	0	0	10
Professionally qualified and experienced specialists and mid-management	37	1	0	21	11	0	0	12	5	0	87
Skilled technical and academically qualified workers, junior management, supervisors, foremen, and superintendents	553	4	0	171	101	1	1	33	19	0	883

Semi-skilled and discretionary decision making	162	3	0	19	274	0	0	3	815	0	2741
Unskilled and defined decision making	636	0	0	1	421	0	0	0	237	3	1298
Non graded	14	0	0	0	20	0	0	0	0	0	34
TOTAL PERMANENT	2873	8	0	216	827	1	1	48	1073	3	5053**

**Total excludes 35 temporary employees

Table 63: Kroondal Total Contractors (excluding Ad- Hoc Contractors)

Occupational Levels	Male				Female				Total
	A	C	I	W	A	C	I	W	
Senior management	3	0	0	16	1	1	0	1	22
Professionally qualified and experienced specialists and mid-management	46	0	0	16	2	0	0	4	68
Skilled technical and academically qualified workers, junior management, supervisors, foremen, and superintendents	186	4	2	87	18	0	0	6	303
Semi-skilled and discretionary decision making	855	2	0	32	50	0	0	7	946
Unskilled and defined decision making	1346	4	0	13	177	1	0	2	1543
Total Contractors	2436	10	2	164	248	2	0	20	2882**

**Total excludes 84 Foreign Nationals

17.2.3 Human Resource Development (Training)

Kroondal has instituted a comprehensive program to train and develop its employees to the extent that they are able to function competently in their specific jobs, with particular reference to compliance with legislative requirements and to providing the capacity for individuals and teams to work safely and productively. These cover both technical/ vocational training and supervisory and managerial skills development. Kroondal typically spends a total of 5% of payroll on employee training and development programs.

Specific areas of focus in the training and development programs include:

- Functional literacy and numeracy;
- Safe working practice training by means of programs aligned with the requirements of the National Qualifications Framework;
- Interventions aimed at improving the business awareness and teamwork of employees at the lower levels of the organization in particular;
- Improved middle management skills through the implementation of an internal leadership program to help fulfil the human resources requirement of the Mining Charter;
- Systems to track and manage, on an integrated basis, employee development and performance; and
- Portable skills training.
- Cadet training,
- Safety training,

- Mining skills training, and
- Engineering skills training.

17.2.4 Remuneration Policies

Kroondal operates remuneration and employee benefits policies that recognize labour market conditions, collective bargaining processes, equity, and legislation.

17.2.5 Industrial Relations

Industrial relations are managed at several levels and in several formalised structures, encompassing the corporate and mining asset domains in accordance with several key driving factors. These include the prevailing legislative requirements, regulatory bodies, labour representation, collective bargaining arrangements, sectoral and operation specific employer-employee agreements, and the quality of labour relations management philosophies and practices.

An Employee Relations/Engagement framework also governs all engagements with organised labour and other stakeholders. The principal strategy elements are to entrench an improved understanding of the business imperatives on the part of labour, appropriate and timely intervention to pre-empt industrial relations issues and timely delivery by management on its undertakings to labour.

Some 91% of the permanent employees of Kroondal are paid up members of registered trade unions and associations. Most of these unionised employees are from the lower skilled level and are represented by the Association of Mining and Construction Workers Union (AMCU). Historically, trade unions with such a constitution have exercised a strong influence over social and political reform. The labour legislative framework reflects this by strongly empowering trade unions in the collective bargaining processes. The clear implication is that industrial relations are an area of critical focus for Kroondal.

17.2.6 Employment Equity and Women in Mining (WIM)

The purpose of the Employment Equity Plan is to ensure that a demographically appropriate profile is achieved through the participation of HDSAs in all decision-making positions and core occupational categories at the Operation. In striving to achieve 60 - 70% HDSA representation in the management structure and 25 - 30% participation of women in core mining occupations, Kroondal seeks to redress the existing gender and racial disparities. The plan reflects Sibanye-Stillwater's annual progressive targets and embrace the challenge to transform the composition of the Company's workforce and management. This is a business imperative to ensure that we tap into the entire skill base of the South African population. All efforts in this regard have been aligned with the National Development Plan and the UN Global Goals for Sustainable Development.

Where appropriate, Employment Equity is implemented in consultation with employee representative bodies. As a key business imperative for Kroondal, Employment Equity is critical in assisting the Operation to place competent employees in the correct jobs aligned with the Operation's objectives.

17.3 Health and Safety

17.3.1 Policies and Procedures

Since Sibanye-Stillwater's inception, Kroondal Operations has formed part of the Health and Safety Strategy and Policy development process, as well as the adoption and implementation thereof. The Safe Production Strategy that was developed as part of an ongoing safety improvement journey takes into account "fit for purpose systems" such as ISO 45001 that was published in 2018. The Sibanye-Stillwater Health and Safety Strategy and Policy is further aligned with the Mine Health and Safety Act, the International Council on Mining and Metals, the World Bank Policies and Guidelines, International Finance Corporation Operational Policies, and International Labour Organisation Conventions.

17.3.2 Statistics

Table 64 presents safety statistics for Kroondal and includes the total number of fatalities, fatality rate and the lost day injury frequency rate (LDIFR) from 2018 to 2023.

Table 64: Safety Statistics

	Units	2018	2019	2020	2021	2022	2023
Fatalities	(No)	1	0	1	2	0	0
Fatality Rate	(per mmhrs)	0.05	0	0.07	0.14	0	0
LDIFR	(per mmhrs)	6.36	4.24	6.83	4.87	3.01	3.4
MHSA Section 54's	(No.)	9	4	8	10	4	3

mmhrs = million-man hours worked

17.3.3 Occupational Health and Safety Management

The health and safety of our employees continues to be our first priority and we remain committed to ensuring a safe work environment at all of our operations. While zero harm remains our ultimate objective, our immediate goal is to eliminate fatal and serious incidents through our Fatal Elimination Strategy, which is comprised of the key pillars of: critical controls, critical lifesaving behaviors and critical management routines.

17.3.4 HIV/AIDS

Prevalence of HIV/AIDS at the Kroondal Operations, including both Rustenburg and Kroondal Operations is currently at around 15% of the workforce. However, the impact on sick absenteeism and mortality due to this pandemic is relatively low. This is attributed to the development and implementation of effective and comprehensive HIV/AIDS programmes, which includes the following elements:

- Creating a supportive workplace environment where discrimination is not tolerated to allow employees with HIV/AIDS to remain employed and productive.
- Access to Primary Health Care Clinics and Occupational Health Centres providing voluntary, confidential counselling and testing.
- Aggressive treatment of sexually transmitted diseases, which in turn reduce the risk of HIV infection.
- Prophylaxis and treatment of opportunistic infections related to HIV/AIDS.

Access to Antiretroviral therapy to help employees with HIV/AIDS to stay healthy and productive.

17.4 Environmental Studies

17.4.1 Introduction

As part of the Sibanye-Stillwater, Integrated Compliance, Governance and Risk (ICGR) framework, the Company has embedded a process for improved regulatory risk profile and action plans to address any gaps in the identification of risk, level of adequacy and effectiveness of control measures. This has provided the Environmental and Corporate Affairs Departments with a much clearer picture of all the legal requirements, its risk exposure and what mitigatory actions (compliance risk management plans)

need to be put in place to improve and ensure compliance. Updated and detailed public reports are available at https://www.sibanyestillwater.com.

The following generic environmental risks have been identified and are applicable to the Kroondal Operations:

- Lack of clarity from regulators in respect of Regional Closure and ground water pollution plume rehabilitation.
- The carbon tax implementation.
- The inclusion of VAT to the existing closure provisions.
- The quantification of as-yet unknown latent and residual liabilities and the resultant impact on the final quantum of the closure liability and/or our closure strategies.
- The sustained provision of potable water to our platinum operations in the Rustenburg area and
- Ongoing operational compliance to current and new environmental legislation.
- Theft and vandalism of equipment important for environmental compliance and monitoring by zama-zamas (illegal miners)

In addition, and from an Environmental, Social and Governance (ESG) perspective, the following key environmental and social legislation, and its associated subsequent amendments, was identified to be applicable, wholly, or partially, to the Kroondal Operations:

- Constitution of the RSA, 1996.
- The Companies Act, Act 71 of 2008.
- King IV Report on Corporate Governance for South Africa 2016 (Institute of Directors in Southern Africa NPC).
- Promotion of Administrative Justice Act, Act 3 of 2000.
- Protection of Personal Information Act, Act 4 of 2013.
- Minerals & Petroleum Resources Development Act (MPRDA), Act No 28 of 2002 and all its

- Minerals & Petroleum Resources Development Act (MPRDA), Act No 28 of 2002 and all its Regulations and subsequent Amendments.
- National Environmental Management Act (1998).
- National Environmental Management: Biodiversity Act, Act No 10 of 2004.
- National Environmental Management: Waste Act, 2008.
- National Nuclear Regulatory Act, 1999.
- National Environmental Management: Air Quality Act (NEM:AQA), Act No 39 of 2005.
- National Water Act (NWA), Act No 36 of 1998.
- Water Services Act (NWS), Act 108 of 1997.
- Labour Relations Act, Act 66 of 1995.
- Mineral and Petroleum Resources Royalty Act 28 of 2008.
- Hazardous Substances Act, Act No 15 of 1973.
- National Heritage Resources Act (NHRA), Act No 25 of 1999.
- National Forest Act, Act No 84 of 1998.
- National Road Traffic Act, Act 93 of 1996.
- Road Transportation Act, Act 74 of 1977.
- Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, Act No 36 of 1947.
- Conservation of Agricultural Resources Act (CARA), Act No 43 of 1983.
- National Veld and Forest Fire Act, Act No 101 of 1998.

- National Environmental Management: Protected Areas Act, Act 57 of 2003.
- Promotion of Access to Information Act, 2000.
- Agricultural Pest Act, Act No 36 of 1983.
- Skills Development Act, Act 97 of 1998.
- Skills Development Levies Act, Act 9 of 1999.
- Broad-Based Black Economic Empowerment Act, Act 53 of 2003 and
- Employment Equity Act, Act 47 of 2013.

An important change in the regulation of mining related environmental activities has remained the one made on 8th December 2014, with the launch of the so-called "One Environmental System" (OES), the Minister and thus the DMRE became the Competent Authority for environmental issues within the mining industry. The Minister of Environmental Affairs -Department is now referred to as the Department of Environment, Forestry and Fisheries (DEFF) became the appeal authority for mine environmental issues. Since its inception in 2014, the OES has not yet fully taken off. Not all of the relevant Government Departments/Regulators seem to be on-board with the new, stricter approval timeframes and/or other OES requirements which has led to the implementation of OES being, at best, mediocre and at worst, not meeting applicants' expectations. Subsequent to this change 8 years ago, the DMRE has become the lead authority for the approval of environmental authorisations and waste management licences. This has increased dependency on the DMRE by the mines as most approvals are granted by the DMRE and with the DFFE no longer granting mining related approvals.

In November 2015, the regulations regarding Financial Provisioning Regulations, 2015 (FP Regulations) were gazetted, with onerous legal obligations around financial provisioning on several closure-related issues. The mining industry has and is in the process of challenging these proposed regulations, with a view to having the most onerous regulations excluded from any revisions. Stakeholder engagement and consultation on the revised regulations is ongoing, and while the compliance date has been set as 19 June 2022, the final amended regulations have not been formally promulgated as yet. Sibanye-Stillwater has participated in previous public participation processes on these regulations, either as an interested and affected party, or as a member of the Minerals Council of South Africa.

These legislative amendments and changes, which is an ever-evolving process, have the sole objective of making the enviro-legal framework more robust, practical, and enforceable as well as to align any piece of environmental legislation or regulation to be in line with the Constitution and/or framework environmental legislation such as NEMA.

To comply with South African mining legislation, the commitments undertaken in the EMP and to ensure that operations are conducted to international good practice standards, it is necessary to regularly assess performance and progress against the EMP and the relevant Company policies. Environmental auditing is a well-developed field and provides the methodology and approach required to measure environmental performance.

Sibanye-Stillwater currently holds all material permits/authorisations required to conduct mining and

Sibanye-Stillwater currently holds all material permits/authorisations required to conduct mining and exploration at the Kloof operation.

Amendments to any or all the permits and authorisations will be done based on Driefontein's operational and applicable legal requirements.

Sibanye-Stillwater confirms that, as far as is practicable, Driefontein is aware of and compliant with the legal and other requirements that are applicable to its mining operations.

17.4.2 Baseline Studies

The Kroondal Operations began before the current Regulations were in place. The first Environmental Management Programme (EMPr) for Kroondal was approved in 1999. The EMPr was modified via various amendments during mine development in 2001,2004 and 2010. A consolidated EMPr for Kroondal was compiled in 2016 to combine the 1999 EMPr and all EMPr Amendments and updates into a single document. This document has since been revised in 2022 upon request from the DMRE in order to conclude approval of the consolidated document. The first Environmental Management Programme (EMPr) for PSA was approved in 2002 for K5 (Kwezi) Shaft, followed by an addendum which was approved in 2003. The first EMPr for Klipfontein Open-Pit and MK4 Shaft was approved in 2005. The first EMPr approval for K6 Shaft was in 2010. In 2016 these EMPr's were consolidated into a single EMPr for PSA and approved by the DMRE.

As at 31 December 2023, the EMPr is still relevant and remains in practice with minor adjustments or additions where a need is identified.

The assessment of the impacts for the 2016 EMPR was conducted according to a synthesis of criteria required by the integrated environmental management procedure. This methodology was constructed by SLR Consulting (Africa) (Pty) Ltd, the consultants who compiled the studies.

A summary of study areas and assessed environmental Impacts is given in Table 65.

Table 65: Summary of Anticipated Environmental Impacts (revised EMP,2016)

Section	Potential impact	Significance of the impact (the ratings are negative unless otherwise specified)	
		Unmitigated	Mitigated
Geology	Loss and sterilisation of mineral resources	High	Medium
Topography	Hazardous excavations/structures/surface subsidence	High	Medium
Soil and land capability	Loss of soil resources and land capability through pollution	High	Medium
	Loss of soil and land capability through physical disturbance	High	Medium
Terrestrial Biodiversity	Physical destruction of biodiversity	High	Medium
	General disturbance of biodiversity	High	Medium
Aquatic Biodiversity	Physical destruction and / or disturbance of aquatic biodiversity	High	Medium
Surface water	Pollution of surface water resources	High	Medium
	Alteration of natural drainage patters	High	Medium
Groundwater	Contamination of groundwater resources	High	Medium
	Dewatering	High	Medium
Air quality	Air pollution	High	Medium
Noise	Noise pollution	High	Medium
Visual	Visual impact	Medium	Medium
Blasting	Blasting impacts (fly rock, air blasts and ground vibrations)	High	Medium
Traffic	Traffic impact	High	Medium
Heritage/ cultural and palaeontological resources	Loss of heritage, cultural and palaeontological resources	High	Medium
Socio-economic	Economic impact	High positive	High positive
	Inward migration	High	Medium
Land use	Land use impact	High	Medium

17.4.2.1 Methodologies for Impact and Risk Assessment

The assessment results and criteria in the studies presented above are as submitted by the companies undertaking the assessments. Sibanye-Stillwater uses consultants for the specialists' studies. Each company has its own methodologies that it applies. Where there are no material conflicts with Sibanye's criteria, other studies, or regulatory requirements the methodologies are accepted as valid.

