Eastern Platinum Limited

An Independent Competent Person's Report on the Crocodile River Mine

North West Province, South Africa

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Minxcon Reference: M2021-069a
Effective Date: 1 January 2022
Version: Final
Issue Date: 15 June 2022

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DATE AND SIGNATURE PAGE

This Report titled "An Independent Competent Person's Report on the Crocodile River Mine, North West Province, South Africa" prepared for Eastern Platinum Limited has an effective date of 1 January 2022, and has been prepared and signed on 15 June 2022 by the following authors:-

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DISCLAIMER AND RISKS

This Report was prepared by Minxcon (Pty) Ltd ("Minxcon"). In the preparation of the Report, Minxcon utilised information relating to operational methods and expectations provided to them by various sources. Where possible, Minxcon has verified this information from independent sources after making due enquiry of all material issues that are required in order to comply with the requirements of the SAMREC Code and SAMVAL Code. Minxcon and its directors accept no liability for any losses arising from reliance upon the information presented in this Report. The authors of this report are not qualified to provide extensive commentary on legal issues associated with rights to the mineral properties and relied on the information provided to them by the issuer. No warranty or guarantee, be it express or implied, is made by the authors with respect to the completeness or accuracy of the legal aspects of this document.

OPERATIONAL RISKS

The business of mining and mineral exploration, development and production by their nature contain significant operational risks. The business depends upon, amongst other things, successful prospecting programmes and competent management. Profitability and asset values can be affected by unforeseen changes in operating circumstances and technical issues.

POLITICAL AND ECONOMIC RISK

Factors such as political and industrial disruption, currency fluctuation and interest rates could have an impact on future operations, and potential revenue streams can also be affected by these factors. The majority of these factors are, and will be, beyond the control of any operating entity.

FORWARD LOOKING STATEMENT

Certain statements contained in this document other than statements of historical fact, contain forward-looking statements regarding the operations, economic performance or financial condition, including, without limitation, those concerning the economic outlook for the mining industry, expectations regarding commodity prices, exchange rates, production, cash costs and other operating results, growth prospects and the outlook of operations, including the completion and commencement of commercial operations of specific production projects, its liquidity and capital resources and expenditure, and the outcome and consequences of any pending litigation or enforcement proceedings.

Although Minxcon believes that the expectations reflected in such forward-looking statements are reasonable, no assurance can be given that such expectations will prove to be correct. Accordingly, results may differ materially from those set out in the forward-looking statements as a result of, among other factors, changes in economic and market conditions, changes in the regulatory environment and other State actions, success of business and operating initiatives, fluctuations in commodity prices and exchange rates, and business and potential risk management.

EXECUTIVE SUMMARY

Minxcon (Pty) Ltd was commissioned by Barplats Mines (Pty) Ltd (or Barplats or the Client) to complete a compliant Independent Competent Person's Report on their Crocodile River Mine (or CRM or Project) incorporating Zandfontein, Crocette and Kareespruit. The Project is situated on the Western Limb of the Bushveld Complex in the North West Province of South Africa.

Barplats is a subsidiary of Eastern Platinum Limited (or Eastplats), which is listed on the Toronto Stock Exchange, trading under the symbol *ELR*, and on the Johannesburg Stock Exchange, trading under the symbol *EPS*.

The Report was commissioned in order to comply with regulations of the Johannesburg Stock Exchange for listed companies. The purpose of the valuation is to comply with the JSE Section 12 disclosure requirements for Mineral Companies. The Report is compiled in compliance with the South African Code for Reporting of Exploration Results, Mineral Resources and Mineral Reserves (2016 Edition), and in terms of the specifications embodied in the Standards of the South African Code for the Reporting of Mineral Asset Valuation (2016 Edition). All requirements of the JSE Section 12.10 Listing Requirements and the SAMREC Code (including Table 1) and SAMVAL Code have been complied with. The Report has an effective date of 1 January 2022.

JSE 12.10 (h)(i)

JSE 12.10 (h)(xi)

The Competent Persons deem this summary to be a true and accurate reflection of the full CPR.

PROPERTY DESCRIPTION

JSE 12.10 (h)(ii)(iv)(viii)

CRM is a fully established decommissioned platinum mine on farm Zandfontein 447 JQ. The mine was intermittently operational from 1987. The Zandfontein and Crocette mines have been under care and maintenance since 2013. Retreatment of existing tailings to recover chrome and PGMs is currently being undertaken at Zandfontein tailings storage facility (or TSF). The material contained in the TSF is derived from UG2 material mined during underground operations.

CRM is planning to mine the UG2 Chromitite Layer of the Bushveld Complex. The produced platinum concentrate will be transported to the Impala smelter complex near Rustenburg.

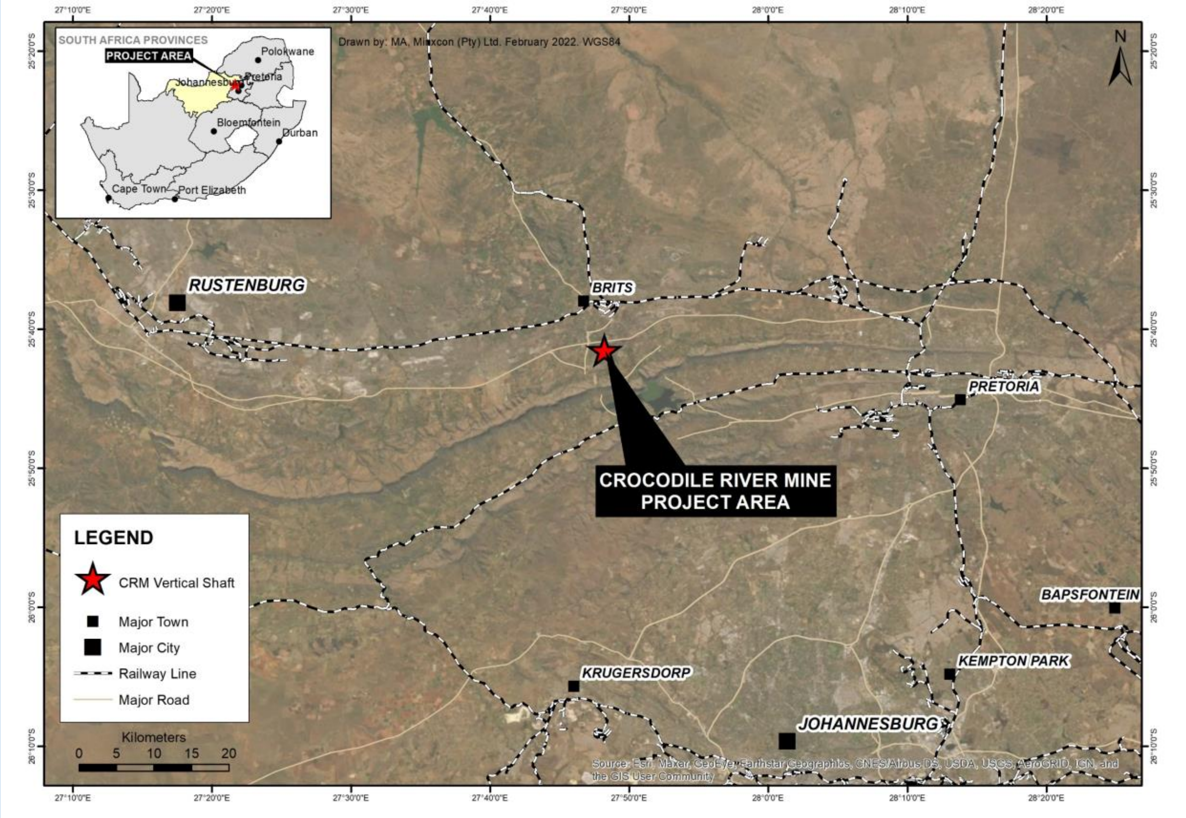
Numerous activities have been initiated and/or completed since cessation of the operation, including extensive infrastructure maintenance and upgrades.

Location Map

CRM is located approximately 8 km south of the town of Brits, 60 km east of Rustenburg and 50 km west of Pretoria. The location of the Project is shown in the figure overleaf.

Location of Project Area

JSE 12.10 (h)(iii)



Location of CRM	January 2022

Ownership

Barplats is a wholly owned subsidiary of Barplats Investments Limited. The latter was a 74% held indirect subsidiary of Eastplats, with the remaining 26% previously held by Black Economic Empowerment partners Gubevu Consortium Investment Holdings (Pty) Ltd. The Black Economic Empowerment proportion was therefore previously 26%, and on the basis of Once Empowered, Always Empowered, Barplats remains fully compliant with this ownership requirement.

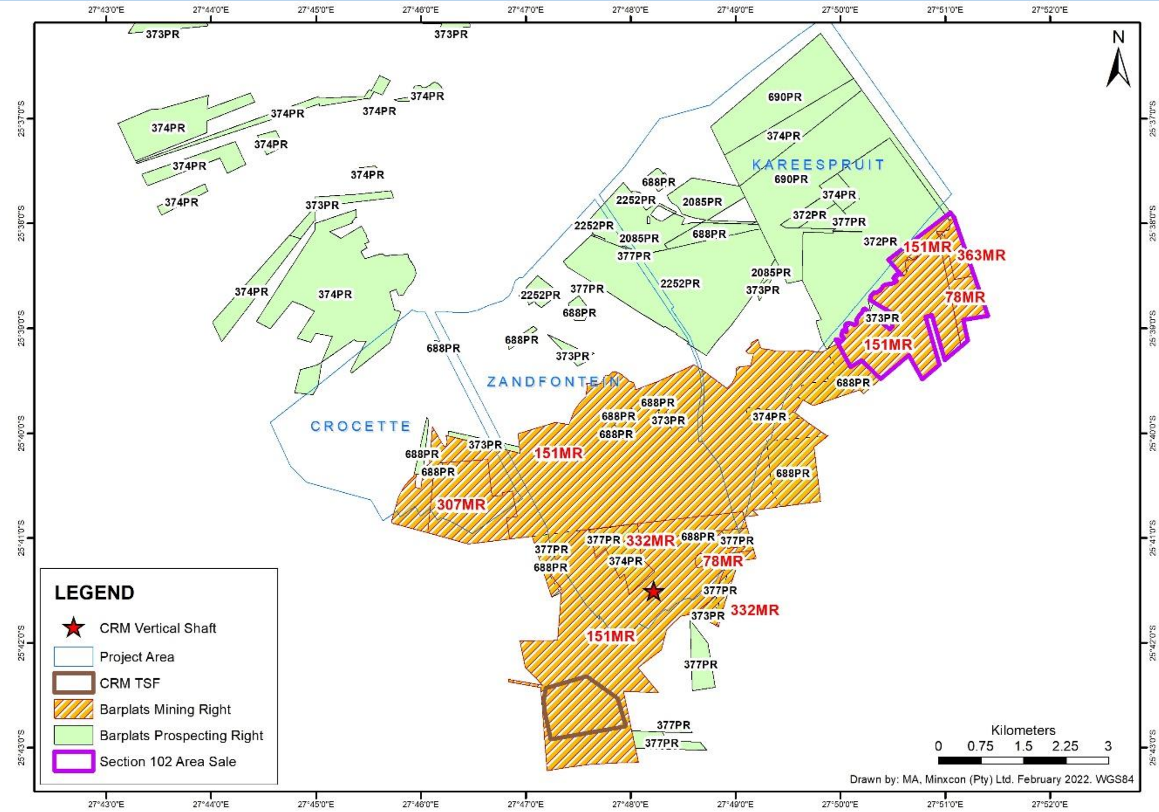
All the Mining Rights are held in the name of Barplats. The Zandfontein and Crocette Mines are encompassed under three mining rights, NW 30/5/1/2/2/151 MR, NW 30/5/1/2/2/332 MR and NW 30/5/1/2/2/307 MR. These Mining Rights are all in force. The remaining resource is held under various enforceable Prospecting Rights. The Mining Rights have one Integrated Environmental Authorisation with reference number NW 30/5/1/2/3/2/1/ (151, 307, 332) EM. The waste management licence for the mining areas is incorporated into the Integrated Environmental Authorisation that is valid for the life of mine.

The MPRDA section 102 application for 151MR was granted and it consolidated Zandfontein 447 JQ portion 19 from NW 30/5/1/2/2/78 MR into 151MR and 78MR was completely abandoned with the sale of Maroelabult to Eland Platinum. The Integrated Environmental Authorisation was amended and the EMPR consolidated under the section 102 application.

Barplats and Eland concluded a transaction in terms of which Barplats, subject the necessary approvals being granted, sold to Eland, portions of 78 MR, portions of 151 MR and 363 MR in its entirety. This area is known as the Maroelabult Mine.

The Zandfontein mine section has a Water Use Licence with reference number 04/A24A/ABCEGIJ/5022 and the Crocette mine section has a Water Use Licence with reference number 04/A21J/ABCGIJ/5038. Zandfontein is a registered hazardous waste generator with the South African Waste Information Centre. Zandfontein has an outdated explosive magazine licence that needs to be updated prior blasting activities recommence, to align with legislation that has been promulgated since it was initially issued.

CRM Mining and Prospecting Rights Areas



Note: Areas as per the approved Regulation 2(2) and 42 plans per mineral right.

CRM Mining and Prospecting Rights Areas	January 2022

Minxcon is satisfied at the security of the Mineral Rights and legal tenure held over the Project.

GEOLOGY AND MINERALISATION

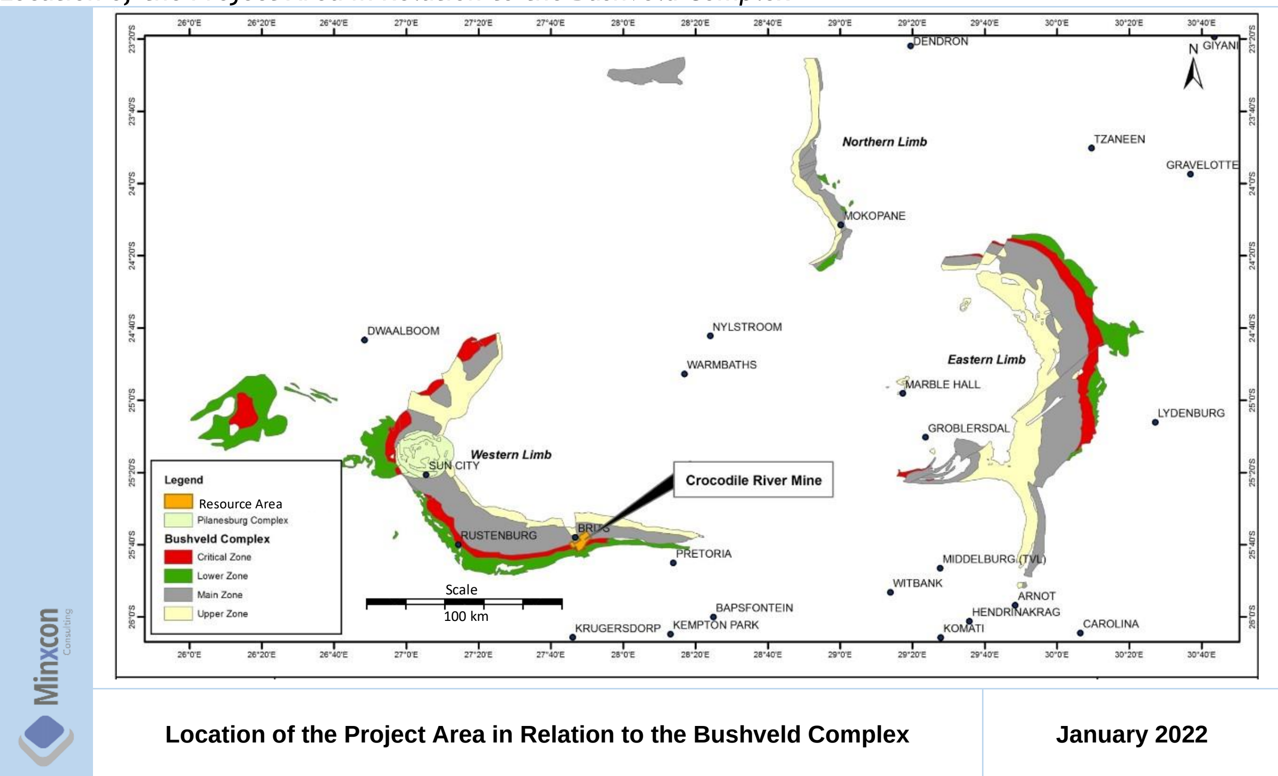
JSE 12.10 (h)(v)

The Project Area falls within the Western Limb of the 2.06-2.058 Ga Bushveld Complex, which is a world-renowned deposit for its PGM content and the largest layered igneous complex in the world. Situated within the north-central Kaapvaal Craton, this massive Proterozoic intrusive body, or more likely a series of interconnected intrusives, has a surface area of approximately 66,000 km^2 and consists of a mafic-ultramafic succession of layered and massive rocks known as the Rustenburg Layered Suite, a penecontemporaneous series of granitic rocks, termed the Lebowa Granite Suite and felsic extrusive rocks of the Rooiberg Group.

The true thickness of the mafic-ultramafic layered rocks in the Bushveld Complex varies from 7,000 to 12,000 m. The Bushveld Complex was intrusively emplaced within and exhibits a transgressive relationship to the Transvaal Supergroup sequence, a large sedimentary basin of late Archaean-Proterozoic age located within the north-central Kaapvaal Craton. The mafic-ultramafic layered rocks of the Rustenburg Layered

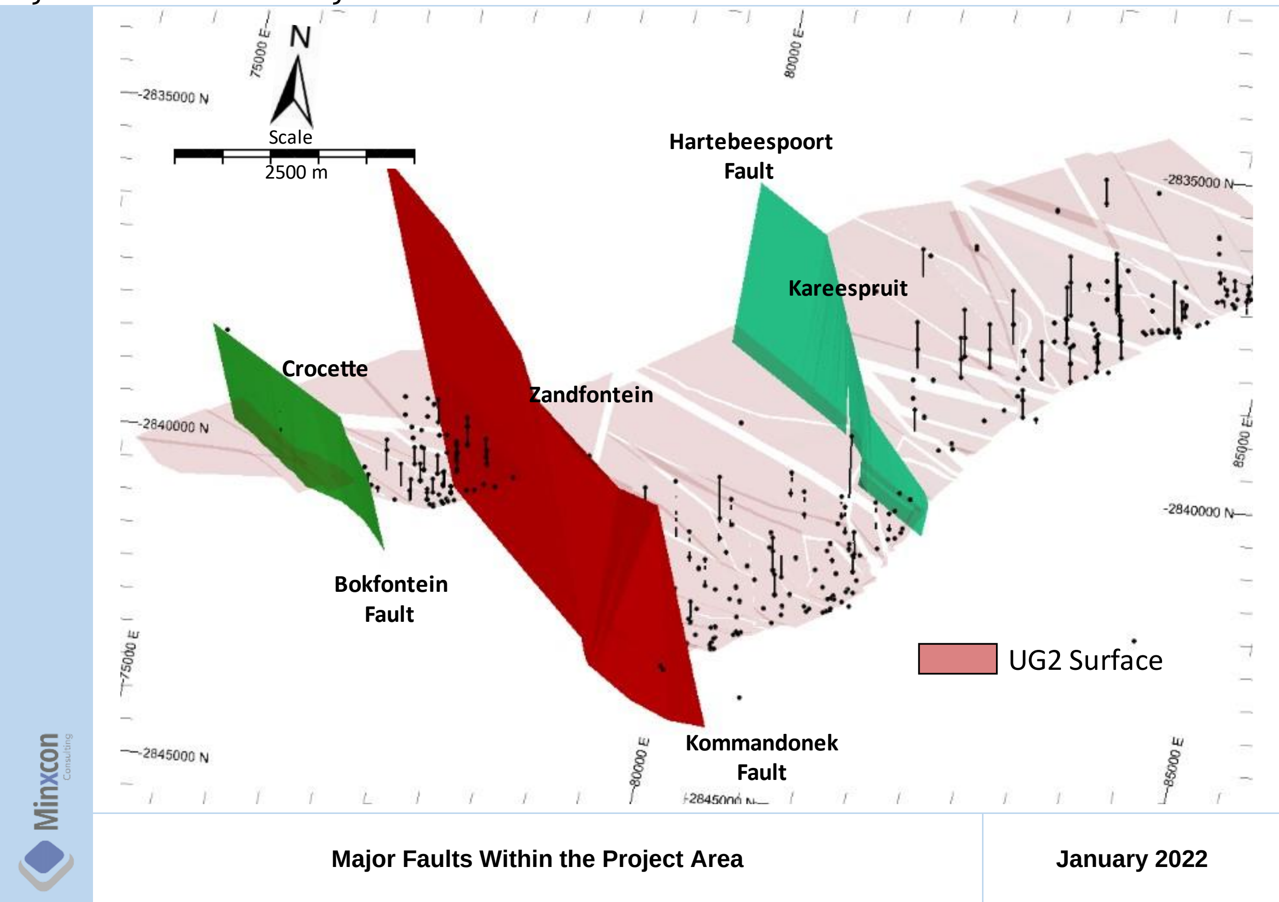
Suite outcrop in three main arcuate complexes or limbs, namely the Western, Eastern and Northern Limbs. The three limbs of the Bushveld Complex have been further subdivided into a set of geographic sectors based on the major geological characteristics of the Rustenburg Layered Suite. The magmatic layering of the ultramafic-mafic rocks is remarkably consistent and can be correlated throughout most of the Bushveld Complex. It is generally accepted that, rather than being a single body, the Bushveld Complex comprises several overlapping lopolith-shaped intrusions. The similarity of geology across large areas within each of the three limbs, particularly the sequence of igneous layering that includes both the Merensky Reef and the UG2 Reef, is probably indicative of simultaneous differentiation and replenishment of a basaltic magma under essentially identical conditions. The dip of the igneous layering is generally shallow and towards the centre of the Complex. The Project Area is shown in the following figure in relation to the Bushveld Complex.

Location of the Project Area in Relation to the Bushveld Complex



The Project is located on the Western Limb of the Bushveld Complex in a structurally complex area close to the town of Brits. The geology of the Project Area is located within and adjacent to the Brits Graben and mines the UG2. The Merensky Reef in this area is not currently considered economically viable. The graben and associated faults result in the mine being split into three main sections/mining blocks the figure to follow shows the main faults within the Project Area.

Major Faults Within the Project Area



The UG2 occurs in the Upper Critical Zone of the Rustenburg Layered Suite and outcrops extensively, striking in an east-west direction and dipping to the north from about 15° to 25°. Both the Merensky Reef and the UG2 outcrop in the area, with a middling of approximately 200 m. The UG2 occurs from outcrop down to a known depth of at least 2,000 m below surface.

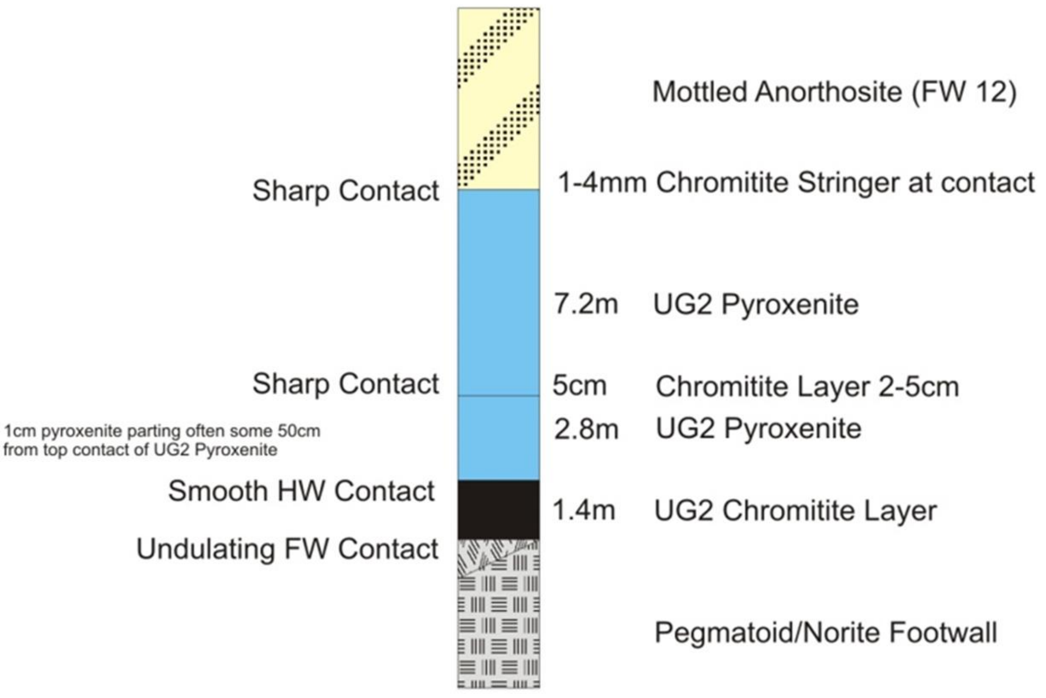
The UG2 at CRM typically consists of a single chromitite layer some 1.35 m to 1.5 m thick. The leader hanging wall layers are generally absent or have coalesced with the main band to form a virtually homogenous chromitite. A very thin chromitite stringer (~1 mm thick) occurs at varying heights above the top of the chromitite in the immediate hanging wall. However, variations in the thickness of specific lithotypes do exist between individual drillholes, and several disturbances to the layering by pothole structures and mafic pegmatites have been encountered during mining and in some drillholes. A brief description of the UG2 is presented in the following table.

Geology of the UG2 in the Project Area

UG2	Project Area
Reef Thickness	1.3 m – 1.4 m
Average Dip	17°
Faulting	Significant faulting with some scissor effects noted
Potholing	Present
Other Features	Reef horizon undulates

The Bottom of Reef Contact (or BRC) is undulating. The footwall is typically a pegmatoidal pyroxenite but where the BRC transgresses through the pegmatoidal pyroxenite the footwall is a norite. The Top Reef Contact (or TRC) is generally sharp and stable. The UG2 is predominantly impure chromitite with much interstitial silicate, comprising pyroxene (bronzite) and feldspar (anorthite). It is typically comprised of 60% to 90% chromite, which is consistent with other localities in the Bushveld Complex. Disseminated sulphides are concentrated in the lower part of the reef, which is always bottom to middle loaded with respect to PGM concentrations. The following figure is a schematic stratigraphic section of the UG2.

Schematic Stratigraphic Section of the UG2



Schematic Stratigraphic Section of the UG2	January 2022

STATUS OF EXPLORATION

JSE 12.10 (h)(vi)

The geology of the area has been understood for some time. Regional mapping of the area was conducted in the 1960s and 1970s. Exploration work at CRM started in the 1980s to define the geology in a block, which was previously considered to be too structurally complex for efficient mining.

Mining commenced in 1987 while exploration continued. Various phases of exploration were undertaken during the life of the mine. The work concentrated on drilling to understand the structure of the UG2 Chromitite Layer in the graben structure. The most recent drilling was conducted in the Zandfontein project area to understand the structures to the east of the planned mining.

Eastplats has budgeted ZAR2.6 million to be spent over 2022 and 2023 at Zandfontein. It is planned that geological modelling and technical report will be completed for the deeper parts of the CRM orebody. Diamond drilling will be undertaken, with sampling and assaying to verify structural interpretation and grade model with results incorporated into the CRM database. A recommendation will then be made to the various boards to proceed with a feasibility study.

KEY MODIFYING FACTORS

JSE 12.10 (h)(vii)

The Mineral Resource has been declared at a 4E cut-off of 1.7 g/t. The 4E grade is based on the full UG2 reef width and includes an additional 20 cm footwall. 25% geological losses have been applied to the tonnages.

Mineral Reserve Conversion Factors

Mineral Reserve conversion factors are the consideration of mining factors used to convert Mineral Resources to Mineral Reserves. These factors are applied to adjust the *in situ* Mineral Resources in the LoM planning to realistic and accurate mill feed, volumes, and grade.

Underground Operation

The Mineral Reserve conversion factors applied to the Mineral Resources in the LoM plan, are detailed in the table below.

Conversion Factors - Underground Operations

Conversion Factors	Unit	Value
Geological Losses	%	25
Mining Losses	%	4.4
Dilution	cm	10
Pillar Losses	%	12.10
MCF	%	95

TSF Remining Operation

The Mineral Reserve conversion factors applied to the Mineral Resources in the LoM plan for the TSF operations, are detailed in the table below. The Mineral Reserve conversion factors applied have been derived from industry standards associated with hydro mining of TSFs.

Conversion Factors - TSF Remining Operations

Conversion Factors	Unit	Value	Comment
Mining Losses	%	1	Industry benchmark from similar TSF re-mining operations
Additional Footwall	%	10	Average over LoM, as per 2021 SMS Preliminary Schedule
Vegetation Removal	tpm	5,687	As per Zandfontein production budget

Processing and Metallurgical Factors

The conventional floatation recovery method is well proven and has been used consistently on this orebody. The underground UG2 recoveries were determined from production data of the Zandfontein processing plant up to 2013. The TSF float recoveries was determined from production data of the Zandfontein processing plant from December 2020 to February 2022.

Conversion Factors - Processing and Metallurgical Factors

Conversion Factors	Unit	Value	Comment
Flotation Recovery underground Operations	%	80	Based on historical production data from up to 2013
Flotation Recovery TSF	%	11	Based on production data from Dec 2020 to Feb 2022
Mass Split between Circuit B & D		70:30	70% of material reports to Circuit B and 30% reports to Circuit D – As per Zandfontein budget
Cr_2O_3 yields	%	30	Based on actual yields

Infrastructure Factors

Infrastructure required for the planned production is either in place or planned for. Sufficient capital provision has been made for all planned infrastructure required for the planned production.

Economic and Marketing Factors

The 4E basket price that has been utilised for the Mineral Reserve estimate is calculated from a real term analyst forecast for each of the 4E metals and calculated using the mine prill splits. The average 4E basket price over the LoM is of USD1,825/oz excluding the TSF remining and USD2,305/oz including the TSF remining. The average Chrome price of USD106/t was calculated using the chrome operating costs over the LoM and the additional provision as per chrome offtake agreement (Cost-plus). The exchange is a real term forecast taken as the median of various bank forecasts with the long-term exchange rate calculated using the real term purchasing price parity of the ZAR to the USD. The exchange rate averages 15.53 ZAR/USD over the LoM.

An uneconomical tail has been cut from the first negative cashflow year and has been excluded from the Mineral Reserve. The tail contains 15.06 koz of 4E metals but is not economically viable on its own.

All forecast capital and operating costs have been applied to the LoM plan and considered for cash flow analysis.

Legal, Environmental, Social and Governmental Factors
There are no known legal, environmental, social or governmental factors that have been identified that have been considered as modifying factors.

DEVELOPMENT AND OPERATIONS

Mining
Underground Operations

Zandfontein was utilising a typical hybrid mining method (mechanised footwall development and conventional stoping) until July 2013 when the shaft was put under care and maintenance and underground mining operations were halted.

Ukwazi Site Services (Pty) Ltd conducted a mining method trade-off study including mine design and scheduling of Zandfontein. The study considered mining of 4 Level to 12 Level of the Zandfontein vertical shaft, including potential deepening of the shaft to 5 Level and water handling facility. The underground workings can be accessed through the main vertical shaft and existing declines, namely Decline 3 and Decline 4.

The following key considerations formed the basis of the mining method selection (Ukwazi, 2021):-

- maximising the use of mechanised equipment;
- maximising the use of excess water pumped from underground;
- minimise off-reef mining and development;
- minimise dilution; and
- implement a safe and fit-for-purpose mining method.

A hybrid mining method was selected from the Ukwazi trade-off study. This mining method was selected considering the geological complexity of the Zandfontein orebody and the minimum requirements for the selection of a suitable, technically and economically viable mining method.

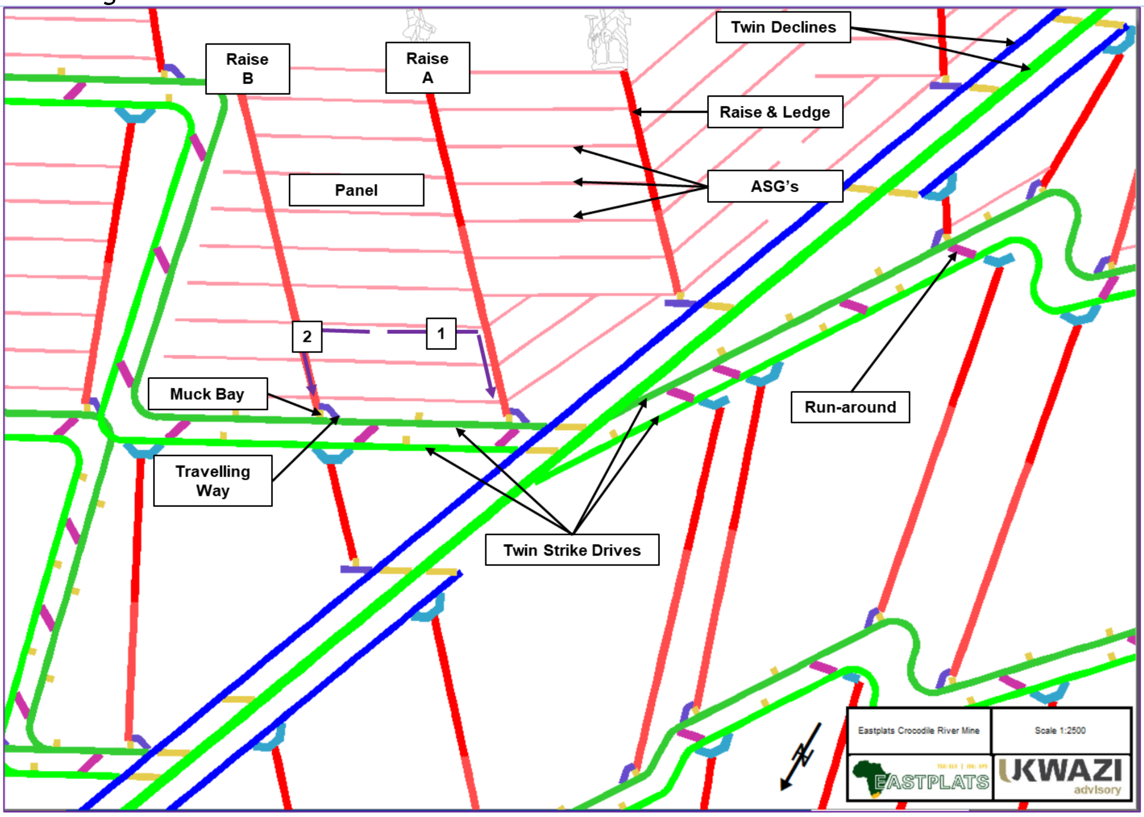
The selected hybrid mining method considers mechanised on-reef development and conventional breast stoping. Hydropower mining was selected for the 6 Level to 12 Level. Smaller development ends including raises, winzes, advance strike gullies and travelling ways will be developed conventionally.

The various activities in the selected mining method are as follows:-

- The twin declines are developed continuously (blue and green lines);
- Once the level breakaway is reached, twin strike drives are developed to the East and West (two green lines on strike);
- Once the strike drives have been advanced 10 m, a breakaway holing is established for a run-around to assist in traffic management during the initial development phases;
- Later in the half level, the first holing (mentioned above) is converted into a half level dam for water control;
- Once the position of the raise line is reached (Raise A in Figure 52), a muck bay is blasted with a small
- travelling way to reef horizon (brown and purple lines);

- A 1.5 m wide raise with a 3 m wide ledging shoulder is then mined up dip to hole in the winze that is being developed from the upper level;
- Once the raise line is holed, the advance strike gullies are developed on strike;
- Once the gully is holed in the next raise line (Raise B) and that raise line is also holed, the stoping of that
- specific panel can commence;
- Once stoping commences, the blasted ore is then cleaned by means of a hydropower water jet to the strike gully;
- The water will then naturally flow to Raise A (Number 1 in the Figure 52);
- Following this, the ore is pulled by a scraper winch to Raise B (Number 2 in the Figure 52);
- The ore in Raise B is then pulled downward to the muck bay where a load haul dumper will load and dump it on the dump truck in the bottom strike drive;
- Lastly, the trucks will dump the ore on the dip conveyor belt, which will then transport the ore to the shaft silo positions and subsequently, to surface through the use of skips.

Zandfontein Mining Method Illustration



Source: Ukwazi, 2021.

Zandfontein Mining Method Illustration	January 2022

<u>TSF Re-mining Operations</u>

The mining method used for the reclamation of the TSF is hydraulic mining combined with mechanical loading in areas where coarser material which is bonded in layers is encountered. Typically, these areas will be encountered along the perimeter of the TSF and along the compartments. Hydraulic mining involves the use of high-pressure water monitors (water jets) to erode the TSF in strategic sections or cuts.

The hydro mining units can be either manually controlled or remote operated. Units can be mounted in a stationary position or trackless to allow for mining flexibility in terms of manoeuvrability. The product which is converted into a slurry by the water jets, is washed downstream of the for collection in a sump.

The slurry is pumped from the sump via a slurry pipeline to the processing plant. Coarser material will be mechanically excavated and trucked to a scalping screen after which it will pass through a crusher, prior to pulping and mixing with the hydraulically mined material.

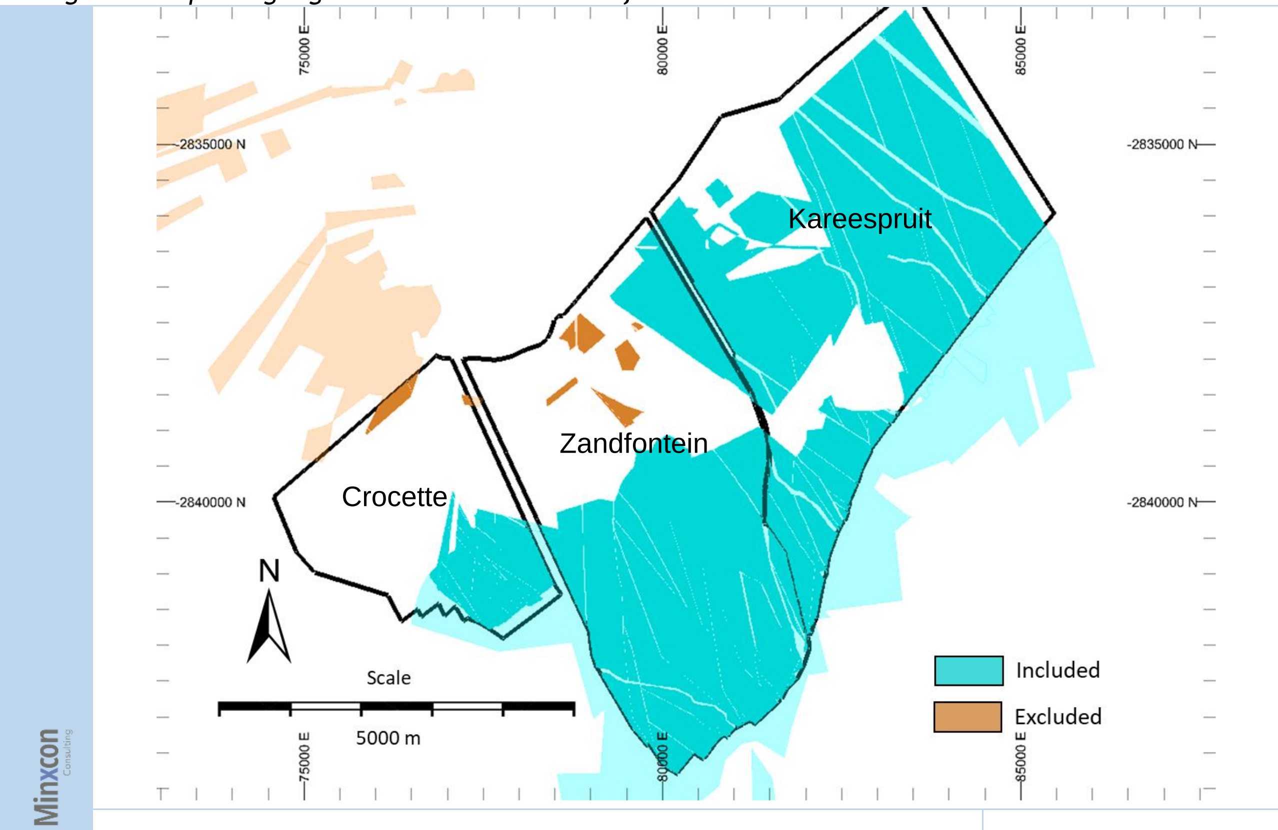
Processing
The current operating plant consists of pumping TSF remining ore to a Wet High Intensity Magnetic Separation ("WHIMS") plant for removal of chromite. The tailings of the WHIMS plant are sent for PGM recovery. The PGM recovery circuit has two flotation circuits, namely Circuit B and Circuit D.

The capacity of the WHIMS plant is 550 m^3 at a density of 1.42 t/m^3, the capacity of Circuit B is 164 tph and Circuit D has a capacity of 70 tph. Capital is allocated to recommissioning of Circuit A in 2022 with a similar capacity to Circuit B at 164 tph. RoM ore from underground will constitute feed to Circuit A. The total capacity of the PGM circuit is 398 tph, with 164 tph constituted by underground ore and 234 tph from TSF remining.

MINERAL RESOURCES JSE 12.10 (h)(ix)

The Mineral Resource for the UG2 has been estimated to the farm boundaries however after a review of the current mining rights and prospecting rights many of the previous prospecting right are no longer active. This has resulted in the Mineral Resource being confined to a smaller area. The following figure shows only the portion of the estimation within the mining and prospection rights. It should be noted that the smaller prospecting rights areas have also been excluded due to the size and would not be economically mined if treated as individual prospects as per the guidelines for the Reasonable Prospect of Eventual Economic Extraction. The total excluded in these smaller prospects is in the following figure and have been removed from the declaration.

Mining and Prospecting Rights 2022 with Exclusions from the Mineral Resource Declaration



Mining and Prospecting Rights 2022 with Exclusions from the Mineral Resource Declaration — **January 2022**

Portion of the Mineral Resource Excluded due to RPEEE

Mine Area	Mineral Resource Class	Geo Loss Tonnes	Mine Cut	4E	Pt	Pd	Rh	Au	4E Content	
		kt	m	g/t	g/t	g/t	g/t	g/t	kg	Moz
Crocette	Inferred	806	1.47	3.92	2.43	1.07	0.39	0.03	3,157	0.10
Zandfontein	Inferred	2,084	1.52	4.59	2.85	1.25	0.45	0.04	9,560	0.31
Grand Total		**2,890**	**1.50**	**4.40**	**2.73**	**1.20**	**0.43**	**0.03**	**12,717**	**0.41**

The Mineral Resource is declared at a 4E cut-off of 1.7 g/t. The individual grades are based on the prill split percentages. Geological losses of 25% have been applied for all Mineral Resource Classifications. The ounce content conversion calculations utilise a conversion of 1 kg = 32.15076 troy oz and all tonnages are reported in metric tonnes. Inferred Mineral Resources have a low level of confidence and while it would be reasonable to expect that most of the Inferred Mineral Resources would upgrade to Indicated Mineral Resources with continued exploration, due to the uncertainty of Inferred Mineral Resources, it should not be assumed that such upgrading will occur. The following table show the declaration of the Measured and Indicated Mineral Resource. The Mineral Resource statement excludes PGMs from tailings already re-mined prior to the re-start of the PGM plants.

Measured and Indicated Mineral Resource of the Mining Cut at a 1.7 g/t 4E Cut-off as at 1 January 2022

Mine Area	Mineral Resource Class	Geo Loss Tonnes	Mine Cut	4E	Pt	Pd	Rh	Au	4E Content	
		kt	m	g/t	g/t	g/t	g/t	g/t	kg	Moz
Crocette	Measured	3,646	1.86	3.71	2.30	1.01	0.37	0.03	13,516	0.43
Zandfontein		6,688	1.66	4.85	3.01	1.33	0.48	0.04	32,463	1.04
Grand Total		**10,335**	**1.73**	**4.45**	**2.76**	**1.22**	**0.44**	0.03	**45,979**	**1.48**
Crocette	Indicated	7,087	1.84	3.70	2.29	1.01	0.36	0.03	26,197	0.84
Zandfontein		21,371	1.56	4.24	2.63	1.16	0.42	0.03	90,636	2.91
Kareespruit		25,243	1.74	4.01	2.49	1.09	0.40	0.03	101,142	3.25
Grand Total		**53,701**	**1.68**	**4.06**	**2.52**	**1.11**	**0.40**	0.03	**217,975**	**7.01**
Crocette	M & I	10,733	1.85	3.70	2.30	1.01	0.36	0.03	39,712	1.28
Zandfontein		28,059	1.59	4.39	2.72	1.20	0.43	0.03	123,099	3.96
Kareespruit		25,243	1.74	4.01	2.49	1.09	0.40	0.03	101,142	3.25
Grand Total		**64,036**	**1.69**	**4.12**	**2.56**	**1.13**	**0.41**	**0.03**	**263,954**	**8.49**

Notes:-

1. Mineral Resource Cut-off of 1.7 g/t 4E applied.
2. Columns may not add up due to rounding.
3. Mineral Resources are stated as inclusive of Mineral Reserves.
4. Mineral Resources are reported as total Mineral Resources and not attributed.

The following table shows the Inferred Mineral Resource.

Inferred Mineral Resource of the Mining Cut at a 1.7 g/t 4E Cut-off as at 1 January 2022

Mine Area	Mineral Resource Class	Geo Loss Tonnes	Mine Cut	4E	Pt	Pd	Rh	Au	4E	
		kt	m	g/t	g/t	g/t	g/t	g/t	kg	Moz
Crocette	Inferred	32	1.62	3.91	2.43	1.07	0.39	0.03	124	0.00
Zandfontein		22,550	1.46	4.45	2.76	1.22	0.44	0.03	100,390	3.23
Kareespruit		57,992	1.65	4.16	2.58	1.14	0.41	0.03	241,484	7.76
Grand Total		**80,573**	**1.60**	**4.24**	**2.63**	**1.16**	**0.42**	0.03	**341,998**	**11.00**

Notes:-

1. Mineral Resource Cut-off of 1.7 g/t 4E applied.
2. Columns may not add up due to rounding.
3. Mineral Resources are stated as inclusive of Mineral Reserves.
4. Mineral Resources are reported as total Mineral Resources and are not attributed.

The individual Pt, Pd, Rh and Au values are based on the prill split derived from the composited individual channel grades of the drillholes. The prill split is presented in the table below.

Prill Split Percentages

4E	Unit	New 4E	Historic 4E	6E	Unit	Historic 6E	New 6E
Pt	%	62.05%	61.87%	Pt	%	50.31%	50.46%
Pd	%	27.32%	27.25%	Pd	%	22.16%	22.22%
Rh	%	9.86%	10.42%	Rh	%	8.47%	8.02%
Au	%	0.77%	0.47%	Au	%	0.38%	0.63%
4E	**%**	**100.00%**	**100.00%**	Ru	%	3.68%	3.68%
				Ir	%	15.00%	15.00%
				6E	**%**	**100.00%**	**100.00%**

The TSF Mineral Resources are stated at no cut-off as all the material will be processed is tabled in the following table. The rework material that has been declared, is the material that was moved from the original TSF to the southwest to make space available for the reprocessed material to be redeposited. The mean grade of the reprocessed material was calculated, and classification was downgraded from a Measured to Indicated Mineral Resource.

TSF Mineral Resource with No Cut-off Applied (SRK 2017)

Mineral Resource Class	Tonnes	3E	Pt	Pd	Rh	Au	Cr2O3	FeO	Cr_2O_3	FeO
	kt	g/t	g/t	g/t	g/t	g/t	%	%	kt	kt
Measured	4,594	1.17	0.71	0.29	0.17	0.01	19.54	15.16	898	697
Indicated	1,049	1.14	0.69	0.29	0.17	0.01	19.21	15.03	202	158
Total in Model	**5,643**	**1.16**	**0.70**	**0.29**	**0.17**	**0.01**	**19.48**	**15.14**	**1,099**	**854**
Reworked Added (Indicated)	1,545	1.18	0.72	0.30	0.17	0.01	18.50	14.50	286	224
Total Measured	**4,594**	**1.17**	**0.71**	**0.29**	**0.17**	**0.01**	**19.54**	**15.16**	**898**	**697**
Total Indicated	**2,594**	**1.16**	**0.71**	**0.29**	**0.17**	**0.01**	**18.79**	**14.71**	**487**	**382**
Total TSF	**7,188**	**1.17**	**0.71**	**0.29**	**0.17**	**0.01**	**19.27**	**15.00**	**1,385**	**1,078**

MINERAL RESERVES

JSE 12.10 (h)(ix)

The Mineral Reserves as stated in the following section exclude all Inferred Mineral Resources. Measured Mineral Resources have been converted to Proven Mineral Reserves and Indicated Mineral Resources have been converted to Probable Mineral Reserves by applying the dilution factors as discussed in section 8.3.1 to the Mineral Resources contained in the LoM planning.

Underground Operations

The Mineral Reserve estimate for the Zandfontein underground operations as at 1 January 2022 is detailed in table below. The Mineral Reserves are stated as material delivered to the plant.

Zandfontein Underground Operations Mineral Reserve Estimation as at 1 January 2022

Mineral Reserve Category	Delivered Tonnes	4E Grade	4E Content	
	kt	g/t	kg	koz
Proved	2,282	4.75	10,829	348
Probable	12,298	3.48	42,777	1,375
Total	**14,580**	**3.68**	**53,605**	**1,723**

Notes:

1. The Mineral Reserve estimation includes only diluted Measured and Indicated Mineral Resources which have been converted to Proved and Probable Mineral Reserves.
2. A portion of Inferred Mineral Resources are included in the LoM plan, as it is required to mine through Inferred portions to access Measured and Indicated Mineral Resources. These Inferred Mineral Resources have, however, been excluded in the Mineral Reserve estimation and in the economic analysis.
3. No Inferred Mineral Resources have been included in the Mineral Reserve estimation.
4. The Mineral Reserve estimation was completed using a 4E basket price of USD1,825/oz and exchange rate of 15.53 ZAR/USD.
5. An uneconomical tail of 133.34 kt at a 4E grade of 3.51 g/t, containing 15.06 koz has been excluded from the Mineral Reserve estimate.
6. The Mineral Reserves are reported as total Mineral Reserves and are not attributed.

The Zandfontein Mineral Reserve estimation consists of 16% Proved and 84% Probable Mineral Reserves.

TSF Re-mining Operations

The Mineral Reserve estimate for the Zandfontein TSF Re-mining operation as at 1 January 2022 is detailed in table below. The Mineral Reserves are stated as material delivered to the plant.

Zandfontein TSF Re-mining Operations Mineral Reserve Estimate as at 1 January 2022

Mineral Reserve Category	Tonnes	4E Grade	4E Content		Cr_2O_3 Content	Cr_2O_3 Grade
	kt	g/t	kg	koz	kt	%
Probable	7,570	1.10	8,345	268	1,371	18.12

Notes:

1. The Mineral Reserve estimation includes only diluted Measured and Indicated Mineral Resources which have been converted to Probable Mineral Reserves.
2. No Inferred Mineral Resources have been included in the Mineral Reserve estimation.
3. The Mineral Reserve estimation was completed using a 4E basket price of USD2,305/oz, and calculated Chrome price (as per offtake agreement) of USD106/t and exchange rate of 15.53 ZAR/USD.
4. Chrome ore produced from the re-mined tailings is sold on a cost-plus basis, considering the TSF remining costs, processing cost and chrome logistics costs and an additional allowance for certain overheads
5. The Mineral Reserve excludes PGMs and Chrome Oxide from the TSF already re-mined Since December 2018.
6. The Mineral Reserves are reported as total Mineral Reserves and are not attributed.

Diluted Measured and Indicated Mineral Resources in the Zandfontein TSF have been converted to Probable Mineral Reserves. Minxcon utilised the Zandfontein TSF Mineral Resource model provided by the Client and the 2022 Mineral Resource estimation conducted by Minxcon.

Minxcon did not complete a design and mining schedule for the Zandfontein TSF but relied on and reviewed the technical work conducted by SMS in 2017 titled *ITR for Zandfontein Tailing Retreatment Project to Recover Chrome* and the TSF mining schedule produced by SMS in June 2021.

Minxcon utilised the 2021 SMS mining schedule as a basis and adjusted the mining schedule to conform to the 2022 Mineral Resource estimation. Mineral Reserve conversion factors detailed in Table 35 were applied to obtain a diluted mining schedule for conversion to Mineral Reserves.

Although the business strategy for re-mining the TSF has changed from 2017 to 2022 in terms of not only recovering chrome, but also PGMs from the TSF, the technical work conducted by SMS is still applicable and at an acceptable level of confidence for the purposes of Mineral Reserve estimation. Therefore, only Probable Mineral Reserves for the Zandfontein TSF are stated.

VALUATION

JSE 12.10 (h)(xii)

An independent mineral asset valuation was performed on Zandfontein and its Mineral Reserves utilising two valuation methodologies. The valuation was completed including and excluding the remining of the Zandfontein TSF. The Discounted Cash Flow, or DCF, is based on the production schedule and all costs and capital associated to develop, mine and process the orebody at Zandfontein section. Relevant taxation and other operating factors, such as recoveries and stay-in-business costs were incorporated into the valuation to produce a cash flow over the life cycle of the Project.

Both the ZAR/USD exchange rate and USD commodity prices are in constant money terms in the table below. The table illustrates the macro-economic forecasts for the first four years. The exchange rate forecast is based on the median of various banks and is constant throughout the LoM. A constant inflation rate of 5.50% was utilised.

Macro-economic Forecasts over the Life of Mine (Real Terms)

Item	Unit	Year				
		2022	2023	2024	2025	Long-term
		1	2	3	4	
SA Inflation Rate	%	5.30%	5.40%	5.50%	5.60%	5.50%
Exchange rate	ZAR/USD	15.65	15.63	15.85	15.50	15.50

***Source*:** Median of various Banks and Broker forecasts (Minxcon).

The price forecasts were sourced from Edison Investment Research (2021) based on their market research of the future supply and demand of PGMs. These prices were converted to real terms utilising the US inflation rate forecast. The basket prices are calculated using the appropriate prill splits for the UG operations and the TSF remining operations.

Commodity Price Forecasts over the Life of Mine (Real Terms)

Item	Unit	Year									
		2022	2023	2024	2025	2026	2027	2028	2029	2030	Long-Term*
		1	2	3	4	5	6	7	8	9	
Platinum	USD/oz	1,025	998	1,020	1,029	1,018	1,006	1,005	1,046	1,110	1,500
Palladium	USD/oz	2,100	1,850	1,781	1,719	1,475	1,327	1,297	1,268	1,240	800
Rhodium	USD/oz	16,000	14,571	14,440	14,678	14,754	14,421	13,924	13,519	12,814	8,000
Gold	USD/oz	1,819	1,669	1,628	1,527	1,435	1,362	1,318	1,288	1,259	1,600
Basket Price UG	USD/oz	2,801	2,574	2,556	2,567	2,501	2,419	2,361	2,338	2,300	1,950
Basket Price TSF	USD/oz	2,831	2,603	2,586	2,597	2,530	2,448	2,390	2,369	2,333	1,994

***Source*:** Edison (Dec 2021), (*Minxcon).

Financial Cost Indicators

The operating costs in the financial model were subdivided into different categories, namely Adjusted Operating Cost, All-in Sustaining Cost (AISC) and All-in Cost (AIC).

Costs reported for Zandfontein, which consists of mining, plant and other operating costs, as well as government royalty payments are displayed in the table below. Other costs in the Adjusted Operating Costs category include the social and labour plan, general and administration, transport, security and other services costs. The costs are displayed per milled tonne, per recovered 4E oz, as well as per recovered platinum equivalent oz. Operating costs are inclusive of contingencies, with a contingency of 20% applied to the mining operating costs, and 10% applied to the processing and other costs, in line with estimate accuracies. A 15% contingency has been applied to the capital expenditure in line with the accuracy of estimates.

Project Cost Indicators

Description	Unit	Excluding TSF	Including TSF
Net Turnover	**ZAR/Milled tonne**	**2,594**	**2,037**
Mine Cost	ZAR/Milled tonne	1,295	959
Plant Costs	ZAR/Milled tonne	224	216
Other Costs	ZAR/Milled tonne	209	213
Royalties	ZAR/Milled tonne	49	39
Adjusted Operating Cost	**ZAR/Milled tonne**	**1,778**	**1,426**
Sustaining CAPEX	ZAR/Milled tonne	207	152
Reclamation	ZAR/Milled tonne	11	9
Off-Mine Overheads	ZAR/Milled tonne	-	-
All-in Sustaining Cost (AISC)	**ZAR/Milled tonne**	**1,997**	**1,587**
Non-Sustaining CAPEX	ZAR/Milled tonne	51	37
Non-Current Costs	ZAR/Milled tonne	-	-
All-in Cost (AIC)	**ZAR/Milled tonne**	**2,048**	**1,624**
All-in Cost Margin	**%**	**21.06%**	**20.27%**
EBITDA*	ZAR/Milled tonne	805	602
EBITDA Margin	%	31%	30%
4E Oz Recovered	koz	1,482	1,511
Net Turnover	**USD/4E oz**	**1,825**	**1,928**
Mine Cost	USD/4E oz	911	907
Plant Costs	USD/4E oz	158	204
Other Costs	USD/4E oz	147	202
Royalties	USD/4E oz	35	37
Adjusted Operating Cost	**USD/4E oz**	**1,251**	**1,350**
Sustaining CAPEX	USD/4E oz	146	143
Reclamation	USD/4E oz	8	8
Off-Mine Overheads	USD/4E oz	-	-
All-in Sustaining Cost (AISC)	**USD/4E oz**	**1,405**	**1,502**
Non-Sustaining CAPEX	USD/4E oz	36	35
Non-Current Costs	USD/4E oz	-	-
All-in Cost (AIC)	**USD/4E oz**	**1,441**	**1,537**
EBITDA	USD/4E oz	566	570
Net Turnover	**USD/Pt Eq**	**1,124**	**1,124**
Mine Cost	USD/Pt Eq	561	529
Plant Costs	USD/Pt Eq	97	119
Other Costs	USD/Pt Eq	91	118
Royalties	USD/Pt Eq	21	21
Adjusted Operating Cost	**USD/Pt Eq**	**770**	**787**
Sustaining CAPEX	USD/Pt Eq	90	84
Reclamation	USD/Pt Eq	5	5
Off-Mine Overheads	USD/Pt Eq	-	-
All-in Sustaining Cost (AISC)	**USD/Pt Eq**	**865**	**876**
Non-Sustaining CAPEX	USD/Pt Eq	22	21
Non-Current Costs	USD/Pt Eq	-	-
All-in Cost (AIC)	**USD/Pt Eq**	**887**	**896**
EBITDA	USD/Pt Eq	349	332

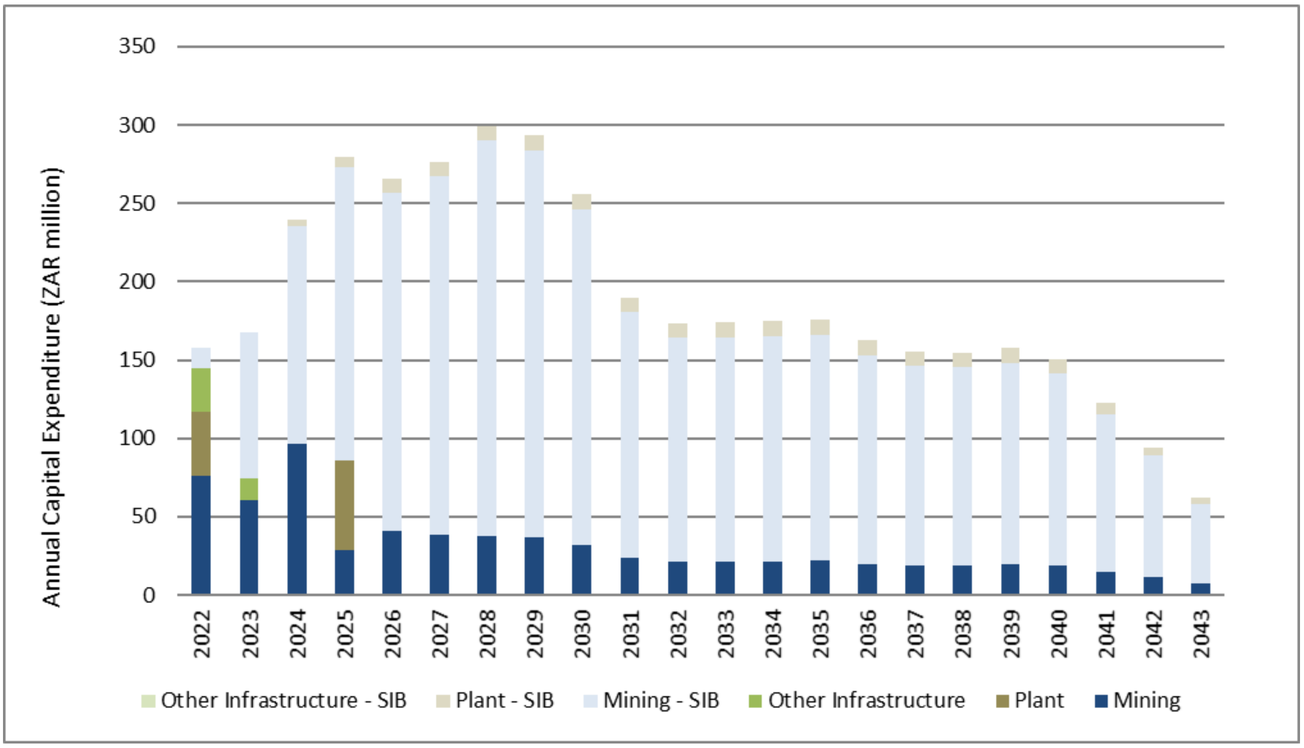
Notes:

1. Earnings before interest, tax, depreciation and amortisation (excludes CAPEX).
2. EBITDA per unit is lower when including the remining of the TSF due to mined units increasing, while the recoveries and payabilities decrease when including the TSF.
3. Net turnover will be the realised income per produced oz after payability has been applied.

Zandfontein has an adjusted operating cost of ZAR1,778/milled ton excluding TSF remining and ZAR1,426/milled ton if the TSF remining is included. The AISC of the mine excluding and including TSF remining is USD1,405/4E oz and USD1,502/4E oz, respectively.

The capital costs over the LoM are illustrated in the following figure. No additional capital is required for the TSF remining, as the TSF remining is already in operation.

Capital Cash Flow Schedule



Cash Flow

The following table details the Project NPV at various discount rates with a best estimated value at a real discount rate of 11.87% of ZAR2,918 million and ZAR3,136 million, excluding and including TSF remining, respectively. The value of the TSF on an incremental cash flow basis is provided in the table, with a best estimated value of ZAR217 million at a real discount rate of 11.87%. The Project is financially viable; hence a Mineral Reserve can be declared.

Project Valuation Summary – Real Terms

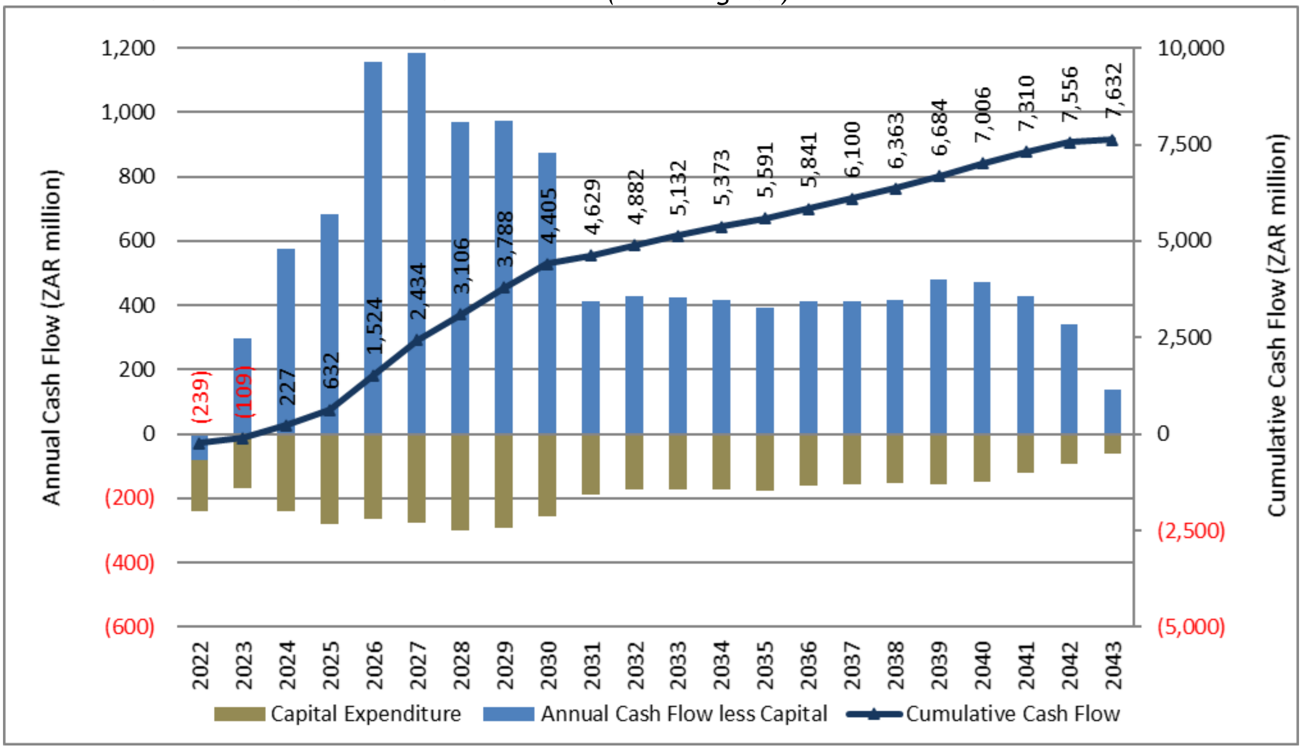
Item	Unit	Excluding TSF	Including TSF	TSF
NPV @ 0%	ZARm	7,668	7,907	239
NPV @ 5%	ZARm	4,863	5,098	235
NPV @ 10%	ZARm	3,318	3,541	223
NPV @ 11.9%	**ZARm**	**2,918**	**3,136**	**217**
NPV @ 15%	ZARm	2,386	2,594	208
NPV @ 20%	ZARm	1,782	1,974	192
NPV @ 0%	USDm	493.9	509.3	15.4
NPV @ 5%	USDm	313.2	328.4	15.1
NPV @ 10%	USDm	213.7	228.1	14.4
NPV @ 11.9%	**USDm**	**188.0**	**202.0**	**14.0**
NPV @ 15%	USDm	153.7	167.1	13.4
NPV @ 20%	USDm	114.8	127.1	12.4

Notes: Converted to USD using average ZAR/USD exchange rate over LoM, 15.53.

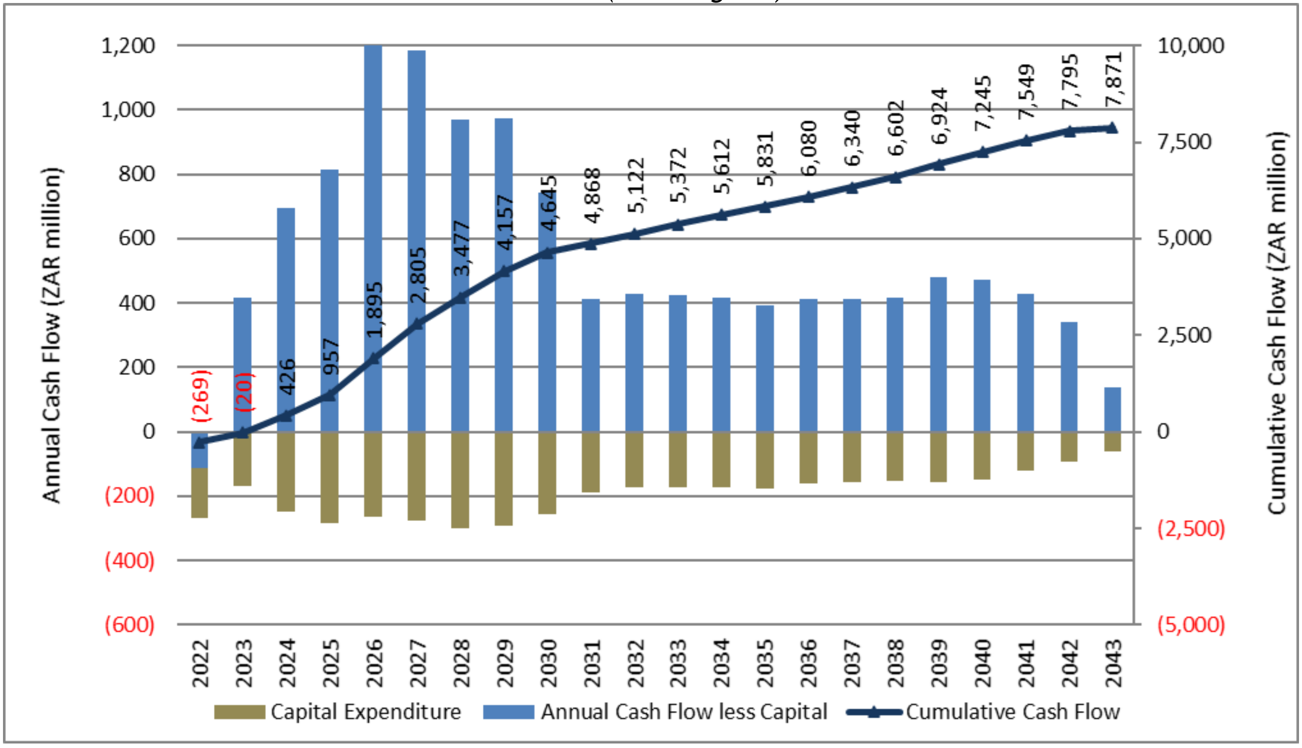
The annual and cumulative cash flow forecast for LoM, excluding and including the TSF remining, respectively is displayed in the two figures below. The mine has a peak funding requirement of ZAR239 million in year 1 on an annual basis and a payback period of 2.3 years, excluding the TSF. The peak funding requirement increases to ZAR269 million in year 1 as the first year is loss making but payback reduces marginally to 2.0 years.

The reason for the loss making in year 1 when remining the TSF is due to the working capital changes as payment for chrome concentrate sales is only received after 85 days, as provided by Client, hence revenue is delayed. No opening working capital balance was considered.

Annual and Cumulative Cash Flow – Undiscounted (Excluding TSF)

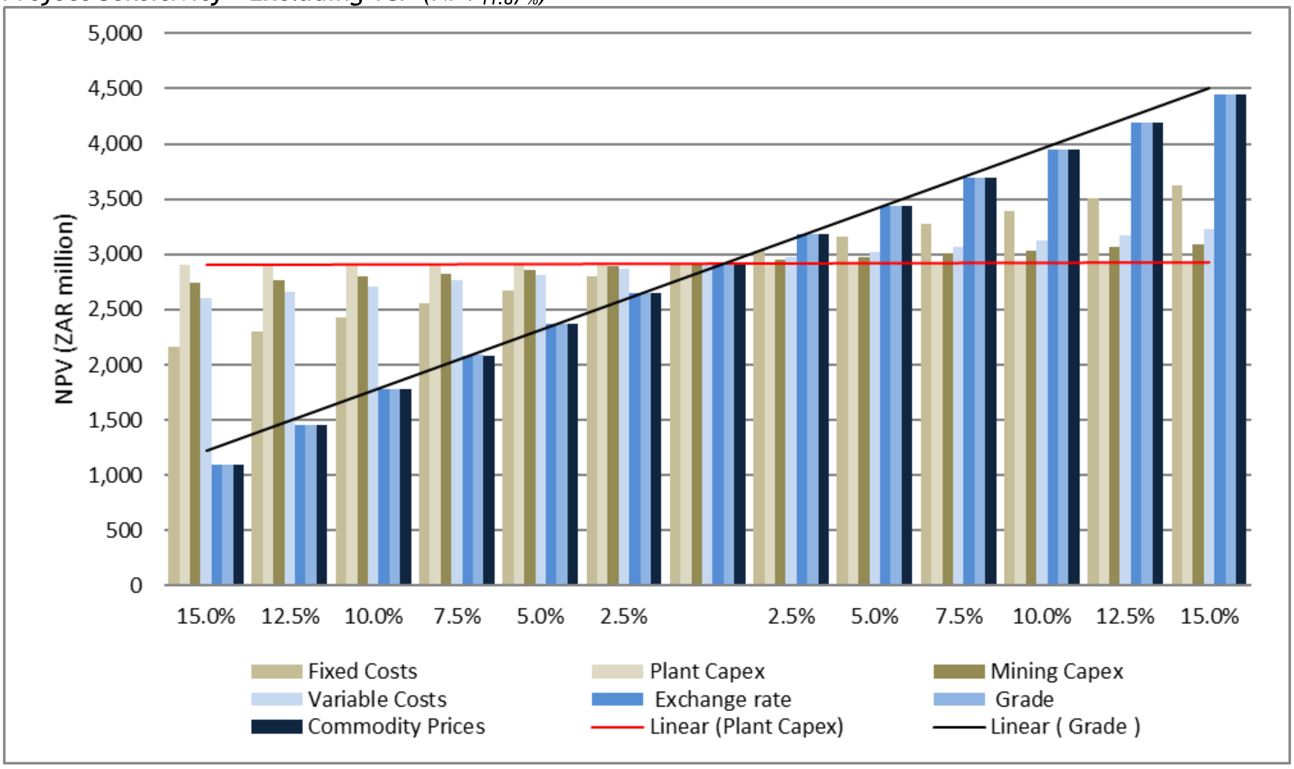


Annual and Cumulative Cash Flow – Undiscounted (Including TSF)



Minxcon performed single-parameter sensitivity analyses based on the real cash flow to ascertain the impact on the NPV. For the DCF, the commodity prices, exchange rate and grade have the most significant impact on the sensitivity of the Project followed by the fixed and variable cost. The Project is not sensitive to capital or fixed cost.

Project Sensitivity – Excluding TSF ($NPV_{11.87\,\%}$)



Range of Values

Two valuation approaches were used to value the Zandfontein operations. The valuation was completed at the Barplats ownership level. The value derived for the income approach only reflects the Mineral Reserve in the LoM plan. The confidence in the income approach is higher because it was completed at an overall Preliminary Feasibility Study level, with some aspects of the operation at execution level. The income approach is therefore Minxcon's preference to establishing market values. A minimum and maximum value was determined for the DCF as displayed in the table below. The Mine has a range of values between ZAR1,424 million and ZAR4,122 million with a best estimated full value of ZAR3,136 million at a real discount rate of 11.87%.

Summary of Income Approach Valuation Estimates

Valuation Method	Unit	Lower Value	Estimated Value	Upper Value
Income Approach -Underground Operations	ZARm	1,271	2,918	3,862
Income Approach - TSF	ZARm	153	217	260
Combined	**ZARm**	**1,424**	**3,136**	**4,122**
Income Approach -Underground Operations	USDm	82	188	249
Income Approach - TSF	USDm	10	14	17
Combined	**USDm**	**92**	**202**	**266**

Notes: Converted to USD using average ZAR/USD exchange rate over LoM, 15.53.

Market Approach using Comparable Methodology

For the second valuation method the market approach was used on the total Mineral Resources (total Zandfontein) to determine the full value of the Project on a comparative basis. Based on the current Mineral Resources, the *in situ* Mineral Resources have an average value of USD10.57/oz 4E. Based on the current Mineral Resource, a best estimated value of ZAR3,116.60 million was calculated, as shown to follow.

Market Approach Valuation CRM Underground UG2 Mineral Resources

Project Area	Mineral Resource Category	Tonnage	Grade	Contained Precious Metal		USD/oz	Value
		Mt	4E g/t	kg	koz		ZAR million
Crocette	Measured	3.65	3.88	14,151	455	43.35	306.51
Crocette	Indicated	7.09	3.89	27,540	885	16.50	227.07
Crocette	Inferred	0.03	3.91	124	4	3.15	0.20
Zandfontein	Measured	6.69	4.04	26,998	868	43.35	584.78
Zandfontein	Indicated	21.37	3.66	78,298	2,517	16.50	645.56
Zandfontein	Inferred	22.55	4.45	100,390	3,228	3.15	157.84
Kareespruit	Indicated	25.24	4.02	101,396	3,260	16.24	822.72
Kareespruit	Inferred	57.99	4.16	241,484	7,764	3.08	371.93
Total		**144.61**	**4.08**	**590,382**	**18,981**	**10.57**	**3,116.60**

Note: ZAR/USD exchange rate: 15.54

The valuation results for the TSF are based on a contained 4E plus chrome 4E equivalent basis. The TSF has an average value of USD43.89/oz. Based on the current Mineral Resource, a best estimated value of ZAR330.27 million was calculated.

Market Approach Valuation Zandfontein TSF (4E Equivalent)

Project Area	Mineral Resource Category	Tonnage	Grade	Contained Precious Metal		USD/oz	Value
		Mt	4E Eq. g/t	kg	Moz		ZAR million
TSF (4E Eq)	Measured	4.59	1.32	9,690	0.31	56.03	271.22
TSF (4E Eq)	Indicated	2.59	1.31	5,371	0.17	22.00	59.05
Total		**7.19**	**2.10**	**15,061**	**0.48**	**43.89**	**330.27**

Note: ZAR/USD exchange rate: 15.54

For the market approach, the total Project value was calculated at between ZAR3,195 million and ZAR3,710 million with a best estimated market value of ZAR3,447 million.

Summary of Market Approach Valuation Estimates

Valuation Method	Unit	Lower Value	Estimated Value	Upper Value
Comparative Approach – Underground	ZARm	2,889	3,117	3,355
Comparative Approach – TSF	ZARm	306	330	355
Combined	**ZARm**	**3,195**	**3,447**	**3,710**
Comparative Approach – Underground	USDm	186	201	216
Comparative Approach – TSF	USDm	20	21	23
Combined	**USDm**	**206**	**222**	**239**

Notes: Converted to USD using ZAR/USD exchange of 15.54.

COMPETENT PERSONS' CONCLUSIONS

The following conclusions are made by the Competent Persons for the Project:-

Environment

There are several renewal applications that have been pending at DMRE for several years and these need to be followed up.

The invasive plant species management is required to prevent further infestation.

The process water quality indicators exceed the mandated WUL limits. Even though the water is contained on site, it still poses a potential risk to the receiving environment in the event that the dams overflow. The WUL is being updated with new limits.

Mineral Resources

The database has been reviewed and verified as much as possible and deemed suitable for use in a Mineral Resource. There is limited Ru, Ir, Ni, Cu and Cr_2O_3 data available and hence the potential grade distribution is not well understood. There may be future upside potential for the extraction of these metals.

Historical QAQC data does not include duplicate and umpire samples. There is no QAQC for the underground production samples.

There has been a significant decrease in the Inferred Mineral Resource due to the expiration of some of the exploration rights. The TSF Mineral Resource estimation was not reviewed for this CPR and only depleted for current mining operations.

Mining

Underground Operations

The selected mining method is well suited to the orebody and allows for minimum off-reef development. The mine plan is practical and realistic production ramp up to steady state production volumes has been planned.

The lowest 4E grade in the Mineral Resource model is 3.31 g/t. The lowest 4E grade as per the Mineral Resource model is higher than the calculated Mineral Reserve pay limit of 3.07 g/t. This implies that the entire Mineral Resource could be economically mined considering the metal price, costs and factors utilised.

A LoM of approximately 22 years is envisaged, which will deliver 14,580 kt of material at a 4E grade of 3.68 g/t.

No Inferred Mineral Resources have been excluded for the LoM plan for Mineral Reserve estimation and economic analysis. An uneconomical tail which contains 15.06 koz of 4E material has been excluded from the Mineral Reserve estimation, as it is not economically viable on its own. The Mineral Reserve estimate contains 14,580 kt at a 4E grade of 3.68 g/t.

<u>TSF Re-mining Operations</u>

A combination of hydraulic and mechanical mining methods will be utilised for mining the TSF. These methods have been proven in industry and is effective in handling the planned production volumes. The TSF LoM utilises the June 2021 SMS mining plan, which has been adjusted by Minxcon to incorporate the 2022 TSF Mineral Resource estimation. A LoM of approximately 40 months is envisaged for the TSF re-mining operation.

The TSF Mineral Reserve estimate contains 7,570 kt of material at a 4E grade of 1.10 g/t and Chrome grade of 18.12%. The TSF re-mining operating costs are at a high level of accuracy as it is currently operational, and actual costs have been utilised for the economic analysis.

Engineering and Infrastructure

Existing and planned infrastructure at Zandfontein are sufficient to sustain the current production profile and the planned increased production.

Processing

Sufficient capital has been allocated to the process plant upgrades to accommodate underground and TSF remining material.

A potential risk to the process recoveries and operational stability is the amount of vegetation within the TSF remining material, therefore a 2-stage screening step will be introduced before being pumped through the DC tank to the plant.

Mineral Reserve Evaluation and Valuation

The Project excluding TSF remining is financially viable with a best-estimated NPV of ZAR2,918 million at an 11.9% discount rate and an IRR of 118%. The high IRR is due to the mine already having most of the required infrastructure in place as it was on care and maintenance.

The Project including TSF remining is financially viable with a best-estimated NPV of ZAR3,136 million at an 11.9% discount rate, indicating an incremental value of ZAR217 million for the TSF. The IRR increases to 138%.

Both options are financially viable, hence a Reserve can be declared on both the underground operations and the TSF remining operations.

Two valuation approaches were considered, namely the Income Approach and the Market Comparable Approach. The Income Approach valuation was the preferred valuation methodology, as it only reflects the Mineral Reserve in the LoM plan with information that is at an overall Preliminary Feasibility Study level. The Project has a market value of ZAR2,918 million excluding the TSF remining and ZAR3,136 million including the TSF remining, valuing the TSF at ZAR217 million.

The Project has an all-in cost margin of 21% and 20% excluding and including the TSF remining, which is comparable to similar mines. A peak capital investment of ZAR239 million on an annual cumulative cash flow basis is required to fund the Project in 2022, excluding the remining of the TSF. The peak funding requirement increases to ZAR269 million when remining of the TSF is considered.

The Project is most sensitive to commodity prices, exchange rates and grade.

The Project has a break-even 4E price including capital of USD1,441/oz and USD1,537/oz, excluding and including the TSF remining, respectively. All-in sustaining costs for the Project amount to USD1,405/oz and USD1,502/oz, excluding and including the TSF remining, respectively.

Risk Assessment

No significant risks or uncertainties have been identified.

COMPETENT PERSONS RECOMMENDATIONS

The following recommendations are made by the Competent Person regarding the Project:-

Mineral Resources
The QAQC protocols should include duplicate and umpire samples. QAQC samples should also be inserted in the underground production samples.

Ru, Ir, Ni, Cu and Cr_2O_3 should be analysed in the future to better understand their potential.

Mining
Underground Operations

It is recommended to operationally optimise the LoM by aligning the development requirements with the stoping production requirements to minimise the uneconomical tail towards the end of the LoM. The level of confidence in the mining operating costs should be improved during the next study phase. Equipment selection and labour requirements should be refined to a higher level of confidence during the next study phase.

TSF Re-mining Operations

The technical work conducted to date on the re-mining of the TSF should be updated to include PGMs which was not previously included since previously the focus was limited to Chrome in the TSF. The June 2021 TSF re-mining schedule should be revised and updated to incorporate the latest information of the TSF Mineral Resource and TSF mining strategy.

Processing
The possibility of introducing a tramp screen to reduce the amount of vegetation reporting to the processing plant should be investigated.

Environment
There should be continued follow up and engagement with DMRE regarding pending applications. In addition, the invasive plant species management plan must be implemented to prevent further deterioration of the receiving environment.

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1 INTRODUCTION

SV T1.2, T1.3

1.1 TERMS OF REFERENCE AND SCOPE OF WORK

Minxcon (Pty) Ltd ("Minxcon") was commissioned by Barplats Mines (Pty) Ltd ("Barplats" or "the Client") to complete a compliant Independent Competent Person's Report ("CPR" or the "Report") on their Crocodile River Mine ("CRM" or "Project") incorporating Zandfontein, Crocette and Kareespruit. The Project is situated on the Western Limb of the Bushveld Complex in the North West Province of South Africa.

Barplats is a subsidiary of Eastern Platinum Limited ("Eastplats"), which is listed on the Toronto Stock Exchange ("TSX"), trading under the symbol *ELR*, and on the Johannesburg Stock Exchange ("JSE"), trading under the symbol *EPS*.

The Report was commissioned in order to comply with regulations of the Johannesburg Stock Exchange ("JSE") for listed companies. The purpose of the valuation is to comply with the JSE Section 12 disclosure requirements for Mineral Companies. The Report is compiled in compliance with the South African Code for Reporting of Exploration Results, Mineral Resources and Mineral Reserves (2016 Edition) ("SAMREC Code"), and in terms of the specifications embodied in the Standards of the South African Code for the Reporting of Mineral Asset Valuation (2016 Edition) ("SAMVAL Code"). All requirements of the JSE Section 12.10 Listing Requirements and the SAMREC Code (including Table 1) and SAMVAL Code have been complied with. JSE 12.10 (d)(e) SV T1.4

The scope of work is to complete the CPR in compliance with the SAMREC and SAMVAL Codes with an updated Mineral Resource and Mineral Reserve estimation, executed as follows:- JSE 12.10 (a)

1. site visits to familiarise the Qualified Persons with the Project;
2. review history of the Project;
3. produce key plans and maps for report;
4. describe topography and climate;
5. review legal aspects and security of tenure;
6. Mineral Resource estimation:-
    a. incorporate new drillhole data;
    b. incorporating new face positions;
    c. update estimation and Mineral Resource classification;
7. review mining plans and scheduling;
8. review processing and testwork;
9. update Mineral Reserve classification;
10. review cost and capital associated with the operation; this includes:-
    a. operational;
    b. governmental;
    c. environmental aspects;
    d. social obligations;
11. complete an economic analysis;
12. complete valuations (CIMVal):-
    a. income approach;
    b. market comparable approach; and
13. review market studies of client and contracts.

The intention of this Report is to present the updated status of the Mineral Resources, Mineral Reserves and operations. The purpose of the valuation is to determine the financial viability of the project to declare updated Mineral Reserves, as well as to secure funding for the restart of the underground operations at

Zandfontein. The Mineral Resources have been determined for the total CRM, while technical studies are focused on the Zandfontein section.

The Report has an effective date of 1 January 2022.

1.2 INDEPENDENCE OF THE ISSUER

JSE 12.10 (c)

Minxcon, all the Competent Persons, the Competent Valuator, and authors of this Report are independent of the issuer. Neither Minxcon nor its staff have or have had any interest in Eastplats or its subsidiaries capable of affecting their ability to give an unbiased opinion, and have not and will not, receive any pecuniary or other benefits in connection with this assignment, other than normal consulting fees. Neither Minxcon, nor any of the authors of the CPR, hold any share capital in Eastplats or its subsidiaries.

1.3 SOURCES OF INFORMATION

In the compilation of this Report, Minxcon utilised information as provided by various employees of the Client. This includes internal company reports, technical correspondence and maps.

Information regarding the legal aspects and tenure relating to the Project was received from Ms Cynthia van den Berg and Mr Dave Goosen of Eastplats.

Minxcon has verified this information as far as possible.

Additional information was sourced from those references listed in Section 13 and is duly referenced in the text where appropriate.