17.4.3 Zone of Influence

17.4.3.1 Studies and Methodologies

The Zone of Influence of the project the Kroondal Operations is defined as the area within which it has or can have material impacts or can influence impacts due to the establishment and continuation of the project's activities, products, or services. The Zone of Influence is unique to each project and each aspect thereof, is larger than the actual project footprint and can either be positive or negative.

The Zone of Influence is determined by evaluating and mapping the following environmental and social components of the project:

- Footprint and areas directly adjacent to the infrastructure erected for the project.
- The areas affected due to the following definitions:
    - Secondary impacts arise from other impacts that are directly due to the development.
    - Induced impacts are due to unplanned/unintended/secondary activities that are 'catalysed' by the project.
    - Cumulative impacts are results of numerous individual activities, which might not be material on their own, but which can interact or combine to cause material impacts.
- These areas can typically be impacted by surface and groundwater abstraction, surface and groundwater usage or discharges, seismicity, air quality, noise, visual and soil impacts, as well as invader vegetation infestation, protected areas destruction, loss of important biodiversity areas, and any other material impacts that may be identified during the Zone of Influence determination;
- Areas that will be deriving economic benefits from the project like adjacent towns and communities, as well as labour sending areas; and
- Surrounding environmental areas that can benefit or be impacted upon by the project.

For each environmental aspect, the Zone of Influence is determined independently and displayed on a map. A composite Zone of Influence for the entire project is then eventually determined.

For its major environmental aspects (e.g.: water discharges and air emissions) and resulting material impacts Kroondal has extended monitoring programmes and management systems in place to ascertain its impact on the environment and surrounding communities and therefore has a very good understanding of its material impacts on the above-mentioned areas. Management systems and procedures are in place to deal with those identified material impacts. Specialist studies required for environmental authorisations and Environmental Impact Assessments (EIA's) are further valuable sources of information to determine those areas potentially impacted upon by the project. Future specialist studies should include an update or revision of the Zone of Influence map for each aspect and material impact as well as a combined Zone of Influence per aspect. These are updated at varying frequencies as informed by specialist studies.

The determination and display of a composite Zone of Influence that includes environmental, social, and economic issues is a complex matter and has not been attempted by Kroondal yet. Current Zone of Influences are provided only for surface water resources as described in the Water Strategy Section of this report. Kroondal Operations have not determined the composite Zone of Influence (due to its complexity for a large-scale mining operation), but an individual specialist zone of influences have been compiled as part of environmental risk management. Examples: noise, visual, air, surface, and groundwater.

An attempt will be made in 2022/3 to determine, map and collate a composite Zone of Influence for Kroondal that may or may not also include the social Zone of Influence. Focus is currently placed on the determination and update of each aspect of the zone of influence through integrated specialist studies. These commenced in 2021 and will be completed in 2022, only thereafter can integration be pursued.

For each environmental aspect, the Zone of Interest is determined independently and displayed on a map. A composite Zone of Influence for the entire project is then eventually determined.

17.4.3.2 Groundwater

The groundwater Zone of Influence represents the following two scenarios:

- Secondary Impacts: These are currently defined by the pollution plumes emanating from waste storage facilities, namely the TSFs and Surface Rock Dumps ("SRDs"); and
- Induced and Cumulative Impacts: These are presented by the dewatered areas to allow for mining.

A comprehensive update of the groundwater specialist studies was undertaken in 2021 and was completed in 2022. These study findings are incorporated in the report.

The current groundwater data indicates that the zone of influence from a water quality perspective is largely limited to the source (boreholes located at the TSFs, dirty water dams and waste rock dumps) and plume boreholes (boreholes located within the expected plumes of the TSFs, dirty water dams and waste rock dumps). No dewatering impacts are expected or are highly localised to the shaft areas. Impacts from groundwater contamination may however occur on the adjacent Kroondal Tributary, due to the location of the contamination sources within the buffer area, and in some case historical area of the wetland. These impacts occur as a result of ground-surface water interactions. Refer to the Surface Water discussion for further information.

17.4.3.3 Surface Water

The surface water Zone of Influence is made up of areas influenced by secondary, induced, and cumulative impacts. However, the assessment of cumulative and induced impacts still requires further investigation as these impacts may be far-reaching and they become less apparent due the activities of others in the catchment. Alternatively, they may only become apparent in the future dependent on the environmental context, such as the climatic conditions. The Zone of Influence's represented below consider the secondary impacts that have been evaluated as associated with the current operational area of the mine.

Secondary Zone of Influence

Secondary zone of influence

The watercourses within this section of the Zone of Influence represent activities within the wetlands, drainage lines, rivers and the recommended buffer areas that have the potential or have already caused a change to the ecological function and service provision of the wetlands. An updated and detailed wetland delineation is being undertaken to ascertain an improved zone of influence.

Induced and Cumulative Impacts Zone of Influence

The Zone of Influence for the induced and cumulative impacts has been determined based on the compliance of the water quality of the surface water bodies. The end of the impact is considered to be the point at which 95% compliance to the Resource Water Quality Objectives ("RWQO") has been achieved for the year to date. The use of water quality as a means of determining compliance implies that all potential impacts whether from direct discharges, diffuse seepage and/or groundwater interflows would be assessed against the current applicable standards. The majority of the Kroondal Operations are located within the catchment of a tributary of the Hex River; hence the Hex River RWQOs have been used. However, it must be noted that the Kwezi (K5) and K6 Shaft operations are located in the Dorpspruit (also a tributary of the Hex River), these shafts however are located more than 500m from the nearest wetland, have limited dirty water areas that may contribute to seepage pollution and have no discharges, hence they are not considered to be impacting on the water resources at this time and not included in the current zone of influence. The Marikana (Aquarius) operations also have not been provided with a zone of influence as the surface water resources downstream of the operations have been consistently dry throughout 2022, thus no assessment against the RQOs can be performed. This assumption will continuously be re-evaluated as data and specialist studies continue. The tributaries and associated river systems for the abovementioned areas are however assessed in the RPM and Marikana TRS' as these operations are located downstream of the Kroondal and Marikana (Aquarius) operations.

The Kroondal Operations make-up almost the entirety of the Kroondal Tributary's catchment, as such water quality is heavily influenced by the mining operations. The impacts relate primarily to nitrate enrichment and elevated chlorides associated with the TSFs and dirty water dams. Numerous action plans are in place to improve the water quality and reduce the impacts to the tributary. The point AQS01 only shows 51% compliance to the RWQOs, while the point AQS06 improves to 72% compliance (Figure 48). Although the zone of influence criteria was not satisfied (I.e. 95% compliance to the RWQOs), the downstream Hex River system is considered in the neighbouring mine, Rustenburg Operations, zone of influence .The Kroondal zone of influence cannot be further extended downstream.

Although the water quality compliance to the RWQOs is poor it is expected that with the implementation of mitigation and restoration measures, the compliance can be improved to acceptable standards. Surface water montoring points are shown in Figure 48 and Figure 49.

Figure 48: Surface Water Drainage and Monitoring Points

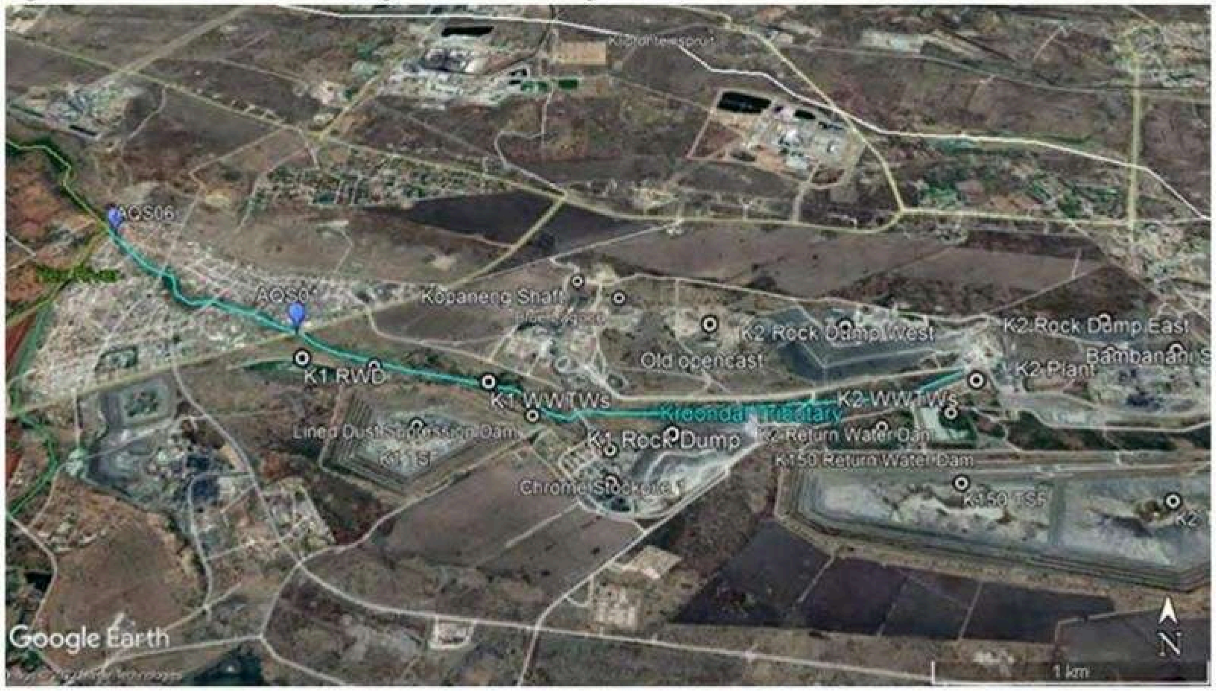
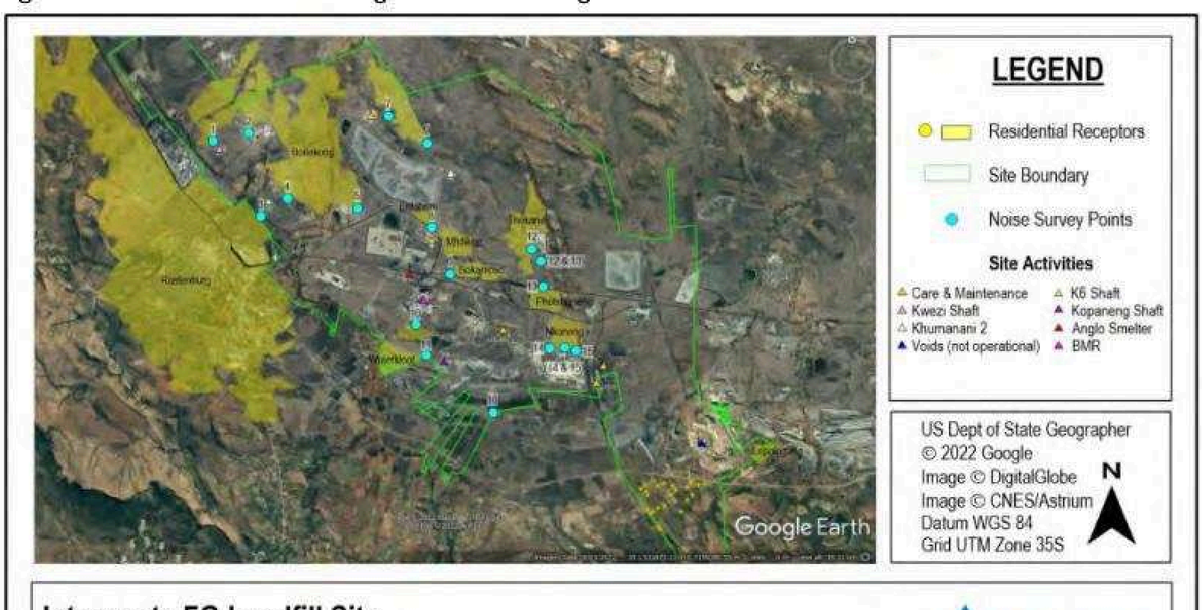


Figure 49: Surface Water Drainage and Monitoring Points



Interwaste FG Landfill Site

Noise survey locations (2022)

AIRSHED

17.4.3.4 Visual Zone of Influence

The latest Study on the visual Zone of Influence was completed in 2014(Newtown 2014). Prior to the establishment of the Kroondal Platinum Mine, the broader landscape already had a prominent mining influence as well as agriculture and rural residential (formal and informal land uses. The existing mining infrastructure at the time was in stark contrast to the natural or agricultural surrounds and dominant in most views within the area. Given this, the pristine appearance of the natural environment was considered to be already compromised prior to the establishment of the Kroondal Operations (SRK, 1999 Arnot and Stobart, 2016).

The landscape character of the broader area consists of slightly rolling plains with singular and clusters of smaller koppies. The Magaliesberg mountain range is a major landform which runs east-west approximately 10 km to the south.

Due to extensive mining over a long time-period, mining activities as well as dumps and storage structures of the mines, have become an integral part of the landscape topographical features and character. Interspersed with the mining operations are the Klipfontein, Waterval and Waterkloof Villages, small-to-medium businesses, and farming activities.

The mine and its surroundings have a strong sense of place dominated by the mining structures and activities within the study area. Another strong component is the residential settlements and the agricultural land use. The agricultural land use type is however a more prominent land use south of the N4 highway / R104 main artery and therefore gives the area a more pastoral sense of place. The area to the north of the N4 highway / R104 is dominated by mining activities with associated infrastructure as well as the townships and settlements associated with the mines.

When viewed from the perspective of tourists and community members, mining activities could be associated with a sense of disenchantment. People who benefit from the operations (employees, contractors, service providers, etc.) may not experience this disenchantment and be less susceptible to changes in the view.

Sensitive viewers include farmsteads/residences and tourist travellers along tourist routes. It is however noted that the views already include the current mining activities and structures. Thus, the sensitivity of viewers has already been compromised by the existing land use within the study area (Newtown, 2014).

Visual Zone of Influence study of 2014 is still relevant for the Kroondal Operations. This study forms part of the approved Kroondal EMP which is a legally binding document. The update of the study will be conducted when/if a new licence application is required due to the changed scale of the project activities. At this stage this is however not the case.

17.4.3.5 Noise Zone of Influence

Noise is generally defined as unwanted sound transmitted through a compressible medium such as air. Sound in turn, is defined as any pressure variation that the ear can detect. Human response to noise is complex and highly variable as it is subjective rather than objective.

To determine the noise Zone of influence, a direct application of linear scales (in Pa) to the measurement and calculation of sound pressure leads to large and unwieldy numbers. As the ear responds logarithmically rather than linearly to stimuli, it is more practical to express acoustic parameters as a logarithmic ratio of the measured value to a reference value. This logarithmic ratio is called a decibel or dB. Here, the linear scale with its large numbers is converted into a manageable scale from 0 dB at the threshold of hearing (20 µPa) to 130 dB at the threshold of pain (~100 Pa) (Brüel & Kjær Sound & Vibration Measurement A/S, 2000). Reference is generally made of the following indices when measuring the noise Zone of influence:

In assessing environmental noise either by measurement or calculation, reference is generally made to the following indices:

- • LAeq (T) – The A-weighted equivalent sound pressure level, where T indicates the time over which the noise is averaged (calculated or measured). The International Finance Corporation (IFC) provides guidance with respect to LAeq (1 hour), the A-weighted equivalent sound pressure level, averaged over 1 hour.
- • LAIeq (T) – The impulse corrected A-weighted equivalent sound pressure level, where T indicates the time over which the noise is averaged (calculated or measured). In the South African Bureau of Standards' (SABS) South African National Standard (SANS) 10103 of 2008 for 'The measurement and rating of environmental noise with respect to annoyance and to speech communication' prescribes the sampling of LAIeq (T).
- • LReq,d – The LAeq rated for impulsive sound (LAIeq) and tonality in accordance with SANS 10103 for the day-time period, i.e. from 06:00 to 22:00.
- • LReq,n – The LAeq rated for impulsive sound (LAIeq) and tonality in accordance with SANS 10103 for the night-time period, i.e. from 22:00 to 06:00.
- • LR,dn – The LAeq rated for impulsive sound (LAIeq) and tonality in accordance with SANS 10103 for the period of a day and night, i.e. 24 hours, and wherein the LReq,n has been weighted with 10 dB to account for the additional disturbance caused by noise during the night
- • LA90 – The A-weighted 90% statistical noise level, i.e. the noise level that is exceeded during 90% of the measurement period. It is a very useful descriptor which provides an indication of what the LAeq could have been in the absence of noisy single events and is considered representative of background noise levels. • LAFmax – The maximum A-weighted noise level measured with the fast time weighting. It's the highest level of noise that occurred during a sampling period.
- • LAFmin – The minimum A-weighted noise level measured with the fast time weighting. It's the lowest level of noise that occurred during a sampling period.

The following summarises the main findings from the noise zone of influence survey:

The acoustic climate of the area is characterised by a variety of public and industrial noises. Noise sources include industrial activities (i.e., SS Rustenburg and Kroondal mining and processing operations), community activities (i.e., pedestrians, children playing, domestic animals, etc.), heavy and light vehicle traffic, rail, and air traffic, as well as natural sources such as birds and insects.

- • Day-time acoustic climate:
  - o LAeq's ranged between 41.4 dBA (less than typical noise levels for rural districts) and 56.9 dBA

- (typical of urban districts).
- o Noise levels recorded at Site 3 and Site 8 were in exceedance of the IFC day-time noise level guideline of 55 dBA for residential areas by 2 dBA.
- o The IFC day-time guideline for industrial areas of 70 dBA was not exceeded at any of the sampling locations.
- o The highest day-time noise levels were recorded at Site 8 (directly south of Entabeni, ~2km north of the Anglo smelter) and is attributed to SS process and transportation operations.

- • Night-time acoustic climate:
    - o LAeq's ranged between 36.8 dBA (typical of rural districts) and 53.9 dBA (typical of central business districts).
    - o Noise levels recorded at Site 2, Site 3, Site 5, Site 7, and Site 11 were in exceedance of the IFC night-time noise level guideline of 45 dBA for residential areas.
    - o The IFC night-time guideline for industrial areas of 70 dBA was not exceeded at any of the sampling locations.
    - o The highest night-time noise levels were recorded at Site 3 (adjacent to Rustenburg and ~500 m southwest of K6 Shaft) and are attributed to road traffic.

17.4.4 Climate Change and Greenhouse Gas Emissions

Sibanye-Stillwater considers climate change as one of the most pressing global environmental challenges of our time. Sibanye-Stillwater recognises the importance of proactively managing its carbon footprint in the global context and is committed to contributing to a global solution through the deployment of responsible strategies and actions. To this effect, Sibanye-Stillwater monitors and reports on its carbon emissions (Table 66). Sibanye-Stillwater uses the Department of Environmental Affairs, Technical Guidelines for monitoring, reporting and verification of greenhouse gas emissions by industry (Version No. TG-2016.1 of April 2017) and the World Resources Institute, Greenhouse Gas (GHG) Protocol for determining its carbon inventory.

Furthermore, Sibanye-Stillwater is committed to contributing to a global solution by deploying responsible strategies and actions in the areas within which we operate:

- Implement the group energy and decarbonization strategy.
- Drive and achieve a carbon neutral position by 2040.
- Drive an absolute reduction of Scope 1, 2 and 3 GHG emissions to achieve a science-based target (Science Based Target Initiative (SBTi) approved) that is required to keep global

temperature increases below levels recommended by the latest climate science.

- Drive and implement initiatives and programmes to assess and understand our GHG emissions profile and carbon footprint in order to optimally reduce our carbon footprint.
- Implement the sourcing of carbon offsets in line with the Sibanye-Stillwater Carbon Offset Strategy, legislation and other principles that can be used to offset carbon emissions and that has the potential to offset the financial liability imposed by a carbon tax in specific jurisdictions.
- Promote awareness and drive initiatives to combat the impact of global warming and climate change.
- Deploy effective climate risk management strategies, taking into consideration ESG risks and stakeholder perceptions of risks.
- Adhere to the requirements as set out in Sibanye-Stillwater's policies, position statements and procedures.

Table 66: Kroondal Emissions Inventory 2023

Scope of emissions	Emissions (tonnes carbon dioxide equivalent – tCO2e)
Scope 1: Emissions from direct fuel sources such as petrol and diesel	30,004
Scope 2: Emissions from purchased electricity	327,326
Scope 3: Emissions from other indirect sources such as purchased goods and services	149,187

The South African Government has set out the country's nationally determined contributions to follow a peak-plateau-decline trajectory, where greenhouse gas emissions peak in 2020 to 2025, plateau for a ten-year period from 2025 to 2035, and decline from 2036 onwards.

Sibanye-Stillwater set a target in accordance with the science-based methodology to reduce its carbon emissions by 27%, from its 2010 base year by 2025. A base year is a reference point in the past with which current emissions can be compared. In order to maintain the consistency between data sets, base year emissions need to be recalculated when structural changes occur in the company that change the inventory boundary (such as acquisitions or divestments).

The base year emissions for Sibanye-Stillwater, recalculated in 2018 to incorporate the emissions from the US Operations, amount to 7 808 692 tCO2e.

Carbon Project

The Afrigle System has been implemented at all the shafts. The project entails a fuel management system (FMS), installed at all the shaft's filling stations.

The system provides accurate, automatic, electronic records and real-time reporting of fuel usage and eliminates driver intervention, data manipulation, unauthorised refuelling, possible theft and human error, enabling each shaft to understand their usage and better control fuel consumption and their resulting emissions.

17.4.5 Biodiversity Management

Since Sibanye-Stillwater took ownership of the Kroondal operations, there were no major infrastructure expansions that would have resulted in the loss of key biodiversity areas. Nevertheless, biodiversity management continues in terms of the following initiatives:

- Update of Biodiversity Management and Action Plans associated with specialist studies with a specific focus on alien and invasive plant management;
- Wetland delineations and health assessments, including impact assessments where new projects or project changes are planned to occur;

of project changes are planned to occur;
- Surface water monitoring in terms of quality, quantity, and biological taxa composition; and
- For any new projects, the Environmental Impact Assessment and Basic Assessment processes are also implemented which incorporate the identification of important biodiversity areas such as wetlands, cave systems and ridges.

A South African Non-Profit Organisation, the Endangered Wildlife Trust ("EWT"), has taken the lead in South Africa in developing an international voluntary reporting mechanism, called the Biodiversity Disclosure Project, similar in approach to the Carbon Disclosure Project. Sibanye-Stillwater contributed to the final document, the Biological Diversity Protocol ("BDP"), and has completed its first assessment of the BDP for its operations and will be reporting on this in the 2022 Annual Integrated Report. The assessment includes hectare equivalency accounts for ecosystems and plots the planned changes over time in order to inform management and mitigation measures to achieve our target of a net gain in biodiversity as based on the ecosystem state at the date at which Sibanye-Stillwater took ownership of Kroondal.

The assessment currently focuses on ecosystems and new mechanisms will be investigated in order to effectively assess species population data in a meaningful manner as current assessment measures are considered to be unviable (due to large areas and security considerations) and arbitrary (due to challenges in seasonality, specialist availability and geographical extent).

Sibanye-Stillwater developed its first Biological Diversity Procedure that embeds the mitigation hierarchy into all decision-making processes from feasibility to post-mining. It ensures the use of the best practice local science-based methods for monitoring and assessment, the outcomes thereof are then incorporated into option analyses along with consideration of health, safety, engineering, social and economic considerations to arrive at the best practicable and sustainable way forward. Ultimately it aims to enhance avoidance of impacts on sensitive ecosystems and thereafter integrate mitigation, restoration and off-setting to achieve our net gain and no net loss targets as applicable to the sites.

Managed by the EWT, the BDP will build the capacity of businesses to manage their biodiversity risks and opportunities and enable them to disclose their biodiversity performance in a standardised and comparable manner.

17.4.6 Water Use Strategy

Sibanye-Stillwater recognizes water as a critical resource. The Company further considers its integrated approach to the management of our water footprint and our water systems infrastructure as a key component of its business strategy.

The context summary of water use at the Kroondal Operations for 2023 is presented in Section 15.4.

17.4.6.1 Licensing

Kroondal Operations operates with approved water use licenses. These licenses were obtained for Kroondal, Kwezi and Marikana on 19 July 2011, 24 June 2011, and 4 October 2013, respectively. In addition, Kroondal and Marikana submitted their Integrated Water Use Licences Amendment Applications ("IWULA) on 31 October 2012 and 26 August 2014, respectively, and are awaiting approval for both amendments. Kroondal Operations received the K6 WUL on 02/07/2021, and the first external audit was already conducted in November 2021. Kroondal also applied for Kwezi WULA in 2022 and the estimated time of arrival was 9 Feb 2023. Kroondal applied for the Marikana Main Pit deposition WULA in 2022.

17.4.6.2 Geohydrological Analysis and Pumping Strategy

Geohydrology

Three studies undertaken in 2009, 2010 and 2012 to characterised deep and shallow ground flow conditions in Kroondal concluded apart from sections of the Hex River /Small Hex River fault system, there appears to be no major deep groundwater storage or hydraulic connectivity associated with the regional structures exposed underground.

Deep fissure inflow is generally limited to seepage and low inflow zones (associated with structural features). Hydro-chemical and isotope data indicate either the presence of old hypersaline groundwater with no significant recent groundwater recharge or as in the case of the Hex River /Small Hex River fault system, mixed saline and recharged surface water suggesting areas of circulation (Figure 50 and Figure 51).

Pumping Strategy

Shafts are equipped with water handling infrastructure to:

- Supply workings with required water;
- Treatment and recycling of water to minimise top-up requirements; and
- Pump systems to enable water re-cycling and removal of excess fissure water to ensure safe workings.

Some of the shafts on care-and-maintenance is used primarily for the removal of excess fissure water to ensure safe workings. Excess water is directed to other process users such as concentrators.

The water handling infrastructure is operated and maintained in accordance with engineering standards and procedures.

Figure 50: Rustenburg Regional Structures (Source: Zimmermann et.al., 2009)

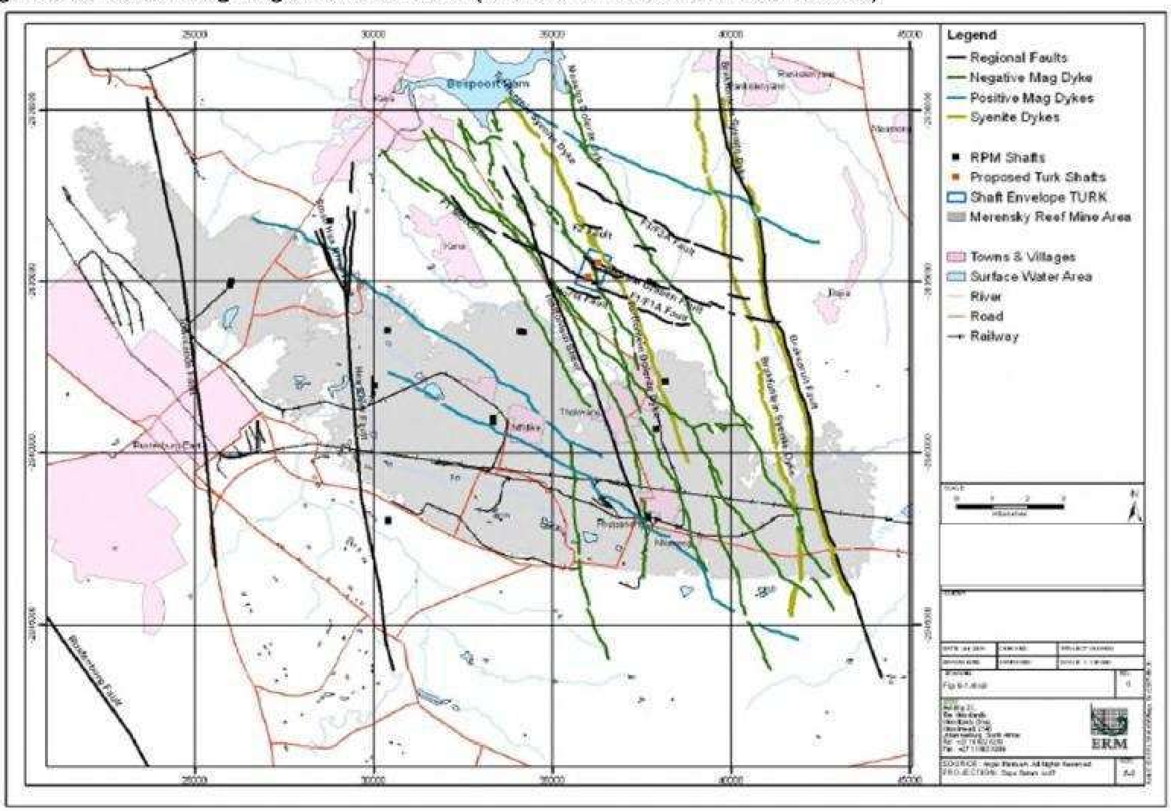
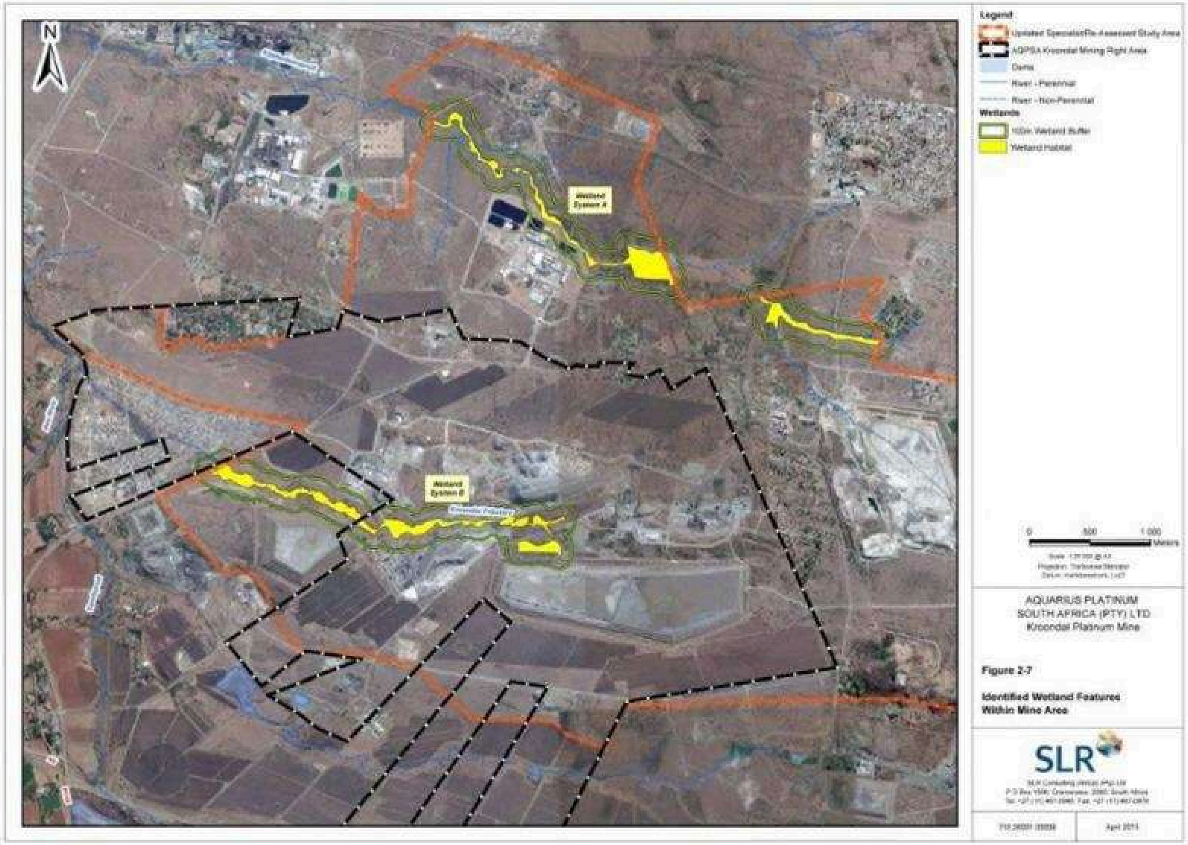