1.4 UNITS AND CURRENCY

The units used in this CPR are in metric terms. The following unit symbols are used:-

Table 1: Units of Measurement

Unit	Definition
%	Per cent
/	Per
± or ~	Approximately
°	Degrees
°C	Degrees Celsius
a	Year
cm	Centimetre
cm.g/t	Centimetre grammes per tonne
d	Day
g	Gram
g/t	Grams per tonne
Ga	Billion years (1,000,000,000 years)
ha	Hectares
hr	Hour
kg	Kilogram (1,000 g)
km	Kilometre (1,000 m)
km^2	Square kilometres
kN	Kilonewton
koz	Kilo ounces (1,000 oz)
kPa	Kilopascal
kt	Kilotonnes (1,000 t)
ktpa	Kilotonnes per annum
ktpm	Kilo tonnes per month
kV	Kilovolt (1,000 volts)
kW	Kilowatt (1,000 W)
l	Litre
m	Metre
m^2	Square metres
m^3	Cubic metres
Ma	Million years (1,000,000 years)
min	Minute
mm	Millimetre
Mm^3	Million cubic meters
mo	Month
Moz	Million ounces (1,000,000 oz)
MPa	Megapascal
Mt	Million tonnes (1,000,000 t)
MVA	Megavolt ampere
oz	Troy Ounces
ppm	Parts per million
s	second (time)
t	Tonne
t/m^3	Tonnes per cubic meter
tph	Tonnes per hour
tpm	Tonnes per month
V	Volts
W	Watt
x	By / Multiplied by
µm	Micrometre

The South African Rand ("ZAR") is used as the main currency in this Report. The United States Dollar ("USD") is also presented in some instances. The exchange rates utilised are described where appropriate throughout the Report. SC 5.6 (iii)

It is noted that throughout the Report, tables may not compute due to rounding.

1.5 COMPETENT PERSONS SITE INSPECTION / FIELD INVOLVEMENT

SC 1.1 (iii)

The Competent Persons of the Report are Mr Daan van Heerden (B Eng (Min.), MCom (Bus. Admin.), MMC, Pr.Eng., FSAIMM, AMMSA), Mr Uwe Engelmann (BSc (Zoo. & Bot.), BSc Hons (Geol.), Pr.Sci.Nat., MGSSA), and Mr Johan Odendaal (BSc (Geol.), BSc Hons (Min. Econ.), MSc (Min. Eng.), Pr.Sci.Nat., FSAIMM, MGSSA).

Mr Uwe Engelmann (Director Resources and Geology) undertook a site visit with Mr Laurence Hope (Senior Mineral Resource Geologist) on 2 December 2021 to meet with the Mine management, Mrs Hannelie Hanson and Mr Dave Goosen, to review the available databases and information.

A site visit was conducted on 25 November 2021 by the following Minxcon technical team members:-

- Mr Jano Visser (Senior Mechanical Engineer);
- Mr Roelof van der Colff (Mining Engineer);
- Mr Wikus Pretorius (Senior Process Engineer); and
- Mr Christiaan Muller (Mechanical Engineer).

The following employees of the Client guided the site visit:-

- Mr Dave Goosen (Technical Services Manager);
- Mrs Hannelie Hanson (General Manager);
- Mr Johan Victor (Mine Overseer & 3.1(a) appointee); and
- Mr John Mofokeng (Engineer).

The following surface infrastructure sites were inspected:-

- Platinum group metal ("PGM") and chrome plant;
- general surface infrastructure;
- project offices and facilities – stores, workshops, change houses;
- control room;
- medical stabilisation facility;
- winder house of rock winder;
- shaft headgear; and
- shaft bank area.

The following underground infrastructure sites were inspected:-

- loading station, underground silos and secondary escape route;
- dewatering pump station at 4 Level;
- chairlift (main landing and chairlift drive);
- 4 Level station and main haulage;
- incline conveyor drive on 4 Level;
- emulsion explosives storage bay;
- planned stoping areas on 4 and 5 Levels; and
- underground trackless equipment workshops.

A follow-up site visit to the plant and processing infrastructure sites was undertaken on 8 March 2022 by Mr Benja van Lille (Process Engineer, Minxcon).

1.6 DISCLAIMERS AND RELIANCE ON OTHER EXPERTS / THIRD PARTY INFORMATION

SC 4.5 (viii)

Minxcon has relied on the following reports and information to complete the scope of work and to compile this Report:-

- Sound Mining Solution (2017). Independent Technical Report – Zandfontein Tailings Retreatment Project to Recover Chrome for Eastern Platinum Limited.
  - Technical work conducted on the re-mining of the Zandfontein tailings storage facility ("TSF")
- Sound Mining Solution (2021). Barplats TSF – Preliminary Schedule (Area C) – June 2021 Rev.2
  - Mining schedule for the Zandfontein TSF
- Ukwazi Site Services (2021). Technical Report Crocodile River Mine – Life of mine trade-off study for Barplats Mines (Pty) Ltd.
  - Mine design criteria, mine plan, mine design and other relevant technical information
- Ukwazi Site Services Zandfontein Capex OPEX2021 06 04.xlsx
  - Mining operating costs
  - Mining equipment and quantities

Minxcon has verified the information as far as possible but has placed reliance on the qualifications and reputability of the expert authors of these reports and has accepted the information as complete and accurate.

2 PROJECT OUTLINE

SV T1.5

2.1 PROPERTY DESCRIPTION

SC 1.1 (i)

CRM is located within the Madibeng Local Municipality of the Bojanala Platinum District Municipality, in the North West Province of South Africa. It is approximately 8 km south of the town of Brits. Rustenburg and Pretoria are approximately 60 km west and 50 km east respectively. The main land-use around the mining right area is stock farming, maize and other arable crops farming, as well as mining and tourism.

CRM is a fully established decommissioned platinum mine. The mine was initially operational from 1987 and was decommissioned in 1991 due to decreased demand for platinum and subsequent subdued prices. The Zandfontein and Crocette have been under care and maintenance since 2013. Retreatment of existing tailings to recover chrome and PGMs is currently being undertaken at Zandfontein. The TSF material is derived from Upper Group 2 ("UG2") material mined during underground operations.

CRM is planning to mine the UG2 Chromitite Layer of the Bushveld Complex. The produced platinum concentrate will be transported to the Impala smelter complex near Rustenburg.

Numerous activities have been initiated and/or completed since cessation of the operation, including extensive infrastructure maintenance and upgrades.

The Barplats Mines are located within a prolific mining area in Brits. The region hosts several well-established mines and is well serviced by various amenities.

CRM aligns all operations with relevant environmental, social and governance ("ESG") regulations and guidelines and no risks have been identified in relation to any of the properties against these items.

2.2 PROPERTY LOCATION

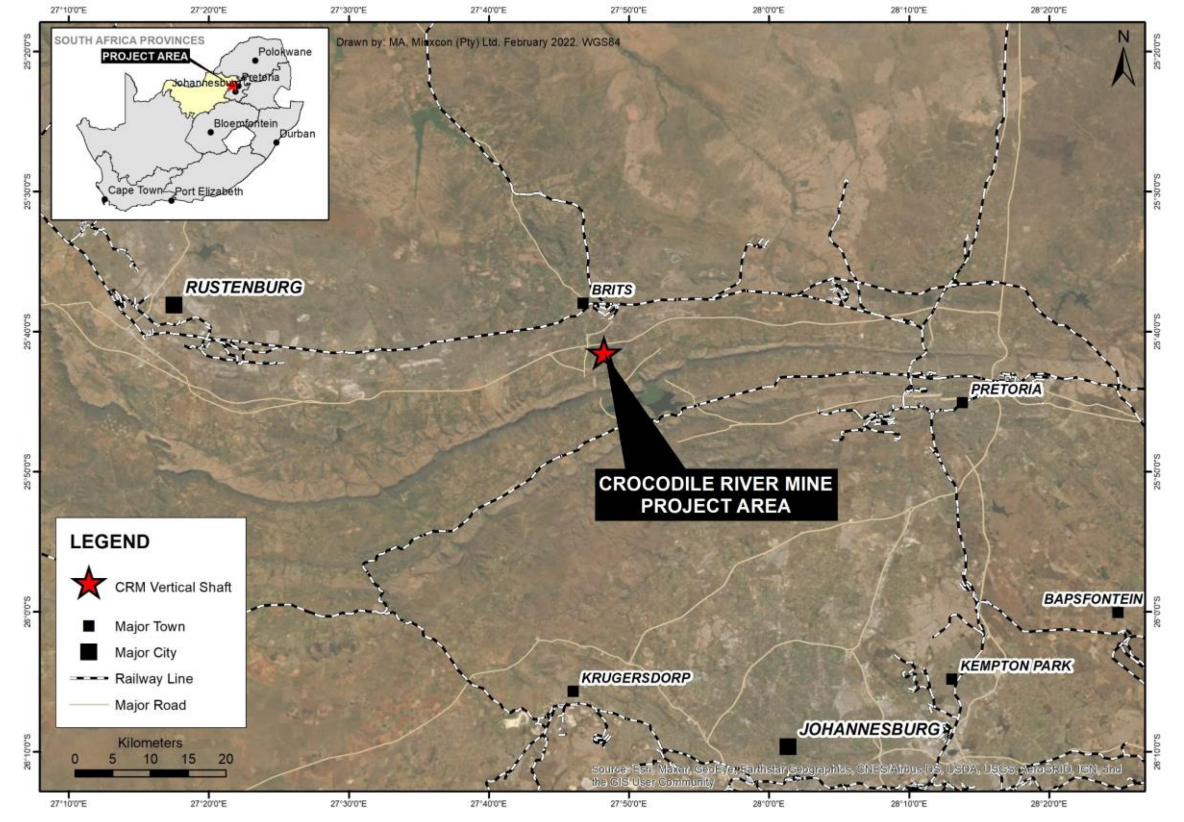
SC 1.2 (i)(iii)

CRM is located within the Madibeng Local Municipality of the Bojanala Platinum District Municipality, in the North West Province of South Africa. It is approximately 8 km south of the town of Brits. Rustenburg and Pretoria are approximately 60 km west and 50 km east respectively. The following Figure 1 and Figure 2 illustrate the location of Project.

The parent farms shown in Figure 2 are located on Government 1:50,000 topo-cadastral sheets which is published by the Chief Directorate, Surveys and Mapping (Private Bag X10, Mowbray 7705, South Africa, Phone: +27 21 658 4300, Fax: +27 21 689 1351 or e-mail: cdsm@sli.wcape.gov.za). The farm boundaries have been checked with boundaries per the current Surveyor General data.

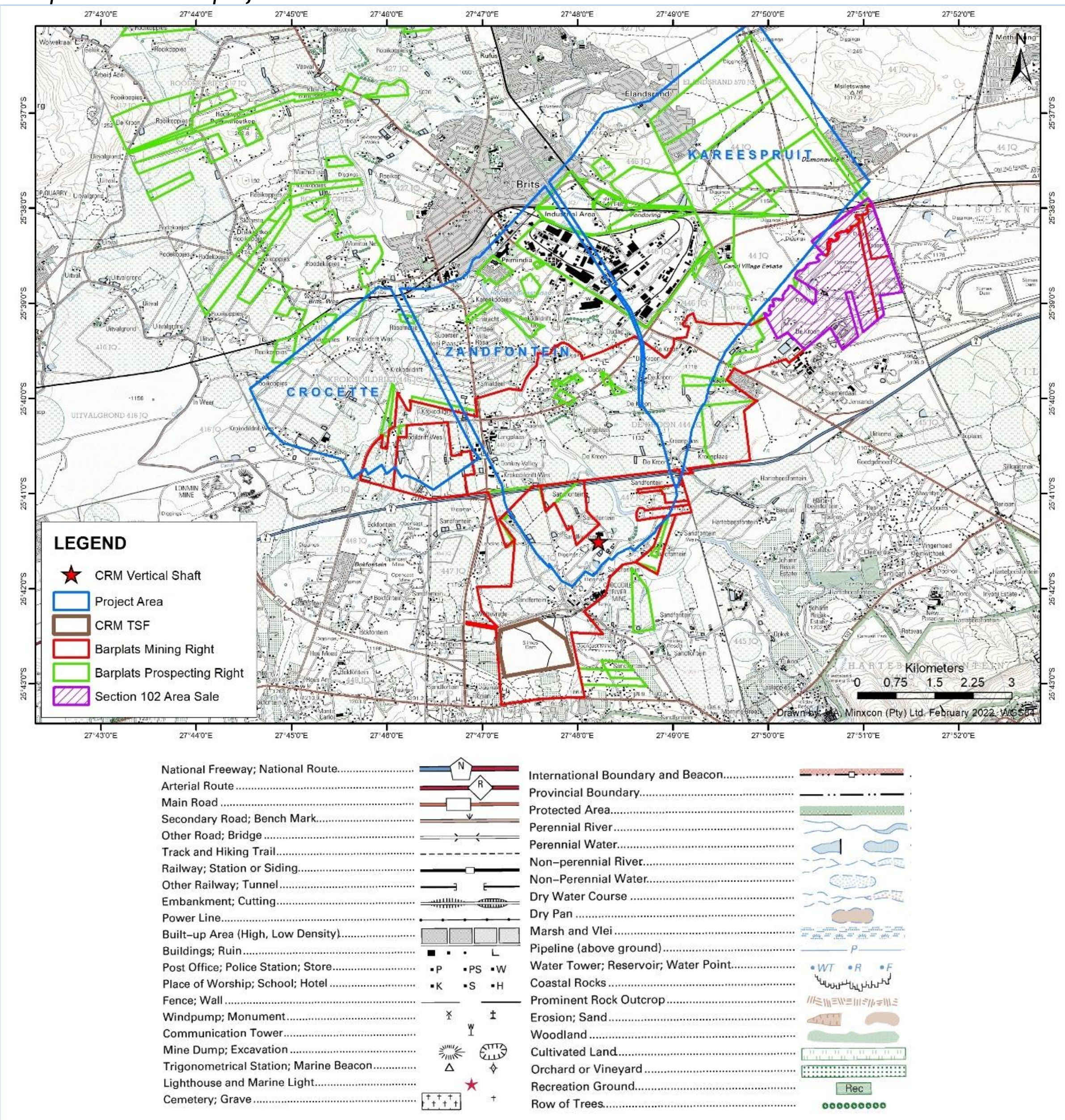
The local co-ordinate system WG27 is utilised at CRM. For the purposes of certain location illustrations in this CPR, the WGS84 system is applied.

Figure 1: Location of CRM



Location of CRM	January 2022

Figure 2: Topocadastral Map of CRM



Topocadastral Map of CRM	January 2022

2.3 Country Profile

SC 1.2 (ii)

2.3.1 Political and Socio-economic Climate

South Africa hosts abundant natural resources, and well-established financial, legal and judicial systems.

The country politically transitioned from an era of apartheid to a democratic republic in 1994. Reconciliation and reform are ongoing and often slow (and in some instances slowing) processes, the majority of which are aimed at improving the wellbeing of citizens. Poverty, unemployment and inequality remain a challenge in the country. Although the poverty rate declined from 33.8% in 1996 to 16.8% in 2011, it increased to 18.8% in 2015 in response to weak growth since the 2008 global financial crisis, as well as lack of skills of the poorer population demanded by markets. This is reflected in the unemployment rate too, which sits at 29%

for 2019 (Stats SA). For observing investors, the declining quality of basic education, high immigration rates that are currently being experienced, and land reform are a concern.

Goods and services distribution, notably in major centres, are supported by modern infrastructure although access to basic services are often challenging for the large population of lower income citizens. A lack of investment into energy infrastructure by electricity public utility Eskom has resulted in power system constraints and countrywide load shedding, hindering manufacturing, utilities, agriculture, mining, and construction. Additionally, it has the effect of depressing general population sentiment in government, and placing further strain on investor confidence in South Africa.

The World Bank ranks the economy of South Africa as upper-middle income and is one of the largest African economies, built historically largely on mining and manufacturing. The primary and secondary sectors have waned in the past two decades, giving way tertiary industries as the main driver of economic growth, most notably finance. Mining does, however, remain an important employer.

The economic policy focuses on controlling inflation to within an acceptable range (3%-6%) while empowering a broader economic base. South Africa's gross domestic product (GDP) grew by 4.9% year-on-year by the final quarter of 2021, driven by improved demand for goods and services (Stats SA). However, the real GDP had not yet recovered from the strict COVID-19 lockdown restrictions of 2020. Currently economic activity is aligned to that of quarter 3 2017. Statistics South Africa ("Stats SA") reports that the economy is 1.8% smaller than in quarter 1 2020.

In November 2019, Moody's gave South Africa a credit ranking of Baa3 - the lowest investment grade level – in with a revised outlook from stable to negative. In December 2021, Fitch Ratings revised their credit ranking for South Africa to stable from negative due to "*faster than expected economic recovery, the surprisingly strong fiscal performance this year and significant improvements to key GDP-based credit metrics following the re-basing of national accounts*". Although currently seemingly stable, structural reforms and macroeconomic policy revisions and implementation are urgent to stabilise and grow the economy in the long-term, and boost investment (Mahlaka, 2020).

2.3.2 Minerals Industry

The minerals industry of South Africa is well-established, having developed from significant gold and diamond discoveries in the late 19th century and since acting as a major driving force behind the development of the most advanced economy in Africa. According to Stats SA, GDP from Mining in South Africa averaged ZAR233,725 million from 1993 to 2019. The contribution of mining to the country's GDP peaked in 1980 at 21%, falling to 8% in 2016.

Although gold and diamond production have slowed, South Africa remains rich in Mineral Resources, hosting large, world-class ore terrains such as the Bushveld Complex and Witwatersrand Basin. Gold was once the largest employer in the mining industry, giving way to platinum group metals in 2006 (Stats SA). The country is the world's largest producer of platinum, chrome, vanadium and manganese, and ranks highly in the production of iron ore, coal, diamonds and base metals, ranking as one of the world's top coal exporters. The platinum group metals industry has the largest mining workforce, followed by gold and coal.

A number of concerns surround the mining and minerals industry of the country. Rising costs of labour, electricity, diesel and steel present financial challenges. The electricity constraints by Eskom have had a negative impact on the mining industry and the economy, with mining companies forced to cancel shifts in response to the stage 6 load shedding in December 2019. On 3 February 2020 at the African Mining Indaba, Minerals and Energy Minister Gwede Mantashe announced that mining companies will be allowed to generate energy for self-use for which the companies will have to be registered with the National Energy Regulator of South Africa.

Uncertainty relating to policy, regulation and resource nationalism, as well as prolonged industrial action account for the sector's weak performance in recent years. The President has implemented an economic stimulus and recovery plan to address this uncertainty.

2.3.2.1 Mining, Exploration and Environmental Permitting

Prior to the implementation of the Mineral and Petroleum Resources Development Act, No. 28 of 2002 ("MPRDA"), mineral and petroleum resources were privately owned. In order to align South Africa with global mining industry norms, the Department of Minerals and Energy (now Department of Mineral Resources and Energy, "DMRE") promulgated the MPRDA, which came into effect on 1 May 2004 and shifted power and control over the mineral and petroleum resources of the country to the State. The resources are recognised as the common heritage of all South Africans with the State as custodian thereof.

The MPRDA governs the acquisition, use and disposal of mineral rights, which are issued by the DMR.

The One Environmental System ("OES") came into force on 08 December 2014 and acts as a synchronised system for environmental authorisation between the MPRDA, National Environmental Management Act, No. 107 of 1998 ("NEMA"), National Environmental Management: Air Quality Act, No. 39 of 2004 ("Air Quality Act"), National Water Act, No. 36 of 1998 ("NWA"), and National Environmental Management: Waste Act, No. 59 of 2008. Prior to this, environmental aspects of mining activities were regulated in terms of the MPRDA. The OES, essentially an agreement between the DMR, Department of Environmental Affairs ("DEA") and Department of Water Affairs ("DWA"), is aimed at streamlining environmental approvals, monitoring and enforcement for South African mines.

In terms of the OES, companies are required to submit application for Environmental Authorisation ("EA") simultaneous to applying for a mining right. A mineral project requires a Water Use Licence ("WUL") for identified water uses which is issued by the DWA in terms of the NWA. A project may also require an Air Emissions Licence ("AEL") in terms of the Air Quality Act. The WUL and AEL forms part of the EA process and as such, the EA can only be granted once the WUL has been awarded. In addition, a right may only be granted once an EA has been issued for the project.

The EA process integrates public opinion, and decisions by the authorities on granting of the required licences and permits take cognisance of the incorporated technical information, socio-economic and environmental strategies, and public sentiment.

2.3.2.2 Broad-Based Socio-Economic Empowerment Charter

The Broad-Based Socio-Economic Empowerment Charter for the Mining and Minerals Industry of 2010 outlined the requirement for a 26% Black Economic Empowerment ("BEE") shareholding for the holder of a mining or prospecting right.

A revised Mining Charter was gazetted on 27 September 2018 ("2018 Mining Charter"). As described by Creamer Media, through the 2018 Mining Charter, an existing mining right holder who has achieved a minimum of 26% is recognised as compliant for the duration of the right. This includes a right holder whose BEE shareholder has since exited. This recognition, however, is not applicable upon renewal, and is not transferrable to a new owner in the case of a transfer or sale. Such a right holder is expected to increase its B-BBEE shareholding to 30% within five years.

The 2010 version of the Mining Charter will apply to all pending applications lodged, and accepted, prior to 2018 Mining Charter coming into effect.

A new mining right, granted after 2018 Mining Charter coming into effect, must have a minimum of 30% BEE shareholding, which will be applicable for the duration of the mining right. This 30% BEE shareholding will be distributed through a minimum of 5% non-transferable carried interest to qualifying employees; a minimum of 5% non-transferable carried interest to host communities, or a minimum 5% equity equivalent benefit; as well as a minimum of 20% effective ownership in the form of shares to a BEE entrepreneur, 5% of which must ideally be for women.

No ownership requirements for prospecting rights are dictated in the 2018 Mining Charter, which is consistent with the provisions of Section 17(4) of the MPRDA which gives the Minister the discretion to decide whether ownership requirements should be included or not.

Amongst other items, the 2018 Mining Charter further sets out minimum procurement and employment equity targets. A minimum of 70% of total spend on mining goods must be on goods manufactured within South Africa, while a minimum of 80% total spend on mining services must be sourced from South African based companies. These have further apportioned sub-targets. Overall, employment equity targets remain largely the same from the 2010 Charter, with the most significant changes relating to female representation in respect of which there have been increases. The transitional arrangement period for compliance with the procurement and employment equity targets is five years.

2.3.2.3 Government Royalties and Taxes

2.3.2.3.1 Royalty Act

Following implementation of the MPRDA, the Minister of Finance promulgated the Mineral and Petroleum Resources Royalty Act, No. 28 of 2008 as well as the Mineral and Petroleum Resources Royalty (Administration) Act, No. 29 of 2008, both of which are administered by the South African Revenue Service. The Royalty Act came into effect on 1 March 2010. The royalty is triggered on the transfer of a mineral extracted and the royalty collected is paid to the National Revenue Fund.

The law requires all companies extracting minerals in South Africa to pay royalties at a rate of between 0.5% and 7% based on gross sales. Companies are taxed on either the refined or unrefined formula:-

- Refined mineral formula = 0.5 + [EBIT/Gross sales x 12.5] x 100
- Unrefined Mineral Resource formula = 0.5 + [EBIT/Gross sales x 9] x 100

2.3.2.3.2 Carbon Tax Act

The Carbon Tax Act, No. 15 of 2019 ("Carbon Tax Act") was gazetted on 23 May 2019, and came into effect on 1 June 2019.

A taxpayer is liable to pay carbon tax where it conducts any activities set out in Schedule 2 of the Carbon Tax Act and emits greenhouse gas ("GHG") emissions above the listed thresholds in respect of a tax period. The tax is levied based on the sum of the GHG emissions expressed as the CO_2 equivalent of those GHG emissions resulting from fuel combustion, industrial processes and fugitive emissions. The liability may be reduced through using the various allowances available and in some instances the tax is only payable where allowances are exceeded.

In order to assist in the transition to a low-carbon economy and minimise the impact on businesses and electricity prices, the tax is implemented in phases, with phase 1 running from 1 June 2019 to 31 December 2022. Carbon tax will be levied at a rate of ZAR120/t of CO_2 equivalent of GHG emissions. Certain allowances apply in the first phase, to be revised thereafter. During the first phase the rate of ZAR120/t will be adjusted each year by the consumer price inflation ("CPI") plus 2%. Thereafter, it will increase annually by CPI.

2.4 Legal Aspects and Permitting

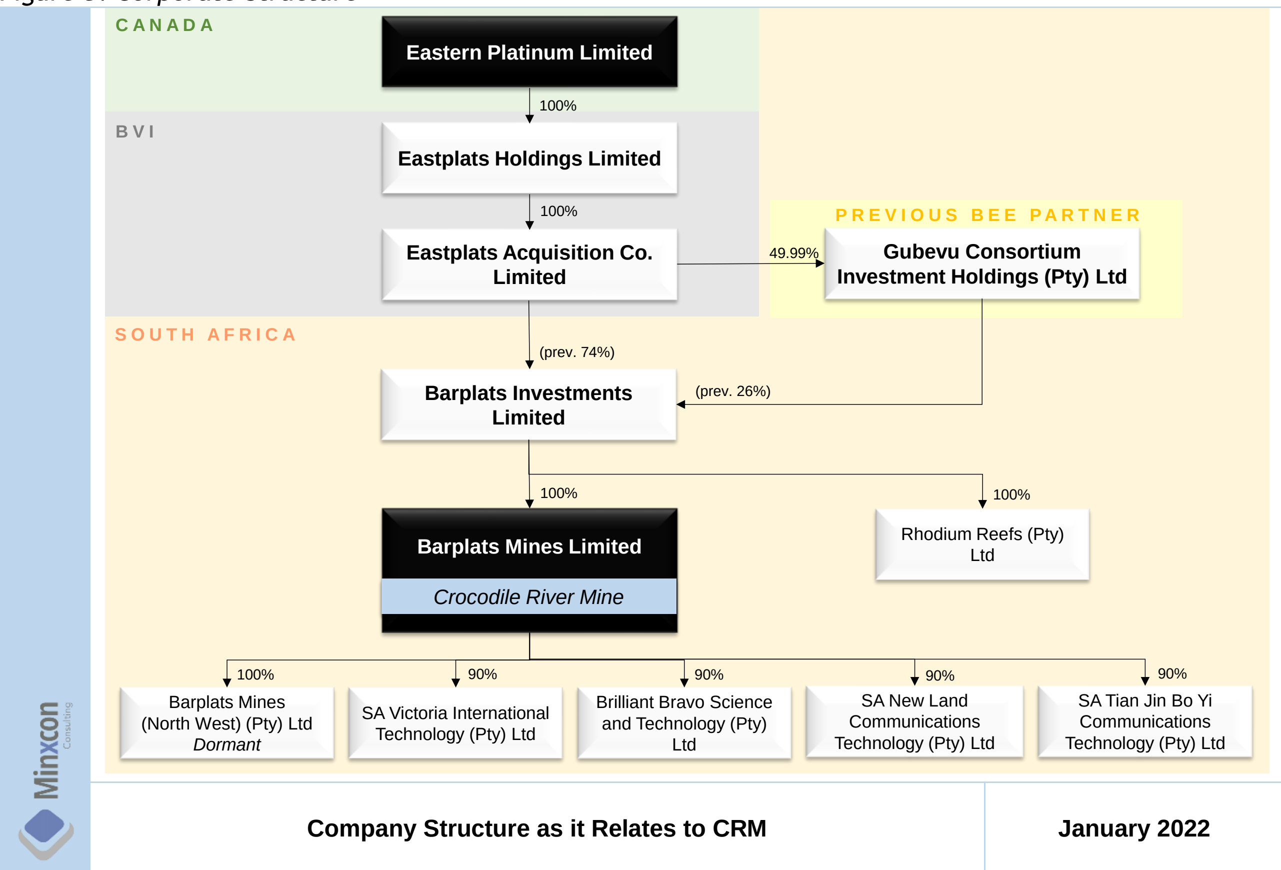
The nature of the issuer's rights and the right to use the surface of the properties to which these Project Areas relate are described in the following sections. The farm boundaries are clearly defined by existing fencing and other boundary markers and depicted on Surveyor General and topographical maps. SC 1.5 (ii) SC 5.5 (i)(ii)

2.4.1 Corporate Structure

Barplats is a wholly owned subsidiary of Barplats Investments Limited. The latter was a 74% held indirect subsidiary of Eastplats, with the remaining 26% previously held by Black Economic Empowerment ("BEE") partners Gubevu Consortium Investment Holdings (Pty) Ltd. The BEE proportion was therefore previously 26%, and on the basis of Once Empowered, Always Empowered, Barplats remains fully compliant with this ownership requirement.

The corporate structure of Eastplats is shown in Figure 3.

Figure 3: Corporate Structure



2.4.2 Rights to Mine and Prospect

SC 1.5 (i)(iii)

All mineral rights have been issued by the DMRE in accordance with the MPRDA. All the Mining Rights are held in the name of Barplats.

The Zandfontein and Crocette Mines are encompassed under three mining rights, NW 30/5/1/2/2/151 MR ("151MR"), NW 30/5/1/2/2/332 MR ("332MR") and NW 30/5/1/2/2/307 MR ("307MR"). Renewal applications for 332MR and 307MR were lodged prior to their lapsing; the DMRE has not granted them to date, but they remain in force in terms of section 24(5) of the MPRDA. Their validity is to be determined ("TBD") in due course. An MPRDA section 102 application for 151MR was granted on 22 December 2021 - it consolidated Zandfontein 447 JQ portion 19 from NW 30/5/1/2/2/78 MR ("78MR") into 151MR and 78MR was completely abandoned.

Barplats and Eland concluded a transaction in terms of which Barplats has, sold to Eland, a portion of 78MR, a portion of 151MR and NW 30/5/1/2/2/363 MR in its entirety. This area is known as the Maroelabult Mine. The 151MR sale portion covers the following immovable properties: remainder of portion 48; portion 49 (now remainder of portion 141 and portion 142 (both portions of portion 49), the remainder of portion 49 and a portion of portion 353); remainder of portion 50 (now subdivided into a portion of portion 353); portion 199 (a portion of portion 48) (now portions of portions 296 and 297); portion 165 (a portion of portion 47) (now subdivided into the remainder of portion 165 and portion 333 (a portion of portion 165)) and portions 51, 52, 119, 121, 122, 123; and portions 166, 167 and 168 (all portions of portion 47) of the Farm De Kroon 444 JQ.

The 78MR sale portion covers the following immovable properties: Portion 157 (now the remainder of portion 157 (a portion of portion 50) and a portion of portion 353); portions 159 and 161 (both portions of portion 115) of the Farm De Kroon 444 JQ. The various portions of portion 353 which are held under the 78MR sale portion and 151 MR sale portion constitute the entire portion 353 and the sale portions include the entire portion 353.Barplats has various prospecting rights in the vicinity of the mining rights area. Several renewal applications for various prospecting rights were lodged prior they lapsed and DMRE has not granted them to date, but they remain in force in terms of section 24(5) of the MPRDA.

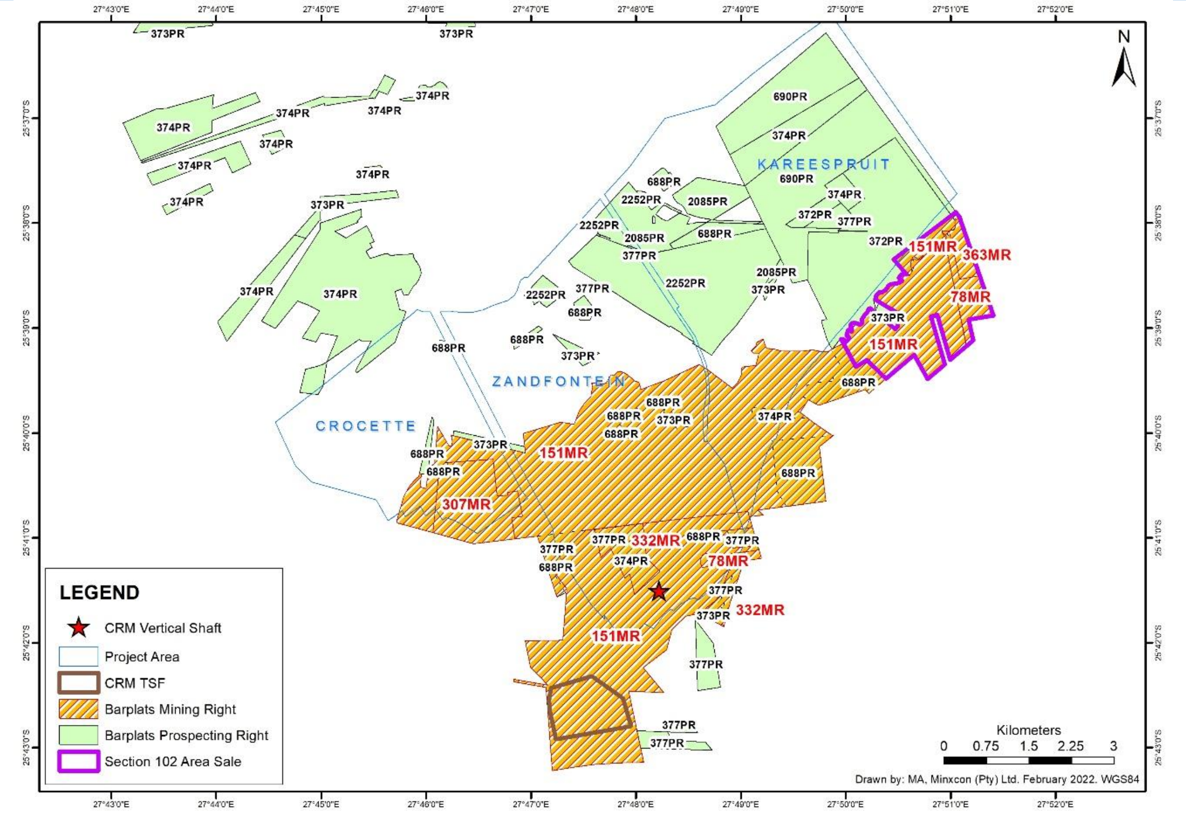
Table 2 indicates the validity of each licence.

Table 2: Summary of Barplats Mine Mineral Rights Relating to the CRM Project

Licence Reference Number	Original Area Ha	Commodities	Commencement Date	Expiry Date	Status
NW 30/5/1/2/2/151 MR	2 482,9255	PGMs, Gold, Copper, Cobalt, Chrome & Nickel	20 Jun 2008	19 Jun 2038	The following portions have been sold in the Maroelabult sale and excluded by the approved section 102 from 151MR:- Portion 157 (now the remainder of Ptn 157 (a portion of Ptn 50) and a portion of Ptn 353); Ptn 159 and 161 (both portions of Ptn 115) of the Farm De Kroon 444 JQ. Entire Ptn 353. The approved section 102 consolidated Ptn 19 of farm Zandfontein 447 JQ from 78MR into 151MR.
NW 30/5/1/2/2/78 MR	65.1218	PGMs, Gold, Copper, Cobalt, Chrome & Nickel	14 Dec 2006	Abandoned	Section 102 approved on 22 Dec 2021 effected the following:- Portion 19 of farm Zandfontein 447 JQ was consolidated into 151MR. 78MR was completely abandoned.
NW 30/5/1/2/2/332 MR	110,874.00	PGMs, Gold, Copper, Cobalt, Chrome & Nickel	15 Aug 2008	TBD	Active
NW 30/5/1/2/2/307 MR	155.6722	PGMs, Gold, Silver, Nickel, Copper, Cobalt & Chrome	31 Mar 2008	TBD	Active
NW 30/5/1/2/2/363 MR	27,2339	PGMs, Gold, Silver, Nickel, Copper, Cobalt & Chrome	29 January 2009	N/A	Sold to Eland and Abandoned
NW 30/5/1/2/2/372 PR	436.4508	Precious metals and base metals found in mineralogical association with those precious metals.	14 Feb 2006	TBD	Active
NW 30/5/1/1/2/373 PR	3,475.2790	PGM, copper ore, nickel ore, chrome ore	14 Feb 2006	TBD	Active
NW 30/5/1/2/1/374 PR	477.6102	PGM, copper ore, nickel ore, chrome ore	14 Feb 2006	TBD	Active
NW 30/5/1/1/2/377 PR	3002.1730	PGM, copper ore, nickel ore, chrome ore	14 Feb 2006	TBD	Active
NW 30/5/1/1/2/688 PR	229.5898	PGM, copper ore, nickel ore, chrome ore, gold & cobalt	20 Nov 2008	19 Nov 2013	Active
NW 30/5/1/1/2/11191 PR (Renewal 688 PR)			18 Nov 2020	17 Nov 2023	Active
NW 30/5/1/1/2/690 PR	624.9002	PGM, copper, nickel, chrome	15 Aug 2008	14 Aug 2013	Active
NW 30/5/1/1/2/11126 PR (Renewal 690 PR)			18 Nov 2020	17 Nov 2023	Active
NW 30/5/1/1/2/2252 PR	416.7299	PGM, copper ore, nickel ore, chrome ore	05 Aug 2011	04 Aug 2015	Active
NW 30/5/1/1/2/11696 PR (Renewal 2252 PR)			21 Sept 2021	20 Sept 2024	Active
NW 30/5/1/1/2/2085 PR		PGM, copper ore, nickel ore, chrome ore	-	-	Pending

The mineral rights are illustrated in Figure 4.

Figure 4: CRM Mining and Prospecting Rights Areas



Note: Areas as per the approved Regulation 2(2) and 42 plans per mineral right.

CRM Mining and Prospecting Rights Areas	January 2022

Under the MPRDA, Mineral and Petroleum Resources Development Regulations ("MPRD Regulations"), and Minerals and Petroleum Resources Development Amendment Act, No. 49 of 2008 ("MPRDAA"; effective 7 June 2013), TSFs and waste rock dumps ("WRDs") are defined as residue stockpiles. The dictation of formal authorisations required to lawfully extract minerals from a residue stockpile was anticipated in an Amendment Bill which was considered in response to a review of the MPRDA, arising partly due to a 2006 Bloemfontein High Court case of De Beers Consolidated Mines Ltd v. Ataqua Mining (Pty) Ltd and Others. The court case disputed ownership of tailings created pre-MPRDA. It became apparent that the original MPRDA did not specify historic dumps or tailings, and tailings were therefore considered to be a movable asset of the permit holder that extracted the material. Ownership thus vested in the original creator of the tailings deposit.

Stemming from the pivotal De Beers Consolidated Mines Ltd v. Ataqua Mining (Pty) Ltd and Others court case, a residue stockpile belongs to the entity which created it and is unrelated to whom the current mining right holder on the land concerned is. However, the current permitting requirements are still not clearly defined.

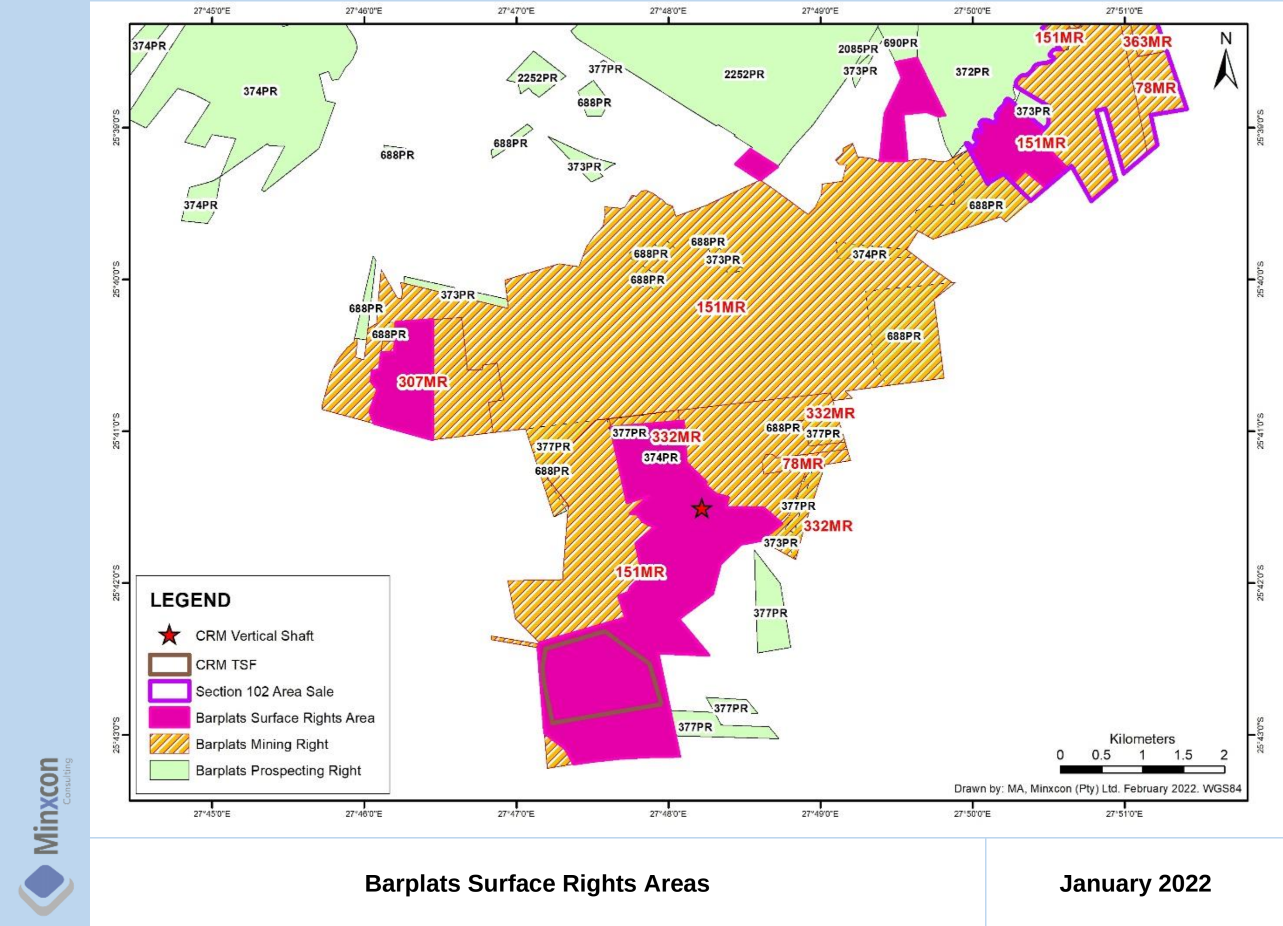
The existing TSF on Zandfontein belongs to Barplats. The EMP was amended in 2020 to include more details about the retreatment of the TSF. The TSF is currently being retreated.

2.4.3 Surface Rights

SC 1.5 (i)

Rights to use of the land parcels is dealt with in the new order mining rights in terms of Section 5 of the MPRDA as well as the National Water Act, No. 36 of 1998 ("NWA"). In terms of Section 5(3) of the MPRDA, Eastplats, through its majority owned subsidiary, Barplats as holder of the mineral rights over the land, have the right to surface access over the applicable farm portions. However, it is noted that Section 54(7) allows the landowner or lawful occupier who has suffered or is likely to suffer any loss by the conducting of prospecting and mining operations to initiate a compensation process. Barplats is the surface rights holder of the land portions illustrated in Figure 5, which is inclusive of the vertical shaft and TSF areas.

Figure 5: Barplats Surface Rights Areas



2.4.4 Environmental Permits

2.4.4.1 Environmental Authorisation

The Environmental Impact Assessment ("EIA")/Environmental Management Plan ("EMP") submitted and subsequently approved on 30 January 2001, in support of the Environmental Authorisation ("EA") and 151 MR application for Barplats was compiled by SRK Consulting Engineers and Scientists in August 2000.

On 5 October 2018 DMRE issued an amended Integrated Environmental Authorisation ("IEA") with reference number NW 30/5/1/2/3/2/1/ (78, 151, 307, 332 & 363) EM under the National Environmental Management Act, No. 107 of 1998 ("NEMA") as amended and the National Environmental Management Waste Act, No. 59 of 2008 ("NEMWA"), pursuant the review of the EIAR and EMPR that were compiled by Envass Environmental Assurance (Pty) Ltd.

In January 2021 an EMPR amendment compiled by OMI Solutions (Pty) Ltd was submitted to the Department of Mineral Resources and Energy ("DMRE") in support of the Mineral and Petroleum Resources Development Act, No. 28 of 2002 ("MPRDA") section 102 application. The section 102 application pertains to the removal of certain portions from 151MR and 78MR that have been sold and therefore the need to amend the IEA and to consolidate the EMPR. On 1 December 2021 DMRE approved the EA and EMPR amendments in terms of regulation 33 of the Environmental Impact Assessment Regulations of 2014 as amended ("EIA Regulations"). This amended EA will only be effective on the basis that a corresponding application in terms of section 102 of the MPRDA as amended has been issued. The EA will be valid for the life of mine.

The North West Department of Rural, Environment and Agricultural Development ("READ"), formally known as the North West Department of Agriculture, Conservation and Environment ("ACE") issued a Record of Decision ("ROD") with reference number EIA 73/2006 NW. The ROD was issued in terms of section 22 of the Environment Conservation Act, No. 73 of 1989 ("ECA") to authorise the expansion of operation to include a new shaft and opencast mining on Crocette section of Farm Krokodildrift 446 JQ. The ROD was issued on 24 July 2007 and is valid for the LoM.

READ issued an EA with reference number NWP/EIA/42/2013, in terms of section 24(2)(a) of NEMA to authorise the construction of a mine ventilation shaft, a service shaft and associated infrastructure on Farm De Kroon 444 JQ Portion 113 and Farm Zandfontein 447 JQ Portion 347. The EA was issued on 27 May 2015 and is valid for the LOM.

2.4.4.2 Environmental Management Plan

All mining and exploration work executed follows the guidelines, specifications and limitations indicated in the Environmental Management Plans ("EMPs").

All EMPs as required by the MPRDA have been approved with respect to the Barplats Project Areas.

2.4.5 Government Requirements

SC 1.5 (v)

All governmental requirements as may be required have been approved, or there is reasonable basis to believe that all governmental requirements required for the Projects can be obtained. Barplats adheres to environmental and sustainability principles as set out in the MPRDA.

2.4.6 Water Use Licence

Water Use Licence is issued by the Department of Water Affairs and Sanitation ("DWS"). In terms of chapter 4 of the National Water Act, No. 36 of 1998, Water Use Licence ("WUL") number 04/A24A/ABCEGIJ/5022 was issued on 17 June 2017, to Barplats: Zandfontein section. The licence is valid for 20 years. The authorised water activities are as follows:-

- Section 21(a): Abstraction of water from the Crocodile River and dewatering underground workings.
- Section 21(b): Storage of water in tanks, a reservoir, tailings storage facility and tailings storage facility return water dams.
- Section 21(c): Construction of a low water bridge that may impede or divert the flow of water in the Crocodile River.
- Section 21(e): Irrigation of a soccer field with treated effluent from the wastewater treatment plant.
- Section 21(g): Disposing of waste in a manner which may detrimentally impact on a water resource.
- Section 21(i): Altering the bed, banks, course or characteristics of the Crocodile River to construct a low water bridge.
- Section 21(i): Dewatering underground workings for the efficient continuation of an activity or for the safety of people.

In terms of chapter 4 of NWA, WUL number 04/A21J/ABCGIJ/5038 was issued on 15 June 2017, to Barplats: Crocette section. The licence is valid for 10 years. The authorised water activities are as follows:-

- Section 21(a): Abstraction of water from a borehole in carpark and from Decline number 1 and 2.
- Section 21(b): Storage of water in JoJo tanks.
- Section 21(c): Construction of dirt roads that may impede or divert the flow of water in an unnamed tributary of the Crocodile River.
- Section 21(g): Disposing of waste in a manner which may detrimentally impact on a water resource.
- Section 21(i): Altering the bed, banks, course, or characteristics of an unnamed tributary of the Crocodile River to construct dirt roads.
- Section 21(i): Removing ground water from Decline number 1 and 2 for the efficient continuation of mining activities and safety of people.

2.4.7 Other Permits

The following license are in relation to Zandfontein as it is the priority mining area.

2.4.7.1 Waste Management License

The waste management licence issued in terms of NEMWA forms part of the IEA which was granted on 5 October 2018.

2.4.7.2 Hazardous Waste Generator Registration

A Hazardous Waste Generator registration certificate no. D16070-01 was issued on 23 April 2021 to Barplats Mines (Pty) Ltd. The Zandfontein mine is a registered hazardous waste generator with the South African Waste Information Centre ("SAWIC") that was established in terms of chapter 6 of the National Environmental Management: Waste Act, No. 59 of 2008 ("NEMWA").

2.4.7.3 Explosive Magazine Licence

An explosive magazine license with reference number 28/1/2/1/20398 was issued on 19 June 2003 and is currently outdated. The licence will be updated prior to blasting activities recommencing, to align with legislation that has been promulgated since it was initially issued.

2.4.7.4 Integrated Waste and Water Management Plan

An Integrated Water and Waste Management Plan ("IWWMP") acts as a management plan and requires approval in conjunction with the WUL by the Department of Water and Sanitation ("DWS"). The IWWMPs was approved by DWS. The Storm Water Management Plan for the Zandfontein section is valid and formed a part of the IWWMP.

2.4.7.5 Other

Reliance was made on information supplied by Barplats personnel for the updated status of the Project Areas. Minxcon is not aware of any further permits in addition to those described above, which are required for implementation of the underground and tailings reclamation Project.

2.4.8 Summary of Permits and Licences

The Barplats licences and permits are summarised in Table 3.

Table 3: Barplats Summary of Permits and Licences Relating to the CRM Project

Permit Type	Permit Reference Number	Issue Date	Expiry Date	Comments
MR	NW 30/5/1/2/2/151 MR	20 Jun 2008	19 Jun 2038	- On 20 Jun 2008 the old order right was converted into a mining right. - On 19 Apr 2016 the amendment was approved. - Section 102 approved on 22 Dec 2021 and executed on 9 March 2022. Zandfontein 447 JQ portion 19 from 78MR was consolidated into 151 MR.
	NW 30/5/1/2/2/78 MR	14 Dec 2006	TBD	- Prior lapsing on 13 Dec 2016, a renewal application was lodged in August 2016. DMRE is yet to grant the renewal, however the right remains valid and usable. - Section 102 approved on 22 Dec 2021 abandoned 78MR and Zandfontein 447 JQ portion 19 was consolidated into 151 MR.
	NW 30/5/1/2/2/332 MR	15 Aug 2008	TBD	Prior lapsing on 14 Aug 2018 a renewal application was lodged in May 2018. DMRE is yet to grant the renewal, however the right remains valid and usable.
	NW 30/5/1/2/2/307 MR	31 Mar 2008	TBD	Prior lapsing on 30 Mar 2018, a renewal application was lodged in October 2017. DMRE is yet to grant the renewal, however the right remains valid and usable.
IEA & WML	NW 30/5/1/2/3/2/1/ (78, 151, 307, 332 & 363) EM	5 Oct 2018	LoM	On 1 Dec 2021 IEA and EMPR amendment was approved.
EA	NWP/EIA/42/2013	27 May 2015	LoM	Authorisation for the mine ventilation shaft and service shaft on Farm De Kroon 444 JQ Portion 113 and Farm Zandfontein 447 JQ Portion 347 and associated infrastructure.
ROD	EIA 73/2006 NW	24 July 2007	LoM	Authorisation for the expansion of operation to include a new shaft and opencast mining on Crocette section of Farm Krokodildrift 446 JQ.
WUL (Zandfontein section)	04/A24A/ABCEGIJ/5022	17 Jun 2017	16 Jun 2037	Active
WUL (Crocette section)	04/A21J/ABCGIJ/5038	15 Jun 2017	14 Jun 2027	Active
Explosive Magazine Licence	28/1/2/1/20398	19 Jun 2003	N/A	To be updated in due course as new legislation has been promulgated since it was issued.
Hazardous Waste Generator Registration Certificate	D16070-01	23 Apr 2021	N/A	Registered hazardous waste generator with the SAWIC.
PR	NW 30/5/1/2/2/372 PR	14 Feb 2006	TBD	Prior lapsing on 13 Feb 2011, a renewal application was lodged. DMRE is yet to grant the renewal, however the right remains valid and usable.
	NW 30/5/1/1/2/373 PR	14 Feb 2006	TBD	Prior lapsing on 13 Feb 2011, a renewal application was lodged. DMRE is yet to grant the renewal, however the right remains valid and usable.
	NW 30/5/1/2/1/374 PR	14 Feb 2006	TBD	Prior lapsing on 13 Feb 2011, a renewal application was lodged. DMRE is yet to grant the renewal, however the right remains valid and usable.
	NW 30/5/1/1/2/377 PR	14 Feb 2006	TBD	Prior lapsing on 13 Feb 2011, a renewal application was lodged. DMRE is yet to grant the renewal, however the right remains valid and usable.
	NW 30/5/1/1/2/688 PR	20 Nov 2008	19 Nov 2013	Renewed for 3 years on 18 Nov 2020.
	NW 30/5/1/1/2/11191 PR (Renewal 688 PR)	18 Nov 2020	17 Nov 2023	
	NW 30/5/1/1/2/690 PR	15 Aug 2008	14 Aug 2013	Renewed for 3 years on 18 Nov 2020.
	NW 30/5/1/1/2/11126 PR (Renewal 690 PR)	18 Nov 2020	17 Nov 2023	
	NW 30/5/1/1/2/2252 PR	05 Aug 2011	04 Aug 2015	Renewed for 3 years on 21 Sept 2021.
	NW 30/5/1/1/2/11696 PR (Renewal 2252 PR)	21 Sept 2021	20 Sept 2024	
	NW 30/5/1/1/2/2085 PR	-	-	Pending

2.4.9 Legal Proceedings

SC 1.5 (iv)

Reliance was made on information supplied by Barplats personnel for the updated status of the Project Areas. Minxcon is not aware of any active legal proceedings relating to the tenure of the Barplats Projects. Minxcon is also not aware of any claims received during the reporting period, pending administrative enforcement, future financial liabilities or pending fines or penalties relating to any of the Project Areas.

Although Minxcon is not qualified to provide legal opinion, the authors of this Report have had sight of all rights, permits and agreements as described above and are satisfied with their authenticity and validity.

2.5 Royalties and Liabilities

SC 1.6 (i)
SC 1.7 (i)
SC 5.6 (vii)

2.5.1 Government Royalty

The Mineral and Petroleum Resources Royalty Act came into effect on 1 March 2010. Under the legislation, passed in 2008, companies will have to pay extra taxes proportional to their profitability after Capital Expenditure ("CAPEX"). The law requires all companies extracting minerals in South Africa to pay royalties at a rate of between 0.5% and 7% based on gross sales, less their allowable deductions, depending on the refined condition of the Mineral Resources. Therefore, companies are taxed on either the refined or unrefined formula:-

- Refined mineral formula = 0.5 + [EBIT/Gross sales x 12.5] x 100
- Unrefined mineral resource formula =0.5 + [EBIT/Gross sales x 9] x 100

The unrefined mineral formula was used for the Project valuation as concentrate is sold.

2.5.2 Rehabilitation Liability

In terms of Regulation 54(2) of the MPRDA, CRM is required to make financial provision for the interim and final rehabilitation activities on the site. The provision is required to be reviewed annually for adequacy and amended to compensate for new activities and/or inflation.

The closure cost estimate was undertaken in terms of regulation 54 of the MPRDA. The closure quantum was updated in 2020 by OMI Solutions. The updated financial provisioning calculation is in line with the closure objectives, as per the approved EMPr. The current financial liability associated with the Zandfontein and Crocette operations is ZAR69,181,690.74 (including 15% Value Added Tax, "VAT"). This rehabilitation financial provision is held by Lombard Insurance Company Limited. The calculated current liability is considered a Class 0 estimate because there is 15 to 25 years remaining to complete the rehabilitation and closure.

3 ACCESSIBILITY, PHYSIOGRAPHY, CLIMATE, LOCAL RESOURCES AND INFRASTRUCTURE

SC 1.1 (ii)

3.1 TOPOGRAPHY, ELEVATION AND VEGETATION

The surface topography of the mining area is characterised by a flat to gently undulating rocky outcrops and koppies to the north, with an average elevation of 1,150 m above mean sea level. There is a gentle slope of 1:50 extending northwards, eastwards and westwards towards the Crocodile River. To the south of Zandfontein, land rises gradually for approximately one kilometre and then rises steeply (from 1,180 m above mean sea level ("mamsl") to a range between 1,560 m and 1,650 mamsl) culminating in the Magaliesberg Mountain range. Crocette slopes from 1,136 mamsl in the south to 1,116 mamsl in the north.

CRM is located below the Hartbeespoort Dam in the North West Province of South Africa.

According to Mucina & Rutherford (2006), the study site lies in the Marikana Thornveld and the Moot Plain Bushveld biome. The Marikana Thornveld biome is regarded as threatened and only 55% of the natural area remains. Open Acacia Karroo woodland occur in valleys and slightly undulating plains, and some lowland hills. Shrubs are denser along the drainage lines, on termitaries and rocky outcrops. Most agricultural development is west of the mine towards Rustenburg and east of the mine, towards Pretoria there is more industrial development. Erosion is very low to moderate. Alien invasive plants occur localised in high densities, especially along drainage lines.

Vegetation structure and composition within the development footprint is largely homogeneous and consists of a grass layer interspersed with shrubs. Vegetation structure and composition within the development footprint is largely homogeneous and consists of a grass layer interspersed with shrubs. This area is dominated by various *Vachellia spp.* particularly *Vachellia karroo* (Sweet Thorn), *V. tortillis* (Umbrella Thorn), *V. robusta* (Splendid Thorn), as well as an array of other 'typical' Bushveld species such as *Ziziphus mucronata* (Buffalo Thorn), Grewia flava (Wild Raisin), *Dichrostachys cinerea* (Sickle Bush), *Ehretia rigida* (Puzzle Bush) and *Searsia spp.* (Karee). The grass sward is essentially composed of *Ischaemum afrum* (Turf Grass), *Setaria spp.*, *Cymbopogon plurinodes* (Turpentine Grass), *Eragrostis chloromelas* (Curly Leaf), *Aristida spp.* (Three-awn Grass), *Digitaria spp.* (Finger Grass).

The Zandfontein area is already disturbed by previous mining operations and agricultural activities and exhibits several vegetation that is associated with disturbance. Invasive alien plant species such as *Cereus jamacaru, Eucalyptus species, Jacaranda mimosifolia, Lantana camara, Melia azedarach and Schinus species* are present on the mine site, either scattered or in dense patches. On disturbed areas, *Bidens Pilosa* and *Tagetes minula* are the most abundant invasive alien plant species. The *Optunia ficus-indica* has caused localised infestation on some areas of the mining area.

3.2 CLIMATE AND WEATHER

According to Köppen and Geiger the Brits region is classified as *BSh*, which is a steppe climate. BSh (hot semi-arid climate) is characterised by hot and seldom extremely hot summers and warm to cool winters, with minimal precipitation.

The area has a mean maximum temperature of 23.0°C and a mean minimum temperature of 6.6°C. December and January are the hottest months. June and July are the coldest months. The climate in the vicinity of the mining right is a typical summer rainfall climate, with most rain in summer and in the form of thunderstorms. The winters are cool and generally dry. The mean annual precipitation is approximately 450 – 750 mm. Most of the rain falls in the six months period between October and March. The least rain fall occurs between May and September. Frost and fog in the area are rare. The maximum evaporation rate occurs in December with a mean rate of more than 7 mm per day. The evaporation rate is greater than the rainfall on a monthly basis and as such there is a marked moisture deficit in the region and sporadic recharge events occur during intense rainfall.

The quarterly mean wind speed was calculated at 7.9 km/h with a max of 9.2 km/h in April 2020. Winds blow predominantly from north to west in all seasons, especially during the summer months (September to March). From the late winter months (July to September), westerly winds are more prevalent.

There are no major climatic conditions that will hinder mining activities. Mining operations can continue year-round.

3.3 Property Access

SC 5.4 (i)

The CRM mining right area is easily accessible via several provincial and main roads from Johannesburg, Pretoria and Rustenburg. They are as follows:-

- the R512 main road between Johannesburg and Brits via Hartbeespoort;
- the R511 main road between Pretoria and Brits;
- the K3 / R512 Zandfontein to Brits road;
- the P35-1 / R511 Hartbeespoort Dam to Brits road;
- the K18 / R27 Pretoria to Rustenburg road.

3.4 Proximity to Population Centres and Nature of Transport

The CRM mining right area is approximately 8 km south of Brits, in Madibeng Local Municipality of the Bojanala Platinum District Municipality. Rustenburg and Pretoria are approximately 90 km west and 50 km east of the CRM mining right area, respectively. The local Brits region is a well-established mining area. Skilled and semi-skilled labour are readily available, along with all service requirements. The area is well developed and provides a full range of urban amenities.

The area is well served by several good road infrastructure. There are no railway lines in the vicinity of the mining area. The closest railway line runs through Brits approximately 7 – 10 km away from the mining area.

3.5 General Infrastructure

SC 5.4 (ii)(iii)

The infrastructure described below is in relation to the Zandfontein mining area as this the priority area. All necessary logistics have been considered in this Report for each of the Project Areas.

3.5.1 Mining Infrastructure

The mining right area has the following existing mining infrastructure:-

- underground workings;
- three decline shafts (two have been rehabilitated), one vertical service shaft and one ventilation shaft;
- overburden area, waste rock dumps and ore stockpile area;
- conveyor belt system and stormwater management system;
- above ground diesel tanks;
- crushing, screening, milling facilities, flotation unit with tailings and concentrate thickeners;
- chrome spiral plant, incineration bay, grout plant and settling dams;
- tailing dam complex;
- workshops, office buildings, salvage yard, laydown areas, storage areas, change houses and haul roads; and
- water treatment works with three plants for portable water, sewage and mine water treatment.

3.5.2 Servitude Infrastructure

The following are the various servitudes that exist on the mining right area:-

- Eskom powerlines are located towards the north of the tailings dam from where they extend southwards towards Krugersdorp. Zandfontein receives its power from Eskom via an 88 kV distribution line and an Eskom substation exists on the property;
- the Hartbeespoort Dam west canal that forms a part of the Hartbeespoort Irrigation Scheme extends westwards north and eastwards south towards the mining right area;
- several roads administered by the North-West Department of Transport, Roads and Public Works ("NWTRP").

3.5.3 Water Supply

The mining area lies within the Crocodile (west) and Marico Water Management Area 3 within the Limpopo River Basin. The site falls within the quaternary catchment is A21J. It is downstream of the Hartbeespoort Dam and upstream of the Roodekoppies Dam. The Crocodile River flows through the site in a north-westerly direction. Water from the Crocodile River is used extensively for irrigation, bulk water supply to Brits and for industrial and mining purposes. The quality of the water in the Crocodile River that flows through the mining area is largely influenced by the water that is released from the Hartbeespoort dam.

Three aquifers have been identified. Two aquifers exist within the faults and the third aquifer exists in the form of flooded mine workings that have formed a ground water storage. The Zandfontein old workings have been flooded since 1993 and that has resulted in an elevated water level and an artificially high storage. When the mine was operational, water was pumped from underground to meet the water needs of the plant. Pumping rates were between 5,000 – 6,000 m^3 per day.

Underground workings and the plant will be supplied by water that flows into the workings. Raw water from the Crocodile River will be used to supplement process water and potable water. Potable water will be treated in the existing water purification plant. Purified water will be used for domestic purposes and supplied for gland service water and reagent mixing water.

There are many small holdings relatively close to the mine that utilise the ground water for domestic and irrigation purposes.

Sewage from the mining complex is piped to the wastewater treatment plant. The final effluent from the wastewater plant gravitates towards an evaporation dam, from where water is pumped back to the industrial reservoir as part of the overall water return cycle. According to SSI Engineers & Environmental Consultants (Pty) Ltd (2012), the final flow from the settling dams reportedly meets the DWS enforced criteria as per discharge permit except for the high concentration of nitrates and nitrites.

4 PROJECT HISTORY

SV T1.6

4.1 Previous Ownership and Development

SC 1.4 (i)(ii)

The prior ownership and history of the Project is summarised in Table 4.

Table 4: Historical Ownership of CRM

Date	Activities
1987	CRM (then Lefkochrysos) was listed on the JSE and development of decline at Zandfontein Section.
1988	Controlling interest acquired by Rand Mines Limited through its subsidiary, Barplats Mines Ltd.
1991	Impala Platinum Holdings Limited ("Implats") acquired a 38% interest in Barplats and the contract to manage CRM.
1998	Implats increased its interest in Barplats to 83%.
2006	Eastplats acquired a 69% stake in Barplats.
2007	Eastplats acquired a further 5% interest (total of 74%) in Barplats. Eastplats and BEE Gubevu Consortium (26%) took over ownership.

Barplats was previously a standalone listed entity registered as Barplats Mines Limited. Barplats Limited was delisted and renamed Barplats Mines (Pty) Ltd when Eastplats acquired Barplats the company.

4.2 Previous Exploration and Development

SC 1.4 (i)(ii)

As reported by SRK (2017), Lefkochrysos undertook exploration drilling was done pre- and during 1987. In 1988, Rand Mines completed further exploration drilling. Barplats undertook significant exploration drilling in 2008 to 2010, with limited exploration drilling undertaken from 2013 to 2015.

In 1987, decline development at the Zandfontein section commenced for extraction of the UG2 reef. The mine design was based on the concept of using a mechanised mining system to produce 160 ktpm. Mining operations took place intermittently until 1990 when the vertical shaft was flooded, and production ceased. In late 1991, mining operations were entirely suspended in late 1991 due to the decline in PGM prices. After further exploration, in 2000, the mine was brought back into production. The plant was also refurbished at this time. The mine was placed on care and maintenance in 2003.

In 2004, limited mining activities were undertaken. A consortium of investors acquired a majority shareholding in the mine, and in December 2004 CRM began to refurbish its stoping sections. Platinum Consortium took over Barplats in 2005 and drilling and blasting operations recommenced. Dewatering was undertaken. Following majority acquisition in Barplats by Eastplats in 2006, Murray and Roberts Cementation mining contracts commenced, and continued up until 2008. In 2007, one of the Kennedy's Vale A-frame headgears was transferred to Zandfontein and production reached steady state. Tailings were retreated for PGMs (SRK, 2017).

Shaft rehabilitation occurred in 2008 as well as installation of the conveyor belt level and pumps. Shaft rock hoisting occurred in the vertical shaft. A new concentrator was commissioned and chrome recovery plant was brought online. In 2010, a decision was made to switch to a conveyor belt system in the declines and in 2012, the conveyor was planned to reach down to 3 Level (SRK, 2017).

A number of development activities ceased mid-2012 with mining operations ceasing completely again in July 2013 due to subdued markets and challenging country operating environments. With vastly improved market conditions, the mine is now considered to be potentially economic.

The material contained in the Zandfontein TSF is derived from mainly from UG2 material mined initially by Lefkochrysos during underground mining operations and then later on by Barplats.

4.3 PREVIOUS MINERAL RESOURCE ESTIMATES AND COMPLIANCE

SC 1.4 (iii)

Historically, the UG2 Reef has been the mineralised unit of economic interest on CRM and hence Mineral Resources and Mineral Reserves being generated. The Merensky Reef has historically not been seen as an economic unit in this portion of the Western Limb and hence, only limited information has been available on the Merensky Reef. This resulted in no Mineral Resources and Mineral Reserves being generated for this reef at CRM.

In 2010, UG2 Mineral Resources were published for CRM (including Maroelabult) by Eastplats according to SAMREC Code and the Canadian National Instrument 43-101 ("NI 43-101") specifications, estimated by Montpellier as at May 2009 (Table 5). They were stated at a 200 cm.g/t 4E cut-off. The Resource Cut Mineral Resources were stated at a mining width of 1.5 m based on production records. The Inferred Mineral Resource was limited to approximately the maximum variogram range, which equated to ~1.2 km, or approximately 1 km from last line of drillhole data.

Table 5: CRM UG2 Mineral Resources at 200 cm.g/t Cut-off as per Montpellier as at 30 May 2009

	Dip	Tonnes	True Thickness	Metal Concentration					Pt:Pd:Rh:Au	Metal Content				
				3E+Au	Pt	Pd	Rh	Au		3E+Au	Pt	Pd	Rh	Au
	Deg	kt	cm	g/t	g/t	g/t	g/t	g/t						
Measured Mineral Resource														
Crocette	17	2,662	158	3.89	2.47	0.99	0.41	0.02	62.6 : 26.2 : 10.4 : 0.8	0.3329	0.2114	0.0847	0.0351	1,712
Maroelabult	17	2,074	156	3.99	2.52	1.03	0.42	0.02	62.6 : 26.2 : 10.4 : 0.8	0.2661	0.1680	0.0687	0.0280	1,334
Zandfontein	17	4,318	154	4.08	2.56	1.06	0.43	0.03	62.6 : 26.2 : 10.4 : 0.8	0.5664	0.3554	0.1472	0.0597	4,165
Total	**17**	**9,054**	**156**	**4.00**	**2.52**	**1.03**	**0.42**	**0.02**	**62.6 : 26.2 : 10.4 : 0.8**	**1.1654**	**0.7348**	**0.3006**	**0.1228**	**7,210**
Indicated Mineral Resource														
Crocette	17	7,677	156	3.89	2.47	0.99	0.41	0.02	62.6 : 26.2 : 10.4 : 0.8	0.9601	0.6096	0.2444	0.1012	4,936
Maroelabult	17	3,133	158	3.83	2.44	0.97	0.40	0.02	62.6 : 26.2 : 10.4 : 0.8	0.3858	0.2458	0.0977	0.0403	2,015
Zandfontein	17	24,922	154	4.01	2.53	1.04	0.42	0.02	62.6 : 26.2 : 10.4 : 0.8	3.2131	2.0272	0.8333	0.3365	16,025
Kareespruit	17	16,198	152	4.13	2.59	1.08	0.43	0.03	62.6 : 26.2 : 10.4 : 0.8	2.1508	1.3488	0.5624	0.2239	15,623
Total	**17**	**51,930**	**154**	**4.02**	**2.53**	**1.04**	**0.42**	**0.02**	**62.6 : 26.2 : 10.4 : 0.8**	**6.7098**	**4.2314**	**1.7378**	**0.7020**	**38,600**
Measured and Indicated Mineral Resource														
Crocette	17	10,339	157	3.89	2.47	0.99	0.41	0.02	62.6 : 26.2 : 10.4 : 0.8	1.2931	0.8210	0.3291	0.1363	6,648
Maroelabult	17	5,207	157	3.89	2.47	0.99	0.41	0.02	62.6 : 26.2 : 10.4 : 0.8	0.6518	0.4138	0.1664	0.0683	3,348
Zandfontein	17	29,240	154	4.02	2.53	1.04	0.42	0.02	62.6 : 26.2 : 10.4 : 0.8	3.7795	2.3826	0.9805	0.3962	20,190
Kareespruit	17	16,198	152	4.13	2.59	1.08	0.43	0.03	62.6 : 26.2 : 10.4 : 0.8	2.1508	1.3488	0.5624	0.2239	15,623
Total	**17**	**60,984**	**154**	**4.02**	**2.53**	**1.04**	**0.42**	**0.02**	**62.6 : 26.2 : 10.4 : 0.8**	**7.8752**	**4.9663**	**2.0384**	**0.8247**	**45,810**
Inferred Mineral Resource														
Crocette	17	5,227	155	3.80	2.42	0.96	0.40	0.02	62.6 : 26.2 : 10.4 : 0.8	0.6386	0.4067	0.1613	0.0672	3,361
Maroelabult	17	-	-	-	-	-	-	-	-	-	-	-	-	-
Zandfontein	17	50,210	154	4.01	2.53	1.04	0.42	0.02	62.6 : 26.2 : 10.4 : 0.8	6.4733	4.0842	1.6789	0.6780	32,286
Kareespruit	17	38,020	153	4.13	2.59	1.08	0.43	0.03	62.6 : 26.2 : 10.4 : 0.8	5.0484	3.1659	1.3202	0.5256	36,671
Total	**17**	**93,457**	**154**	**4.05**	**2.55**	**1.05**	**0.42**	**0.02**	**62.6 : 26.2 : 10.4 : 0.8**	**12.1603**	**7.6568**	**3.1604**	**1.2708**	**72,318**
Total Mineral Resource														
Measured	**17**	**9,054**	**156**	**4.00**	**2.52**	**1.03**	**0.42**	**0.02**	**62.6 : 26.2 : 10.4 : 0.8**	**1.1654**	**0.7348**	**0.3006**	**0.1228**	**7,210**
Indicated	**17**	**51,930**	**154**	**4.02**	**2.53**	**1.04**	**0.42**	**0.02**	**62.6 : 26.2 : 10.4 : 0.8**	**6.7098**	**4.2314**	**1.7378**	**0.7020**	**38,600**
Inferred	**17**	**93,457**	**154**	**4.05**	**2.55**	**1.05**	**0.42**	**0.02**	**62.6 : 26.2 : 10.4 : 0.8**	**12.1603**	**7.6568**	**3.1604**	**1.2708**	**72,318**

In 2017, SRK Consulting (South Africa) Pty Ltd ("SRK") estimated TSF Mineral Resources in accordance with NI 43-101 guidelines, as shown in Table 6. No Mineral Resource estimate was undertaken for TSF prior to 2017.

Table 6: TSF Mineral Resources as per SRK as at 1 August 2017

Mineral Resource Category	Tonnage	3E	Pt	Pd	Rh	Au	Cr_2O_3	3E	Au	Cr_2O_3
	Mt	g/t	g/t	g/t	g/t	g/t	%	oz	oz	Mt
Measured	12.489	1.225	0.747	0.309	0.170	0.008	20.85	492,003	3,179	2.604
Indicated	1.191	1.136	0.688	0.285	0.165	0.006	19.31	43,517	225	0.230
Total	**13.680**	**1.218**	**0.742**	**0.307**	**0.169**	**0.008**	**20.72**	**535,520**	**3.404**	**2.834**

Note: 3E = Platinum, palladium, rhodium

4.4 Previous Mineral Reserve Estimates and Compliance

SC 1.4 (iv)

Mineral Reserves were estimated as at November 2010 by Montpellier in accordance with NI 43-101, including Maroelabult, as shown in Table 7.

Table 7: CRM UG2 Mineral Reserves as per Montpellier as at 30 November 2010

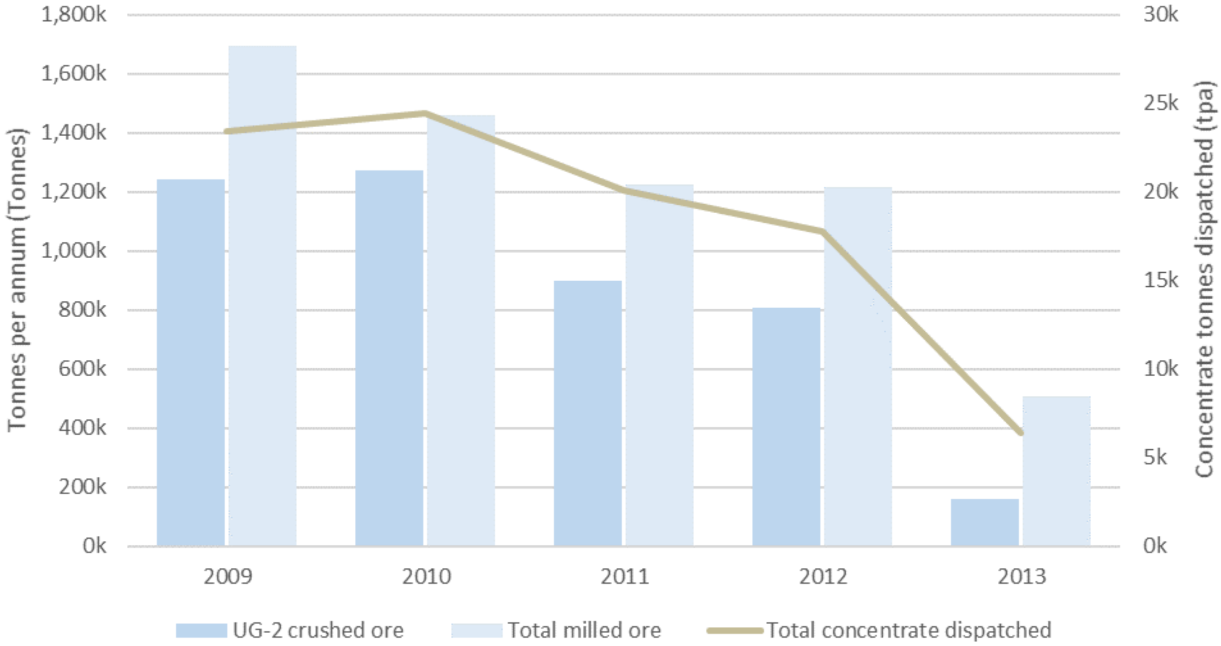
Mineral Reserve Area	Tonnage	Metal Concentration					Contained Metal	
		4E	Pt	Pd	Rh	Au	4E	
	kt	g/t	g/t	g/t	g/t	g/t	kg	oz
Proved Mineral Reserves								
Crocette	0							
Maroelabult	132	3.91	2.42	1.06	0.4	.04	515	16,600
Zandfontein	842	4.08	2.53	1.10	0.4	.04	3,435	110,400
Total	**974**	**4.06**	**2.52**	**1.09**	**0.4**	**.04**	**3,950**	**127,000**
Probable Mineral Reserves								
Crocette	3,530	3.78	2.41	0.95	0.4	.02	13,340	428,900
Maroelabult	2,173	3.91	2.48	1.00	0.4	.02	8,487	272,900
Zandfontein	22,748	4.08	2.56	1.06	0.4	.03	92,896	2,986,600
Total	**28,451**	**4.03**	**2.54**	**1.04**	**0.4**	**.02**	**114,723**	**3,688,400**
Total Mineral Reserves	**29,425**	**4.03**	**2.54**	**1.04**	**0.42**	**0.03**	**118,673**	**3,815,400**

4.5 Previous Production

SC 1.4 (iii)(iv)

Production data for the Zandfontein concentrator plant for the period of January 2009 to July 2013 was used as reference for analysis. There are two main streams that feed the plant, namely UG2 and TSF remining. A summary of the production period is shown in Figure 6. There was a planned downscale of stoping in 2012 and the mine was put on care and maintenance in July 2013. UG2 ore is processed through the crusher plant and TSF remining material is introduced into the process at the milling stage.

Figure 6: Historical Production Summary 2009-2013



Historical feed grades and recoveries for the Zandfontein plant are detailed in Table 8.

Table 8: Annual Production Performance Summary 2009-2013

Parameter	Unit	2009	2010	2011	2012	2013	Total
Head grade UG2 ore	g/t	4.10	4.05	4.00	4.05	3.94	**4.0**
Head grade Zandfontein remining ore	g/t	1.84	1.68	1.68	1.64	1.52	**1.69**
Average head grade	**g/t**	**3.5**	**3.7**	**3.4**	**3.2**	**2.8**	**3.3**
PGM plant recovery including scavenger plant	%	79.3	79.4	79.9	81.4	82.6	**80.5**

Notes:

1. Recovery is based on tonnes dispatched.
2. "Dispatched" material is material that was filtered in batches and transported to Impala Refining Services ("IRS").
3. Recovery excluded the scavenger plant.

5 GEOLOGICAL SETTING, MINERALISATION AND DEPOSIT TYPES

SV T1.7

5.1 GEOLOGICAL SETTING

5.1.1 Regional Geology

SC 2.1 (i)

The Project Area falls within the Western Limb of the Bushveld Complex, which is a world-renowned deposit for its PGM content. The Bushveld Complex is dated at between 2.06 Ga to 2.058 Ga and is the largest layered igneous complex in the world. Situated within the north-central Kaapvaal Craton, this massive Proterozoic intrusive body, or more likely a series of interconnected intrusives, has a surface area of approximately 66,000 km^2 and consists of a mafic-ultramafic succession of layered and massive rocks known as the Rustenburg Layered Suite ("RLS"), a penecontemporaneous series of granitic rocks, termed the Lebowa Granite Suite ("LGS") and felsic extrusive rocks of the Rooiberg Group ("RG").

The true thickness of the mafic-ultramafic layered rocks in the Bushveld Complex varies from 7,000 to 12,000 m. The Bushveld Complex was intrusively emplaced within and exhibits a transgressive relationship to the Transvaal Supergroup sequence, a large sedimentary basin of late Archaean-Proterozoic age located within the north-central Kaapvaal Craton. The mafic-ultramafic layered rocks of the RLS outcrop in three main arcuate complexes or limbs, namely the Western, Eastern and Northern Limbs. The three limbs of the Bushveld Complex have been further subdivided into a set of geographic sectors based on the major geological characteristics of the RLS. The magmatic layering of the ultramafic-mafic rocks is remarkably consistent and can be correlated throughout most of the Bushveld Complex. It is generally accepted that, rather than being a single body, the Bushveld Complex comprises several overlapping lopolith-shaped intrusions. The similarity of geology across large areas within each of the three limbs, particularly the sequence of igneous layering that includes both the Merensky Reef and the UG2 Reef, is probably indicative of simultaneous differentiation and replenishment of a basaltic magma under essentially identical conditions. The dip of the igneous layering is generally shallow and towards the centre of the Complex.

When viewed in plan, the Eastern and Western Limbs of the Bushveld Complex show a broad ellipse measuring approximately 200 km N to S and 370 km E to W. Granites and related felsic volcanics occur in the central area between these limbs. Post Bushveld Complex sedimentary successions of the Waterberg Group and Karoo Supergroup, as well as more recent alluvial deposits of Holocene age, cover large parts of the Bushveld Complex. PGM mineralisation (as well as chromium and vanadium mineralisation) is hosted within the RLS. The RLS stratigraphy is divided into five major units, which are, from deepest to shallowest, described below:-

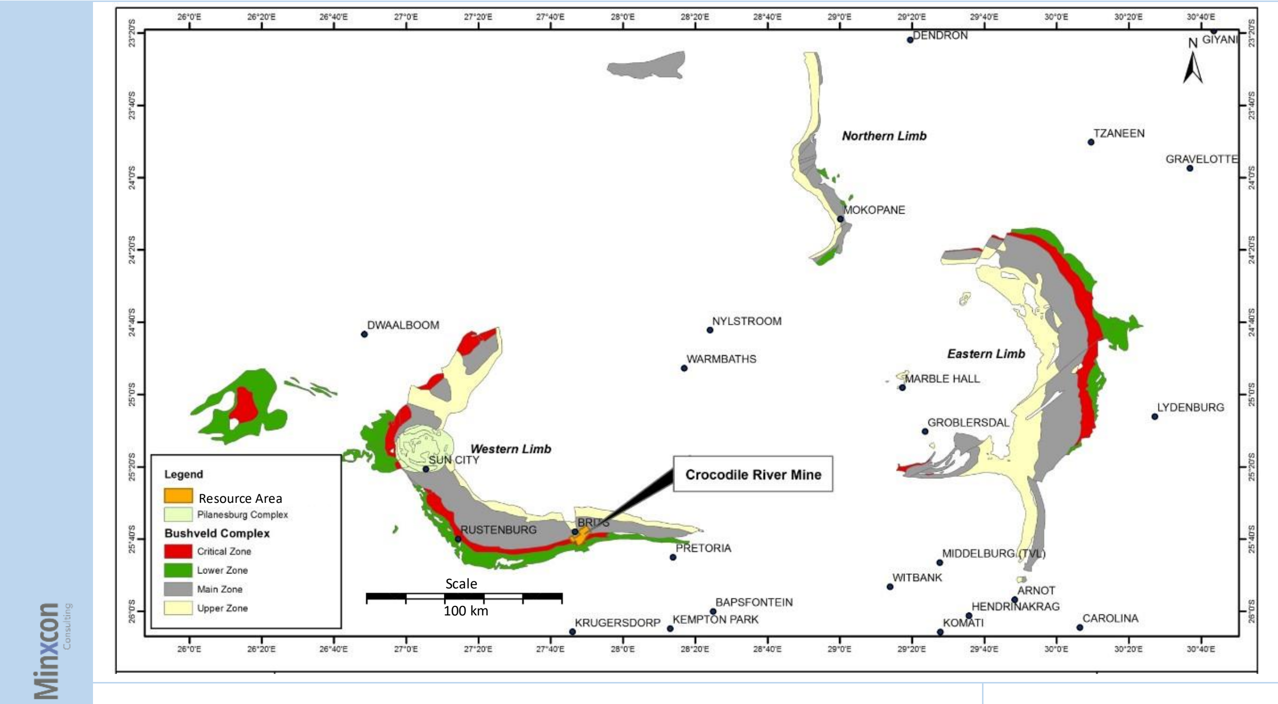
- **The Marginal Zone** comprises a heterogeneous succession of generally unlayered basic rocks dominated by norites. These rocks contain quartz and hornblende believed to be a result of contamination of the basic magmas by the enclosing host rocks. The Marginal Zone ranges in thickness from several metres to several hundred metres, and field exposures of this zone are generally poor.
- **The Lower Zone ("LZ")** is dominated by ultramafic rocks. The most complete exposure is in the north-eastern part of the Eastern Limb of the Bushveld Complex. In this area, the LZ occurs as a series of dunite-harzburgite cyclically layered units. The units vary in thickness, having a trough-like geometry, with the thinnest succession developed over structural highs in the basin floor.
- **The Critical Zone ("CZ")** is particularly remarkable for containing the largest resources of chromium and PGMs in the world. The CZ is subdivided into the Lower Critical Zone ("LCZ") and the Upper Critical Zone ("UCZ") and is made up of cyclic units consisting of chromitite, pyroxenite, norite and anorthosite. Cycles in the LCZ are entirely ultramafic in character and are dominated by pyroxenite with interlayered harzburgite and chromitite layers. The UCZ represents a mixed

mafic-ultramafic cyclic unit comprising layered pyroxenites, norites, anorthosites and chromitites. The base of the UCZ is marked by the appearance of cumulus plagioclase. The igneous layering within the CZ is remarkably uniform over much of the Bushveld Complex and occurs on a variety of scales, with individual layers traceable for tens to hundreds of kilometres, and may also be locally regular to highly irregular in aspect. Chromitite layers occur throughout the CZ, usually at the base of crystallisation cycles. The chromitite layers have been classified into lower, middle and upper groups, with the lower group occurring in the pyroxenitic LCZ, the upper group in the anorthositic UCZ and the middle group straddling the boundary between the lower and upper divisions. The layers are identified according to their location within the layered succession, with numbers commencing from the bottom up. The lowermost group is known as the LG1 (Lower Group 1), followed by the LG2, LG3 to LG7. This sequence progresses upwards from the MG1 (Middle Group 1) through to the MG4 and, finally, to the UG1 (Upper Group 1), UG2, UG3. The thickness of these chromitite layers ranges from several millimetres to several metres. The chromitite layers may comprise multiple layers of chromitite separated by intercalated silicate rocks. The thickest chromitite layers, specifically the LG6 and MG1, are mined for their chromite content. All of the chromitite layers in the Bushveld Complex contain anomalous concentrations of PGMs, with a general increase in PGM content upward in the sequence, with the UG2 Reef currently one of two reefs of commercial interest for its PGM content. The other main PGM layer, the Merensky Reef, occurs above the Upper Group chromitites, close to the top of the UCZ. The distance between the UG2 Reef and the Merensky Reef is variable across the Bushveld Complex. On CRM, the middling is on average 220 m thick.

- **The Main Zone ("MZ")** is the thickest unit within the RLS. In general, approximately half the RLS stratigraphic interval is occupied by this zone. The MZ consists of gabbro-norites with some anorthosite and pyroxenite layering. Layering is not as well developed as in the CZ and LZ.
- **The Upper Zone ("UZ")** is dominated by gabbros. However, layered anorthosite and magnetite sequences are also present. There is no chilled contact with the roof rocks, which comprise rhyolites and granophyres.

The extent of the Bushveld Complex is illustrated in Figure 7.