Figure 51: Sub-quaternary Reaches around Kroondal and source of potential contamination



17.4.6.3 Discharge

All water in the mining operations is kept in a closed water reticulation and therefore, no discharges are experienced on a continuous basis. However, from time to time, the operations may experience a dam overflow due to heavy rainfall in the summer periods. Our strategy is to minimise or eliminate any uncontrolled discharges through our storm water management systems and optimising dam capacity management.

17.4.6.4 Usage and Storage

The water distribution diagram of the Rustenburg – Kroondal Complex is presented in Figure 52. There are currently six active WWTW facilities namely the Khuseleka and Municipal WWTW situated in the Paardekraal Complex, the K5 WWTW situated in the Kroondal West Complex, the Waterval WWTW in the Waterval Village area of the Paardekraal Complex and the K1 and K2 WWTW facilities situated in the

Kroondal East Complex.

Eight active Tailings Storage Facilities (TSFs) receive tailings deposits from the various concentrator plants. Three of these TSFs (PK Central, PK 4 and PK 5) are located in the Paardekraal Complex, three (K1, K150 and K2) are located in the Kroondal East Complex, one (Hoedspruit) in the WLTR Klipfontein Complex section and one (Marikana) in the Klein Marikana Complex. Waterval West and East Tailings Dams in the

Paardekraal Complex are not active and only receive rainfall runoff. The Klipfontein Tailings Dam in the WLTR Klipfontein Complex is re-mined and receives recovered tailings from the Waterval East e-feed transported with trucks to the Klipfontein Tailings Dam from where the slurry is pumped to the WLTR Concentrator.

Potable water is supplied to various villages and hostels located in the Rustenburg - Kroondal Complex.

17.4.6.5 Water Conservation and Water Demand Management WCWDM

Sibanye-Stillwater listed the following strategic objectives as Water Conservation and Water Demand Management (WC focus areas):

Objective 1: Demonstrating thought leadership in WCWDM practices;

Our WCWDM plan presents a strategy and specific initiatives that aims to drive industry leading performance when it comes to responsible water management practices. Our aim is to align our strategy and initiatives to regional, national, and global strategies, where each initiative is implemented after thoroughly considering and aligning to all relevant social, environmental and governance requirements.

Objective 2: Drive business sustainability through ensuring availability of water to support safe and productive operations – water security and water independence;

Objective 3: Minimise the impact of our operations on water resources;

Achieve this through:

- Responsible and efficient use of water;
- Minimise uncontrolled and unlicensed discharge of water; and
- Minimise pollution of water.

Our plan is to improve the recovery of water from large facilities such as Tailings Storage Facilities (TSF's) and rock dumps. It also consists of monitoring regimes used to identify and minimise water leakages and excessive use.

We drive initiatives required to improve water storage and the control of process dams for each operation.

Water polluted with fuels, oils, greases, heavy metals, salts, and other possible pollutants are not fit for operational or potable use. It is not permitted to discharge water polluted beyond specified limits. Therefor pollution must be kept to a minimum. Our strategy aims to optimise the re-cycling of effluent water.

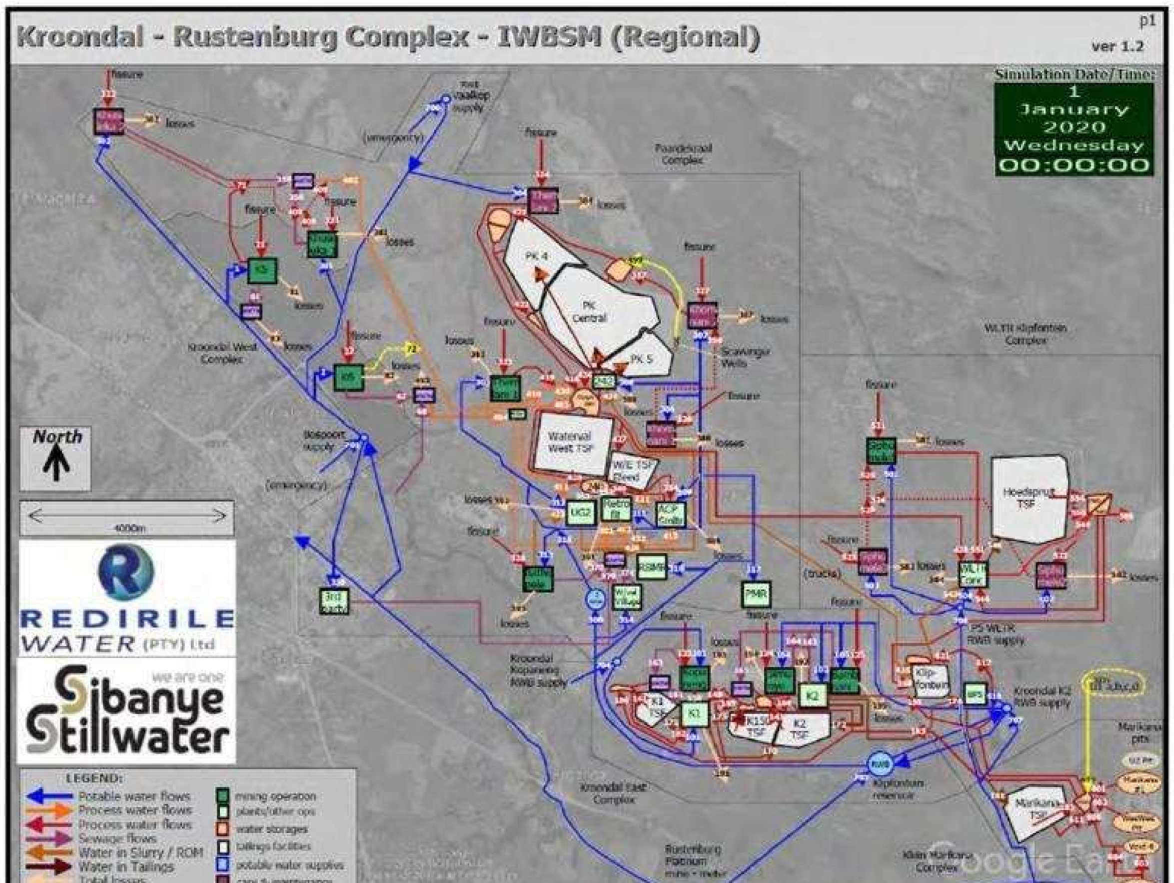
Objective 4: Drive business sustainability through continuous improvement, effective governance, and meaningful stakeholder engagement to promote WCWDM;

Each initiative in the WCWDM plan carefully considers business sustainability, such as risk and cost, and is evaluated, designed, and implemented within defined governance framework and procedures. A comprehensive Legislated Environmental Activity Procedure (LEAP) ensures that affected stakeholders are consulted and considered in the implementation of projects. The aim of Sibanye-Stillwater is to embed a culture of responsible water use among our employees and stakeholders.

Objective 5: Drive sustainable mine closure strategies

Given the priority of sustainable post mining economies, the management of water resources to benefit the region post-closure is important. Our aim is to implement closure strategies that considers the opportunities and risks associated with water resources available for future communities and economies.

Figure 52: The Schematic Process Flow Diagram for Water Handling at the Rustenburg-Kroondal Complex



17.4.7 Waste Management

The Kroondal Operations' waste management procedure follows the standard procedure outlined for the SA PGM operations. This procedure deals with all non-mineral general and hazardous waste streams generated at the various sites as is aligned with the waste inventory for the site. This procedure outlines the applicable legislation and required authorizations, storage and handling procedures, and lines of responsibility for mine residues and non-mineral wastes as classified in the 2015 study by En-Chem Consultants (Baldwin 2015). The SA PGM Segment developed and implemented new waste signage during 2021 in alignment with the waste classification regulations and best practices. This is in support of waste sorting at the source as well as to maximise reuse and recycling capabilities at our operations.

From a strategic waste management perspective, Sibanye-Stillwater published a Waste Position Statement in 2021, in which our strategic position on waste was communicated to internal and external stakeholders. Sibanye-Stillwater has committed to zero-waste-to-landfill by 2030, and this includes driving concepts and principles such as waste management hierarchy, a circular economy in which waste plays a more prominent role and waste minimisation. Waste reduction targets for specific priority waste streams are being investigated and will be set for implementation in 2023 and beyond.

Tailings Storage Facilities (are described in the Tailings Section (15.2) and Waste Rock Dumps are managed in accordance with the Mandatory Code of Practices for the relevant Mine Reside Deposits.

17.4.8 Environmental Reporting

17.4.8.1 Audits

To ensure continued compliance to the various licenses in place for the Kroondal operation, numerous internal and external audits are performed at varying intervals, based on the regulatory as well as practical management requirements associated with the relevant authorisations. The audit frequencies are summarised in Table 67 below:

Table 67: Kroondal Environmental Audits

Authorisation	Frequency of audit
Environmental Audit of the Kroondal Platinum Mine EMPR	Biennial
Environmental Audit of the PSA EMPR	Biennial
Internal Audit of the Kroondal Water Use Licence	Annual
Internal Audit of the K5 (Kwezi) Water Use Licence	Annual
External Audit of the Kroondal Water Use Licence	Biennial
External Audit of the K5 (Kwezi) Water Use Licence	Annual
External Audit of the K6 Water Use Licence	Annual

The auditing process follows the standard approach for auditing. Evidence to support compliance was reviewed which included a review of monitoring data, records, specialist reports, projects, operational procedures, design reports and other relevant documentation. Thereafter a detailed site visit was undertaken to verify the status of compliance of the required site management and mitigation

measures as prescribed. To obtain the percentage compliance, each commitment/condition was scored from 0 to 2, and the weight/definition of these scores was as follows:

- Commitments assessed to be compliant are awarded 2 points.
- Commitments assessed to be partially compliant are awarded 1 point and
- Commitments assessed to be non-compliant are awarded 0 points.
- Conditions that are not applicable or recorded as noted are not awarded any points and are not considered in the calculation of the results.

Summary of past environmental compliance audits Is presented in Table 68.

Audits were conducted by Environmental Legal Services and an independent external auditor.

Table 68: Summary of 2022 Audits for Kroondal

Authorisation	Date completed	Name of auditor	Qualification of auditor
Kroondal EMPR	December 2022	Anneline Dreyer	• Environmental Lawyer and qualified Legal Auditor .B.Proc. • Legal advisor for the Government with experience in the drafting, updating and interpretation of legislation, prior to joining SABS. • Involved in the establishment of the international ISO 14001 standard in South Africa on behalf of the SABS, 1996. • Appointed as the first environmental legal auditor to the SABS's certification body for a period of 3 years. • Private practice as a legal advisor since 1999. • Undertaken intensive legal compliance audits within the industry and mining sectors alike including the auditing of environmental authorisations (EA's), Integrated Water Use Licences, Waste Management Licences as well as performance assessments on approved EMPr's. She has developed and presented in - house legal courses, as well as drafted numerous legal opinions on the implications and interpretation of Legislation. Over 15 years of
PSA EMPR	December 2022		

			experience.
Kroondal Water Use Licence	October 2022	Ruan Dreyer	• B.Sc. Environmental and Biological Sciences (Geology) from the University of the North West (Potchefstroom) • B.Sc. Honours: Environmental Management from the University of South Africa (UNISA). • SAMTRAC course at NOSA (National Occupational Safety Association Ltd) • ISO 14001:2004 Understanding and Implementation course • ISO 14001:2004 Lead Auditors course, SABS • IRCA accredited ISO 14001:2015 Lead auditors' course, BSI • ISO 14001:2015 Understanding and Implementation course at the SABS • ISO 9001:2015 requirements course at BSI • Waste Management course at Interwaste, Hazard Identification and Risk Assessment course at HASLAC.
K5 (Kwezi) WUL	December 2023		

Authorisation	Date completed	Name of auditor	Qualification of auditor
K6 WUL	December 2023		• Over 10 years' experience in environmental management and Auditing and specializes in Environmental Audits, Waste Management Licence audits, Water Use Licence audits, Waste Assessments and classifications, Environmental Legal Gap analysis's, compliance monitoring to Environmental Authorisations (ROD's) issued in terms of the National Environmental Management Act, EMPr (Mining) Compliance Auditing and implementation of SHE management systems at Diamond Mines, Coal Mines, Gold Mines, Platinum Mines, Limestone Mines, Chemical Industry, Computer Manufacturing Industry, Railway Industry, Bearing Manufacturing Industry, Glass Manufacturing Industry, Construction Industry and Clutch Manufacturing Industry

It should be noted that action plans are reviewed and revised, if necessary, as actions are implemented to ensure the best way forward is continually followed. Therefore, action plans may vary over time.

The following material risks and action plans (Table 69) have been identified from the 2022 audits conducted for the Operation:

Table 69: Kroondal Material Risks and Action Plans

Audit	Overall Compliance	Finding / Risk	Action plan
Environmental Audit of the PSA EMPR	88%	Klipfontein Open-Pit mining was originally approved in the Kroondal Phase 4 EMPR and included in the Consolidated PSA EMPR, 2016. Following re-assessment of the mining methodology 15 years later, a few changes to the project as initially approved, are envisaged. Sibanye-Stillwater is currently in the process of identifying any changes that may require new or amended authorisations.	Following the possible change of scope of the planned Klipfontein Open-Pit Mining activities as previously approved, investigate and identify if any new, or changes to, authorisations are required, including the need for amendments to the mining right MR 80, the Consolidated PSA EMPR and/or the Water Use Licence.
Environmental Audit of the Kroondal EMPR	75%	No approval in place for the Kroondal Phase 2 EMPR, and subsequent Kroondal Consolidated Amendment of September 2016.	Obtain approval for the Kroondal Phase 2 EMPR activities, and additional amendments required, by resubmitting the EMPR to DMRE.
		No authorisation in place for the access road constructed through the diverted	If the access road is permanent, the IWUL needs to be amended to include the Section 21(c) and (i) activity. Determine if an EA and Section 24G in

		road constructed through the diverted Kroondal Tributary to the K2 DMS Dump.	terms of the National Environmental Management Act, 1998, for the activity would also need to be conducted.

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Audit	Overall Compliance	Finding / Risk	Action plan
		The Kroondal tributary Diversion around the K2 and K150 TSF's has not been maintained, including damage to erosion prevention measures and certain sections blocked off or no longer capable of conveying water during a flood or rain event.	Ensure that the Diversion is reinstated in accordance with an approved design and if designs are updated, ensure that they are approved and included in the IWUL, EMPr and other relevant Authorisations.
		Affected storm water management does not fully comply with GN 704, including the operation of surface water dams above maximum operating levels	Fully implement the recommendations made in the most recent Storm Water Management Plan and Surface Water Decant Study.
			(1) Ensure that a pool distance of 50m from the wall is maintained on all the TSF's as required by GN R632 of 24 July 2015.
			(2) Ensure that the capacity of the affected water reticulation system is maintained through regular de-silting of trenches, canals, silt traps, storm water dams and other affected water dams.

		Inadequate freeboard management and reduced capacity of affected water systems (TSF's and RWD's) to cater for the 1:50 year flood event.	(3) Fully implement the recommendations made in the most recent Storm Water Management Plan and Surface Water Decant Study.
			(4) Continue with the planned construction of downstream containment measures at K1 Plant and investigate the practicality and feasibility of upgrading the upstream containment measures.
			(5) Upgrade the upstream containment measures at the Concentrator Plants.

Audit	Overall Compliance	Finding / Risk	Action plan
External Audit of the K5 (Kwezi) Water Use Licence	75%	The following activities require authorisation under the following sections of the National Water Act, 1998: (1) Section 21 (g) for the Kwezi Shaft Waste Rock Dump. (2) Section 21 (c) and (i) for the future undermining of the Dorpspruit may be required.	Follow-up on approval of the IWUL Amendment Application submitted to DHSWS on 22 June 2020.
		Groundwater quality varies from marginal to poor with respect to SANS drinking water guidelines, with high levels of nitrates measured in certain areas.	Delineate the source/origin of pollution at Kwezi Shaft and implement remedial actions to contain pollution plume movement
External Audit of the Kroondal Water Use Licence	81%	No authorisation is in place for the following activities:	Apply for authorisation of all water use activities not currently authorised in the Kroondal WUL during the planned IWULA.
		- Kopaneng Shaft two "new" oil settling dams and two additional Erickson Dams	
		- Unauthorised crossing through Southern Kroondal Tributary Diversion	
		- Pipeline crossing the Kroondal Tributary Diversion	
		- New haul road crossing over the Kroondal tributary at the front and of the DMS 1 Dump	
		- Emergency DMS Dump North of the K2 Plant	
		No exemption in place for the K1, K150 and K2 TSF's, K1, K150 and K2 RWD's, DMS 1 Dump, DMS 2 Dump and K1 Dust Suppression Dam, in terms of Regulation 4 of GN 704 of 4 June 1999. Reg 4 for	Apply for exemption from Reg 4 of GN 704 during the IWUL Amendment Application process.

		Due to non-compliance with the deposition strategy at the K2 TSF, seepage was noted at the Northern and South-eastern sides of the K2 TSF.	(1) Ensure that a pool distance of 50m from the wall is maintained on all the TSFs as required by GN R632 of 24 July 2015.

Audit	Overall Compliance	Finding / Risk	Action plan
			(2) Implement the Recommended Actions in the SRK 2019 Annual and 2020 Quarterly TSF Reports.
			(3) Implement remedial actions to address the seepage risks that were detected at K2 TSF.
		Inadequate operation and maintenance of the affected water system at the plants and shafts contribute to the capacity constraints experienced	(1) Affected water dams should be operated below maximum operating levels, and in compliance with GN 704.
			(2) Implement effective level control mechanisms / devices.
			(3) Remove silt and reeds from dams, trenches, canals, and silt traps to ensure adequate capacity during a 1:50 year flood event.
		All of the findings are minor and associated with the operation and maintenance of affected process water systems, namely:	Ensure that dried silt / mud removed from the Mud Settling Dams is correctly disposed of.
		(1) Silt / mud removed from Settling Dams is left adjacent to WRD instead of	(1) Ensure that dried silt/mud removed

		being correctly disposed of as soon as it dries.	from the Mud Settling Dams is correctly disposed of as soon as it dries.
External Audit for K6 Water Use Licence	92%	(2) The Storm Water Dam (SWD) is being utilised as a process water storage facility but should be operated as empty as possible (to contain the affected storm water up to the 1:50 year flood event).	(2) Operate the SWD as empty as possible, to ensure adequate capacity up to the 1:50 year flood event.
		(3) SWD level monitor was removed, and the control room can no longer monitor water levels in this dam to timeously inform the Shaft of potential overflow risks.	(3) Re-install the level monitor at the SWD to enable the control room to monitor the SWD levels.
		(4) Lack of vegetation management in and around the SWD and other water channels.	(4) Vegetation in and around the SWD and water channels should be maintained and removed more frequently.

17.4.8.2 Findings

Findings are discussed in terms of overall compliance with the legislation that pertains to the environment and community. Refer to Table 70 for further details.

Sibanye-Stillwater confirms that Kroondal is compliant with the legal and other requirements that are applicable to its mining operations.

Table 70: Kroondal Compliance to Legislation

Authorisation/Approvals	Legislation	Date of Issue & Current Status
Converted Mining Right(s)	MPRDA	February 2007 Review MPM Mining Right sec 102 Variation of 113 MR to exclude portions; Kroondal platinum mini mining right sect 102 Variation of 104MR to include and exclude selected portions Section 102 submitted 7 July 2022
Environmental Management Programmes (EMPrs)	MPRDA/NEMA	2016
Water Permit	1956 Water Act	N/A
Water Use Licences (WULs)	NWA	2018
Atmospheric Emissions Licences (AELs)	NEM: AQA	Not applicable
Waste Management Licences (WMLs)	NEM: WMA	2012
NEMA Environmental Authorisations (where applicable)	NEMA	The Phase 2 EMPr are not yet approved but were in the process to get it approved General Authorisation for Kopaneng CS-6 vent shaft Klipfontein opencast expansion Protected Species Permit Application. Application to remove iron age heritage. Heritage relocation Permit Meccano pipelines & Dangerous goods installation EA Basic assessment Public review in progress till 13 Feb 2023 FBAT.

It should be noted that action plans are reviewed and revised, if necessary, as actions are implemented to ensure the best way forward is continually followed. Therefore, action plans may vary over time.

Compliance is evaluated against relevant legal and other requirements, including environmental authorisations/approvals. Findings are discussed in terms of overall compliance with the legislation that pertains to the environment and community.

17.4.8.3 Future Actions

Table 71 shows the future actions and projects for the Kroondal Operations.

Table 71: Future Actions

Project Description	Due Date	Status
Hydrogeological Assessments	March 2022	Complete
Wetland delineation studies	November 2022	Complete
Desilting and re-lining of K1 and K2 Concentrator storm water dams	December 2021	Complete
Implementation of 5-year dust management plan for Kroondal Haul roads and Kroondal K150 and K2 Tailings Dams	Project Commenced in October 2020. • Year 4 – 2024 – Order in progress • Year 5 – 2025	• Year 1 – Complete 2020/2021 • Year 2 – 2022- Complete • Year 3 – 2023 - Complete
Drilling of scavenger wells for management of ground water contamination and use of water within the operations to supplement purchased potable water.	November 2023	In Progress
Tailings Dam Break Analysis Assessments in order to comply with GISTM Standard Requirements	August 2023	In Progress
Implementation of K2Fly in order to gather environmental and data to support compliance to the GISTM Standard Requirements	August 2023	In Progress

EMPR consolidation and amendment	Submitted in March 2022, awaiting feedback / approval from DMRE	In Progress
Water Use Licence amendment	December 2023	In Progress

17.4.9 Closure Planning and Costs

17.4.9.1 Decommissioning and Closure Liabilities

The Operations are committed to on-going closure planning. Scheduled and unscheduled mine closure costs are reviewed and updated annually for financial reporting and regulatory compliance.

The National Environmental Management Act (NEMA), pertains to the financial provision for prospecting, exploration and mining and requires that a final rehabilitation, decommission and mine closure plan is developed which includes the determination of financial provision to guarantee the availability of sufficient funds to undertake rehabilitation and remediation of the adverse environmental impacts of mining. An amendment to GNR 1147 (Regulations for Financial Provision for Prospecting, Exploration, Mining and Production Operations,2015) in October 2016, extended the Transitional

Arrangements to February 2019 (which was subsequently further extended to February 2020 and again to June 2022). The alignment of these plans and documents to the 2015 FP Regulations is ongoing.

Compliance with the Financial Provisioning Regulations is required within three months from the first financial year-end following June 2022, which is the new promulgated compliance date for the amended FP Regulations. Therefore Sibanye-Stillwater Marikana Operations is required to be compliant by March 2023.

In order to ensure that all aspects potentially applicable during the closing of a facility is considered during the quantum assessment, a standard checklist have been provided by the guidelines which was used in compilation of this plan. It is however recognized that all the items will not always be applicable for all the areas, but it was considered in any event to make sure that all possible issues were addressed and assessed.

Closure Components to be considered during the Quantum Assessment are given in Table 72.

In addition, Long Term Care and Maintenance plans as well as Future Monitoring programmes will be established as part of the Closure Plans.

Table 72: Closure Components

Component No.	Description
1	Infrastructural Areas
1.1	Dismantling of processing plant and related structures (including overland conveyers and powerlines)
1.2	Demolition of steel buildings and structures
1.3	Demolition of other buildings and structures
1.4	Rehabilitation of roads and paved surfaces
1.5	Demolition and rehabilitation of railway lines
1.6	Other linear infrastructure
1.7	Disposal of demolition waste
1.8	Making good of infrastructure
2	Mining Areas
2.1	Open-pit rehabilitation, including final voids and ramps
2.2.	Sealing of shafts, audits, and inclines
2.3	Rehabilitation of stockpiles and processing residues
2.4	Rehabilitation of clean water impoundments
2.5	Rehabilitation of dirty water impoundments
3	General surface rehabilitation

3	General surface rehabilitation
3.1	Infrastructural areas
3.2	Other surface disturbances
4	Runoff Management
4.1	River diversions and watercourse reinstatement

Component No.	Description
4.2	Reinstatement of drainage lines
5	P&Gs, Contingencies and additional allowances
6	Pre-site relinquishment monitoring and aftercare

17.4.9.2 Life of Mine Planning and Closure

The current Life of Mine for Kroondal is to 2041, while the current mining right expires in 2042. An annual rehabilitation plan is developed for Kroondal that informs the budgeting process, while at the same time tracking concurrent rehabilitation implemented on site, to ensure that adequate funds are available for rehabilitation and remediation work during the life of mine.

The selection of potential land use options is dependent on the typical drivers of regional land use. In the RPM area, the key drivers of regional land use are mining (large and small scale), agriculture, tribal land/activities, and settlements. In light of the above, potential post mining land uses have been identified with the preferred land uses intensive agriculture, reinstating functionality of impacted ecological areas and protection of existing conservation areas, housing development and commercial and/or light industrial redevelopment.

17.4.9.3 Unscheduled Closure Cost Estimate

SRPM total closure liability and associated financial provision is based on unplanned closure, with specific costs allocated to the demolition of mining and associated infrastructure, the rehabilitation of mine-impacted land and post-closure monitoring and maintenance. The mechanisms and methods of the demolition, remediation and rehabilitation processes are described in rehabilitation and final closure plans.

plans.

However, as far as possible, SRPM will embark on a concurrent rehabilitation programme during the operational phase of the mine. This programme will be completed irrespective of unplanned closure and/or continued operations.

A closure cost estimate for an unscheduled closure at the Rustenburg Operations is updated annually, in line with the International Financial Reporting Standards ("IFRS") of the International Accounting Standards Board and South African Statements of Generally Accepted Accounting Practice as well as applicable environmental legislation (MPRDA and NEMA) and in accordance with the Draft GN1147.

The updated closure cost estimates for unscheduled closure as at 31 December 2023 amount to ZAR 390 million for the Kroondal Operations, and ZAR139 million for the Marikana Section. No financial discounting has been applied. The 2023 closure liability of ZAR1,781 million will be funded through a combination of cash in trust funds as well as third party financial guarantees.