Figure 7: Location of the Project Area in relationship to the Bushveld Complex



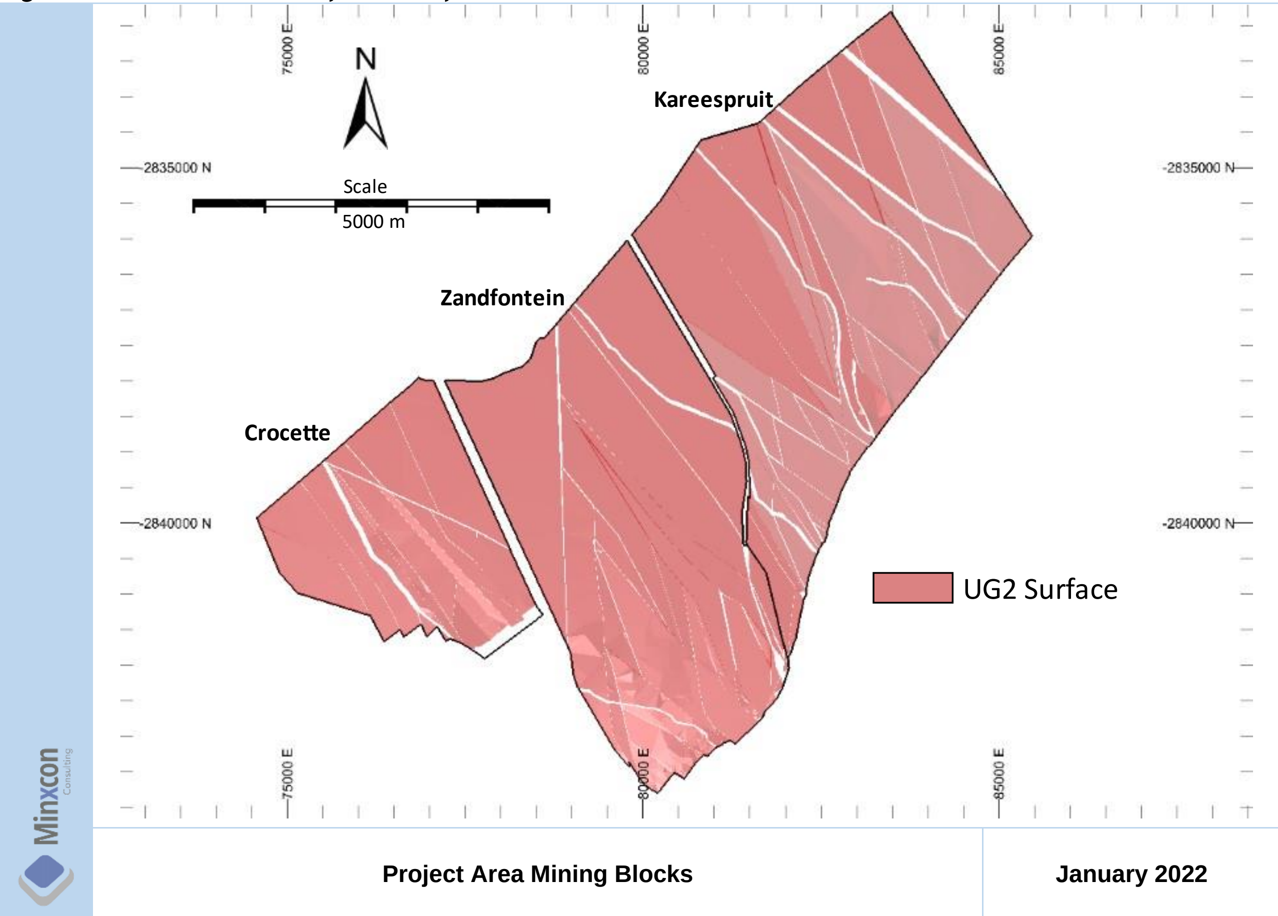
Location of the Project Area in relationship to the Bushveld Complex | **January 2022**

5.1.2 Local and Property Geology

SC 2.1 (ii)(v)

The Project is located on the Western Limb of the Bushveld Complex in a structurally complex area close to the town of Brits. The geology of the Project Area is located within and adjacent to the Brits Graben and mines the UG2. The Merensky Reef in this area is not currently considered economically viable. The graben and associated faults result in the mine being split into three main sections/mining blocks (Figure 8).

Figure 8: UG2 Modelled Surface Wireframe



The UCZ of the RLS outcrops extensively, striking in an east-west direction and dipping to the north from about 15° to 25°. Both the Merensky Reef and the UG2 outcrop in the area, with a middling of approximately 200 m. The UG2 occurs from outcrop down to a known depth of at least 2,000 m below surface.

The UG2 at CRM typically consists of a single chromitite layer some 1.35 m to 1.5 m thick. The leader hanging wall layers are generally absent or have coalesced with the main band to form a virtually homogenous chromitite. A very thin chromitite stringer (~1 mm thick) occurs at varying heights above the top of the chromitite in the immediate hanging wall. However, variations in the thickness of specific lithotypes do exist between individual drillholes, and several disturbances to the layering by pothole structures and mafic pegmatites have been encountered during mining and in some drillholes. A brief description of the UG2 is presented in Table 9.

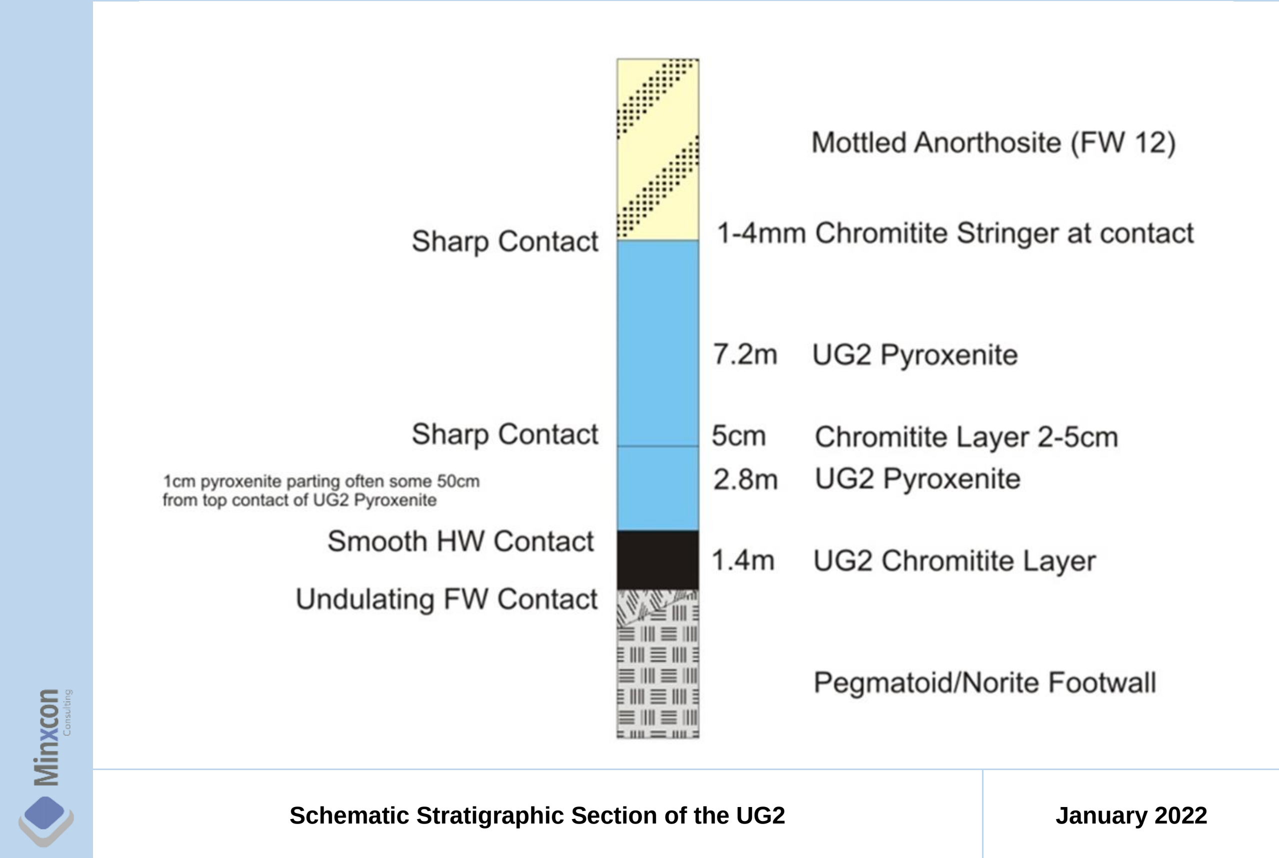
Table 9: Geology of the UG2 in the Project Area

UG2	Project Area
Reef Thickness	1.3 m – 1.4 m
Average Dip	17°
Faulting	Significant faulting with some scissor effects noted
Potholing	Present
Other Features	Reef horizon undulates

The Bottom of Reef Contact ("BRC") is undulating. The footwall is typically a pegmatoidal pyroxenite but where the BRC transgresses through the pegmatoidal pyroxenite the footwall is a norite. The Top Reef Contact ("TRC") is generally sharp and stable. The UG2 is predominantly impure chromitite with much interstitial silicate, comprising pyroxene (bronzite) and feldspar (anorthite). It is typically comprised of 60%

to 90% chromite, which is consistent with other localities in the Bushveld Complex. Disseminated sulphides are concentrated in the lower part of the reef, which is always bottom to middle loaded with respect to PGM concentrations. The PGMs are associated with sulphides that are interstitial to the chromite grains. The mineralised reef zone itself is defined by the sharp basal contact into the footwall pyroxenite. The 3E+Au ("4E") concentration of the UG2 ranges from 2.5 ppm to 6.6 ppm and is generally dominated by Pt-Pd sulphides. Other features of the UG2 are the undulating nature of the BRC, the presence of mafic/ultramafic pegmatites and potholes. A schematic stratigraphic section of the UG2 Chromite Layer is presented in Figure 9.

Figure 9: Schematic Stratigraphic Section of the UG2



5.2 NATURE OF, AND CONTROLS ON, MINERALISATION

SC 2.1 (ii)

The mineralised units of the Project Area form part of the Bushveld Complex, a large layered igneous intrusive body. In a large, layered intrusion such as the Bushveld Complex, the sulphide droplets that segregate out of the parental magma will eventually settle out of the magma, and once magma convection ceases are deposited on already consolidated layers of the magma chamber to form sulphide-rich zones.

The Merensky Reef has traditionally been the most important PGM producing horizon in the Bushveld Complex. In addition to PGM mineralisation associated with the Merensky Reef, all chromitite layers in the Critical Zone of the Bushveld Complex contain elevated concentrations of PGM. The UG2 is the only chromitite layer where significant mining of PGM takes place. The UG2 of the Western Bushveld Limb is generally less than 1 m thick, and is comprised of 60% to 90% chromite, however in the Project Area the thickness of the UG2 tends to average 1.3 m to 1.5 m. The PGMs are interstitial to the chromite grains, and are concentrated at the base and middle of the chromitite layer.

The UG2 at CRM has on average a 4E prill ratio of 62:27:10:1, derived from the drillholes with individual prill analyses. The prill Split Ration is calculated from the mining cut width ratios of elements. The mining cut selection is based on the UG2 reef width plus 20 cm footwall. The footwall cut was included as mineralisation occurs below the base of the UG2. The mean values in Table 10 were used to create the prill split in Table 11.

Table 10: Mining Cut Statistics of the Composited Drillholes

Field	Reef Cut	No Records	No Samples	Minimum	Maximum	Mean	Variance	Std Dev
				g/t	g/t	g/t		
Pt	UG2MC	445	253	0.21	3.73	2.43	0.32	0.57
Pd	UG2MC	445	253	0.00	2.92	1.07	0.22	0.47
Au	UG2MC	445	253	0.01	0.28	0.03	0.00	0.02
Rh	UG2MC	445	253	0.00	0.74	0.39	0.01	0.11
4E	UG2MC	445	445	0.25	8.33	3.95	1.07	1.03
Mine Cut	UG2MC	445	445	0.20	3.77	1.69	0.20	0.45

Table 11: Prill Split Based on the Mining Cut

Pt g/t	Pd g/t	Rh g/t	Au g/t	Sum g/t
2.43	1.07	0.39	0.03	3.92
62.1%	27.3%	9.9%	0.8%	100%

5.3 NATURE OF DEPOSITS ON PROPERTY

SC 2.1 (ii) (v)(vi)

Both the Merensky Reef and the UG2 Reef outcrop in the area, with a middling of approximately 220 m. The UG2 Reef occurs from outcrop down to an estimated depth of at least 2,000 mbs. The Merensky Reef is seen as uneconomical in the Project Area, thus the UG2 was investigated for this Report.

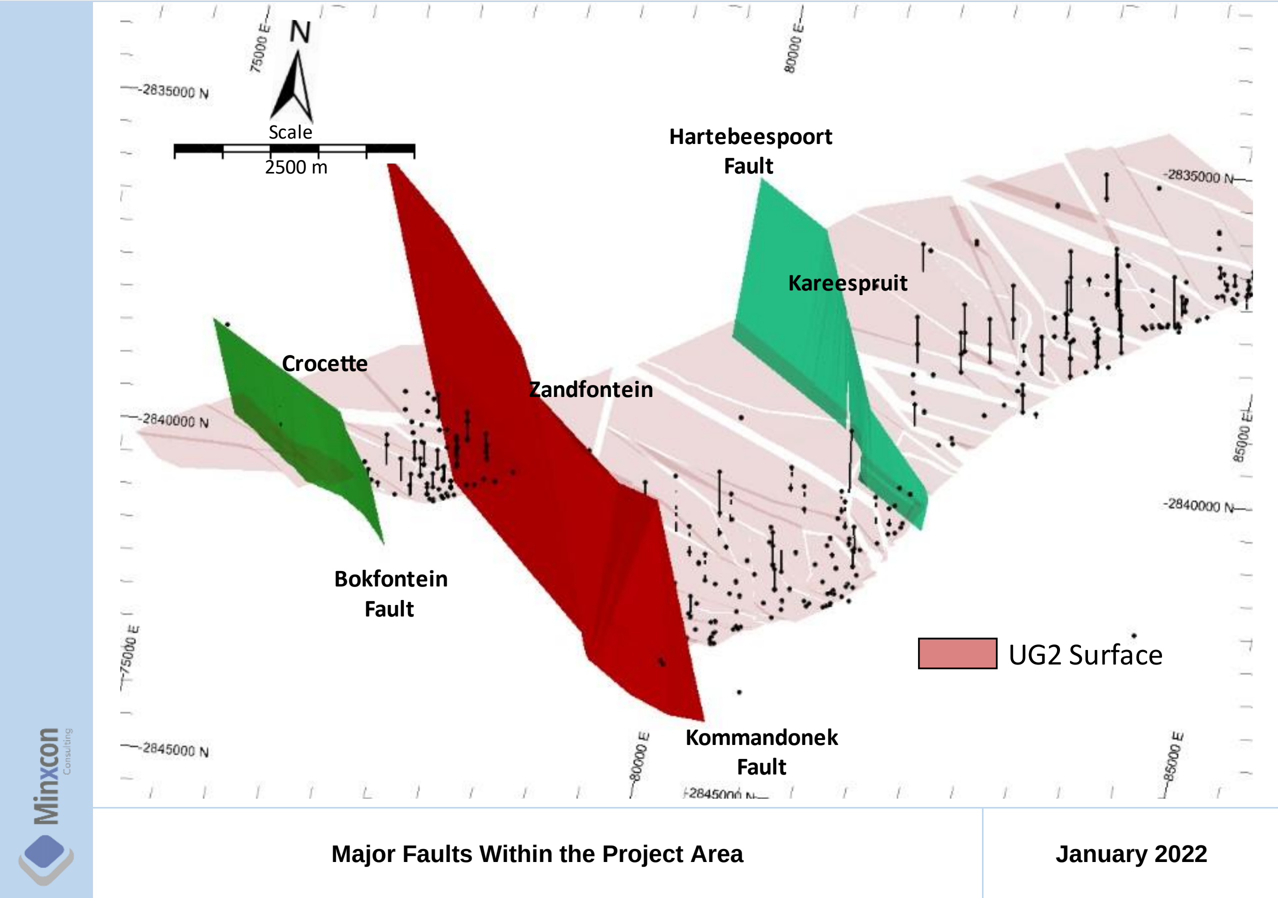
5.4 GEOLOGICAL MODELS

SC 2.1 (iii)(iv)(vii)
SC 3.3 (iv)
SC 4.1 (i)(ii)(iii)(v)(vi)

The earliest model was created by Jankowitz and Lyons and was compiled in the late 1980s to early 1990s. The most complete structural interpretation was created by Jankowitz and Lyons (1999) following additional exploration drilling by Impala Platinum during 1999.

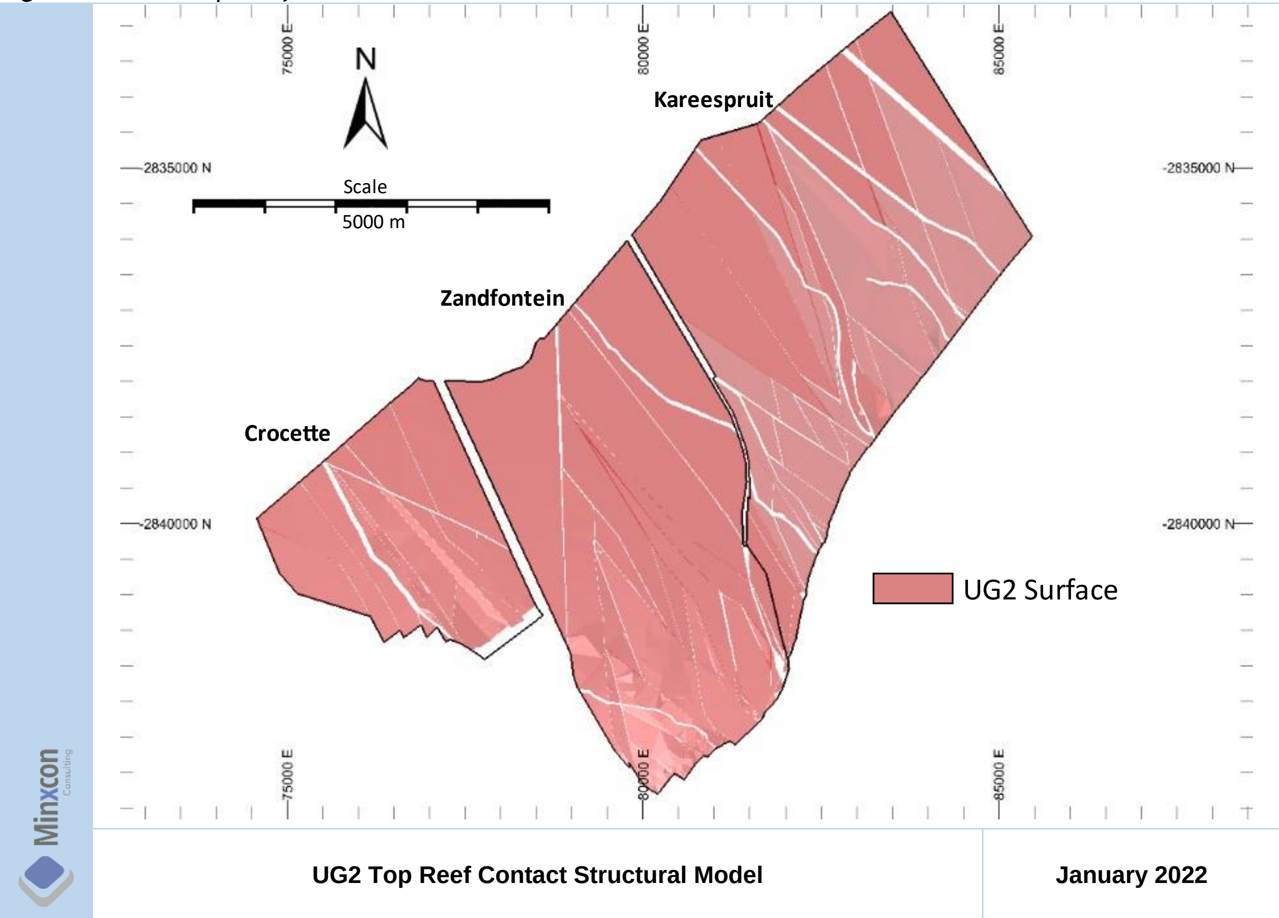
The Jankowitz and Lyons model assumed a constant dip of 18° for all reef projections within the graben and 15° outside the graben. It also assumed that the reef plane maintains the general regional strike of 230° within the graben and 250° outside the graben. In 2013 Applied Geology updated the model and made use of the updated drillhole data, airborne magnetic survey, Orthophotograph interpretation and previous maps. The GEODASS airborne magnetic survey was used to identify dykes and major faults, and previous maps were used to confirm the original model. Figure 10 shows the major faults and the UG2 horizon.

Figure 10: Major Faults Within the Project Area



The geological model has been created using the top reef contact of the UG2 as it creates a sharp contact between the hanging wall Mottled Anorthosite (Figure 11).

Figure 11: UG2 Top Reef Contact Structural Model



5.4.1 2022 Geological Model Update

Minxcon reviewed the model with the current drilling data and no changes were made to the structural model. The geological model is deemed reliable in support of interpretations.

The quality and quantity of information are sufficient to support statements concerning mineralisation at CRM.

Lithological information was captured to record project name, sub-project, BHID, Depth From and Depth To, Lithology, Description, Colour 1 and Colour 2, Grainsize, Type of contact and Angle of Contact. Other details included the identification, and recording of, stratigraphic zones on the drill core.

Geotechnical logging was done on both the Merensky and UG2 drill cores. The data captured/recorded included drilling interval, recovery, Rock Quality Designation ("RQD"), geotechnical interval, rock type, rock competence, weathering, hardness, jointing distribution, and joint surface condition.

Structural measurements were undertaken and the data recorded included structure type, type of infill material, infill material thickness and the dip of the structure.

6 EXPLORATION DATA / INFORMATION

SC 3.1 (i)(iii)(iv)(v)(vi)(vii) SC 4.1 (iv) SV T1.8

The geology of the area has been understood for some time. Regional mapping of the area was conducted in the 1960s and 1970s. Exploration work at CRM started in the 1980s to define the geology in a block, which was previously considered to be too structurally complex for efficient mining.

Mining commenced in 1987 while exploration continued. Various phases of exploration were undertaken during the life of the mine. The work concentrated on drilling to understand the structure of the UG2 Chromitite Layer in the graben structure.

The first structural model for the Project was completed in 1999 making use of an airborne magnetic survey; two-dimensional ("2D") seismic survey along with the drilling information. This model has served as the base for further exploration drilling and has been updated after each drilling phase.

The data sets utilised in the Mineral Resource estimation include all relevant and available metadata.

6.1 GEOPHYSICS

An airborne total magnetic survey was flown by GEODASS in the 1980s. A 2D seismic survey was conducted along four lines across the mine lease in 1999. These surveys have assisted in the structural interpretation of the area and of the mine. This data assisted in interpreting the major structural features, i.e., dykes and faults that transect the area. In the area away from the graben, the stratigraphy of the Bushveld Complex has been identified, but difficulty was experienced in identifying the stratigraphy within the graben due to structural complexities. Additional information was provided by the owners of the adjacent lease areas during the structural interpretation. This allowed the structural model to be extended further.

A 2D seismic survey was conducted along four lines across the mine lease by Düweke (1999). The original interpretation proved difficult due to very noisy data. It was not possible to determine whether the faults were normal or reverse. The interpretation was able to resolve shallow reflectors but could not resolve the steeply dipping faults and dykes. This interpretation assisted in the location and interpretation of the dips and dip directions of major structures (e.g., Kommandonek Fault) on the west side of the graben.

The Kommandonek Fault was interpreted as a steeply eastward-dipping structure. The Kareespruit Fault to the eastern graben fault was interpreted to dip at about 45° to the NNW. The revised structural model rejected this interpretation on the basis that the drillhole spacing and the offset was measured along the top of the reef plane which was interpreted to demonstrate that the Kareespruit Fault dips 75° to the NNW.

6.2 DRILLING PROGRAMMES

SC 3.1 (viii) SC 3.3 (iv)

Several drilling campaigns have been undertaken on CRM by the previous and current owners. The majority of the drilling has been diamond drilling. Reverse circulation ("RC") and percussion drilling have been undertaken, but do not form part of the current database used for the Mineral Resource estimation process.

The typical drilling procedure conducted at the Project involves the drilling of a mother hole drilled to approximately 20 m to 30 m into the UG2 footwall. Non-directional deflections are then drilled out of the mother hole through the UG2 Reef and Merensky Reef. Sampling was conducted over the economic horizons. Typically, three non-directional deflections are drilled per hole. Additional deflections were drilled if the core recovery in the economic unit was deemed sub-optimal.

6.2.1 Type of Drilling

SC 3.1 (viii) SC 3.2 (i)

Several drilling campaigns have been undertaken on CRM by the previous shareholders and Barplats, these included Randgold/Barplats pre-1991, Implats 1991 to 2006 and Eastplats from 2006. The majority of the drilling has been diamond drilling. RC and percussion drilling has been undertaken but has not formed part of the current database used for the Mineral Resource estimation process.

Data extracted from the Fusion database for use in the Mineral Resource estimation process included collar co-ordinates, geological and sampling logs together with assay values. The assay data available for the historical data is a combination of single 4E assay results and prill split analytical techniques.

With regards to the stratigraphic coding of the economic UG2 unit, the historical data on the whole was coded as UG2 for the entire geological unit, and not coded clearly as to the main band (hereafter termed the UG2MB), triplets and leaders. Previous work undertaken by the Eastplats geologists have attempted to code the data according to the sub-units, such as the main band (UG2MB). In the 2021 database, this detailed coding was used together with the lithological rock types and vertical grade profiles to code the remainder of the drillhole intersections that constitute the database used for the Mineral Resource estimation. The data was coded as "UG2CW" for the in-situ Mineral Resource estimation and "UG2MC" for the Resource cut estimation (UG2 reef + 20 cm footwall). The drillholes once coded were imported into Datamine and the coding checked by means of plotting the vertical grade profile of the UG2CW unit against the rock types and intersection depths of the UG2.

The data was coded accordingly from the top of chrome intersection downwards across the bottom contact to include 20 cm of footwall and coded "UG2MC". A problem with the historical data is the frequent lack of assay values below the UG2MB. Where this occurred, a zero grade (0 g/t) was input into the database. Although this will penalise the ore body it can be seen to represent the minimum value that will be obtained at that mining width.

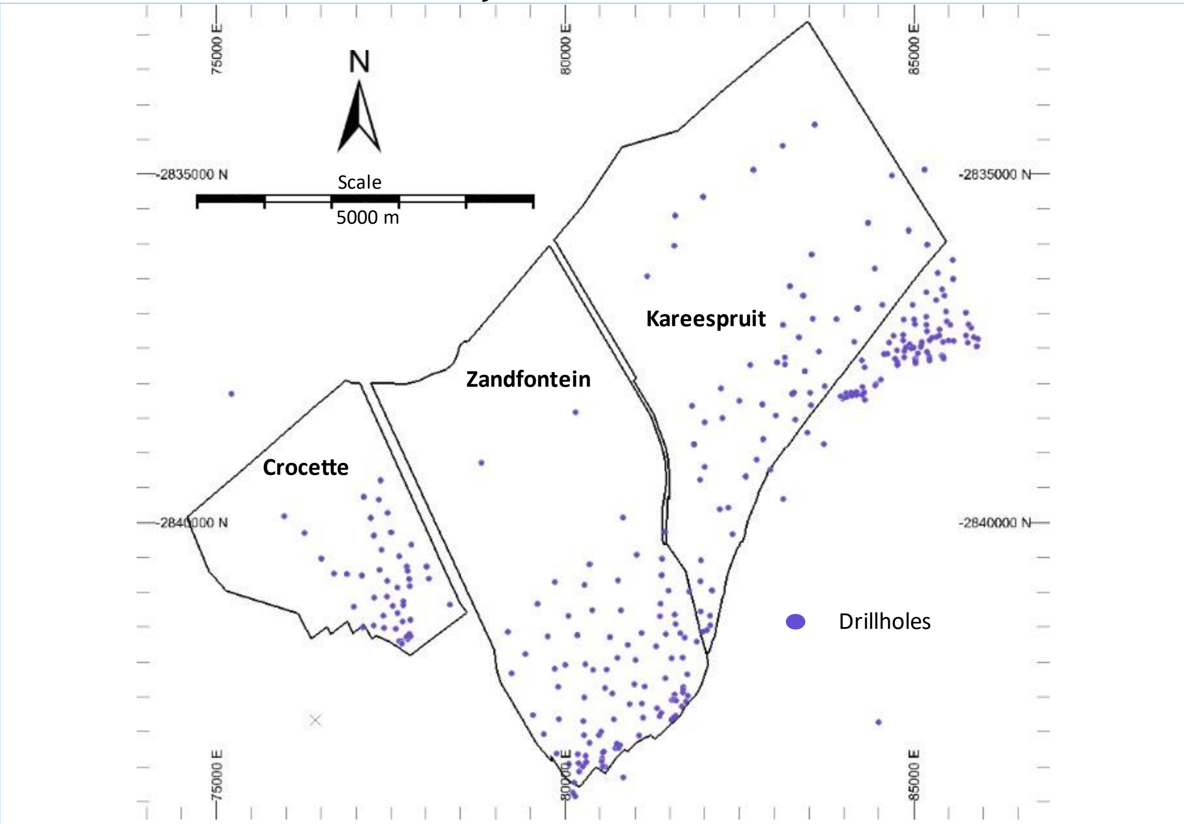
The CRM drillholes were typically drilled as vertical holes. Previous work indicated that the maximum inclination away from vertical was 6%. All drillholes were assumed to be vertical for the Mineral Resource estimation.

6.2.1.1 Drilling Technique

The typical drilling procedure on CRM involved the diamond drilling, using a core size of BQ (36.5 mm diameter) to drill a mother hole, and drilled to approximately 20-30 m into the UG2 footwall. Non-directional deflections are then drilled out of the mother hole through the UG2 and Merensky Reef. Sampling was conducted over the economic horizons. Typically, three non-directional deflections are drilled per hole. Additional deflections were drilled if the core recovery in the economic unit was deemed sub-optimal. As mentioned in the previous section, complete data per drillhole is often not available and hence within the data used for the Mineral Resource estimation exercise, data is missing with regards to either the mother hole or deflections. The database does not have details with regards core recoveries and only sample lengths has been recorded.

Due to the number of historical drilling campaigns and the extremely faulted nature of the ore body, the drilling did not adhere to a uniform grid spacing. For the current Mineral Resource estimation, the data is deemed to be valid data with a variable spacing of between 100 m to 350 m. The total database consists of 737 drillholes and 278 deflections. From this database a total of 443 drillhole composites (Mother hole and deflections) and an additional 3,531 underground samples representing the 4E dataset were available for the estimation. The underground samples (Figure 20) were captured in the 2021 from grade control sample sheets supplied as scanned images and georeferenced by Minxcon. Figure 12 represents the spatial distribution of the drillholes, however only drillholes falling with in the Project boundaries were used for the estimation.

Figure 12: Drillholes Distribution Across the Project Area



Drillholes Distribution Across the Project Area | **January 2022**

6.2.2 Logging

SC 3.2 (ii)-(iv)

Drill core was quantitatively logged in detail by taking cognisance of the lithology, core description, colour, grainsize, type of contact and angle of contact for the whole of each drillhole. A comments column was also added to the lithological log sheet. The logging also included identification of the stratigraphic zones in which the various lithologies occur. Photographs of drill cores were taken and saved to form part of the data set.

Geotechnical logging was conducted on the drillholes on the Merensky Reef and the UG2 sections in year 2007 by Geoactive (Pty) Ltd.

The amount of detail is deemed to be sufficient to support appropriate Mineral Resource estimation, technical studies, mining studies and metallurgical studies.

6.2.3 Down Hole Surveys

SC 3.2 (v)

Not all the drillholes have down hole survey and non-directional wedges were used for the deflections. This has resulted in the drillholes being assumed vertical and the deflections are located on or near the mother hole. For this reason, the data set has been de-clustered so that the deflections and mother hole are represented as a single estimation point.

An amended downhole survey database was generated in 2021 for some of the drillholes on the CRMJL subproject.

6.3 Sampling

6.3.1 Sample Method, Collection, Capture and Storage

SC 3.3 (i)-(vii)

6.3.1.1 Nature and Quality of Sampling

Sampling at the Project Area has included drillcore sampling as well as underground sampling. Industry standard sampling was utilised. The drill core sampling was carried out in such a way that there is true representation of the hanging wall samples, the main mineralised samples and footwall samples, respectively. The sample depths on the drill cores were marked and contact angles were measured and recorded. Sample numbers were assigned to each sample section and the cores were split into two halves. One half was for laboratory analysis while the other half was retained in the core tray for future reference.

The quality of sampling is deemed to be of enough standard to be used in Mineral Resources and Reserves estimation.

6.3.1.2 Sampling Process

The sampling processes are described to follow and are considered appropriate to the mineralisation and deposit type.

The sampling processes are described below and are considered appropriate to the mineralisation and deposit type.

A total of 445 drillhole composites and an additional 3,531 underground samples representing the 4E dataset were used. Addition to this the 253 composited values for the Pd, Pt, Rh and Au were utilised in the individual element estimation. The channel and mining cut estimation utilised 445 drillhole composites and 4,670 underground sample records where CW was captured. To ensure bias was kept to a minimal between the underground samples and the drillholes de-clustering of the datapoints was used. This de-clustering was done on a grid size of 120 m.

Only the 4E, channel width and mining width for the UG2 are finally reported and the individual element grades are based on the prill split derived from the composited drillhole sampling. The MR is seen as uneconomical and has not been reported.

Core Drilling Sampling Procedure

The core was laid out in the core trays with the low point of the layering in the middle of the core on the visible side. The sample positions were marked off to ensure that appropriate and representative samples were taken. The samples at the base and top of the UG2 overlap by 1 cm to 2 cm into the adjacent footwall and hanging wall, respectively. The drillhole depth of the top and bottom of the sample are measured and recorded, and a unique sample number assigned to each sample. Core dips of contacts were measured and recorded to enable a true sample width to be calculated for each sample. The number of breaks present within a sample is recorded and an assessment is made of any core losses present on the breaks to determine whether the sample is representative.

The sample is then split along its length through the low point of the contact dip by an appropriately trained assistant using a diamond saw. Half core samples were cut to length (15 cm to 25 cm), and then half of the core bagged and sealed with a sample ticket number both inside the bag and attached to the outside. The remaining half core was marked and kept in the core tray for future reference. Suitable sample bags of heavy-duty plastic were used and discarded. Sample bags were not recycled. Samples were dispatched with the necessary documentation to the respective laboratories for analysis. These laboratories included Rio Tinto, SGS Lakefield Research Africa (Pty) Ltd ("SGS"), the Analytical Services Division at Mintek ("Mintek"), Inspectorate M&L (Pty) Ltd, and Impala Mineral Process Laboratories ("Impala Laboratory"). From the current database the laboratories used for which drilling programme have not been recorded.

Underground Sampling Procedure

The SOP supplied from Eastplats details the underground sampling procedure. Sampling is conducted via a diamond saw, and samples are cut from hanging wall to below the chrome seam. Sample spacing of a 40 m grid is proposed which would inform a 40 m x 40 m mining block. Samples were marked at 10 cm intervals at a 5 cm cut width. All samples were recorded with regards reef type, hanging wall cut and footwall cut. All samples were tagged with a sample number and placed in plastic bags with the ticket and sealed. Samples were then transported from the working face to surface, where the sample tags were recorded before being sent to the laboratory for analysis. The Sample analysis was conducted at the same laboratory as the exploration drilling and the same protocols for assaying were applied.

6.3.1.3 Data Sets

SC 3.3 (iii)

All logging and sampling data has been captured in the in-house database for Barplats and the information has been used in the Mineral Resource estimation and the interpolation of the structural model.

For the purpose of estimation all drillholes and underground samples were used, and to reduce the bias of the high density of underground samples the data set was de-clustered into a 120 m grid. The process of de-clustering used an average of the sample within the grid spacing of 120 m. This ensures that the mother hole and defections stay spatially correct, and the underground samples are weighted around the stope out areas. Figure 22 shows the de-clustered data point with the captured underground samples.

6.3.1.4 Geometry of Mineralisation

SC 3.3 (iv)

The CRM drillholes were typically drilled as vertical holes. Drillholes were drilled to intersect the UG2 and MR very close to normal relative to the reef plane. The drillhole database was coded per intersection of the UG2 to indicate a Channel width intersection and a mining cut intersection. The channel width intersection (UG2CW) comprised only the Chrome seam while the Mining width (UG2MC) included samples below the chrome seam to a depth below of 20 cm.

The drillholes have varying spatial distribution across the Project Area, varying between 250 m and over 800 m. The historical campaigns cover the three project areas and the latest drilling was carried out on Crocette and Kareespruit with limited coverage on the Zandfontein area. The Zandfontein section is mainly covered by historical drilling.

Available information indicates that the drilling orientation would provide unbiased sampling of the mineralisation zones.

6.3.1.5 Retention Policy and Storage of Physical Samples

SC 3.3 (v)

The core was laid out in the core trays with the low point of the layering in the middle of the core on the visible side. Sample positions were marked off to ensure appropriateness and representativity of samples. The samples at the base and top of the UG2 overlap by 1 cm to 2 cm into the adjacent footwall and hanging wall, respectively. The borehole depth of the top and bottom of the sample are measured and recorded, and a unique sample number assigned to each sample. Core dips of contacts were measured and recorded to enable a true sample width to be calculated for each sample. The number of breaks present within a sample is recorded and an assessment is made of any core losses present on the breaks to determine whether the sample is representative.

The sample is then split along its length through the low point of the contact dip by an appropriately trained assistant using a diamond saw. Half-core samples were cut to length (15 cm to 25 cm), and then half of the core bagged and sealed with a sample ticket number both inside the bag and attached to the outside. The remaining half core was marked and kept in the core tray for future reference. Suitable sample bags of heavy-duty plastic were used and discarded. Sample bags were not recycled.

6.3.1.6 Recording of Sample Recoveries and Results

SC 3.3 (vi)

The typical drilling procedure on CRM involved the diamond drilling, using a core size of BQ (36.5mm diameter) to drill a mother hole, and drilled to approximately 20-30 m into the UG2 footwall. Non-directional deflections are then drilled out of the mother hole through the UG2 and Merensky Reef. Sampling was conducted over the economic horizons. Typically, three non-directional deflections are drilled per hole. Additional deflections were drilled if the core recovery in the economic unit was deemed sub-optimal. Complete data per drillhole is often not available and hence within the data used for the Mineral Resource estimation exercise, data is missing with regards to either the mother hole or deflections. However, the database does not have details with regards core recoveries and only sample lengths has been recorded. Due to the number of historical drilling campaigns and the extremely faulted nature of the orebody, the drilling did not adhere to a uniform grid spacing.

Sample recoveries versus grade relationships were not assessed. It is Minxcon's opinion that there should be no bias with respect to drilling technique and sampling methodology utilised.

6.3.2 Sample Preparation and Analysis

SC 3.4 (i)-(iii)

6.3.2.1 Laboratory Information

Sample preparation and analysis has historically been conducted by various laboratories, such as: Rio Tinto, SGS, Mintek, Inspectorate M&L (Pty) Ltd, Impala Platinum Limited, Impala Laboratory and Golden Dumps. Table 12 shows the historic Laboratories and methodologies used.

Approximately 80% of the cored intersections' analyses were undertaken at Impala Laboratory. A record is kept of the specific assay technique used for each sample.

It should be noted that the majority of the CRM samples were tested prior to accreditation of the laboratories used. The following laboratories are currently accredited by the South African National Accreditation System ("SANAS") as detailed in Table 12.

The latest drillholes were typically prepared and analysed by Set Point Laboratory (SANAS T0223), which is accredited for PGM analyses.

Table 12: Historical Laboratories Used

Testing Laboratory	Testing Laboratory Number	Complies With	Original Date of Accreditation	Type of Tests Accredited for
Impala Laboratory	T0177	ISO/IEC 17025:2005	Oct-02	The determination of Pt, Pd, Rh, Ru, Ir and Au by Direct Leach / Microwave Dissolution (ICP/Wet Chemistry) in converter matte.
				The determination of Pt, Pd, Rh, Ru, Ir and Au by Nickel Sulphide collection / Microwave by dissolution (ICP/Wet Chemistry) for concentrate.
				The determination of Nickel, Copper, Cobalt and Chromium in concentrate type samples by ICP spectroscopy in concentrate.
				Analysis of Platinum, Palladium and Rhodium (GFAA/Wet Chemistry) including moisture determination for auto catalyst samples.
SGS	T0169	ISO/IEC 17025:2005	Dec-02	Determination of Au by Lead Fusion followed by Atomic Absorption Analysis or Gravimetry for carbon, ores, rocks, soils and metallurgical products.
				Determination of Au, Pt and Pd by Lead Fusion followed by ICP-OES and ICP-MS for ores and rocks.
				Determination of Pt, Pd, Rh, Ru and Ir by Nickel Sulphide Fusion followed by ICP-OES for soils and metallurgical products.
Mintek	T0042	ISO/IEC 17025:2005	May-95	The collection and determination of PGMs (Pt, Pd, Rh, Ru, Ir, Au) using Nickel Sulphide as the collector for ores and concentrates.
				The collection and determination of gold and the total PGM +Au using Lead as the collector for ores and concentrates.
				The determination of Individual PGMs (Pt, Pd Rh, Ru, Ir, Au i.e., "6E") after Nickel sulphide collection by Fire Assay and measurement by ICP-OES for ores and concentrates.
				The determination of Pt, Pd, and Au ("3E") by ICPOES after lead collection by Fire Assay for ores and concentrates.
				The determination of Pt, Pd, Rh and Au ("4E") after lead collection by Fire Assay followed by high pressure sealed tube dissolution and measurement by ICP-OES for ores and concentrates.
Set Point	T0223	ISO/IEC 17025:2005	Aug-03	The determination of Pt, Pd and Au by Fire Assay and ICP.

Note: Only accredited tests applicable to the testing for PGMs and gold have been reported in the table.

6.3.2.2 Analytical Method and Sample Preparation Technique

Two of the assay procedures used by Impala Laboratory are described in the Table 13 and were used for both drillholes and underground grade control samples.

Table 13: Impala Laboratory Fire Assay Methodology

Fire Assay Method	Individual Platinum Group Metal (IPGM) Method
Borehole samples were routinely assayed only using the fire assay method and the 3E+Au concentration (g/t) determined. The pulps were dried under a space heater for 90 minutes, and then crushed and pulverised using a spindle pulveriser. Size analysis indicates that the pulverising results in 60% passing 100 mesh (150µm). The samples were then fluxed using a twin stream. The twin stream ensures that duplicate samples are processed in different batches. Most laboratory duplicate samples are analysed in the same batch. The laboratory uses ready-made flux from a supplier. 10 mg of silver nitrate was added as a co-collector, which is removed at the high temperatures. The samples were fused in a fusion furnace at 1,200°C for 55 minutes. The buttons were then deslagged followed by low cupellation - ±1 hour at 1,100°C in a muffle furnace. The beads were then hammered and placed in the high temperature (1,360°C) furnace for 6 hours (that is since June 2001 and between 1978 and December 1985). Boreholes drilled between December 1985 and May 2001 were assayed using a 20-minute fire assay technique and a correction factor was applied to bring them in line with the 6-hour procedure. Lead washes were done at two-hour intervals (the adding of lead shot). The prills were then weighed on a microbalance and the g/t (ppm) calculated. The methodology for the fire assaying of underground samples and borehole samples was the same. Each section sampled underground could be considered a 'borehole' section.	The IPGM (Individual Platinum Group Metal) method of analysis was used to determine the prill split, i.e., Pt, Pd, Rh and Au. However, it is not routinely performed due to the cost (some 10 times more expensive than fire assay). IPGM concentrations are derived by fluxing the sample with nickel-sulphide, digesting it in a microwave and performing a direct leach. Concentrations are read on the Inductive Coupled Plasma Spectrometer (ICP-OES). With this technique round robin analysis of smelter plant, concentrator and monthly composites are routinely performed by other laboratories. Borehole composite samples (the entire UG2) are also analysed using the technique for cross-correlation of 3E+Au derived from the fire assay technique.

The techniques are considered total.

The methods of analysis, sample handling and preparation procedures are considered appropriate for the Mineral Resource estimate.

6.3.3 Sampling Governance SC 3.5 (i)-(iv)

6.3.3.1 Sampling Campaign and Process

Certified reference materials ("CRMs") were inserted into the sampling sequence to assess the accuracy and possible bias of assay values. CRMs utilised during the sampling campaigns were AMIS006, AMIS009, AMIS010 and AMIS025 purchased from African Mineral Standards ("AMIS") in South Africa (http://www.amis.co.za).

Minxcon is of the opinion that sample preparation, security, and analytical procedures of the total database is adequate and reliable to be utilised in the estimation of a Mineral Resource. Although historic QAQC from the remaining series of drillholes is not available, the analysis of the QAQC on the KA, BHCR and Z series does not show significant assay bias.

It is recommended that further drilling and grade control sampling make use of duplicates and umpire samples with the recommended standards to ensure reliability of the samples database.

6.3.3.2 Sample Security and Chain of Custody

Core samples had a work note with a qualified sampler marking off and ensuring sampling and packing and sealing of each sample per section. This is then verified at the office once back on surface and samples checked against assay cover note. The sample section plotted on sampling trace and the survey "G-sheet". Co-ordinates were determined from the survey sheet and entered into the Mineral Resource Management system utilised by the Mine. Actual samples with cover notes were booked into the assay laboratory and sample receipt book signed off.

6.3.3.3 Validation Procedures

Varying levels of information are available and captured into the Eastplats in-house database. Regarding the drilling, logging and different assaying laboratories used across the drilling history, the data consistency is not considered to have a material effect on the data. However, a portion of the historical data lacks the support of the original drilling logs, assay sheets and quality assurance and quality control ("QAQC"). The data used from CRM represents data supplied by the mine that is deemed valid and QAQC validation and database review has been done much as possible.

Data extracted from the database for use in the Mineral Resource estimation process included:-

- collar co-ordinates,
- geological and;
- sampling logs together with assay values.

The assay data available for the historical data is a combination of single 4E (Pt, Pd, Rh & Au or 4E) assay results. The Mineral Resource estimation was conducted on all elements separately and a final 4E estimate was used in the declaration based on the Prill split.

A problem with the historical data is the frequent lack of assay values above and below the Merensky Reef or UG2 does occur. Where this occurred, an absent value was input into the database. Where only a 4E value was recorded the Pt, Pd, Rh and Au values were left absent and no trace values were included. The inclusion of a channel cut and mining cut for the UG2 was introduced. This coding was based in the stratigraphy of each drillhole and an additional 20cm cut below the chrome seam base was included in the mining cut.

The CRM drillholes were typically drilled as vertical holes. Previous work indicated that the maximum inclination away from vertical was 6%. All drillholes were assumed to be vertical for the Mineral Resource estimation. The treatment of outliers was investigated via probably plots. Outliers were capped during the point variography stage and were capped in the kriging/estimation stage. Values are capped in the variography stage to ensure that the population variance relationship was modelled and not unduly influenced by outlier values.

The historical drilling campaigns cover three project areas, and the latest drilling was carried out on Crocette and Kareespruit with limited coverage on the Zandfontein area. The Zandfontein section is mainly covered by historical drilling.

Additional underground samples were captured by Minxcon from the historic sample plans for Zandfontein. The plans were scanned and then georeferenced in Datamine based on the co-ordinates on the plans. This exercise included 4,752 sample point with cm.g/t stope width and channel width.

It is the opinion of Minxcon that acceptable verification was undertaken on the drillhole database, however few original drillhole logs and core and assay laboratory sheets are available to verify the historical data. Due to the fact that the deflections were non-directional, the co-ordinates of the deflections were moved 5.0 m away from the mother hole progressively. The latest drilling of the BHCR, KA and Z series drillholes have the original log and photography and assay reports and could be verified and used with the historical drilling.

6.3.3.4 Audit and Risks

SC 7.1 (i)

Audits were carried out on the sampling techniques however the outcomes/results of the audits were not available to Minxcon at the time of reporting. Minxcon has noted that QAQC data prior to 2021 drilling is not available, and this may have an impact on the accuracy and reliability of the results, hence Minxcon downgraded the Mineral Resource to Inferred Mineral Resource.

6.3.4 Quality Control and Assurance Procedures

SC 3.6 (i)

CRM QAQC protocols for the exploration drilling states that every tenth sample should be a standard or a blank. No duplicate sampling or umpire samples were conducted during the drilling programmes.

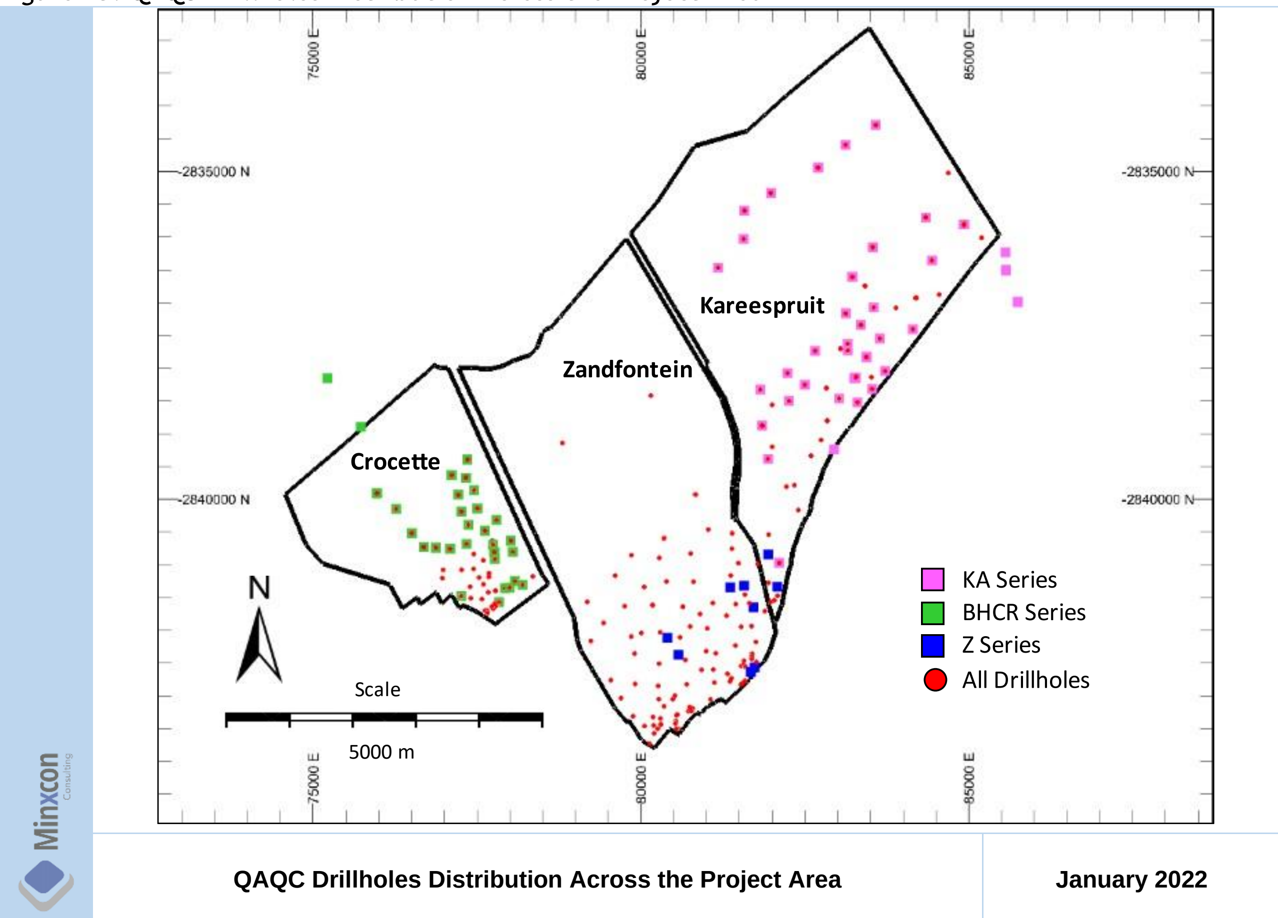
A total of 859 QAQC samples were found in the data base over the period of drilling and included drillholes from the series KA, Z, BHCR along with 85 samples form an undefined series. The undefined series pertains only to the AMIS 9 standard used for the MR reef only. The AMIS standards of 0006, 0009 and 0010 were used along with Blanks AMIS 0025. AMIS 006 and 010 were designed for the UG2 and AMIS 009 is used for the MR. The standards per the certification certificate are in Table 14.

Table 14 : Certified Grades for AMIS 006, 009 and 010

Standards	Pt		Pd		Rh	
	g/t	Deviation	g/t	Deviation	g/t	Deviation
AMIS 006	1.43	0.15	0.93	0.13	0.29	0.03
AMIS 009	1.81	0.15	0.98	0.06	0.125	0.016
AMIS 010	2.05	0.29	1.33	0.1	0.41	0.08

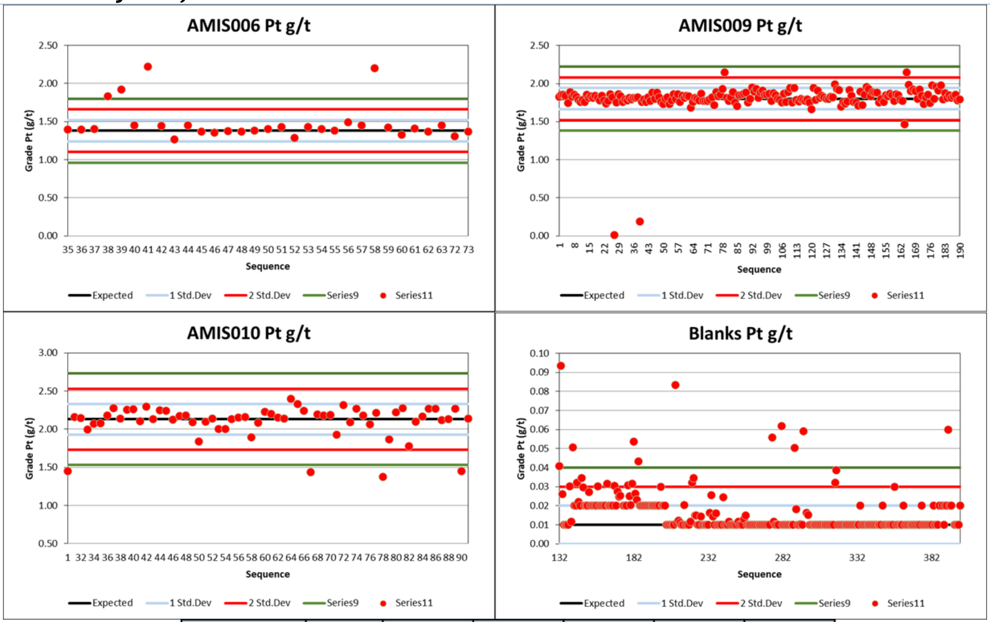
The failure of a Standard is defined as the sample results fall above or below the expected standard values to a maximum of 3 standard deviation. It has not been determined if a standard failed whether the series was resampled. Each series was investigated and although failures did occur it is Minxcon's view that the failures do not indicate a failure of the database. The spatial distribution of the KA, BHCR and Z series drillholes are in Figure 13 and shows a distribution across the Project Area.

Figure 13: QAQC Drillholes Distribution Across the Project Area



The analysis of the standard and failure rate in percentage for each of the KA, BHCR and the Z Series are presented in the Figure 14, Figure 15 and Figure 16 respectively. While Figure 17 show a combination of all standards analysis and failure rate. It is Minxcon view that although failures have occurred the database is acceptable for use in the estimation.

Figure 14 : Standard Analysis of the KA Series Drillholes



QAQC	Count	Fail High	Fail Low	% Fail High	% Fail Low	% Total Fail
AMIS006	31	4	0	13%	0%	13%
AMIS009	190	0	2	0%	1%	1%
AMIS010	62	0	4	0%	6%	6%
AMIS025/ Blank	270	17	0	6%	0%	6%

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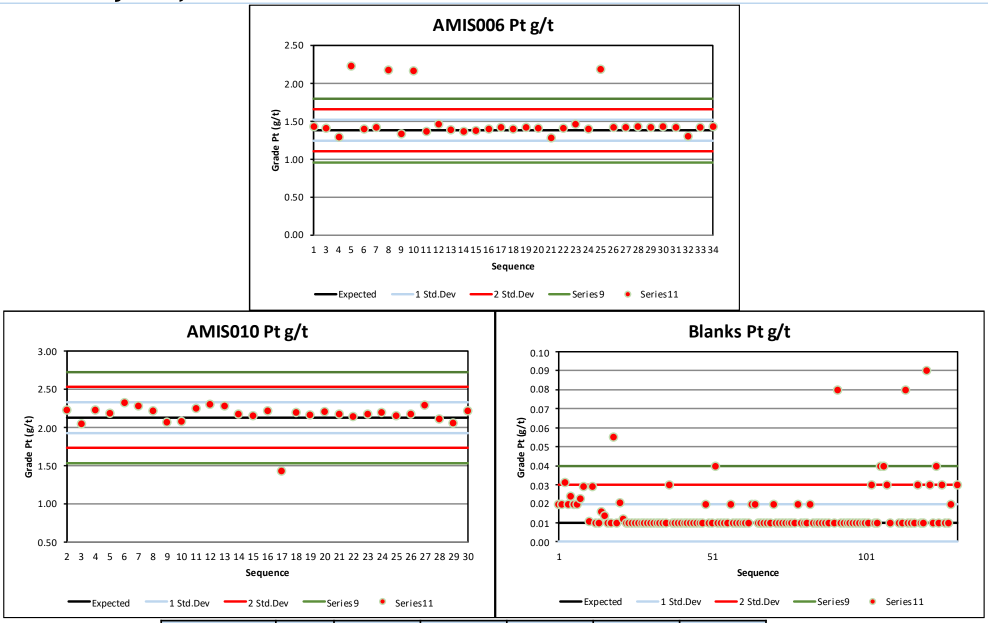
Standard Analysis of the KA Series Drillholes **January 2022**

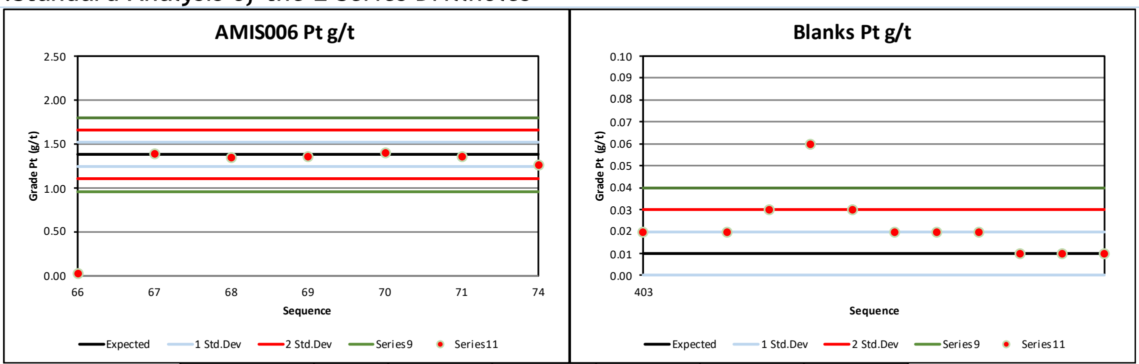
Figure 15 : Standard Analysis of the BHCR Series Drillholes



QAQC	Count	Fail High	Fail Low	% Fail High	% Fail Low	%Total Fail
AMIS006	34	4	0	12%	0%	12%
AMIS010	29	0	1	0%	3%	3%
AMIS025/ Blank	131	9	0	7%	0%	7%

Standard Analysis of the BHCR Series Drillholes **January 2022**

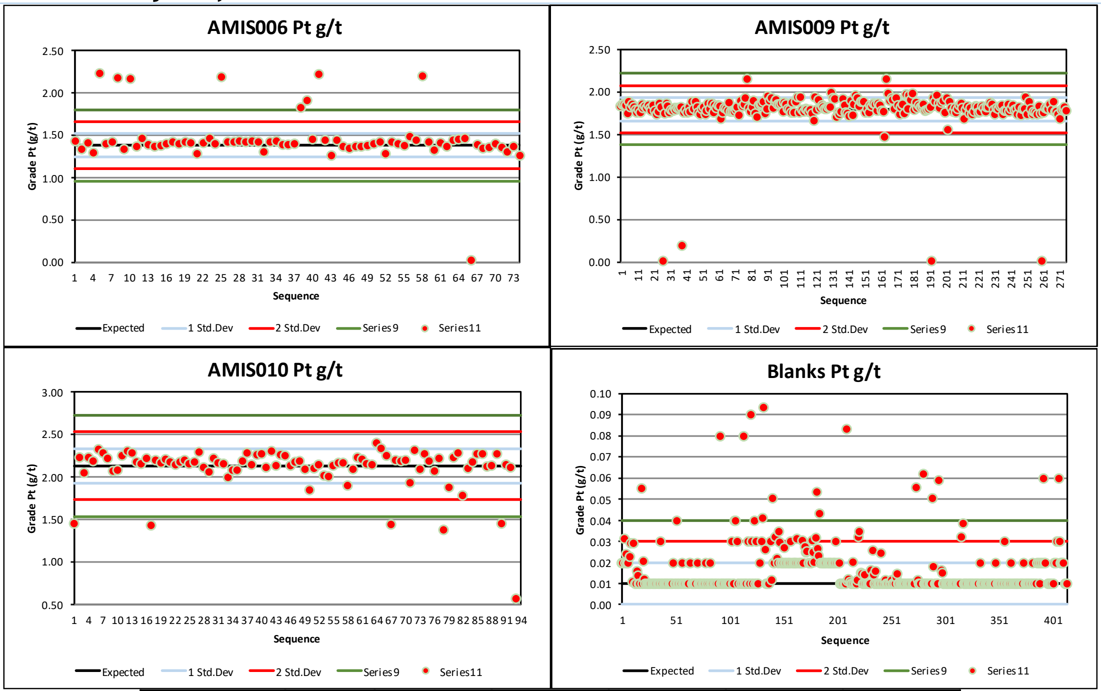
Figure 16 :Standard Analysis of the Z Series Drillholes



QAQC	Count	Fail High	Fail Low	% Fail High	% Fail Low	%Total Fail
AMIS006	7	0	1	0%	14%	14%
AMIS009	1	0	0	0%	0%	0%
AMIS025/ Blank	12	2	0	17%	0%	17%

Standard Analysis of the Z Series Drillholes **January 2022**

Figure 17 Standard Analysis of the All Series Drillholes



QAQC	Count	Fail High	Fail Low	% Fail High	% Fail Low	%Total Fail
AMIS006	74	8	1	11%	1%	12%
AMIS009	276	0	4	0%	1%	1%
AMIS010	94	0	7	0%	7%	7%
AMIS025/ Blank	415	28	0	7%	0%	7%

Standard Analysis of the All Series Drillholes **January 2022**

6.3.5 Bulk Density SC 3.7

Bulk densities have been recorded in some of the drillholes and is not fully represented. An analysis of the UG2 density show a mean value of 3.74 t/m^3 based on only 120 composited samples across the Project while the average of the UG2 on the Western BIC has a range of between 3.5 t/m^3 and 3.9 t/m^3. For the estimation of the tonnage a value of 3.85 t/m^3 has been used which is the historical density used by the geological personnel from Eastplats.

6.3.6 Bulk-sampling and/or Trial-mining SC 3.8

No bulk sampling was undertaken. However, actual mining and stoping took place. Breast mining was utilised with material processed through the plant.

Each raise line was sampled in each raise line ahead of stoping. These exact locations were captured for the development sheets that were digitised and plotted on the plan. The samples were of the entire channel at a regular spacing.

The mineral deposit is UG2 and does not show variability in terms of reef facies. The sampling is thus deemed to be representative of the mineral deposit.

6.4 Database Management SC 3.1 (ii) SC 3.6 (i)

The data used from CRM represents data supplied by the mine that is deemed valid and QAQC validation and database review has been done much as possible. Primary data elements included collar co-ordinates, geological and sampling logs together with assay values. The data was captured and then stored in Fusion database for use in the Mineral Resource estimation process. The database does not have details regarding core recoveries and only sample lengths have been recorded.

All sampling data captured in the in-house database for Barplats has been used in the Mineral Resource estimation and the interpolation of the structural model.

The total database consists of 737 drillholes and 278 deflections. From this database a total of 443 drillhole composites (Mother hole and deflections) and an additional 3,531 Underground samples representing the 4E dataset were available for the estimation. Underground samples were captured in 2021 from grade control sample sheets supplied as scanned images and georeferenced by Minxcon.

6.5 Data Verification, Audits and Reviews

SC 3.2 (iii)
SC 3.5 (iii)(iv)

6.5.1 Data Verification Procedures

The historical drilling campaigns were undertaken under the ownership of Lefkochrysos, Rand Mines, Impala and Barplats. The drilling, logging and assaying techniques involved in each of the historical drilling campaigns have not been fully captured, nor the procedures identical. The result is that varying levels of information are available and captured into the Eastplats in-house database. Regarding the drilling, logging and different assaying laboratories used across the drilling history, the data consistency is not considered to have a material effect on the data. However, a portion of the historical data lacks the support of the original drilling logs, assay sheets and quality assurance and quality control ("QAQC"). The data used from CRM represents data supplied by the mine that is deemed valid and QAQC validation and database review has been done much as possible.

Data extracted from the database for use in the Mineral Resource estimation process included collar co-ordinates, geological and sampling logs together with assay values. The assay data available for the historical data is a combination of single 4E (Pt, Pd, Rh & Au or 4E) assay results. The Mineral Resource estimation was conducted on all elements separately and a final 4E estimate was used in the declaration based on the Prill split.

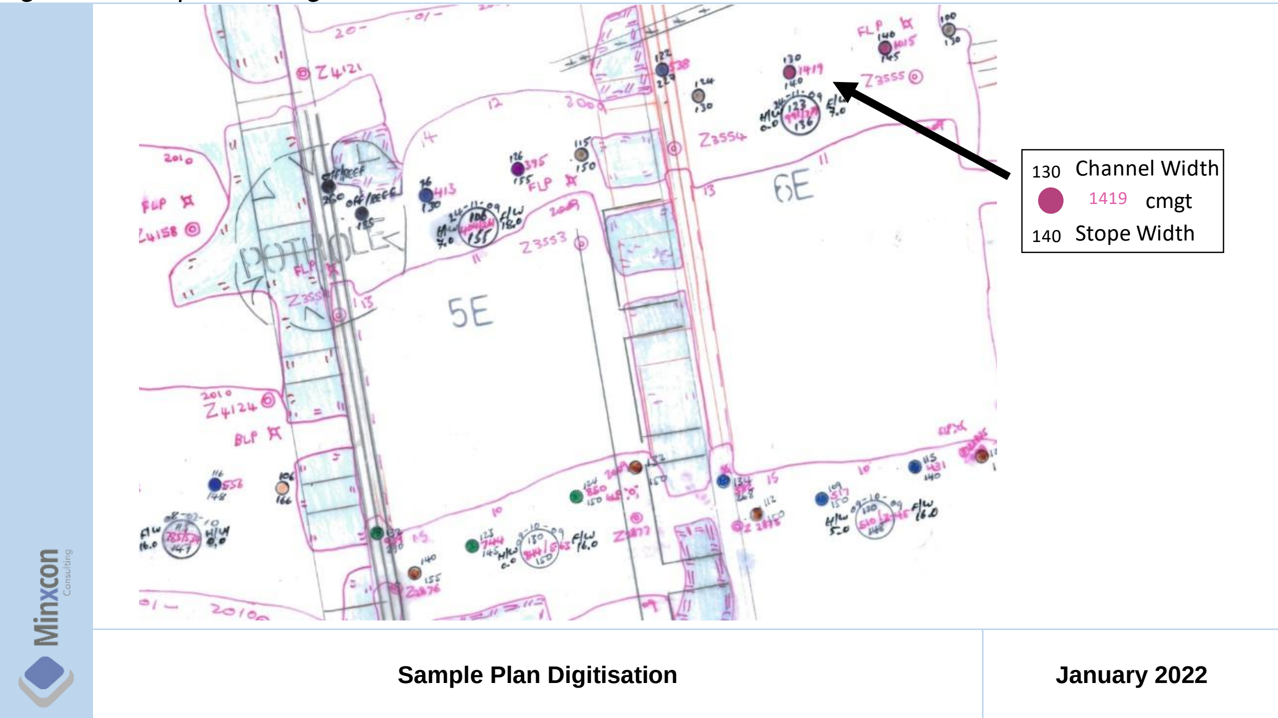
A problem with the historical data is the frequent lack of assay values above and below the Merensky Reef or UG2 does occur. Where this occurred, an absent value was input into the database. Where only a 4E value was recorded the Pt, Pd, Rh and Au values were left absent and no trace values were included. The inclusion of a channel cut and mining cut for the UG2 was introduced. This coding was based in the stratigraphy of each drillhole and an additional 20 cm cut below the chrome seam base was included in the mining cut.

The CRM drillholes were typically drilled as vertical holes. Previous work indicated that the maximum inclination away from vertical was 6%. All drillholes were assumed to be vertical for the Mineral Resource estimation. The treatment of outliers was investigated via probably plots. Outliers were capped during the point variography stage and were capped in the kriging/estimation stage. Values are capped in the variography stage to ensure that the population variance relationship was modelled and not unduly influenced by outlier values.

The drillholes have varying spatial distribution across the Project Area, varying between 250 m and over 800 m. The historical campaigns cover the three project areas, and the latest drilling was carried out on Crocette and Kareespruit with limited coverage on the Zandfontein area. The Zandfontein section is mainly covered by historical drilling.

Additional underground samples were captured by Minxcon from the historic sample plans for Zandfontein. The plans were scanned and then georeferenced in Datamine based on the co-ordinated on the plans. This exercise included 4,752 sample point with cm.g/t stope width and channel width. A representative portion of the sample plan showing the sample points captured is in Figure 18.

Figure 18: Sample Plan Digitisation



6.5.2 Limitations on/Failure to Conduct Data Verification

It is the opinion of Minxcon that acceptable verification was undertaken on the drillhole database, however few original drillhole logs and core and assay laboratory sheets are available to verify the historical data. Due to the fact that the deflections were non-directional, the co-ordinates of the deflections were moved 5.0 m away from the mother hole progressively. The latest drilling of the BHCR, KA and Z series drillholes have the original log and photography and assay reports and could be verified and used with the historical drilling.

6.5.3 Adequacy of Data

It is the Competent Person's opinion that the database after, verification and clean up, is deemed adequate to perform a Mineral Resource estimation.

6.6 Exploration Expenditure

JSE 12.10 (e)

6.6.1 Exploration Expenditure Incurred to Date

From 2011 to 2015, Eastplats spent ZAR8.5 million on exploration, following by a further ZAR4.1 million in 2016. From 2017 to 2019, ZAR75,000 was spent. The values include annual licence fees, drill site monitoring and rehabilitation, and costs of environmental guarantees. No exploration expenditure was incurred in 2020 and 2021.

6.6.2 Planned Exploration Expenditure

Eastplats has budgeted ZAR2.6 million to be spent over 2022 and 2023 at Zandfontein.

The first phase of the planned work will entail an initial evaluation and pre-feasibility study for the exploitation of the deeper parts of the CRM orebody. Geological modelling and technical reporting will be undertaken. Following this, diamond drilling will be undertaken, with sampling and assaying. The drilling is designed to elucidate structural problems identified by previous exploration conducted over the area. In addition, the drilling will verify the previous owner's structural interpretation and grade model. The data will be incorporated into the new database of the greater CRM. A recommendation will then be made to the various boards to proceed with a feasibility study.

7 MINERAL RESOURCE ESTIMATES

SC 4.2 (iv)
SC 4.5 (i)(ii)(ix)

Mineral Resources have been determined across the total CRM complex. Mineral Resource for Pt, Pd, Rh, Au and 4E have been estimated for the underground project. SRK estimated the 3E, Pt, Pd, Rh, Au, Cr_2O_3 and FeO for the TSF. The TSF was not re-estimated in this declaration.

Although the structure of the area is relatively complex, the UG2 Reef at CRM is defined as a tabular orebody across the Project Area, which allowed a 2D approach to the Mineral Resource estimation. Ordinary kriging method of geostatistical estimation was employed based on the data spacing for the drillhole data and underground samples. The estimation process utilised the 4E, Pd, Pt, Rh and Au (g/t). Channel width (UG2CW) and Mining width (UG2MC) were estimated based on the coding added to the database. Due to the lack of information the Ni, Cu and Cr values could not be estimated.

A total of 445 drillhole composites and an additional 3,531 underground samples representing the 4E dataset were used. Addition to this the 253 composited values for the Pd, Pt, Rh and Au were utilised in the individual element estimation. The channel and mining cut estimation utilised 445 drillhole composites and 4,670 underground sample records where CW was captured. To ensure bias was kept to a minimal between the underground samples and the drillholes de-clustering of the datapoints was used. This de-clustering was done on a grid size of 120 m.

Only the 4E, channel width and Mining width for the UG2 are finally reported and the individual element grades are based on the prill split derived from the composited drillhole sampling. The Merensky Reef is seen as uneconomical and has been reported as a Mineral Resource.

No equivalent metal formula was utilised; however, a 4E grade has been applied.

7.1 MINERAL RESOURCE ESTIMATION AND MODELLING TECHNIQUE

SC 4.2 (i)(ii)(iii)(v)
SC 4.5 (i)

7.1.1 Database Compilation

The drillhole database consists of 737 drillholes and 278 deflections. An additional 4,752 underground sample points were also captured. Of the 4,752 samples captured 3,550 had cm.g/t values 4,670 had channel width values and 3,531 4E values could be calculated. The drillhole database was coded per intersection of the UG2 to indicate a Channel with intersection and a mining cut intersection. The channel width intersection (UG2CW) comprised only the chrome seam while the Mining width (UG2MC) included samples below the chrome seam to a depth below of 20 cm. The reasoning behind the mining cut was to include the alteration below the UG2 that carries grade.

The samples where only a 4E value was recorded in the drillholes and no individual elements were recorded were left absent, as it was deemed the 4E grade represents the individual elements. Values that were absent and not sampled were assigned a trace value. The Table 15 shows a typical entry where the UG2CW and the UG2MC have been identified. These cuts were then used for the estimation.

Table 15: Typical UG2CW and UG2MC Coding

BHID	From	To	Width (m)	Au g/t	Pt g/t	Pd g/t	Rh g/t	4E g/t	Lithology	Strat	Channel	Mine Cut
ZF023	442.11	442.31	0.2	0.01	0.51	0.09	0.1	0.71	PX	UG2HW		
ZF023	442.31	442.51	0.2	0.02	1.32	0.52	0.28	2.14	CRT	UG2	UG2CW	UG2MC
ZF023	442.51	442.71	0.2	0.02	1.7	0.53	0.29	2.54	CRT	UG2	UG2CW	UG2MC
ZF023	442.71	442.91	0.2	0.06	2.09	1.47	0.33	3.95	CRT	UG2	UG2CW	UG2MC
ZF023	442.91	443.11	0.2	0.02	3.97	0.9	0.62	5.51	CRT	UG2	UG2CW	UG2MC
ZF023	443.11	443.31	0.2	0.08	3.67	5.65	0.65	10.05	CRT	UG2	UG2CW	UG2MC
ZF023	443.31	443.51	0.2	0.01	2.1	0.99	0.42	3.52	CRT	UG2	UG2CW	UG2MC
ZF023	443.51	443.71	0.2	0.01	4.34	2.1	0.76	7.20	CRT	UG2	UG2CW	UG2MC
ZF023	443.71	443.91	0.2	0.01	0.04	0.03	0.01	0.07	NO	UG2FW		UG2MC
ZF023	443.91	444.11	0.2	0.01	0.04	0.02	0.01	0.06	NO	UG2FW		

The total drillhole dataset and the used UG2 intersects are shown in Figure 19. These intercepts include all the mother hole and deflections. The underground sampling points are in Figure 20 and are only available for Zandfontein and represent 4,752 points.

Figure 19: Drillhole Distribution Across the Project Area

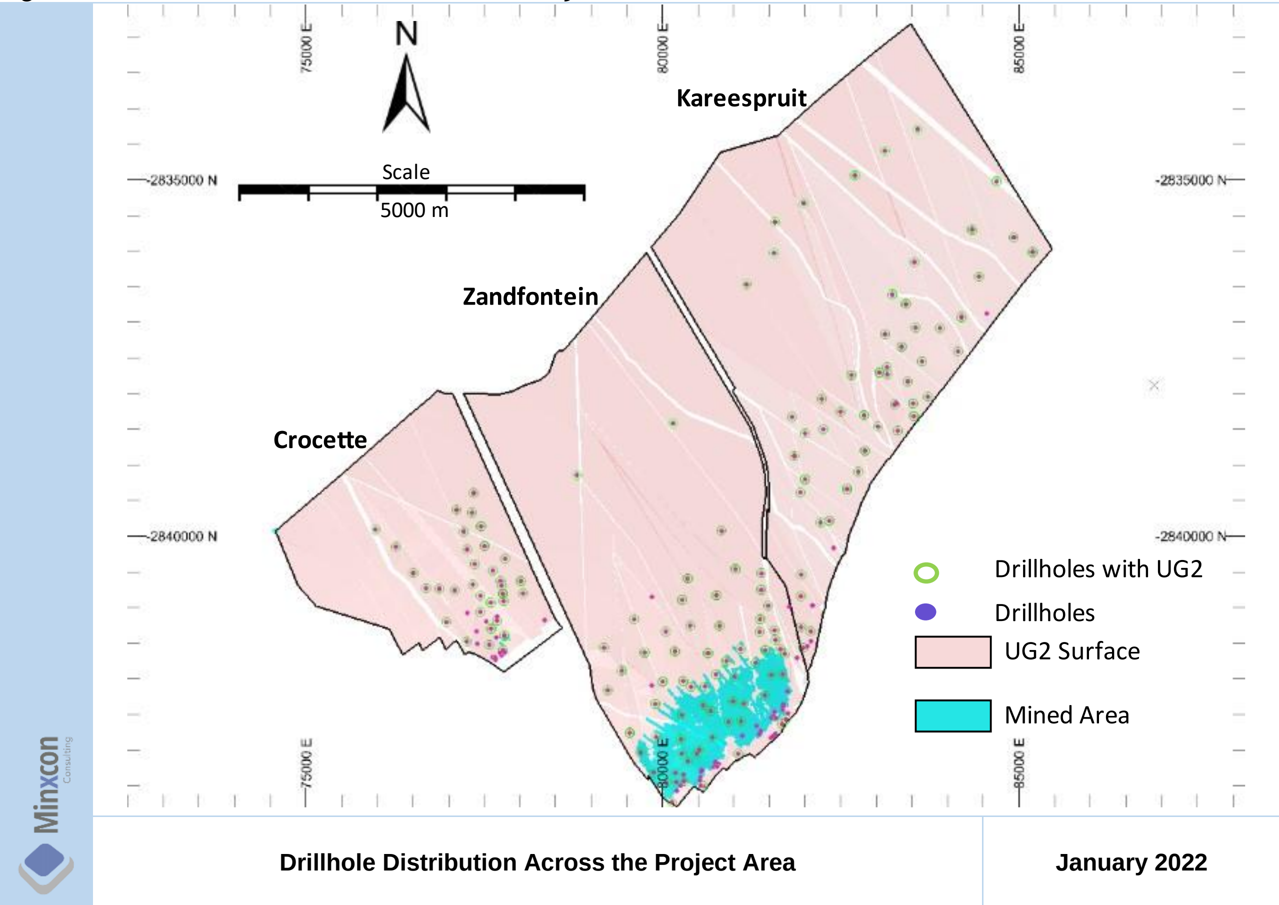
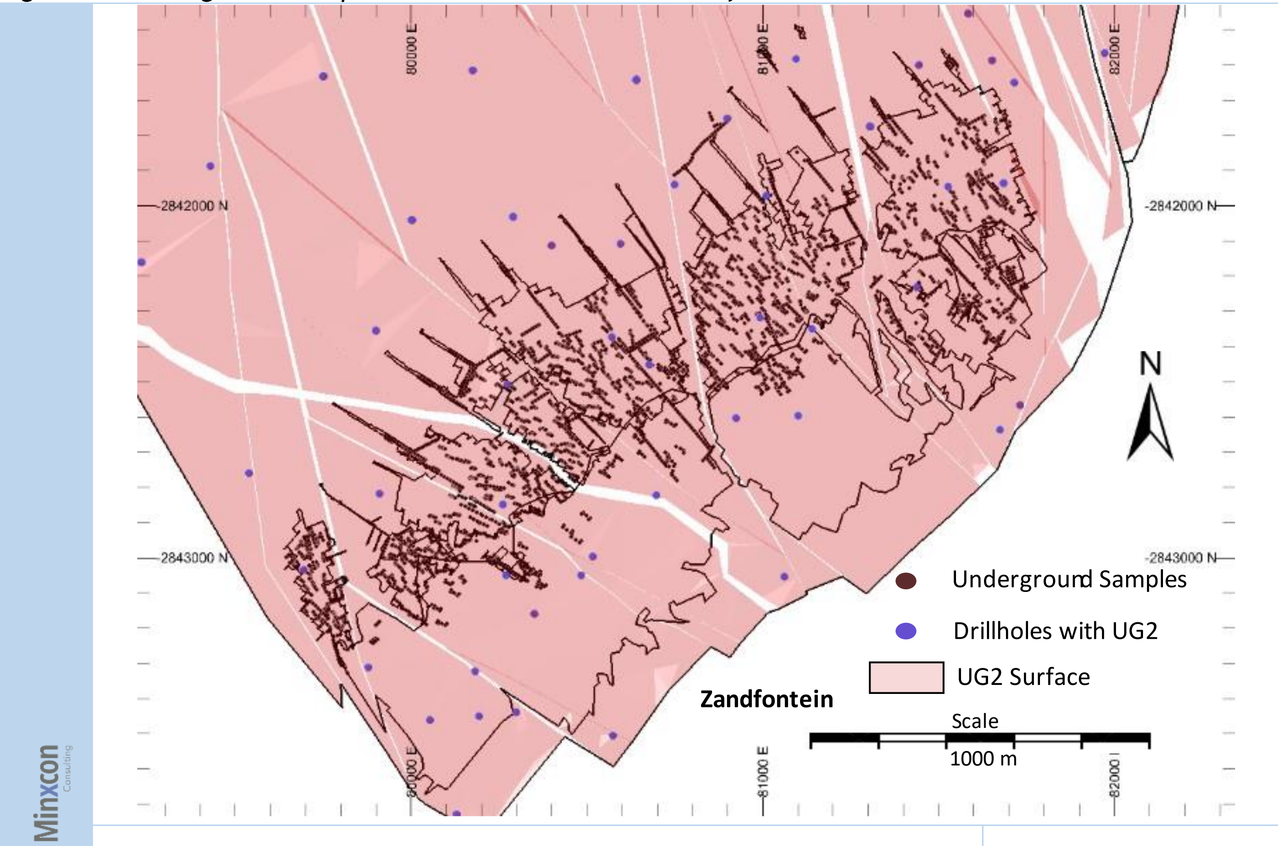


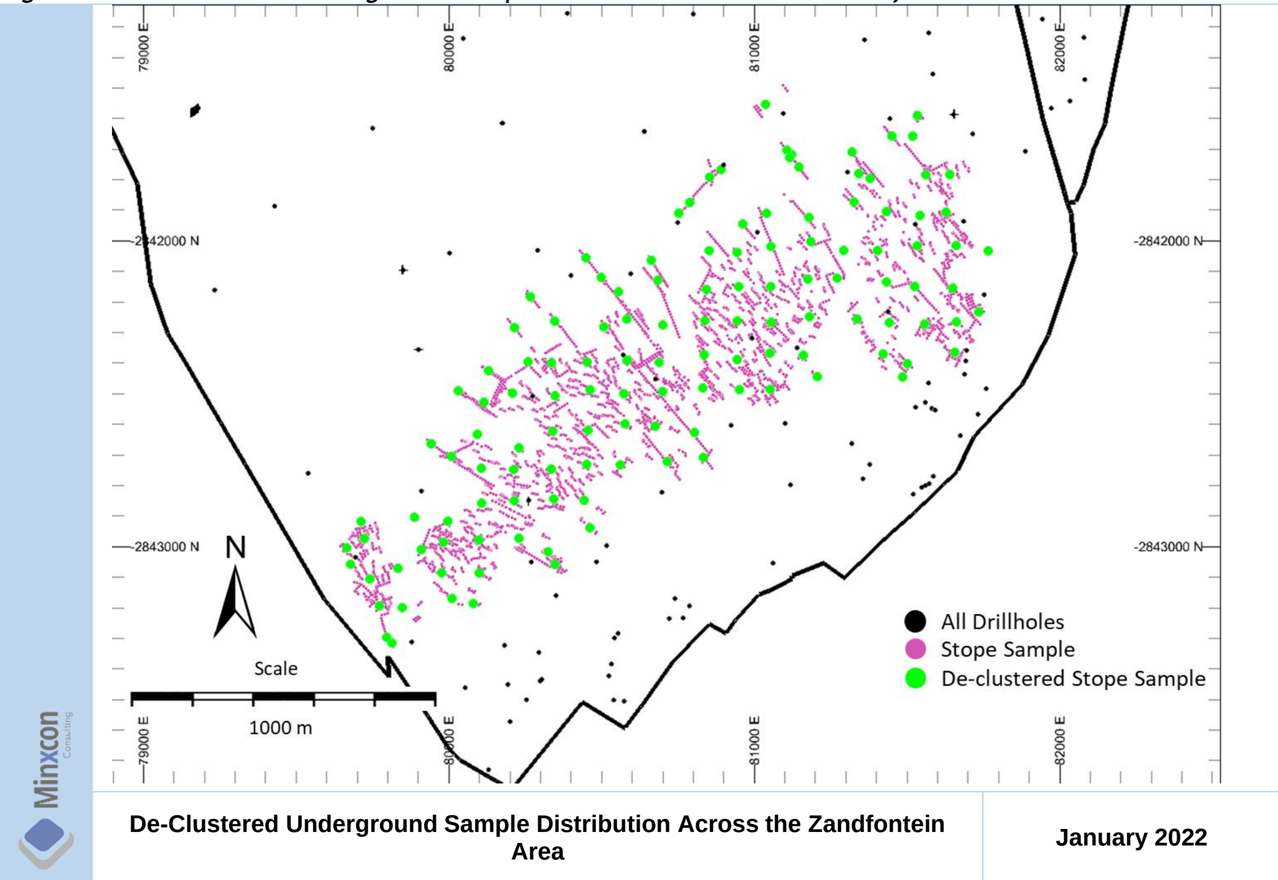
Figure 20: Underground Sample Distribution Across the Zandfontein Area



Underground Sample Distribution Across the Zandfontein Area | **January 2022**

For the purpose of estimation, all drillholes and underground samples were used, and to reduce the bias of the high density of underground samples the data set was de-clustered into a 120 m grid. The process of de-clustering used an average of the sample within the grid spacing of 120 m. This ensures that the mother hole and deflections stay spatially correct, and the underground samples are weighted around the stope out areas. Figure 21 shows the de-clustered data point with the captured underground samples.

Figure 21: De-Clustered Underground Sample Distribution Across the Zandfontein Area

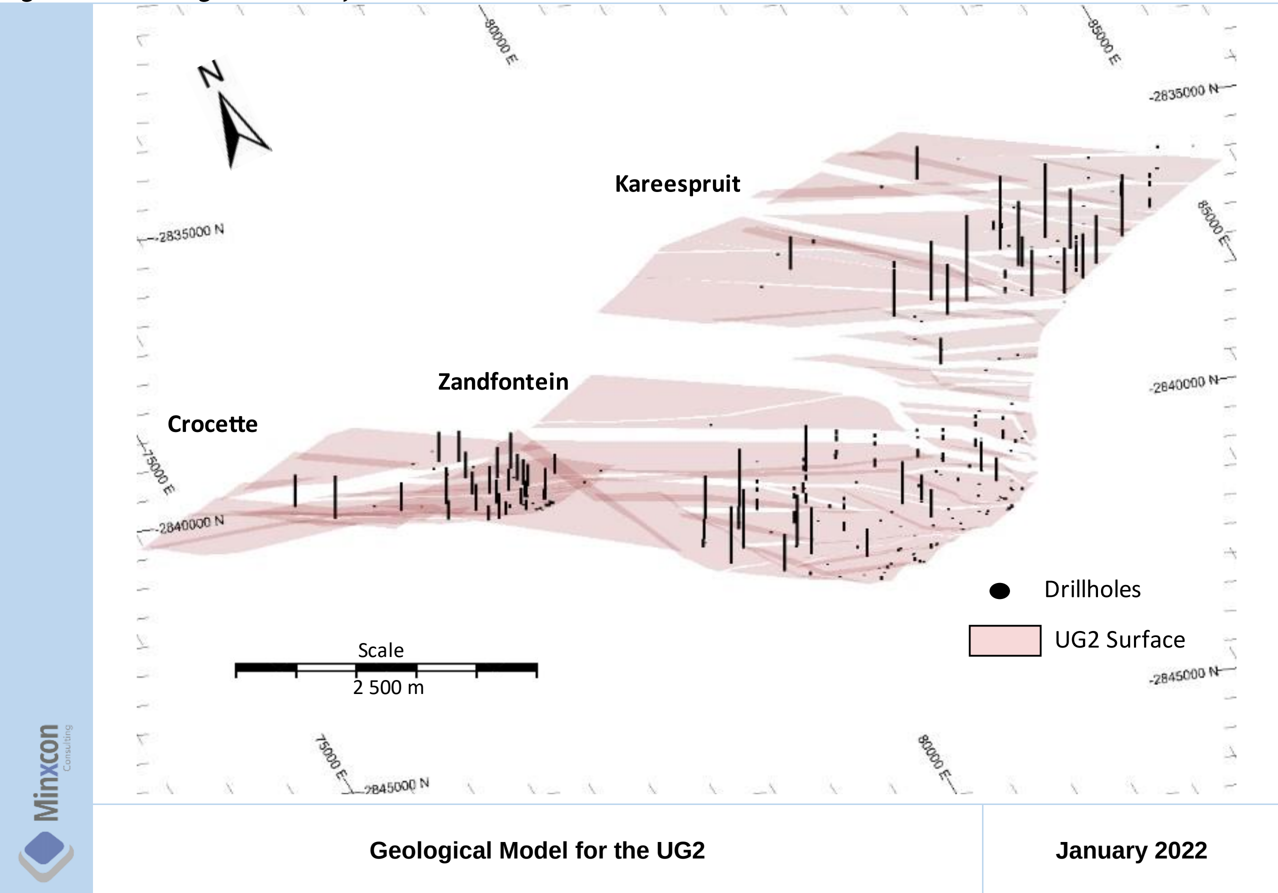


7.1.2 Geological Modelling

The structural model was first complied by Jankowitz and Lyons and has been updated periodically as new drillholes were added. The structural blocks have been adjusted based on the intersection of the new drilling.

The Geological model for the UG2 was created from the original mine plans that were capture in digital format. The wireframes were generated in 2007 and reviewed in 2021. The geological model is largely unchanged and is represented in the following Figure 22.

Figure 22: Geological Model for the UG2

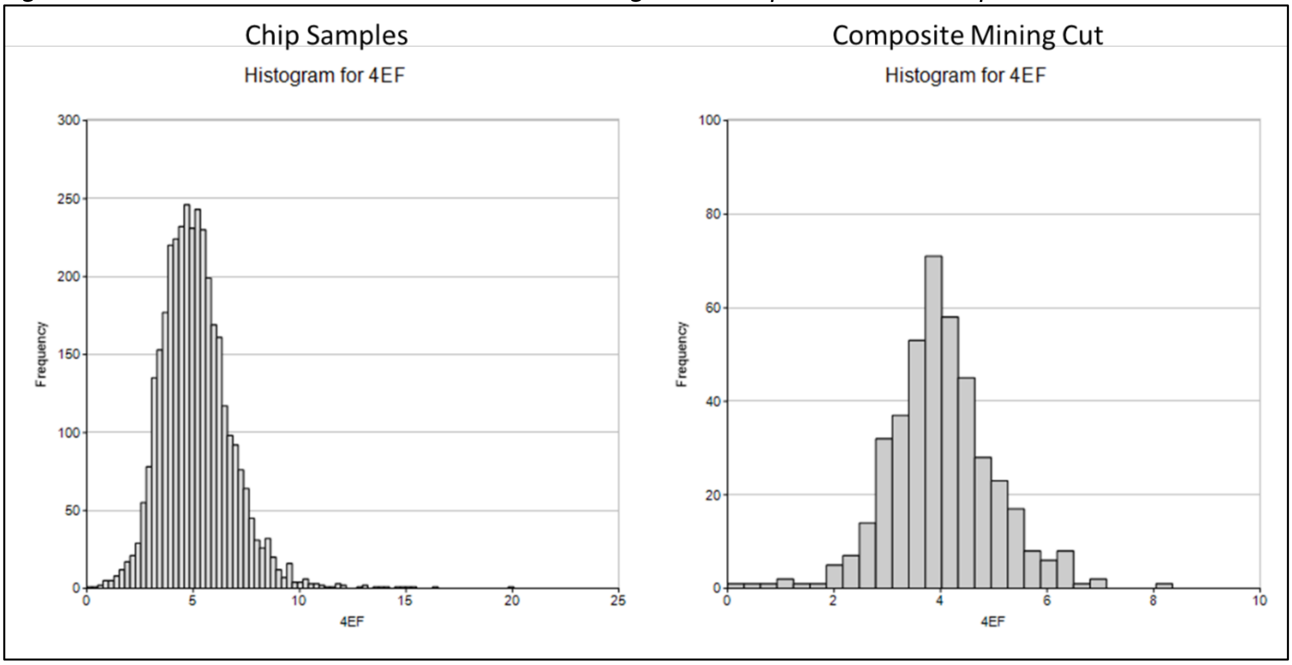


7.1.3 Statistical Analysis

Statistical analyses were performed on the 4E, Pd, Pt, Rh and Au grade, and channel width (CW) and mining width of the dataset, in order to develop an understanding of the statistical characteristics and sample population distribution relationships. Descriptive statistics in the form of histograms (frequency distributions), were used to develop an understanding of such statistical relationships.

The following histograms show the distribution of the 4E values over the composited mining cut and the comparison with the Underground samples. The underground sample values show a higher grade over all due to the number of sample points available.

Figure 23: 4E Grade Distribution between the Underground Samples and the Composited Drillholes



The composited channel width grades and mining cut grades were compared and shows an expected drop in grades over the larger widths. The classical statistics for the samples of the drillholes is in Table 16 shows the Channel with and Table 17 shows the mining cut. The Mean grades for the 4E drops from 4.12 g/t in the channel to 3.95 g/t in the mining cut.

Table 16: Classical Statistical Analysis of the Channel of the UG2

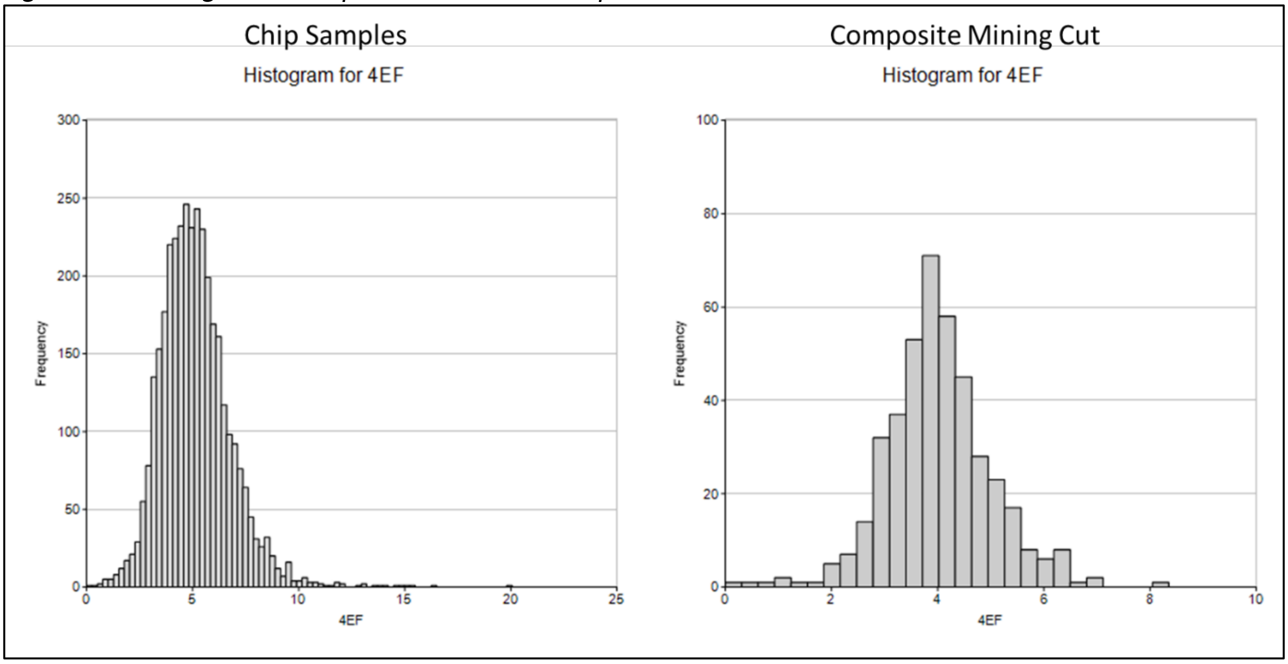
Field	Reef Cut	No of Records	No of Samples	Minimum	Maximum	Mean	Variance	Std Dev
Pt	UG2CW	445	253	0.21	4.44	2.59	0.40	0.63
Pd	UG2CW	445	253	0.00	2.92	1.16	0.28	0.53
Au	UG2CW	445	253	0.01	0.30	0.03	0.00	0.03
Rh	UG2CW	445	253	0.00	0.82	0.41	0.01	0.12
4E	UG2CW	445	445	0.25	8.33	4.12	1.23	1.11
Channel	UG2CW	445	445	0.20	3.77	1.58	0.20	0.45

Table 17: Classical Statistical Analysis of the Mining Cut UG2

Field	Reef Cut	No of Records	No of Samples	Minimum	Maximum	Mean	Variance	Std Dev
Pt	UG2MC	445	253	0.21	3.73	2.43	0.32	0.57
Pd	UG2MC	445	253	0.00	2.92	1.07	0.22	0.47
Au	UG2MC	445	253	0.01	0.28	0.03	0.00	0.02
Rh	UG2MC	445	253	0.00	0.74	0.39	0.01	0.11
4E	UG2MC	445	445	0.25	8.33	3.95	1.07	1.03
Mine Cut	UG2MC	445	445	0.20	3.77	1.69	0.20	0.45

The underground samples that were captured show a higher grade when compared to the drillholes and this can be attributed to the density of samples when compared to the number drillhole samples of 253 compared to the 3,561 underground samples.

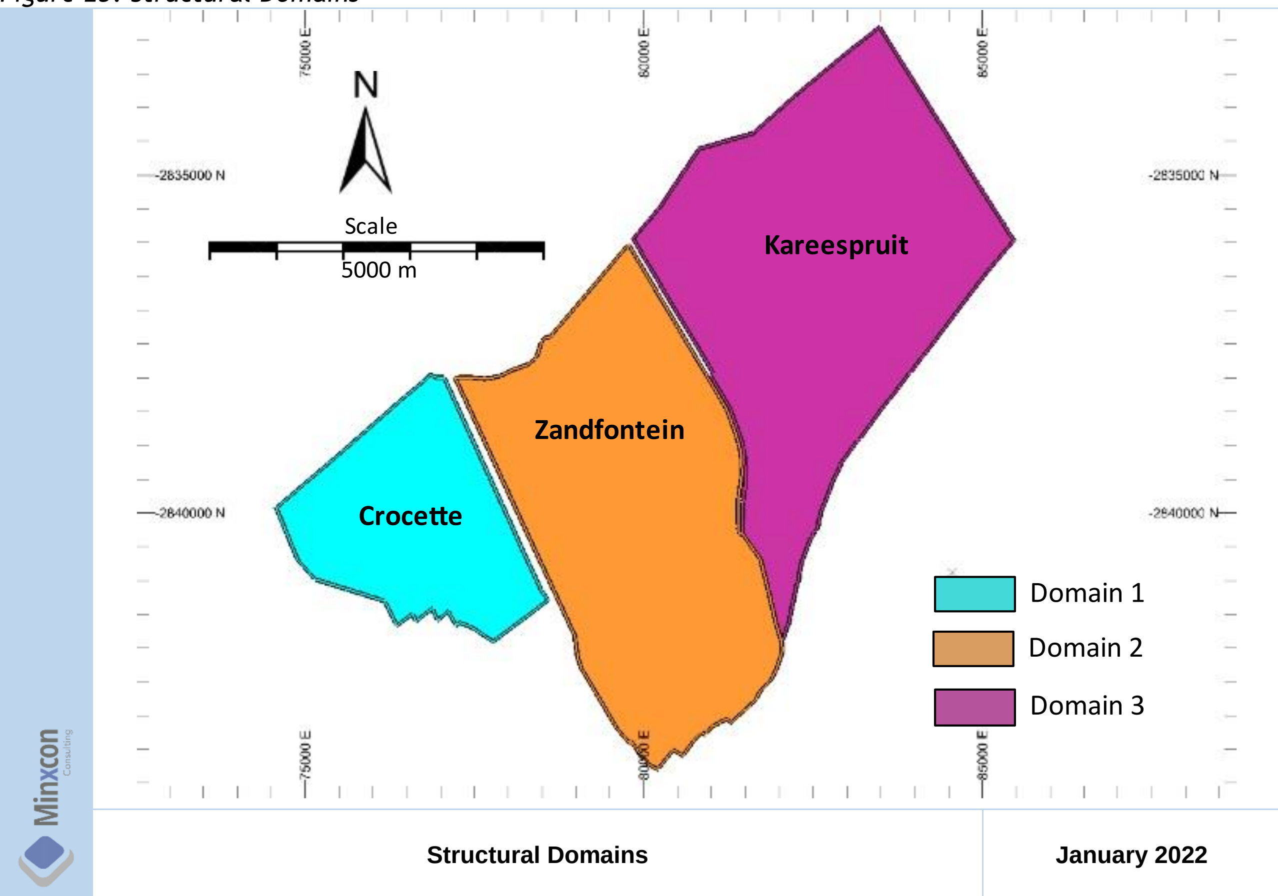
Figure 24: Underground Sample 4E Grade vs. Composited Drillhole 4E Grade



7.1.4 Domaining

The drillhole files do not have sufficient detail to facilitate facies domaining of the UG2, thus the domaining is based on structural discontinuation rather than facies analysis. The Project Area is divided into three domains, namely Crocette, Zandfontein and Kareespruit. These form the major structural domains and are illustrated in Figure 25.

Figure 25: Structural Domains



7.1.5 Data Conditioning (Compositing and Capping)

The drillholes were composited over the two cuts of channel width and mining cut for the UG2. The composites were done to ensure a whole width estimation and to include the underground samples in the estimation. Capping of the 4E was investigated using probability plots to investigate the outliers within the population. The maximum for the 4E in the UG2CW (channel width) and UG2MC (mining cut) was 8.33 g/t in the drillholes, while the underground samples had a maximum of 56.33 g/t. The capping of the high-grade underground samples was set to 20 g/t and only accounted for 4 samples in the top 99th percentile.

7.1.6 Geostatistical Analysis and Variography

A statistical analysis of the 4E and individual elements was conducted to determine the spatial variability of the UG2 Chrome seam. The composited and capped dataset was used for the experimental variograms and variogram modelling. Variogram analysis was conducted in 2D for the 4E Pt, Pd and Au to determine the variability. Although due to the estimation technique of including the underground samples only the 4E variogram were used. The variogram shows an anisotropic nature with a long-range direction of 22.5° with a range of 1,032 m and a short range of 727 m in the 112.5° utilising a lag spacing of 100 m. This variogram analysis is presented in Figure 26. The variograms were normalised and a table of the variograms achieved are represented in Table 18. However, for the estimation an isotropic variogram was used as the anisotropic variogram is probably a data effect as the long range is in line with the data.

Figure 26: 4E UG2 Variogram at a Lag Spacing of 100 m

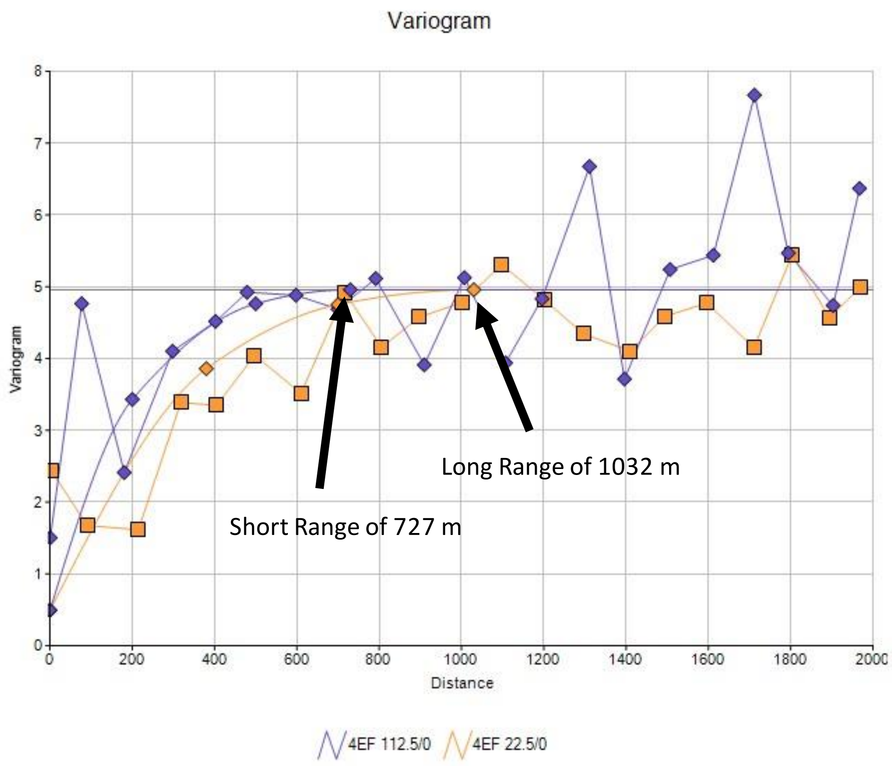


Table 18: Summary of the Variogram Models per Element

Element	Nugget	Structure 1		Structure 2		Structure 3	
		Range	Variance	Range	Variance	Range	Variance
4e	0.10	385	0.30	700	0.30	1032	0.30
Pt	0.10	1248	0.90				
Pd	0.10	1250	0.90				
Rh	0.04	220	0.06	812	0.13	1088	0.77
Au	0.13	335	0.15	1118	0.72		

7.1.7 Block Model Creation and Grade Interpolation

The block model was created in Datamine Studio RM and included the domains and mined out area. The parent block size of 50 m x 50 m was utilised and was created in the plan of the UG2. This block model then represented the structure of the UG2 to ensure that geological discontinuity and losses were considered in the final model. The model extents are tabled in Table 19.

Table 19: Block Model Extents

Direction	Origin	Maximum	Cell Size	No Cells
	m	m	m	
X	74300	86300	50	240
Y	-2843900	-2832400	50	230
Z	-900	1300	20	110

7.1.8 Bulk Density

Bulk densities have been recorded in some of the drillholes and is not fully represented. An analysis of the UG2 density show a mean value of 3.74 t/m^3 based on only 120 composited samples across the Project. while the average of the UG2 on the Western BIC has a range of between 3.5 t/m^3 and 3.9 t/m^3. For the estimation of the tonnage a value of 3.85 t/m^3 has been used which is the historical density used by the geological personnel from Eastplats.

7.1.9 2020 Grade Estimation

Grade estimation was conducted using Ordinary Kriging ("OK") based on the variograms and the estimation was done per structural domain. Additional estimations of Nearest Neighbour and Inverse Distance Squared that were used as check for the OK estimate. The estimation utilised the de-clustered data and all the estimation included the 4E, Pt, Pd, Rh, Au and Mining Cut.

Sample search parameters were based on the variograms per domain and the minimum and maximum number of samples were selected. The 2nd search range was set to 1.5 times the range and the 3rd search to 4 times the range for the inferred mineral resource with a minimum of two drillholes. The search parameters are summarised in Table 20.

Table 20: Search Parameters

Element	Search 1			Search 2 (1.5 x Range)			Search 3 (4 x Range)		
	Range	Min Sample	Max Sample	Range	Min Sample	Max Sample	Range	Min Sample	Max Sample
4E	1032	6	16	1548	4	16	4129	2	16
Pt	1248	6	16	1872	4	16	4993	2	16
Pd	1250	6	16	1875	4	16	5000	2	16
Rh	1088	6	16	1632	4	16	4352	2	16
Au	1118	6	16	1677	4	16	4472	2	16
Mine Cut	1248	6	16	1872	4	16	4993	2	16

Due to the lack of total datasets from the elements the final estimation is based on the total 4E. Figure 27 and Figure 28 show the 4E estimation and the Resource Mine cut across the Project Area.

Figure 27: 4E Estimation

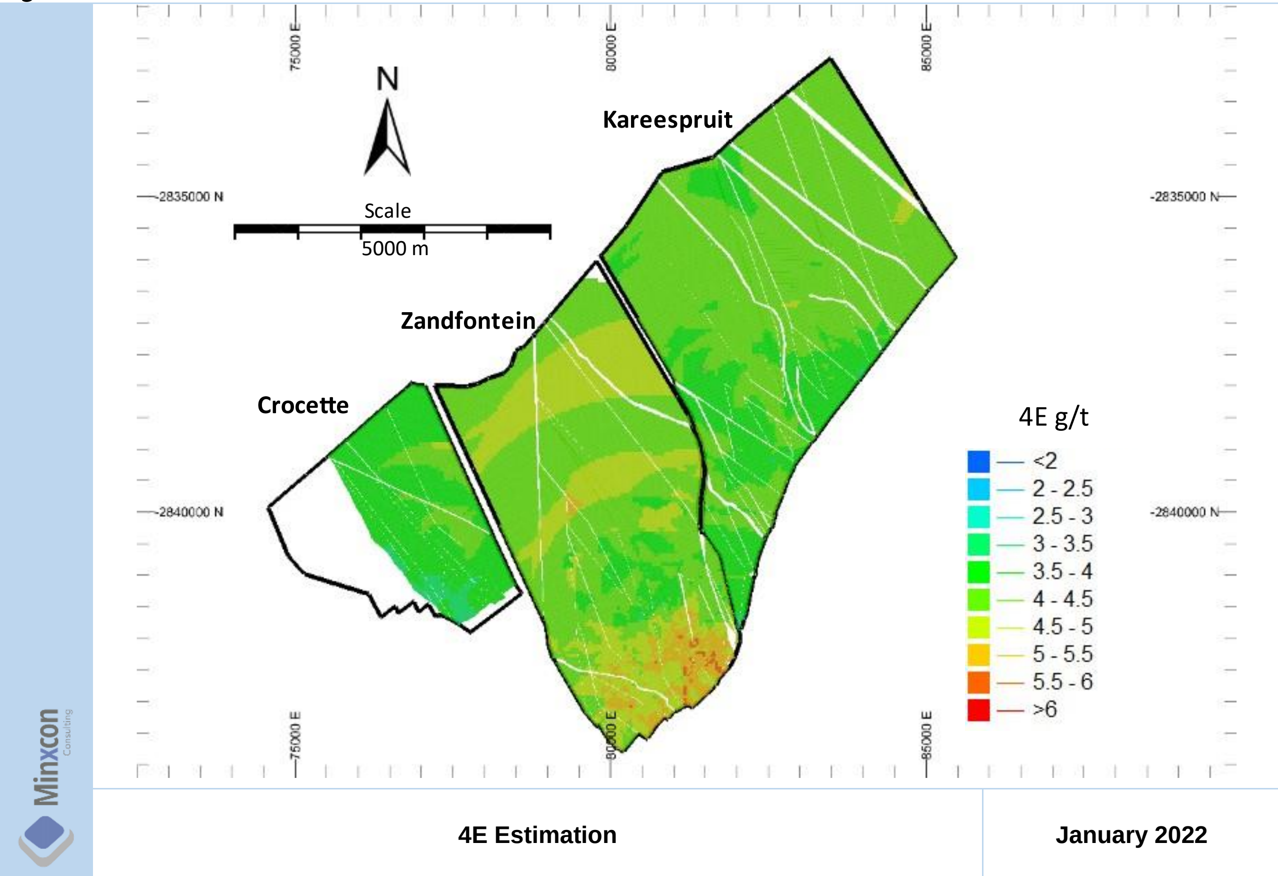
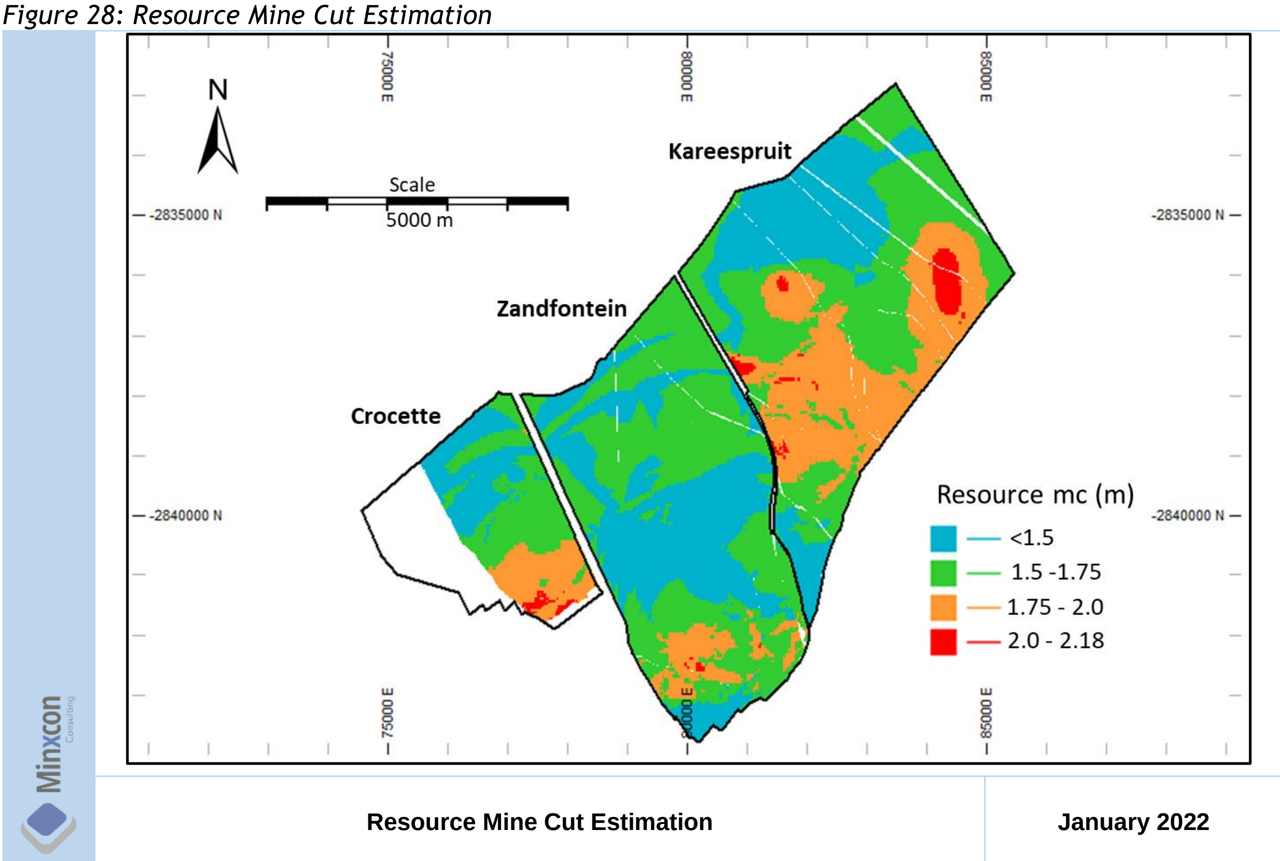


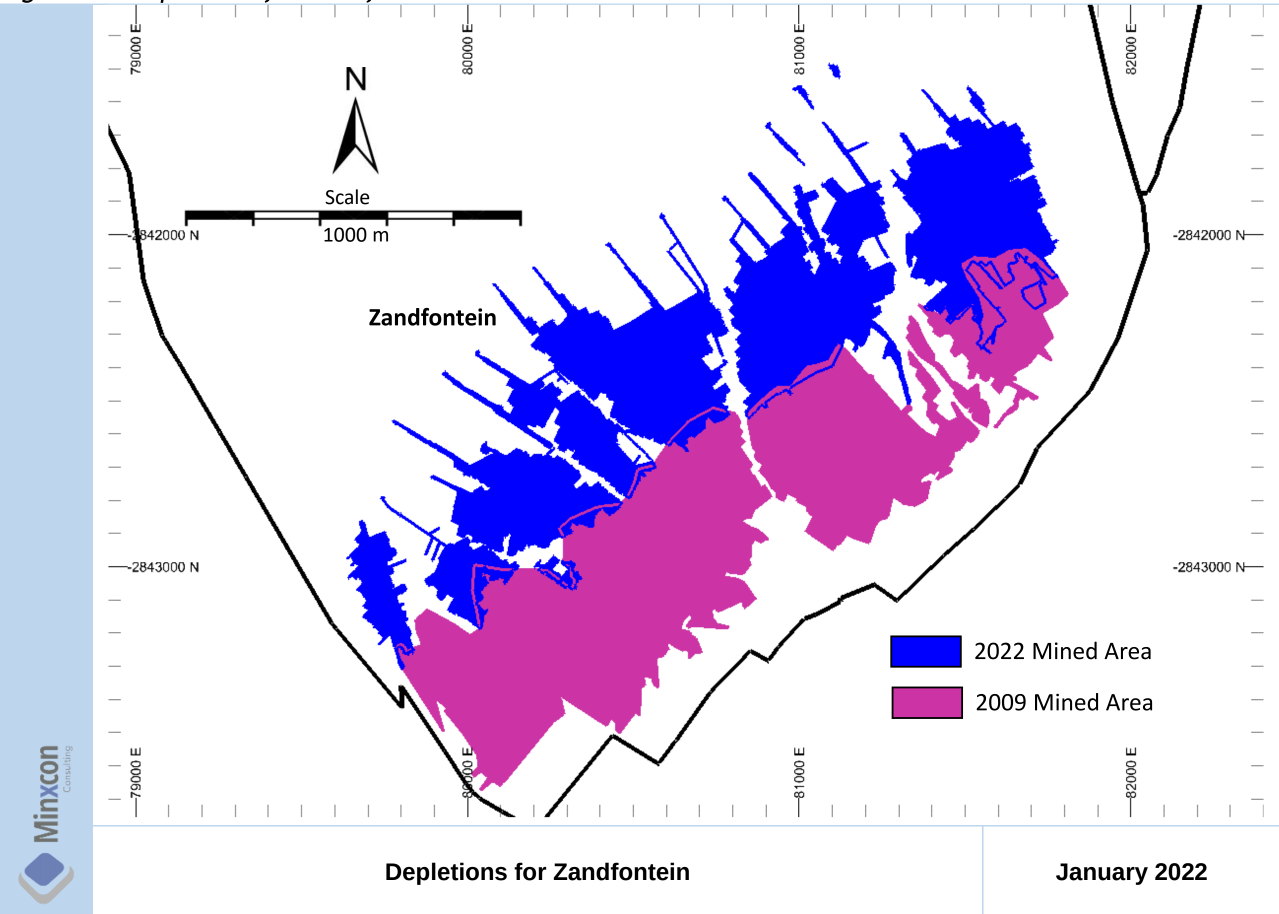
Figure 28: Resource Mine Cut Estimation



7.1.10 Mining Depletions

Depletions for Zandfontein were supplied in the form of digital captured face advances. The new depletions and the historic depletions have been combined to create a final depletion. Figure 29 shows the depletions that have been removed from the declaration.

Figure 29: Depletions for Zandfontein

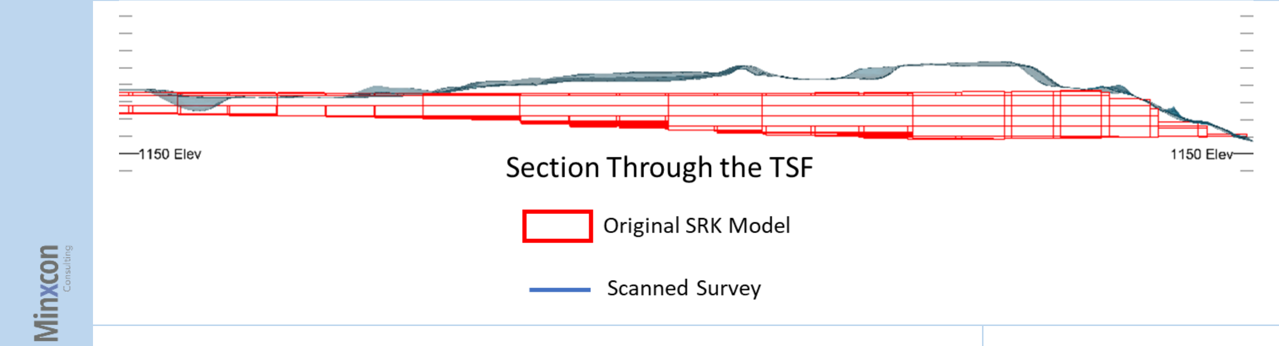


7.1.11 TSF Estimation

The TSF was estimated by SRK prior to the reprocessing of the material. The model used drillholes that were done over the TSF and estimated using Ordinary Kriging. For the purpose of this report the TSF was not re estimated and only depletions were calculated.

During the investigation of the model and the depletions it was noted that the model did not fill the available voids supplied by Sound Mining. The discrepancy was a result of a large area of tailings had been moved to on to the top of the existing tailing (Figure 30).

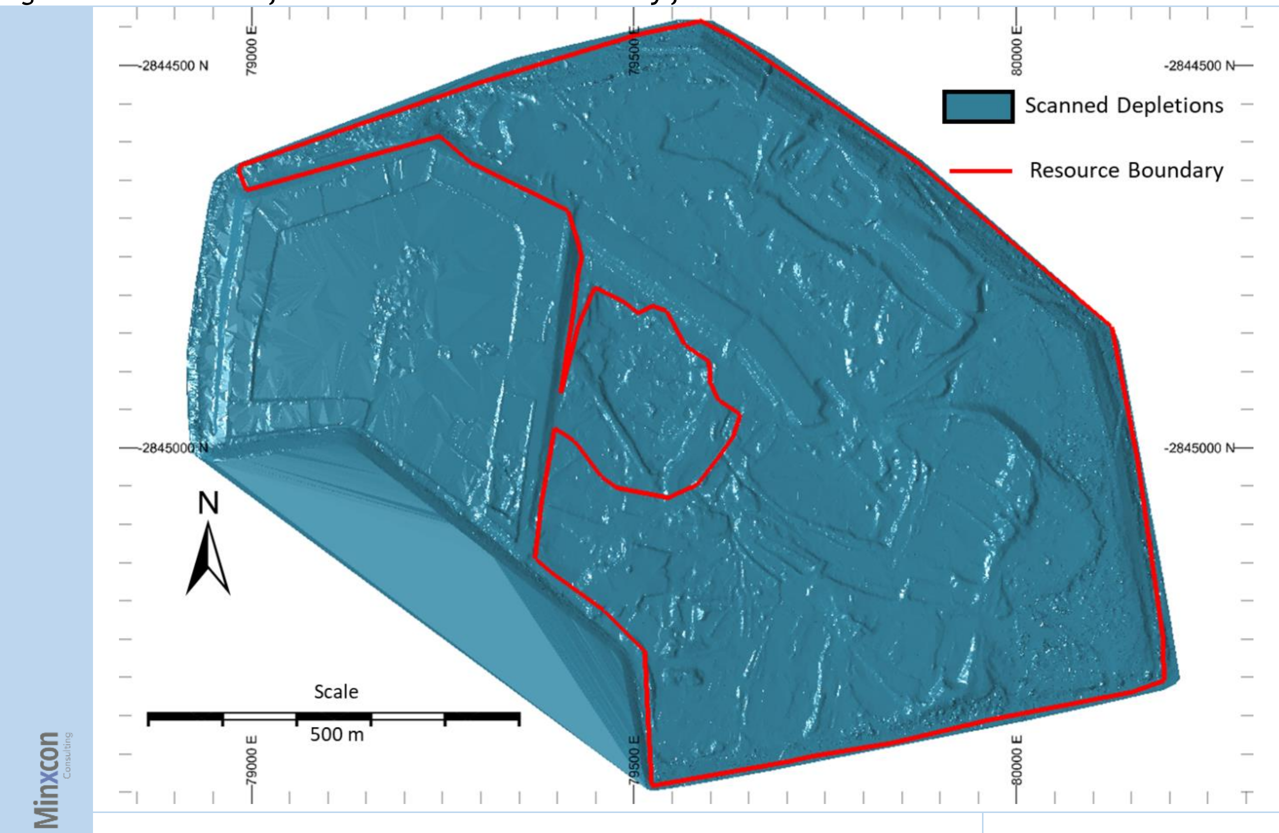
Figure 30: Section Through the TSF Looking North



Section Through the TSF Looking North | **January 2022**

The TSF was depleted using the January 2022 scan and the volumes of the rework material was calculated based on the difference between the original model and the scanned surface. The Figure 31 shows the area included in the declaration as the material excluded from the boundary has been confirmed as being depleted and re deposited in the TSF area.

Figure 31: Plan View of the Mineral Resource Boundary for the TSF



Plan View of the Mineral Resource Boundary for the TSF | **January 2022**

The material that was moved from the area to the southwest and re deposited onto the original TSF was evaluated and the mean grades which were allocated to the excess voids and declared as reworked material.

7.1.12 Cut-off Parameters

For the purpose of cut-off calculations, the following parameters were used for the underground operation. A basket price of 32,783 ZAR/oz based on a 90th Percentile Forecast and prill split. Operating cost of 1,120 ZAR/t based on conventional underground UG2 mining. Plant treatment costs excluding smelter and refinery cost of 200 ZAR/t. A Mine call factor of 100%, payability factor of 85% and a recovery of 90%. With the use of these factors a cut off of 1.7 g/t has been calculated. This is summarised in Table 21.

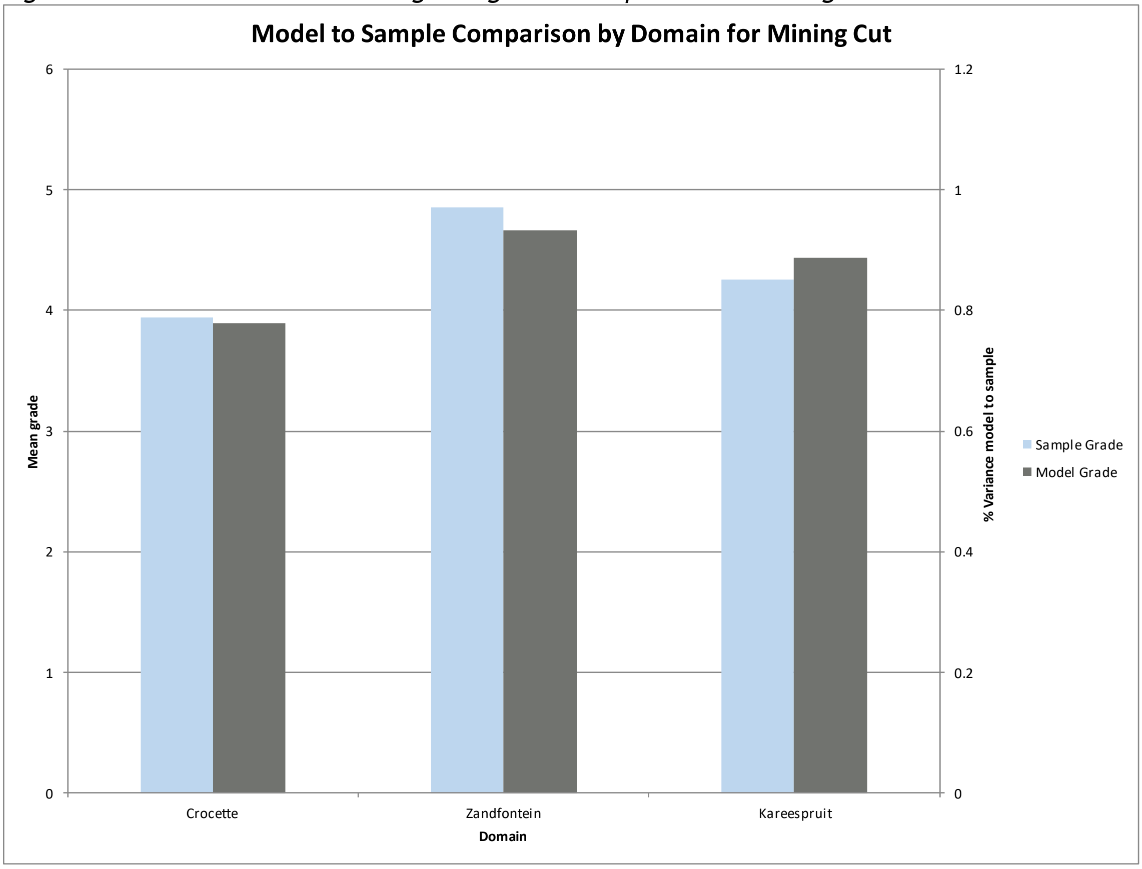
Table 21: Cut-Off Parameter Constraints

Parameter	Unit	UG2	Comment
Metal basket price	R/g	1,054	Based on the 90th percentile and prill splits
Operating cost	R/t	1,120	UG2 conventional
Treatment cost	R/t	200	No smelter and refinery costs
Mine call factor	%	100%	
Payability	%	85%	Discount for toll treatment
Recovery	%	90%	Recovery

7.1.13 Block Model Validation

The block model estimates were validated by several checks. A visual check was conducted on the model o by means of reviewing estimated block model grade versus the drillholes. Swath plot analysis were conducted from West to East (Figure 35) and South to North (Figure 33), comparing the estimated grade of the model per swath with the drillhole assay value per swath. Figure 34 and Figure 36 show the swaths in plan view. In general, the swath analysis shows a good agreement of the estimated grades and the drillhole grades. The mean grades were also compared per domain to check the estimation and show a good correlation with the estimation as shown in Figure 32.

Figure 32: Estimated Model Mean grade g/t vs. Sample Mean Grade g/t



The Swath plot of the model estimation versus the de-clustered samples show a good correlation across the Project Area and is represented in the Figure 35 that are based on a 200 m swath from west to east and south to north in Figure 33.

Figure 33: Swath Plot South to North (PB,Pt,4E and Mine Cut)

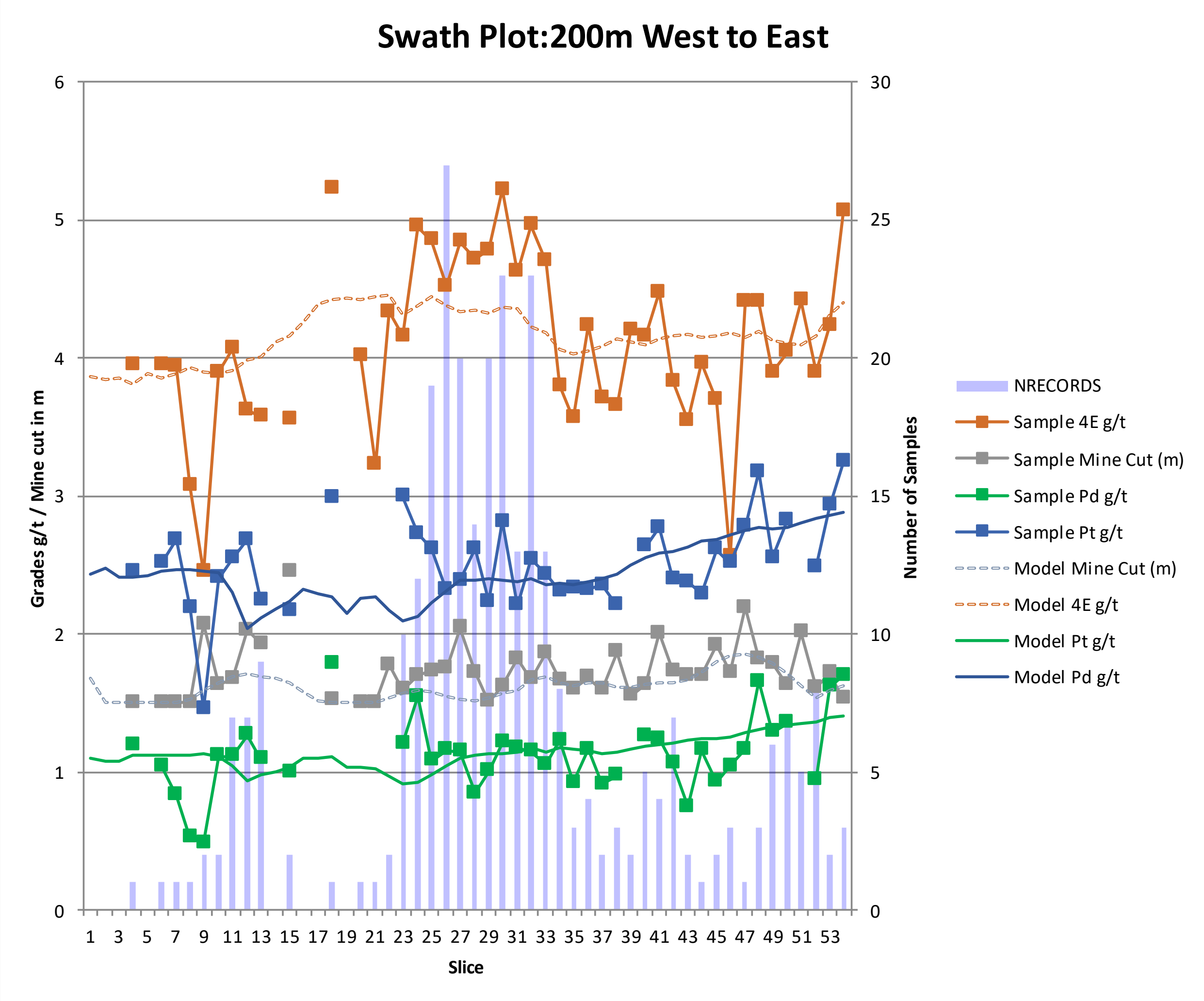
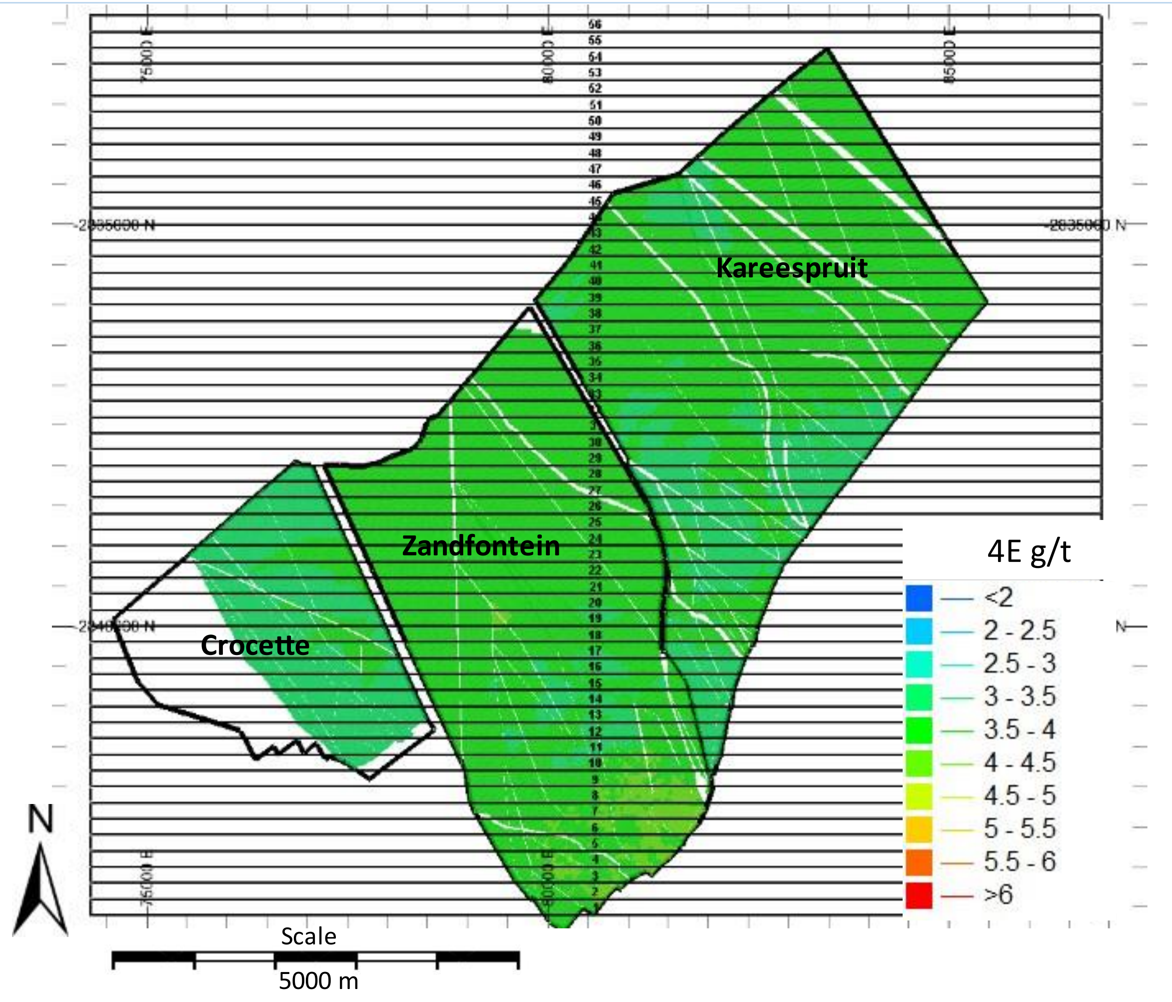


Figure 34: 200 m Swath 1 to 55 South to North



200 m Swath 1 to 55 South to North	January 2022

Figure 35: Swath Plot West to East (Pd, Pt, 4E and Mine Cut)

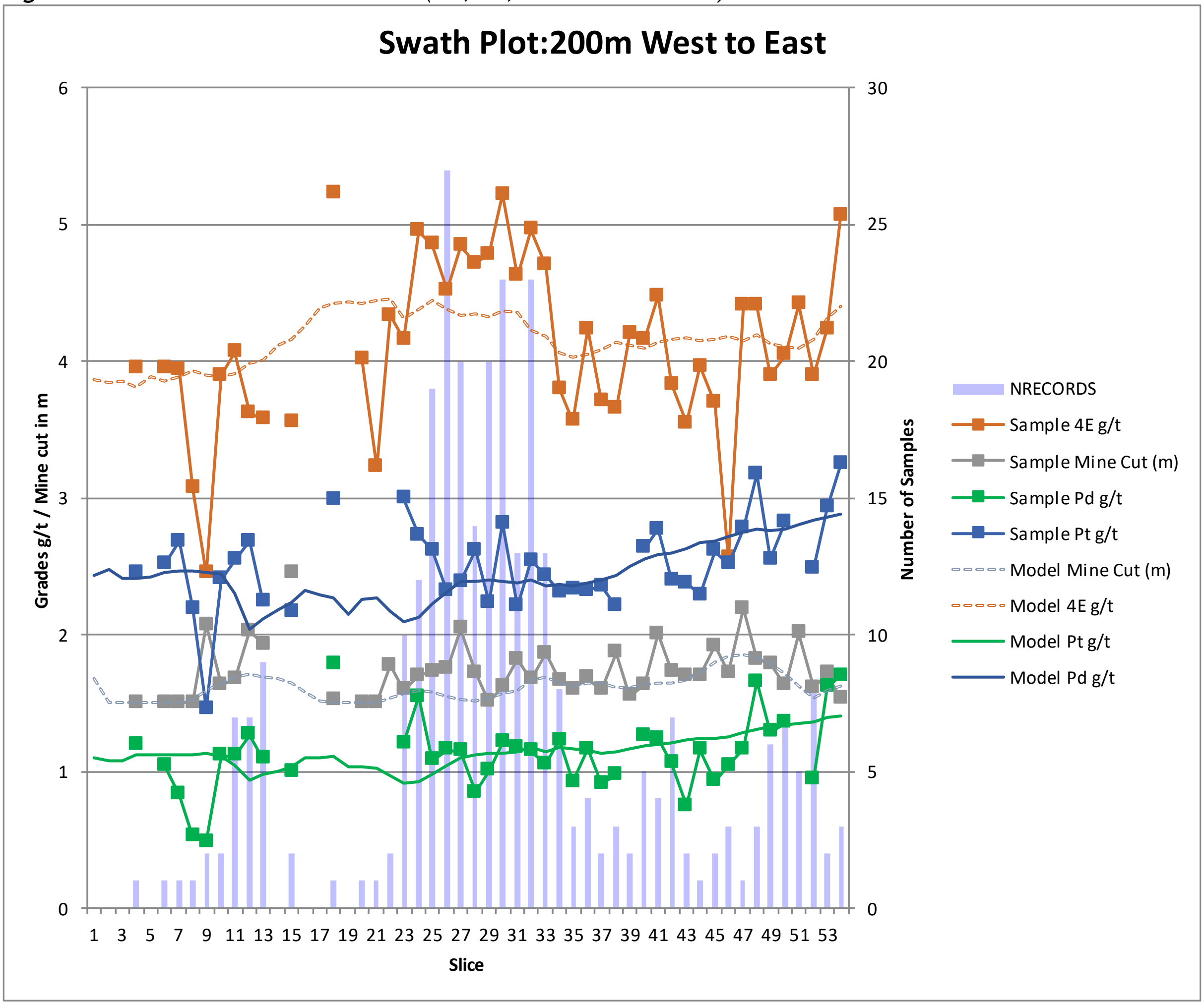
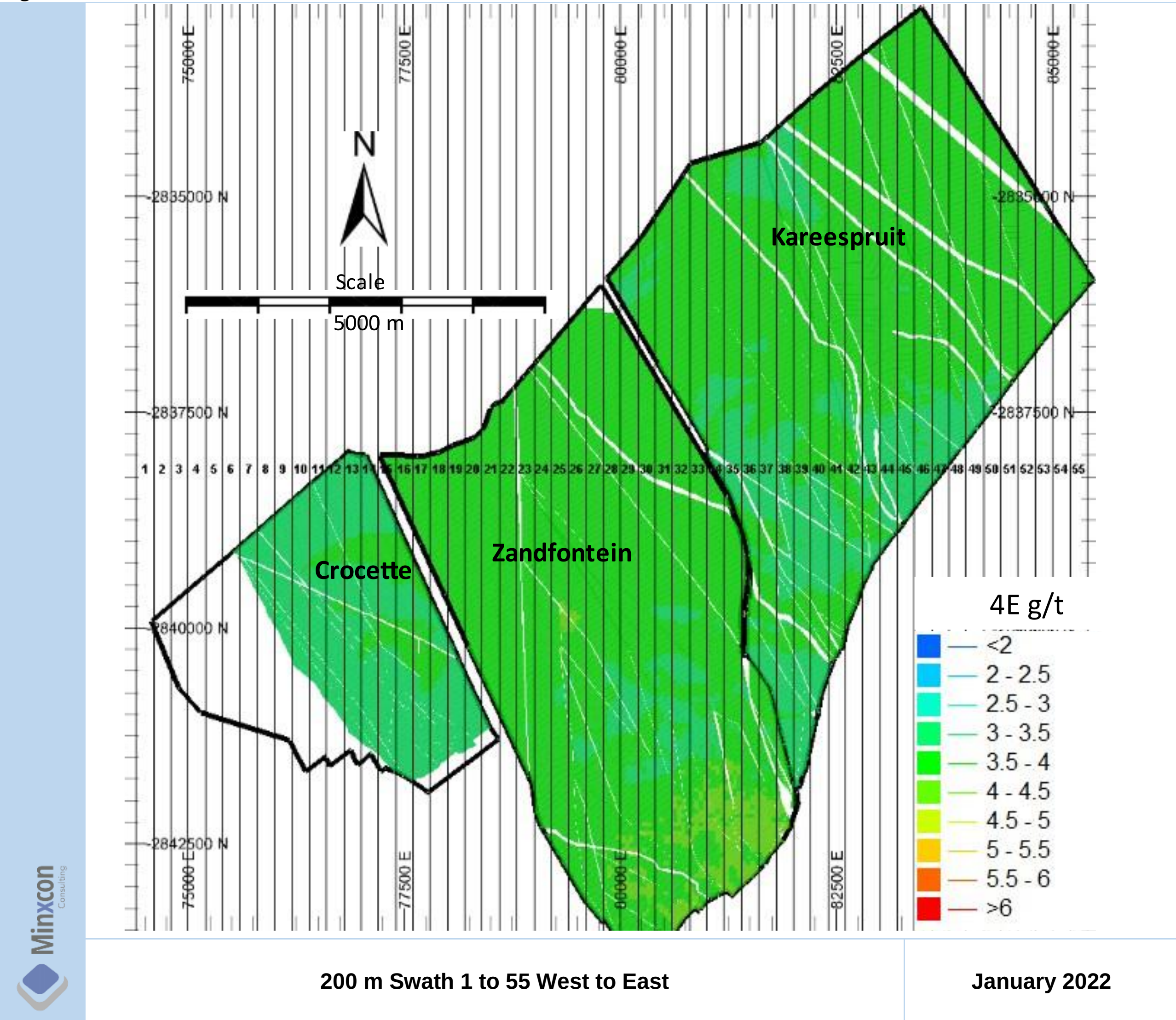


Figure 36: 200 m Swath 1 to 55 West to East



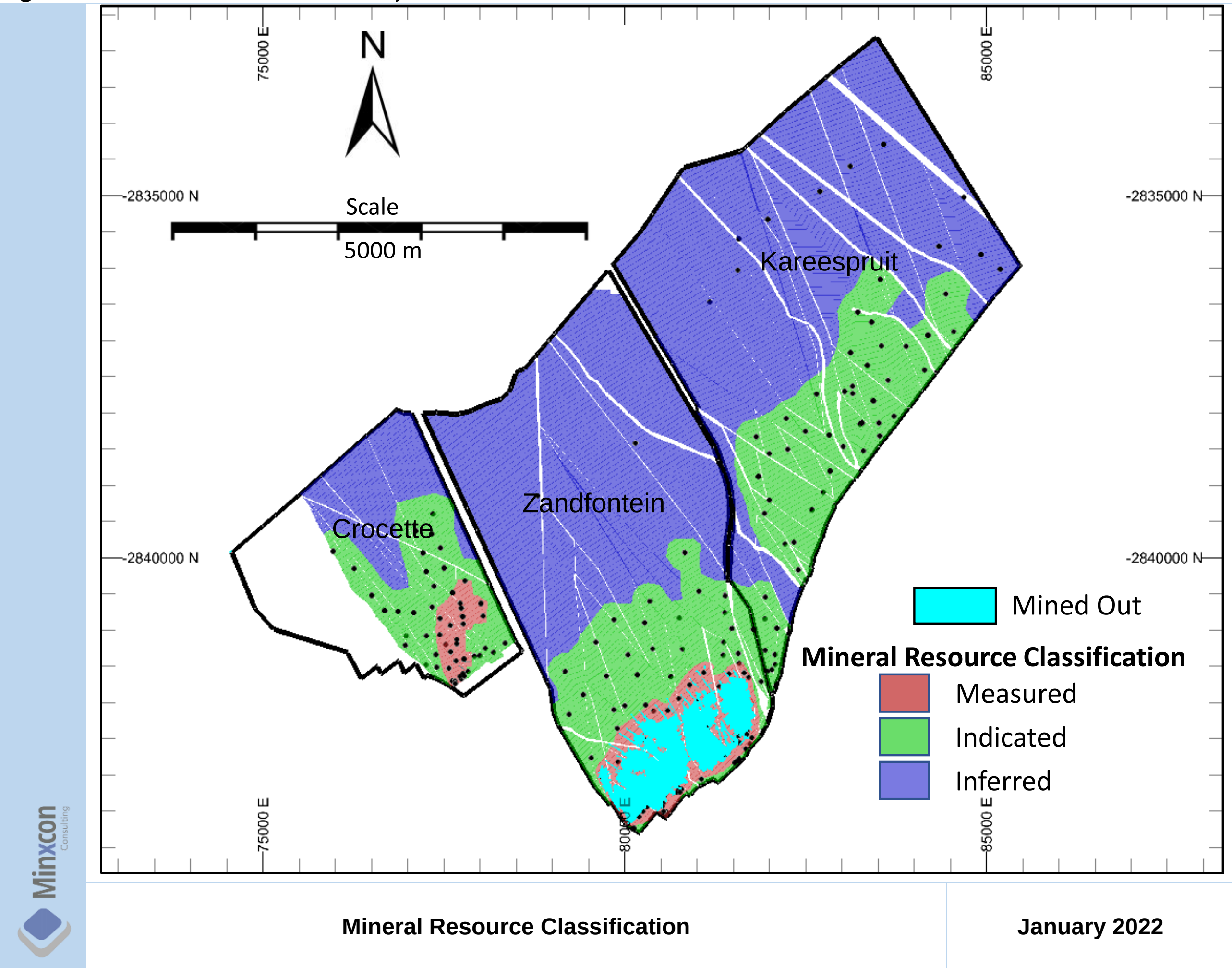
7.2 Mineral Resource Classification Criteria

SC 4.4 (i)

All Mineral Resources have been categorised and reported in compliance with the definitions embodied in the SAMREC Code. Mineral Resources have been reported separately in the Measured, Indicated and Inferred Mineral Resource categories. Inferred Mineral Resources have been reported separately and have not been incorporated with the Measured and Indicated Mineral Resources.

The Mineral Resource classification uses the number of samples, number of drillholes and the range of the variogram to inform the Mineral Resource. Measured Mineral Resource is based on the stope sample variogram range of 360 m for the 4E, a minimum 6 de-clustered points with in the first variogram range and an additional boundary is the proximity to historical mining of 100 m. Indicated Mineral Resource is based on 1.5 times the variogram range (1,500 m), a minimum of four de-clustered sample points, and within 250 m from the de-clustered datapoint. The average distance between drillholes in the Indicated Mineral Resource is 450 m. The Inferred Mineral Resources is a maximum of four times the variogram range with a minimum of two de-clustered sample points. The boundaries were hard coded into the model and reported on and are presented in Figure 37.

Figure 37: Mineral Resource Classification

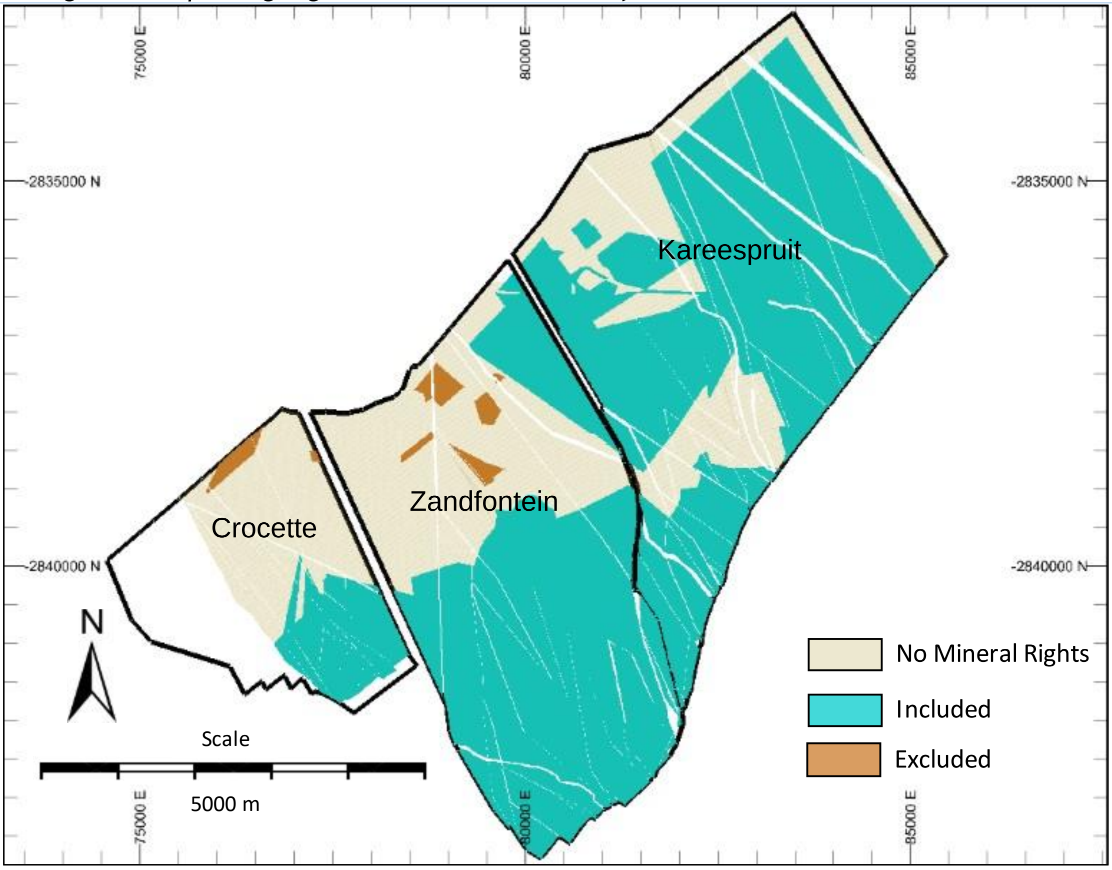


7.3 Reasonable and Realistic Prospects for Eventual Economic Extraction

SC 4.3 (i)-(ix)

The Mineral Resource for the UG2 has been estimated to the farm boundaries however after a review of the current mining rights and prospecting rights many of the previous prospecting right are no longer active. This has resulted in the Mineral Resource being confined to a smaller area. Figure 38 shows only the portion of the estimation within the mining and prospection rights. It should be noted that the smaller prospecting rights have also been excluded due to the size and would not be economically mined if treated as individual prospects as per the guidelines for Reasonable Prospect of Eventual Economic Extraction ("RPEEE"). The total excluded in these smaller prospects is in Table 22 and have been removed from the declaration.

Figure 38: Mining and Prospecting Rights 2022 with Exclusions from the Mineral Resource Declaration



Mining and Prospecting Rights 2022 with Exclusions from the Mineral Resource Declaration	January 2022

Table 22: Portion of the Mineral Resource Excluded due to RPEEE

Mine Area	Mineral Resource Class	Geo Loss Tonnes	Mine Cut	4E	Pt	Pd	Rh	Au	4E Content	
		kt	m	g/t	g/t	g/t	g/t	g/t	kg	Moz
Crocette	Inferred	806	1.47	3.92	2.43	1.07	0.39	0.03	3,157	0.10
Zandfontein	Inferred	2,084	1.52	4.59	2.85	1.25	0.45	0.04	9,560	0.31
Grand Total		**2,890**	**1.50**	**4.40**	**2.73**	**1.20**	**0.43**	**0.03**	**12,717**	**0.41**

Paraphrasing SAMREC Code: Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories. An Inferred Mineral Resource has a lower level of confidence than that applied to an Indicated Mineral Resource. An Indicated Mineral Resource has a higher level of confidence than an Inferred Mineral Resource but has a lower level of confidence than a Measured Mineral Resource. A Mineral Resource is a concentration or occurrence of solid material of economic interest in or on the earth's crust in such form, grade or quality and quantity that there are *reasonable prospects for eventual economic extraction*. The location, quantity, grade or quality, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling. The location, quantity, grade or quality, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling".

Inferred Mineral Resource

An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity.

An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

Indicated Mineral Resource

An Indicated Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit.

Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation.

An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Mineral Reserve.

Measured Mineral Resource

A Measured Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit.

Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation.

A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proven Mineral Reserve or to a Probable Mineral Reserve.

The "RPEEE" requirement imply that the quantity and grade estimates meet certain economic thresholds and that the Mineral Resources are reported at an appropriate cut-off grade considering extraction scenarios and processing recoveries. To meet this requirement, Minxcon considers that the Eastern Platinum Mineral Resource is suitable to underground mining and has applied suitable constraints accordingly.

It is Minxcon's view that based upon the information provided to Minxcon by Eastplats, no undue material risks pertaining to metallurgical, environmental, legal, title, taxation, socio-economic, marketing, political, and other relevant issues are applicable to the Mineral Resource estimates as at as at 1 January 2022.

However, the permitting of the prospecting rights that have expired has had a significant impact on the Mineral Resource declaration.

7.4 By-products or Deleterious Elements

SC 4.2 (vi)
SC 5.1 (ii)

The CRM processing plant produces two products, a chrome concentrate and two PGM concentrates. No deleterious elements or additional by-products have been identified or included in this estimation.

7.5 Mineral Resource Statement

SC 4.5 (iv)(iii)(v)(vii)
SC 5.2 (i)
SV T1.9

Table 24 presents the Mineral Resource at a 4E cut-off of 1.7 g/t, the individual grades are based on the prill split percentages. Geological losses of 25% have been applied for all Mineral Resource classification. Mineral Resources are stated as *in situ* values.

The ounce content conversion calculations utilise a conversion of 1 kg = 32.15076 oz and all tonnages are reported in metric tonnes. Inferred Mineral Resources have a low level of confidence and while it would be reasonable to expect that the majority of Inferred Mineral Resources would upgrade to Indicated Mineral Resources with continued exploration, due to the uncertainty of Inferred Mineral Resources, it should not be assumed that such upgrading will occur. Table 25 show the Inferred Mineral Resource only. The individual Pt, Pd, Rh and Au values are based on the prill split derived from the composited individual channel grades of the drillholes. The prill split is presented in Table 23.

Table 23: Prill Split Percentages

4E	Unit	New 4E	Historic 4E	6E	Unit	Historic 6E	New 6E
Pt	%	62.05%	61.87%	Pt	%	50.31%	50.46%
Pd	%	27.32%	27.25%	Pd	%	22.16%	22.22%
Rh	%	9.86%	10.42%	Rh	%	8.47%	8.02%
Au	%	0.77%	0.47%	Au	%	0.38%	0.63%
4E	**%**	**100.00%**	**100.00%**	Ru	%	3.68%	3.68%
				Ir	%	15.00%	15.00%
				6E	**%**	**100.00%**	**100.00%**

Table 24: Measured and Indicated Mineral Resource of the Mining Cut at a 1.7 g/t 4E Cut-off as at 1 January 2022

Mine Area	Mineral Resource Class	Geo Loss Tonnes	Mine Cut	4E	Pt	Pd	Rh	Au	4E Content	
		kt	m	g/t	g/t	g/t	g/t	g/t	kg	Moz
Crocette	Measured	3,646	1.86	3.71	2.30	1.01	0.37	0.03	13,516	0.43
Zandfontein		6,688	1.66	4.85	3.01	1.33	0.48	0.04	32,463	1.04
Grand Total		**10,335**	**1.73**	**4.45**	**2.76**	1.22	0.44	0.03	45,979	**1.48**
Crocette	Indicated	7,087	1.84	3.70	2.29	1.01	0.36	0.03	26,197	0.84
Zandfontein		21,371	1.56	4.24	2.63	1.16	0.42	0.03	90,636	2.91
Kareespruit		25,243	1.74	4.01	2.49	1.09	0.40	0.03	101,142	3.25
Grand Total		**53,701**	**1.68**	**4.06**	**2.52**	**1.11**	**0.40**	**0.03**	**217,975**	**7.01**
Crocette	M & I	10,733	1.85	3.70	2.30	1.01	0.36	0.03	39,712	1.28
Zandfontein		28,059	1.59	4.39	2.72	1.20	0.43	0.03	123,099	3.96
Kareespruit		25,243	1.74	4.01	2.49	1.09	0.40	0.03	101,142	3.25
Grand Total		**64,036**	**1.69**	**4.12**	**2.56**	**1.13**	**0.41**	**0.03**	**263,954**	**8.49**

Notes:-

1. Mineral Resource Cut-off of 1.7 g/t 4E applied.
2. Columns may not add up due to rounding.
3. Mineral Resources are stated as inclusive of Mineral Reserves.
4. Mineral Resources are reported as total Mineral Resources and not attributed.

Table 25: Inferred Mineral Resource of the Mining Cut at a 1.7 g/t 4E Cut-off as at 1 January 2022

Mine Area	Mineral Resource Class	Geo Loss Tonnes	Mine Cut	4 E	Pt	Pd	Rh	Au	4E Content	
		kt	m	g/t	g/t	g/t	g/t	g/t	kg	Moz
Crocette	Inferred	32	1.62	3.91	2.43	1.07	0.39	0.03	124	0.00
Zandfontein		22,550	1.46	4.45	2.76	1.22	0.44	0.03	100,390	3.23
Kareespruit		57,992	1.65	4.16	2.58	1.14	0.41	0.03	241,484	7.76
Grand Total		**80,573**	**1.60**	**4.24**	**2.63**	**1.16**	**0.42**	**0.03**	**341,998**	**11.00**

Notes:-

1. Mineral Resource Cut-off of 1.7 g/t 4E applied.
2. Columns may not add up due to rounding.
3. Mineral Resources are stated as inclusive of Mineral Reserves.

The TSF Mineral Resources are stated at no cut-off as all the material will be processed (Table 26). The rework material that has been declared, is the material that was moved from the original TSF to the southwest to make space available for the reprocessed material to be redeposited. The mean grade of this material was calculated, and classification was downgraded from a Measured to Indicated Mineral Resource. The Mineral Resource statement excludes PGMs from tailings already re-mined prior to the re-start of the PGM plants.

Table 26: Mineral Resource of the TSF where No Cut-off is applied (SRK 2017)

Mineral Resource Class	Tonnes	3 E	Pt	Pd	Rh	Au	Cr_2O_3	FeO	Cr2O3	FeO
	kt	g/t	g/t	g/t	g/t	g/t	%	%	Kt	Kt
Measured	4,594	1.17	0.71	0.29	0.17	0.01	19.54	15.16	898	697
Indicated	1,049	1.14	0.69	0.29	0.17	0.01	19.21	15.03	202	158
Total in Model	**5,643**	**1.16**	**0.70**	**0.29**	**0.17**	**0.01**	**19.48**	**15.14**	**1,099**	**854**
Reworked Added (Indicated)	1,545	1.18	0.72	0.30	0.17	0.01	18.50	14.50	286	224
Total Measured	**4,594**	**1.17**	**0.71**	**0.29**	**0.17**	**0.01**	**19.54**	**15.16**	**898**	**697**
Total Indicated	**2,594**	**1.16**	**0.71**	**0.29**	**0.17**	**0.01**	**18.79**	**14.71**	**487**	**382**
Total TSF	**7,188**	**1.17**	**0.71**	**0.29**	**0.17**	**0.01**	**19.27**	**15.00**	**1,385**	**1,078**

7.6 Mineral Resource Reconciliation

SC 4.5 (vi)

The reconciliation of the previous 2010 declared Mineral Resource for the UG2 as per Brian Montpellier November 2010 and the current Mineral Resource is presented in Table 27. The reconciliation is based on the mining cut declared tables and it is uncertain how the mining cut was defined. It should be noted that the differences between the declarations are accounted for in the movement of the Mineral Classification boundaries, due to the depletions on Zandfontein and further changes have occurred in the Mining and Prospecting rights. The changes in estimation technique from Simple Kriging to Ordinary Kriging and the inclusion of the underground stope sampling has affected the grade in the Measured Mineral Resource Classification at Zandfontein with a 15% increase in the 4E grade.

Table 27: Mineral Resource Reconciliation of the UG2

Mine Area	Mineral Resource Class	Geo Loss Tonnes	Mine Cut	4E	Pt	Pd	Rh	Au	4E	
		kt	m	g/t	g/t	g/t	g/t	g/t	kg	Moz
2010										
All	Measured	9,054	1.56	4.00	2.52	1.03	0.42	0.02	47,123	1.47
All	Indicated	51,930	1.54	4.03	2.54	1.05	0.42	0.02	215,725	6.71
Total	**M&I**	**60,984**	**1.54**	**4.02**	**2.53**	**1.04**	**0.42**	**0.02**	**253,194**	**7.88**
All	Inferred	93,457	1.54	4.05	2.55	1.05	0.42	0.02	390,963	12.16
2022										
All	Measured	10,335	1.73	4.45	2.47	1.10	0.38	0.03	45,979	1.48
All	Indicated	53,701	1.68	4.06	2.41	1.03	0.39	0.03	217,975	7.01
Total	**M&I**	**64,036**	**1.69**	**4.12**	**2.42**	**1.04**	**0.39**	**0.03**	**263,954**	**8.49**
All	Inferred	80,573	1.60	4.24	2.63	1.16	0.42	0.03	341,998	11.00

8 TECHNICAL STUDIES

SC 5.8 (i)-(iv)

8.1 Introduction

8.1.1 Study Level

SC 5.1 (i)

The study level of the various components of the study are detailed in Table 28, Table 29 and Table 30, where "PFS" is pre-feasibility study and "FS" is feasibility study.

Table 28: General Items Study Level Assessment

General	Status	Study Level	Comment
Mineral Resource categories	Mostly Indicated	PFS	The areas that were targeted for mining were only Indicated and Measured Mineral Resources, with mostly Indicated Mineral Resource targeted.
Mineral Reserve Categories - Zandfontein Underground	Proved and Probable	PFS	The Mineral Reserve estimation contains both Proved and Probable Mineral Reserves. Diluted Measured Mineral Resources have been converted to Proved Mineral Reserves and diluted Indicated Mineral Resources have been converted to Probable Ore Reserves.
Mineral Reserve categories - TSF	Probable	PFS	The Mineral Reserve estimation contains only Probable Mineral Reserves. Diluted Measured and diluted Indicated Mineral Resources have been converted to Probable Mineral Reserves.
Mining Method and Geotechnical constraints	Existing underground and TSF operations, including technical studies which have been completed.	PFS	Technical studies to at least a PFS level of accuracy have been completed on both the underground and TSF operations.
Mine Design	Underground and TSF designs completed during previous technical studies, reviewed and utilised by Minxcon	PFS	Detailed underground and TSF designs have been completed by Ukwazi and Sound Mining Solutions respectively. The designs were reviewed and utilised by Minxcon.
LoM Scheduling	Monthly mining schedules completed for both Underground and TSF operations	PFS	Detailed monthly mining and plant feed scheduling according to the envisaged production rates. Annualised schedules for economic analysis.
Mineral Processing	Detailed and Optimised	PFS	Historic production statistic available
Permitting - (water, power, mining, prospecting & environmental)	Mining related licences are valid. A few prospecting and mining rights renewals are outstanding.	PFS	A few prospecting and mining rights were renewed several years ago, and the renewals have not been issued to date.
Social licence to operate	Social obligations in place as per approved SLP	FS	-
Infrastructure Design	Infrastructure Established and Operational	Execution	All major infrastructure is established and operations. (Historical operation) some repairs and minor upgrades to be done for efficient operation.

Table 29: Capital Cost Study Level Assessment

Capital Cost Category	Discipline	Status	Study Level	Comment
Civil/structural, architectural, piping/HVAC,	Mining	Infrastructure Established and Operational	Execution	All major infrastructure is established and operational. (Historical operation) some

Capital Cost Category	Discipline	Status	Study Level	Comment
electrical, instrumentation, construction labour, construction labour productivity, material volumes/amounts, material/equipment, pricing, infrastructure				repairs and minor upgrades to be done for efficient operation.
	Processing	Detailed from engineering at 20% - 50% complete, estimated material take-off quantities, and multiple vendor quotations	FS	Costs based on recent invoices from vendors for already installed equipment. Complete with transport and erection costs.
	TSF	TSF Existing. Remining Taking place at TSF. New tailings from retreatment place on new TSF area	Execution	In Operation
Contractors	Mining	Owner Operated.	FS	Costs based on Actual labour costs
	Processing	Owner Operated.	FS	Costs based on Actual labour costs
	TSF	Written quotes from contractor and subcontractors. Tailings management contractor appointed and operational	Execution	In Operation
Engineering, procurement, and construction management (EPCM)	Mining	N/A	N/A	-
	Processing	N/A	N/A	-
	TSF	N/A	N/A	-
Pricing	Mining	FOB mine site, including taxes and duties	FS	-
	Processing	FOB mine site, including taxes and duties	FS	-
	TSF	FOB mine site, including taxes and duties	FS	-
Owner's costs	Mining	Detailed Estimate	FS	Actual Owner's costs of existing underground operation.
	Processing	Detailed Estimate	FS	Actual Owner's costs of existing underground operation.
	TSF	Operational	Execution	-
Escalation	Mining	Escalation Applied	FS	Applicable escalation rates applied to dated costs utilised to obtain costs in 2022 terms. Financial modelling done in real terms
	Processing	Escalation Applied	FS	Applicable escalation rates applied to dated costs utilised to obtain costs in 2022 terms. Financial modelling done in real terms
	TSF	Escalation Applied	FS	Applicable escalation rates applied to dated costs utilised to obtain costs in 2022 terms. Financial modelling done in real terms
Accuracy Range (Order of magnitude)	Mining	±15-25%	PFS	Budget quotes for Mining Fleet, PFS mine design (Development) and scheduling.
	Processing	±15-25%	PFS	42% of capital cost are itemized with historic invoice costs, 58% of capital cost is quoted from vendors.
	TSF	Operational	Execution	-
Contingency Range (Allowance for items not	Mining	15-30%	PFS	Contingencies not applied directly on capital cost estimates but in financial model

Capital Cost Category	Discipline	Status	Study Level	Comment
specified in scope that will be needed)	Processing	15-30%	PFS	Contingencies not applied directly on capital cost estimates but in financial model
	TSF	Operational	Execution	-

Table 30: Operating Cost Study Level Assessment

Operating Cost Category	Discipline	Status	Study Level	Comment
Basis	Mining	First principle costing based on historic unit consumption of similar operations and current rates	PFS	-
	Processing	First principle costing based on historic unit consumption of similar operations and current rates	PFS	-
	TSF	Operational	Execution	-
Operating quantities	Mining	First principle quantification based on historic unit consumption of similar operations	PFS	-
	Processing	Based on historic operations	PFS	-
	TSF	Operational	Execution	-
Unit costs	Mining	First Principle Estimates for labour, power, and consumables, some factoring	PFS	-
	Processing	First principle costing based on historic unit consumption of similar operations and current rates	PFS	-
	TSF	Operational	Execution	-
Accuracy Range	Mining	15% - 30%	PFS	-
	Processing	10% - 20%	PFS	Combination of current mine budgets and actual costs
	TSF	Operational	Execution	-
	Other Costs	10% - 20%	PFS	Combination of current mine budgets and actual costs
Contingency Range (Allowance for items not specified in scope that will be needed)	Mining	20%	PFS	-
	Processing	10%	PFS	-
	TSF	10%	Execution	-
	Other Costs	10%	PFS	-

8.1.2 Modifying Factors Used to Convert Mineral Resource to Mineral Reserve

SC 5.1 (ii)

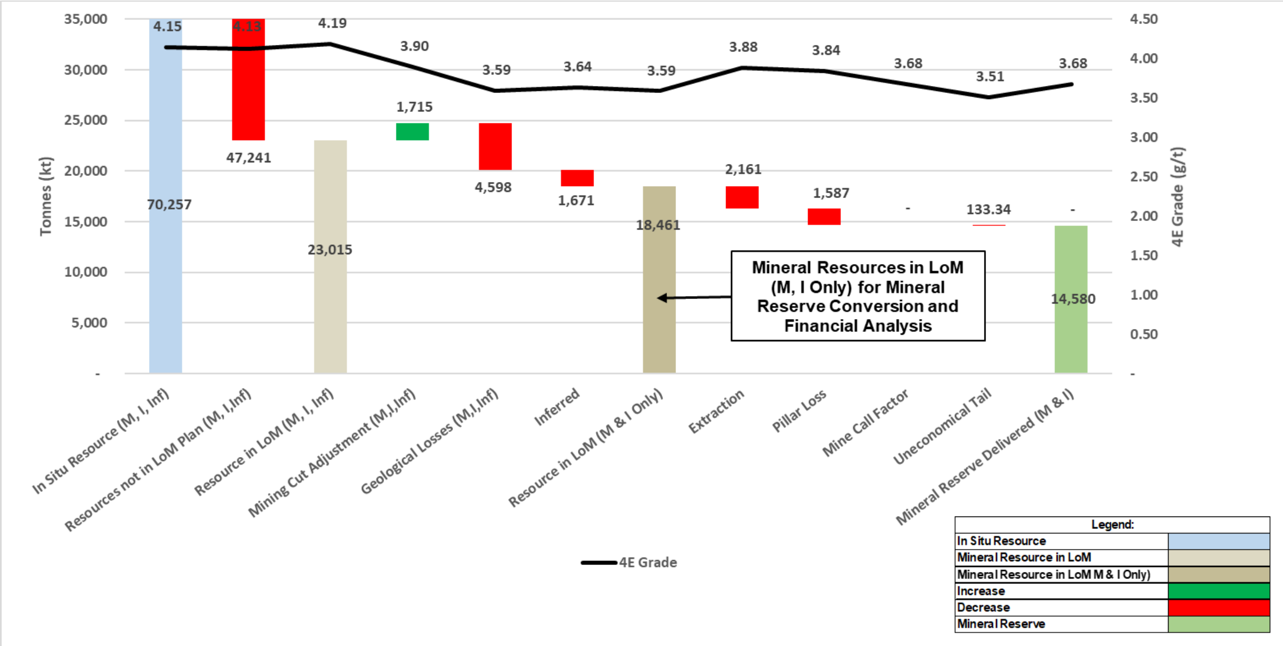
8.1.2.1 Underground Operations

The Mineral Resource to Mineral Reserve conversion is illustrated in Figure 39.

Diluted Measured Mineral Resources and diluted Indicated Mineral Resources have been converted to Proven and Probable Mineral Reserves, respectively. Inferred Mineral Resources have been excluded from the LoM plan for economic assessment for Mineral Reserve estimation.

An uneconomical tail has been excluded from the Mineral Reserve estimation. The tail contains 15.06 koz of 4E metals but is not economically viable on its own.

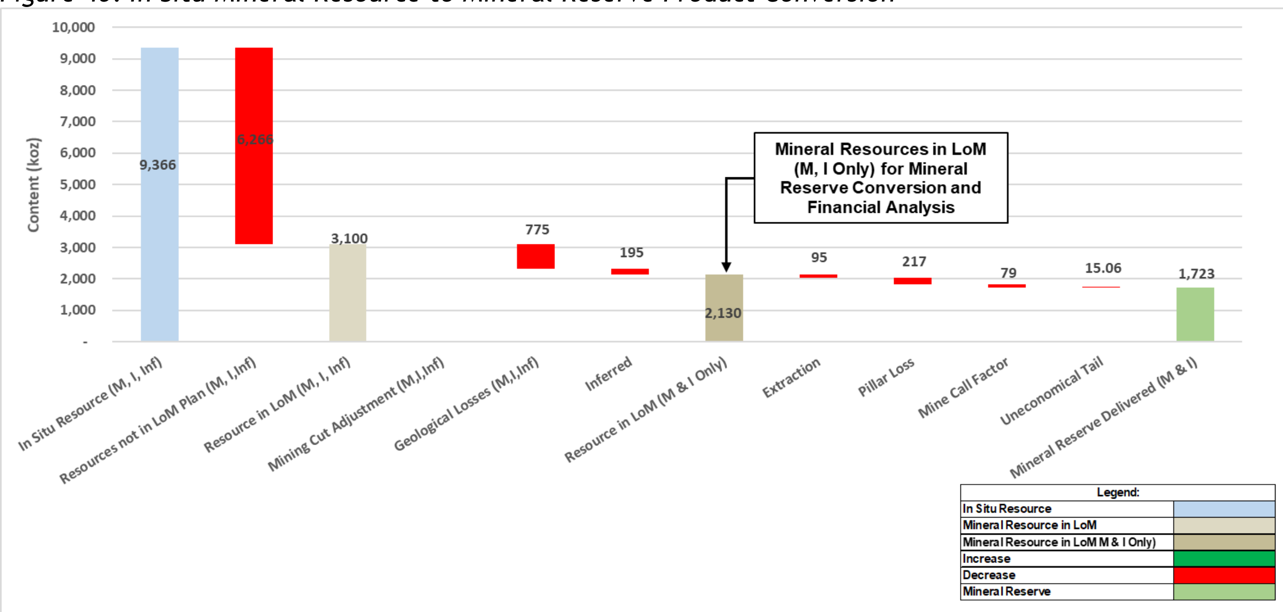
Figure 39: In Situ Mineral Resource to Mineral Reserve Conversion



The mining cut adjustment only influences the tonnes mined, but has no effect on the content, effectively diluting the grade. Geological losses, extraction (mining losses) and pillar loss discounts the tonnes and content equally. Mine call factor only discounts the content.