During the 2023 closure costs assessment, an estimate of ZAR 390,121,485 has been calculated for unscheduled closure costs for the Kroondal Operations, which is made up of the following elements:

- infrastructural aspects – ZAR 75,836,770 (19.4% of the total estimate)
- mining aspects – ZAR 187, 266,666 (48.0% of the total estimate)
- general surface rehabilitation – ZAR 28,247,062 (7.2% of the total estimate)

- surface water reinstatement – ZAR 515,549 (0.1% of the total estimate)
- preliminary and general – ZAR 17, 511,963(4.5% of the total estimate)
- contingencies – ZAR 22,557,464 (5.8% of the total estimate)
- post closure cost – ZAR 28,023,011 (7.2% of the total estimate)
- additional studies – ZAR 30,163,00 (7.7% of the total estimate)

During the 2023 closure costs assessment, an estimate of ZAR 1,391,139,798 has been calculated for unscheduled closure costs for the Marikana Operations, which is made up of the following elements:

- infrastructural aspects – ZAR22,624,427 (1.6% of the total estimate)
- mining aspects – ZAR1,120,179,813 (80.5% of the total estimate)
- general surface rehabilitation – ZAR28, 902,148 (2.1% of the total estimate)
- surface water reinstatement – ZAR 4,464,339 (0.3% of the total estimate)
- preliminary and general – ZAR 70,570,347 5,1(% of the total estimate)
- contingencies – ZAR 88,600,533 (6.4% of the total estimate)
- post closure cost – ZAR 38,674,846 (2.8% of the total estimate)
- additional studies – ZAR 17,123,564 (1.2% of the total estimate)

Efforts to reduce the Kroondal closure liability resulted in a ZAR14,7m reduction using the 2022 closure liability as a baseline. Efforts included demolition projects, surface rehabilitation, changes in rehabilitation methodologies and the reworking of SRDs and TSFs where applicable.

17.5 QP Opinion

The QP is satisfied that all material issues relating to Environmental, Social and Governance have been considered in Kroondal's planning, including material issues related to environmental compliance, permitting and local individuals or groups. All relevant issues are being addressed, have plans in place to remedy any deficiencies or have been identified for further consideration.

18 Capital and Operating Costs

18.1 Overview

The following sections contain summaries of the capital and operating cost projections. Projections are compared to the last three years actual figures. Accuracy limits for metal pricing and costs are given in Table 85 in Section 21.1.1. All capital expenditure and operating cost estimates have been estimated to a maximum of +/- 20% accuracy and a Pre-Feasibility level of accuracy.

18.2 Capital Expenditure

Capital expenditure in Table 73 for Kroondal includes sustaining capital.

Ongoing capital expenditure estimates are based on a provision of an approximate 4% of operating cost expenditures for shallow mines, this percentage is based on historical spend, and the current business plan generally are included for the first year of the LoM plan. These amounts cater for expenditures of a capital nature and are considered prudent provisions (contingencies) to maintain the operations infrastructure, given that limited detail is provided beyond the current three-year horizon.

For the purposes of estimating Mineral Reserve sustaining capital is not itemized in the budget.

18.3 Operating Costs

This section provides details on the forecast operating cost estimates for Kroondal.

18.3.1 Operating Costs by Activity

Table 74 provides details of historical and forecasted operating costs by activity grouped according to:

- Mining costs–underground mining costs and surface sources costs, including ore handling costs.
- Processing costs, including tailings and waste disposal costs
- Production overheadsrelated o metallurgy, and
- The cost of maintaining key on mine infrastructure.

In addition, Kroondal has incorporated costs for environmental rehabilitation and closure and costs associated with terminal benefits, which will be payable on cessation of mining activities. No salvage values have been assumed for plants and equipment.

Allocated costs are related to proportional costs of regional and shared services between the various Sin=banye-Stillwater mining operations and corporate costs.

The operating costs are based on the current year's operational business plan and projected forward using the required production profile taking into account the likely physical changes in the operating using the required production profile taking into account the likely physical changes in the operating parameters over the full period of the LoM plan.

18.3.2 Operating Cost

The average operating cost for Kroondal for the Mineral Reserves estimation used in the LoM plan is ZAR1,506t. The actual operating cost for 2023 was ZAR 1,282/t for underground and surface combined. The five-year forecast average is ZAR1,478/t.

18.3.3 Surface Sources Costs

Kroondal does not retreat tailings or other wastes.

18.3.4 Processing Costs

The treatment cost for 2023 is estimated at ZAR171/t for underground material. For LoM, the expected unit costs increase as the production plan decreases. The average over the next five years is ZAR214/tonne.

18.3.5 Allocated Costs

Allocated costs have been forecast at an average of ZAR 667 million per annum for the next five years. These costs include costs for Rehabilitation, Royalties, Retrenchment cost, Engineering, Occupational Environment and Hygiene, Environmental Management, Health and Safety, and other typical centralised costs.

Table 73: Historical and Forecast Capital Expenditure

		Historical			Real Forecast										
	Units	2021	2022	2023	LoM	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
					Total	1	2	3	4	5	6	7	8	9	10
Sustaining Capital	(ZARm)	536	546	480	1,233	542	140	95	56	58	62	60	63	62	32

		Real Forecast				
	Units	LoM	2034	2035	2036	2037
		Total	1	2	3	4
Sustaining Capital	(ZARm)	1,233	31	30	0	0

Table 74: Historical and Forecast Operating Costs

		Historical			Real Forecast										
	Units	2021	2022	2023	LoM Total	2024 1	2025 2	2026 3	2027 4	2028 5	2029 6	2030 7	2031 8	2032 9	2033 10
Processing Costs	(ZARm)	0	0	0	1,308	0	601	532	348	235	155	147	161	158	163
Direct Shaft Costs	(ZARm)	4,704	5,137	5,197	28,509	4,668	4,386	4,124	3,195	2,021	1,194	1,168	1,230	1.209	1,235
Production Overheads	(ZARm)	822	865	940	6,542	1,011	984	941	614	424	297	293	302	299	303
Allocated Centralised Costs	(ZARm)	790	823	847	5,475	891	833	785	479	347	254	248	261	257	262
Total Operating Cost	(ZARm)	6,316	6,824	6,984	43,092	6,570	6,803	6,382	4,458	2,913	1,900	1,857	1,955	1,923	1,963
Enviromnmental	(ZARm)	-	-	-	-	-	-	-	-	30	28	-	-	-	-
Unit Costs															
Tonnes Milled	(Kt)	7,050	6,503	5,449	28,618	5,403	4,845	4,320	2,668	1,795	1,172	1,135	1,221	1,192	1,228
Operating Cost	(ZAR/t)	896	1,049	1,282	1,506	1,216	1,404	1,477	1,671	1,623	1,621	1,635	1,601	1,613	1,598
Allocated Centralised Costs	(ZAR/t)	112	127	155	191	165	172	182	179	194	217	219	214	215	214

		Real Forecast					
	Units	LoM Total	2034 1	2035 2	2036 3	2037 4	2038 5
Processing Costs	(ZARm)	1,308	159	147	106	72	-
Direct Shaft Costs	(ZARm)	28,509	1,216	1,147	890	825	-
Production Overheads	(ZARm)	6,542	300	290	256	230	-
Allocated Centralised Costs	(ZARm)	5,475	258	244	196	159	-
Total Operating Cost	(ZARm)	43,092	1,934	1,827	1,448	1,286	
Environmental	(ZARm)	1260	0	0	0	0	69
Unit Costs							
Tonnes Milled	(Kt)	35,671	1,202	1,106	788	541	-
Operating Cost	(ZAR/t)	1,561	5,261	5,717	7,747	11,292	-
Allocated Centralised Costs	(ZAR/t)	155	215	221	249	294	-

19 Economic Analysis

19.1 Introduction

The following Section presents a discussion and comment on the economic assessment of Kroondal. Specific comment is included on the methodology used to generate the financial models for Kroondal to establish a base case, including the basis of the techno-economic model, modelling techniques and evaluation results.

19.2 Economic Analysis Approach

Kroondal can be classified as a Production Property as it has significant, detailed cost and capital information specific to the geographic and economic locality of its assets. The cash-flow approach is the most appropriate method to use for economic analysis.

19.3 Economic Analysis Basis

The assumptions on which the economic analysis is based include:

- All assumptions are on 31 December 2023 money terms, which is consistent with the Mineral Reserve declaration date.
- Royalties on revenue are consistent with relevant South African legislation (0.5 – 9% based on the formula) (refer to Table 75).
- Corporate taxes that can be offset against assessed losses and capital expenditure (refer to Table 75).
- A Real base case Discount Rate of 5% , which is approximately the current and short-term inflation rate forecast, was used similar to the previous year with Kroondal being a stable proven operation, and
- Discounted cash-flow (DCF) techniques applied to post-tax pre-finance cash flows. Sensitivity analysis was performed to ascertain the effect of discount factors, product prices, total cash costs and capital expenditures. The post-tax pre-finance cash flows presented for the mining asset incorporate macroeconomic projections as set put in Table 76 and Table 77.
- The Technical – Economic Model is presented in real terms are based on annual cash-flow projections determined at the end-point 31 December.
- As the Kroondal Operations are on-going with an annual positive cashflow, the internal rate of return (IRR) and payback period are not applicable.

19.4 TEM Parameters

Table 75 provides details of the parameters applied in the Technical – Economic Model.

Table 75: Technical – Economic Model Parameters

Parameter	Units	Historical
Corporate Tax Rate	(%)	27%
Royalties (based on the formula)	(%)	0.5% - 12.5%
Trading Terms		
Debtors	(Days)	3
Creditors	(Days)	45
Stores	(Days)	45
Balance at 31 December 2023		
Debtors	(ZARm)	1,417
Creditors	(ZARm)	373
Stores - opening balances	(ZARm)	85
Unredeemed Capital - 31 December	(ZARm)	
Environmental Closure Liability – 31December	(ZARm)	571
Terminal Benefits Liability based on LoM	(ZARm)	419
Assessed Losses	(Years)	N/A

The following working capital parameters have been applied in the model: Debtors – 3 days; Creditors – 45 days; and Stores – 45 days. Sibanye-Stillwater has indicated that the balances for working capital will be settled at the effective date of the Mineral Reserve declaration, and as such the opening balances have been set to zero.

The corporate tax rate applied is based on a formula that uses capital expenditure and assessed tax losses. Royalties are calculated using the formula for refined metals [Royalty Payable = 0.5+ (EBIT/Gross Sales)/9].

19.5 Technical Economic Model

The technical inputs used to determine the financial parameters for the TEMs are provided in Table 76 to Table 79 as well as an assessment of the financial parameters on a unit cost basis: ZAR/4Eoz.

Table 76: TEM – Mining, Processing, PGM's Sold and Revenue, Cash Costs, Taxation, Capital Expenditure and Free Cash - 2022-2033

		LoM	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
	Units	Total	1	2	3	4	5	6	7	8	9	10
Underground Mining												
Development	(m)	23,642	11,739	8,363	3,086	453	0	0	0	0	0	0
ROM**	(kt)	28,618	5,403	4,845	4,320	2,668	1,795	1,172	1,135	1,221	1,192	1,228
Head Grade	(g/t)	2.44	2.37	2.39	2.39	2.39	2.41	2.56	2.33	2.55	2.59	2.56
Recoveries	(%)	81.8%	81.5%	81.6%	81.6%	81.3%	81.4%	82.5%	80.8%	82.5%	82.7%	82.5%
PGM Ounces	(4E0z'000)	1,837	336	304	271	166	113	80	69	83	82	83
Recovered Grade	(g/t)	2.00	1.93	1.95	1.95	1.94	1.96	2.11	1.89	2.11	2.14	2.11
Surface												
ROM	(kt)	0	0	0	0	0	0	0	0	0	0	0
Head Grade	(g/t)	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0
Recoveries	(%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0	0	0	0	0
PGM Ounces	(4E0z'000)	0	0	0	0	0	0	0	0	0	0	0
Recovered Grade	(g/t)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Processing												
Ore Processing	(kt)	28,618	5,403	4,845	4,320	2,668	1,795	1,172	1,135	1,221	1,192	1,228
Head Grade	(g/t)	2.44	2.37	2.39	2.39	2.39	2.41	2.56	2.33	2.55	2.59	2.56
Recoveries	(%)	81.8%	81.5%	81.6%	81.6%	81.3%	81.4%	82.5%	80.8%	82.5%	82.7%	82.5%
Recovered Grade	(g/t)	2.00	193.5%	195.1%	195.0%	193.8%	196.0%	211.1%	188.6%	210.8%	214.3%	211.1%
PGM Produced	(4Eoz)	1,837	336	304	271	166	113	80	69	83	82	83
Basket Price												
Basket Price	(R/4Eoz)	29,667	30,130	30,024	29,951	30,016	30,168	29,724	29,616	29,484	29,209	28,979

		LoM	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
	Units	Total	1	2	3	4	5	6	7	8	9	10
Revenue												
4E Revenue	(ZARm)	50,629	8,458	8,659	7,701	4,737	3,237	2,246	1,938	2,319	2,282	2,298
Other Metals	(ZARm)	2,126	444	348	309	183	123	88	76	92	91	93
Base Metals	(ZARm)	1,835	376	332	306	150	104	69	67	72	71	73
Revenue from sales of mining products	(ZARm)	54,590	9,278	9,339	8,316	5,071	3,465	2,404	2,081	2,483	2,444	2,463
Operating Cost												
Direct Operations Cost	(ZARm)	43,092	6,570	6,803	6,382	4,458	2,913	1,900	1,857	1,955	1,923	1,963
RBN Royalties	(ZARm)	0	0	0	0	0	0	0	0	0	0	0
Terminal benefits costs	(ZARm)	419	0	0	0	178	114	0	0	0	0	0
Environmental closure cost	(ZARm)	126	0	0	0	0	31	26	0	0	0	0
Royalty payable	(ZARm)	330	46	49	45	29	21	15	14	17	17	18
Recurring pre-tax income from continuing operations (EBITDA)	(ZARm)	10,623	2,662	2,487	1,889	406	386	462	211	512	504	482
Taxation	(ZARm)	2,610	572	634	484	94	89	108	41	121	119	122
Net Income from continuing operations	(ZARm)	8,013	2,090	1,853	1,404	311	298	354	170	391	385	361
Capital Expenditure	(ZARm)	1,233	542	140	95	56	58	62	60	63	62	32
Net Free cash	(ZARm)	6,780	1,547	1,713	1,309	255	239	292	110	327	322	329

**ROM includes tonnage from Rustenburg Mine accessed through the Kroondal infrastructure see Section 21 for more information.