The Mineral Resource to Mineral Reserve product conversion is illustrated in Figure 40.

Figure 40: In Situ Mineral Resource to Mineral Reserve Product Conversion



The Mineral Reserve estimate for the Zandfontein underground operations as at 1 January 2022 is detailed in Table 31.

Table 31: Zandfontein Underground Operations Mineral Reserve Estimation as at 1 January 2022

Mineral Reserve Category	Delivered Tonnes	4E Grade	4E Content	
	kt	g/t	kg	koz
Proved	2,282	4.75	10,829	348
Probable	12,298	3.48	42,777	1,375
Total	**14,580**	**3.68**	**53,605**	**1,723**

Notes:

1. The Mineral Reserve estimation includes only diluted Measured and Indicated Mineral Resources which have been converted to Proved and Probable Mineral Reserves.
2. A portion of Inferred Mineral Resources are included in the LoM plan, as it is required to mine through Inferred portions to access Measured and Indicated Mineral Resources. These Inferred Mineral Resources have, however, been excluded in the Mineral Reserve estimation and in the economic analysis.
3. No Inferred Mineral Resources have been included in the Mineral Reserve estimation.
4. The Mineral Reserve estimation was completed using a 4E basket price of USD1,825/oz and exchange rate of 15.53 ZAR/USD.
5. An uneconomical tail of 133.34 kt at a 4E grade of 3.51 g/t, containing 15.06 koz has been excluded from the Mineral Reserve estimate.
6. The Mineral Reserves are reported as total Mineral Reserves and are not attributed.

The Zandfontein Mineral Reserve estimation consists of 16% Proved and 84% Probable Mineral Reserves.

8.1.2.2 TSF Re-mining Operations

Diluted Measured Mineral Resources and diluted Indicated Mineral Resources have been converted to Probable Mineral Reserves.

The mining losses discount the tonnes and content equally. The additional footwall material mined only influences the tonnes mined, but has no effect on the content, effectively diluting the grade. Vegetation removal only discounts the mined tonnes.

The Mineral Resource to Mineral Reserve conversion of the TSF re-mining operations is illustrated in Figure 41 and Figure 42.

The point of Mineral Reserve declaration for the TSF re-mining operation is material delivered to the plant. The assumption has been made that vegetation is removed prior to delivering material to the plant and that footwall material is removed during processing of the material delivered to the plant.

Figure 41: In Situ Mineral Resource to 4E Mineral Reserve Conversion for TSF Operations

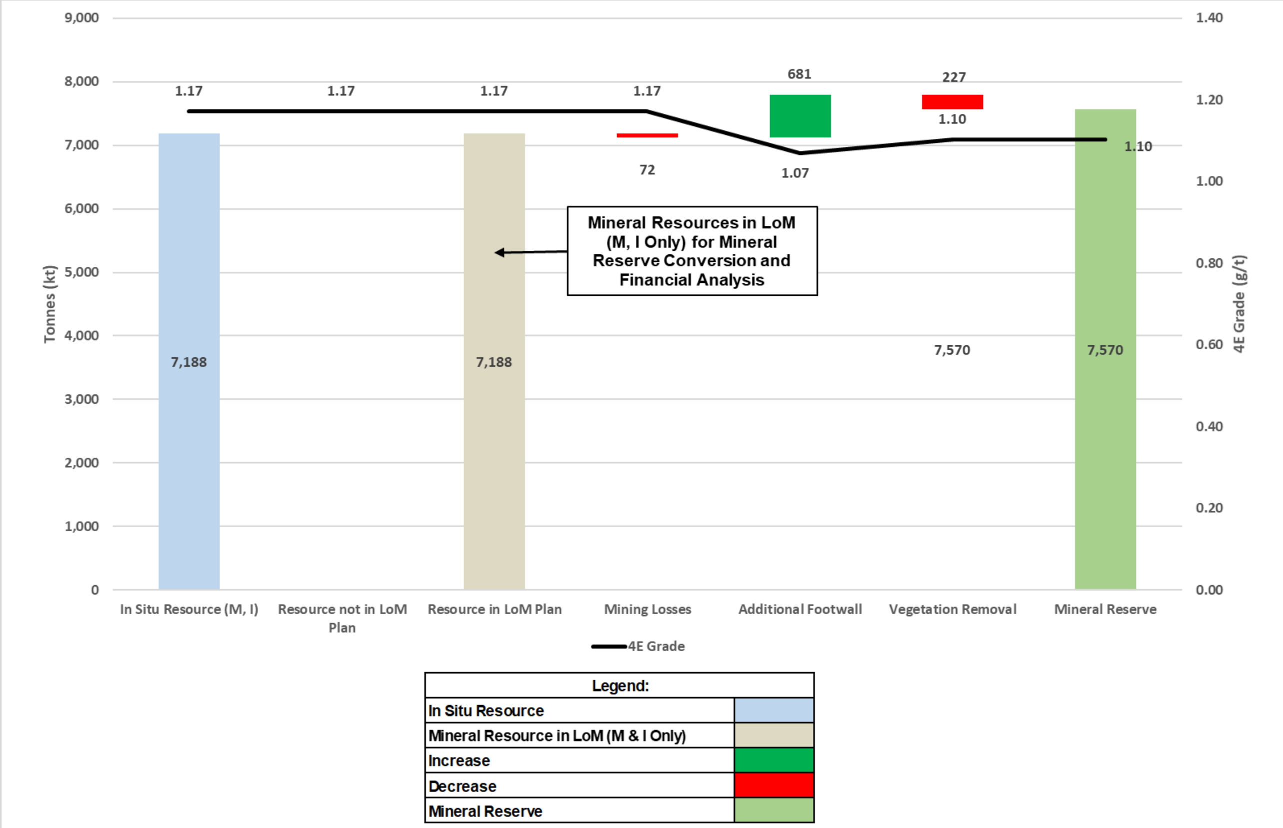
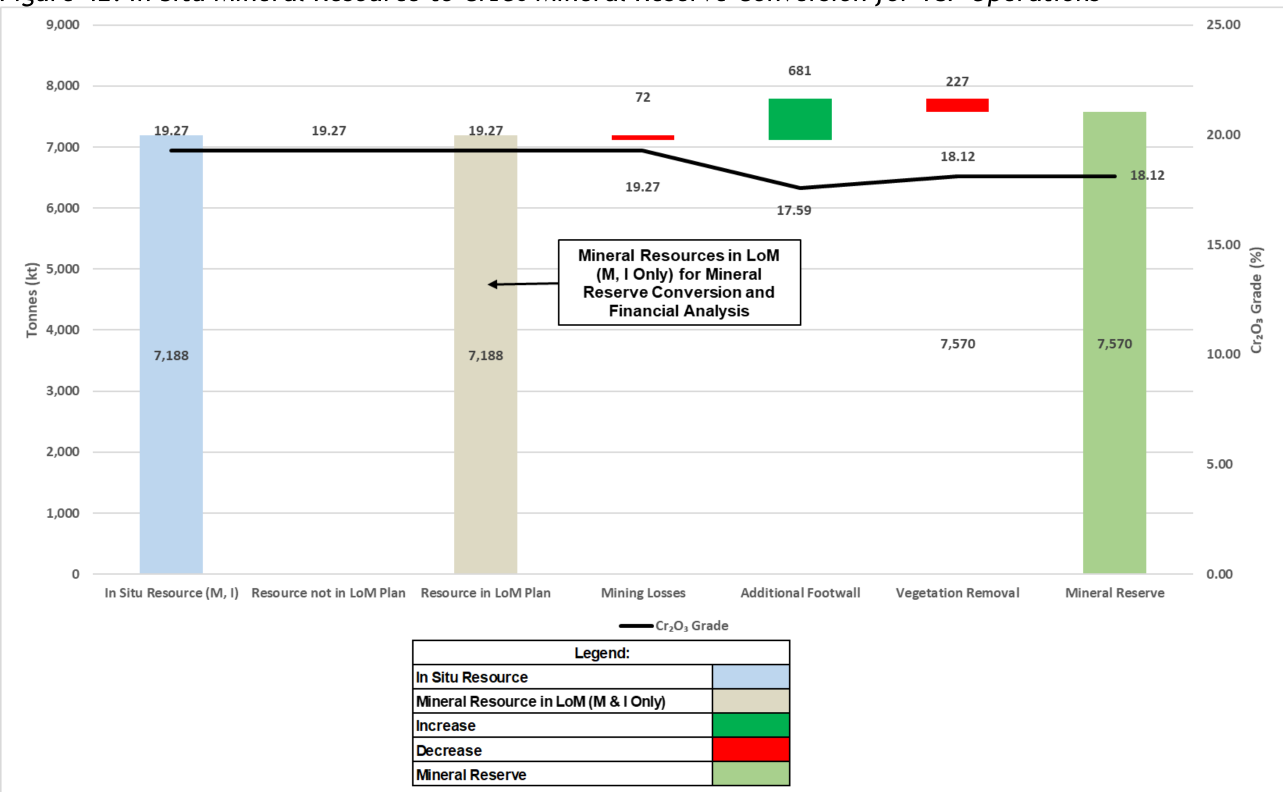


Figure 42: In Situ Mineral Resource to Cr_2O_3 Mineral Reserve Conversion for TSF Operations



The Mineral Resource to Mineral Reserve product conversion of the TSF re-mining operations is illustrated in Figure 43.

Figure 43: In Situ Mineral Resource to 4E Mineral Reserve Product Conversion for TSF Operations

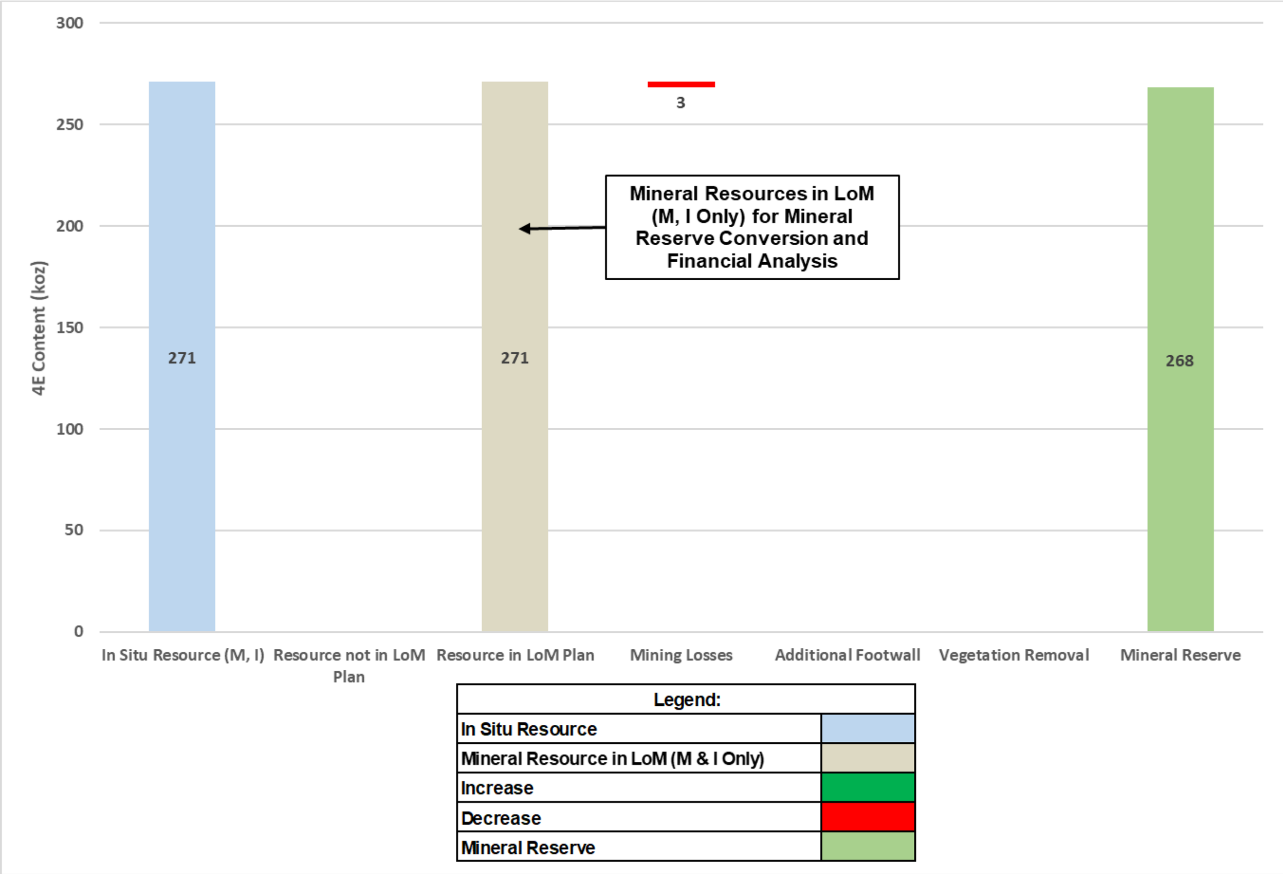
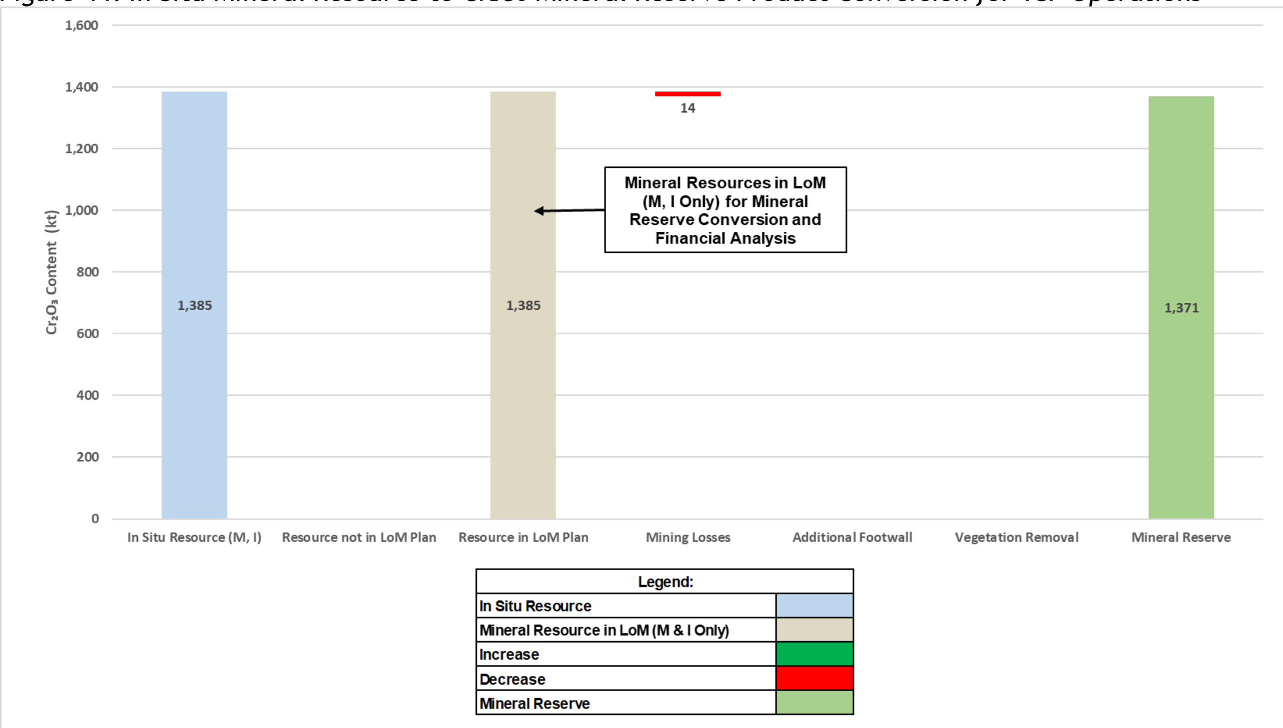


Figure 44: In Situ Mineral Resource to Cr_2O_3 Mineral Reserve Product Conversion for TSF Operations



The Mineral Reserve estimate for the Zandfontein TSF Re-mining operation as at 1 January 2022 is detailed in Table 32.

Table 32: Zandfontein TSF Re-mining Operations Mineral Reserve Estimate as at 1 January 2022

Mineral Reserve Category	Tonnes	4E Grade	4E Content		Cr_2O_3 Content	Cr_2O_3 Grade
	kt	g/t	kg	koz	kt	%
Probable	7,570	1.10	8,345	268	1,371	18.12

Notes:

1. The Mineral Reserve estimation includes only diluted Measured and Indicated Mineral Resources which have been converted to Probable Mineral Reserves.
2. No Inferred Mineral Resources have been included in the Mineral Reserve estimation.
3. The Mineral Reserve estimation was completed using a 4E basket price of USD2,305/oz, and calculated Chrome price (as per offtake agreement) of USD106/t and exchange rate of 15.53 ZAR/USD.
4. Chrome ore produced from the re-mined tailings is sold on a cost-plus basis, considering the TSF remining costs, processing cost and chrome logistics costs and an additional allowance for certain overheads
5. The Mineral Reserve excludes PGMs and Chrome Oxide from the TSF already re-mined Since December 2018.
6. The Mineral Reserves are reported as total Mineral Reserves and are not attributed.

Diluted Measured and Indicated Mineral Resources in the Zandfontein TSF have been converted to Probable Mineral Reserves. Minxcon utilised the Zandfontein TSF Mineral Resource model provided by the Client and the 2022 Mineral Resource estimation conducted by Minxcon.

Minxcon did not complete a design and mining schedule for the Zandfontein TSF but relied on and reviewed the technical work conducted by SMS in 2017 titled *ITR for Zandfontein Tailing Retreatment Project to Recover Chrome* and the TSF mining schedule produced by SMS in June 2021.

Minxcon utilised the 2021 SMS mining schedule as a basis and adjusted the mining schedule to conform to the 2022 Mineral Resource estimation. Mineral Reserve conversion factors detailed in Table 35 were applied to obtain a diluted mining schedule for conversion to Mineral Reserves.

Although the business strategy for re-mining the TSF has changed from 2017 to 2022 in terms of not only recovering chrome, but also PGMs from the TSF, the technical work conducted by SMS is still applicable and at an acceptable level of confidence for the purposes of Mineral Reserve estimation. Therefore, only Probable Mineral Reserves for the Zandfontein TSF are stated.

8.2 GEOTECHNICAL AND GEOHYDROLOGY SC 5.2 (viii)

8.2.1 Geotechnical Information

8.2.1.1 Underground Operations

Zandfontein was an operating mine until the shaft was put under care and maintenance and underground mining operations were halted in 2013. The operation has existing rock engineering practices, guidelines and support designs in place and support considerations and geotechnical concerns will be dealt with operationally by the appointed Rock Engineer.

The latest mine support design modelling for pillar sizes, dated December 2021 is illustrated in Table 33.

Table 33: Zandfontein Support Design Modelling for Pillars

Design for 21.5 m Panels and 2 m Vent Holings at Eastplats for Depths between 50 m and 400 mbs														
Depth	Virgin Stress	Pillar Centre Spacings			Pillar Dimensions					K – Value	Pillar Strength	Pillar Load	FoS	Percentage Extraction
		Strike	Dip	Area	Strike	Dip	Area	Stoping Width	Eq Width					
m	MPa	m	m	m²	m	m	m²	m	m	MPa	MPa	MPa		%
100	2.94	9.0	25.5	229.5	7	4	28	1.5	5.1	55	91.6	24.1	3.8	87.8
150	4.41	9.0	25.5	229.5	7	4	28	1.5	5.1	55	91.6	36.2	2.5	87.8
150	4.41	9.0	25.5	229.5	7	4	28	1.5	5.1	55	91.6	36.2	2.5	87.8
200	5.89	9.0	25.5	229.5	7	4	28	1.5	5.1	55	91.6	48.2	1.9	87.8
200	5.89	9.0	25.5	229.5	7	4	28	1.5	5.1	55	91.6	48.2	1.9	87.8
250	7.36	9.0	25.5	229.5	7	4	28	1.5	5.1	55	91.6	60.3	1.5	87.8
250	7.36	9.0	25.5	229.5	7	5	35	1.5	5.8	55	98.0	50.1	2.0	85.3
300	8.83	9.0	26.5	238.5	7	5	35	1.5	5.8	55	98.0	60.2	1.6	85.3
300	8.83	10.0	26.5	265.0	8	5	40	1.5	6.2	55	100.7	58.5	1.7	84.9
350	10.30	10.0	26.5	265.0	8	5	40	1.5	6.2	55	100.7	68.2	1.5	84.9
350	10.30	10.0	26.5	265.0	8	5	40	1.5	6.2	55	100.7	68.2	1.5	84.9
400	11.77	10.0	26.5	265.0	8	5	40	1.5	6.2	55	100.7	78.0	1.3	84.9

Source: Ukwazi, 2021.

8.2.1.2 TSF Re-mining Operations

Various geotechnical investigations have been completed on the TSF area by SRK and Metago. The TSF is generally underlain by norites and pyroxenites. By utilising software modelling, it was determined that the factor of safety for a typical cross section when the facility reaches its final height is 1.48. (SMS, 2017)

The required overall slope angle of between 1:2.5 and 1:3 will be achieved by using appropriate horizontal benches. Chrome tailings, naturally stack at an angle of approximately 32°. These benches can be flattened if required for rehabilitation and vegetation purposes. Ideally, a balanced geometric shape having similar side lengths and a centrally located penstock is preferred however, the site characteristics mostly govern the shape of the dam. (SMS, 2017)

No geotechnical risks associated with the re-mining of the Zandfontein TSF are anticipated and geotechnical parameters required during the re-mining of the TSF will be dealt with operationally.

Potential stability problems will be addressed by stabilising the surface against wind and water erosion by establishing vegetation on the wall benches as part of the operation. (SMS, 2017)

Without the rehabilitation, the run-off from the benches will cause excessive erosion of the uniformly non-cohesive underflow, despite the profile, leading to siltation, a loss of retention capacity and concomitant overtopping. This overtopping of a bench would have domino effect on lower benches which could ultimately fail leading to potential spillage downstream of the TSF. (SMS, 2017)

Specialist consultants were appointed to perform a risk assessment and flow slide analysis to better understand slope stability and the probability of failure at the TSF. The probability of the failure was found to be 1:85,614, which is acceptable when compared to the industry's recommended probability of failure ranges between 1:15,000 (unlikely) and 1:150,000 (highly unlikely).

8.2.2 Geohydrology

No hydrogeological work was done at Zandfontein, although all water intersections have been marked on the plans.

8.3 Mine Design and Schedule

SC 5.2 (i)-(ix)

8.3.1 Modifying Factors and Assumptions

8.3.1.1 Mineral Reserve Conversion Factors

Mineral Reserve conversion factors are the consideration of mining factors used to convert Mineral Resources to Mineral Reserves. These factors are applied to adjust the *in situ* Mineral Resources in the LoM planning to realistic and accurate mill feed, volumes, and grade.

8.3.1.1.1 Underground Operation

The Mineral Reserve conversion factors applied to the Mineral Resources in the LoM plan, are detailed in Table 34 .

Table 34: Conversion Factors - Underground Operations

Conversion Factors	Unit	Value
Geological Losses	%	25
Mining Losses	%	4.4
Dilution	cm	10
Pillar Losses	%	12.10
MCF	%	95

8.3.1.1.2 TSF Remining Operation

The Mineral Reserve conversion factors applied to the Mineral Resources in the LoM plan for the TSF operations, are detailed in Table 35. The Mineral Reserve conversion factors applied have been derived from industry standards associated with hydro mining of TSFs.

Table 35: Conversion Factors - TSF Remining Operations

Conversion Factors	Unit	Value	Comment
Mining Losses	%	1	Industry benchmark from similar TSF re-mining operations
Additional Footwall	%	10	Average over LoM, as per 2021 SMS Preliminary Schedule
Vegetation Removal	tpm	5,687	As per Zandfontein production budget

8.3.1.2 Processing and Metallurgical Factors

The conventional floatation recovery method is well proven and has been used consistently on this orebody. The underground UG2 recoveries were determined from production data of the Zandfontein processing plant up to 2013. The TSF float recoveries was determined from production data of the Zandfontein processing plant from December 2020 to February 2022.

Table 36: Conversion Factors - Processing and Metallurgical Factors

Conversion Factors	Unit	Value	Comment
Flotation Recovery underground Operations	%	80	Based on historical production data from up to 2013
Flotation Recovery TSF	%	11	Based on production data from Dec 2020 to Feb 2022
Mass Split between Circuit B & D		70:30	70% of material reports to Circuit B and 30% reports to Circuit D – As per Zandfontein budget
Cr2O3 yields	%	30	Based on actual yields

8.3.1.3 Infrastructure Factors

Infrastructure required for the planned production is either in place or planned for. Sufficient capital provision has been made for all planned infrastructure required for the planned production.

8.3.1.4 Economic and Marketing Factors

The 4E basket price that has been utilised for the Mineral Reserve estimate is calculated from a real term analyst forecast for each of the 4E metals and calculated using the mine prill splits. The average 4E basket price over the LoM is of USD1,825/oz excluding the TSF remining and USD2,305/oz including the TSF remining. The average Chrome price of USD106/t was calculated using the chrome operating costs over the LoM and the additional provision as per chrome offtake agreement (Cost-plus). The exchange is a real term forecast taken as the median of various bank forecasts with the long-term exchange rate calculated using the real term purchasing price parity of the ZAR to the USD. The exchange rate averages 15.53 ZAR/USD over the LoM.

An uneconomical tail has been cut from the first negative cashflow year and has been excluded from the Mineral Reserve. The tail contains 15.06 koz of 4E metals but is not economically viable on its own.

All forecast capital and operating costs have been applied to the LoM plan and considered for cash flow analysis.

8.3.1.5 Legal, Environmental, Social and Governmental Factors

There are no known legal, environmental, social or governmental factors that have been identified that have been considered as modifying factors.

8.3.2 Mineral Resource Model

SC 6.1 (i)
SC 6.3(vi)

The Mineral Resource classifications were incorporated from the 2022 CRM Mineral Resource estimations conducted by Minxcon. The underground mine designs and scheduling utilise the 2022 CRM Mineral Resource model for the CRM underground operations described in section 7. The mine design and schedule utilise the 2021 Ukwazi mine design and schedule as the basis of the Mineral Reserve estimation for the underground operations.

The Zandfontein TSF Mineral Reserve estimation utilises the TSF model as provided by the Client and reviewed by Minxcon described in section 8.1.2. Minxcon utilised the 2022 Mineral Resource estimation conducted by Minxcon and the June 2021 Barplats TSF preliminary schedule conducted by Sound Mining Solutions ("SMS") and reviewed by Minxcon as the basis of the Mineral Reserve estimation.

The Mineral Resources have all been stated as inclusive of Mineral Reserves.

8.3.2.1 Orebody Analysis

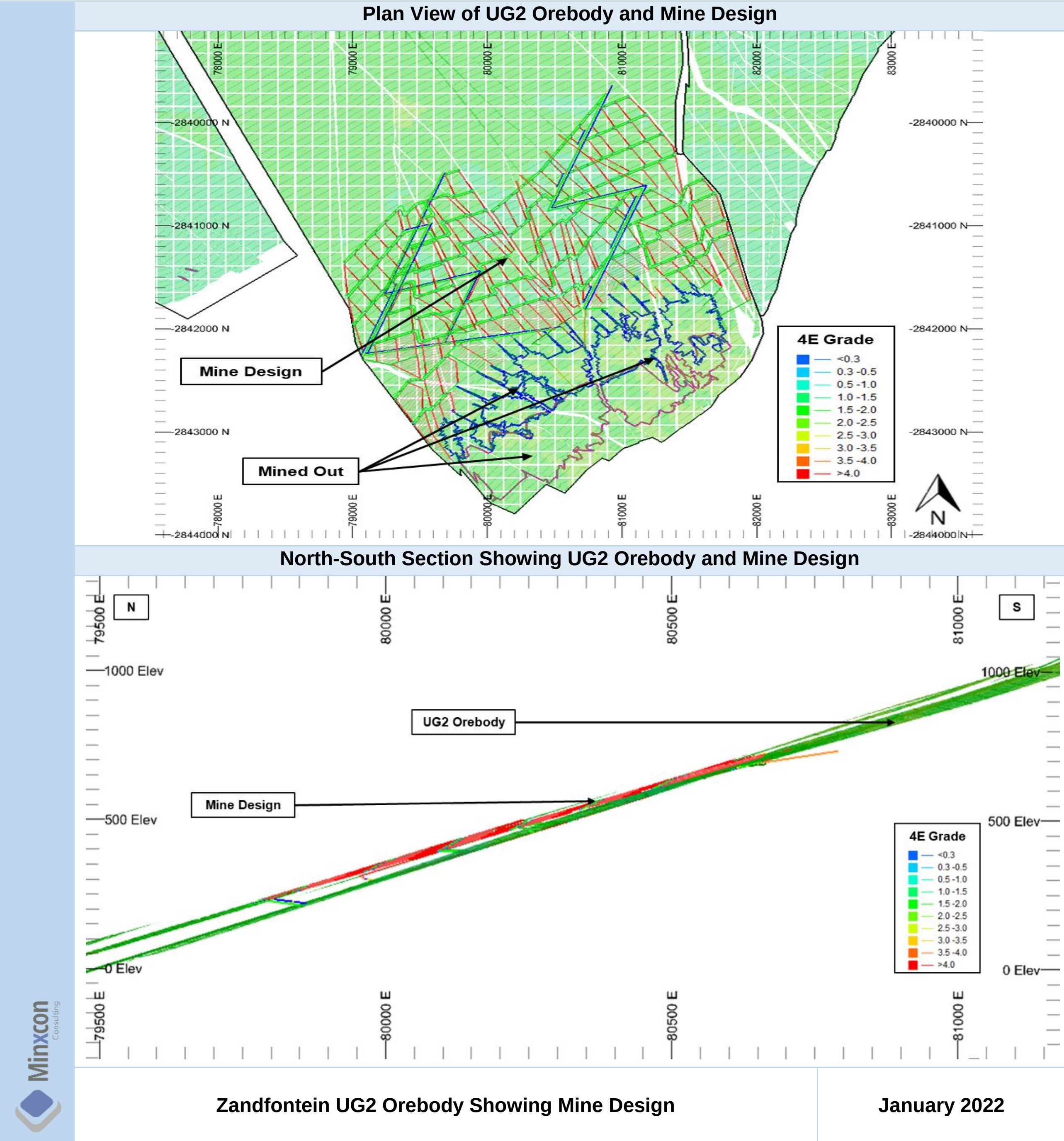
8.3.2.1.1 Underground Operations

CRM is located on the Western Limb of the Bushveld Complex. The area is structurally complex due to faulting associated with the Brits Graben. Mining is focused on the UG2 Chromitite Layer. The Merensky Reef is present in this area, however it is not currently considered economically viable.

The UG2 typically occurs as a single chromitite layer at CRM with reef thicknesses of 1.3 m to 1.5 m. The orebody typically strikes in an East-west direction and dips to the North at an average of approximately 17°. The orebody is characterised by significant faulting with some scissor fault effects and visible potholes.

The reef horizon is undulating in certain areas especially the bottom reef contact. The top reef contact is sharp and stable. The reef horizon is generally bottom to middle loaded regarding the PGM concentrations. The CRM UG2 orebody and mine design are illustrated in Figure 45.

Figure 45: Zandfontein UG2 Orebody Showing Mine Design

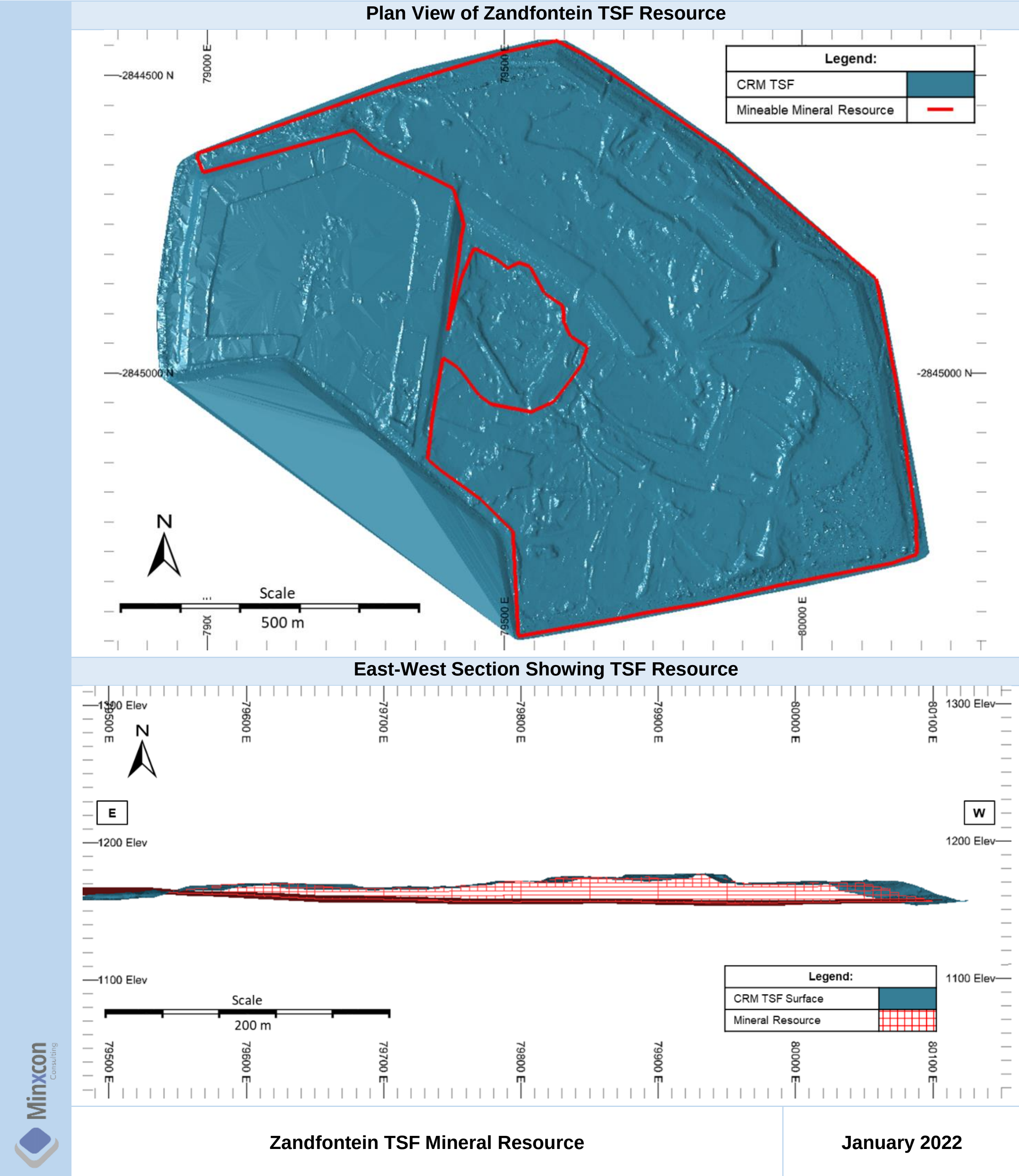


8.3.2.2 TSF Re-mining Operations

The Zandfontein TSF Mineral Resource contains tailings which were produced from processing mined UG2 ore from the Zandfontein underground operations. The Mineral Resource estimation has been restricted to a portion of the total TSF as it is planned that tailings from the planned underground and TSF re-mining operations will be deposited back onto the existing TSF footprint.

The Zandfontein TSF Mineral Resource is illustrated in Figure 46.

Figure 46: Zandfontein TSF Mineral Resource



8.3.3 Quality Parameters Applied

8.3.3.1 Cut-off Grade

8.3.3.1.1 Underground Operations

The Mineral Reserve pay limit calculation for the Zandfontein is detailed in Table 37.

Table 37: Mineral Reserve Pay Limit Calculation

Description	Unit	Value	Comment
4E Basket Price	USD/oz	2906.98	Inclusive of recovery and payability
Geological Losses	%	25	As per Mineral Resource estimation
Mining Losses	%	10	Calculation
Pillar Losses	%	10	Calculation
Dilution	%	7	Ukwazi trade-off study
Mine Call Factor	%	95	Ukwazi trade-off study
Plant Recovery	%	80	
Payability	%	86	
Mining Cost	USD/t	91.30	
Processing Cost	USD/t	15.00	
Other Cost	USD/t	14.77	
Total Cost	USD/t	121.06	
Pay limit	g/t	1.30	
Geological Losses and Mining Losses	g/t	1.88	After applying factors for losses
Dilution	g/t	2.01	After applying dilution
Mine Call Factor	g/t	2.12	After applying MCF
Plant Recovery and Payability	g/t	3.07	After applying recovery and payability

The Mineral Resource block model grade tonnage curve is illustrated in Figure 47.

Figure 47: Mineral Resource Model Grade Tonnage Curve

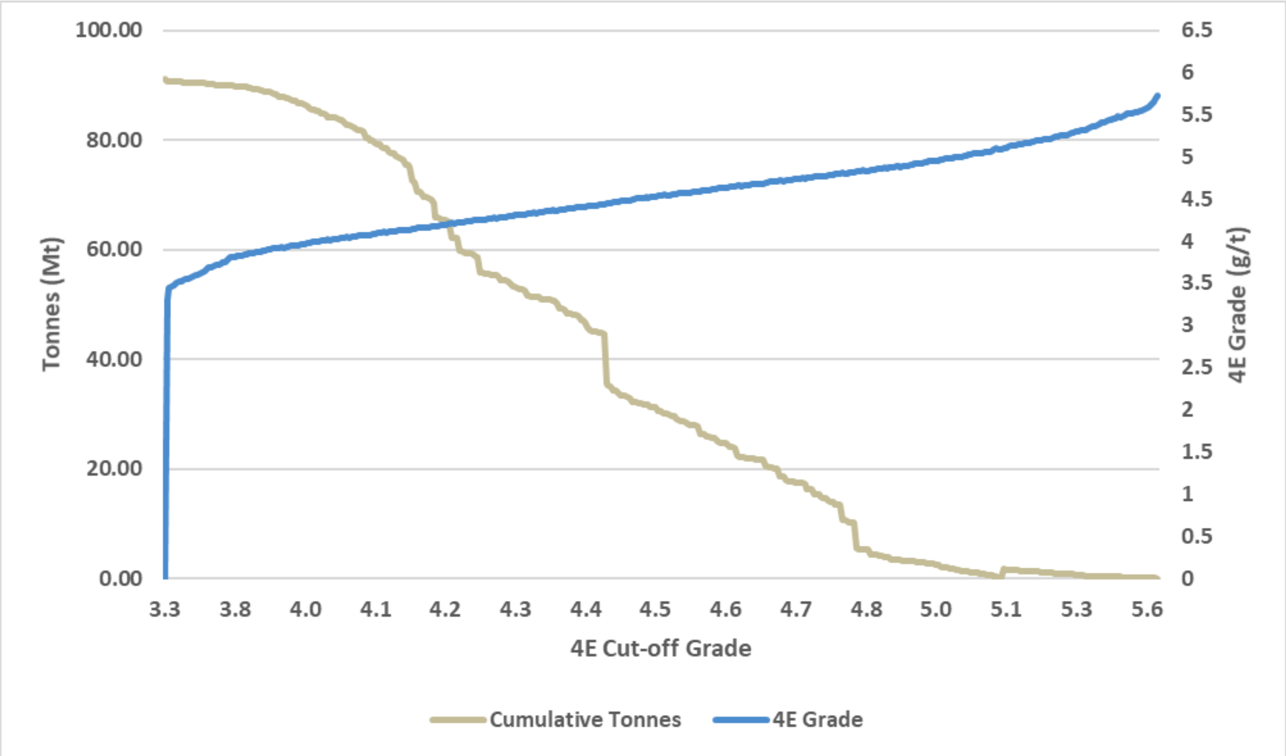


Figure 47 illustrates that the lowest 4E grade in the Mineral Resource model is 3.31 g/t. The lowest 4E grade as per the Mineral Resource model is approximately 8% higher than the calculated Mineral Reserve pay limit. This implies that the entire Mineral Resource could be economically mined considering the metal price, costs and factors applied as detailed in Table 37. The Mineral Reserve pay limit of 3.07 g/t has been applied to the Zandfontein but has no effect on the final Mineral Reserve estimation as it is below the lowest 4E grade in the Mineral Resource model.

No metal equivalents have been applied.

8.3.3.1.2 TSF Re-mining Operations

No Mineral Resource or Mineral Reserve cut-off has been applied to the TSF re-mining operations. Mining of the TSF involves re-mining the entire planned area of the existing TSF, without applying any cut-off parameters.

8.3.4 Mining Method Description

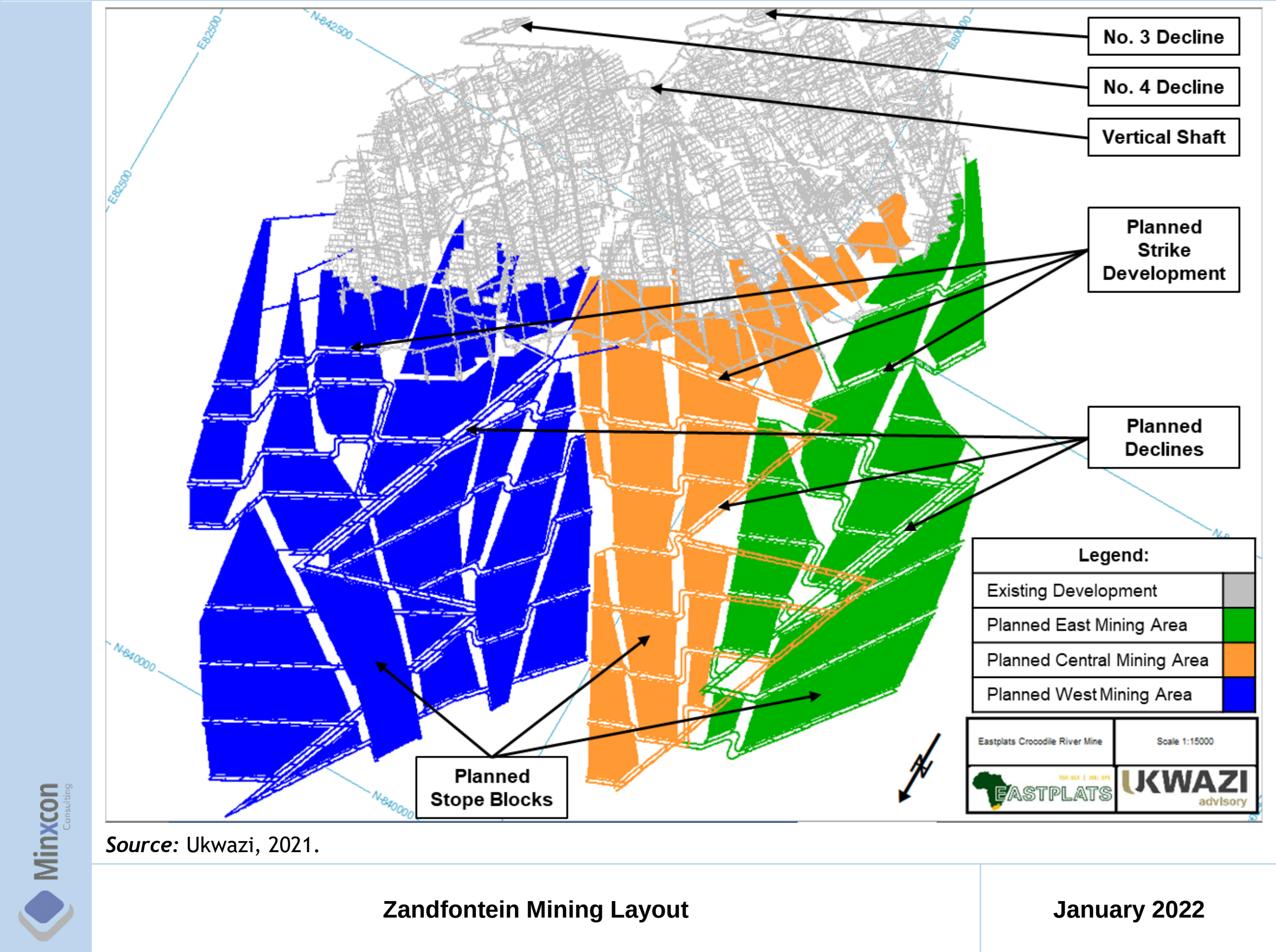
This Report focuses on the Zandfontein underground mining operations at Zandfontein and re-mining of the Zandfontein TSF. The mining methods are appropriate for the mineral deposits.

8.3.5 Mining Layout

8.3.5.1 Underground Operations

The Zandfontein underground mining layout is illustrated in Figure 48.

Figure 48: Zandfontein Mining Layout



Source: Ukwazi, 2021.

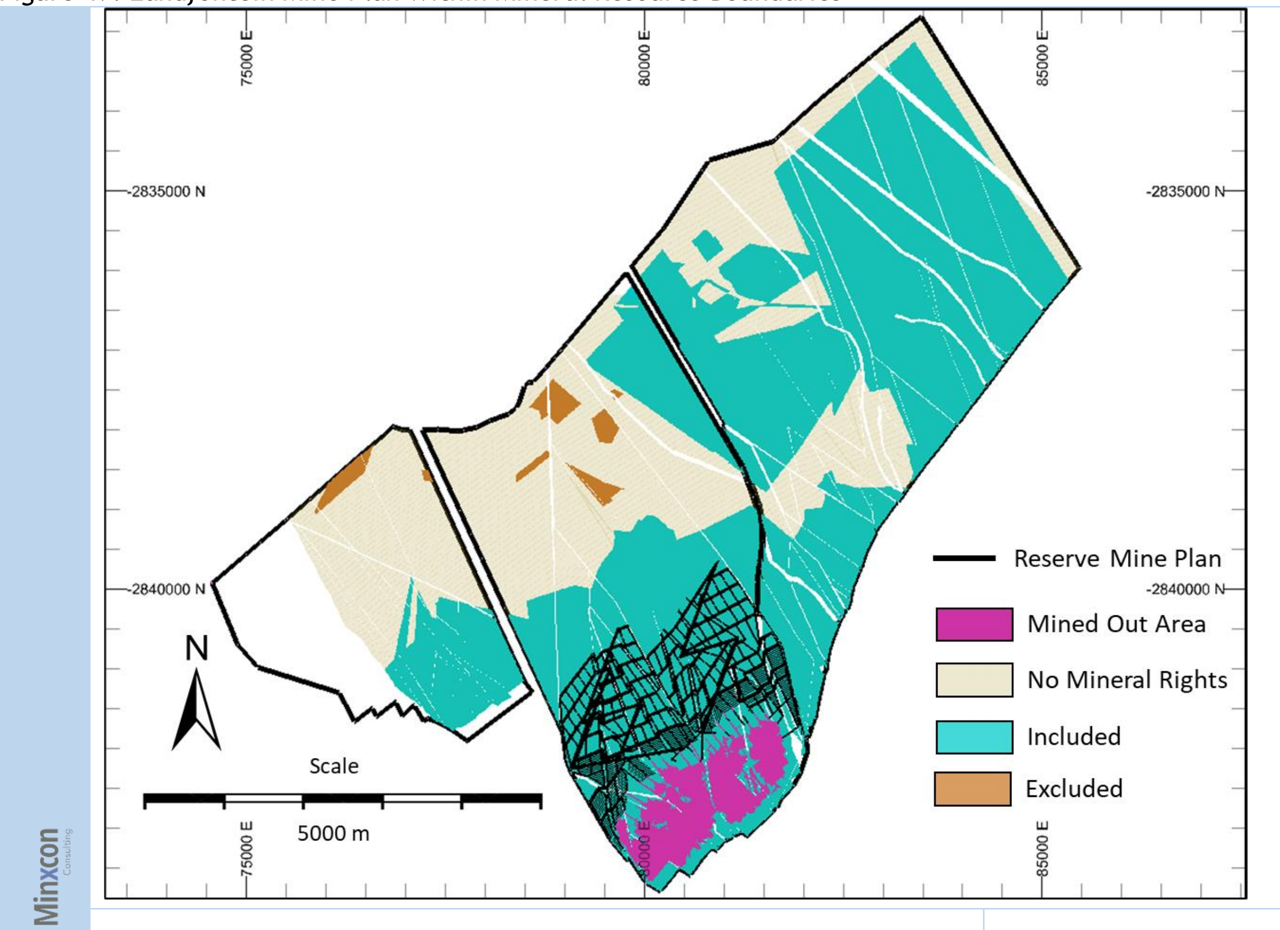
The existing off-reef drives from 5 Level upwards, will be extended to the mine boundary to facilitate mining of the available blocks within this area. These levels will provide approximately 2 Mt of ore for the initial two to three years of mining while the lower levels are being developed.

The planned mining layout considers utilising the existing vertical shaft, No. 3 and No. 4 Declines and development ends to mine three distinct mining areas from 4 Level to 12 Level. The planned mining areas will be accessed via three planned declines.

After having reviewed the current mining and prospecting rights, many of the previous prospecting right are no longer active. This has resulted in the Mineral Resource being confined to a smaller area. These areas have been excluded from the Mineral Resource estimation and are therefore not mineable Mineral Resources for the Zandfontein. It is noted that the current Zandfontein mine plan is within the active Zandfontein mining and prospecting rights area, and within the declared Mineral Resource estimation.

The Zandfontein mine plan, including mined out areas, within the boundaries of the declared Mineral Resource estimation, is illustrated in Figure 49.

Figure 49: Zandfontein Mine Plan Within Mineral Resource Boundaries

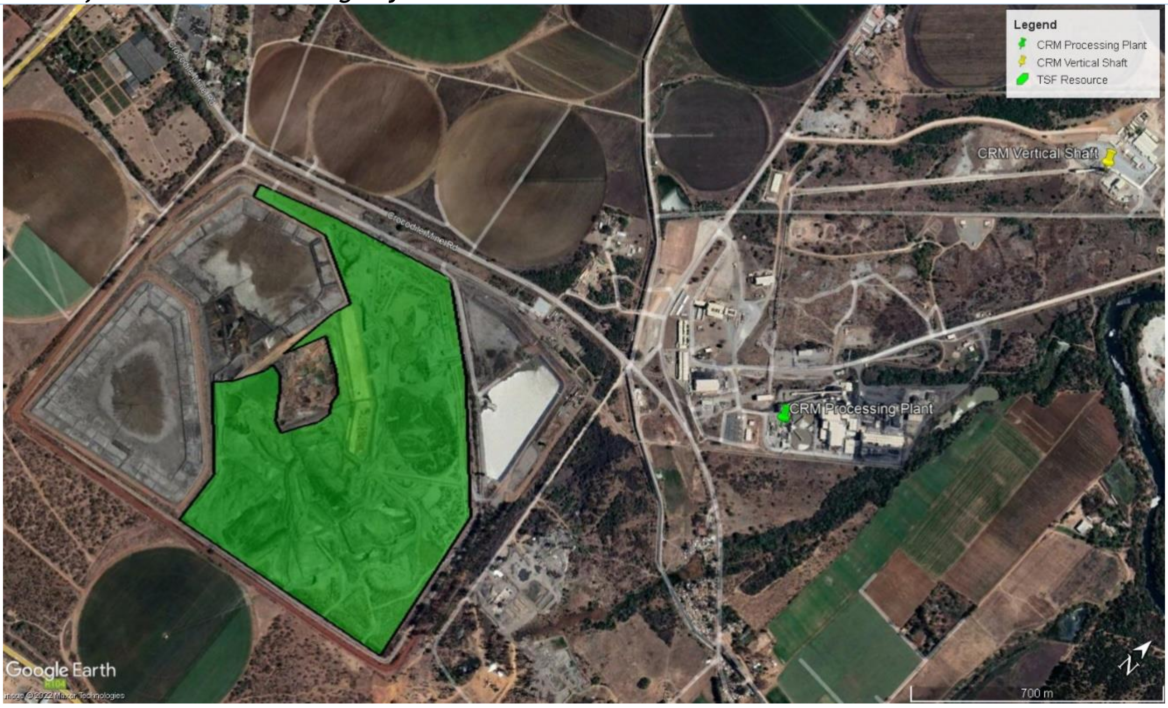


Zandfontein Mine Plan Within Mineral Resource Boundaries | **January 2022**

8.3.5.2 TSF Re-mining Operations

The Zandfontein TSF re-mining operations is illustrated in Figure 50.

Figure 50: Zandfontein TSF Re-mining Layout



Zandfontein TSF Re-mining Layout	January 2022

It is planned that a portion of the existing TSF will be re-mined and processed at the Zandfontein processing facility. The existing TSF footprint will be utilised for the deposition of tailings material produced from processing underground and TSF-remining material.

8.3.6 Mining Strategy

8.3.6.1 Underground Operations

The mining strategy for Zandfontein is to steadily ramp up to a peak production rate of approximately 1.02 million run of mine ("RoM") tonnes per annum from the underground operations utilising a hybrid mining method. The strategy aims to initially mine 5 Level and 4 Level with some minor potential from 2 Level and 3 Level, utilising the existing infrastructure, while the deeper levels are being developed during which period steady state production will be approximately 800 kt RoM per annum.

When 6 Level and below are brought into production, Zandfontein will produce approximately 1.02 Mt RoM per annum during steady state production. The current mining layout from 5 Level upwards will remain unchanged while a new mining layout from 6 Level downwards will be implemented. The planned mining blocks have been divided into three mining areas namely East, West and Central.

8.3.6.2 TSF Re-mining Operations

The mining strategy for the Zandfontein TSF re-mining is to mine approximately 195 ktpm from the existing TSF. The re-mining of the planned portion of the TSF will be conducted in parallel with tailings deposition on other portions of the existing TSF footprint.

Mining will commence in the North-eastern portion of the TSF and progress North-east and South-west until the planned area has been depleted completely. Re-mining of the TSF will be conducted by a contractor.

8.3.7 Mining Method

8.3.7.1 Underground Operations

Zandfontein was utilising a typical hybrid mining method (mechanised footwall development and conventional stoping) until July 2013 when the shaft was put under care and maintenance and underground mining operations were halted.

Ukwazi Site Services (Pty) Ltd conducted a mining method trade-off study including mine design and scheduling of Zandfontein. The study considered mining of 4 Level to 12 Level of the Zandfontein vertical shaft, including potential deepening of the shaft to 5 Level and water handling facility. The underground workings can be accessed through the main vertical shaft and existing declines, namely Decline 3 and Decline 4.

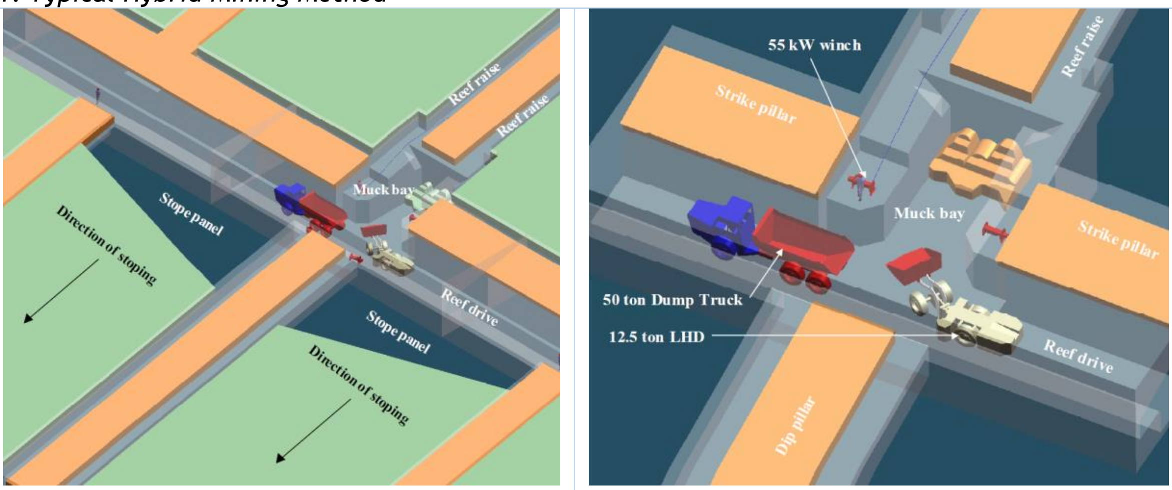
The following key considerations formed the basis of the mining method selection (Ukwazi, 2021):-

- maximising the use of mechanised equipment;
- maximising the use of excess water pumped from underground;
- minimise off-reef mining and development;
- minimise dilution; and
- implement a safe and fit-for-purpose mining method.

A hybrid mining method was selected from the Ukwazi trade-off study. This mining method was selected considering the geological complexity of the Zandfontein orebody and the minimum requirements for the selection of a suitable, technically and economically viable mining method.

The selected hybrid mining method considers mechanised on-reef development and conventional breast stoping. Hydropower mining was selected for the 6 Level to 12 Level. Smaller development ends including raises, winzes, advance strike gullies and travelling ways will be developed conventionally. An example of a hybrid mining method is illustrated in Figure 51.

Figure 51: Typical Hybrid Mining Method



Source: Modikwa, 2003. ***Source:*** Modikwa, 2003.

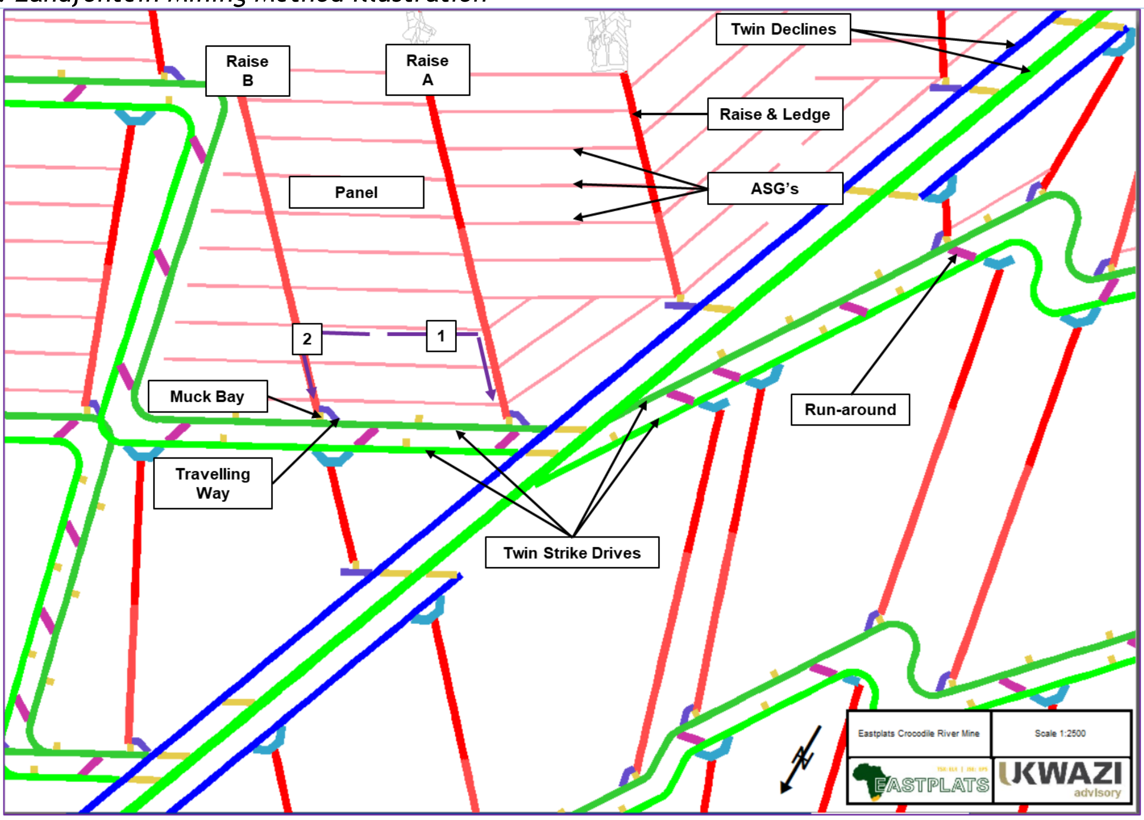
Typical Hybrid Mining Method **January 2022**

The various activities in the selected mining method are as follows (Ukwazi, 2021):-

- The twin declines are developed continuously (blue and green lines);

- Once the level breakaway is reached, twin strike drives are developed to the East and West (two green lines on strike);
- Once the strike drives have been advanced 10 m, a breakaway holing is established for a run-around to assist in traffic management during the initial development phases;
- Later in the half level, the first holing (mentioned above) is converted into a half level dam for water control;
- Once the position of the raise line is reached (Raise A in Figure 52), a muck bay is blasted with a small
- travelling way to reef horizon (brown and purple lines);
- A 1.5 m wide raise with a 3 m wide ledging shoulder is then mined up dip to hole in the winze that is being developed from the upper level;
- Once the raise line is holed, the advance strike gullies ("ASGs") are developed on strike;
- Once the gully is holed in the next raise line (Raise B) and that raise line is also holed, the stoping of that
- specific panel can commence;
- Once stoping commences, the blasted ore is then cleaned by means of a hydropower water jet to the strike gully;
- The water will then naturally flow to Raise A (Number 1 in the Figure 52);
- Following this, the ore is pulled by a scraper winch to Raise B (Number 2 in the Figure 52);
- The ore in Raise B is then pulled downward to the muck bay where a load haul dumper ("LHD") will load and dump it on the dump truck in the bottom strike drive;
- Lastly, the trucks will dump the ore on the dip conveyor belt, which will then transport the ore to the shaft silo positions and subsequently, to surface through the use of skips.

Figure 52: Zandfontein Mining Method Illustration



Source: Ukwazi, 2021.

Zandfontein Mining Method Illustration	January 2022

8.3.7.2 TSF Re-mining Operations

The mining method that is used for the reclamation of the TSF is hydraulic mining combined with mechanical loading in areas where coarser material which is bonded in layers is encountered. Typically, these areas will be encountered along the perimeter of the TSF and along the compartments. Hydraulic mining involves the use of high-pressure water monitors (water jets) to erode the TSF in strategic sections or cuts.

The hydro mining units can be either manually controlled or remote operated. Units can be mounted in a stationary position or trackless to allow for mining flexibility in terms of manoeuvrability. The product which is converted into a slurry by the water jets, is washed downstream of the for collection in a sump.

The slurry is pumped from the sump via a slurry pipeline to the processing plant. Coarser material will be mechanically excavated and trucked to a scalping screen after which it will pass through a crusher, prior to pulping and mixing with the hydraulically mined material.

An example of TSF re-mining utilising hydraulic mining and mechanical mining is illustrated in Figure 53.

Figure 53: TSF Re-mining Illustration

Source: Paragon Tailings, 2022

TSF Re-mining Illustration	**January 2022**

8.3.8 Mine Design

8.3.8.1 Underground Operations

8.3.8.1.1 Working Arrangement

Zandfontein plans to utilise a five day, two shift working arrangement. Drilling and blasting activities will be conducted on day shift, with cleaning operations being conducted on night shift. The face time estimation is detailed in Table 38.

Table 38: Face Time Estimation

Description	Unit	Value
Clock in	min	0
Change house	min	0
Lamp room	min	10
Crush	min	5
Travelling time to shaft	min	0
Safety meeting	min	30
Travelling time to workplace	min	20
Travelling time out at end of shift	min	15
Crush	min	5
Travelling time from shaft	min	0
Change house	min	0
Lamp room	min	5
Clock out	min	0
Lunchtime	min	0
Shaft clearance	min	0
Re-entry	min	0
Time available	min	600
Time deducted	min	90
Available face time	min	510
Available face time per shift	hrs	8.5

Source: Ukwazi, 2021.

8.3.8.1.2 Geotechnical Parameters

Zandfontein was an operating mine until the shaft was put under care and maintenance and underground mining operations were halted in 2013. The operation has existing rock engineering practices, guidelines and support designs in place and support considerations and geotechnical concerns will be dealt with operationally by the appointed Rock Engineer.

The latest mine support design modelling for pillar sizes, dated December 2021 is illustrated in Table 33.

Table 39: Zandfontein Support Design Modelling for Pillars

Design for 21.5 m Panels and 2 m Vent Holings at Eastplats for Depths between 50 m and 400 mbs														
Depth	Virgin Stress	Pillar Centre Spacings			Pillar Dimensions					K – Value	Pillar Strength	Pillar Load	FoS	Percentage Extraction
		Strike	Dip	Area	Strike	Dip	Area	Stoping Width	Eq Width					
m	MPa	m	m	m²	m	m	m²	m	m	MPa	MPa	MPa		%
100	2.94	9.0	25.5	229.5	7	4	28	1.5	5.1	55	91.6	24.1	3.8	87.8
150	4.41	9.0	25.5	229.5	7	4	28	1.5	5.1	55	91.6	36.2	2.5	87.8
150	4.41	9.0	25.5	229.5	7	4	28	1.5	5.1	55	91.6	36.2	2.5	87.8
200	5.89	9.0	25.5	229.5	7	4	28	1.5	5.1	55	91.6	48.2	1.9	87.8
200	5.89	9.0	25.5	229.5	7	4	28	1.5	5.1	55	91.6	48.2	1.9	87.8
250	7.36	9.0	25.5	229.5	7	4	28	1.5	5.1	55	91.6	60.3	1.5	87.8
250	7.36	9.0	25.5	229.5	7	5	35	1.5	5.8	55	98.0	50.1	2.0	85.3
300	8.83	9.0	26.5	238.5	7	5	35	1.5	5.8	55	98.0	60.2	1.6	85.3
300	8.83	10.0	26.5	265.0	8	5	40	1.5	6.2	55	100.7	58.5	1.7	84.9
350	10.30	10.0	26.5	265.0	8	5	40	1.5	6.2	55	100.7	68.2	1.5	84.9
350	10.30	10.0	26.5	265.0	8	5	40	1.5	6.2	55	100.7	68.2	1.5	84.9
400	11.77	10.0	26.5	265.0	8	5	40	1.5	6.2	55	100.7	78.0	1.3	84.9

Source: Ukwazi, 2021.

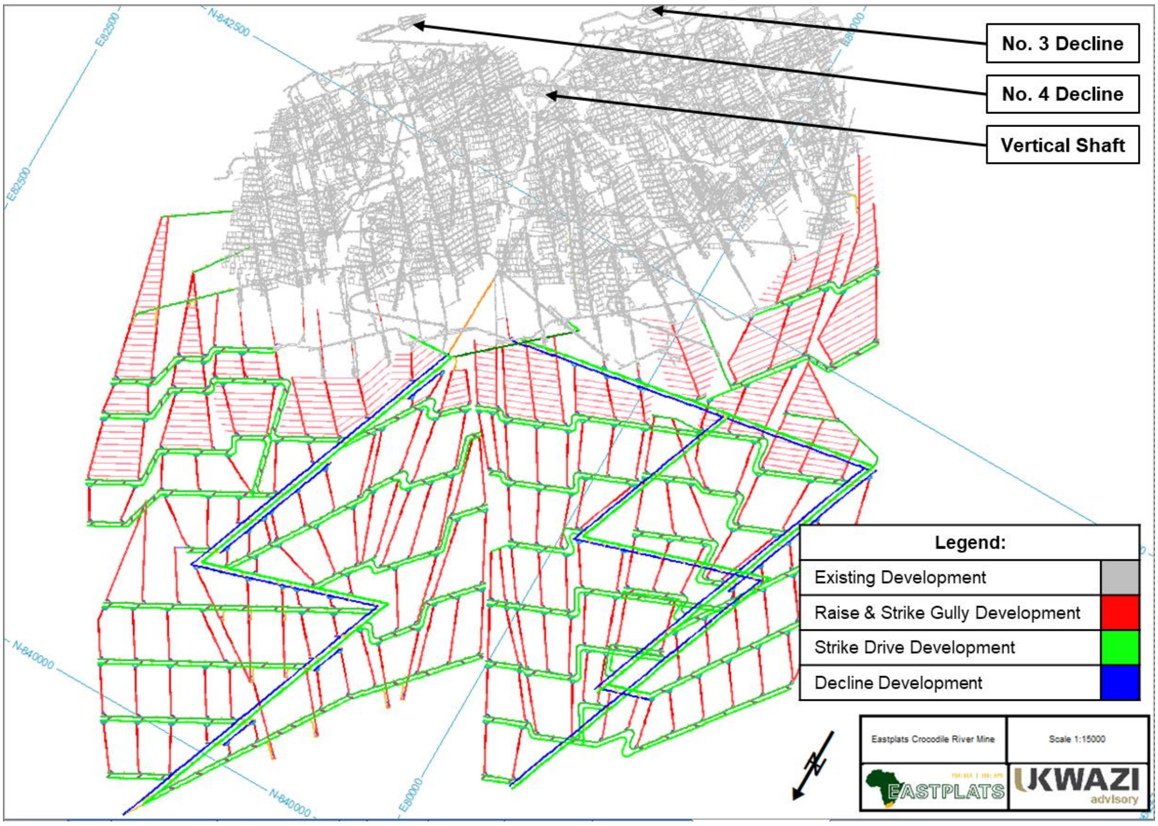
8.3.8.1.3 Access Design

The geologically complex Zandfontein orebody required careful planning for off-reef development and the re-establishment of an on-reef decline to gain access from 5 Level downwards. The access designs were planned to allow for the following requirements:-

- Installation of a conveyor belt, requiring straight development;
- Minimise the number of chairlift transfers;
- Provide for maximum on-reef development;
- Tie in with existing men, material and rock transportation systems; and
- Declines to be developed in areas where intersections with faults have minimal throws.

The main access design, consisting of declines, strike drives and raises is illustrated in Figure 54.

Figure 54: Main Access Design



Source: Ukwazi, 2021.

Minxcon Consulting

Zandfontein Mining Layout | **January 2022**

The planned declines will be developed at a dip of nine degrees to the horizontal.

8.3.8.1.4 Stope Design Criteria

The stope design parameters are detailed in Table 40.

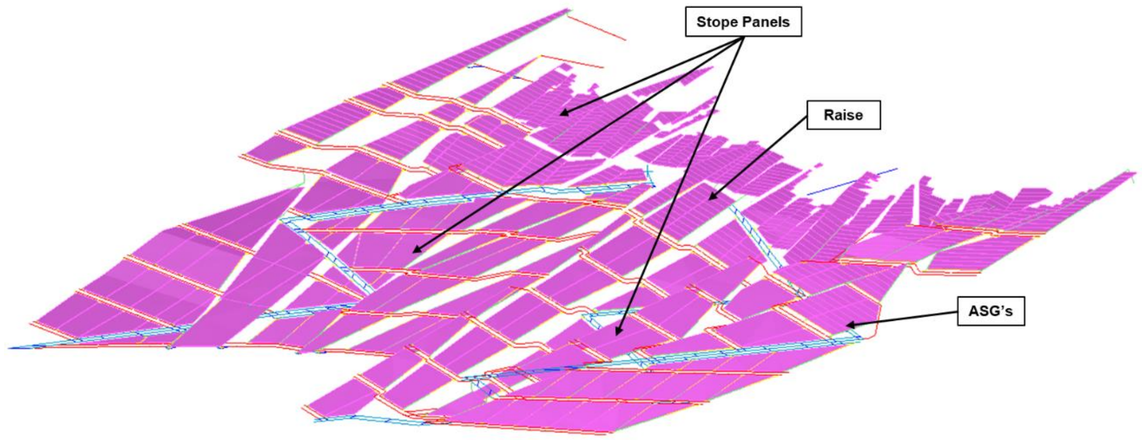
Table 40: Stope Design Parameters

Parameter	Unit	Value
Direction above strike	°	15
Level spacing	m	60
Raise line spacings	m	120
Ledging methodology	m	3 m shoulder carried with the raise development
Winze methodology	N/a	Half of the back length
Panel length	m	20
Stoping width	m	1.5
The general maximum panel strike length	m	120
Panel maximum fault negotiation	m	1,5 m up throw
Panel maximum dyke negotiation	m	5
Clamping pillars - Major geology	m	10
Clamping pillars - Minor geology	m	5

Source: Ukwazi, 2021.

The Zandfontein stope design is illustrated in Figure 55.

Figure 55: Zandfontein Stope Designs



Source: Ukwazi, 2021.

Zandfontein Mining Layout | **January 2022**

8.3.8.1.5 Development Design Criteria

The development design parameters are detailed in Table 41.

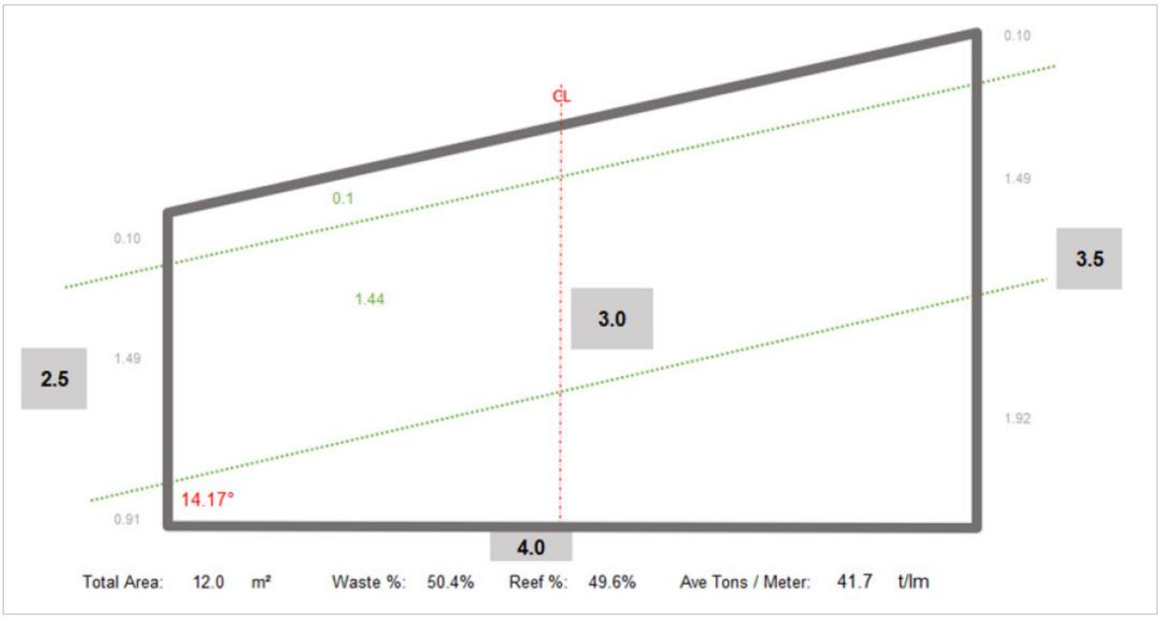
Table 41: Development Design Criteria

Development Type	Unit	Width	Height
Advance Strike Gully (ASG)	m	1.5	2.5
Bottom Strike Drive	m	4	3
Top Strike Drive	m	4	3
Conveyor Strike Drive	m	4	3
Crosscut	m	4	3
Decline Chairlift	m	6.5	3.5
Decline Conveyor	m	6	3
Decline Equipment	m	4	3
Decline Holing	m	4	3
L Raise	m	4.5	2.6
L Winze	m	4.5	2.6
Material Bay	m	5	3
Muckbay	m	4	4
Raise	m	1.5	2.5
Strike Holing	m	5	3
Turn Bay	m	4	3
Travelling Way	m	2	2
Winch Cubby	m	2	2
Winze	m	1.5	2.5
Orepass	ø	1.8	
Silo	ø	3	
Ventilation Holing	ø	4.6	

Source: Ukwazi, 2021.

Owing to the dip of the reef, the declines and strike drives were not planned with conventional rectangular faces. The planned face shapes were dictated by the dip of the reef and inclination of the development ends. A typical cross section through a decline is illustrated in

Figure 56: Strike Drive Cross Section



Source: Ukwazi, 2021.

Strike Drive Cross Section	January 2022

8.3.8.2 TSF Re-mining Operations

8.3.8.2.1 Working Arrangement

The TSF re-mining operation will be contracted operator. Zandfontein has appointed Paragon Tailings as the mining contractor. A 24/7 four shift rotational cycle is planned for the TSF re-mining operations. The cycle utilises three shifts per day, each working an eight-hour shift with the fourth shift being off. Shifts will be rotated on a weekly basis (SMS, 2017).

The planned working arrangement is detailed in Table 42.

Table 42: TSF Re-mining Working Arrangement

Description	Hours
Morning Shift (Shift 1)	06:00 to 14:00
Afternoon Shift (Shift 2)	14:00 to 22:00
Night Shift (Shift 3)	22:00 to 06:00
Off Shift (Shift 4)	-

Source: SMS, 2017.

8.3.8.2.2 Geotechnical Parameters

Various geotechnical investigations have been completed on the TSF area by SRK and Metago. The TSF is generally underlain by norites and pyroxenites. By utilising software modelling, it was determined that the factor of safety for a typical cross section when the facility reaches its final height is 1.48. (SMS, 2017)

The required overall slope angle of between 1:2.5 and 1:3 will be achieved by using appropriate horizontal benches. Chrome tailings, naturally stack at an angle of approximately 32°. These benches can be flattened if required for rehabilitation and vegetation purposes. Ideally, a balanced geometric shape having similar side lengths and a centrally located penstock is preferred however, the site characteristics mostly govern the shape of the dam (SMS, 2017).

No geotechnical risks associated with the re-mining of the Zandfontein TSF are anticipated and geotechnical parameters required during the re-mining of the TSF will be dealt with operationally.

Potential stability problems will be addressed by stabilising the surface against wind. and water erosion by establishing vegetation on the wall benches as part of the operation (SMS, 2017)

Without the rehabilitation, the run-off from the benches will cause excessive erosion of the uniformly non-cohesive underflow, despite the profile, leading to siltation, a loss of retention capacity and concomitant overtopping. This overtopping of a bench would have domino effect on lower benches which could ultimately fail leading to potential spillage downstream of the TSF (SMS, 2017).

Specialist consultants were appointed to perform a risk assessment and flow slide analysis to better understand slope stability and the probability of failure at the TSF. The probability of the failure was found to be 1:85,614, which is acceptable when compared to the industry's recommended probability of failure ranges between 1:15,000 (unlikely) and 1:150,000 (highly unlikely).

8.3.8.2.3 Mine Design Criteria

The mining assumptions and design criteria for the TSF re-mining operation is detailed in Table 43.

Table 43: Mine Design Criteria

Description	Unit	Value
Mining Rate	ktpm	195
Overall Project Availability	%	84
Contractor Operational Availability	%	98
Slurry Density to Supply Main Slurry Pump Station	t/m^3	1.35 to 1.80
Minimum Required Flow Rate to Prevent Settling of Material	m/s	3.2
High Pressure Water Requirement	m^3/h	577
Designed High Pressure for Monitor Guns	Bar	25

8.3.9 Mining Equipment, Considerations and Requirements

SC 5.2 (viii)

8.3.9.1 Mining Equipment

8.3.9.1.1 Underground Operations

The Zandfontein underground operations will be owner operated. Mining equipment will be purchased on a lease agreement. The primary mining fleet consists of:-

- LHDs;
- dump trucks;
- single boom drill rigs;
- roof bolter rigs; and
- charging vehicles.

The proposed primary mining equipment fleet is detailed in Table 44.

Table 44: Primary Equipment Fleet

Equipment Description	Total Quantity Required at Full Production
10t Load Haul Dumper	10
20t Truck	10
Single Boom Drill Rig	6
Support Rig Bolter	6
UV Charge-up Unit (UV80)	6
UV Charge-up Unit (Cassette)	5

Source: Ukwazi, 2021.

The secondary equipment is not directly involved in the production activities but provides a support function to the primary production equipment. The proposed secondary equipment is detailed in Table 45.

Table 45: Secondary Equipment Fleet

Equipment Description	Total Quantity Required at Full Production
Utility Vehicle ("UV") Fuel Utility Vehicle (UV80)	3
UV Fuel Cassettes	3
UV Store Utility Vehicle (UV80)	6
UV Store Flatbed Cassettes	3
UV General Utility Vehicle (UV80)	3
UV Scissor Cassette	3
UV Flatbed Cassette	9
UV Workshop Cassette	3
Scaler	3
Grader	1
Light duty vehicles ("LDVs")	6

Source: Ukwazi, 2021.

Other mining equipment that will be utilised in the stoping operations are detailed in Table 46.

Table 46: Other Mining Equipment

Equipment Description
Handheld Hydro power equipment ("HPE") Rock Drills
HPE Power Packs
55 kW or 75 kW Double Drum Winches
HPE Water Jet

Source: Ukwazi, 2021.

8.3.9.1.2 TSF Re-mining Operations

The required equipment associated with the hydro mining and mechanical mining of the TSF will be provided by the selected mining contractor. The primary mining equipment will consist of:-

- water monitors (water jet);
- high pressure water system;
- slurry transfer system
- mobile high-pressure pump system;
- excavators; and
- dump trucks.

Ancillary mining equipment will be provided by the mining contractor as required. The ancillary mining equipment will consist of:-

- excavators;
- front end loaders;
- tractor loader backhoe ("TLB"); and
- utility vehicles.

8.3.9.2 Development Advance Rates

The development advance rates planned from Zandfontein were determined from Ukwazi's database of projects, technical interviews with mining contractors and estimated cycle times. The planned development advance rates are detailed in Table 47.

Table 47: Development Advance Rates

Development Type	Unit	Value
Advance Strike Gully ("ASG")	m/month	30
Bottom Strike Drive	m/month	30
Top Strike Drive	m/month	30
Conveyor Strike Drive	m/month	50
Crosscut	m/month	30
Decline Chairlift	m/month	50
Decline Conveyor	m/month	50
Decline Equipment	m/month	50
Decline Holing	m/month	50
L Raise	m/month	20
L Winze	m/month	20
Material Bay	m/month	30
Muckbay	m/month	30
Raise	m/month	30
Strike Holing	m/month	30
Turn Bay	m/month	30
Travelling Way	m/month	20
Winch Cubby	m/month	30
Winze	m/month	30
Orepass	m/month	15
Silo	m/month	30
Ventilation Holing	m/month	30

8.3.9.3 Stoping Production Rates

The planned stoping production parameters are detailed in Table 48.

Table 48: Stoping Production Parameters

Parameter	Unit	Value
Panel Length	m	20
Average Stoping Width	m	1.5
Average Face Advance per Month	m/month	16
Square Meters per Month	m^2/month	320
Average Stope Tonnes per Panel	t/month/panel	2000

8.3.9.4 Life of Mine Plan

8.3.9.4.1 Underground Operations

A steady ramp up of three years has been incorporated into the mining schedule. Mining will commence with 20 kt RoM for a year, followed by 40 kt RoM for two years and then ramping up to steady state production of 80 kt of RoM per month.

The mining inventory is detailed in Table 49.

Table 49: Zandfontein Underground Operations Mining Inventory

Mineral Resource Category	Tonnes	4E Grade	4E Content	
	kt	g/t	kg	koz
Measured	2,282	4.75	10,829	348
Indicated	12,432	3.48	43,245	1,390
Inferred	1,471	3.37	4,961	160
Total	**16,184**	**3.65**	**59,035**	**1,898**

Note: The inventory includes the uneconomical tail which has been cut from the Mineral Reserve estimate.

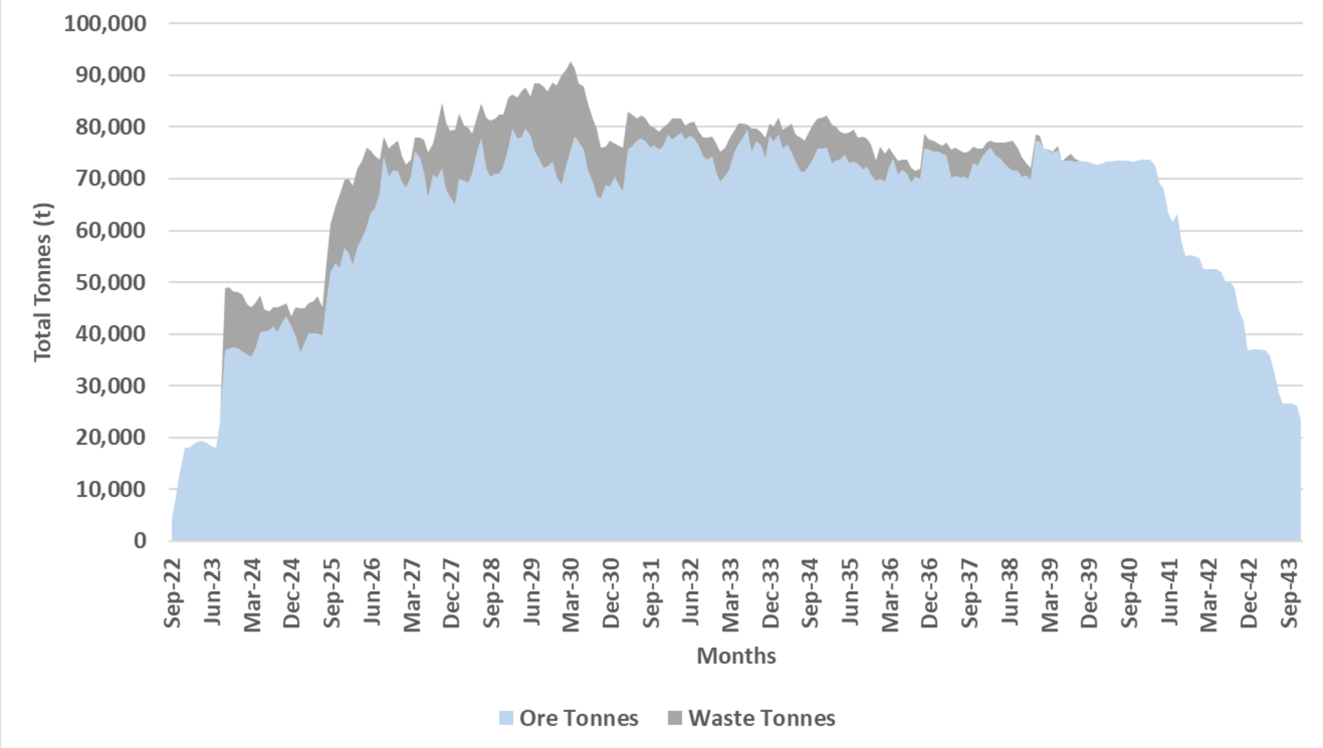
The mining inventory, excluding the tail which has been cut, is detailed in Table 50.