Table 77: TEM – Mining, Processing, PGM's Sold and Revenue, Cash Costs, Taxation, Capital Expenditure and Free Cash - 2034-2038

		LoM	2034	2035	2036	2037	2038
	Units	Total	11	12	13	14	15
Underground Mining							
Development	(m)	23,642	0	0	0	0	0
ROM	(kt)	28,618	1,202	1,106	788	541	0
Head Grade	(g/t)	2.44	2.53	2.56	2.69	2.64	0.00
Recoveries	(%)	81.8%	82.3%	82.5%	83.4%	83.1%	0.0%
PGM Ounces	(4E0z'000)	1,837	80	75	57	38	0
Recovered Grade	(g/t)	2.00	2.08	2.11	2.24	2.19	0.00
Surface							
ROM	(kt)	0	0	0	0	0	0
Head Grade	(g/t)	0.00	0.00	0.00	0.00	0.00	0.00
Recoveries	(%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PGM Ounces	(4E0z'000)	0	0	0	0	0	0
Recovered Grade	(g/t)	0.00	0.00	0.00	0.00	0.00	0.00
Processing							
Ore Processing	(kt)	28,618	1,202	1,106	788	541	0
Head Grade	(g/t)	2.44	2.53	2.56	2.69	2.64	0.00
Recoveries	(%)	81.8%	82.3%	82.5%	83.4%	83.1%	0.0%
Recovered Grade	(g/t)	2.00	2.08	2.11	2.24	2.19	0.00
PGM Produced	(4Eoz)	1,837	80	75	57	38	0
Basket Price							
Basket Price	(R/4Eoz)	29,667	28,682	28,184	28,112	27,880	0

		LoM	2034	2035	2036	2037	2038
	Units	Total	11	12	13	14	15
Revenue							
4E Revenue	(ZARm)	50,629	2,198	2,016	1,524	1,015	0
Other Metals	(ZARm)	2,126	89	83	63	42	0
Base Metals	(ZARm)	1,835	71	65	47	32	0
Revenue from sales of mining products	(ZARm)	54,590	2,359	2,164	1,634	1,089	0
Operating Cost							
Direct Operations Cost	(ZARm)	43,092	1,934	1,827	1,448	1,159	0
RBN Royalties	(ZARm)	0	0	0	0	0	0
Terminal benefits costs	(ZARm)	419	0	0	0	127	0
Environmental closure cost	(ZARm)	126	0	0	0	0	69
Royalty payable	(ZARm)	330	18	18	14	10	0
Recurring pre-tax income from continuing operations (EBITDA)	(ZARm)	10,623	407	320	172	-207	-69
Taxation	(ZARm)	2,610	101	78	46	0	0
Net Income from continuing operations	(ZARm)	8,013	306	242	126	-207	-69
Capital Expenditure	(ZARm)	1,233	31	30	0	0	0
Net Free cash	(ZARm)	6,780	274	212	126	-207	-69

Table 78: TEM – Unit Analysis (ZAR/4Eoz) – 2024-2033

		LoM	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
	Units	Total	1	2	3	4	5	6	7	8	9	10
Basket Price												
Basket Price	(R/4Eoz)	29,667	30,130	30,024	29,951	30,016	30,168	29,724	29,616	29,484	29,209	28,979
Revenue												
4E Revenue	(R/4Eoz)	27,557	25,164	28,498	28,434	28,489	28,621	28,233	28,139	28,024	27,782	27,580
Other Metals	(R/4Eoz)	1,157	1,321	1,145	1,141	1,103	1,087	1,111	1,111	1,111	1,111	1,111
Base Metals	(R/4Eoz)	999	1,120	1,093	1,128	903	922	872	971	873	859	872
Revenue from sales of mining products	(R/4Eoz)	29,713	27,606	30,735	30,702	30,495	30,630	30,215	30,221	30,008	29,752	29,563
Operating Cost												
Direct Operations Cost	(R/4Eoz)	23,454	19,548	22,391	23,562	26,809	25,757	23,888	26,965	23,622	23,410	23,553
RBN Royalties	(R/4Eoz)	0	0	0	0	0	0	0	0	0	0	0
Terminal benefits costs	(R/4Eoz)	228	0	0	0	1,072	1,005	0	0	0	0	0
Environmental closure cost	(R/4Eoz)	69	0	0	0	0	271	330	0	0	0	0
Royalty payable	(R/4Eoz)	180	138	160	167	174	182	188	197	204	211	219
Recurring pre-tax income from continuing operations (EBITDA)	(R/4Eoz)	5,782	7,920	8,184	6,973	2,440	3,415	5,809	3,059	6,182	6,131	5,790
Taxation	(R/4Eoz)	1,420	1,703	2,085	1,788	568	783	1,359	589	1,462	1,450	1,460
Net Income from continuing operations	(R/4Eoz)	8,013	6,217	6,099	5,185	1,872	2,632	4,450	2,470	4,720	4,681	4,330
Capital Expenditure	(R/4Eoz)		1,614	461	351	337	516	776	877	767	760	382
Net Free cash	(R/4Eoz)	8,013	4,604	5,638	4,834	1,535	2,116	3,674	1,593	3,953	3,921	3,948

Table 79: TEM – Unit Analysis (ZAR/4Eoz) – 2034-2038

		LoM	2034	2035-	2036	2037	2038
	Units	Total	11	12	13	14	15
Basket Price							
Basket Price	(R/4Eoz)	29,667	28,682	28,184	28,112	27,880	0
Revenue							
4E Revenue	(R/4Eoz)	27,557	27,320	26,882	26,819	26,615	0
Other Metals	(R/4Eoz)	1,157	1,111	1,111	1,111	1,111	0
Base Metals	(R/4Eoz)	999	884	873	822	840	0
Revenue from sales of mining products	(R/4Eoz)	29,713	29,314	28,865	28,752	28,566	0
Operating Cost							
Direct Operations Cost	(R/4Eoz)	23,454	24,030	24,365	25,480	30,399	0
RBN Royalties	(R/4Eoz)	0	0	0	0	0	0
Terminal benefits costs	(R/4Eoz)	228	0	0	0	3,338	0
Environmental closure cost	(R/4Eoz)	69	0	0	0	0	0
Royalty payable	(R/4Eoz)	180	227	234	244	253	0
Recurring pre-tax income from continuing operations (EBITDA)	(R/4Eoz)	5,782	5,057	4,267	3,029	-5,423	0
Taxation	(R/4Eoz)	1,420	1,260	1,045	818	0	0
Net Income from continuing operations	(R/4Eoz)	8,013	3,797	3,222	2,211	-5,423	0
Capital Expenditure	(R/4Eoz)		390	396	0	0	0
Net Free cash	(R/4Eoz)	8,013	3,407	2,826	2,211	-5,423	0

19.6 DCF Analysis

The following NPV sensitivities are included in this Section:

NPV's at a range of discount factors in relation to the Discount Rate of 5% (Real) are shown in Table 80. A range of discount factors from 0% to 10% with their associated NPVs are presented for each case. From Table 82, Kroondal at different discount factors and the sensitivity to the discount factor can be evaluated. Based on the sensitivity of the discount rate, it can be seen that the Kroondal Operations are very robust and supports the declaration of the 31 December 2023 Mineral Reserve.

NPV sensitivity to sales revenue and capital expenditure derived from twin parameter sensitivities at the Discount Rate of 5% (Real) (Refer to Table 81). Twin parameter sensitivities are presented evaluating Revenue against capital expenditure costs. Capital expenditures are estimates until contracts, which specify the deliverable, are signed by clients. It is for this reason that Kroondal presents sensitivities for capital costs from -20% to +20%. The most optimistic analysis, which assumes prices have been under-estimated by 20% and capital expenditure costs over-estimated by 20%, yields an NPV in the top right-hand corner of Table 81. Conversely, the most pessimistic analysis, which assumes prices have been over-estimated by 20% and capital expenditure costs under-estimated by 20%, yields an NPV in the bottom left-hand corner of Table 81.

Twin parameter sensitivities are presented evaluating Revenue against operating costs. NPV's at higher product price levels are shown up to a 20% increase in price, which captures any upside potential. Since markets are inherently volatile, the downside risk is reflected in the 20% decrease in price in increments. The achievability of LoM plans, budgets and forecasts cannot be assured as they are based on economic assumptions, many of which are beyond the control of Kroondal. Future cash flows and profits derived from such forecasts are inherently uncertain and actual results may be significantly more or less favourable. It is for this reason that Kroondal Operations presents sensitivities for operating costs, ranging from -20% to +20%. The most optimistic analysis, which assumes prices have been under-estimated by 20% and operating costs over-estimated by 20%, yields an NPV in the top right-hand corner of Table 82. Conversely, the most pessimistic analysis, which assumes prices have been over-estimated by 20% and operating costs under-estimated by 20%, yields an NPV in the bottom left-hand corner of Table 82.

Table 80: NPV (Post-tax) at Various Discount Factors

Discount Factor (%)	NPV (ZARm)
0.00%	6,780
2.00%	6,426
5.00%	5,975
7.00%	5,717
10.00%	5,385

Table 81: Twin Parameter NPV (Pre-tax) Sensitivity at a 5% Discount Rate (Revenue, Capital Expenditure)

Post-Tax NPV@5%		Revenue Sensitivity Range						
(ZARm)		-20%	-10%	-5%	0%	5%	10%	20%
Capital cost sensitivity range	-20%	-2,924	1,635	3,914	6,194	8,473	10,753	15,312
	-10%	-3,034	1,525	3,805	6,084	8,364	10,643	15,202
	-5%	-3,089	1,470	3,750	6,029	8,309	10,588	15,147
	0%	-3,143	1,416	3,695	5,975	8,254	10,534	15,093
	5%	-3,198	1,361	3,640	5,920	8,199	10,479	15,038
	10%	-3,253	1,306	3,585	5,865	8,144	10,424	14,983
	20%	-3,363	1,196	3,476	5,755	8,035	10,314	14,873

Table 82: Twin Parameter NPV (Post-tax) Sensitivity at a 5% Discount Rate (Revenue, Operating Costs)

Post-Tax NPV@5%		Revenue Sensitivity Range						
(ZARm)		-20%	-10%	-5%	0%	5%	10%	20%
Total operating cost sensitivity range	-20%	4,108	8,667	10,946	13,226	15,505	17,785	22,344
	-10%	482	5,041	7,321	9,600	11,880	14,159	18,718
	-5%	-1,331	3,228	5,508	7,787	10,067	12,346	16,905
	0%	-3,143	1,416	3,695	5,975	8,254	10,534	15,093
	5%	-4,956	-397	1,882	4,162	6,441	8,721	13,280

	10%	-6,769	-2,210	69	2,349	4,628	6,908	11,467
	20%	-10,395	-5,836	-3,556	-1,277	1,003	3,282	7,841

19.7 Summary Economic Analysis

The summary economic analysis of Kroondal is based on the Discounted Cash-Flow Approach. The economic analysis has been undertaken to support the declaration of the Mineral Reserves and is not intended for valuation purposes as proposed by any international valuation codes. Table 83 contains the summary economic evaluation for Kroondal is based on the current business plan of the operation and excludes any impact of other taxes and adverse international or local events, impact of that risk is illustrated in Table 81 and Table 82 indicating sensitivity impact as a result of fluctuations in operating cost, capital and metal price sensitivities are presented in Table 83.

Table 83: NPV (Post-tax) Relative to ZAR/4Eoz Basket Price at a 5 % Discount Rate

Long Term Price (R/4Eoz)	Revenue Sensitivity Range						
	-20%	-10%	-5%	0%	5%	10%	20%
NPV@ Base case discount Rate	-3,143	1,416	3,695	5,975	8,254	10,534	15,093

19.8 QP Opinion

The QP is satisfied that the economic analysis fairly represents the financial status of the operation as at 31 December 2023.

20 Adjacent Properties

Kroondal is part of the Western Limb of the Bushveld Complex. Positions of these mines are shown in Figure 2. Below is a list of adjacent mines/operations. Table 84 gives the mine, owner, commodities mined and link to the Company websites of the adjacent operations. For current information on these properties, the reader should refer to the official websites. Mineralization on the adjacent properties is continuous across all properties however, variations across the deposit occur and the quantum and grade of the mineralization at these mines may not be indicative of the same at Kroondal.

The Kroondal and Rustenburg Mines are a single orebody with shared services and infrastructure. Data from the Rustenburg Operations has been used in the estimation of Mineral Resource and some operations information such a s costs and technical information has been shared in the estimation of the Mineral Reserves. Refer to Section 21.2 for details information.

Rustenburg and Marikana are owned and operated by the Registrant. There are shared services between these operations and the Kroondal Operations. The QPs for these mines are the same as for the Kroondal Operations. The QP's have verified the information in the public sources.

Table 84: Adjacent Mines/Operations

Mine name	Owners	Commodities	Source of info
*Rustenburg Operations	Sibanye-Stillwater	PGM	https://www.sibanyestillwater.com/
*Marikana Operations	Sibanye-Stillwater	PGM	https://www.sibanyestillwater.com/

21 Other Relevant Data and Information

21.1 Risk Analysis

21.1.1 Financial Assessment Accuracy

Table 85 provides details of accuracy limits in the major financial categories. Kroondal does not directly report contingencies for operating costs but rather provides for this as part of sustaining capital at 4% of operating cost.

There are no new capital projects and no assessed capital risks.

Table 85: Financial Assessment Accuracy

Risks	Mitigation Measures
Price Risk (Mineral Reserve Risk) - Revenue	-assessed the prices using various sensitivities
	(-10% to +10%)
	- the forecast price considered multiple scenarios
Economic Viability Risk (Mineral Reserve Risk) - Operating Costs	-assessed the Operating Costs using various sensitivities
	(-20% to +20%)
Economic Viability Risk (Mineral Reserve Risk) - Capital Expenditure	-assessed the Capital Expenditure based on 4% of operating costs for sustaining capital and technical studies for new projects
	(-20% to +20%)

21.1.2 Risk to the Mineral Resources and Mineral Reserves

21.1.2 Risk to the Mineral Resources and Mineral Reserves

As part of the annual operational planning process, the Rustenburg Operations management team assessed all the major risks that impact the execution of the plan. Sibanye-Stillwater maintains operational risk registers at the corporate level detailing all significant risks that may impact the operations. The Risk registers are reviewed and updated quarterly.

Risks are listed by the source of the risk, the type of operational risk. Risks are assessed for likelihood of occurrence and severity for inherent risks to assess the unmitigated impact on the operations. The risk is reassessed once reasonable mitigation plans have been applied to give a residual risk using the same scale as for inherent risk. The following major risks have been identified.

21.1.2.1 Mineral Resources

There are no deemed material risks to the Mineral Resource Estimate.

21.1.2.2 Mineral Reserves

The key operational risks that could impact the Mineral Reserves are listed below.

Commodity prices and exchange rate assumptions

Sibanye-Stillwater has adopted forward-looking price assumptions. Any material deviations from these assumptions could impact the Mineral Reserves, especially at marginal operations. The assumed PGM prices are higher than current spot prices, implying a degree of short-term risk should these prices persist and the longer term forecast not realise. The QPs are of the view that these prices applied to the LoM plan are realistic considering the external guidance received.

ESG and social unrest

The SA PGM operations are situated in close proximity to large communities with high unemployment rates and low incomes. As such, it is continually at risk to social unrest events. From a social and governance perspective, the Group has implemented appropriate objectives and initiates to address this risk. From an environmental perspective, the area experiences significant pressure on potable and fresh water supply. The adoption of the PGM water stewardship, GHG and footprint reduction during will enable these operations to meet the requirements defined by our ESG commitments.