Table 50: Zandfontein Underground Operations Mining Inventory Excluding Uneconomical Tail

Mineral Resource Category	Tonnes	4E Grade	4E Content	
	kt	g/t	kg	koz
Measured	2,282	4.75	10,829	348
Indicated	12,298	3.48	42,777	1,375
Inferred	1,367	3.35	4,580	147
Total	**15,947**	**3.65**	**58,185**	**1,871**

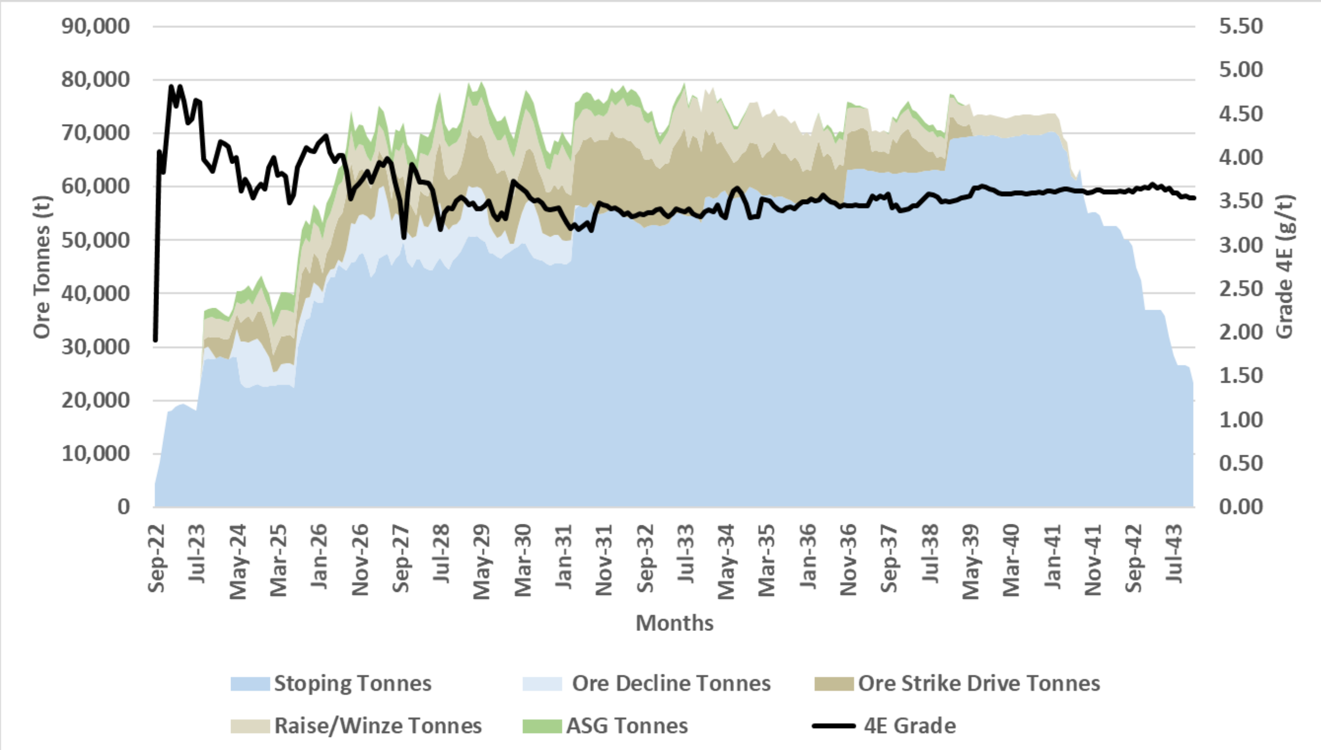
The diluted LoM plan showing mined tonnes over the LoM is illustrated in Figure 57. A LoM of approximately 22 years is envisaged, excluding the uneconomical tail.

Figure 57: Mined Tonnes over Life of Mine



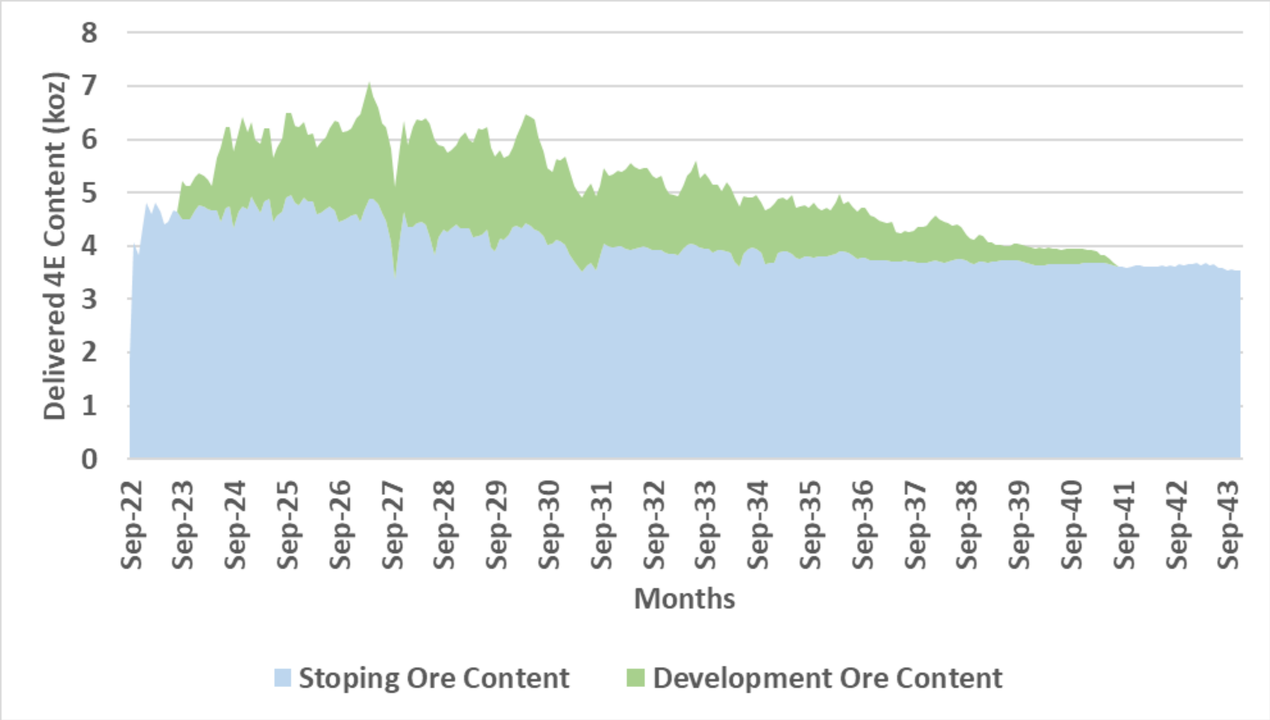
The LoM plan showing stoping and development ore tonnes is illustrated in Figure 58.

Figure 58: Stoping and Development Ore Tonnes



The delivered 4E content is illustrated in Figure 59.

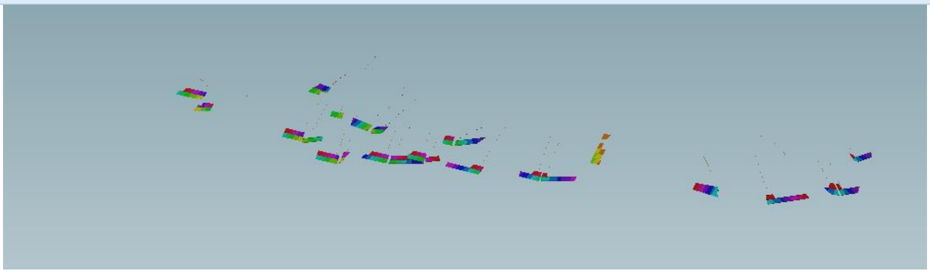
Figure 59: Delivered 4E Content



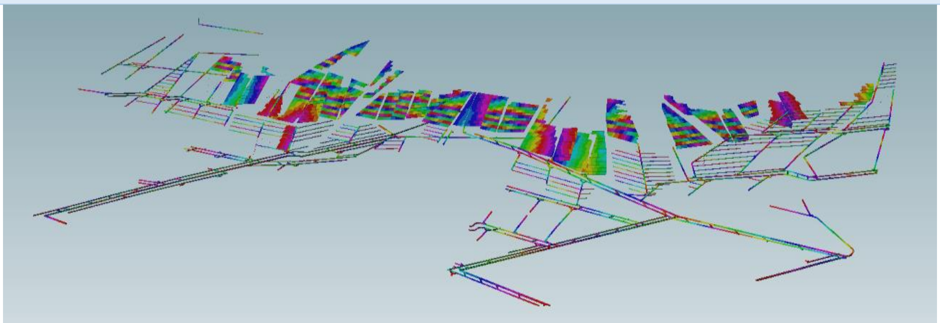
The Zandfontein underground operations mining schedule in five-year increments are illustrated in Figure 60 and Figure 61.

Figure 60: Zandfontein Underground Operations Mining Schedule Year 1, Year 5, Year 10

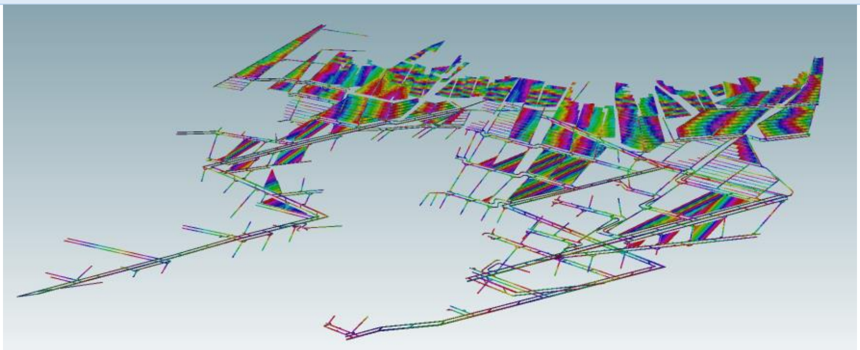
Year 1



Year 5



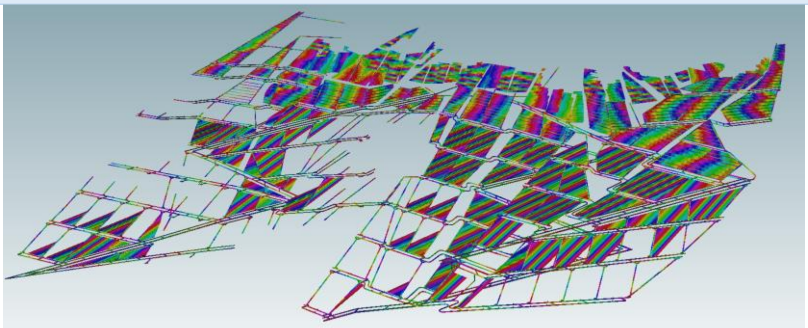
Year 10



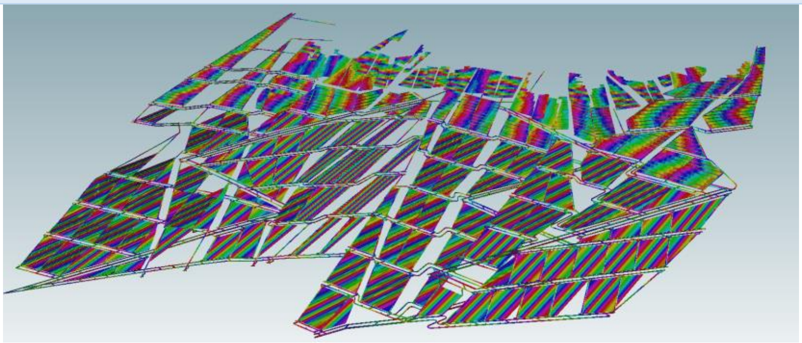
Zandfontein Underground Operations Mining Schedule Year 1, Year 5, Year 10	January 2022

Figure 61: Zandfontein Underground Operations Mining Schedule Year 15, Year 20, End of Life

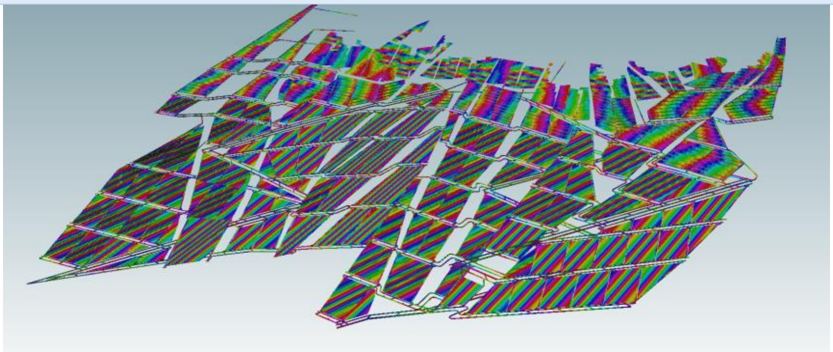
Year 15



Year 20



End of Life

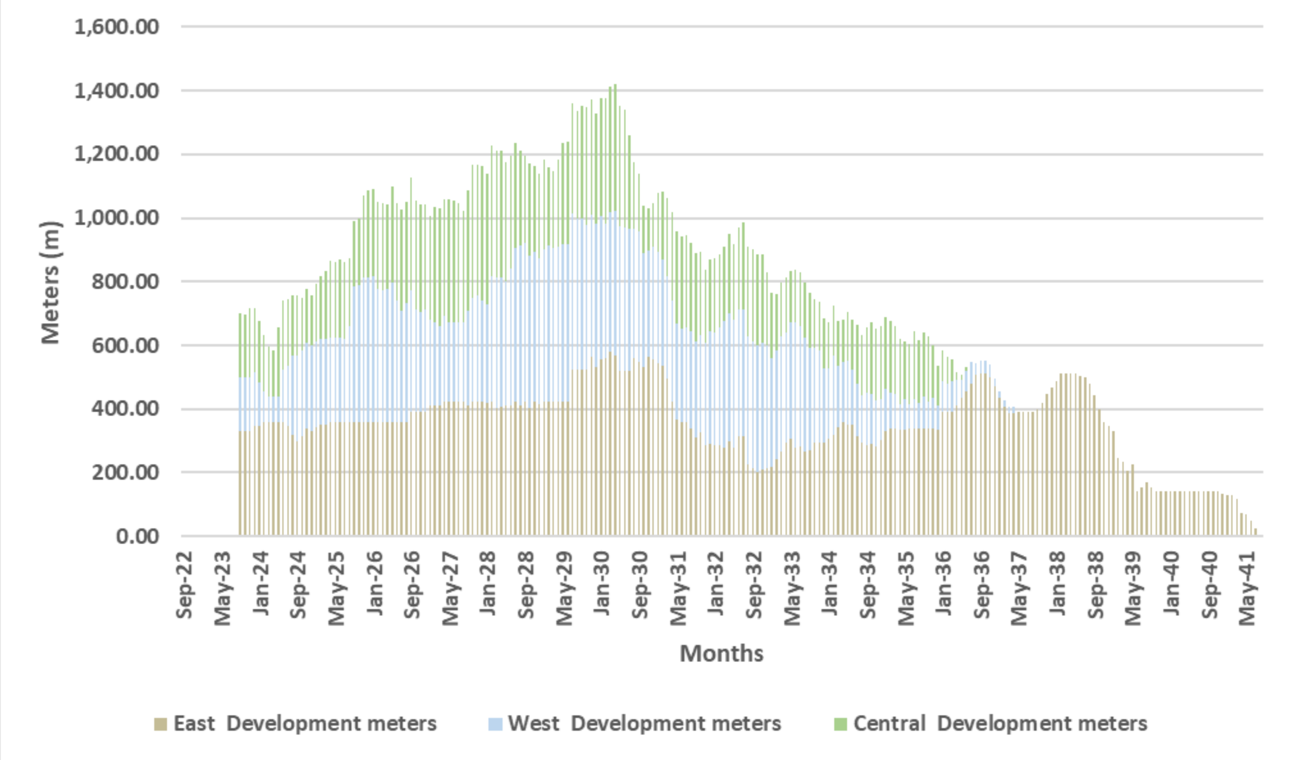


Zandfontein Underground Operations Mining Schedule Year 15, Year 20, End of Life	**January 2022**

8.3.9.4.1.1 Underground Development

The total development meters (on and off-reef) per mining area is illustrated in Figure 62.

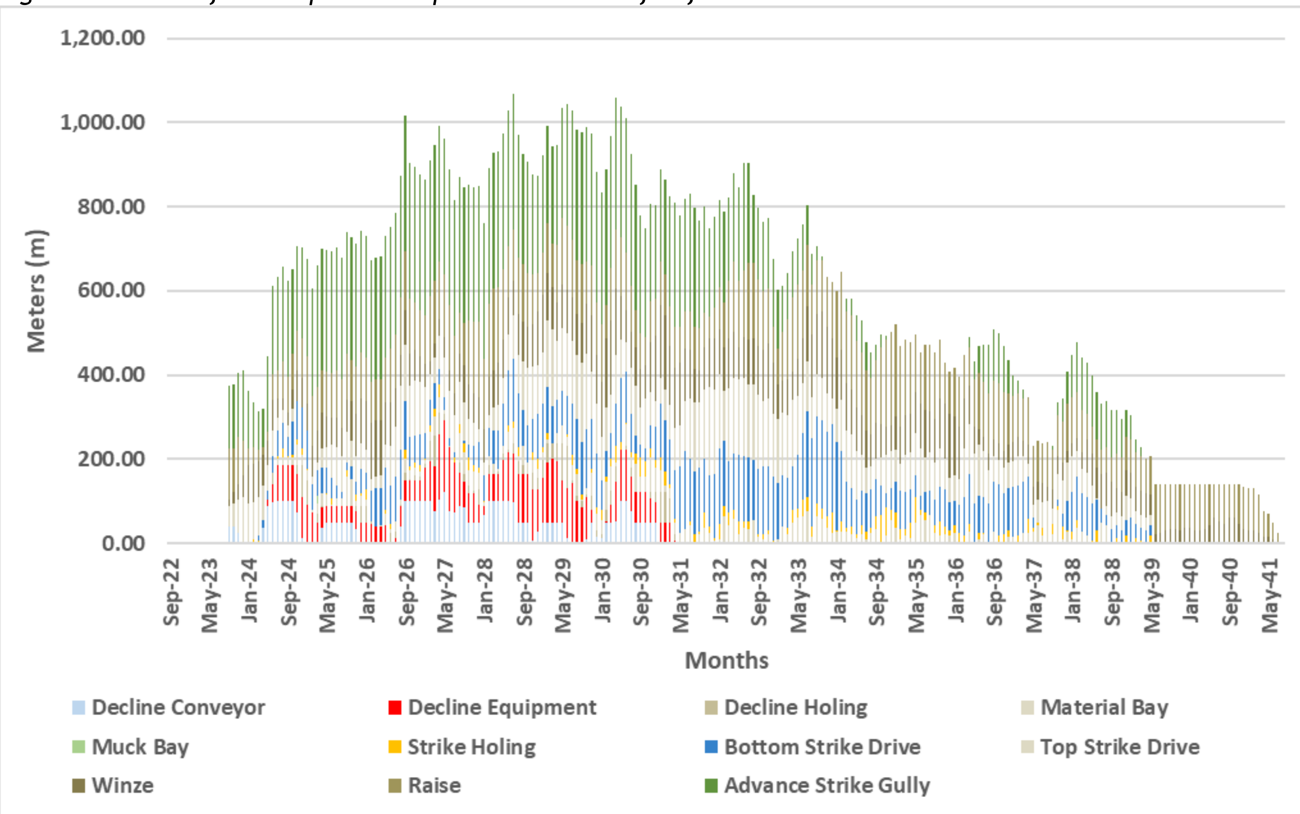
Figure 62: Development Meters over Life of Mine



Development only commences in month 13, one year after the commencement of stoping operations. This is due to sufficient stope faces being available on 5 Level and above to sustain the planned production rates, allowing new development to commence a year later.

The on-reef development requirements over the LoM are illustrated in Figure 63.

Figure 63: On-reef Development Requirement over Life of Mine



The off-reef development required over the LoM, is illustrated in Figure 64.

Figure 64: Off-reef Development Requirement over Life of Mine

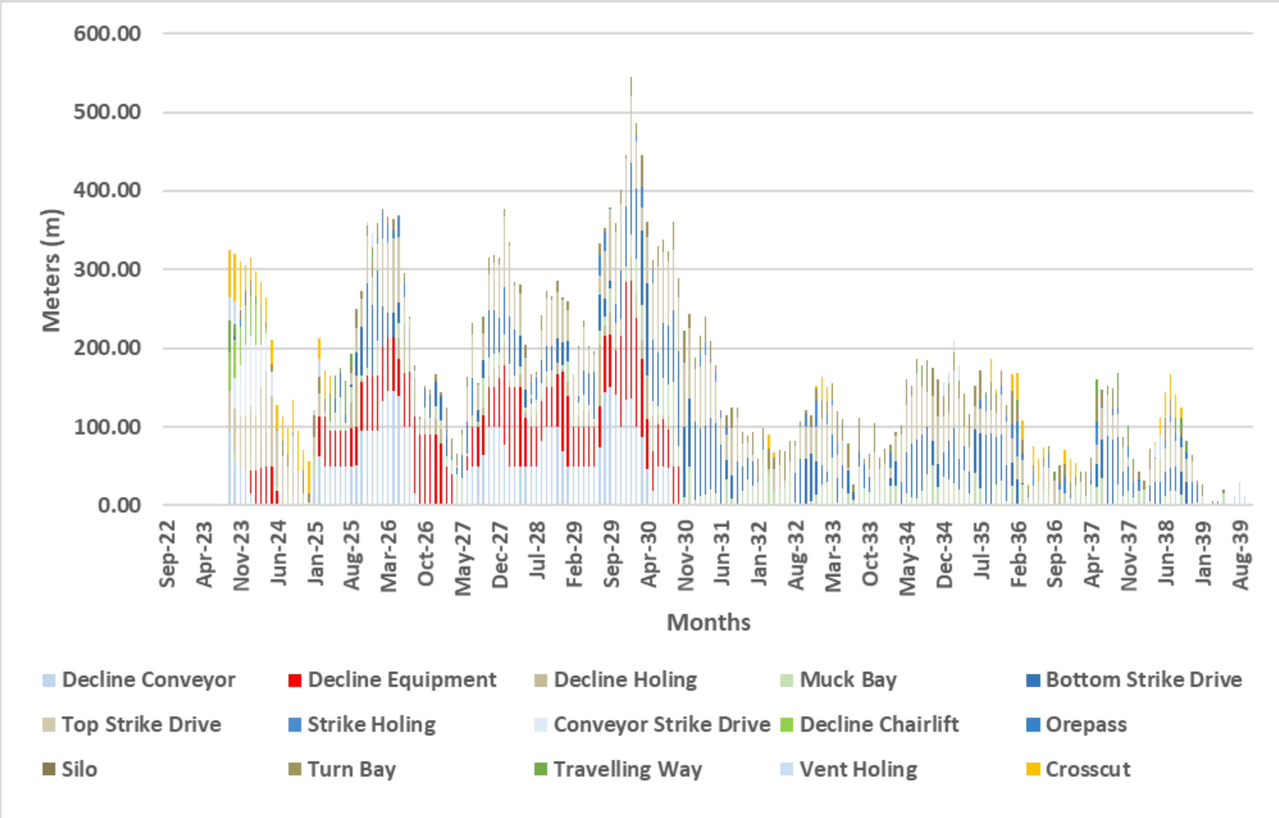


Figure 63 and Figure 64 illustrate that most of the development will be done on-reef. Only 21% of all required development meters over the LoM will be off-reef.

8.3.9.4.2 TSF Re-mining Operations

Minxcon utilised the TSF re-mining schedule completed by SMS in June 2021. The mining schedule was reviewed and adjusted by Minxcon to correlate to the 2022 Zandfontein TSF Mineral Resource estimate conducted by Minxcon.

Further adjustments were made by applying Mineral Reserve conversion factors to the planned mining volumes.

It is planned that approximately 195 ktpm inclusive of additional footwall material, will be mined from the TSF. The total mineable TSF Mineral Resource will be depleted over a period of 40 months.

The *in situ* mineable TSF Mineral Resource is detailed in Table 51.

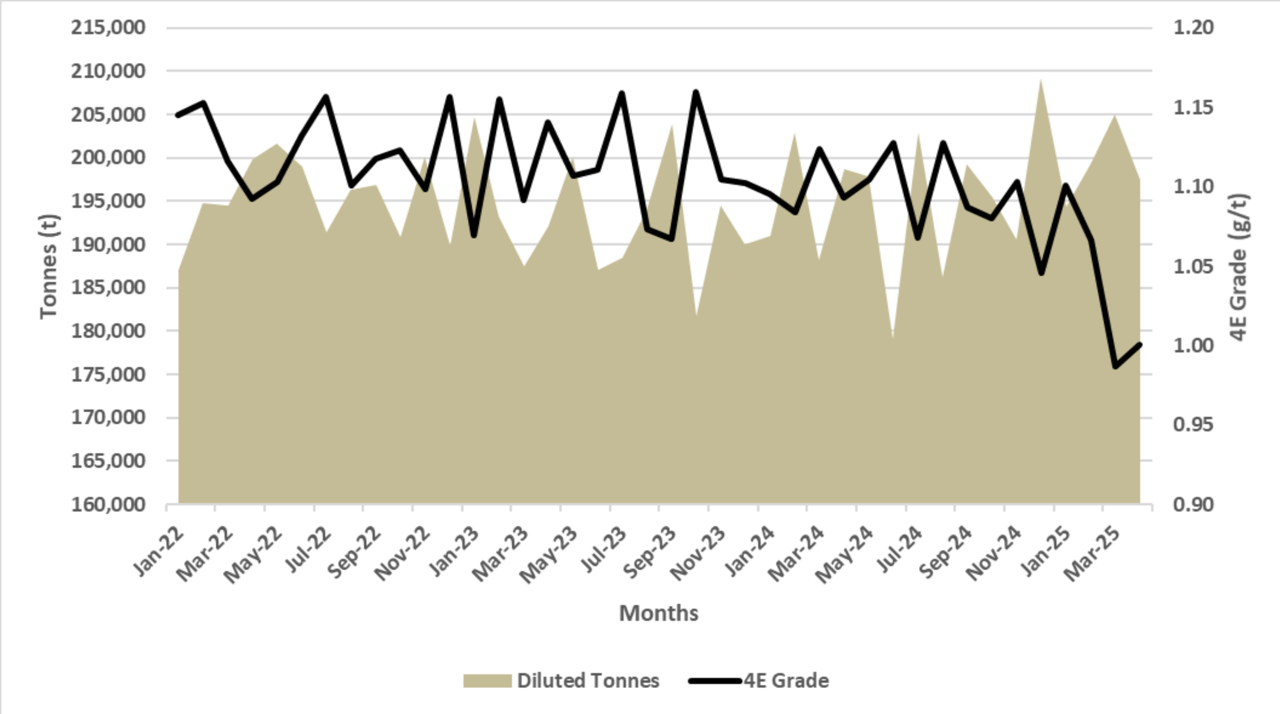
Table 51: Zandfontein TSF Mineable Mineral Resource

Description	Unit	Value
TSF Tonnes Mined	kt	7,188
4E Content	kg	8,430
4E Grade	g/t	1.17
Cr_2O_3 Content	kt	1,385
Cr_2O_3 Grade	%	19.27

Note: All values reported as *in situ*, prior to the application of Mineral Reserve conversion factors.

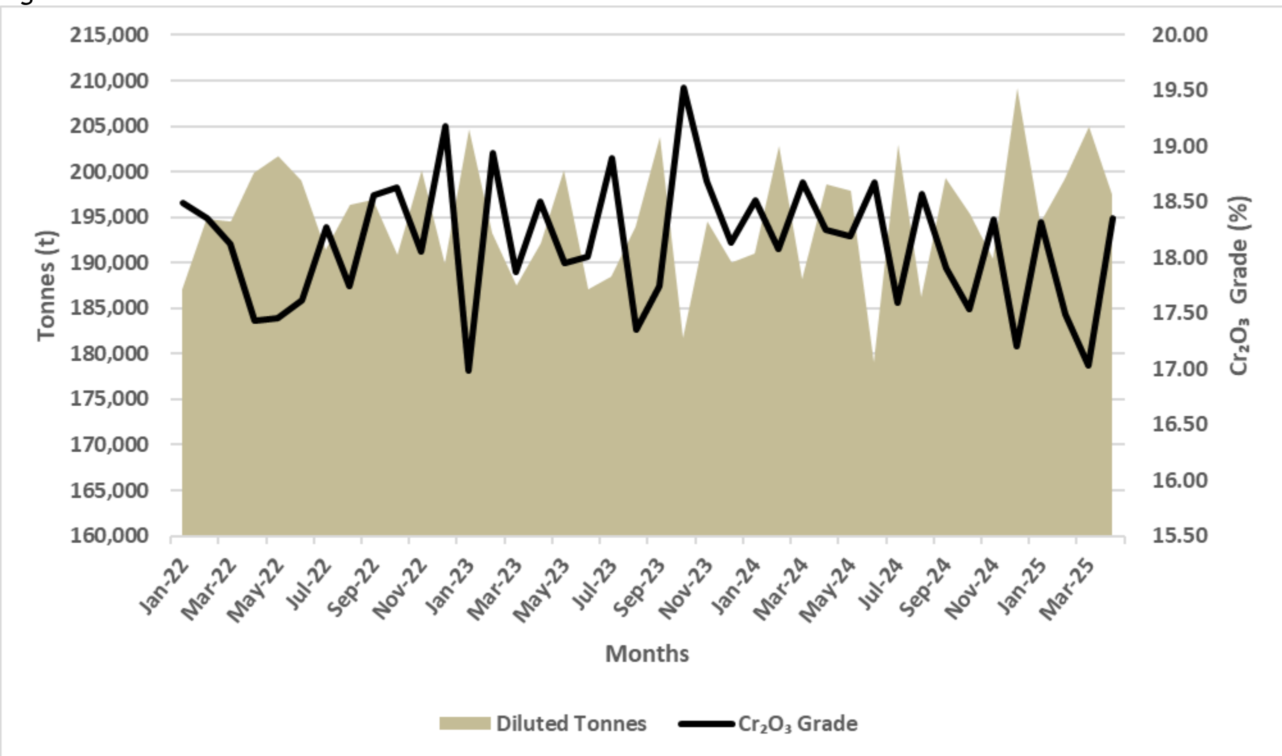
The diluted production schedule showing mined tonnes and 4E grade is illustrated in Figure 65.

Figure 65: Diluted Tonnes vs 4E Grade



The diluted tonnes and chrome grade is illustrated in Figure 66.

Figure 66: Diluted Tonnes vs Chrome Grade



The chrome and 4E content delivered to the processing plant is illustrated in Figure 67.

Figure 67: Chrome and 4E Content Delivered to the Processing Plant

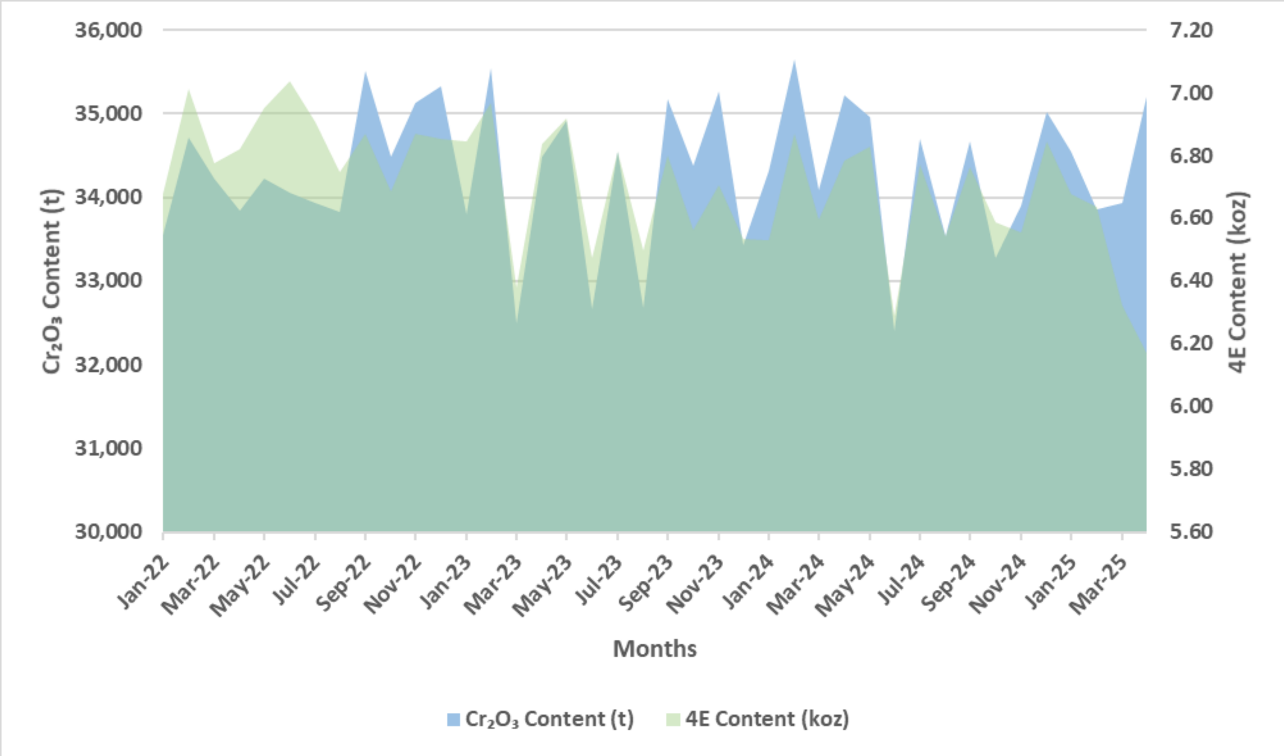
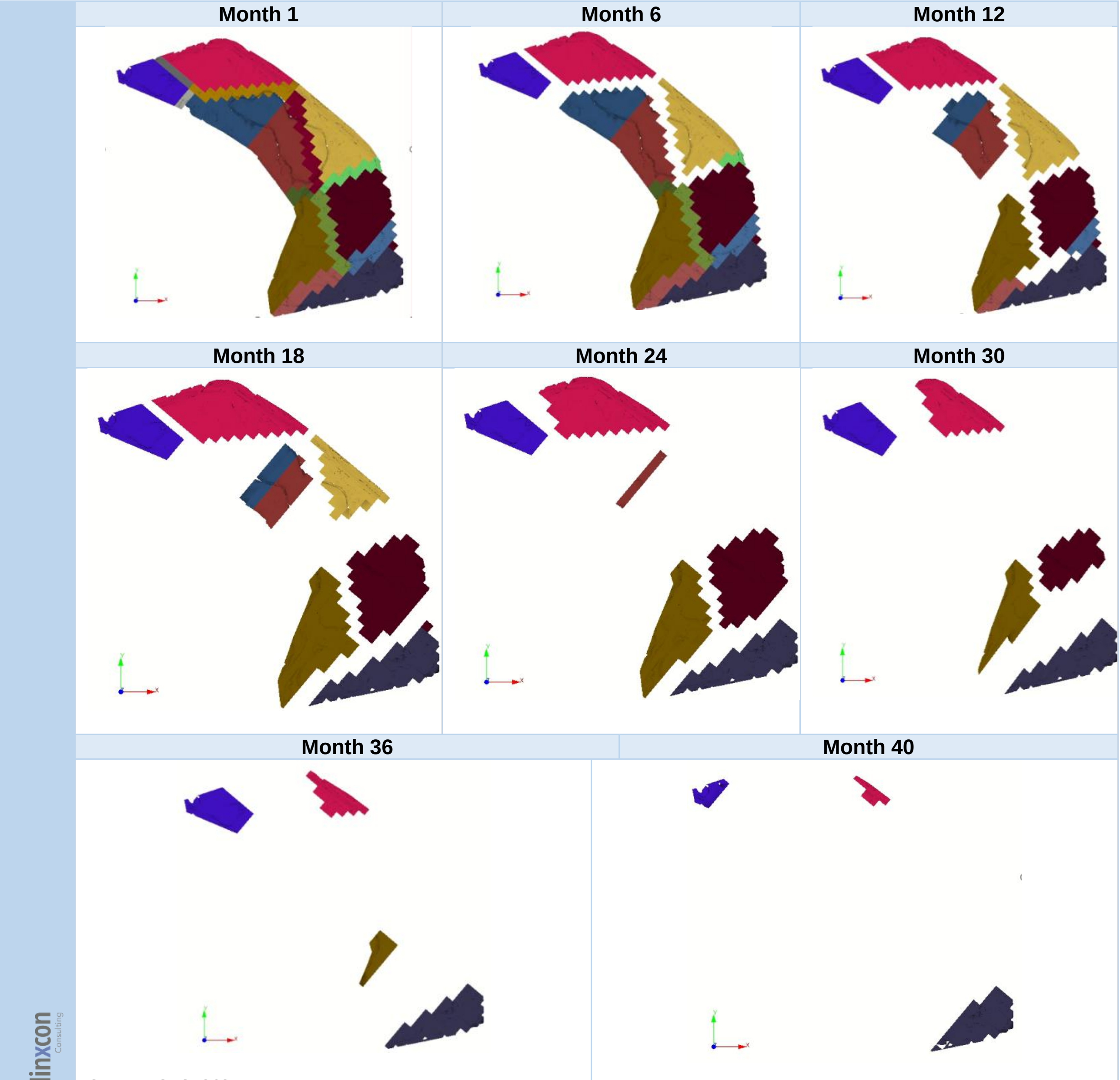


Figure 68: Zandfontein TSF Mining Schedule



Source: SMS, 2021.

Zandfontein TSF Mining Schedule	January 2022

8.3.9.5 Health and Safety

Eastplats has various policies and procedures in place that abide to the statutory Mine, Health and Safety regulations of South Africa.

8.3.9.6 Labour Requirements

The Shared Services Personnel requirements for 2022 is detailed in Table 52.

Table 52: Personnel Requirements

Designation	Quantity
Housing	5
Human Resources	8
Technical Services	6
Finance	20
SHERQ	3
SLP	8
OPS Management	9
Security	20
Mining	17
Engineering	21
Total	**117**

8.3.10 Optimisation Methods and List of Constraints

SC 5.2 (ix)

Minxcon is not aware of any known environmental, permitting, legal, title, taxation, socio-economic, marketing, and political or other factors that will materially affect the Mineral Reserve estimates.

It is Minxcon's view that the information provided to Minxcon by the Client is sound and no undue material risks pertaining to mining, metallurgical, environmental, permitting, legal, title, taxation, socio-economic, marketing, political, and other relevant issues pose a material risk to the Mineral Reserve estimates.

8.4 Metallurgical (Processing / Recovery)

8.4.1 Metallurgical Testwork

SC 5.3 (i)(ii)(iv)

8.4.1.1 Nature and Extent of Testing and Analytical Procedures

Testwork completed by Maelgwyn South Africa carried out laboratory flotation tests to determine the best re-grind P_{80} particle size for PGM recovery and concentrate grade from UG2 chromite tailings. The tests were done as open circuit multi cleaner tests on material with PSDs of 80% passing of 106 µm, 75 µm and 53 µm followed by a locked cycle flotation test at best grind. The samples tested were from the tailings of the chrome plant. From these results the 6E recovery was 43.68% at a final concentrate grade of 83.3 g/t 6E. The 4E recovery was 48.12% at a final concentrate grade of 71.67 g/t 4E at a head grade of 2.9 g/t 6E.

These samples are not considered representative of the TSF remined material, therefore historical production data was used for the basis of assumptions regarding recovery estimates.

8.4.1.2 Basis of Assumptions Regarding Recovery Estimates

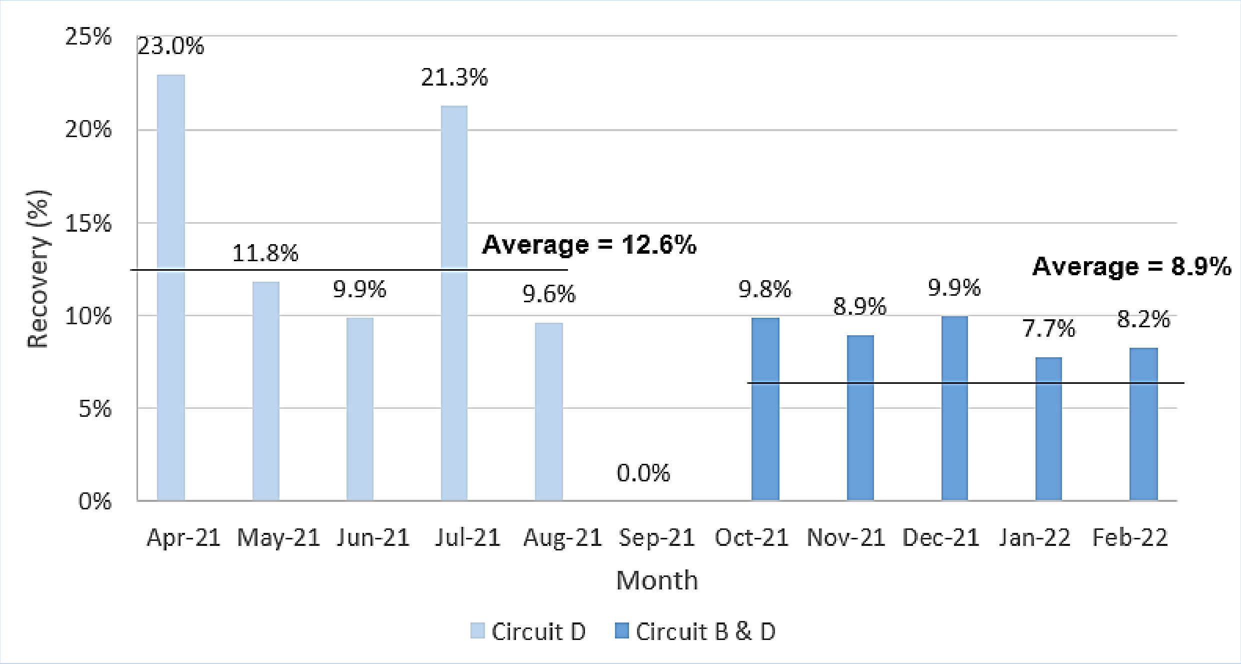
Circuit B PGM plant has a design capacity of 164 tph, however the plant has been operating at around 100-120 tph recently. Circuit D has a plant capacity of 70 tph and has been operating at 90-100 tph. Operational data from December 2020 to February 2022 is summarised in Figure 69. The average recoveries achieved when only Circuit D was operational was 12.6% and with Circuit B operational as well the average recoveries achieved was 8.9%. A summary of the overall performance of the plant is detailed in Table 53, the recovery of 11% was used in the financial model.

During the operational period of December 2020 and February 2022 the plant was being commissioned and production was ramped up, therefore it is expected that with optimisation and stable throughput the recoveries will increase. A flotation plant requires steady state production to be efficient and therefore lower recoveries are achieved when instability is experienced. The achievable recoveries from the metallurgical testwork were above 40% whereas the plant is operating at below 15% (being in the commissioning and ramp up phase), this indicated there is upside potential in the recovery optimisations.

Table 53: Summary of Zandfontein Plant Operations from Dec 2020 to Feb 2022

Description	Unit	Total
Feed Tons	Tonnes	887,818
Feed Grade	g/t	1.48
Final Tailings Tons	Tonnes	744,562
Tailings Grade	g/t	1.35
Concentrate Tons Produced	Tonnes	3,654
Final Concentrate Grade 4E	g/t	45.7
Final Concentrate Grade 6E	g/t	52.5
Actual Recovery	%	10.9%
Dry Tons Dispatched	Tonnes	2,488

Figure 69: Zandfontein Processing Plant Recoveries



8.4.2 Recovery Methods

SC 5.3 (iii)(vi) SC 5.6 (viii)

The flotation of PGMs is well-tested technology within the platinum industry and has been used for the recovery of PGMs for decades.

8.4.2.1 Process Description

The layout of the existing Zandfontein plant is illustrated in Figure 70 and the entire processing plant flow diagram is shown in Figure 71. The processing plant is currently operational, with the Chrome plant, Circuit B and Circuit D and its associated equipment operating. Circuit A is to be commissioned in July of 2022.

Figure 70: Zandfontein Plant Layout

Source: Plant VP July 2016 Presentation

Zandfontein Plant Layout	January 2022

The proposed Zandfontein beneficiation process consists of the following:-

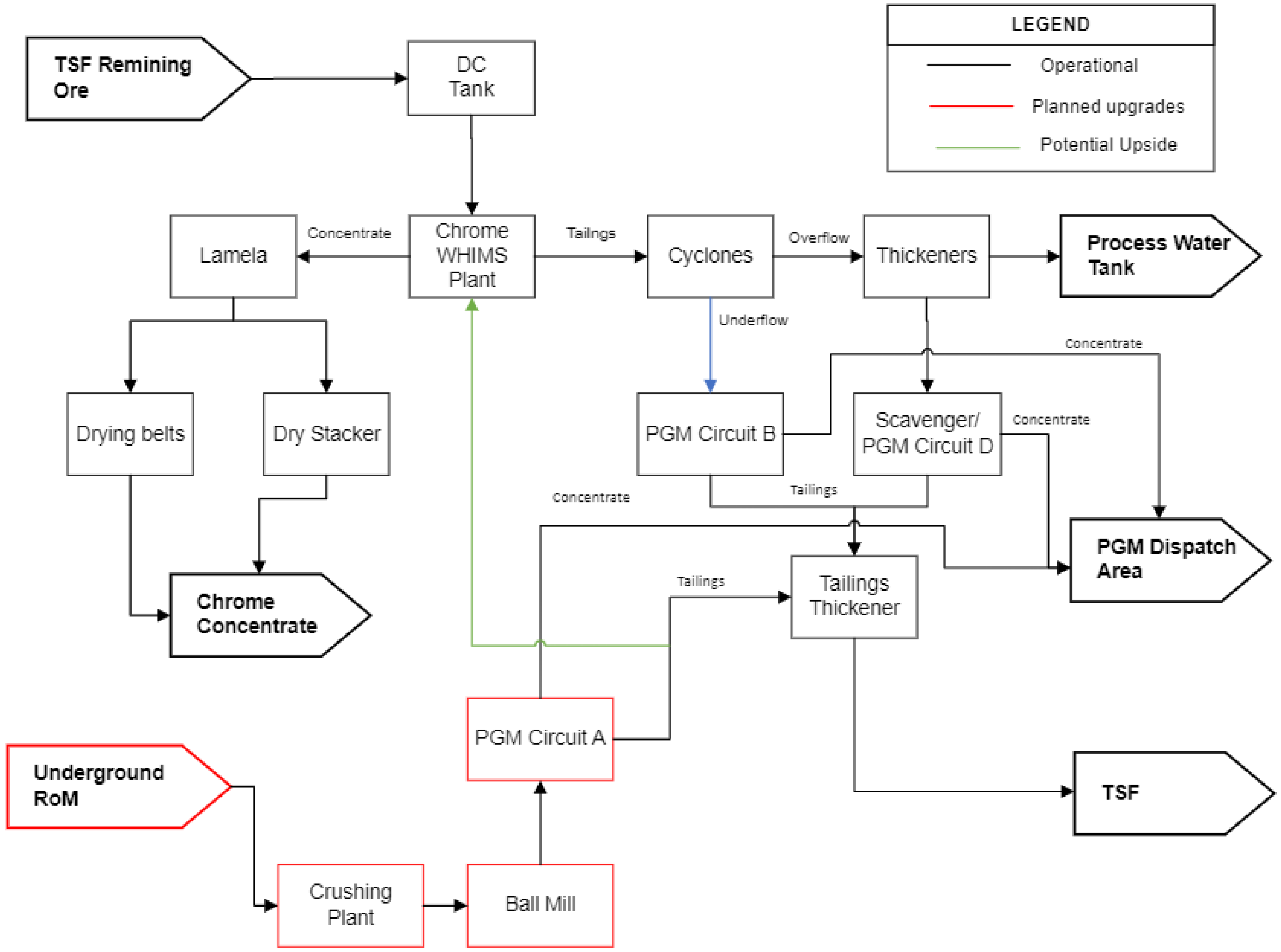
TSF Remining

- TSF remining is pumped via a density-controlled tank to the WHIMS plant for chromite removal;
- tailings of the chrome plant is classified using cyclones;
- cyclone overflow reports to a thickener and the thickener underflow feeds to Circuit D for PGM flotation;
- cyclone underflow feeds Circuit B for PGM flotation; and
- tailings from Circuit B and Circuit D is pumped to TSF.

Underground Ore

- RoM ore from underground will feed the crusher circuit;
- crusher product sent to primary mill which feeds Circuit A for PGM flotation;
- flotation rougher tails feeds the Chrome Recovery Plant;
- tailings of the chrome plant are classified using cyclones;
- cyclone overflow reports to a thickener and the thickener underflow feeds to Circuit D for PGM flotation;
- cyclone underflow feeds the secondary mill which Circuit B for PGM flotation;
- tailings from Circuit B and Circuit D is pumped to TSF; and
- potential future upside to process Circuit A tailings to WHIMS to recover chrome.

Figure 71: Zandfontein Process Flow Diagram



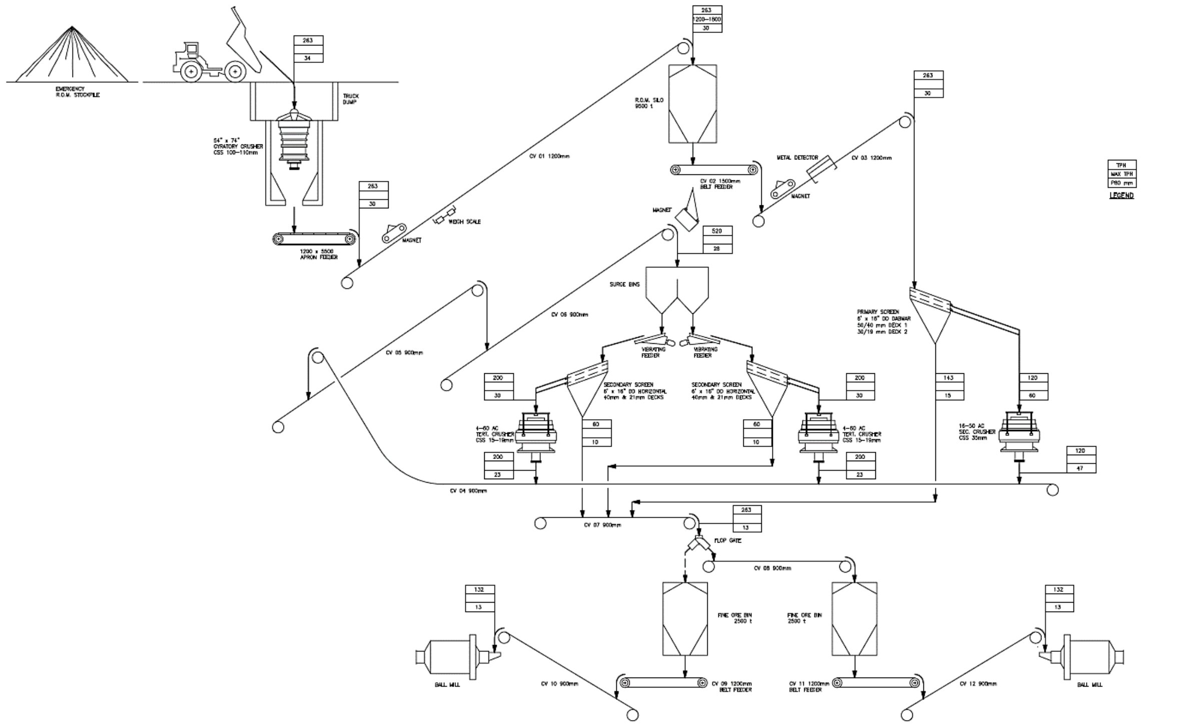
Source: Zandfontein Flowsheet 2009

Zandfontein Process Flow Diagram	January 2022

8.4.2.2 Existing Crushing Circuit

RoM ore is tipped into the jaw crusher. The jaw crusher product is conveyed from the rock box to the coarse ore silo. From the coarse ore silo it is fed onto a double deck primary screen. The top and bottom primary screen sizes are 50 mm and 19 mm respectively. The oversize of the 50 mm screen gravitates into the secondary cone crusher. The secondary crusher product and the oversize from the 19 mm screen are conveyed to the double deck secondary screens via surge bins. The top and bottom secondary screen sizes are 35 mm and 19 mm respectively. The oversize from both top and bottom secondary screens gravitates into the tertiary cone crushers. The tertiary crushing stage is done in a close circuit. The undersize from both primary and secondary screens are transferred and distributed to the two mill feed silos. The process flow diagram for the crushing circuit is illustrated in Figure 72.

Figure 72: Crushing Circuit Flowsheet



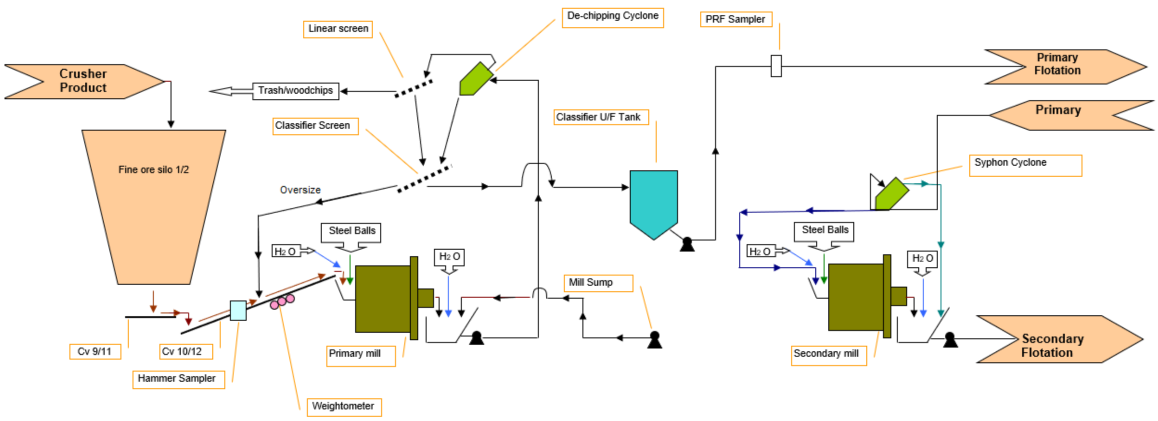
Source: Zandfontein_Plant_Audit_Report[1]

Crushing Circuit Flowsheet	January 2022

8.4.2.3 Existing Milling Circuit

The milling plant is illustrated in Figure 73, comprised of two identical streams equipped with a fine ore silo, two feed conveyor belts, a primary mill and a secondary mill. Fine ore with a Particle Size Distribution ("PSD") of 90% passing at 19 mm is fed from the silos using conveyor belts to the primary mills at maximum rate of 110 tph. High chrome steel balls of 70 mm in diameter are fed to the mills as grinding medium. Primary mill discharge slurry is pumped to the classification circuit which is comprised of a de-chipping cyclone, linear screen, and a classifier screen. The classifier oversize material is returned to the mill feed conveyor and the undersize material passing 0.63 mm is pumped to primary flotation. Typically, the rougher feed PSD is 40-45% passing 75 µm. The primary cleaner tailings and chrome plant tailings pass threw a syphon cyclone to separate the -75 µm material to the overflow. The cyclone underflow is fed directly to the secondary mill where 40 mm steel balls are used as grinding medium. The mill discharge is combined with the cyclone overflow and pumped to the secondary flotation. Typically, the secondary rougher feed PSD is 75-78% passing 75 µm.

Figure 73: Zandfontein Plant Milling Circuit



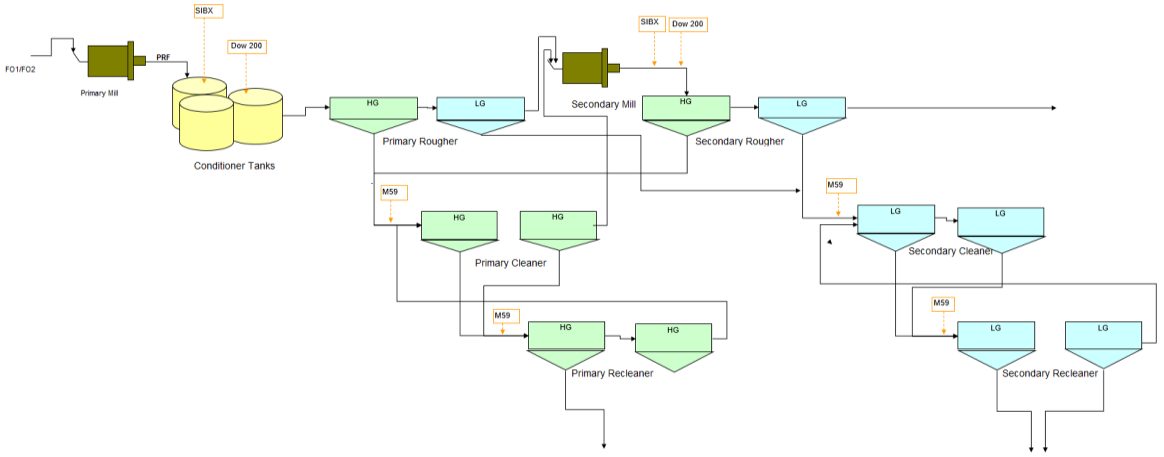
Source: Plant PFDs & Process Description

Zandfontein Plant Milling Circuit	**January 2022**

8.4.2.4 Existing Flotation Circuit

The flotation plant is illustrated in Figure 74 and is comprised of two identical MF2 ("Mill-Float-Mill-Float") circuits A and B. The primary mill product, pulp with a relative density of 1.5 - 1.55 t/m^3, is pumped at a rate of 160-200 m^3/h to the three conditioning tanks which are connected in series. Flotation reagents are added to the conditioning tank in sequence starting with 150 g/t SIBX, afterwards SNPX (as collector) are added and finally 15 g/t of Dow 200 as frother. The feed pulp is conditioned for approximately 30 minutes and then flows into the first rougher bank. Air is sparged in the flotation cells at a pressure of 15 – 20 kPa. High grade rougher concentrate from the first rougher bank (first four cells) is pumped to the high-grade cleaner flotation bank. Low grade rougher concentrate from the second rougher bank (last four cells) is pumped to the low-grade cleaner flotation bank. The primary rougher tailings are combined with the high-grade cleaner tails and pumped to the secondary mill circuit for further grinding and PGM liberation.

Figure 74: Zandfontein Plant Flotation Circuit



Source: Plant PFDs & Process Description

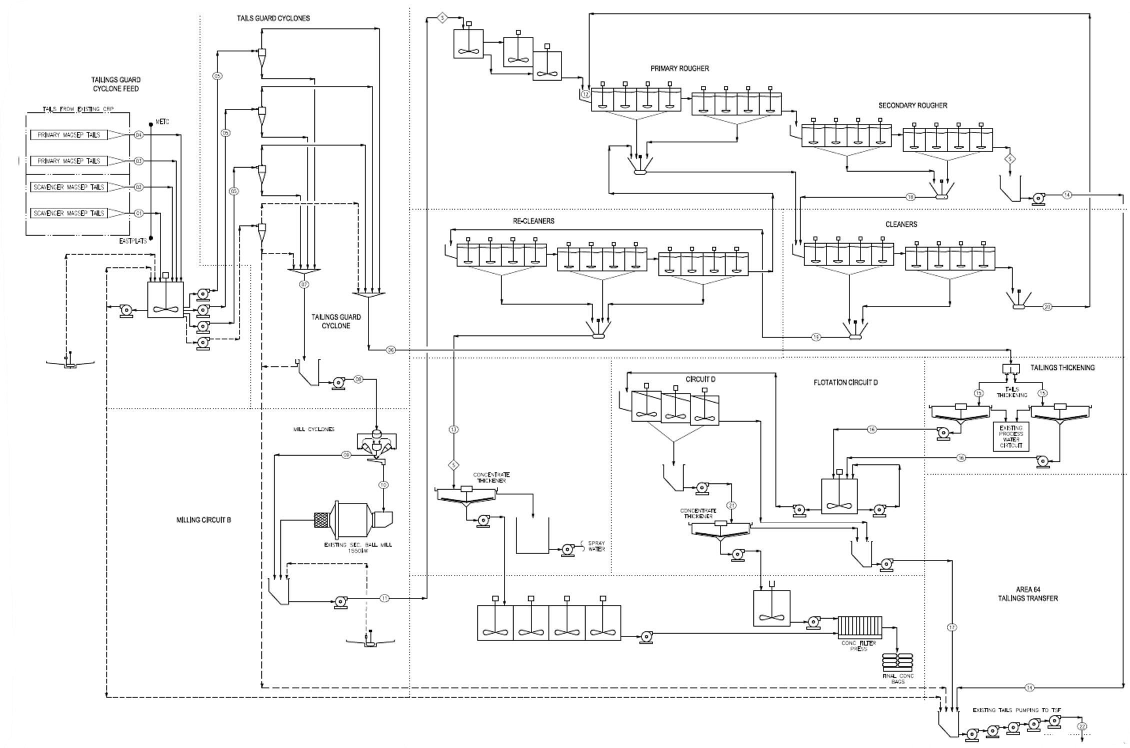
Zandfontein Plant Flotation Circuit	**January 2022**

Chrome is extracted from final flotation tails through a series of spirals and two products are formed viz: chemical grade chrome with a chromite content higher than 43.5% and silica below 1%, and metallurgical grade chrome with chromite higher than 42% and silica below 3%. The spiral tails are then pumped to the PGM scavenging plant, where the residual PGMs are extracted at a 6% recovery. The scavenging plant produces a concentrate of 60 - 80 g/t 6e PGM grade with a chrome content of 3.5% and below. The rougher tails from this plant are cycloned, thickened and pumped to the tailings dam for final deposition.

8.4.2.5 Process Modifications

There were modifications done to the existing processing plant in order to accommodate Circuit B and Circuit D during recommissioning. A secondary ball mill, Circuit B and Circuit D has been recommissioned to treat tailings from the WHIMS chrome plant. A schematic of the recommissioned PGM plant is shown in Figure 75.

Figure 75: Process Flow Diagram for Circuit B and Circuit D



Source: Plant PFDs & Process Description

Zandfontein Plant Flotation Circuit	January 2022

The WHIMS tailings constitute ore feed to the PGM recovery plant. Feed is collected into a surge tank from which the guard cyclones are fed. Guard cyclone overflow gravitates to the two existing tailings thickeners prior to feeding Circuit-D flotation, whilst the guard cyclone underflow is transferred to the mill classification cyclones. Feed to Circuit-D flotation is the tailings thickener underflow. Final flotation concentrate from this circuit is thickened and transferred to dedicated concentrate storage tanks.

The milling circuit design is based on an open-circuit ball mill configuration with classification cyclones. Mill cyclone feed solids content is set at a relative density of 1.45 t/m^3 and a targeted cyclone overflow of 80% passing of 45 – 50 µm. Cyclone overflow, together with mill discharge, is collected into the mill discharge tank, and constitutes the final mill product to feed the flotation circuit. Mill discharge is pumped to feed main plant circuit-B flotation. The cyclone underflow at a target solids content of 1.78 t/m^3 is fed into the ball mill for solids grinding to a product size at an 80% passing of 45 µm. The ball mill discharges through a 10 mm aperture trommel screen into a mill discharge sump. Steel balls are added into the mill manually.

Mill cyclone underflow gravitates to the ball mill feed, whilst the mill cyclone overflow is collected into the mill discharge tank. The open-circuit ball mill circuit product is pumped, from the mill discharge tank to the rougher feed condition tanks for the re-commissioned circuit/stream of the main plant flotation section (Circuit B).

The re-configured Circuit B flotation utilises a total of 16 rougher cells, eight cleaner cells and 12 re-cleaner cells. Rougher concentrate is pumped to feed the cleaner section. Cleaner concentrate feeds the re-cleaner banks, whilst the cleaner tails stream is recycled back to the rougher feed. Re-cleaner concentrate is pumped to a dedicated existing concentrate thickener for dewatering. Thickener underflow is transferred to dedicated concentrate storage tanks prior to the filtration process. The re-commissioned pressure filter (or a rented filter unit) is used to batch process both concentrates from Circuit-B and Circuit-D flotation processes.

8.4.2.6 Plant Design, Equipment Characteristics and Specifications

The design criteria for the four ball mills at the Zandfontein plant are detailed in Table 54.

Table 54: Zandfontein Ball Mills Design Criteria

Parameter	Unit	Mill #1 (Circuit A)	Mill #2 (Circuit A)	Mill #3 (Circuit B)	Mill #4 (Circuit B)
Type of mill	-	Ball mill	Ball mill	Ball mill	Ball mill
Duty	-	Primary	Secondary	Primary	Secondary
Liner type	-	Polymet (rubber on metal)	Rubber liners	Pocket liner - steel	Rubber liners
Grinding media (steel balls)	-	70 mm high Cr	40 mm high Cr	70 mm high Cr	40 mm high Cr
Discharge arrangement	-	Overflow	Overflow	Overflow	Overflow
Trommel arrangement	-	Spiral out	Closed grating	Spiral out	Closed grating
Diameter inside shell	m	4.2672	4.2672	4.2672	4.2672
Diameter inside liner	m	4.17	4.115	4.17	4.115
Length	m	4.572	4.8768	4.572	4.8768
Degree of filling	% J balls	30.1	28	29.4	27.3
Open/closed circuit	-	Closed	Open	Closed	Open
Classification	-	Screened at 630µm	Cyclone with d_{50} of 75µm	Screened at 630µm	Cyclone with d_{50} of 75µm
Installed power	kW	1,550	1,550	1,550	1,550
Absorbed power	kW	1,175	1,200	1,180	750
Mill speed	rpm	15	15	15	12
% Critical speed (shell)	%	75%	75%	75%	< 60%
Design throughput	tph	136	136	136	136
Current tph	tph	110	110	95	95
Water	m³/h	37	-	28	-
Mill discharge density	t/m³	2.28	2	2.04	2
Ore density	t/m³	3.9	3.9	3.9	3.9
F80 target	µm	+/- 16 mm	46-48% < 75 µ	+/- 16 mm	46-48% < 75 µ
F80 current	µm	+/- 19 mm	46-48% < 75 µ	+/- 19 mm	46-48% < 75 µ
P80 target	µm	45-50% < 75 µ	75-80% < 75 µ	45-50% < 75 µ	75-80% < 75 µ
P80 current	µm	39-42% < 75 µ	68-72% < 75 µ	39-42% < 75 µ	65-69% < 75 µ

8.4.2.7 Energy, Water and Process Materials Requirements

8.4.2.7.1 Reagents

Table 55 outlines the reagent used for the processing plant, along with the dosing points locations.

Table 55: Processing Plant Reagent Dosing Regime

Reagent	Dosing Rate	Reagent Concentration	Dosing point
	g/t	%	
Copper Sulphate (Circuit B)	11	5	Mill discharge sump
SIBX (Collector)	120	10	Conditioning tank/Rougher feed tank
Senkol 65	40	10	Conditioning tank/Rougher feed tank
Frother	30	100	Rougher feed box
Depressant (Circuit B)	150	1	Conditioning tank
Depressant (Circuit D)	150	1	Rougher feed tank
Flocculant	-	0.5	Thickener feed box

The collector, activator and depressant are each delivered and received in powder/solids form. The reagent package bags are cut, and product is emptied into the respective agitated mixing tanks where each reagent is mixed with raw water. Mixed collector solution from the holding tank is distributed to the various flotation cell banks using dedicated dosing pumps. Similarly, activator and depressant are distributed to the flotation cell banks and mill discharge tank as required.

A solution of flotation frother is received in 200 litre drums, transferred into a 1 m^3 tank prior to distribution to the various flotation cell banks as required.

Flocculant is used in the concentrate thickener to promote settling of solids particles. The flocculant powder is received in 25 kg bags, which is emptied into storage hopper. Flocculant is withdrawn from the hopper by means of a screw feeder transferring product into an eductor, which carefully mixes the flocculant powder with raw water. The mixed solution is transferred into the holding tank from which the concentrate thickener is dosed. Flocculant is further diluted in an inline pipe mixer at the thickener area with process water prior to discharging into the thickener feed box.

8.4.2.7.2 Water Requirements

The flowsheet in Figure 75 showing the PGM recovery circuit receives diluted fresh plant feed at a nominal solids content density of 11% w/w. Thus, no fresh process water make-up is required for the PGM circuit. The water requirement for the diluted fresh feed is estimated as 1,903 m^3/h according to the mass balance shown in Table 56.

Table 56: Mass Balance for PGM Recovery Circuit

Description	Unit	Total Plant Feed	Circuit B Flotation Feed	Total Flotation Feed	Main Plant Flotation Conc	Main Plant Flotation Tails	Tails Thickener Feed	Final Tailings
Solids Dry Tonnage	tph	234	164	174	4	160	35	229
Water Tonnage	tph	1,903	206	317	26	290	849	404
Slurry Tonnage	tph	2,138	370	491	30	451	884	633
Slurry Volume	m^3/hr	1,973	254	368	27	338	859	472
Slurry SG	t/m^3	1.08	1.45	1.33	1.10	1.33	1.03	1.34

However, raw water supply quality would be required for reagent make-up, fire protection system, and gland water services. Tie-in to the existing raw water supply line is allowed for in the design. Concentrate thickener overflow water solution is mainly used in the plant as froth spray water and for density control loops in the conditioning tanks and mill discharge tank.

8.4.2.7.3 Energy Requirements

The total installed power for the processing plant is estimated as 4.3 MW, the equipment list and the installed power requirement is outlined in Table 57.

Table 57: CRM Processing Plant Power Requirements

Equipment/Area Description	Installed Power kW
CRP Tails Guard Cyclone Feed	534
CRP Tails Guard Cyclones	154
Secondary Ball Mill No.2	1,551
Secondary Mill No.2 Vendor Ancillary Equipment	44
Mill Discharge	168
Flotation Feed Conditioning	61
Rougher Flot-B No.1-4	244
Rougher Flot-B No.5-8	224
Rougher Flot-B No.9-12	233
Rougher Flot-B No.13-16	224
Rougher Flot-B Tails	157
Cleaner Flot-B No.1-4	108
Cleaner Flot-B No.5-8	124
Re-Cleaner Flot-B No.1-4	41
Re-Cleaner Flot-B No.5-8	32
Re-Cleaner Flot-B No.9-12	32
Concentrate Thickener	52
Concentrate Filter Feed	184
Concentrate Filtration	40
Collector make-up circuit – SIBX	19
Collector make-up circuit – SENKOL	13
Frother make-up circuit	8
Copper Sulphate make-up circuit	20
Depressant make-up circuit	11
Flocculant make-up circuit	10
Total	**4,288**

8.4.2.7.4 Labour Requirements

The labour requirement for the operation of PGM plants namely, Circuit A, Circuit B and Circuit D as well as the Chrome plant is detailed in Table 58. The labour requirement was used to determine the labour cost in the financial model.

Table 58: CRM Processing Plant Labour Requirement

Description	Total Complement
Security	1
SHERQ	9
Laboratory	22
HR	8
Finance	2
Production	302
Engineering	69
Logistics	13
Total	**426**

8.4.3 Deleterious Elements and Bulk Sampling

SC 5.3 (v)

No bulk sampling was undergone at the CRM processing plant.

The CRM processing plant produces two products, a chrome concentrate and two PGM concentrates. The chrome concentrate is produced through the WHIMS circuit, with the high grade as well as low grade PGM concentrates are produced through flotation of the UG2 and remined TSF material respectively. Off-take agreements for all three final products are in place.

8.5 Infrastructure

SC 5.4 (i)-(iii)

The infrastructure relating to the TSF remining as well as underground operations is described to follow. All necessary logistics have been considered.

8.5.1 Surface Infrastructure

CRM re-commenced operations in April of 2005 at Zandfontein and Maroelabult, treating up to 120 ktpm. The underground operation, however, has been under care and maintenance since July 2013 because of external and economic factors.

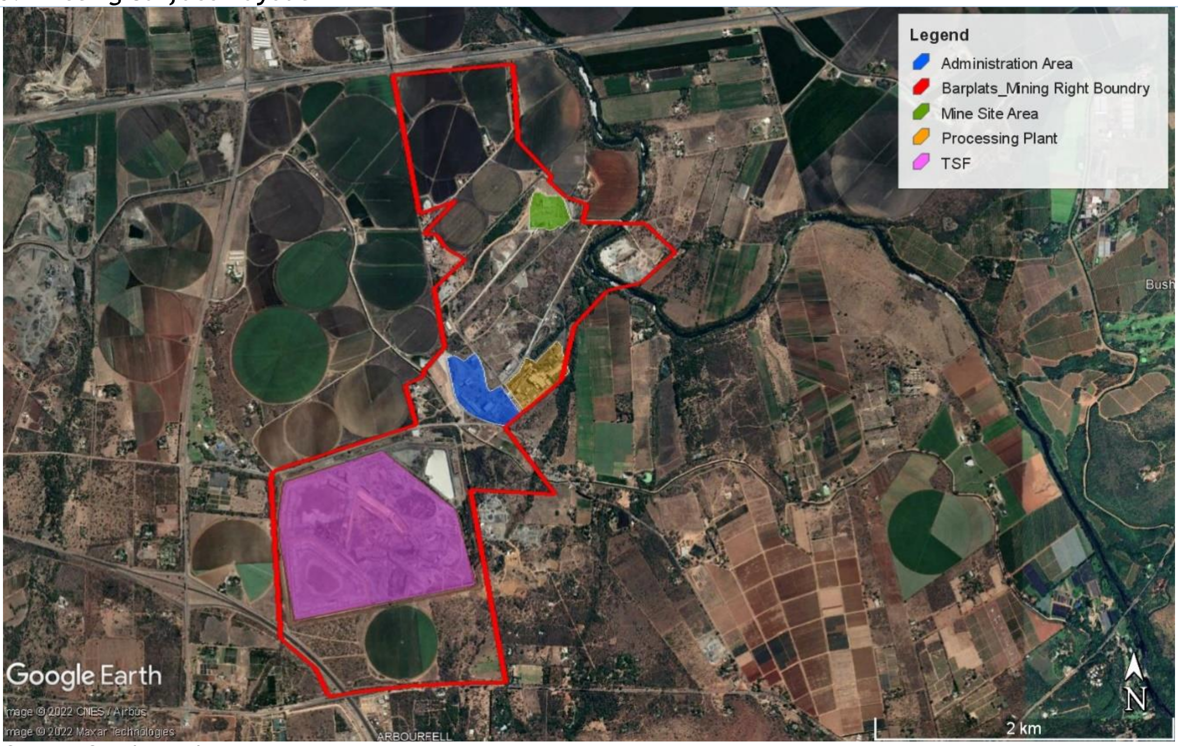
All surface infrastructure including but not limited to:-

- offices;
- change house;
- ablution facilities;
- workshops;
- laydown area; and
- winder room.

These items were inspected during the site visit and found to be in functional condition.

The existing surface layout is illustrated in Figure 76 and Figure 77.

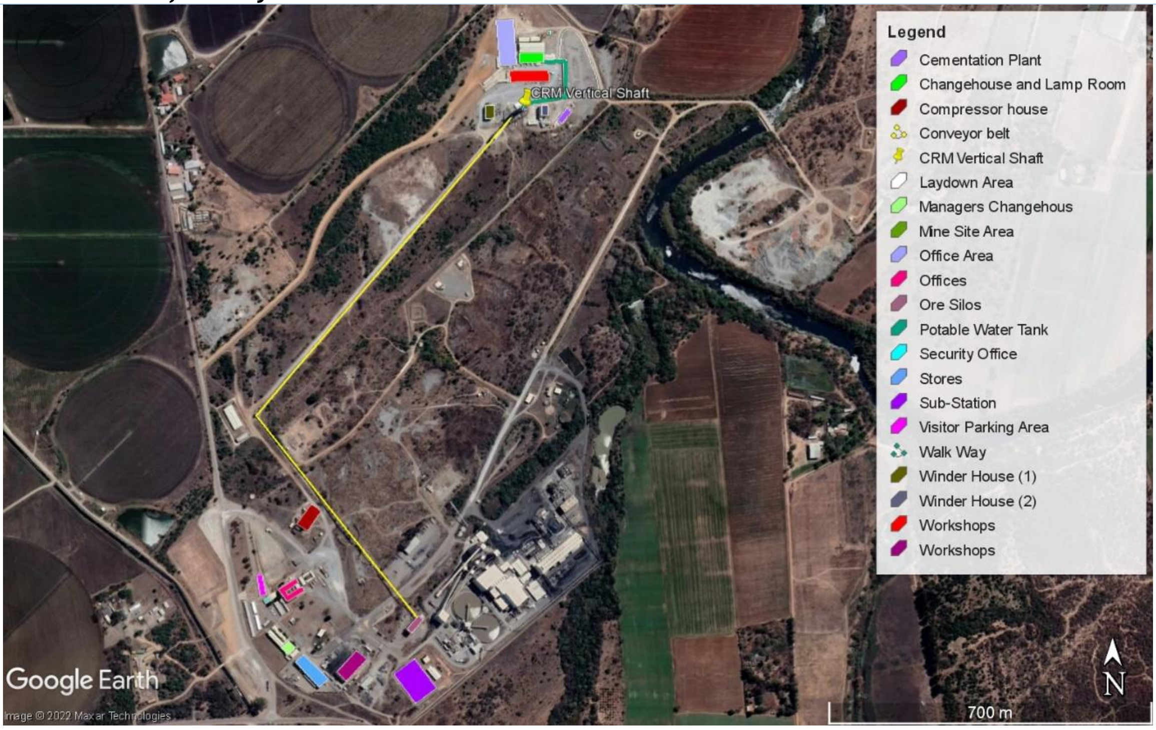
Figure 76: Existing Surface Layout



Source: Google Earth Pro

Existing Surface Layout	January 2022

Figure 77: Detailed Surface Layout



Source: Google Earth Pro

Detailed Surface Layout	**January 2022**

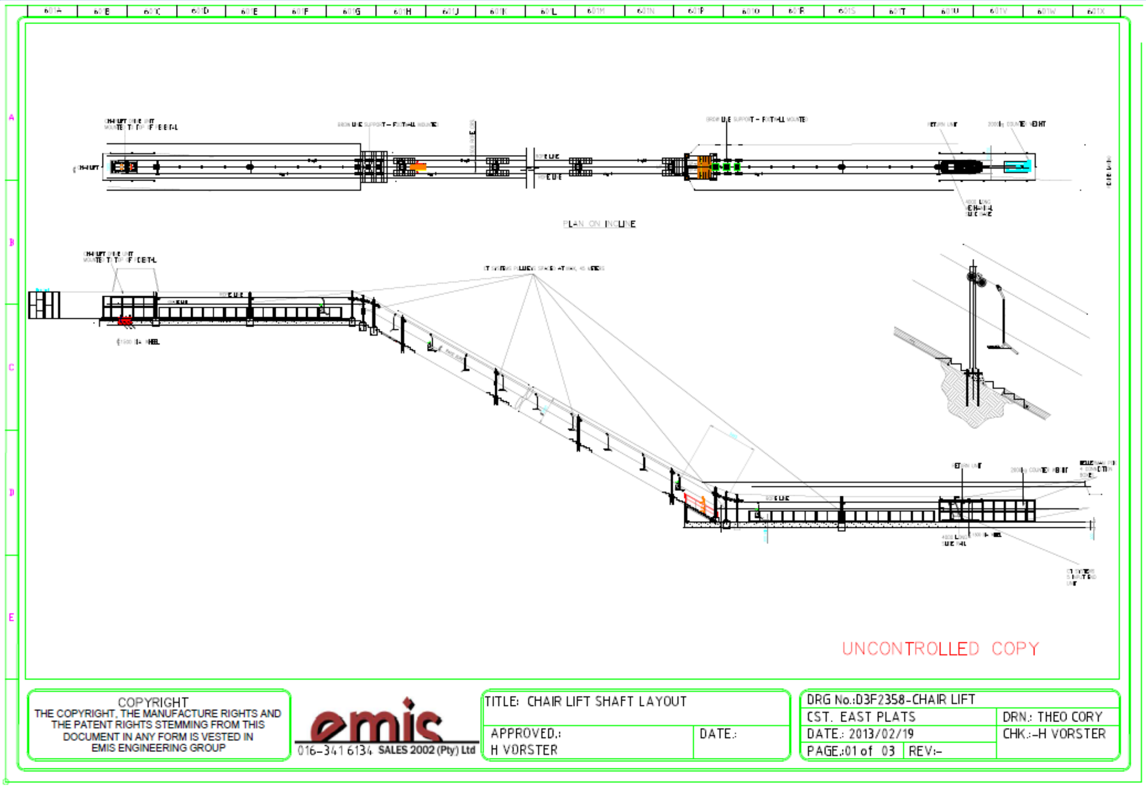
8.5.2 Underground Infrastructure

During the site visit that was conducted by Minxcon, inspecting the surface and underground infrastructure it was found that following but not limited to:-

- shaft;
- 4 Level station;
- winder;
- 3 Level pump station;
- 3 Level dam;
- 4 & 5 Level tips;
- main conveyor on 4 Level;
- measuring flask & loading station;
- chairlifts;
- haulages; and
- explosive storage.

Infrastructure is in good working condition. The chairlifts connecting the various levels are illustrated in Figure 78.

Figure 78: Chairlift Shaft Layout



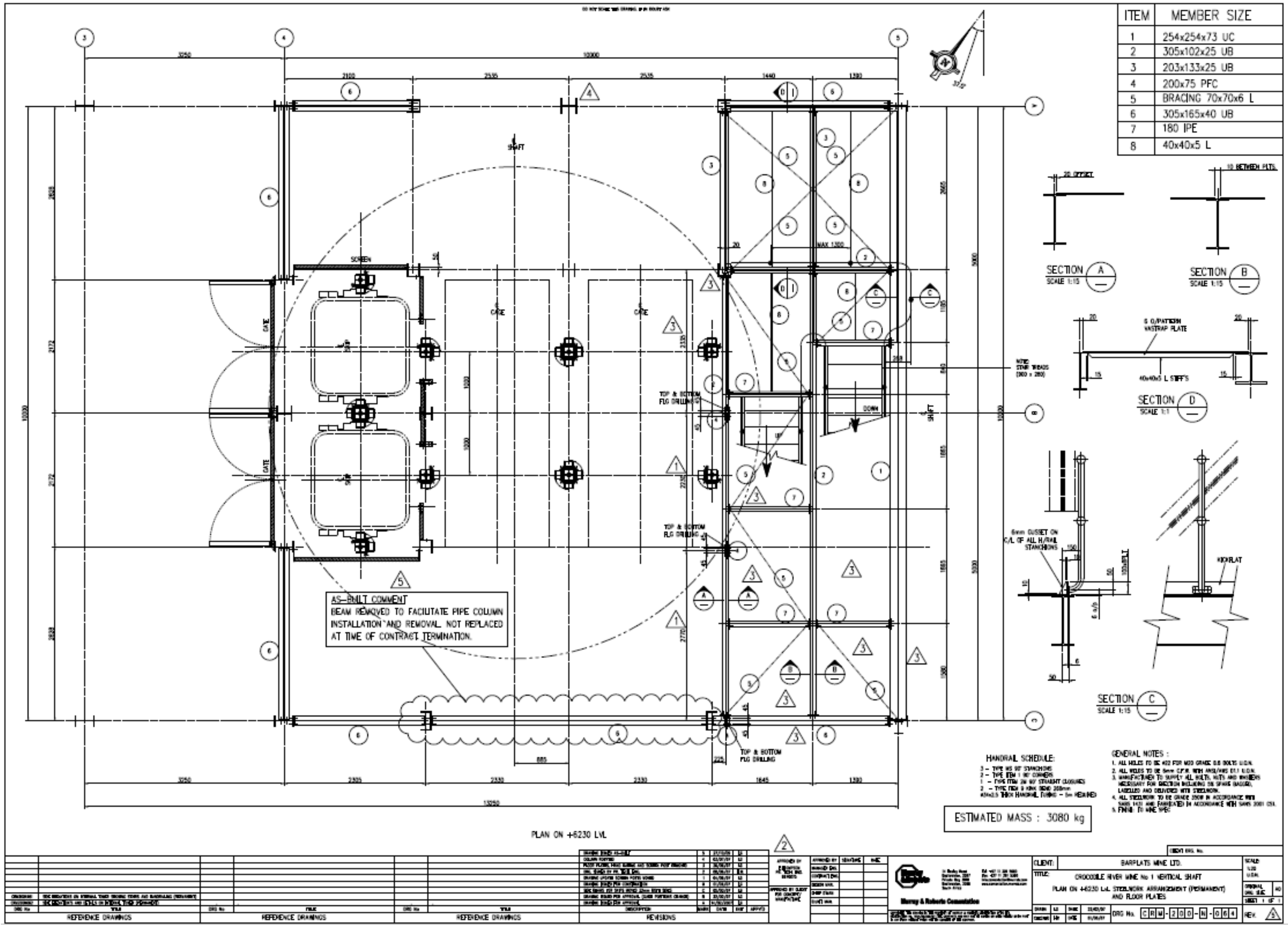
Source: Emis

Chairlift Shaft Layout	**January 2022**

The Zandfontein vertical shaft is a cylinder 7.5 m in diameter shaft that consisting of four compartments, two compartment allocated for hoisting and two for man cages. The shaft is equipped with two double deck man cages with a capacity of 80 people as well as two skips.

The shaft services level 1 to 4 and is equipped with spillage handling arrangement at shaft bottom, a plan and section view of the shaft are illustrated in Figure 79 and Figure 80 respectively.

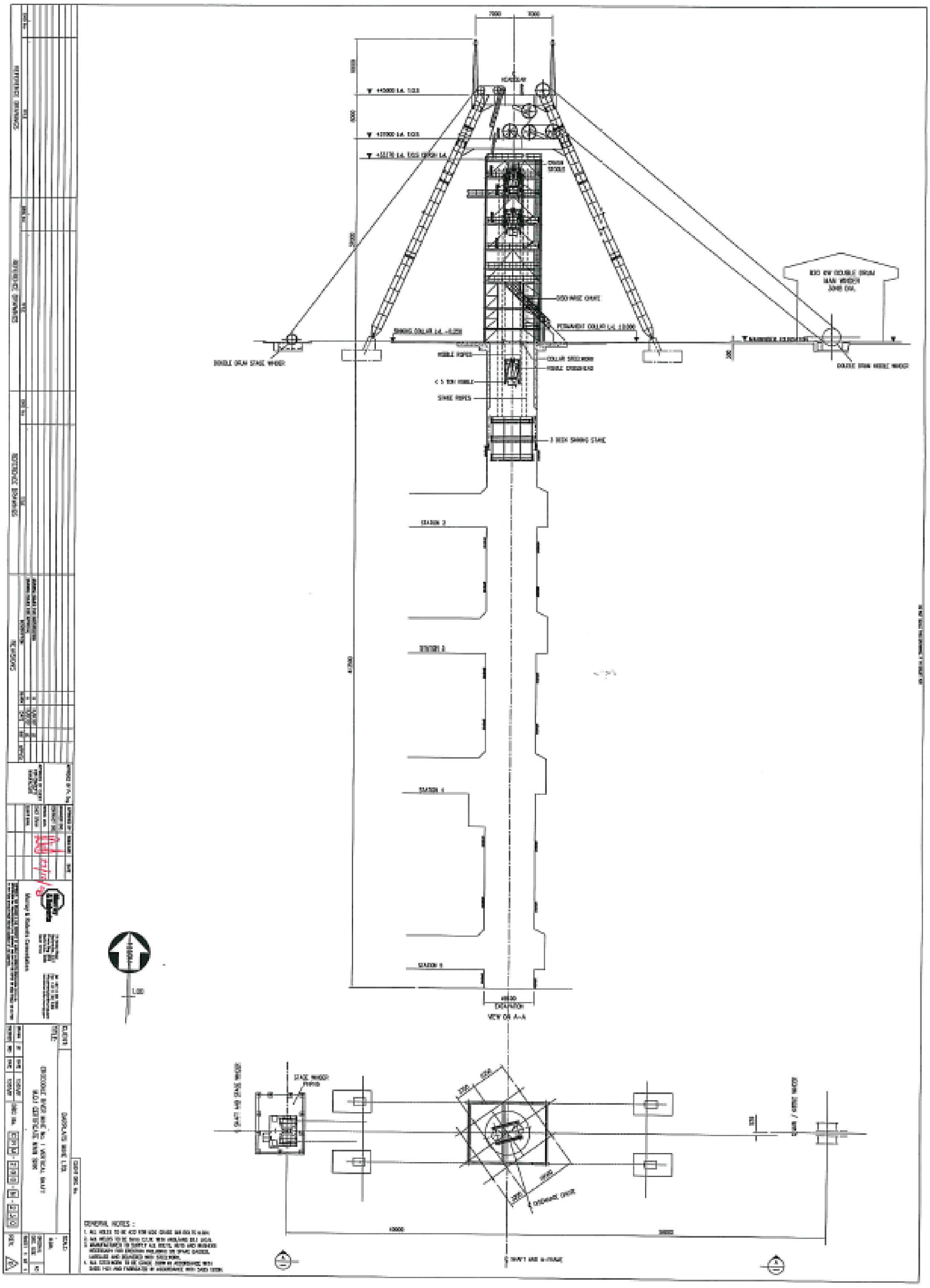
Figure 79: Crocodile River No.1 Vertical Shaft – Plan View



Source: Murray & Roberts Cementation

Crocodile River No.1 Vertical Shaft – Plan View	January 2022

Figure 80: Crocodile River No.1 Vertical Shaft – Side View



Source: Murray & Roberts Cementation

Crocodile River No.1 Vertical Shaft – Side View	January 2022

The man cages are serviced by an 820 kW double drum man winder as shown in Figure 81. The hoisting arrangement consists of two 8 tonne skip and is serviced by an 1,800 kW double drum rock winder as photographed in Figure 81.