Eskom electricity supply

Loadshedding and load curtailment due to unreliable and erratic electricity supply from the national service provider has started to impact productivity at the operations. Even though Sibanye-Stillwater is actively working towards becoming less reliant on Eskom, it will still be exposed to this risk in the short to medium term.

Cost escalation

Cost escalation assumptions relating to factors such as wages, utilities like electricity and operational consumables (explosives and steel) are aligned with Group estimates. Continuous improvement initiatives adopted to contain cost escalation are in place to mitigate this risk.

Operational risk

Operational underperformance and slower than planned production build-up at projects may result in variations between planned and achieved production rates. Short interval controls are in place to enable the implementation of timeous interventions and, therefore, correction of deviations to plans.

21.2 Rustenburg and Kroondal Shared Mining Services

The following information on the PSA is provided for clarity.

Sibanye-Stillwater currently operates the Kroondal Operations ("Kroondal"), which is located adjacent to Sibanye-Stillwater's Rustenburg operation. The Kroondal Operations is subject to a 50/50 pool and share agreement ("Kroondal PSA") between Kroondal Operations Proprietary Limited and Sibanye Rustenburg Platinum Proprietary Limited ("SRPM"). SRPM acquired its 50% interest in the PSA from Anglo Platinum Limited's wholly owned subsidiary Rustenburg Platinum Mines Proprietary Limited for a cash

Platinum Limited's wholly owned subsidiary Rustenburg Platinum Mines Proprietary Limited for a cash consideration of R1.00 plus the assumption of RPM's portion of all associated liabilities (including closure costs) associated with the PSA which transaction became effective on 1 November 2023 ("RPM Transaction").

By the end of 2020 certain shafts at Kroondal had reached the boundaries of the Kroondal PSA lease area (Against the SRPM operation). In order to allow the affected Kroondal PSA shafts to continue

operating, by extending mining into the SRPM mining right area, with effect from January 2021, a contractor mining agreement was agreed between the Kroondal and SRPM, providing for the purchase and mining of some of the SRPM operations Mineral Reserves from the Kroondal infrastructure (the "Contractor Agreement"). The SRPM ore is purchased by Kroondal at a price equal to the project costs incurred in mining the SRPM ore plus and an amount of R1.00 (one rand) per contained 4T Ounce .The Contractor Agreement has ensured ta LOM extension at certain Kroondal shafts as it allowed access to additional Mineral Reserves which would otherwise have been less economic to mine from SRPM infrastructure. It has also accelerated the mining of selected SRPM Mineral Reserves through Kroondal infrastructure.

Kroondal continues to mine ground from both Kroondal and SRPM for the 50/50 benefit of both parties through the PSA. The rights and obligations of the PSA Agreements were transferred to SRPM through the RPM Transaction. The profits are currently distributed accordingly to the PSA agreement 50/50 and NOT proportional to the attributable Mineral Resources or Mineral Reserves.The first seven properties in the list below are part of the PSA and constitute the material property Kroondal Operations-PSA which is managed by KOPL. The remaining portion of NW82MR is part of another material property and managed as the Rustenburg Operations.

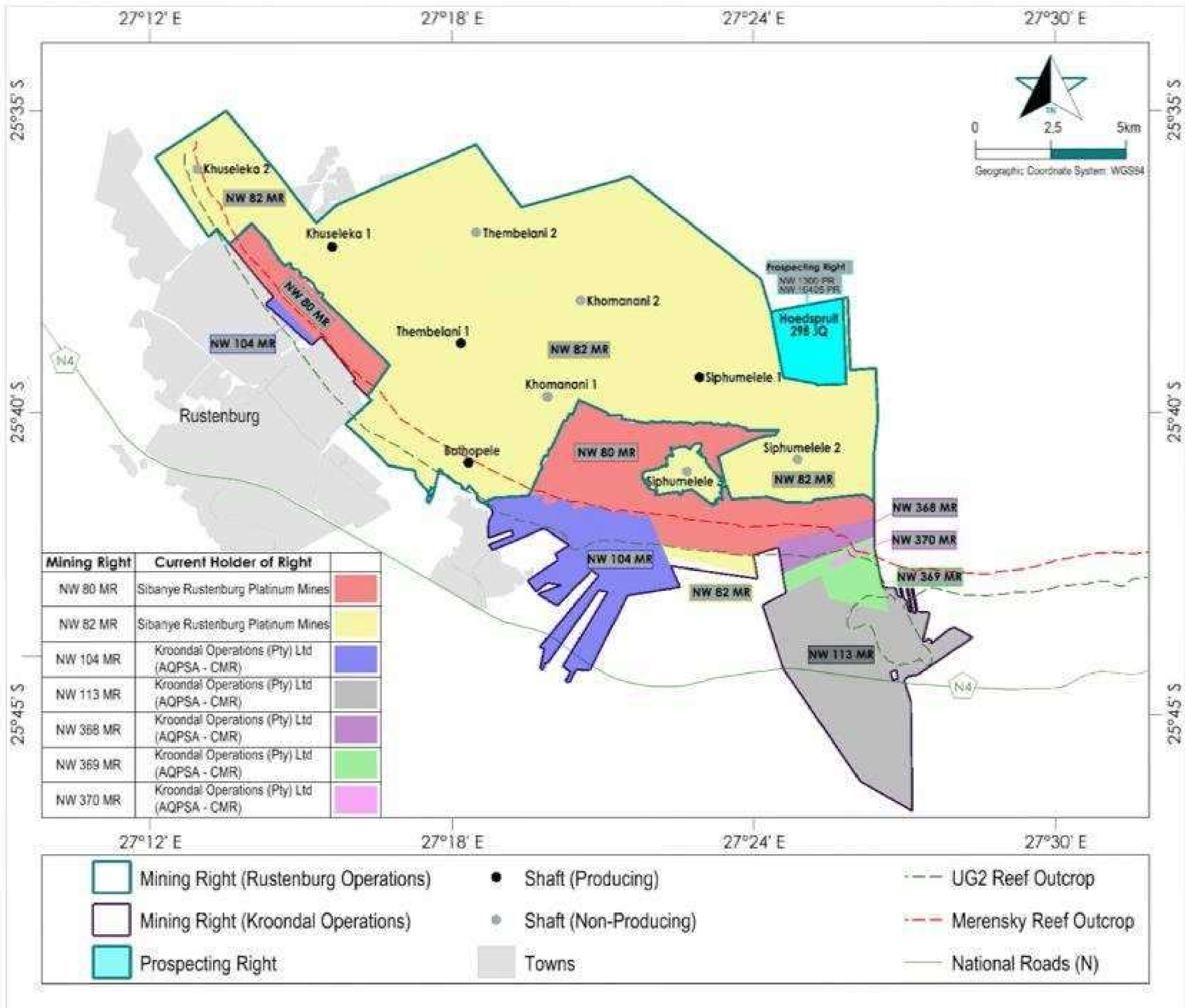
The full extent of the mineral rights is presented in Table 86 and Figure 53.

Table 86: Mineral Right Properties of Kroondal and SRPM

MR Holder	Mining Right	Area	Portion	Operator
Kroondal Operations (Pty) Ltd	NW30/5/1/2/2/104MR	1,722.20	100%	Kroondal Operations-PSA
Kroondal Operations (Pty) Ltd	NW30/5/1/2/2/113MR	2,508.00	100%	Kroondal Operations-PSA
Kroondal Operations (Pty) Ltd	NW30/5/1/2/2/368MR	265.92	100%	Kroondal Operations-PSA

Kroondal Operations (Pty) Ltd	NW30/5/1/2/2/369MR	409.21	100%	Kroondal Operations-PSA
Kroondal Operations (Pty) Ltd	NW30/5/1/2/2/370MR	32.55	100%	Kroondal Operations-PSA
Sibanye Rustenburg Platinum Mines (Pty) Ltd	NW30/5/1/2/2/80 MR	3,212.93	100%	Kroondal Operations-PSA
Sibanye Rustenburg Platinum Mines (Pty) Ltd	NW30/5/1/2/2/82 MR Phase 2 or the Tribute Area of 82MR	202	1.3%	Kroondal Operations-PSA
Sibanye Rustenburg Platinum Mines (Pty) Ltd	NW30/5/1/2/2/82 MR Remainder of this MR	15,149.76	98.7%	Rustenburg Operations

Figure 53: Map of the Mineral Right Properties of Kroondal and SRPM



In order to accurately declare Resources and Reserves in line with regulatory requirements, in South Africa, which require reporting within existing mining right boundaries, the Reserves mined within NW80MR and NW82MR yet accessed through Kroondal infrastructure (by means of deepening decline shafts) are declared at SRPM (as part of Rustenburg Operations). Reserves mined within NW104MR, NW113MR, NW368MR,NW 369MR and NW370MR are declared at KDL.

Table 87 and Figure 32 (Section 12.7) shows the distribution of Mineral Reserves between the PSA parties and the LOM described in this TRS. Managed operations under Kroondal is the PSA. Managed operations under SRPM are a separate property not part of the TRS.

Table 87: Kroondal - Rustenburg Reserves and LOM Balance

Mine	Mineral Reserve* Tonnes (million) Mining Rights	Mineral Reserve *Metal (4E Moz) Mining Rights	LOM Tonnes (Millions) Managed Operations	LOM Metal (Moz) Managed Operations
Kroondal (Kroondal Operations (Pty) Ltd	10.5	0.8	27.6	2.2
(SRPM)	122.8	12.6	105.7	11.2
Total	133.3	13.4	133.3	13.4

*Proven and Probable Reserves, *Differences due to rounding errors.

22 Interpretation and Conclusions

The Qualified Persons have conducted a comprehensive review and assessment of all material issues likely to influence the future activities of Kroondal Operations based on information available up to 31 December 2023. Critical factors are the assumptions regarding the future projection is the metal prices and the South African Rand exchange rate against the USD. The assumptions and about the Mineral Resources, operating conditions and modifying factor in converting Mineral Resources to Mineral reserves are considered reasonable given the recent past and expected future operating conditions.

The Operations have all the necessary infrastructure on Kroondal or on the neighbouring SRPM property to continue operations under the PSA for the full LOM. Kroondal has access to the necessary materials and labour locally. The views expressed in this Technical Report Summary have been based on the fundamental assumption that the required management resources and proactive management skills will be focused on meeting the LoM plans, and production targets provided by Kroondal Operations will be focused on meeting the LOM plans, and production targets provided by Kroondal Operations and Projects.

The PSA between Kroondal and SRPM continues to add value to the Registrant in extending the LOM and reducing processing costs to both Operations.

23 Recommendations

There are no recommendations for additional work or changes.

24 References

24.1 List of Reports and Sources of Information

24.1.1 Publications and Reports

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24.2 Glossary of Terms

South African Mining terms

Mine Call Factor (MCF) - compares the sum of metal produced in recovery plus residue to the metal called for by the mines evaluation methods expressed as a percentage. For explanation see Tetteh and Cawood (2014).

Reef – South African Mining term for a Seam. Derived from Afrikaans/Dutch rif- ridge for the Witwatersrand goldfields where the seam formed ridges in outcrop.

25 Reliance on Information Provided by the Registrant.

The QPs have relied on information provided by the Registrant in preparing the findings and conclusions regarding the following aspects of the Modifying Factors outside of the QPs' expertise:

- Macroeconomic trends, data, and assumptions, (Section 16)

The QPs believe that it is reasonable to rely on the Registrant for such information because Sibanye-Stillwater assess the factors above at a corporate level and has the necessary skills to make this assessment.

26 Qualified Person's Disclosure

We, the signees, in our capacity as Qualified Persons in connection with the Technical Report Summary of Kroondal Operations effective 31 December 2023 (the Kroondal Operations Technical Report Summary) as required by Subpart 1300 of Regulation S-K (SK-1300) and filed as an exhibit to Sibanye-Stillwater Limited's annual report on Form 20-F for the year ended 31 December 2023 and any amendments or supplements and/or exhibits thereto (collectively, the Form 20-F), each hereby consent to:

- the public filing and use by Sibanye-Stillwater of the Kroondal Operations Technical Report Summary for which I am responsible;
- the use and reference to my name, including my status as an expert or "Qualified Person" (as defined by SK-1300) in connection with the Form 20-F and Technical Report Summary for which I am responsible;
- the use of any extracts from, information derived from or summary of, the Kroondal Operations Technical Report Summary for which I am responsible in the Form 20-F; and
- the incorporation by reference of the above items as included in the Form 20-F into any registration statement filed by Sibanye-Stillwater.

I am responsible for authoring, and this consent pertains to, the Kroondal Operations Technical Report Summary for which my name appears in Table 88 and certify that I have read the 20-F and that it fairly and accurately represents the information in the Kroondal Operations Technical Report Summary for which I am responsible.

Table 88: Qualified Person's Details

Property Name	Date	QP Name	Affiliation to Registrant	Field or Area of Responsibility	Signature
Kroondal PSA1 and Marikana PSA of the Kroondal Operations (South Africa) Proprietary Limited (a subsidiary of Sibanye-Stillwater Limited)	24 April 2024	Mr Hermanus Jacobus Keyser	Vice President Mining Technical Services	1-5, 7.8, 7.9,13,15, 16.1-16.3, 17.1-17.4, , 20-25	/s/ Manie Keyser
Kroondal PSA1 and Marikana PSA of the	24 April 2024	Mr Leonard Changara	Unit Manager Geology - Operations	5,6,7.1 to 7.7	/s/ Leonard Changara
Kroondal Operations (South Africa) Proprietary Limited (a subsidiary of Sibanye-Stillwater Limited)	24 April 2024	Ms Nicole Wansbury	Unit Manager Geology Mineral Resources	1.4,8-11	/s/ Nicole Wansbury
Kroondal PSA1 and Marikana PSA of the Kroondal Operations (South Africa) Proprietary Limited (a subsidiary of Sibanye-Stillwater Limited)	24 April 2024	Mr Brian Smith	Unit Manager Survey	1.5, 12	/s/ Brian Smith
Kroondal PSA1 and Marikana PSA of the Kroondal Operations (South Africa) Proprietary Limited (a subsidiary of Sibanye-Stillwater Limited)	24 April 2024	Mr Stephan Botes	Unit Manager – Surface and Mineral Rights	1.7, 3.2,3.4	/s/ Stephan Botes
Kroondal PSA1 and Marikana PSA of the	24 April 2024	Mr Phillip Ramphisa	Environmental Manager (SA PGM)	17.5	/s/ Phillip Ramphisa
Kroondal Operations (South Africa) Proprietary Limited (a subsidiary of Sibanye-Stillwater Limited)	24 April 2024	Mr Dewald Cloete	SVP Processing	14	/s/ Dewald Cloete
Kroondal PSA1 and Marikana PSA of the Kroondal Operations (South Africa) Proprietary Limited (a	24 April 2024	Mr Roderick Mugovhani	SVP Finance	1.6, 18, 19	/s/ Roderick Mugovhani

subsidiary of Sibanye-Stillwater Limited)					