Figure 81: Man Winder and Rock Winder

Man Winder – 820 kW	Rock Winder – 1,800 kW
	

Man Winder and Rock Winder — **January 2022**

The specifications of the rock and man winder are detailed in Table 59.

Table 59: Winder(s) Specifications

	Rock Winder			Man Winder		
No	Info	Count	Unit	Info	Count	Unit
1	Controller type	dc software		Controller type	ac liquid	
2	Pay load	9	tonne	Pay load	6750	kg
3	Hours per day	18	hrs	Shift hoisting hours	2	hrs
4	Days per month	26	days	NA	NA	NA
5	Length of wind	400	meter	Length of wind	450	meter
6	Speed	7	m/s	Speed	6	m/s
7	EOW acceleration rate	0.7	m/s²	EOW acceleration rate	47.5	seconds
8	EOW deceleration rate	0.7	m/s²	EOW deceleration rate	27.5	seconds
9	Creep out speed	0.8	m/s	Creep out speed	0.8	m/s
10	Creep in speed	0.7	m/s	Creep in speed	0.7	m/s
11	Creep out distance	5	meter	Creep out distance	30	meter
12	Creep in distance	5	meter	Creep in distance	12	meter
13	Loading pause	12	seconds	Loading pause	180	seconds
14	Skip mass including attachments	10.25	tonne	Skip mass including attachments	8.55	tonne
15	Drum diameter	4.27	meter	Drum diameter	3.1	meter
16	Drum width	1.53	meter	Drum width	1.53	meter
17	Rope diameter	48	mm	Rope diameter	44	mm
18	Rope mass	9.812	kg/m	Rope mass	8.235	kg/m
19	Breaking force	1822	kN	Breaking force	1520	kN
20	Tensile strength	1800	MPa	Tensile strength	1900	MPa
21	Rope construction	6x31	Tri/F	Rope construction	6x30	Tri/F
22	D/d ratio	42	nil	D/d ratio	30	nil
23	Dead turns	15	turns	Dead turns	15	turns
24	Pitch factor	1.65	%	Pitch factor	1.65	%
25	Tip to sheave distance	12	meter	NA	NA	NA
26	Motor size	1800	kW	Motor size	820	kW
27	Gear speed	370	rpm	Gear speed	370	rpm
28	Gear ratio	6.6	nil	Gear ratio	6.6	nil
29	Rated amps	1878	ampere	Rotor rated amps	600	ampere
				Stator rated amps	88	ampere
				Rotor voltages	825	volts
				Stator voltages	6600	volts
30	Cycle time	90	seconds	Cycle time	10	minutes
31	Trips per hour	30	count	Trips per hour	6	trips
32	Tons per hour	300	tonne	Employees per hour	960	count
33	Tons per day	5400	tonne	NA	NA	NA
34	Tons per month	140400	tonne	NA	NA	NA
35	Rope safety factor	7.8	nil	Rope safety factor	10	nil
36	Layers	1.6	layer	Layers	1.8	layer
37	D/d ratio rope	89	nil	D/d ratio rope	73	nil
38	Static rope pull	233	kN	Static rope pull	233	kN
39	Coils per layer	30	coil	Coils per layer	31	coil
40	Rope thread pressure	2.3	MPa	Rope thread pressure	1.5	MPa
41	Drum speed	43.84	rpm	Drum speed	43.84	rpm

8.5.3 Ore Logistics

After ore is blasted and scraped, it is loaded into ore passes from here the ore is loaded into ADTs to the tips located on 4 and 5 Level, a main incline belt delivers the ore to the main ore silos situated on 3 Level. The ore is loaded from the ore silos onto the conveyor belt on 4 Level that feeds the loading station, the two 9 tonne skips liberate the ore from the shaft to surface. On surface the ore is transported to three silos via a conveyor belt. The surface ore silos are illustrated in Figure 82.

Figure 82: Surface Ore Silo

Surface Ore Silo	January 2022

8.5.4 Power Supply

Electrical power is supplied by ESKOM, the capacity available to the Project is 23 MVA. The TSF retreatment operations will require 3 MVA as indicated in the 2017 Sound Mining Solutions technical report (Zandfontein tailings retreatment).

The underground mining operations will require a total of 12,794.9 kV of electrical power to sustain continues operations. The load list estimate for full operation is detailed in Table 60.

Table 60: Load List

Description	kW per Unit	Units Per Level	No of Levels	Absorbed Power	Utilisation Factor	Power Draw (kW)	Installed Power (kW)
HPE Power packs	590	6	1	80%	70%	1,982.4	3,540.0
Sump Pump	15	6	6	68%	50%	183.6	540.0
Strike dam transfer pump	110	6	6	62%	50%	1,227.6	3,960.0
Level dam pump	200	3	6	64%	50%	1,152.0	3,600.0
6 Level dam pump	185	6	1	56%	100%	621.6	1,110.0
Buffer dam pumps	200	3	1	64%	100%	384.0	600.0
Gulley winch	55	18	1	80%	60%	475.2	990.0
Raise winch	75	12	1	80%	60%	432.0	900.0
Feeder	11	6	1	80%	60%	31.7	66.0
Decline conveyors	185	24	1	83%	100%	3,685.2	4,440.0
Transfer conveyor	945	1	1	80%	70%	529.2	945.0
Ore pass feeder	630	1	1	80%	100%	504.0	630.0
Chairlift	45	9	1	80%	50%	162.0	405.0
Drill rig Boomer S1L	59	3	1	80%	90%	127.4	177.0
Bolter Boltec SL	80	3	1	80%	90%	172.8	240.0
Lights & other	5	6	1	80%	80%	19.2	30.0
Ventilation	1,105	N/A	N/A	100%	100%	1,105.0	1,105.0
Total						**12,794.9**	**23,278.0**

8.5.5 Water Supply & Surface Water Management

8.5.5.1 Potable Water

Potable water to the Project is supplied via the boreholes and a water treatment plant.

8.5.5.2 Service Water

8.5.5.2.1 Crocodile River

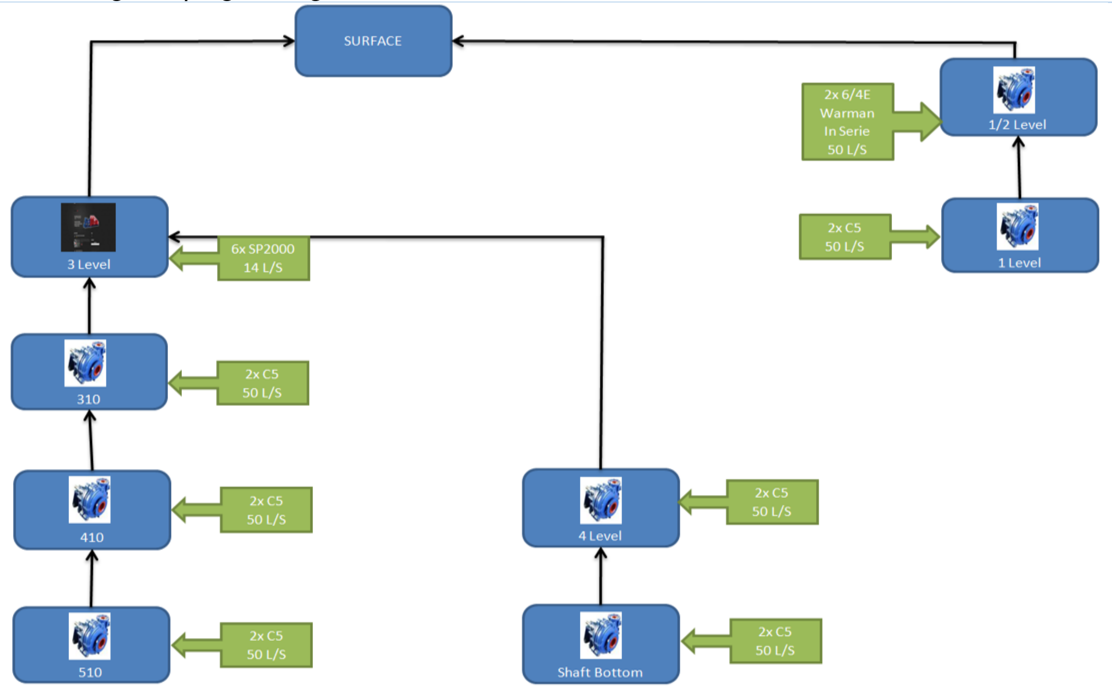
Service water is sourced from the Crocodile River under the WUL 04/A24A/ABCEGIJ/5022, Zandfontein is allowed a maximum of 331,776 m^3/annum of water to be drawn from the Crocodile River for the start-up of the operation.

8.5.5.2.2 Underground Dewatering

A maximum dewatering capacity of 2,611,776.00 m^3/annum during the plant start-up phase of the Project; this translates to 217,648 m^3/month. After start-up and steady state production has been achieved a maximum of 2,280,000 m^3/annum dewatering is allowed according to the WUL 04/A24A/ABCEGIJ/5022.

Dewatering of the Zandfontein is done by a series of small pumps, this is possible due to the cascade pumping arrangement, water is pumped level to level until it reaches the main dam on 3 Level, from here it is liberated to surface. The pumping arrangement and the main 3 Level pump station are illustrated in Figure 83 and Figure 84.

Figure 83: Dewatering Pumping Arrangement



Source: Eastplats

Dewatering Pumping Arrangement	January 2022

Figure 84: Main Pump Station – 3 Level

Main Pump Station – 3 Level	January 2022

Zandfontein is currently equipped with a series of pumps that is responsible for the dewatering, the pumps and their locations are tabulated in Table 61 and Figure 84.

Table 61: Dewatering Pumps

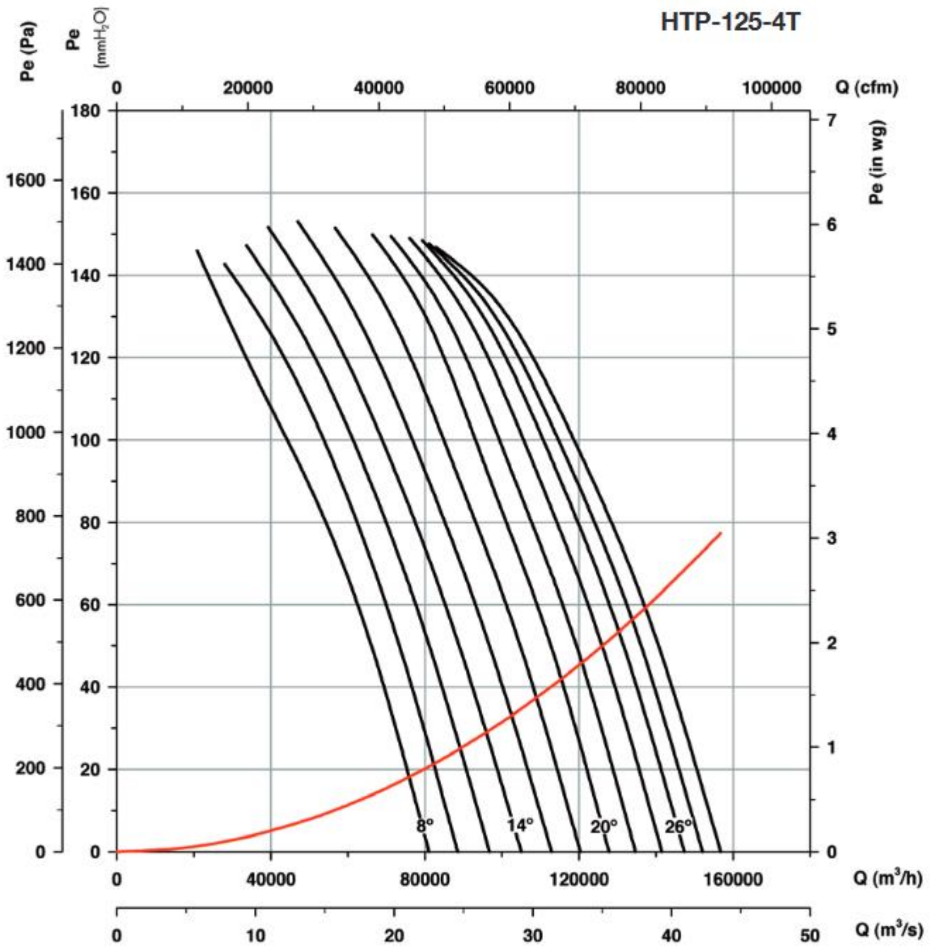
Area	Qty	Pump
½ Level	4	6/4 Warman 50l/s variable
1 Level	2	C5 Envirotech 50l/s variable
3 Level	6	sp2000 Scamont 14l/s
3 Level (10)	2	C5 Envirotech 50l/s variable
4 Level (10)	2	C5 Envirotech 50l/s variable
5 Level (10)	2	C5 Envirotech 50l/s variable
4 Level	2	C5 Envirotech 50l/s variable

8.5.6 Ventilation

The installed fan arrangement is three sets of 75 kW fans installed in parallel to achieve a total air flow of 75 m^3/s, the fans are located at the three declines, the declines are dedicated as upcast vent ways and the single shaft as the down cast to provide ventilation to the mining areas.

The fans operate at 1,480 rpm with an efficiency of 87% thus the absorbed power including the assumed power factor of 90% equates to 191.5 kW per fan set. The fan curve and the absorbed power graph is illustrated in Figure 85 and Figure 86.

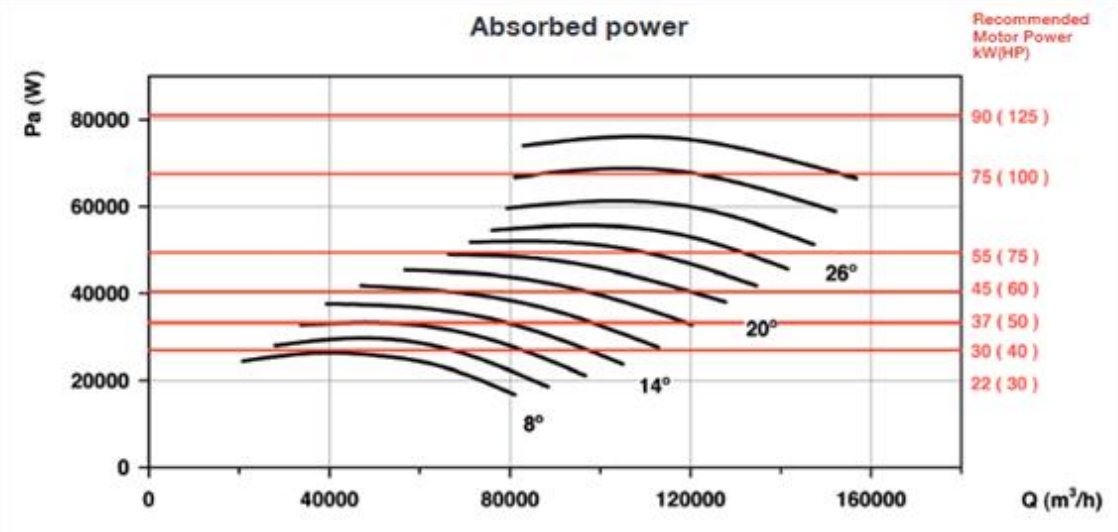
Figure 85: 75 kW Fan Curve



Source: www.sodeca.com

75 kW Fan Curve	January 2022

Figure 86: Absorbed Power Graph



Source: www.sodeca.com

Absorbed Power Graph	January 2022

8.5.7 Compressed Air Supply

Compressed air is required in the underground workings of all underground mining operations. Compressed air is utilised for ensuring refuge bays are positively pressurised and for the operation of the pneumatic cylinders of ore pass box fronts and surfaces silo chutes. Compressed air will be supplied by a surface compressor unit and should have sufficient capacity to supply the refuge bays of each underground section with compressed air 24 hours a day 7 days a week.

8.6 Market Studies and Contracts

SC 5.6 (i)(ii)
SV T1.18

8.6.1 PGM Uses

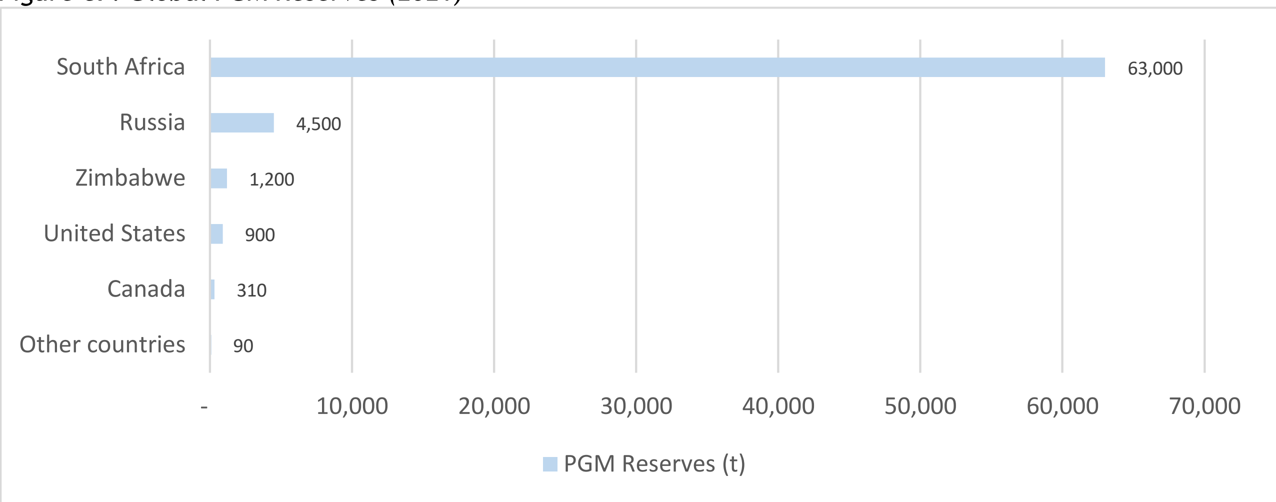
PGMs, including platinum, palladium, rhodium and other metals, are prized for their durability, resistance to corrosion, high melting points, non-toxicity and excellent catalytic properties. These characteristics make PGMs useful in a multitude of applications from jewellery to electronics and particularly valuable in the applicable of new and precise technologies. The automotive industry is currently the world's largest consumer of PGMs, which are used in catalytic converters for vehicle exhaust systems. Automotive production is expected to climb in coming years, particularly in developing markets, and that is expected to ensure healthy demand for the metals into the future.

Platinum is also in high demand for laboratory devices, electrical contacts, magnets and as an investment. Other applications for palladium are in dentistry, surgical instruments, watch-making and electrical contacts. Rhodium is the rarest PGM and is also utilised as catalysts in the chemical industry. Some PGMs can be substituted by others for a number of industrial end uses, but with losses in efficiency. About one quarter of palladium can be substituted for platinum in diesel catalytic converters.

8.6.2 PGM Reserves

The global PGM reserves are currently approximately 70,000 metric tonnes, the distribution of which is illustrated in Figure 1. South Africa by far has the most substantial reserve base, hosting 90% (63,000 t) of the global total in the Bushveld Complex, trailed by Russia with only 6% (4,500 t).

Figure 87: Global PGM Reserves (2021)



Data Source: USGS (2022)

8.6.3 PGM Production

South Africa is the largest producer of platinum in the world by a significant margin, producing a total of 130 t in 2021 (USGS, 2022), up from 112 t in 2020. Russia comes in a distant second place for world platinum production, having produced 19 t in 2021. However, Russia is responsible for the majority of the world's palladium production and has a significant impact on the global market.

8.6.4 PGM Supply and Demand

Recorded supply and demand for the years 2018 to 2020 for platinum, palladium and rhodium are respectively provided in Table 62, Table 63 and Table 64.

Table 62: Platinum Supply and Demand

PLATINUM	2018	2019	2020	2021 Forecast
	koz	koz	koz	koz
Supply (Primary)				
South Africa	4,467	4.344	3,222	4,475
Russia	687	721	699	610
Others	959	958	1,023	1,011
Total primary supply	**6,113**	**6,023**	**4,944**	**6,096**
Demand by Application				
Auto catalyst	3,051	2,863	2,290	2,910
Jewellery	2,269	2,066	1,707	1,797
Industrial	2,459	2,422	2,311	2,366
Investment	67	1,131	1,022	311
Total gross demand	**7,846**	**8,482**	**7,330**	**7,384**
Recycling	-2,105	-2,094	-1,717	-1,903
Total net demand	**5,741**	**6,388**	**5,613**	**5,481**
Movements in stocks	**372**	**-365**	**-669**	**615**

Source: Johnson Matthey (May 2021)

Table 63: Palladium Supply and Demand

PALLADIUM	2018	2019	2020	2021 Forecast
	koz	koz	koz	koz
Supply (Primary)				
South Africa	2,543	2,588	1,977	2,655
Russia	2,976	2,987	2,636	2,560
Others	1,458	1,529	1,547	1,534
Total primary supply	**6,977**	**7,104**	**6,160**	**6,749**
Demand by Application				
Auto catalyst	8,721	9,667	8,551	9,447
Jewellery	157	129	87	103
Industrial	1,918	1,709	1,559	1,690
Investment	-574	-87	-190	-93
Total gross demand	**10,222**	**11,418**	**10,007**	**11,147**
Recycling	-3,124	-3,407	-3,119	-3,569
Total net demand	**7,098**	**8,011**	**6,888**	**7,578**
Movements in stocks	**-121**	**-907**	**-728**	**-829**

Source: Johnson Matthey (May 2021)

Table 64: Rhodium Supply and Demand

RHODIUM	2018	2019	2020	2021 Forecast
	koz	koz	koz	koz
Supply (Primary)				
South Africa	618	607	481	624
Russia	69	68	58	55
Others	70	68	70	69
Total primary supply	**757**	**743**	**609**	**748**
Demand by Application				
Auto catalyst	869	1,031	947	1,051
Other	157	132	72	106
Total gross demand	**1,026**	**1,163**	**1,019**	**1,157**
Recycling	-334	-357	-338	-378
Total net demand	**692**	**806**	**681**	**779**
Movements in stocks	**65**	**-63**	**-72**	**-31**

Source: Johnson Matthey (May 2021)

Both supply and demand for PGMs declined in 2020 in response to COVID-19 impacts, particularly respectively due to mine restrictions in South Africa, and automotive, industrial and jewellery sector shutdowns worldwide. According to Johnson Matthey (2021), while new petrochemical and glass fibre capacity in China supported industrial PGM demand, auto catalyst demand fell by 13% and weak consumer for new vehicles and platinum jewellery was prominent.

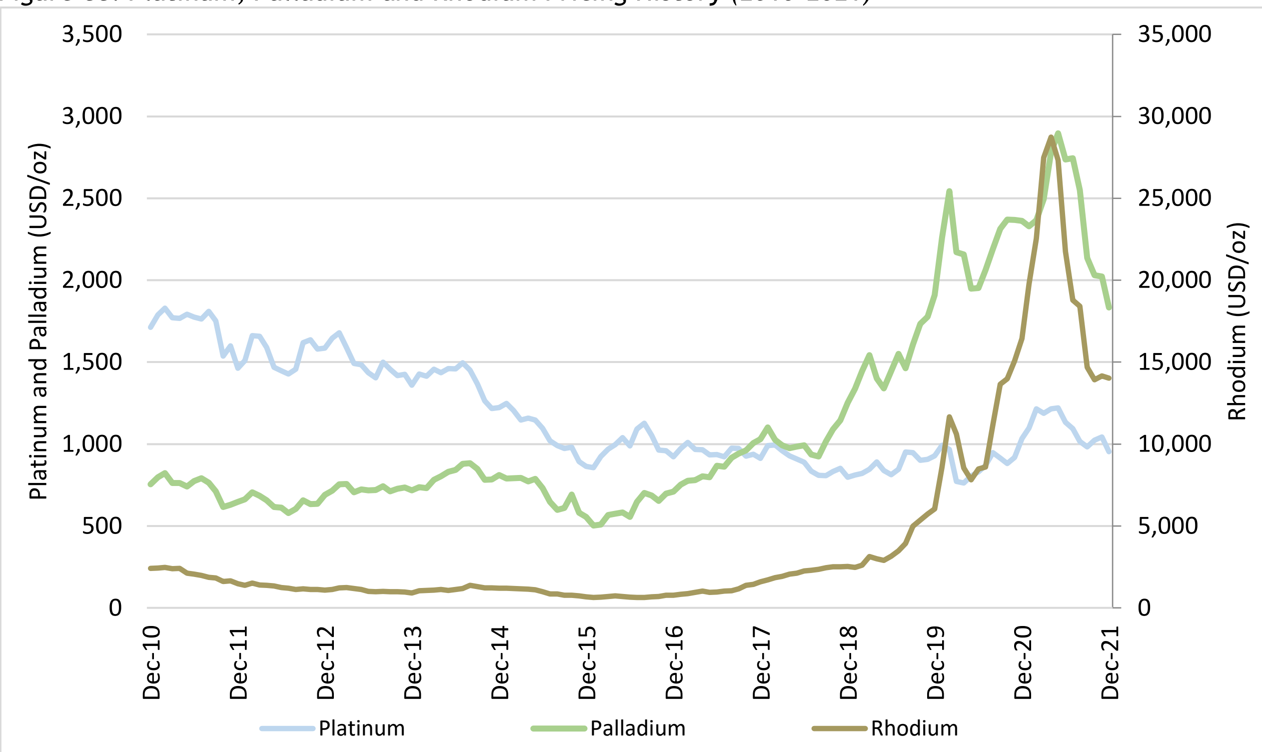
In 2020, total global PGM supply declined by some 16% from primary sources and 12% from secondary supplies as vehicle scrapping declined. While investors liquidated palladium and rhodium exchange traded funds in response to record high prices, platinum investment exceeded 1 Moz as prices weakened. Supply and demand for platinum, palladium and rhodium were relatively similar, and all three remained in deficit through 2020 (Johnson Matthey, 2021).

Through 2021, increased in UG2 exploitation in the Bushveld Complex saw South African PGM production increase by 13% from 2020. Recycling accounted for the addition of 115,000 kg of platinum and palladium (USGS, 2022).

8.6.5 PGM Prices

Platinum had traditionally traded at higher prices than palladium and rhodium. As demand for the latter commodities increased with applications in autocatalysis, from 2017 the trend saw an inverse change as illustrated in Figure 88. Also depicted is the higher trading value of PGMs in response to COVID restrictions through 2020, continuing into 2021.

Figure 88: Platinum, Palladium and Rhodium Pricing History (2010-2021)



Source: *Adapted from* Johnson Matthey historical price data

Palladium and rhodium prices reached all-time highs in 2020, in response to throttled stocks. Following supply restrictions and tightened PGM stocks in 2020 coupled with high investment commodity prices, prices of platinum, palladium and rhodium continued to increase through 2021. Compared to 2020, platinum and palladium increased by 18% and 35%, respectively (USGS, 2022), trading at an average USD1,018/oz Pt and

USD2,286/oz Pd. Rhodium prices doubled from 2020, reaching record highs at over USD15,000/oz. The 2020 and 2021 average commodity prices as well as forecast prices are shown in Table 65.

Table 65: PGM Prices and Forecasts

Commodity	Price Unit	2020	2021	2022e	2023e	2024e	2025e	2026e
Platinum	USD/oz	875	1,018	1,025	1,025	1,075	1,111	1,125
Palladium	USD/oz	1,865	2,286	2,100	1,900	1,877	1,857	1,630
Rhodium	USD/oz	7,564	15,363	16,000	14,964	15,215	15,853	16,301
SA basket (6E)	USD/oz	1,636	2,494	2,553	2,425	2,473	2,544	2,535

Source: Edison (2021)

Note: 6E = platinum, palladium, rhodium, iridium, ruthenium, osmium.

8.6.6 Cost Curves

Industry cost curves are valuable tools to benchmark the operational cost performance of an existing operation or new proposed mine project against industry. The industry cost curve indicates the ability of the existing mines to endure cyclical commodity prices and ensure continuous mining operations over time.

The aim should be to remain within the lower 50th percentile of cost producers to ensure profitability even in market down turns. The principle of this logic is based on economic theory that states that the commodity price is a function of the supply-demand balance of the specific commodity. If demand decreases due to weak market conditions and commodity prices subsequently decline, it is likely that the highest cost producers will suspend production first, which reduces supply and ultimately supports higher commodity prices.

Minxcon utilises these cost curves to compare the South African operating platinum mine's cost curves to the average platinum price for the year. In 2020, the total all-in sustaining costs per Pt. eq. oz in ZAR terms decreased by 10.1% from 2019. The total all-in sustaining costs per Pt. eq. oz in USD terms decreased by 21.3%, year-on-year, as the average Rand significantly weakened year-on-year. The decrease in equivalent costs is mainly due to increase in 4E by-product prices rather than lower operating costs. The ZAR denominated all-in sustaining costs per milled tonne increased by 25.3% year-on-year. The USD denominated all-in sustaining costs per milled tonne increased by 9.7% year-on-year.

A depiction of the costs of Zandfontein in relation to those of other Bushveld Mines is provided in Figure 90 of this Report.

8.6.7 PGM Outlook

The demand for vehicle production utilising PGM technologies is expected to continue to rise in response to emissions restrictions implemented worldwide, driving PGM demand (particularly palladium and rhodium) in the short, medium and possibly longer term.

A short-term decline in for demand palladium, platinum, and rhodium for catalytic converters is expected as automobile production is constrained by shortages in semiconductor chips and declined diesel passenger vehicle production (USGS, 2022). However, stricter emissions limits and increased use in gasoline catalysts will boost auto catalyst demand (Johnson Matthey, 2021). Overall, automotive production is expected to climb in coming years, particularly in developing markets, and that is expected to ensure healthy demand for the metals into the future.

Platinum investment demand is expected to decrease significantly as prices remain subdued. This will push stocks back into surplus. Both palladium and rhodium demand are expected to show significant growth with rebounding vehicle production and use in the chemicals and industrial sectors. Both markets are forecast towards supply shortages, driving prices even higher before normalising and promoting improved market liquidity. Despite platinum substitution, use of palladium in gasoline catalysts, as well as other industrial demand, is expected to increase significantly. Lower Russian mine output is expected to be offset by growth in South African production (Johnson Matthey, 2021).

8.6.8 Contracts

CRM has two offtake agreements in place for PGM concentrates, of which the details are confidential in nature. The high-grade PGM concentrates (fresh ore from UG2 reef) has a higher overall 4E payability of compared to the low-grade PGM concentrates (PGMs from the re-mined tailings material). The contractual terms were utilised for the financial modelling. Only 4E (platinum, palladium, rhodium and gold) metals were considered for financial modelling as no other metals are estimated in the Mineral Resource Statement.

CRM also has an offtake agreement in place for all chrome ore produced from the re-mined tailings, whereby the ore is sold on a cost-plus basis, considering the TSF remining costs, processing cost and chrome logistics costs. An additional allowance is made for certain overheads, hence the "Plus" portion of the offtake.

The underground operations will be owner-mined; hence no material contracts are applicable. The TSF remining is completed by a contractor, the costs of which have been incorporated into the financial modelling and appear reasonable.

8.7 Environmental Studies

SC 5.5 (i)(iii)

The following environmental factors are pertinent to the Project as identified and described in the EMP and/or EIA documents. There are no environmental factors that could materially impact the likelihood of eventual economic extraction.

8.7.1 Land Use

The mine was operational since 1987 and decommissioned in 1991 due to the drop in platinum demand and a subsequent drop in the price. Operations recommenced post the 2001 EMPR amendment approval and were suspended again in 2003. In 2005 stoping sections were refurbished and mining continued until Zandfontein and Crocette were placed under care and maintenance in 2013. The tailings treatment plant was commissioned in 2007 at Zandfontein and the construction of a chrome recovery plant was completed in 2008. Currently, reclamation of chrome and PGMs from the tailings dam and treatment of slimes supplied by third parties is underway.

The current land-use of the proposed development is mining, with the neighbouring areas being used for stock farming, maize and other arable crops farming.

The mine is crossed by the South Bank (irrigation) Canal from Hartbeespoort Dam and has several containment (retention) dams.

Only existing surface infrastructure and the authorised footprint will be utilised.

8.7.2 Fauna and Flora

The mining area lies within the North-West Critical Biodiversity Area ("CBA") 1 and 2, as well as Ecological Support Area ("ESA") 1 and 2. CBAs are areas required to meet biodiversity targets for ecosystems, species and ecological processes, as identified in a systematic biodiversity plan. ESAs support the ecological functioning of CBAs and/or in delivering ecosystem services. CBAs and ESAs are used to guide decision-making about where best to locate development.

The Zandfontein existing habitat units have been impacted and degraded to a certain extent due to previous and current mining activities and other anthropogenic activities. This has negatively impacted on large mammal occurrence in the Brits area, especially ungulates and predators. However, there are several game farms or reserves in the general vicinity, and these are host to several reintroduced and naturally occurring species.

According to OMI Solutions (2021), no Red Data mammals, reptiles or frogs were encountered during field work and all potentially occurring conservation important species such as the Southern African Python and Giant Bullfrog, have a low likelihood of occurrence due to the transformation of the habitat.

According to Mucina and Rutherford (2006), the main vegetation groups found on Zandfontein are the Moot Plains Bushveld and the Marikana Thornveld. The Moot Plains Bushveld is classified as a vulnerable Red Data specie and the Marikana Thornveld is classified as a threatened Red Data specie.

The Zandfontein and Crocette areas are already disturbed by previous mining operations and agricultural activities, therefore development will not lead to the direct loss of any Marikana Thornveld, which is an endangered plant specie. Both areas exhibit several vegetation that is associated with disturbance either scattered or in dense patches.

The authorised development of the transformed area can be regarded as being of low biodiversity conservation value and sensitivity. There will probably be no significant deleterious ecological edge effects on the adjacent indigenous vegetation units.

8.7.3 Hydrogeology and Surface Water

Zandfontein lies within the North West River Freshwater Ecosystem Priority Area ("NFEPA"). The NFEPA is a strategic priority area for the conservation of South African freshwater ecosystems and are areas that support sustainable use of water resources.

Previous studies and data in relation to the regional geology in the CRM area indicated that the groundwater flow is controlled by the structural discontinuities such as fault planes and geological contact zones. The groundwater flow is north-east and north-west at Zandfontein on either side of the river, towards the Crocodile River and northwards at Crocette. Groundwater quality varies over the area due to the compartmentalising effects of dykes, varied geology, faults and the varied land use. The chromite seam being mined is relatively inert and does not have an impact on water quality under natural conditions.

The natural and artificial wetlands on Zandfontein are largely modified and so are the riparian areas around the service shaft. This may have been caused by the extensive infestations of alien invasive species, water abstraction and water quality deterioration upstream of Zandfontein. According to OMI Solutions (Pty) Ltd (2021), an Environmental Impact Study ("EIS") conducted on the Crocodile River by the Department of Water and Sanitation ("DWS") indicated that the riparian zones were totally transformed and most of them were being cultivated. The aquatic ecosystem is severely impacted upon; therefore, it is of low ecological importance and sensitivity.

Crocette has numerous artificial wetlands within proximity, that formed due to mining associated infrastructure. During Environmental Assurance (2015) fieldwork, it was found that a historically existing channelled valley bottom wetland was extensively altered beyond recognition and could not provide any ecological or flood retention function.

As a worst-case scenario, the Waste Rock Dump ("WRD"), TSF and its associated infrastructure were modelled as constant sources to continuously release seepage to the receiving environment by Wetlands Consulting Services (Pty) Ltd (2018). Wetlands Consulting Services (Pty) Ltd (2018) stated that seepage from the TSF is not expected to impact the baseflow of any streams surrounding the facility with additional contaminant load within the next ten years. They were also of the opinion that seepage from the WRD to the east of Crocodile

River are expected to impact the baseflow of the Crocodile River with additional contaminant load of 20 – 40 mg/L of sulphate within the next ten years. They stated that all the other WRDs were not expected to impact any identified receptors within the next ten years. WRDs have since been cleared and used on the TSF construction.

According to OMI Solutions (2021) the Crocodile River baseline water quality results exceed the WUL limits, and therefore compliance will not be achieved irrespective of the performance of the mine. The current results indicate that the mine is not polluting the surface water system, and as such DWS would need to re-evaluate the WUL limits to determine the real baseline conditions against which compliance must be measured. The Company is currently updating the WUL to reflect revised limits.

The study conducted by MvB Consulting (2020) concluded that the mine dewatering had affected the baseflow of the Crocodile River and that it would continue for the next ten years of mining. This was confirmed by OMI Solutions water monitoring data. According to OMI Solutions (2021) the impact of the drawdown is still classified as a negligible impact by the specialists.

OMI Solutions (2021) also noted that the process water quality exceeded most of the WUL limits. However, process water is contained in the mining footprint and there is no indication of contamination on the environment.

The mine water balance is sufficient and up to date. Zandfontein and Crocette are zero-discharge operations as there is no discharge of water licensed under the current authorized WULs for both mining sections.

8.7.4 Land Capability and Soils

Elemental Sustainability stated within their EMPr amendment report (2019) that most of the soils encountered on site are classified as "CH" and "MH", according to the Unified Soil Classification System ("USCS"). CH soils are fat clays, inorganic and sandy clays of high plasticity. MH soils are inorganic silts, micaceous or diatomaceous silty soils and elastic soils. CH soils have poor drainage characteristics and are practically impervious in a compacted state. MH soils have fair to poor drainage characteristics in an uncompacted state to semi-pervious characteristics in a compacted state. The soils become sticky when wet and as such limit the use of heavy machinery and vehicles during the rainy season. The soils have low hydraulic conductivity when wet and irrigation must be efficiently controlled to prevent structural dispersion and high salinity at the surface.

The dams on site were constructed using mainly in-situ residual material or a mixture of in-situ material and waste rock material.

According to OMI Solutions (2021), all the above-mentioned limitations can be overcome through the implementation of appropriate soil management practices.

8.7.5 Acid Mine Drainage

According WSM Leshika Consulting (Pty) Ltd (2015), the geology does not generate acid mine drainage ("AMD") since no sulphide bearing ores exist.

According to OMI Solutions (2021), should AMD occur Zandfontein Mine should implement management measures to mitigate the formation of AMD.

8.7.6 Heritage Resources

Pistorius (2006) identified three heritage resources within the Crocette mining boundary and two heritage resources outside the Crocette boundary. According to Pistorius (2006) the proposed waste rock dump and associated activities will not impact on any of the identified heritage resources.

8.7.7 Waste Disposal, Site Monitoring and Water Management

8.7.7.1 Waste Disposal

The waste management licence in terms of the NEMWA forms part of the IEA which was granted on 5 October 2018.

A Waste Management Licence that was issued in 2018 was obtained for the TSF and the reworking thereof as required in terms of the NEMWA.

According to OMI Solutions (2021), DWS indicated that lining existing waste rock facilities would not be required and they recommended that the facilities may operate as is, but should pollution be detected in groundwater monitoring results, the pollution source would need to be identified and rectification of the pollution is required.

Storage and classification of waste will be done according to the waste classification and management regulations - GNR 634-635.

Volumes of waste deposited from underground sections and the volume of water removed and disposed will be monitored.

An Integrated Water and Waste Management Plan ("IWWMP") is in place.

8.7.7.2 Site Monitoring

8.7.7.2.1 EMPR

In the third quarter of 2019, OMI Solutions (Pty) Ltd conducted a performance assessment on the current EMP of the Zandfontein Section, dated 2001. An amendment process was proposed to update and address issues that were identified.

During the phases of development, monthly site inspections and an annual site audit of the EMPR will be conducted.

An external auditor will conduct an annual audit of the EMPR, for the duration of the Project.

8.7.7.2.2 Dust Fallout

Gravimetric dust fallout is monitored monthly at Zandfontein (TSF and Adjacent Landowners ("ALO")). The monitoring and measuring are performed in accordance with the requirements as set out in GNR 827, American Society of Testing and Materials ("ASTM") D1739-98 and South African National Standards ("SANS") 1929-2004. The 2021 quarterly reports were compliant with regulation 5 of GNR 827. The monitoring program layout design is in line with the requirements as set out in ASTM D1739 and SANS 1929. All monitoring points in the TSF are classified as industrial (non-residential) and the industrial limit of 1,200 mg/m2/day is applied. For the ALO points, residential limit of 600 mg/m2/day will apply. All the TSF monitoring points are within the legal fence boundary and the monitoring points are only measured against the Industrial limit to establish the effectiveness of management measures.

8.7.7.2.3 Noise

Noise levels at various pre-determined sensitive receptors are measured annually and when a complaint is received. Quarterly noise monitoring was recommended by OMI Solutions (2021).

8.7.7.2.4 Soil

Soils monitoring involves the inspection of soil that has been disturbed, compacted, contaminated, or eroded. Sols contaminated by hydrocarbon spillages are to be monitored weekly for a minimum period of four weeks or until the soil is sufficiently rehabilitated.

Soil monitoring will be undertaken on areas that have been rehabilitated, post remediation of spillage contamination during the operational phase and post closure and decommissioning.

All water courses and riparian areas requiring re-vegetation will be monitored for signs of erosion, as well as storm water discharge points, clean water diversion points, all roads and conveyor crossings. Erosion monitoring will be done as specified in management plans and at the end of a rainy season.

8.7.7.2.5 Blasting

Permanently installed stations managed by an independent entity will monitor ground vibrations and air blast. Third parties will also be consulted.

8.7.7.3 Water Management

The stormwater management plan is aligned with current legislation and is licensed within the WUL and WML. The approved storm water management plan will be implemented.

Monitoring and modelling of groundwater will be undertaken until a closure certificate is issued.

Surface water samples are taken monthly, and ground water samples are taken quarterly, to detect any possible pollution from the TSF or WRD and to determine the water quality trend. On an annual basis, an annual water quality report is compiled and submitted to DWS.

Two biomonitoring assessments (one in the wet season and one in the dry season) are undertaken at Zandfontein. There are two biomonitoring points, one is located upstream and the other downstream of the mine. Should the monitoring results indicate potential decant or confirm the formation of a pollution plume in the shallow aquifer, management, containment or treatment measures will be implemented to prevent significant impacts on the receiving surface and ground water environment.

Linear infrastructure will be inspected monthly to assess whether its associated water management infrastructure is effective in controlling erosion. Inspections of the water management infrastructure such as trenches, sumps, etc. will be undertaken regularly to identify which components need to be replaced to ensure long term functionality, until rehabilitation is deemed successful.

Storm water management infrastructure will be rehabilitated, during closure to make the area free draining.

8.8 LEGAL AND PERMITTING

Minxcon is not aware of any due diligence or other such studies, audits or reviews of the legal aspects and tenure of Barplats being undertaken.

8.9 TAXATION

SC 5.6 (vii)

The rate of normal tax on taxable income other than that derived from mining for gold is 28%. As announced in the 2021 Budget and reaffirmed in the 2022 Budget, the corporate tax rate for South Africa is set to decrease to 27% from 2023. Minxcon therefore utilised 27% over the LoM.

For all mines, capital expenditure incurred may be redeemed immediately against mining profits. All qualifying mining capital expenditure is deducted from taxable mining income to the extent that it does not result in an assessed loss. Accounting depreciation is eliminated when calculating the South African mining tax income. Excess capital expenditure and tax losses are carried forward as unredeemed capital and assessed losses to be claimed from future mining taxable income. Eastplats has unredeemed capital to amount of ZAR4,352,053,952 and assessed losses of ZAR139,043,050, as provided by the Mine.

8.10 SOCIAL OR COMMUNITY IMPACT

SC 5.5 (iv)(v)

As required in Section 3 of the MPRDA, public participation processes ("PPP") with interested and affected parties ("IAPs") has been conducted for the Project.

As part of the MPRDA requirements for the application for a mining right, the applicant company is required to submit a SLP for the project. The current Social and Labour Plan ("SLP") Third Generation is for the 2018 – 2022 period and was approved by DMRE on 2 December 2021. The SLP is inclusive of all the mining rights that are related to this project i.e. 151MR, 307MR and 332MR.

Various SLP commitments have been fulfilled to date and they have been delineated below.

CRM is committed to improving its workforce's skills by constantly evaluating their skills requirements and facilitating development interventions to address these. The mine collaborated with the Mining Qualifications Authority ("MQA") that is accredited by the South African Qualifications Authority ("SAQA"), to align with industry developments. Several employee educational projects were initiated by CRM. An HRD Adult Basic Education Training ("ABET") project was initiated in 2018 and 38 learners were enrolled. An amount of ZAR 586,011.00 was spent to complete the project. In 2019, ZAR 137,047.00 was spent on the HRD ABET project that catered for learners that had to complete their re-writes. CRM is committed to providing its employees with portable skills that they can apply outside the mining environment, depending on their age profile and area of origin. As well as a mentorship plan that aims to benefit employees at different levels by transferring relevant expertise from well experienced employees.

Several learnership projects were initiated by CRM with the aim of equipping learners with occupationally based qualifications registered on the National Qualification Framework (NQF"). Preference was given to Historically Disadvantaged South African ("HDSA") female candidates from the community. Money spent for the 2018 HRD learnership programme is ZAR 541,851.00 to date. Three learners started the programme in July 2018 and two of those learners have completed their studies. A Human Resources Development ("HRD") learnership project was initiated in 2019 and ZAR 511,696.00 has been spent on the programme to date. The project is currently ongoing with three learners.

The CRM bursary programme is aimed at attracting, educating and developing high-calibre young professionals to meet the mine's needs, with preference given to HDSA. An HRD bursaries programme was initiated in 2018 and two bursars were enrolled. To date, ZAR 298,708.00 has been spent on the programme. In 2019, the HRD bursaries programme enrolled two bursars and to date, ZAR 203,325.00 has been spent on the programme.

CRM initiated several projects that benefited Small, Medium and Micro Enterprises ("SMME"), under LED. The Kapele car wash was initiated in 2018 and the project is still ongoing. An amount of ZAR 7,790.00 and

ZAR 12,000.00 were spent in 2018 and 2019, respectively. In 2019 an SMME vegetation control project was initiated and ZAR 21,000.00 was spent to complete this project. A PPE washing project for SMME was initiated in 2019 and ZAR 169,000.00 was spent to complete the project. A brick-Making project was initiated in 2018 and ZAR 26,061.00 was spent on outstanding materials. An egg farming project was initiated in 2019 and ZAR 125,875.00 was spent. A poultry farming project was initiated in 2019 and ZAR 25,000.00 was spent. The Mothutlung small scale farming project was initiated in 2019 and ZAR 62,000.00 was spent.

Preferential procurement is given to SMMEs to assist them to meet the quality, delivery and safety standards that apply to mining operations. In 2018 an electro-diesel PDS/VDS once-off project to support SMME initiatives was completed and an amount of ZAR 322,509.88 was spent.

CRM contributed towards social development through various projects, under LED. An amount of ZAR 128,482.00 was contributed towards the Khulusa educators' salaries in 2018 and in 2019. This project is still ongoing. An amount of ZAR 68,233.00 was spent to renovate the Khulusa facility toilets in 2019 and that project has been completed. The Bokfontein sewing project was initiated in 2019 and ZAR 230,000.00 was spent to complete this project.

When CRM went under care and maintenance in April 2013, approximately 90% of its employees were retrenched. The consultation process with affected employees was facilitated by the Commission for Conciliation, Mediation and Arbitration ("CCMA") and the mine adhered to the required downscaling principles such as:-

- consultation and communication;
- implementation of Section 189 of the Labour Relations Act;
- notification of the Minerals and Mining Development Board;
- assessment and counselling services;
- mechanisms to save jobs and avoid job losses and a decline in employment; and
- mechanisms to ameliorate social and economic impact of retrenchment or mine closure.

From current developments there is a high probability of the mine upscaling to full operational status towards the end of 2022, going into 2023.

The Madibeng Municipality has been consulted regarding the building of classrooms at a local school in 2022. The recently (2 December 2021) approved SLP, *i.e.* "New Generation 4 SLP" will be implemented in parallel with recommencement of underground mining activities.

Funding of the SLP objectives remains a challenge as the mine is not under full production, however the mine relies on alternative sources of revenue to try and pursue the undertakings that it is committed to.

Minxcon is not aware of any external social and political context within the area in which the mine is located, that could have a material effect on the planned mining operations.

8.11 Mine Closure

The ultimate closure objective will be to return the disturbed land as close to its initial natural state as practically possible, and thus maintain the overall ecological and environmental balance. The closure objective for all activities at the Zandfontein section is to rehabilitate and return the land back to arable and grazing potential, except the TSF, the closure objective for the TSF is to return the area back to only grazing potential.

The retreatment project of the existing TSF, will result in an overall liability reduction and it can therefore be considered as an ongoing rehabilitation plan.

The post closure concerns may include dust, storm water management, erosion and a potential ground water pollution plume. However, this post closure risk should only be evident for a period of five years and after the implementation of the appropriate rehabilitation measures that can be reduced and / or eliminated.

Funding of the social obligations remains a challenge for Barplats as the mine is not under full production, however the mine relies on alternative sources of revenue to try and pursue the undertakings that it is committed to.

8.12 Capital and Operating Costs

8.12.1 Capital Costs

8.12.1.1 Capital Base Date

The capital base date is June 2021.

8.12.1.2 Capital Estimation Methodology

The project capital costs have been determined mainly through the utilisation of actual costs on mine costs, benchmarking and costs from consulting databases.

8.12.1.3 Capital Base of Estimation

The capital footprint of the Project is defined by the battery limits of the:-

- Development requirements as determined by the LoM plan;
- Production profile based on the LoM plan;
- supporting infrastructure refurbishment and recommissioning; and
- refurbishment and recommissioning of the process plant.

8.12.1.4 Overarching Capital Cost Philosophy

The following considerations were made during the preparation of this capital estimate:-

- As far as reasonably practical use and upgrading of existing facilities, equipment and infrastructure has been allowed for.
- Allowance has been made to rebuild all trackless mobile equipment at 60% of its life cycle hours and replaced based on original equipment manufacturer ("OEM") life hour guidance

8.12.1.5 Mining and Infrastructure Capital

The total Zandfontein operation mining and infrastructure project capital is listed in Table 66.

Table 66: Zandfontein Mining and Infrastructure Capital

Item	Total ZAR	Total USD
Chairlift	1,097,000	70,660
Compressors	3,000,000	193,235
Conveyor Belts	350,000	22,544
Man Winder	2,670,000	171,979
Mini Sub Repairs	600,000	38,647
Mining	144,707,893	9,320,874
Pumps	200,000	12,882
Rock Breakers	20,000	1,288
Rock Winder	3,260,000	209,982
Shaft	17,600,000	1,133,645
Steel For chutes and Liners	860,000	55,394
Spillage Winch	647,000	41,674
Stop Blocks	1,440,000	92,753
Surface Belts	800,000	51,529
Surface Fans	200,000	12,882
U/G Workshop	450,000	28,985
Underground Belts	3,462,000	222,993
Total	**181,363,893**	**11,681,947**

Notes: Converted from ZAR to USD at exchange rate of 15.53, the average exchange rate over the LoM.

8.12.1.6 Fleet Capital

The total Zandfontein operation fleet capital is listed in Table 67. Fleet capital in the financial model is flagged as sustaining capital.

Table 67: Fleet Capital Cost

Equipment Type	Unit Cost	Fleet Complement	Total Including Replacement Costs	
	ZAR		ZAR	USD
Drill Rig	8,900,000	7	246,677,122	15,888,880
LHD	10,500,000	10	508,435,907	32,749,195
Bolter	11,000,000	7	304,881,836	19,637,942
Truck	11,500,000	10	556,858,375	35,868,166
Scaler	3,700,000	7	102,551,163	6,605,489
UV	5,500,000	8	264,114,652	17,012,060
Expl UV	4,500,000	7	124,724,387	8,033,703
LDV	600,000	10	35,321,088	2,275,090
Grader	4,800,000	2	57,000,354	3,671,487
Total			**2,200,564,884**	**141,742,012**

Notes: Converted from ZAR to USD at exchange rate of 15.53, the average exchange rate over the LoM.

8.12.1.7 Processing Plant Capital Cost

The capital expenditure allocated to the Zandfontein plant for upgrades to the stream A circuit as well as the RoM area is listed in Table 68.

Table 68: Plant Capital Cost Breakdown

Item	Total ZAR	Total USD
RoM Circuit UG	49,517,425	3,189,499
Main Plant Refurbishment Phase II	20,860,622	1,343,667
PGM Plant C&I Upgrade	4,921,534	317,004
Secondary Mill	9,695,152	624,481
Total	**84,994,732**	**5,474,651**

Notes: Converted from ZAR to USD at exchange rate of 15.53, the average exchange rate over the LoM.

8.12.1.8 Sustaining Capital

Sustaining capital expenditures, according to World Gold Council guidelines, include capital expenditures resulting from improvements to and major renewals of existing assets/equipment as well as mining development capital, i.e. underground development costs. Sustaining capital expenditure for the Zandfontein Project is listed in Table 69. The Fleet capital reported earlier forms part of the sustaining capital in the financial model.

Table 69: Sustaining Capital Breakdown

Item	Total	Total
	ZAR	USD
Mining and Infrastructure		
TSD - Services Equipping Cost	69,307,538	4,464,213
Decline Development Capital	552,374,713	35,579,366
Raise Development Capital	68,320,142	4,400,613
Ventilation Equipping	58,466,115	3,765,899
HPE Equipping	63,599,528	4,096,550
UG Water Handling	77,123,555	4,967,655
UG Electrical Reticulation	66,792,000	4,302,183
UG Workshops	33,500,000	2,157,790
Sustaining Mining and Infrastructure Capital	**989,483,591**	**63,734,269**
Plant		
Plant Renewals and Replacements	164,165,958	10,574,200
Total Plant	**164,165,958**	**10,574,200**
Total Sustaining Capital excluding Fleet	**1,153,649,549**	**74,308,469**
Total Sustaining Capital including Fleet	**3,354,214,433**	**216,050,481**

Notes: Converted from ZAR to USD at exchange rate of 15.53, the average exchange rate over the LoM. Excludes the fleet capital reported earlier.

8.12.1.9 Other Capital

The other capital expenditure for the Project includes pre-production capital for the underground operations as listed in Table 68.

Table 70: Other Capital Cost Breakdown

Item	Total	Total
	ZAR	USD
Pre-Production Costs	21,256,278	1,369,152
Total	**21,256,278**	**1,369,152**

Notes: Converted from ZAR to USD at exchange rate of 15.53, the average exchange rate over the LoM.

8.12.1.10 Capital Summary

The capital expenditure is summarised in Table 68. The total direct capital before contingencies is ZAR288 million, with the total expenditure over the LoM being ZAR4,182 million.

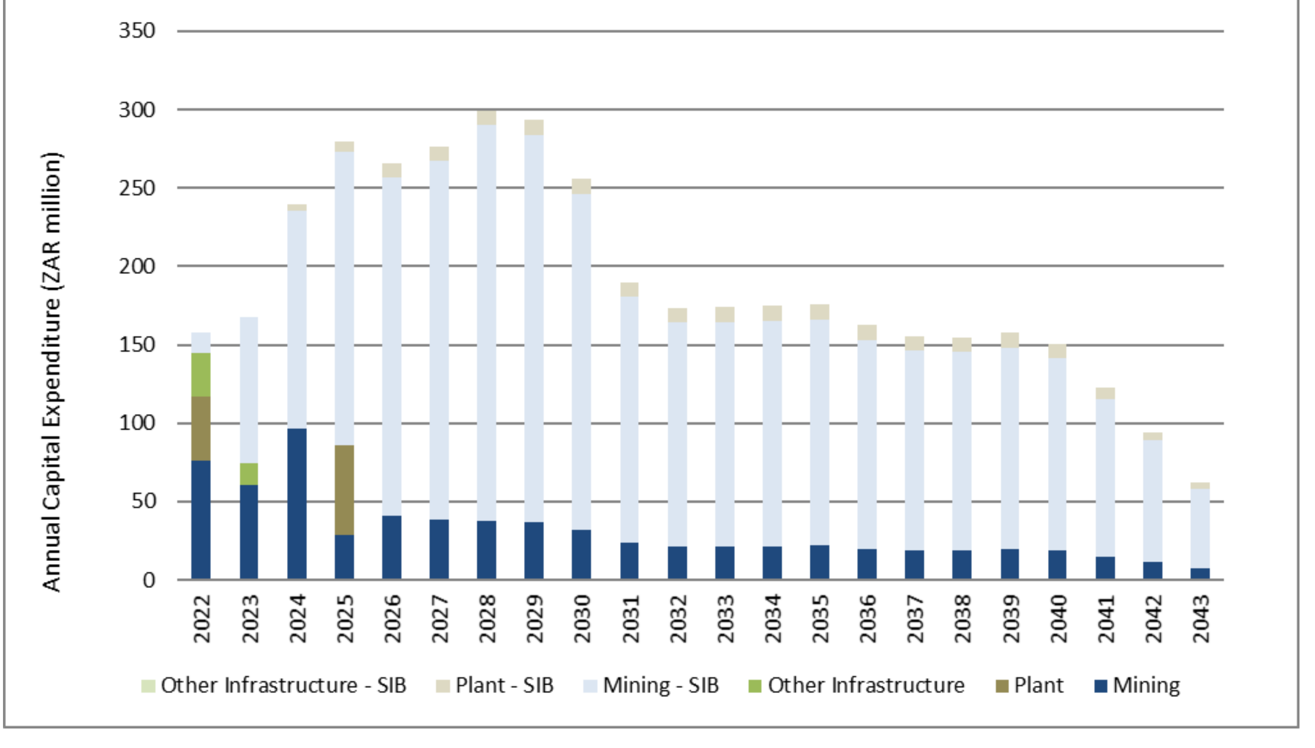
Table 71: Underground and Plant Capital Cost Breakdown

Item	Total ZARm	Total USDm
Mining Capital		
Total Direct Mining Capital	181	11.7
Sustaining Mining Capital*	3,190	205.5
Mining Capital Contingency	506	32.6
Total Mining Capital	**3,877**	**249.7**
Plant Capital		
Total Direct Plant Capital	85	5.5
Sustaining Plant Capital	164	10.6
Plant Capital Contingency	13	0.8
Total Plant Capital	**262**	**16.9**
Other Capital		
Total Direct Other Capital	21	1.4
Sustaining Other Capital	-	0.0
Other Capital Contingency	21	1.4
Total Other Capital	**43**	**2.7**
Total Capital		
Total Direct Capital	**288**	**18.5**
Total Sustaining Capital	**3,354**	**216.1**
Total Capital Contingencies	**540**	**34.8**
Total	**4,182**	**269.3**

Notes: Converted from ZAR to USD at exchange rate of 15.53, the average exchange rate over the LoM. Sustaining mining capital is inclusive of the Fleet capital.

The capital costs over the LoM are illustrated in Figure 89. No additional capital is required for the TSF remining, as the TSF remining is already in operation.

Figure 89: Capital Cash Flow Schedule



8.12.2 Operating Costs

8.12.2.1 Mining Operating Cost

8.12.2.1.1 Zandfontein Underground Operations

The Zandfontein underground operations operating costs are detailed in Table 72. The costs are stated as average costs during steady state production. The underground operations will be owner operated.

Table 72: Mining Operating Costs

Mining	Unit	Cost
Labour Costs	ZAR/month	32,647,413
Fleet Costs[1]	ZAR/month	9,856,241
Engineering Costs	ZAR/month	1,700,000
Mining Electricity Costs	ZAR/month	1,641,197
Other Costs (Training, PPE, Induction, Etc.)	ZAR/month	230,000
Decline Maintenance	ZAR/month	1,080,633
Subtotal Fixed Mining	**ZAR/month**	**47,155,484**
Charge, support & stores - Stoping	ZAR/m2	2,623
HPE Operational Cost	ZAR/t	55
Charge, support & stores - Decline	ZAR/m	6,934
Charge, support & stores - Strike	ZAR/m	5,894
Charge, support & stores - Raise	ZAR/m	2,964
HPE Operational Cost - Raise	ZAR/t	55
Charge, support & stores - ASG	ZAR/m	988
Subtotal Variable Mining	**ZAR/t**	**420**
Total Mining[2]	**ZAR/month**	**76,553,220**
Total Mining[2]	**ZAR/t**	**1,094**

Notes:

1. Fleet costs include operating and maintenance costs.
2. At a steady state production of 70 ktpm.

8.12.2.1.2 TSF Re-mining Operations

The Zandfontein TSF Re-mining operating costs are detailed in Table 73. The TSF re-mining will be conducted by a mining contractor.

Table 73: TSF Re-mining Operating Costs

Mining	Unit	Cost
Remining	ZAR/t	16.7
Deposition	ZAR/t	1.2
Electricity - TSF	ZAR/t	5.0
Diesel - TSF	ZAR/t	2.8
Maintenance - TSF	ZAR/t	7.9
Other direct costs	ZAR/t	1.5
Subtotal TSF Remining	**ZAR/t**	**35.1**

8.12.2.2 Processing Plant Operating Cost

8.12.2.2.1 Zandfontein Underground Operations

The processing operating costs for processing UG2 ore from the underground operations is detailed in Table 74.

Table 74: Processing Operating Costs for Underground Ore (PGM Circuit A)

Processing	Unit	PGM Circuit A
Labour	ZAR/month	3,156,925
Power	ZAR/month	5,785,824
Electrical maintenance	ZAR/month	500,000
Instrumentation	ZAR/month	300,000
Mechanical maintenance	ZAR/month	1,740,274
Subtotal Fixed Processing	**ZAR/month**	**11,483,022**
Steel balls	ZAR/t	14.2
Reagent	ZAR/t	18.5
Subtotal Variable Processing	**ZAR/t**	**32.7**
Total Processing*	**ZAR/month**	**13,774,822**
Total Processing*	**ZAR/t**	**196.8**

Note: At a steady state production of 70 ktpm.

8.12.2.2.2 TSF Re-mining Operations

The operating costs for the Zandfontein Chrome plant is detailed in Table 75.

Table 75: Chrome Plant Operating Costs

Processing	Unit	TSF - Chrome Plant
Labour - Plant	ZAR/t	17.0
Electricity - Plant	ZAR/t	16.0
Diesel - Plant	ZAR/t	1.0
Maintenance - Plant	ZAR/t	5.5
Other direct costs	ZAR/t	8.8
Employment site costs	ZAR/t	1.9
Subtotal Chrome Plant	**ZAR/t**	**50.2**

The Chrome plant tails circuit operating costs for PGM circuit B and PGM circuit D is detailed in Table 76 and Table 77, respectively.

Table 76: Chrome Plant Tails Operating Cost (Circuit B)

Processing	Unit	PGM Circuit B
Labour - Circuit B	ZAR/month	3,570,950
Maintenance & Instrumentation - Circuit B	ZAR/month	1,383,333
Utilities - Circuit B	ZAR/month	2,076,907
Sundries - Circuit B	ZAR/month	1,357,427
Subtotal Fixed Processing	**ZAR/month**	**8,388,616**
Reagents - Circuit B	ZAR/t	23.4
Steel Balls - Circuit B	ZAR/t	9.0
Other Consumables - Circuit B	ZAR/t	13.9
Subtotal Variable Processing	**ZAR/t**	**46.4**
Total Processing*	**ZAR/month**	**13,026,949**
Total Processing*	**ZAR/t**	**130.3**

Note: At a steady state production of 100 ktpm.

Table 77: Chrome Plant Tails Circuit Operating Cost (Circuit D)

Processing	Unit	PGM Circuit D
Labour - Circuit D	ZAR/month	355,315
Maintenance & Instrumentation - Circuit D	ZAR/month	500,000
Utilities - Circuit D	ZAR/month	870,210
Sundries - Circuit D	ZAR/month	537,363
Subtotal Fixed Processing	**ZAR/month**	**2,262,888**
Reagents - Circuit D	ZAR/t	23.4
Steel Balls - Circuit D	ZAR/t	-
Other Consumables - Circuit D	ZAR/t	6.2
Subtotal Variable Processing	**ZAR/t**	**29.6**
Total Processing*	**ZAR/month**	**3,592,658**
Total Processing*	**ZAR/t**	**79.8**

Note: At a steady state production of 45 ktpm.

8.12.2.3 Other Costs

Other costs consist of central services costs and overheads. The central services and overhead costs are detailed in Table 78 and Table 79, respectively.

Table 78: Central Services Operating Costs

Central Services	Unit	Cost
Shared Services	ZAR/month	3,231,142
Shared Services (Labour)	ZAR/month	5,415,520
Subtotal Fixed Central Services	**ZAR/month**	**8,646,662**
Concentrate Transport Costs - PGM	ZAR/t	227.00
Concentrate Transport Costs - Cr	ZAR/t	703.29

Table 79: Overhead Costs

Overheads	Unit	Cost
SLP	ZAR/month	961,888
Mine Health and Safety Regulations	ZAR/month	412,199
Occupational Health	ZAR/month	206,099
National skills Fund	ZAR/month	412,199
UIF	ZAR/month	206,099
Workers Compensation	ZAR/month	1,154,156
Subtotal Overheads	**ZAR/month**	**2,390,752**

8.12.2.4 Project Cost Indicators

The operating costs in the financial model were reported into different categories as defined by the World Gold Council. Table 80 illustrates a breakdown off all the costs included in each costing category:-

a. (Operating) Adjusted Operating Cost;
b. All-in Sustaining Costs ("AISC"); and
c. All-in Costs ("AIC").

Table 80: Financial Cost Indicators

<table>
<tr><td rowspan="3">All-in Costs (AIC)</td><td rowspan="2">All-in Sustaining Costs (AISC)</td><td>Adjusted Operating Costs</td><td>On-Site Mining Costs (on a sales basis)
On-Site General & Administration costs
Royalties & Production Taxes
Realised Gains/Losses on Hedges due to operating costs Community Costs related to current operations
Permitting Costs related to current operations 3rd party smelting, refining and transport costs
Non-Cash Remuneration (Site-Based)
Stockpiles/production inventory write down
Operational Stripping Costs
By-Product Credits</td></tr>
<tr><td colspan="2">Corporate General &/Administrative costs (including share-based remuneration)
Reclamation & remediation - accretion & amortisation (operating sites)
Exploration and study costs (sustaining)
Capital exploration (sustaining)
Capitalised stripping & underground mine development (sustaining)
Capital expenditure (sustaining)</td></tr>
<tr><td colspan="3">Community Costs not related to current operations
Permitting Costs not related to current operations
Reclamation and remediation costs not related to current operations
Exploration and study costs (non-sustaining)
Capital exploration (non-sustaining)
Capitalised stripping & underground mine development (non-sustaining)
Capitalised stripping & underground mine development (non-sustaining)
Capital expenditure (non-sustaining)</td></tr>
</table>

The general definitions of these costs are as follows:-

Adjusted Operating Cost

The Adjusted Operating Cost represents the cash cost incurred at each processing stage, from mining through to recoverable metal delivered to market, and, if any, less net by-product credits. In addition, royalty taxes are included in Adjusted Operating Costs. Costs are reported as "per oz" of gold. The operating margin is defined as metal price received minus Adjusted Operating Costs.

Adjusted Operating Costs cover:-

- mining, ore freight and milling costs;
- ore purchase and freight costs from third parties in the case of custom smelters or mills;
- mine-site administration and general expenses;
- concentrate freight, smelting and smelter general and administrative costs;
- matte freight, refining and refinery general and administrative costs;
- marketing costs (freight and selling);
- community relations costs; and
- royalty taxes.

All-in Sustaining Cost

AISC is the sum of net Adjusted Operating Costs (Operating), Sustaining Capital, reclamation costs and other non-direct operating costs. The AISC margin is defined as metal price received per ore tonne or gold ounce minus the AISC, over the metal price received. Non-direct operating costs cover:-

- the portion of corporate and divisional overhead costs attributable to the operation; and
- research and exploration not attributable to the operation.

All-in Cost

AIC is the sum of the AISC, all non-sustaining capital costs and non-current operational costs. The AIC margin is defined as metal price received per ore tonne or gold ounce minus the AIC, over the metal price received.

Costs reported for the Mine on this basis are displayed per plant feed tonne, recovered 4E oz and recovered platinum equivalent oz in Table 81. Operating costs are inclusive of contingencies, with a contingency of 20% applied to the mining operating costs, and 10% applied to the processing and other costs, in line with estimate accuracies. A 15% contingency has been applied to the capital expenditure in line with the accuracy of estimates. A sensitivity analysis to increase in Operating Expenditure ("OPEX") and CAPEX has been included in Section 8.13.4.1.3.

Table 81: Project Cost Indicators

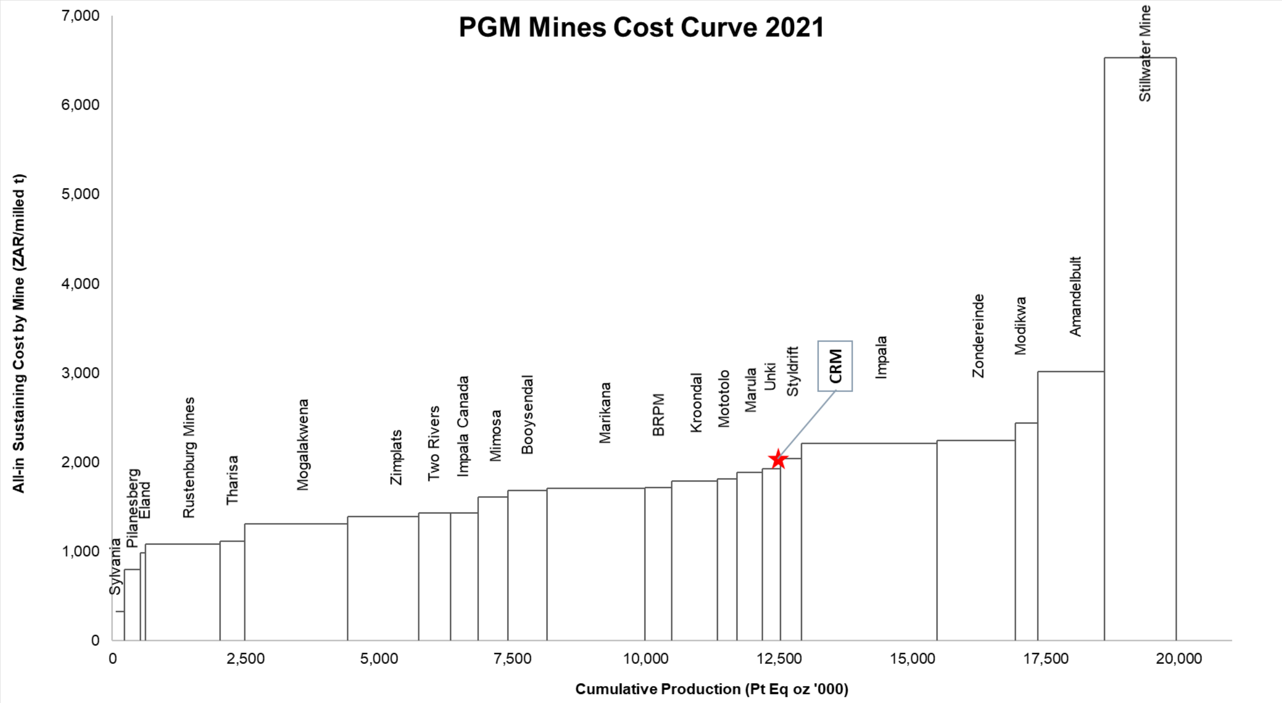
Description	Unit	Excluding TSF	Including TSF
Net Turnover	**ZAR/Milled tonne**	**2,594**	**2,037**
Mine Cost	ZAR/Milled tonne	1,295	959
Plant Costs	ZAR/Milled tonne	224	216
Other Costs	ZAR/Milled tonne	209	213
Royalties	ZAR/Milled tonne	49	39
Adjusted Operating Cost	**ZAR/Milled tonne**	**1,778**	**1,426**
Sustaining CAPEX	ZAR/Milled tonne	207	152
Reclamation	ZAR/Milled tonne	11	9
Off-Mine Overheads	ZAR/Milled tonne	-	-
All-in Sustaining Cost (AISC)	**ZAR/Milled tonne**	**1,997**	**1,587**
Non-Sustaining CAPEX	ZAR/Milled tonne	51	37
Non-Current Costs	ZAR/Milled tonne	-	-
All-in Cost (AIC)	**ZAR/Milled tonne**	**2,048**	**1,624**
All-in Cost Margin	**%**	**21.06%**	**20.27%**
EBITDA*	ZAR/Milled tonne	805	602
EBITDA Margin	%	31%	30%
4E Oz Recovered	koz	1,482	1,511
Net Turnover	**USD/4E oz**	**1,825**	**1,928**
Mine Cost	USD/4E oz	911	907
Plant Costs	USD/4E oz	158	204
Other Costs	USD/4E oz	147	202
Royalties	USD/4E oz	35	37
Adjusted Operating Cost	**USD/4E oz**	**1,251**	**1,350**
Sustaining CAPEX	USD/4E oz	146	143
Reclamation	USD/4E oz	8	8
Off-Mine Overheads	USD/4E oz	-	-
All-in Sustaining Cost (AISC)	**USD/4E oz**	**1,405**	**1,502**
Non-Sustaining CAPEX	USD/4E oz	36	35
Non-Current Costs	USD/4E oz	-	-
All-in Cost (AIC)	**USD/4E oz**	**1,441**	**1,537**
EBITDA	USD/4E oz	566	570
Net Turnover	**USD/Pt Eq**	**1,124**	**1,124**
Mine Cost	USD/Pt Eq	561	529
Plant Costs	USD/Pt Eq	97	119
Other Costs	USD/Pt Eq	91	118
Royalties	USD/Pt Eq	21	21
Adjusted Operating Cost	**USD/Pt Eq**	**770**	**787**
Sustaining CAPEX	USD/Pt Eq	90	84
Reclamation	USD/Pt Eq	5	5
Off-Mine Overheads	USD/Pt Eq	-	-
All-in Sustaining Cost (AISC)	**USD/Pt Eq**	**865**	**876**
Non-Sustaining CAPEX	USD/Pt Eq	22	21
Non-Current Costs	USD/Pt Eq	-	-
All-in Cost (AIC)	**USD/Pt Eq**	**887**	**896**
EBITDA	USD/Pt Eq	349	332

1. *Earnings before interest, tax, depreciation and amortisation (excludes CAPEX).
2. EBITDA per unit is lower when including the remining of the TSF due to mined units increasing, while the recoveries and payabilities decrease when including the TSF.
3. Net turnover will be the realised income per produced oz after payability has been applied.

Zandfontein has an adjusted operating cost of ZAR1,778/milled t excluding TSF remining and ZAR1,426/milled t if the TSF remining is included. The AISC of the mine excluding and including TSF remining is USD1,405/4E oz and USD1,502/4E oz, respectively.

Figure 90 illustrates the PGM mining cost curve per milled tonne to illustrate how CRM will compare to the industry. CRM has a AISC of ZAR1,997/t which compares closest on the cost curve to Unki mine and Styldrift mines, both of which are bord and pillar operations. Marula mine is the closest in terms of mining method, employing a combination of conventional and hybrid mining methods and accessing the orebodies via declines. Marula is also close to CRM on the cost curve.

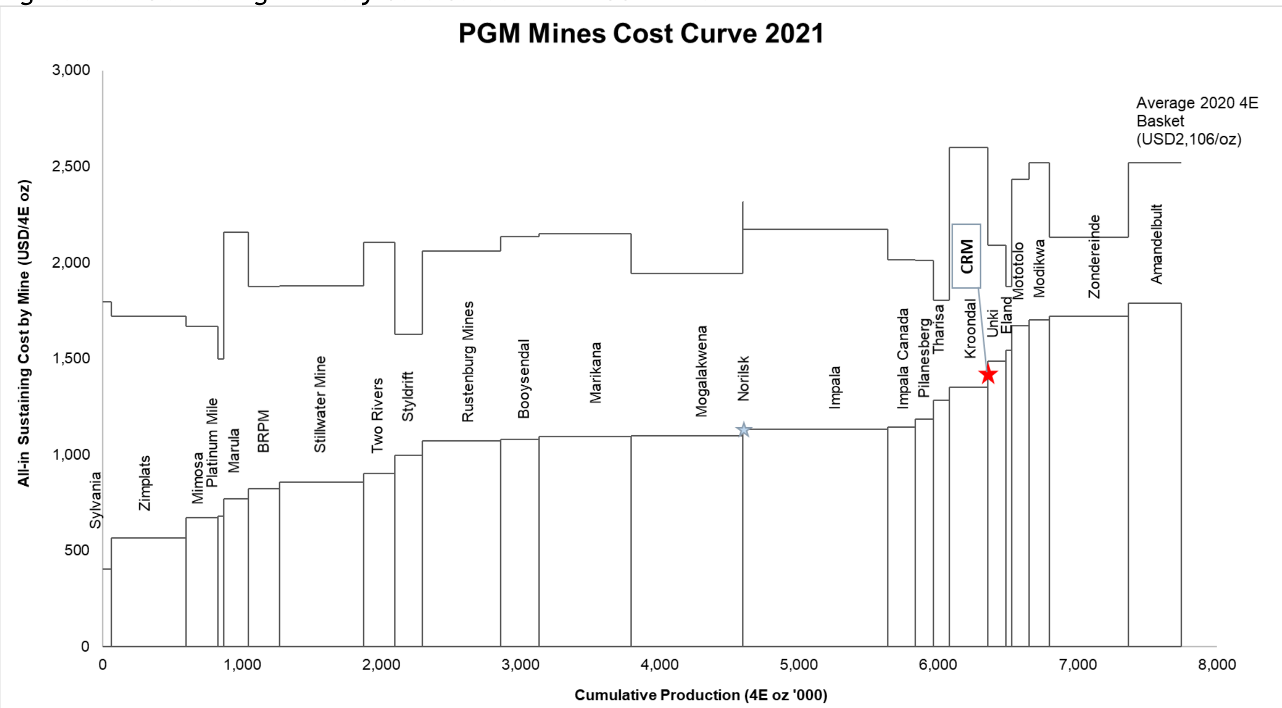
Figure 90: PGM Mining Industry Cost Curve 2021 – ZAR/Milled t



Source: Minxcon (2021)

Figure 91 illustrates the PGM mining cost curve per recovered 4E oz to illustrate how Zandfontein will compare to the industry. Zandfontein is again very close to Unki mine and is also close to Kroondal. Interestingly Marula mine is much lower than Zandfontein on a recovered 4E oz basis. This could be to higher grades and recoveries.

Figure 91: PGM Mining Industry Cost Curve 2021 – USD/4E oz



Source: Minxcon (2021)

Figure 92 illustrates the operating costs (excluding royalties) per tonne over the LoM excluding the TSF remining along with the plant feed tonnes. The high upfront costs are a function of the low initial tonnes, with the costs reducing as the mining ramps up.

Figure 92: Cash Operating Cost per Milled Tonne – Excluding TSF

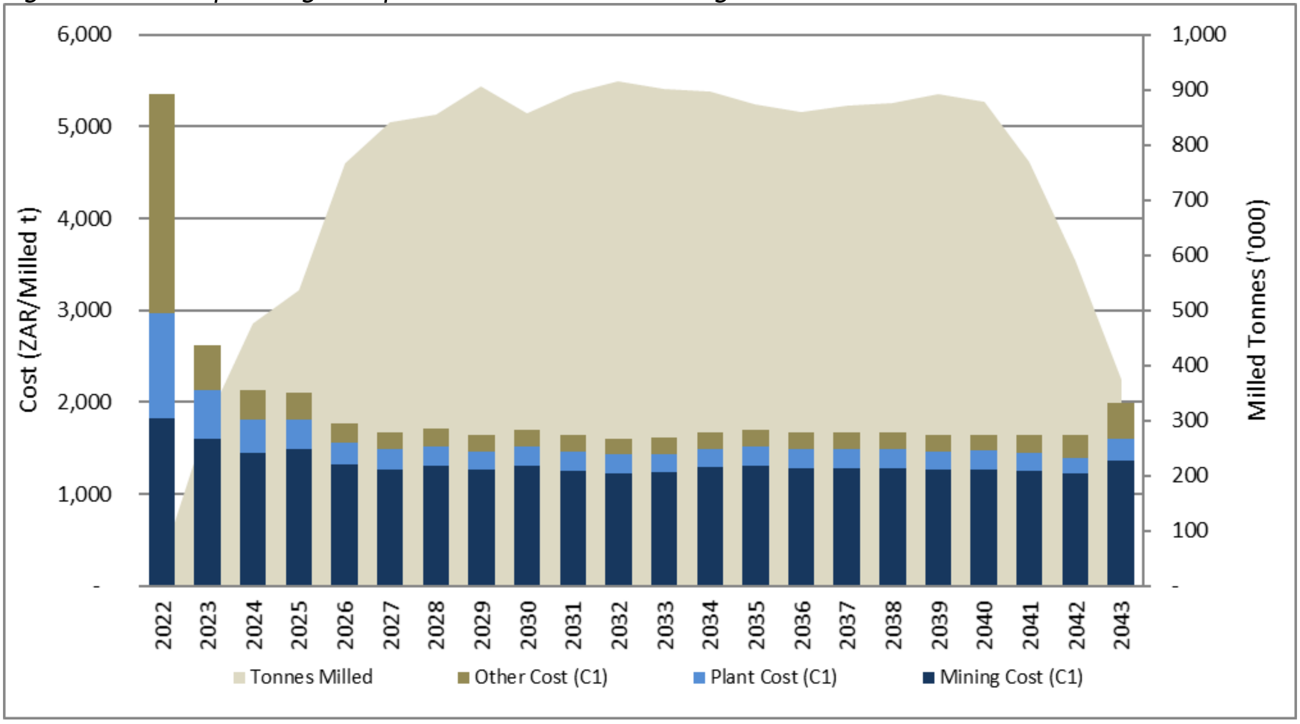


Figure 93 illustrates the operating costs (excluding royalties) per tonne over the LoM when including the TSF remining along with the plant feed tonnes. The feed tonnes upfront increase significantly but is spread over the three PGM circuits. The overall operating costs per tonne are in turn lower over the first four years.

Figure 93: Cash Operating Cost per Milled Tonne - Including TSF

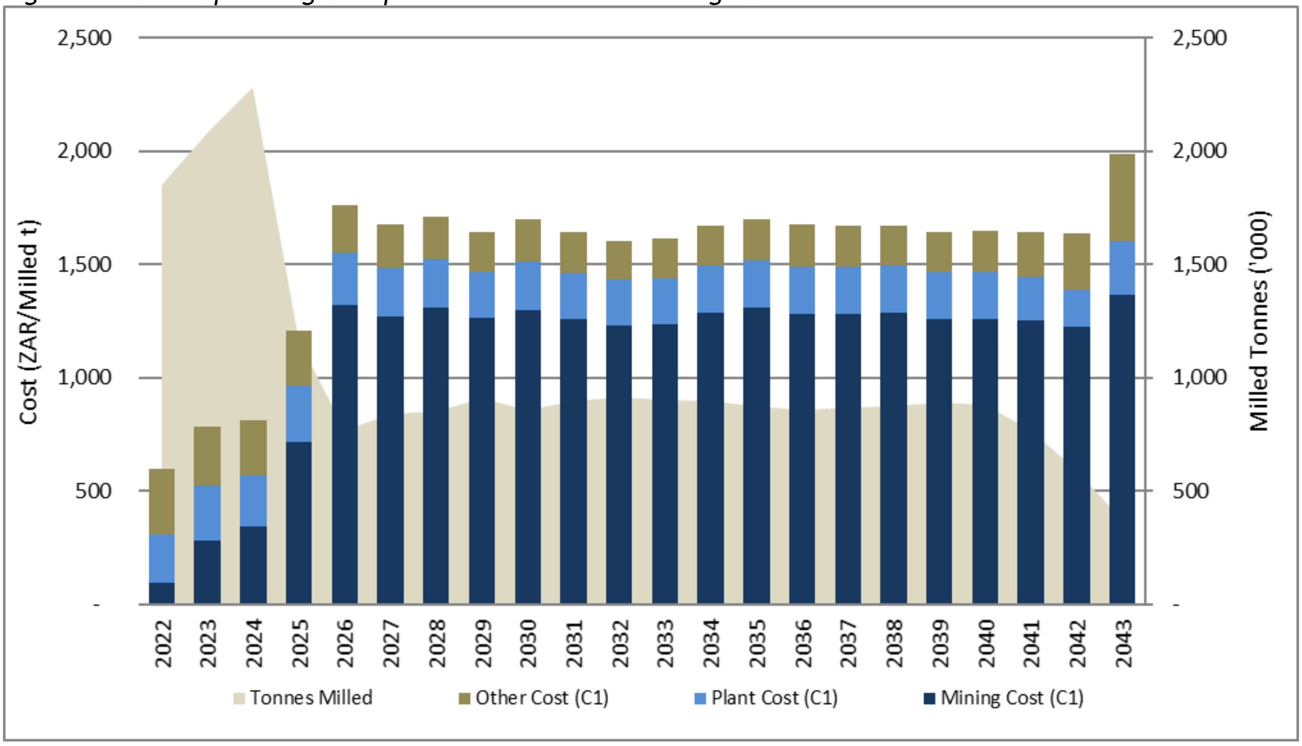


Figure 94 illustrates the AIC per recovered 4E oz excluding the remining of the TSF. The high upfront costs are due to start-up capital required in 2022, with the ramp-up also increasing upfront costs.

Figure 94: AIC per Recovered 4E Oz – Excluding TSF

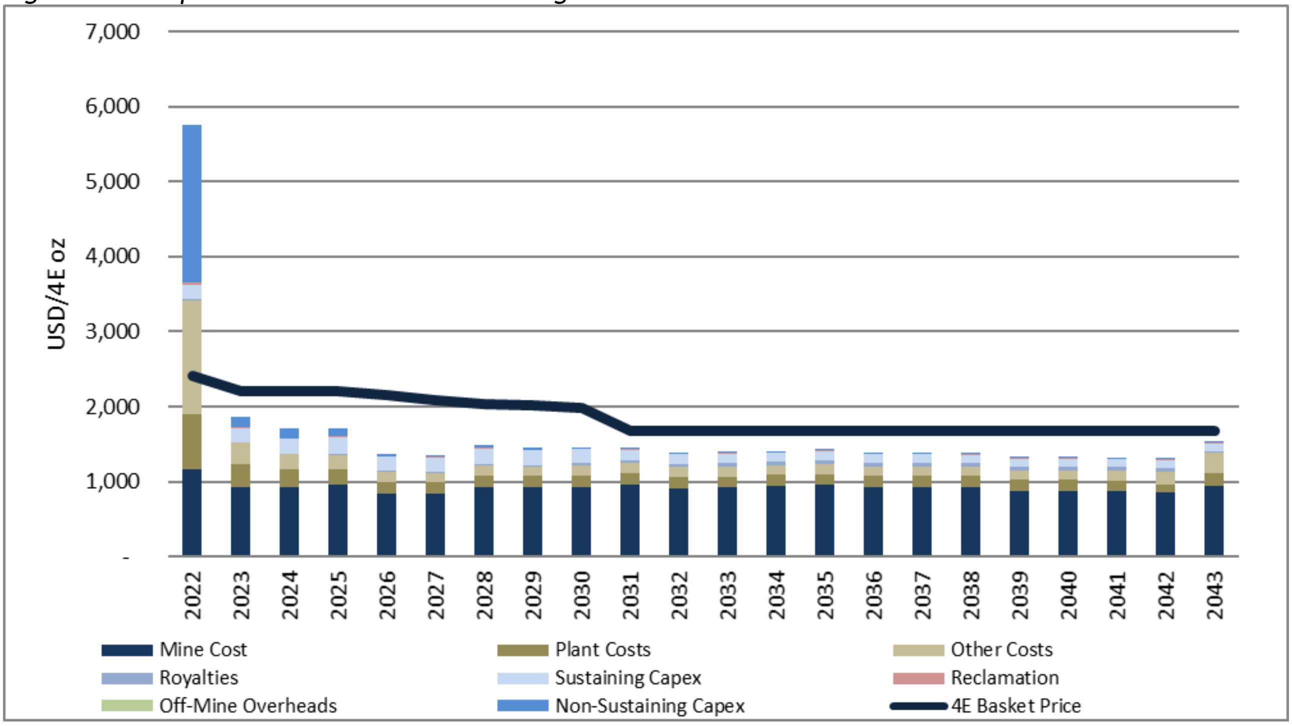
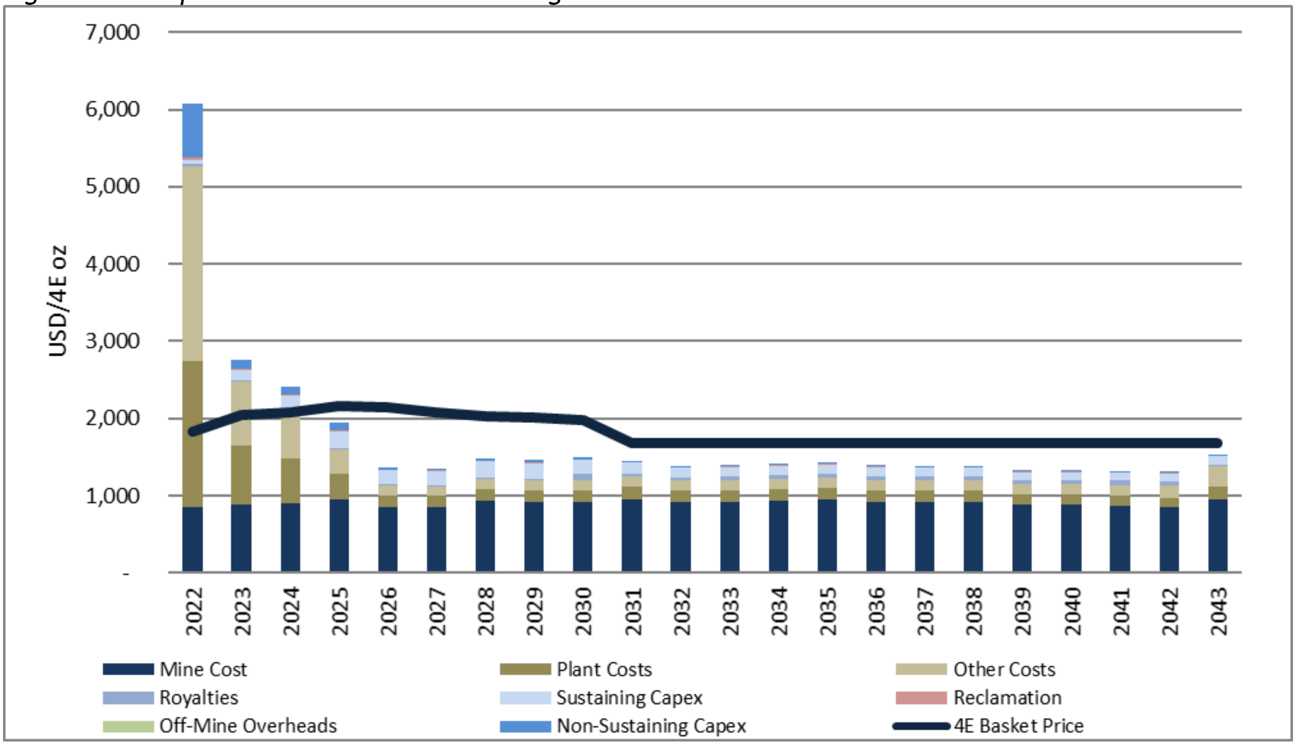


Figure 95 illustrates the AIC per recovered 4E oz when including the remining of the TSF.

Figure 95: AIC per Recovered 4E Oz – Including TSF



8.13 Economic Analysis

JSE 12.10 (f)
SC 5.8 (i)-(iv)

8.13.1 Introduction

SV T1.3, T1.9

The Competent Valuator relied upon the Mineral Resources and information compiled by Mr Uwe Engelmann, a Competent Person who is registered with SACNASP and is a Member of the GSSA included in a list of recognised organisations promulgated by the SSC from time to time. The Competent Valuator is satisfied with the manner in which the Mineral Resources and Mineral Reserves have been stated and supports the methodology followed.

The valuation exercise serves the purpose of determining the financial viability of the Project to declare updated Mineral Reserves as well as to secure funding for the restart of the underground operations.

8.13.2 Valuation Approaches and Methods

SV T1.12

The following valuation approaches are three internationally accepted methods of valuing mineral projects, and are summarised below as well as illustrated in Table 82:-

- **Cost Approach**: used to value early-stage exploration properties. The valuation is dependent on the historical and future exploration expenditure.
- **Market Approach**: used to value exploration and development properties, based on the relative comparisons of similar properties for which a transaction is available, in the public domain. The market approach relies on the principle of "willing buyer, willing seller" and requires that the amount obtainable from the sale of the mineral asset is determined as if in an arm's-length transaction.
- **Income Approach**: used to value development and production properties in the production phase. This method relies on the "value-in-use" principle and requires determination of the present value of future cash flows over the useful life of the mineral asset.

Table 82: Acceptable Methods of Mineral Project Valuation

Valuation Approach	Early Stage Exploration	Advanced Stage Exploration	Development Properties	Production Properties	Dormant Properties		Defunct Properties
					Economically Viable	Not Viable	
Income	Not generally used	Less widely used	Widely used	Widely used	Widely used	Not generally used	Not generally used
Market	Widely used	Widely used	Less widely used	Quite widely used	Quite widely used	Widely used	Widely used
Cost	Widely used	Widely used	Not generally used	Not generally used	Not generally used	Less widely used	Quite widely used

Income Approach

The DCF valuation is based on future free cash flow discounted to present value. This analysis is widely used within investment banking and company valuation. The DCF is based on the Production Schedule and all costs associated to develop, mine and processing the Reserve. Relevant taxation and other operating factors, such as recoveries, stay-in-business costs and contingencies are incorporated into the valuation to produce a cash flow over the life cycle of the project.

It is generally acceptable to use Mineral Resources in the Cash Flow Approach if Mineral Reserves are also present. These Mineral Resources and Mineral Reserves must be signed off by a Competent Person in accordance with SAMREC (or other required Reporting Code). Additionally, Mineral Reserves must be based on a Life of Mine Plan for an operating (going concern) mine, or at least a Pre-Feasibility Study ("PFS") for a mine project.

Market Approach

The market approach was considered for this Project, as per SAMREC/SAMVAL Code requirements. The market approach requires the comparison of the Project with relatively recent transactions of Resource assets that have similar characteristics to those of the asset being valued. It is generally based upon a monetary value per unit of the Mineral Resource (where available), or per unit of defined tonnes (Measured, Indicated and Inferred). Typically, the comparable method uses the transaction price of comparable assets to establish a value for the specific asset to be valued. The difficulty of this approach within the mining industry is that there are no true comparables, since each asset is unique with respect to key factors such as geology, mineralisation, costs, stage of exploration, infrastructure, as well as peripheral issues such as social, political and environmental aspects.

When transactions of mineral assets do occur, they rarely involve strictly cash, leaving the valuator the task of converting blocks of shares, royalties or option terms into present-day monetary equivalents. In the first cases, the defined value of the share (inclusive of whether it is transacted at a premium or discount), at the time of the transaction, is applied to convert the share volume into a cash value. The same principle is applied to royalties and option terms to convert these transaction preferences into a cash basis.

Cost Approach

The cost approach relies on historical and/or future expenditure on the property and involves estimation of the depreciated cost of reproducing or replacing the asset and improvements. Reproduction cost refers to the cost at a given point in time of reproducing a replica asset, whereas replacement cost refers to the cost of reproducing improvements of equal utility. In cases where insufficient confidence exists in the technical parameters of the mineral asset, valuation methods rely almost entirely on the principle of historical cost, implying that an asset's value is correlated to the money spent on its acquisition, plus a multiple of expenditures. A prospectivity enhancement multiplier ("PEM") is a factor applied to the total cost of exploration, the magnitude of which is determined by the level of sophistication of the exploration for which positive exploration results have been obtained.

8.13.2.1 Methodology Justification

The Valuator performed an independent valuation on the Project's Mineral Resources. As the Project has a budget plan based on a compliant mine plan with stated Mineral Reserves, the income approach was applied on the total mineable reserve incorporated in a detailed mine plan as the primary valuation methodology in determining the value of the asset of the Zandfontein section only. In addition to the income approach, a second approach, namely the market approach, was used which considers the total Zandfontein Project.

8.13.3 Valuation Date

SV T1.13

The effective date of this valuation is **1 January 2022**. The valuator is not aware of any material changes that occurred between the valuation date and report date.

8.13.4 Valuation Summary and Conclusions

SC 5.6 (iii)(iv)
SC 5.8 (iii)(iv)
SV T1.14, T1.15

8.13.4.1 Income Approach

A company has different sources of finance, namely common stock, retained earnings, preferred stock and debt. Free cash flow is based on either Free cash flow to firm ("FCFF") or Free cash flow to equity ("FCFE"). FCFF is the cash flow available to all the firm's suppliers of capital once the firm pays all operating expenses (including taxes) and expenditures needed to sustain the firm's productive capacity. The expenditures include what is needed to purchase fixed assets and working capital, such as inventory. FCFE is the cash flow available to the firm's common stockholders once operating expenses (including taxes), expenditures needed to sustain the firm's productive capacity, and payments to (and receipts from) debt holders are accounted for. It must be noted that *FCFF minus Nett Debt = FCFE*.

The scope of this valuation exercise was to determine the financial viability of the Project. This is illustrated by using the DCF method on a FCFF basis, to calculate the net present value ("NPV") and subsequently, the intrinsic value of the Project in real terms.

The NPV is derived from post-royalties and tax, pre-debt real cash flows, after considering operating costs, capital expenditures for the mining operations and the processing plant and using forecast macro-economic parameters.

Three values are illustrated:-

- The combined Project value including the Zandfontein underground operation and the Zandfontein TSF remining operation;
- The stand-alone Zandfontein underground operations; and
- The stand-alone Zandfontein TSF remining operation.

The Zandfontein TSF remining operation value was calculated on an incremental cash flow basis, *i.e.*, deducting the Zandfontein underground operation value from the combined Project value.

8.13.4.1.1Principal Valuation Modifying Factors

8.13.4.1.1.1 Basis of Valuation of Mining Assets

SC 5.6 (vi)(vii)(ix)
SV T1.10

In generating the financial model and deriving the valuations, the following were considered:-

- This Report details the cash flow model with economic input parameters.
- The cash flow model is in constant money terms and completed in ZAR.
- The DCF valuation was set up in calendar years ending December, with the starting date being January 2022.
- A hurdle rate of 11.87% (in real terms) was calculated for the discount factor.
- The impact of the Mineral Royalties Act using the formula for unrefined metals was included.
- Sensitivity analyses were performed to ascertain the impact of discount factors, commodity prices, exchange rate, grade, operating costs and capital expenditures.
- Valuation of the tax entity was performed on a stand-alone basis.
- The full intrinsic value of the operation was reported for the Project.

8.13.4.1.1.2 Macro-Economic Forecasts

All economic criteria that have been used for the study are described in the section below, together with the macro-economic and commodity price forecasts for the operations over the LoM. Forecast data is based on projections for the different commodity prices and the country-specific macro-economic parameters and is presented in calendar years from January to December.

Both the ZAR/USD exchange rate and USD commodity prices are in constant money terms. Table 83 illustrates the macro-economic forecasts for the first four years as well as the long-term forecast used in the financial model. The exchange rate forecast is based on the median of various banks and is constant throughout the LoM. A constant inflation rate of 5.50% was utilised as per Minxcon's view.

Table 83: Macro-economic Forecasts over the Life of Mine (Real Terms)

Item	Unit	Year				
		2022	2023	2024	2025	Long-Term
		1	2	3	4	
SA Inflation Rate	%	5.50%	5.50%	5.50%	5.50%	5.50%
Exchange rate	ZAR/USD	15.65	15.63	15.85	15.50	15.50

***Source*:** Median of various Banks and Broker forecasts (Minxcon).

The price forecasts were sourced from Edison Investment Research ("Edison") (2021) based on their market research of the future supply and demand of PGMs. The Edison prices were converted to real terms utilising the US inflation rate forecast. The basket prices are calculated using the appropriate prill splits for the UG operations and the TSF remining operations.

Table 84: Commodity Price Forecasts over the Life of Mine (Real Terms)

Item	Unit	Year									
		2022	2023	2024	2025	2026	2027	2028	2029	2030	Long-Term*
		1	2	3	4	5	6	7	8	9	
Platinum	USD/oz	1,025	998	1,020	1,029	1,018	1,006	1,005	1,046	1,110	1,500
Palladium	USD/oz	2,100	1,850	1,781	1,719	1,475	1,327	1,297	1,268	1,240	800
Rhodium	USD/oz	16,000	14,571	14,440	14,678	14,754	14,421	13,924	13,519	12,814	8,000
Gold	USD/oz	1,819	1,669	1,628	1,527	1,435	1,362	1,318	1,288	1,259	1,600
Basket Price UG	USD/oz	2,801	2,574	2,556	2,567	2,501	2,419	2,361	2,338	2,300	1,950
Basket Price TSF	USD/oz	2,831	2,603	2,586	2,597	2,530	2,448	2,390	2,369	2,333	1,994

Source: Edison (Dec 2021), (*Minxcon).

The creditors' days were assumed at 30 days and debtors' days (for payment of delivered PGMs) were calculated at an average of 20 days. Chrome debtor's day was provided at 85 days.

8.13.4.1.1.3 Recoveries

The PGM containing ore is treated at the Zandfontein floatation plant, with an expected recovery of 80% for the fresh ore. The chrome tails from the TSF remining operations will be split into two PGM circuits, namely PGM Circuit B and PGM circuit D at a ratio of 70% and 30%, respectively as per Company strategy. PGM Circuit B and PGM Circuit D, which does not include a mill, have been modelled at an average recovery of 11% based on recent actual recoveries. A sensitivity to higher potential recoveries for PGM circuit B and PGM Circuit D is illustrated in 8.13.4.1.3. The chrome plant has an overall yield of 30% to produce a 38.5% Cr_3O_2 concentrate.

8.13.4.1.1.4 Discount Rate

Minxcon used the FCFF to calculate the value of the company on a 100% equity basis and hence used the Capital Asset Pricing Model ("CAPM") to calculate the discount rate.

The following were considered:-

- The South African 10-Yr and longer bond yield of 9.74% was considered an acceptable risk-free rate.
- A market risk premium of 6.00%, a rate generally considered as being the investor's expectation for investing in equity rather than a risk-free government bond, was used.
- The Beta of a stock is normally used to reflect the stock price's volatility over and above other general equity investments in the country of listing. A Beta of 1.38 was utilised for the Project. The beta is the actual Beta of Eastplats on the TSX (primary listing) as reported by Reuters (Jan 2022).
- This resulted in a nominal-based cost of equity of 18.02% to value the Project which equals a real cost of equity of 11.87%.

The calculated discount rate is detailed in Table 85 below.

Table 85: CRM Cost of Equity

Items	Rate
Risk-Free Rate	9.74
Risk Premium of Market	6.00%
Base Beta (Project Premium)	1.38
Nominal Cost of Equity (CAPM)	18.87%
Real Cost of Equity (CAPM)	11.87%

Beta

Beta is a measure of the volatility or systematic risk of a security or a portfolio in comparison to the market as a whole.

Minxcon compared the Betas of a number of South African PGM mining companies listed on the JSE, with one on the London Stock Exchange ("LSE") to serve as a comparison for Eastplats. Eastplats is listed primarily on the TSX, with another listing on the JSE. The two betas do not differ materially, hence using one or the other would not make a material change to the discount rate calculation. The Betas of the PGM mining companies were found to range between 0.45 (Sylvania Platinum) and 1.90 (Impala Platinum). The Beta of 1.38 falls within this range and is closest to Sibanye-Stillwater, with a Beta of 1.48. The Beta of 1.38 is therefore deemed appropriate. *Table 86* shows the Betas of South African PGM mining companies considered.

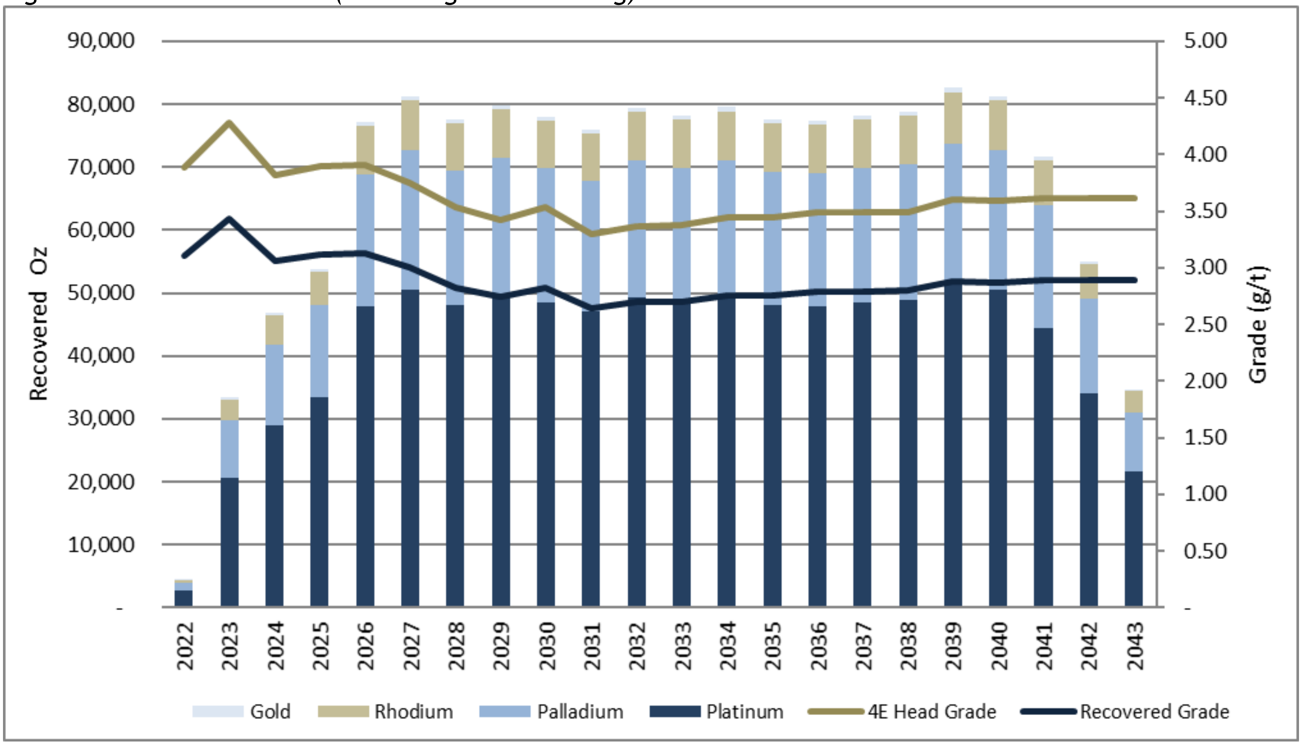
Table 86: South African PGM Mining Companies' Beta Values

PGM Miners	Beta	Exchange
Impala Platinum	1.90	JSE
Anglo American Platinum	1.78	JSE
Sibanye Stillwater	1.48	JSE
Tharisa Plc	0.95	JSE
Sylvania Platinum	0.45	LSE
Northam Platinum	1.80	JSE
Royal Bafokeng Platinum	1.85	JSE
Eastplats	**1.38**	**TSX**
Mean	1.33	
Median	1.63	

8.13.4.1.1.5 Saleable Product

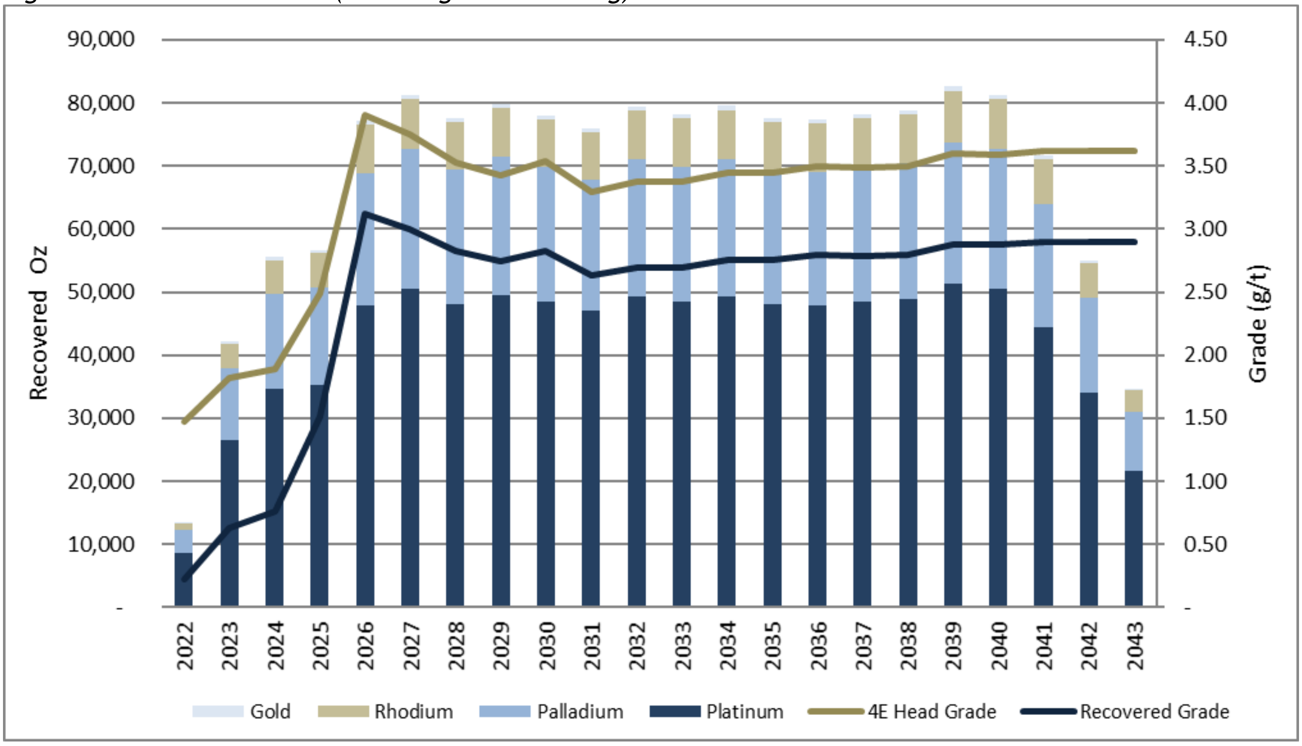
The saleable ounces per year excluding and including TSF Remining Operations are illustrated in Figure 96 and Figure 97, respectively. The average recovery over the Lom is 80% excluding the TSF and drops to 72% when the TSF is included. The recovered 4E grade averages 2.85g/t and 2.08g/t excluding and including the TSF, respectively.

Figure 96: Saleable Ounces (Excluding TSF Remining)



Notes: Saleable ounces are before payabilities are applied.

Figure 97: Saleable Ounces (Including TSF Remining)



A breakdown of the tonnes and ounces used in the LoM are displayed in Table 87.

Table 87: Production Breakdown in Life of Mine

Item	Project	Excluding TSF	Including TSF
Ore Tonnes Mined	kt	16,187	23,756
Total Tonnes Mined	kt	17,440	25,010
Average Mined Grade	g/t	3.56	2.89
Total Oz in Mine Plan	oz	1,852,391	2,210,484
Platinum Recovered	oz	919,527	938,695
Palladium Recovered	oz	404,859	412,552
Rhodium Recovered	oz	146,117	148,336
Gold Recovered	oz	11,411	11,843
Platinum Equivalent	oz	2,405,847	2,591,719
Grade Delivered to Plant	g/t	3.56	2.89
Recovered grade	g/t	2.85	2.08
Yield/Recovery	%	80%	72%
Total Oz Recovered	oz	1,481,913	1,511,427
Cr_2O_3 Yield	%	-	30%
Cr_2O_3 38.5% Produced	kt	-	1,551,088

8.13.4.1.1.6 Royalties

The Mineral and Petroleum Resources Royalty Act came into effect on 1 March 2010. Under the legislation, passed in 2008, companies will have to pay extra taxes proportional to their profitability after CAPEX. The law requires all companies extracting minerals in South Africa to pay royalties at a rate of between 0.5% and 7% based on gross sales, less their allowable deductions, depending on the refined condition of the Mineral Resources. Therefore, companies are taxed on either the refined or unrefined formula:-

- Refined mineral formula = 0.5 + [EBIT/Gross sales x 12.5] x 100
- Unrefined mineral resource formula =0.5 + [EBIT/Gross sales x 9] x 100

The unrefined mineral formula was used for the Project valuation as concentrate is sold.

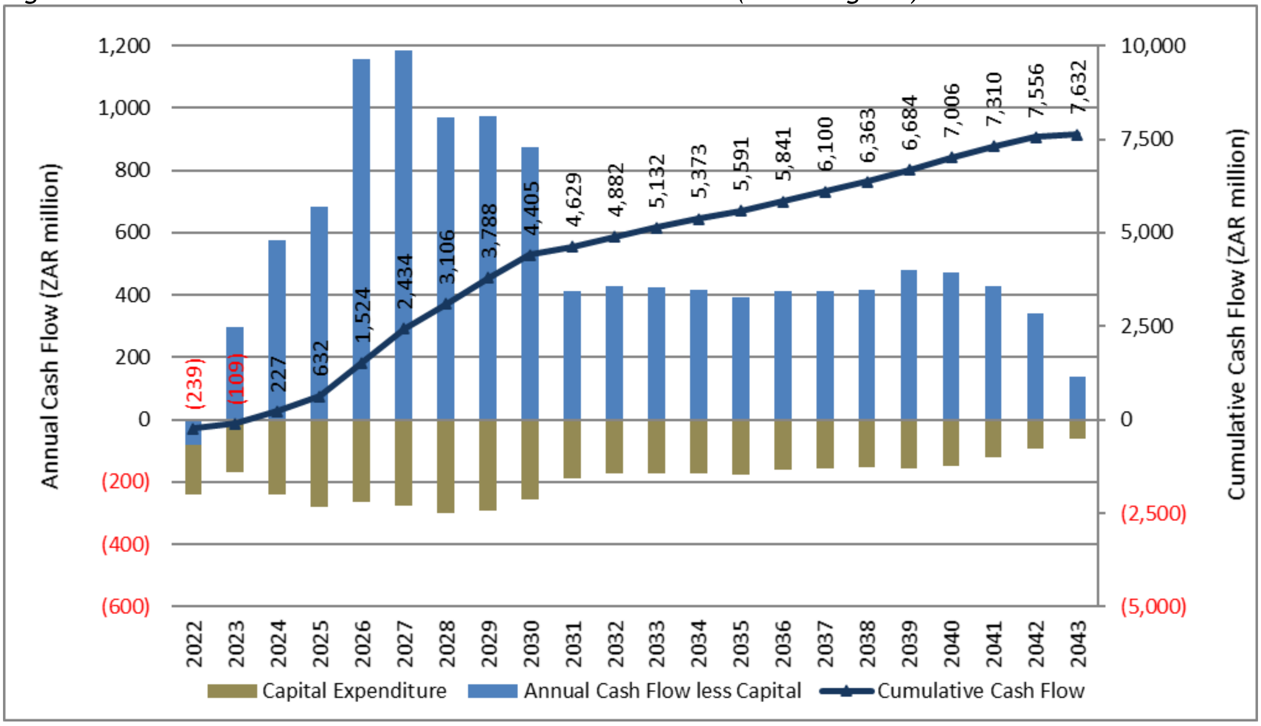
8.13.4.1.1.7 Cash Flow

Minxcon's in-house DCF model was employed to illustrate the NPV for the Project in real terms.

The NPV was derived from post royalties and tax, pre-debt real cash flows, using the techno-economic parameters, commodity price and macro-economic projections. This valuation is based on a free cash flow and measures the economic viability of the Mineral Reserves to demonstrate if the extraction of the orebody is viable and justifiable under a defined set of realistically assumed modifying factors.

The annual and cumulative cash flow for the LoM is displayed in Figure 98, excluding the TSF. The mine has a peak funding requirement of ZAR239 million in year 1 with an average payback period of 2.3 years.

Figure 98: Annual and Cumulative Cash Flow – Undiscounted (Excluding TSF)



The annual and cumulative cash flow for the LoM when including the TSF remining is displayed in Figure 99. The peak funding requirement increases to ZAR269 million in year 1 as the first year is loss making but payback reduces marginally to 2.0 years. The reason for the loss making in year 1 when remining the TSF is due to the working capital changes as payment for Chrome concentrate sales is only received after 85 days, as provided by Client, hence revenue is delayed. No opening working capital balance was considered.

Figure 99: Annual and Cumulative Cash Flow – Undiscounted (Including TSF)

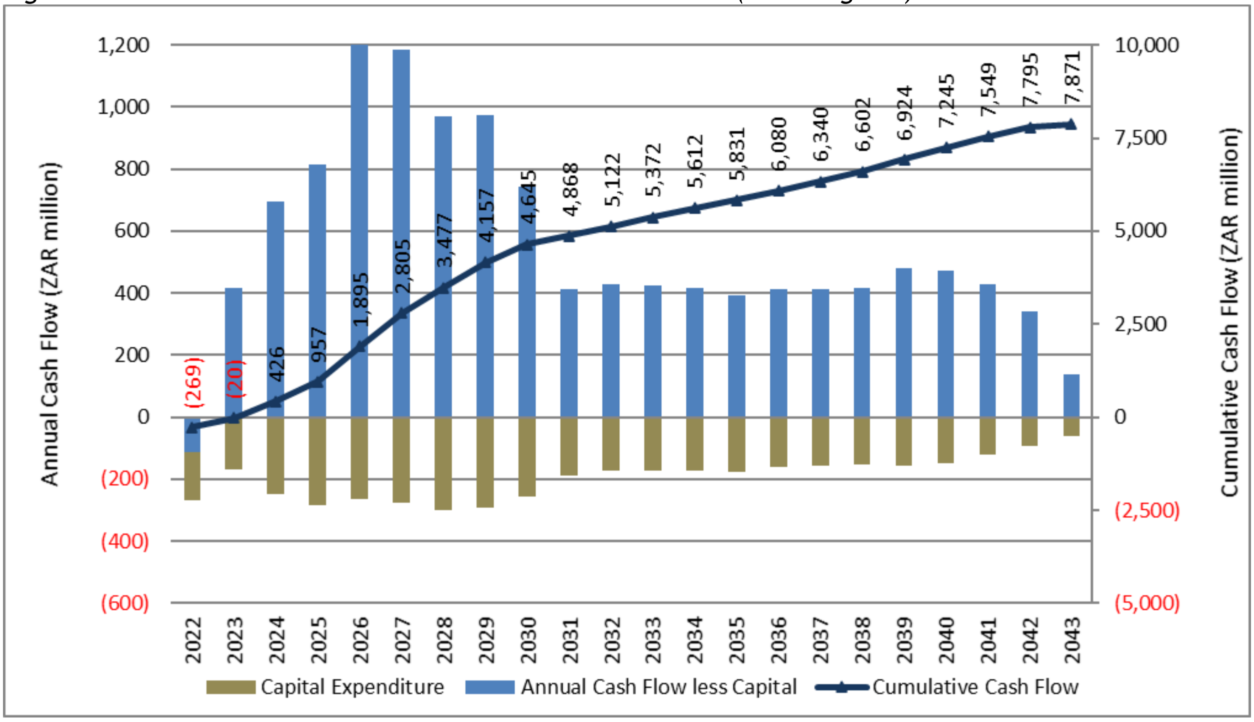


Table 88 through Table 91 to follow detail the annual cash flow for the Project excluding and including the TSF remining, respectively, in real terms.

Table 88: Annual Cash Flow (First 15 Years) – Techno-economic Inputs – Excluding TSF Remining

Minxcon

Project Title: **Crocodile River Mine**
Client: Eastplats
Project Code: M21-069a

Project Duration		Unit	Totals															
Calendar Years				2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Financial Years		years	22	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Macro-Economic Factors (Real Terms)																		
Currency		ZAR /USD	15.53	15.65	15.63	15.85	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50
Inflation	ZAR Inflation Rate	%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%
Commodities																		
Commodity prices	Platinum	USD/oz.	1,307	1,025	998	1,020	1,029	1,018	1,006	1,005	1,046	1,110	1,500	1,500	1,500	1,500	1,500	1,500
Commodity prices	Palladium	USD/oz.	1,112	2,100	1,850	1,781	1,719	1,475	1,327	1,297	1,268	1,240	800	800	800	800	800	800
Commodity prices	Rhodium	USD/oz.	10,596	16,000	14,571	14,440	14,678	14,754	14,421	13,924	13,519	12,814	8,000	8,000	8,000	8,000	8,000	8,000
Commodity prices	Gold	USD/oz.	1,550	1,819	1,669	1,628	1,527	1,435	1,362	1,318	1,288	1,259	1,600	1,600	1,600	1,600	1,600	1,600
Operating Statistics																		
Tonnes Produced																		
Waste		tonnes	1,253,323	-	45,707	70,616	100,234	124,625	89,105	123,138	139,670	158,429	64,305	41,673	45,942	61,967	68,569	34,770
Stripping ratio		Ratio	0.08	0.00	0.15	0.15	0.19	0.16	0.11	0.14	0.15	0.18	0.07	0.05	0.05	0.07	0.08	0.04
ROM		tonnes	16,186,681	44,268	302,709	475,954	536,416	767,317	842,091	854,347	906,634	858,711	895,456	916,710	901,752	897,585	874,739	860,176
ROM	(Max)	tonnes/mnth	76,392	3,648	25,226	39,663	44,701	63,943	70,174	71,196	75,553	71,559	74,621	76,392	75,146	74,799	72,895	71,681
Mill Head grade	4E Head Grade	g/t	3.56	3.89	4.29	3.82	3.90	3.90	3.75	3.53	3.42	3.53	3.30	3.37	3.37	3.44	3.44	3.49
Tonnes to mill		tonnes	16,186,681	44,268	302,709	475,954	536,416	767,317	842,091	854,347	906,634	858,711	895,456	916,710	901,752	897,585	874,739	860,176
Recovered Grade																		
Recovered grade	Precious Metals	g/t	2.85	3.11	3.43	3.06	3.12	3.12	3.00	2.82	2.74	2.83	2.64	2.70	2.70	2.75	2.76	2.79
Metal recovered																		
UG2 - Metal recovered	Platinum	kg	28,600	85	644	902	1,037	1,487	1,568	1,498	1,541	1,506	1,465	1,534	1,509	1,534	1,496	1,491
UG2 - Metal recovered	Palladium	kg	12,593	38	284	397	457	655	690	659	679	663	645	675	664	676	658	657
UG2 - Metal recovered	Rhodium	kg	4,545	14	102	143	165	236	249	238	245	239	233	244	240	244	238	237
UG2 - Metal recovered	Gold	kg	355	1	8	11	13	18	19	19	19	19	18	19	19	19	19	19
			Total Reserve oz	**5,531.05**	**41,714.69**	**58,447.23**	**67,180.64**	**96,334.14**	**101,561.50**	**96,992.12**	**99,830.85**	**97,546.09**	**94,913.86**	**99,332.37**	**97,747.15**	**99,375.38**	**96,862.66**	**96,597.12**
Metal recovered	Platinum	oz	919,527	2,746	20,707	29,013	33,348	47,820	50,415	48,147	49,556	48,422	47,115	49,309	48,522	49,330	48,083	47,951
Metal recovered	Palladium	oz	404,859	1,209	9,117	12,774	14,683	21,055	22,197	21,199	21,819	21,320	20,744	21,710	21,364	21,719	21,170	21,112
Metal recovered	Rhodium	oz	146,117	436	3,290	4,610	5,299	7,599	8,011	7,651	7,875	7,694	7,487	7,835	7,710	7,839	7,641	7,620
Metal recovered	Gold	oz	11,411	34	257	360	414	593	626	597	615	601	585	612	602	612	597	595
Conc Product	PGM	tonnes	341,427	1,019	7,689	10,773	12,383	17,756	18,719	17,877	18,401	17,979	17,494	18,309	18,016	18,317	17,853	17,804

Table 89: Annual Real Cash Flow (First 15 Years) - Excluding TSF Remining

Minxcon

Project Title: **Crocodile River Mine**
Client: Eastplats
Project Code: M21-069a

Project Duration		Unit	Totals															
Calendar Years				2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Financial Years		years	22	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Financial																		
Revenue		**ZAR**	**41,987,148,849**	**166,830,666**	**1,154,455,491**	**1,628,950,570**	**1,838,611,159**	**2,568,243,339**	**2,619,404,818**	**2,441,446,239**	**2,488,696,083**	**2,392,410,150**	**1,973,668,258**	**2,065,548,012**	**2,032,584,402**	**2,066,442,447**	**2,014,192,027**	**2,008,670,389**
Revenue	Platinum	ZAR	16,333,800,558	37,877,028	277,730,763	403,444,090	457,164,458	648,890,399	675,853,469	644,807,260	690,631,160	716,179,643	941,839,354	985,684,599	969,954,283	986,111,425	961,177,397	958,542,457
Revenue	Palladium	ZAR	5,567,838,179	34,167,267	226,669,263	310,154,492	336,441,230	413,947,572	392,574,649	366,483,106	368,728,441	352,189,276	221,164,017	231,459,818	227,766,004	231,560,046	225,705,003	225,086,263
Revenue	Rhodium	ZAR	19,852,726,496	93,952,241	644,292,315	907,364,909	1,036,585,163	1,494,060,563	1,539,624,510	1,419,661,471	1,418,777,784	1,313,956,139	798,198,101	835,356,445	822,025,182	835,718,176	814,586,871	812,353,790
Revenue	Gold	ZAR	232,783,617	834,130	5,763,149	7,987,079	8,420,308	11,344,805	11,352,190	10,494,402	10,558,698	10,085,092	12,466,786	13,047,149	12,838,933	13,052,799	12,722,756	12,687,879
Mining cost			**(20,958,882,700)**	**(80,704,888)**	**(484,171,028)**	**(689,688,087)**	**(797,657,189)**	**(1,013,112,640)**	**(1,069,313,678)**	**(1,117,992,367)**	**(1,145,473,492)**	**(1,117,329,214)**	**(1,126,676,962)**	**(1,127,504,160)**	**(1,112,930,576)**	**(1,157,023,451)**	**(1,143,485,702)**	**(1,100,617,336)**
Direct Cash Costs	Fixed Cost	ZAR	(10,667,853,139)	(45,104,074)	(270,679,694)	(402,148,111)	(470,028,582)	(556,769,617)	(574,422,804)	(601,802,227)	(612,825,026)	(602,586,744)	(581,321,083)	(585,458,098)	(572,282,901)	(581,945,072)	(576,121,340)	(544,739,900)
Direct Cash Costs	Variable Cost	ZAR	(6,797,882,445)	(22,150,000)	(132,796,162)	(172,591,961)	(194,685,742)	(287,490,917)	(316,671,928)	(329,858,079)	(341,736,218)	(328,520,934)	(357,576,386)	(354,128,702)	(355,159,246)	(382,241,137)	(376,783,412)	(372,441,214)
Direct Cash Costs	Contingeny	ZAR	(3,493,147,117)	(13,450,815)	(80,695,171)	(114,948,015)	(132,942,865)	(168,852,107)	(178,218,946)	(186,332,061)	(190,912,249)	(186,221,536)	(187,779,494)	(187,917,360)	(185,488,429)	(192,837,242)	(190,580,950)	(183,436,223)
Plant cost			**(3,632,307,209)**	**(50,883,619)**	**(162,477,658)**	**(168,716,903)**	**(170,894,370)**	**(179,210,029)**	**(181,902,955)**	**(182,344,322)**	**(184,227,399)**	**(182,501,500)**	**(183,824,840)**	**(184,590,276)**	**(184,051,589)**	**(183,901,497)**	**(183,078,752)**	**(182,554,245)**
Direct Cash Costs	Fixed Cost	ZAR	(2,772,145,643)	(44,808,516)	(137,796,264)	(137,796,264)	(137,796,264)	(137,796,264)	(137,796,264)	(137,796,264)	(137,796,264)	(137,796,264)	(137,796,264)	(137,796,264)	(137,796,264)	(137,796,264)	(137,796,264)	(137,796,264)
Direct Cash Costs	Variable Cost	ZAR	(529,951,820)	(1,449,320)	(9,910,698)	(15,582,738)	(17,562,254)	(25,121,944)	(27,570,059)	(27,971,301)	(29,683,190)	(28,114,190)	(29,317,227)	(30,013,078)	(29,523,362)	(29,386,915)	(28,638,965)	(28,162,141)
Direct Cash Costs	Contingeny	ZAR	(330,209,746)	(4,625,784)	(14,770,696)	(15,337,900)	(15,535,852)	(16,291,821)	(16,536,632)	(16,576,757)	(16,747,945)	(16,591,045)	(16,711,349)	(16,780,934)	(16,731,963)	(16,718,318)	(16,643,523)	(16,595,840)
Other Costs			**(3,574,395,638)**	**(108,261,083)**	**(154,922,708)**	**(161,488,059)**	**(164,950,334)**	**(168,184,213)**	**(168,857,872)**	**(169,973,923)**	**(169,919,679)**	**(169,378,031)**	**(168,495,610)**	**(168,804,959)**	**(168,052,582)**	**(168,570,230)**	**(168,331,937)**	**(166,779,729)**
Direct Cash Costs	Other Cost Fixed	ZAR	(2,510,808,201)	(89,453,468)	(115,302,606)	(115,302,606)	(115,302,606)	(115,302,606)	(115,302,606)	(115,302,606)	(115,302,606)	(115,302,606)	(115,302,606)	(115,302,606)	(115,302,606)	(115,302,606)	(115,302,606)	(115,302,606)
Direct Cash Costs	Other Costs Variable	ZAR	(570,015,082)	(6,330,897)	(17,631,815)	(23,600,316)	(26,747,838)	(29,687,728)	(30,300,145)	(31,314,737)	(31,265,425)	(30,773,018)	(29,970,816)	(30,252,043)	(29,568,063)	(30,038,653)	(29,822,023)	(28,410,925)
Direct Cash Costs	Contingeny	ZAR	(308,082,328)	(9,578,437)	(13,293,442)	(13,890,292)	(14,205,044)	(14,499,033)	(14,560,275)	(14,661,734)	(14,656,803)	(14,607,562)	(14,527,342)	(14,555,465)	(14,487,067)	(14,534,126)	(14,512,463)	(14,371,353)
Direct Cash Costs	Rehabilitation	ZAR	(185,490,027)	(2,898,282)	(8,694,845)	(8,694,845)	(8,694,845)	(8,694,845)	(8,694,845)	(8,694,845)	(8,694,845)	(8,694,845)	(8,694,845)	(8,694,845)	(8,694,845)	(8,694,845)	(8,694,845)	(8,694,845)
Direct Cash Costs	**Total C1**		**(28,165,585,547)**	**(239,849,591)**	**(801,571,394)**	**(1,019,893,049)**	**(1,133,501,893)**	**(1,360,506,882)**	**(1,420,074,505)**	**(1,470,310,612)**	**(1,499,620,570)**	**(1,469,208,745)**	**(1,478,997,412)**	**(1,480,899,395)**	**(1,465,034,746)**	**(1,509,495,179)**	**(1,494,896,391)**	**(1,449,951,311)**
Production Costs	Initial Capital expenditure	ZAR	**(287,614,903)**	(113,867,052)	(47,295,426)	(65,670,000)	(49,967,425)	(7,515,000)	(3,300,000)	0	0	0	0	0	0	0	0	0
Production Costs	Contingency	ZAR	**(539,717,343)**	(31,017,419)	(27,110,671)	(30,749,787)	(35,667,315)	(33,506,963)	(34,850,297)	(37,842,270)	(37,041,398)	(32,142,151)	(23,557,332)	(21,435,217)	(21,474,719)	(21,582,214)	(21,694,486)	(19,979,216)
Production Costs	SIB	ZAR	**(3,354,214,433)**	(12,614,245)	(93,291,634)	(143,546,506)	(193,795,979)	(224,825,253)	(238,130,464)	(261,399,013)	(256,154,025)	(223,406,083)	(166,240,122)	(152,130,963)	(152,367,372)	(153,076,503)	(153,783,843)	(142,322,483)
Production Costs	**Total C2 (Includes C1)**	**ZAR**	**(32,347,132,225)**	**(397,348,307)**	**(969,269,125)**	**(1,259,859,343)**	**(1,412,932,611)**	**(1,626,354,097)**	**(1,696,355,267)**	**(1,769,551,894)**	**(1,792,815,993)**	**(1,724,756,979)**	**(1,668,794,866)**	**(1,654,465,575)**	**(1,638,876,837)**	**(1,684,153,896)**	**(1,670,374,719)**	**(1,612,253,010)**
Fully Allocated Costs	Royalty Act No 28 of 2008	ZAR	(797,487,152)	(834,153)	(5,772,277)	(8,144,753)	(9,193,056)	(12,841,217)	(13,097,024)	(12,207,231)	(12,443,480)	(45,045,489)	(43,743,163)	(56,003,566)	(53,908,207)	(52,808,718)	(48,272,883)	(54,089,727)
Fully Allocated Costs	**Total C3 (Includes C1+C2)**	**ZAR**	**(33,144,619,378)**	**(398,182,461)**	**(975,041,402)**	**(1,268,004,095)**	**(1,422,125,667)**	**(1,639,195,314)**	**(1,709,452,291)**	**(1,781,759,125)**	**(1,805,259,474)**	**(1,769,802,469)**	**(1,712,538,028)**	**(1,710,469,142)**	**(1,692,785,044)**	**(1,736,962,614)**	**(1,718,647,603)**	**(1,666,342,737)**
EBITDA		**ZAR**	**13,024,076,150**	**(73,853,079)**	**347,111,819**	**600,912,768**	**695,916,211**	**1,194,895,241**	**1,186,233,289**	**958,928,396**	**976,632,032**	**878,155,916**	**450,927,683**	**528,645,051**	**513,641,449**	**504,138,550**	**471,022,753**	**504,629,351**
EBIT		**ZAR**	**8,842,529,472**	**(231,351,795)**	**179,414,089**	**360,946,474**	**416,485,492**	**929,048,025**	**909,952,528**	**659,687,114**	**683,436,609**	**622,607,681**	**261,130,229**	**355,078,870**	**339,799,358**	**329,479,833**	**295,544,425**	**342,327,652**
Taxation		ZAR	(1,174,886,767)	0	0	0	0	0	0	0	0	(10,564,888)	(70,505,162)	(95,871,295)	(91,745,827)	(88,959,555)	(79,796,995)	(92,428,466)
Income after tax		ZAR	7,667,642,705	(231,351,795)	179,414,089	360,946,474	416,485,492	929,048,025	909,952,528	659,687,114	683,436,609	612,042,793	190,625,067	259,207,575	248,053,531	240,520,278	215,747,430	249,899,186
Working capital changes		ZAR	1	(7,768,739)	(49,738,790)	(24,796,580)	(10,800,680)	(37,010,195)	(762,207)	12,435,756	(1,332,119)	5,479,622	32,696,802	(5,596,667)	1,923,292	265,809	2,539,388	(187,929)
Cash Flow				2,022	2,023	2,024	2,025	2,026	2,027	2,028	2,029	2,030	2,031	2,032	2,033	2,034	2,035	2,036
Net Cash Flow	Annual cash flow	ZAR	**7,667,642,705**	(239,120,533)	129,675,298	336,149,894	405,684,813	892,037,830	909,190,321	672,122,870	682,104,490	617,522,415	223,321,870	253,610,908	249,976,823	240,786,087	218,286,818	249,711,257

Table 90: Annual Cash Flow (First 15 Years) - Techno-economic Inputs - Including TSF Remining

Minxcon

Project Title: **Crocodile River Mine**
Client: Eastplats
Project Code: M21-069a

Project Duration		Unit	Totals															
Calendar Years				2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Financial Years		years	22	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Macro-Economic Factors (Real Terms)																		
Currency		ZAR /USD	15.53	15.65	15.63	15.85	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50
Inflation	ZAR Inflation Rate	%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%
Commodities																		
Commodity prices	Platinum	USD/oz.	1,307	1,025	998	1,020	1,029	1,018	1,006	1,005	1,046	1,110	1,500	1,500	1,500	1,500	1,500	1,500
Commodity prices	Palladium	USD/oz.	1,112	2,100	1,850	1,781	1,719	1,475	1,327	1,297	1,268	1,240	800	800	800	800	800	800
Commodity prices	Rhodium	USD/oz.	10,596	16,000	14,571	14,440	14,678	14,754	14,421	13,924	13,519	12,814	8,000	8,000	8,000	8,000	8,000	8,000
Commodity prices	Gold	USD/oz.	1,550	1,819	1,669	1,628	1,527	1,435	1,362	1,318	1,288	1,259	1,600	1,600	1,600	1,600	1,600	1,600
Commodity prices	Chrome 38.5%	USD/tonne	106	106	105	105	110	0	0	0	0	0	0	0	0	0	0	0
Operating Statistics																		
Tonnes Produced																		
Waste		tonnes	1,253,323	-	45,707	70,616	100,234	124,625	89,105	123,138	139,670	158,429	64,305	41,673	45,942	61,967	68,569	34,770
Stripping ratio		Ratio	0.05	0.00	0.02	0.03	0.08	0.16	0.11	0.14	0.15	0.18	0.07	0.05	0.05	0.07	0.08	0.04
ROM		tonnes	23,756,463	2,318,573	2,551,721	2,749,107	1,309,728	767,317	842,091	854,347	906,634	858,711	895,456	916,710	901,752	897,585	874,739	860,176
ROM	(Max)	tonnes/mnth	229,092	191,091	212,643	229,092	109,144	63,943	70,174	71,196	75,553	71,559	74,621	76,392	75,146	74,799	72,895	71,681
Mill Head grade	4E Head Grade	g/t	2.89	1.48	1.82	1.89	2.49	3.90	3.75	3.53	3.42	3.53	3.30	3.37	3.37	3.44	3.44	3.49
Tonnes to mill		tonnes	22,205,375	1,849,581	2,084,361	2,283,688	1,160,412	767,317	842,091	854,347	906,634	858,711	895,456	916,710	901,752	897,585	874,739	860,176
Recovered Grade																		
Recovered grade	Precious Metals	g/t	2.08	0.23	0.63	0.76	1.52	3.12	3.00	2.82	2.74	2.83	2.64	2.70	2.70	2.75	2.76	2.79
Mass Pull	Chrome	%	6.99%	25.36%	22.42%	20.38%	12.87%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Metal recovered																		
UG2 - Metal recovered	Platinum	kg	28,600	85	644	902	1,037	1,487	1,568	1,498	1,541	1,506	1,465	1,534	1,509	1,534	1,496	1,491
UG2 - Metal recovered	Palladium	kg	12,593	38	284	397	457	655	690	659	679	663	645	675	664	676	658	657
UG2 - Metal recovered	Rhodium	kg	4,545	14	102	143	165	236	249	238	245	239	233	244	240	244	238	237
UG2 - Metal recovered	Gold	kg	355	1	8	11	13	18	19	19	19	19	18	19	19	19	19	19
PGM Circuit B - Metal recovered	Platinum	kg	417	128	125	124	40	-	-	-	-	-	-	-	-	-	-	-
PGM Circuit B - Metal recovered	Palladium	kg	168	51	50	50	16	-	-	-	-	-	-	-	-	-	-	-
PGM Circuit B - Metal recovered	Rhodium	kg	48	15	14	14	5	-	-	-	-	-	-	-	-	-	-	-
PGM Circuit B - Metal recovered	Gold	kg	9	3	3	3	1	-	-	-	-	-	-	-	-	-	-	-
PGM Circuit D - Metal recovered	Platinum	kg	179	55	54	53	17	-	-	-	-	-	-	-	-	-	-	-
PGM Circuit D - Metal recovered	Palladium	kg	72	22	21	21	7	-	-	-	-	-	-	-	-	-	-	-
PGM Circuit D - Metal recovered	Rhodium	kg	21	6	6	6	2	-	-	-	-	-	-	-	-	-	-	-
PGM Circuit D - Metal recovered	Gold	kg	4	1	1	1	0	-	-	-	-	-	-	-	-	-	-	-
			Total Reserve oz	**16,834.24**	**52,760.53**	**69,441.79**	**70,729.32**	**96,334.14**	**101,561.50**	**96,992.12**	**99,830.85**	**97,546.09**	**94,913.86**	**99,332.37**	**97,747.15**	**99,375.38**	**96,862.66**	**96,597.12**
Metal recovered	Platinum	oz	938,695	8,618	26,446	34,726	35,192	47,820	50,415	48,147	49,556	48,422	47,115	49,309	48,522	49,330	48,083	47,951
Metal recovered	Palladium	oz	412,552	3,566	11,421	15,067	15,423	21,055	22,197	21,199	21,819	21,320	20,744	21,710	21,364	21,719	21,170	21,112
Metal recovered	Rhodium	oz	148,336	1,116	3,955	5,272	5,513	7,599	8,011	7,651	7,875	7,694	7,487	7,835	7,710	7,839	7,641	7,620
Metal recovered	Gold	oz	11,843	167	386	489	455	593	626	597	615	601	585	612	602	612	597	595
Conc Product	Chrome	tonnes	1,551,088	468,993	467,360	465,418	149,316	-	-	-	-	-	-	-	-	-	-	-
Conc Product	PGM	tonnes	359,786	6,645	13,186	16,244	14,149	17,756	18,719	17,877	18,401	17,979	17,494	18,309	18,016	18,317	17,853	17,804

Table 91: Annual Real Cash Flow (First 15 Years) - Including TSF Remining

Minxcon

Project Title: **Crocodile River Mine**
Client: Eastplats
Project Code: M21-069a

Project Duration		Unit	Totals															
Calendar Years				2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Financial Years		years	22	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Financial																		
Revenue		**ZAR**	**45,231,008,549**	**1,159,766,682**	**2,119,774,688**	**2,597,333,981**	**2,155,832,235**	**2,568,243,339**	**2,619,404,818**	**2,441,446,239**	**2,488,696,083**	**2,392,410,150**	**1,973,668,258**	**2,065,548,012**	**2,032,584,402**	**2,066,442,447**	**2,014,192,027**	**2,008,670,389**
Revenue	Platinum	ZAR	16,526,244,799	97,227,187	334,118,665	461,634,256	475,680,472	648,890,399	675,853,469	644,807,260	690,631,160	716,179,643	941,839,354	985,684,599	969,954,283	986,111,425	961,177,397	958,542,457
Revenue	Palladium	ZAR	5,711,802,398	82,973,535	268,623,320	350,936,039	348,863,577	413,947,572	392,574,649	366,483,106	368,728,441	352,189,276	221,164,017	231,459,818	227,766,004	231,560,046	225,705,003	225,086,263
Revenue	Rhodium	ZAR	20,181,322,120	201,240,303	739,625,295	1,002,742,530	1,067,182,126	1,494,060,563	1,539,624,510	1,419,661,471	1,418,777,784	1,313,956,139	798,198,101	835,356,445	822,025,182	835,718,176	814,586,871	812,353,790
Revenue	Gold	ZAR	239,998,844	3,209,452	7,889,646	10,080,695	9,040,100	11,344,805	11,352,190	10,494,402	10,558,698	10,085,092	12,466,786	13,047,149	12,838,933	13,052,799	12,722,756	12,687,879
Revenue	Chrome	ZAR	2,571,640,388	775,116,205	769,517,762	771,940,462	255,065,959	0	0	0	0	0	0	0	0	0	0	0
Mining cost			**(21,287,139,770)**	**(179,323,928)**	**(581,725,223)**	**(788,258,581)**	**(831,170,530)**	**(1,013,112,640)**	**(1,069,313,678)**	**(1,117,992,367)**	**(1,145,473,492)**	**(1,117,329,214)**	**(1,126,676,962)**	**(1,127,504,160)**	**(1,112,930,576)**	**(1,157,023,451)**	**(1,143,485,702)**	**(1,100,617,336)**
Direct Cash Costs	Fixed Cost	ZAR	(10,667,853,139)	(45,104,074)	(270,679,694)	(402,148,111)	(470,028,582)	(556,769,617)	(574,422,804)	(601,802,227)	(612,825,026)	(602,586,744)	(581,321,083)	(585,458,098)	(572,282,901)	(581,945,072)	(576,121,340)	(544,739,900)
Direct Cash Costs	Variable Cost	ZAR	(7,071,430,002)	(104,332,533)	(214,091,325)	(254,734,039)	(222,613,527)	(287,490,917)	(316,671,928)	(329,858,079)	(341,736,218)	(328,520,934)	(357,576,386)	(354,128,702)	(355,159,246)	(382,241,137)	(376,783,412)	(372,441,214)
Direct Cash Costs	Contingeny	ZAR	(3,547,856,628)	(29,887,321)	(96,954,204)	(131,376,430)	(138,528,422)	(168,852,107)	(178,218,946)	(186,332,061)	(190,912,249)	(186,221,536)	(187,779,494)	(187,917,360)	(185,488,429)	(192,837,242)	(190,580,950)	(183,436,223)
Plant cost			**(4,792,977,792)**	**(399,257,667)**	**(508,378,013)**	**(517,137,306)**	**(288,870,147)**	**(179,210,029)**	**(181,902,955)**	**(182,344,322)**	**(184,227,399)**	**(182,501,500)**	**(183,824,840)**	**(184,590,276)**	**(184,051,589)**	**(183,901,497)**	**(183,078,752)**	**(182,554,245)**
Direct Cash Costs	Fixed Cost	ZAR	(3,198,205,836)	(172,626,573)	(265,614,322)	(265,614,322)	(180,402,283)	(137,796,264)	(137,796,264)	(137,796,264)	(137,796,264)	(137,796,264)	(137,796,264)	(137,796,264)	(137,796,264)	(137,796,264)	(137,796,264)	(137,796,264)
Direct Cash Costs	Variable Cost	ZAR	(1,159,046,702)	(190,334,942)	(196,547,508)	(204,510,502)	(82,206,941)	(25,121,944)	(27,570,059)	(27,971,301)	(29,683,190)	(28,114,190)	(29,317,227)	(30,013,078)	(29,523,362)	(29,386,915)	(28,638,965)	(28,162,141)
Direct Cash Costs	Contingeny	ZAR	(435,725,254)	(36,296,152)	(46,216,183)	(47,012,482)	(26,260,922)	(16,291,821)	(16,536,632)	(16,576,757)	(16,747,945)	(16,591,045)	(16,711,349)	(16,780,934)	(16,731,963)	(16,718,318)	(16,643,523)	(16,595,840)
Other Costs			**(4,929,294,259)**	**(537,702,357)**	**(554,535,060)**	**(559,505,276)**	**(292,778,112)**	**(168,184,213)**	**(168,857,872)**	**(169,973,923)**	**(169,919,679)**	**(169,378,031)**	**(168,495,610)**	**(168,804,959)**	**(168,052,582)**	**(168,570,230)**	**(168,331,937)**	**(166,779,729)**
Direct Cash Costs	Other Cost Fixed	ZAR	(2,536,657,339)	(115,302,606)	(115,302,606)	(115,302,606)	(115,302,606)	(115,302,606)	(115,302,606)	(115,302,606)	(115,302,606)	(115,302,606)	(115,302,606)	(115,302,606)	(115,302,606)	(115,302,606)	(115,302,606)	(115,302,606)
Direct Cash Costs	Other Costs Variable	ZAR	(1,763,891,963)	(367,282,917)	(377,315,771)	(381,834,149)	(141,754,910)	(29,687,728)	(30,300,145)	(31,314,737)	(31,265,425)	(30,773,018)	(29,970,816)	(30,252,043)	(29,568,063)	(30,038,653)	(29,822,023)	(28,410,925)
Direct Cash Costs	Contingeny	ZAR	(430,054,930)	(48,258,552)	(49,261,838)	(49,713,676)	(25,705,752)	(14,499,033)	(14,560,275)	(14,661,734)	(14,656,803)	(14,607,562)	(14,527,342)	(14,555,465)	(14,487,067)	(14,534,126)	(14,512,463)	(14,371,353)
Direct Cash Costs	Rehabilitation	ZAR	(198,690,027)	(6,858,282)	(12,654,845)	(12,654,845)	(10,014,845)	(8,694,845)	(8,694,845)	(8,694,845)	(8,694,845)	(8,694,845)	(8,694,845)	(8,694,845)	(8,694,845)	(8,694,845)	(8,694,845)	(8,694,845)
Direct Cash Costs	**Total C1**		**(31,009,411,821)**	**(1,116,283,952)**	**(1,644,638,296)**	**(1,864,901,163)**	**(1,412,818,790)**	**(1,360,506,882)**	**(1,420,074,505)**	**(1,470,310,612)**	**(1,499,620,570)**	**(1,469,208,745)**	**(1,478,997,412)**	**(1,480,899,395)**	**(1,465,034,746)**	**(1,509,495,179)**	**(1,494,896,391)**	**(1,449,951,311)**
Production Costs	Initial Capital expenditure	ZAR	**(287,614,903)**	(113,867,052)	(47,295,426)	(65,670,000)	(49,967,425)	(7,515,000)	(3,300,000)	0	0	0	0	0	0	0	0	0
Production Costs	Contingency	ZAR	**(539,717,343)**	(31,017,419)	(27,110,671)	(30,749,787)	(35,667,315)	(33,506,963)	(34,850,297)	(37,842,270)	(37,041,398)	(32,142,151)	(23,557,332)	(21,435,217)	(21,474,719)	(21,582,214)	(21,694,486)	(19,979,216)
Production Costs	SIB	ZAR	**(3,367,054,095)**	(12,614,245)	(93,291,634)	(152,257,016)	(197,925,131)	(224,825,253)	(238,130,464)	(261,399,013)	(256,154,025)	(223,406,083)	(166,240,122)	(152,130,963)	(152,367,372)	(153,076,503)	(153,783,843)	(142,322,483)
Production Costs	**Total C2 (Includes C1)**	**ZAR**	**(35,203,798,162)**	**(1,273,782,669)**	**(1,812,336,027)**	**(2,113,577,967)**	**(1,696,378,660)**	**(1,626,354,097)**	**(1,696,355,267)**	**(1,769,551,894)**	**(1,792,815,993)**	**(1,724,756,979)**	**(1,668,794,866)**	**(1,654,465,575)**	**(1,638,876,837)**	**(1,684,153,896)**	**(1,670,374,719)**	**(1,612,253,010)**
Fully Allocated Costs	Royalty Act No 28 of 2008	ZAR	(856,727,980)	(5,798,833)	(10,598,873)	(12,986,670)	(10,779,161)	(12,841,217)	(13,097,024)	(12,207,231)	(14,364,763)	(86,145,736)	(43,743,163)	(56,003,566)	(53,908,207)	(52,808,718)	(48,272,883)	(54,089,727)
Fully Allocated Costs	**Total C3 (Includes C1+C2)**	**ZAR**	**(36,060,526,142)**	**(1,279,581,502)**	**(1,822,934,900)**	**(2,126,564,637)**	**(1,707,157,821)**	**(1,639,195,314)**	**(1,709,452,291)**	**(1,781,759,125)**	**(1,807,180,756)**	**(1,810,902,716)**	**(1,712,538,028)**	**(1,710,469,142)**	**(1,692,785,044)**	**(1,736,962,614)**	**(1,718,647,603)**	**(1,666,342,737)**
EBITDA		**ZAR**	**13,364,868,748**	**37,683,896**	**464,537,519**	**719,446,148**	**732,234,284**	**1,194,895,241**	**1,186,233,289**	**958,928,396**	**974,710,750**	**837,055,669**	**450,927,683**	**528,645,051**	**513,641,449**	**504,138,550**	**471,022,753**	**504,629,351**
EBIT		**ZAR**	**9,170,482,407**	**(119,814,820)**	**296,839,788**	**470,769,344**	**448,674,413**	**929,048,025**	**909,952,528**	**659,687,114**	**681,515,327**	**581,507,434**	**261,130,229**	**355,078,870**	**339,799,358**	**329,479,833**	**295,544,425**	**342,327,652**
Taxation		ZAR	(1,263,434,059)	0	0	0	0	0	0	0	0	(99,112,181)	(70,505,162)	(95,871,295)	(91,745,827)	(88,959,555)	(79,796,995)	(92,428,466)
Income after tax		ZAR	7,907,048,348	(119,814,820)	296,839,788	470,769,344	448,674,413	929,048,025	909,952,528	659,687,114	681,515,327	482,395,253	190,625,067	259,207,575	248,053,531	240,520,278	215,747,430	249,899,186
Working capital changes		ZAR	1	(149,430,593)	(47,454,352)	(25,256,180)	82,960,311	9,065,830	(762,207)	12,435,756	(1,332,119)	5,479,622	32,696,802	(5,596,667)	1,923,292	265,809	2,539,388	(187,929)
Cash Flow				2,022	2,023	2,024	2,025	2,026	2,027	2,028	2,029	2,030	2,031	2,032	2,033	2,034	2,035	2,036
Net Cash Flow	Annual cash flow	ZAR	**7,907,048,348**	(269,245,413)	249,385,436	445,513,165	531,634,724	938,113,855	909,190,321	672,122,870	680,183,208	487,874,875	223,321,870	253,610,908	249,976,823	240,786,087	218,286,818	249,711,257

8.13.4.1.2Income Approach Results

The highlights of the valuation conducted by Minxcon are discussed in the following sections. Table 92 details the Project NPV at various discount rates with a best estimated value at a real discount rate of 11.87% of ZAR2,918 million and ZAR3,136 million, excluding and including TSF remining, respectively. The value of the TSF on an incremental cash flow basis is provided in the table, with a best estimated value of ZAR217 million at a real discount rate of 11.87%.

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Table 92: Project Valuation Summary – Real Terms

Item	Unit	Excluding TSF	Including TSF	TSF
NPV @ 0%	ZARm	7,668	7,907	239
NPV @ 5%	ZARm	4,863	5,098	235
NPV @ 10%	ZARm	3,318	3,541	223
NPV @ 11.9%	**ZARm**	**2,918**	**3,136**	**217**
NPV @ 15%	ZARm	2,386	2,594	208
NPV @ 20%	ZARm	1,782	1,974	192
NPV @ 0%	USDm	493.9	509.3	15.4
NPV @ 5%	USDm	313.2	328.4	15.1
NPV @ 10%	USDm	213.7	228.1	14.4
NPV @ 11.9%	**USDm**	**188.0**	**202.0**	**14.0**
NPV @ 15%	USDm	153.7	167.1	13.4
NPV @ 20%	USDm	114.8	127.1	12.4

Notes: Converted to USD using average ZAR/USD exchange rate over LoM, 15.53.

Only potential Reserves were included as part of the mine plans considered, *i.e.*, no Inferred Mineral Resources were included. With both the TSF remining and operations and the Underground operations being financially viable, updated Mineral Reserves can be declared.

Table 93 illustrates the Project profitability ratios excluding and including TSF remining, respectively. The mine, excluding TSF remining, has a high internal rate of return ("IRR") of 118% with a break-even Pt Price of USD887/oz. The reason for the high IRR is due to the mine having been on care and maintenance since 2013 with the majority of infrastructure being in place and minimal capital required to restart operations. The IRR increases if the TSF remining is included as the additional PGMs from the TSF adds upfront value despite increasing the peak funding requirement. This is due to the sharing of overheads between the TSF remining and underground operations from September 2022, whereas the TSF is loss making for the first 9 months due to carrying the overheads by itself.

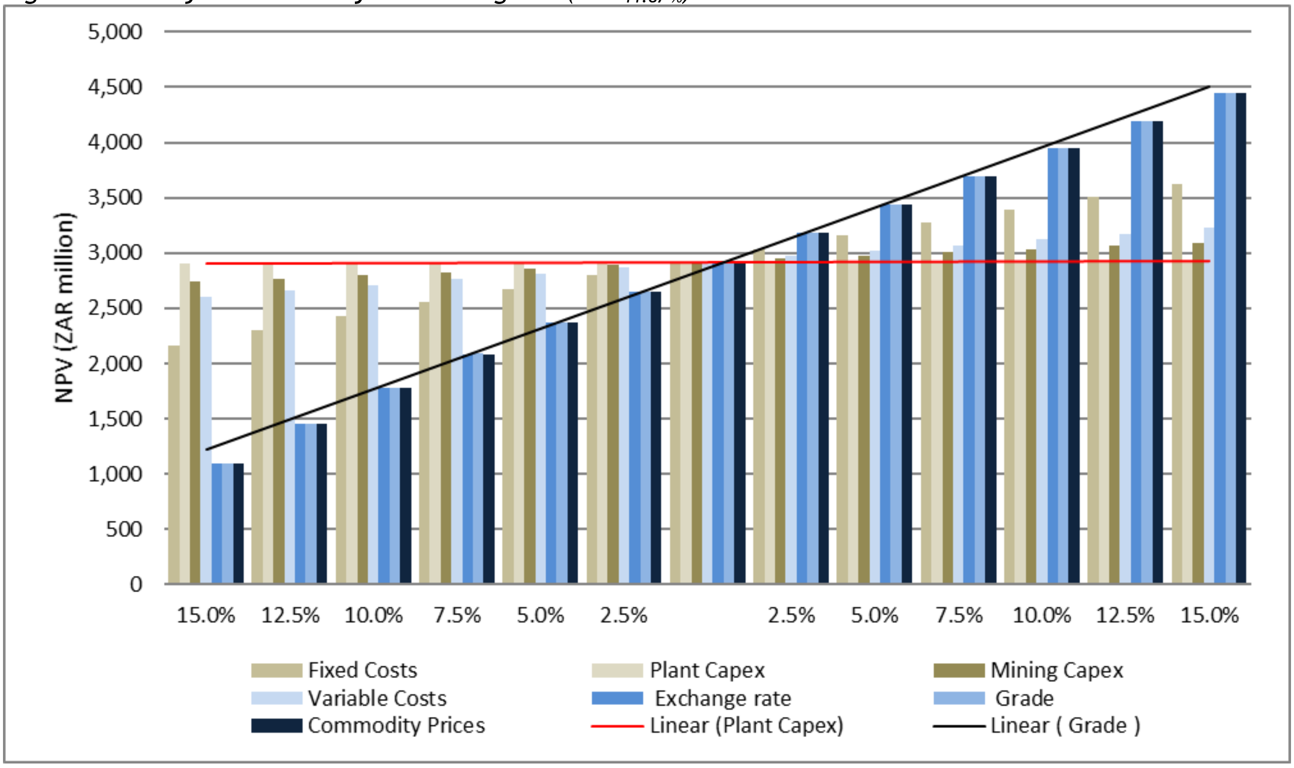
Table 93: Profitability Ratios

Item	Unit	Excluding TSF	Including TSF
Internal Rate of Return (IRR)	%	117.7%	138.3%
NPV - ZAR/oz	ZAR/4Eoz	1,575	1,418
NPV - USD/oz	USD/4Eoz	101	91
LoM	Years	22	22
Average Payback Period	Years	2.3	2.0
Peak Funding Requirement	ZARm	239.1	269.2
Peak Funding Requirement	USDm	15.4	17.4
Break-even Grade (Excluding CAPEX)	g/t	2.46	2.04
Break-even Grade (Including CAPEX)	g/t	2.81	2.31
Break-even Pt Price (Excluding CAPEX)	USD/oz	775	792
Break-even Pt Price (Including CAPEX)	USD/oz	887	896

8.13.4.1.3Sensitivity Analysis

Based on the real cash flow calculated in the financial model, Minxcon performed single-parameter sensitivity analyses to ascertain the impact on the NPV, the results of which are graphically illustrated in Figure 100. The bars represent various inputs into the model each being increased or decreased by 2.5%, *i.e.*, left side of graph shows lower NPVs because of lower prices and lower grades but stronger ZAR/USD, higher OPEX and CAPEX and the opposite on the right hand. The red line and black line representing the least sensitive and most sensitive impacts to the NPV. For the DCF, the commodity prices, exchange rate and grade have the biggest impact on the sensitivity of the Project followed by the fixed cost. The Project is not capital sensitive.

Figure 100: Project Sensitivity – Excluding TSF ($NPV_{11.87\,\%}$)



A sensitivity analysis was also conducted on the exchange rate and the commodity prices to better indicate the effect these two factors have on the NPV as well as the operating costs and the capital costs. This is displayed in Table 94 and Table 95.

Table 94: Sensitivity Analysis of Commodity Prices and Exchange Rate to $NPV_{11.87\%}$ (ZARm) - Excluding TSF

	Exchange Rate	13.20	13.58	13.97	14.36	14.75	15.14	**15.53**	15.91	16.30	16.69	17.08	17.47	17.85
Basket Price (USD/4E oz)	% Change	-15.0%	-12.5%	-10.0%	-7.5%	-5.0%	-2.5%		2.5%	5.0%	7.5%	10.0%	12.5%	15.0%
1,277	-30.0%	-2,599	-2,346	-2,092	-1,839	-1,585	-1,332	-1,079	-825	-572	-319	-65	188	441
1,369	-25.0%	-1,984	-1,712	-1,441	-1,169	-898	-626	-355	-83	188	460	731	1,002	1,274
1,460	-20.0%	-1,368	-1,079	-789	-500	-210	80	369	659	948	1,238	1,524	1,782	2,028
1,551	-15.0%	-753	-445	-138	170	478	785	1,093	1,401	1,688	1,952	2,205	2,446	2,679
1,642	-10.0%	-138	188	514	840	1,165	1,489	1,782	2,058	2,320	2,571	2,813	3,049	3,283
1,734	-5.0%	478	822	1,165	1,507	1,814	2,102	2,376	2,638	2,892	3,140	3,386	3,628	3,869
1,825		1,093	1,454	1,782	2,088	2,376	2,652	**2,918**	3,179	3,437	3,691	3,945	4,195	4,444
1,916	5.0%	1,688	2,013	2,320	2,611	2,892	3,166	3,437	3,704	3,971	4,233	4,494	4,756	5,014
2,007	10.0%	2,205	2,515	2,813	3,101	3,386	3,666	3,945	4,220	4,494	4,768	5,039	5,307	5,576
2,099	15.0%	2,679	2,984	3,283	3,577	3,869	4,158	4,444	4,731	5,014	5,295	5,576	5,857	6,138
2,190	20.0%	3,127	3,437	3,742	4,046	4,345	4,644	4,941	5,234	5,527	5,820	6,113	6,406	6,699
2,281	25.0%	3,564	3,882	4,195	4,507	4,817	5,124	5,429	5,735	6,040	6,345	6,650	6,952	7,252
2,372	30.0%	3,996	4,320	4,644	4,965	5,283	5,600	5,918	6,235	6,553	6,868	7,180	7,492	7,804
2,464	35.0%	4,419	4,756	5,087	5,417	5,747	6,077	6,406	6,735	7,060	7,384	7,708	8,033	8,357

Table 95: Sensitivity Analysis of Cash Operating Costs and Grade to $NPV_{11.87\%}$ (ZARm) - Excluding TSF

	Capital (ZAR million)	5,223	5,022	4,821	4,620	4,419	4,218	**4,017**	3,817	3,616	3,415	3,214	3,013	2,812
Cash Cost (ZAR/Milled t)		30.0%	25.0%	20.0%	15.0%	10.0%	5.0%	0.0%	-5.0%	-10.0%	-15.0%	-20.0%	-25.0%	-30.0%
2,247	30.0%	-80	5	89	174	258	343	427	512	596	681	765	850	934
2,161	25.0%	393	478	562	647	731	816	900	985	1,069	1,154	1,238	1,323	1,407
2,074	20.0%	866	951	1,035	1,120	1,204	1,289	1,373	1,458	1,541	1,623	1,702	1,778	1,854
1,988	15.0%	1,339	1,422	1,505	1,584	1,661	1,737	1,812	1,887	1,961	2,034	2,107	2,178	2,248
1,901	10.0%	1,770	1,844	1,918	1,991	2,063	2,135	2,205	2,275	2,343	2,412	2,479	2,546	2,611
1,815	5.0%	2,162	2,232	2,300	2,369	2,436	2,504	2,570	2,636	2,702	2,766	2,830	2,893	2,957
1,729		2,528	2,595	2,660	2,726	2,790	2,855	**2,918**	2,981	3,045	3,108	3,171	3,233	3,296
1,642	-5.0%	2,879	2,943	3,006	3,069	3,133	3,196	3,258	3,321	3,383	3,445	3,506	3,568	3,629
1,556	-10.0%	3,221	3,283	3,346	3,409	3,470	3,532	3,593	3,655	3,716	3,778	3,839	3,900	3,961
1,469	-15.0%	3,557	3,619	3,680	3,742	3,803	3,865	3,926	3,987	4,048	4,108	4,169	4,229	4,289
1,383	-20.0%	3,890	3,952	4,013	4,074	4,135	4,195	4,255	4,315	4,375	4,435	4,495	4,555	4,615
1,296	-25.0%	4,221	4,281	4,341	4,401	4,461	4,521	4,581	4,641	4,701	4,761	4,821	4,881	4,941
1,210	-30.0%	4,547	4,607	4,668	4,728	4,788	4,848	4,907	4,967	5,027	5,086	5,144	5,203	5,262

A sensitivity analysis was conducted on the PGM Circuit B and Circuit D recoveries to indicate the effect a change in the recovery would have on the NPV when remining the TSF. As detailed in the Processing Section, Section 8.4.1.2, the actual recovery of Circuit B and Circuit D has been underperforming against the testwork since restart of the operations. The current actual recoveries of 11% was utilised for the valuation, however the testwork indicates recoveries of up to 48% is possible, albeit at higher feed grades.

Table 96: Sensitivity Analysis of PGM Circuit B & D Recovery to NPV11.87% - TSF

PGM Recovery (Circuit B & D Average)	NPV Including TSF Remining	Incremental NPV of TSF	NPV Including TSF Remining	Incremental NPV of TSF
	ZARm	ZARm	USDm	USDm
7.5%	2,988	70	192	4
10.0%	3,094	175	199	11
11.0%	**3,136**	**217**	**202**	**14**
12.5%	3,199	280	206	18
15.0%	3,303	385	213	25
17.5%	3,406	488	219	31
20.0%	3,509	591	226	38
22.5%	3,612	694	233	45
25.0%	3,715	796	239	51
27.5%	3,816	898	246	58
30.0%	3,916	998	252	64
32.5%	4,017	1,098	259	71
35.0%	4,116	1,198	265	77
37.5%	4,215	1,297	272	84
40.0%	4,312	1,394	278	90
42.5%	4,410	1,491	284	96
45.0%	4,507	1,589	290	102
47.5%	4,604	1,686	297	109
50.0%	4,701	1,783	303	115

8.13.4.2 Market Approach

8.13.4.2.1 Methodology

The following methodology was employed:-

- Industry transactions based on arm's-length transactions were sourced and expressed as a unit value (USD/4E oz) to construct a database for the PGM industry Mineral Resources unit values which were reported in the three categories, Measured, Indicated and Inferred.
- The transactions used to construct the valuation curve for this Report occurred at a specific point in time and, therefore, at a specific USD-denominated 4E basket price. This is then adjusted for the specific economic environment to obtain transaction values in today's money terms.
    - The current proxy 4E price was determined by using the historic 4E basket price for the three months preceding the effective date of this Report, together with the twelve-month forecast for the price.
    - Table 97 illustrates the exchange rate and 4E basket price used for current day adjustment.

Table 97: Price Used for Current Day Adjustment

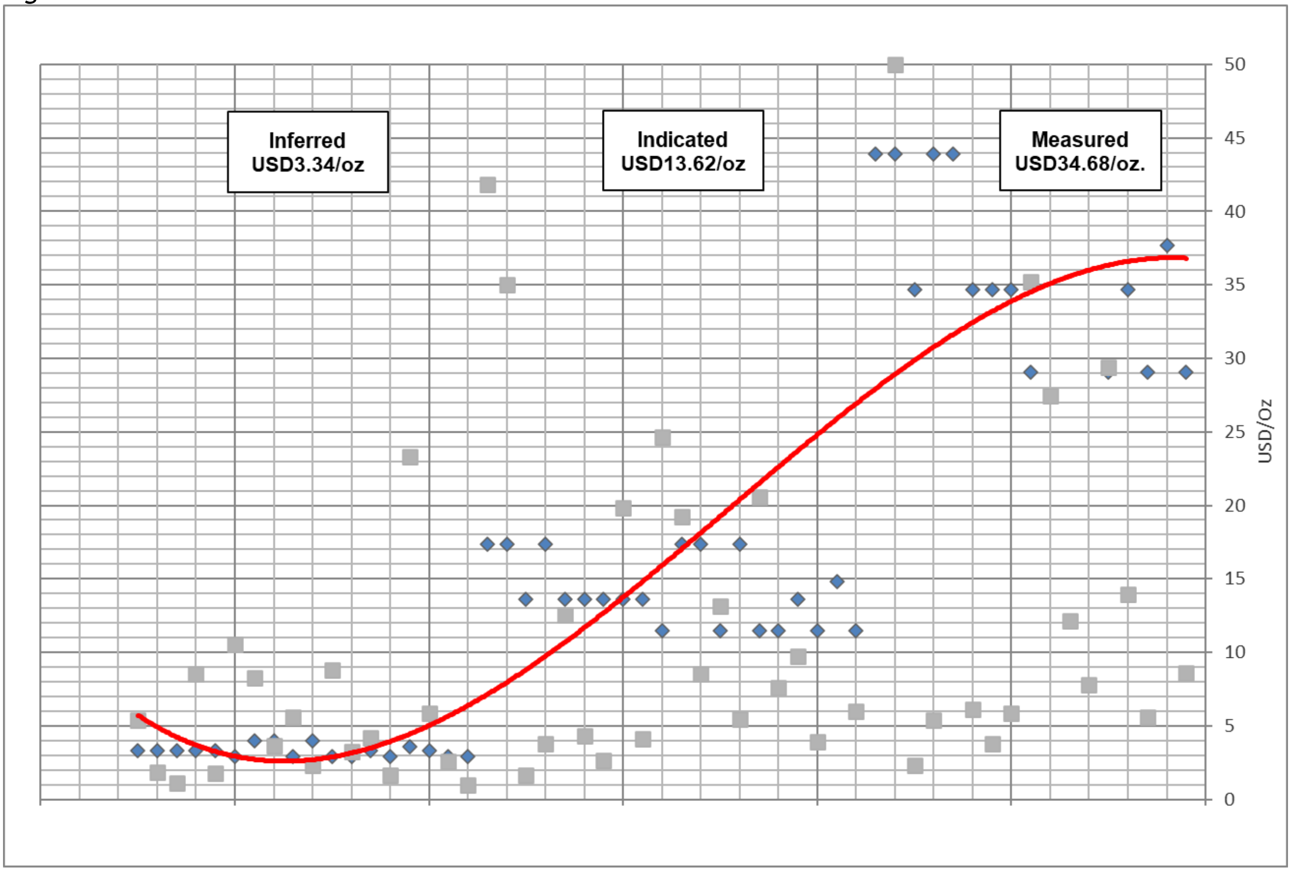
Exchange Rate	4E Basket Price
ZAR/USD	USD/oz
15.54	2,434

- The TSF Chrome Mineral Resources were converted to a 4E ounce PGM equivalent. A separate valuation has been completed for TSF based on the present 4E content plus the 4E PGM equivalent content for chrome.
- Projects were then filtered into:-

- Company transactions on the Bushveld Complex since 2010.
- USD/oz value was then calculated for a Sigmoid Curve (Median) in each category.
- The Sigmoid median which was used in final calculation was then benchmarked against Mean and Median (USD/oz) to define any inaccuracies.

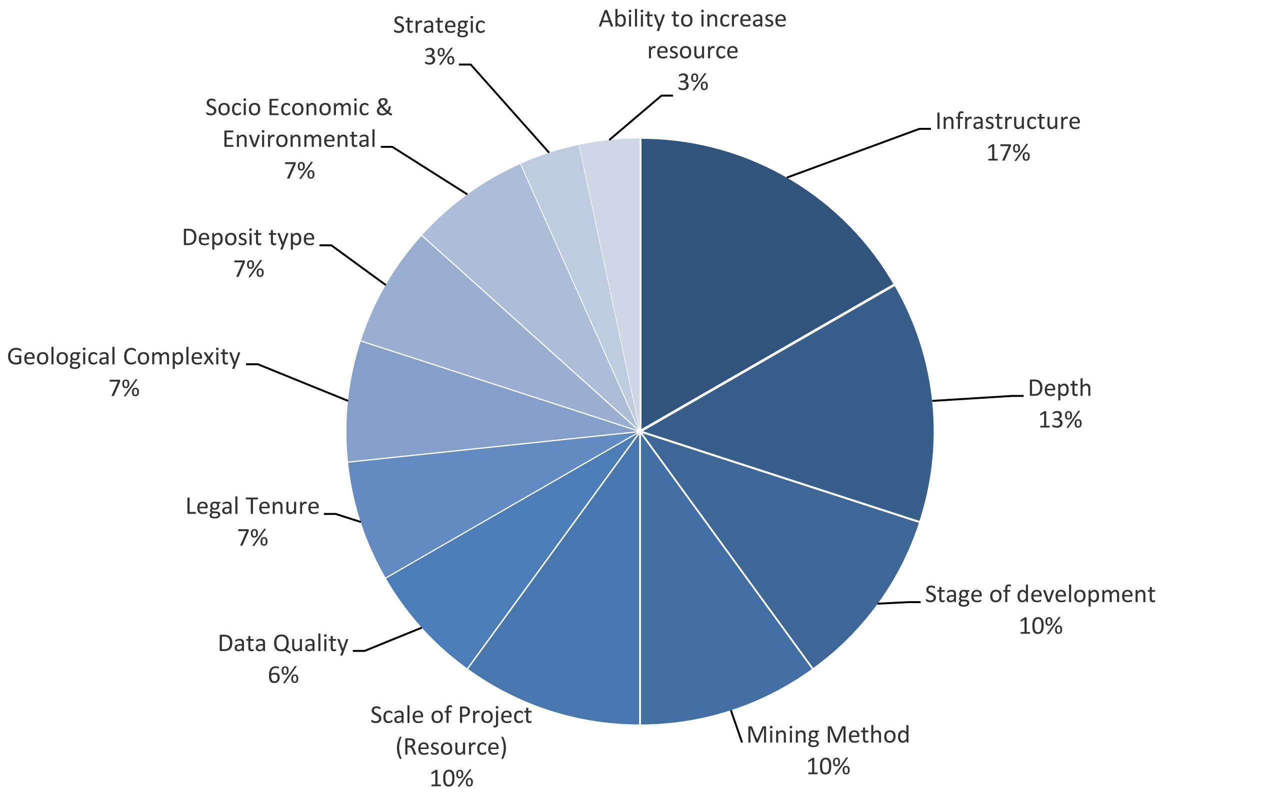
- The calculation above produces a Sigmoid Curve, known in the industry as the valuation curve. This methodology, when applied to exploration and resource transactions, provides guidance in terms of a range of transaction values for the property, asset or project being analysed and valuated. This principle is used to reflect the current market expectation that is likely to drive the calculated market value. The Sigmoid curve is illustrated in Figure 101.

Figure 101: PGM Market Value Curve



- Rather than subjectively deciding where the project plots on the curve, Minxcon applies a systematic analysis of the project specifics. From industry, CIMVal derived a valuation parameter matrix for determining mining project risk, weighting different criteria such as depth, geology, mining process and legal tenure.
- Minxcon adopted this matrix and modified classification and ratings to suit parameters that are sensitive to this commodity. Minxcon also incorporated an additional category, namely the Socio Economic and Environmental factor. Various ranges for each of these criteria applicable to the South African PGM industry were determined and used to construct a project risk index that relates the value for this Project to that of the PGM industry.
- Subsequently, an adjusted valuation curve was defined for the Project whereby the transaction values were increased or lowered, based on the project risk index (Figure 102).

Figure 102: Weighting of Valuation Risk Associated Parameter Matrix



8.13.4.2.2 Principal Valuation Modifying Factors

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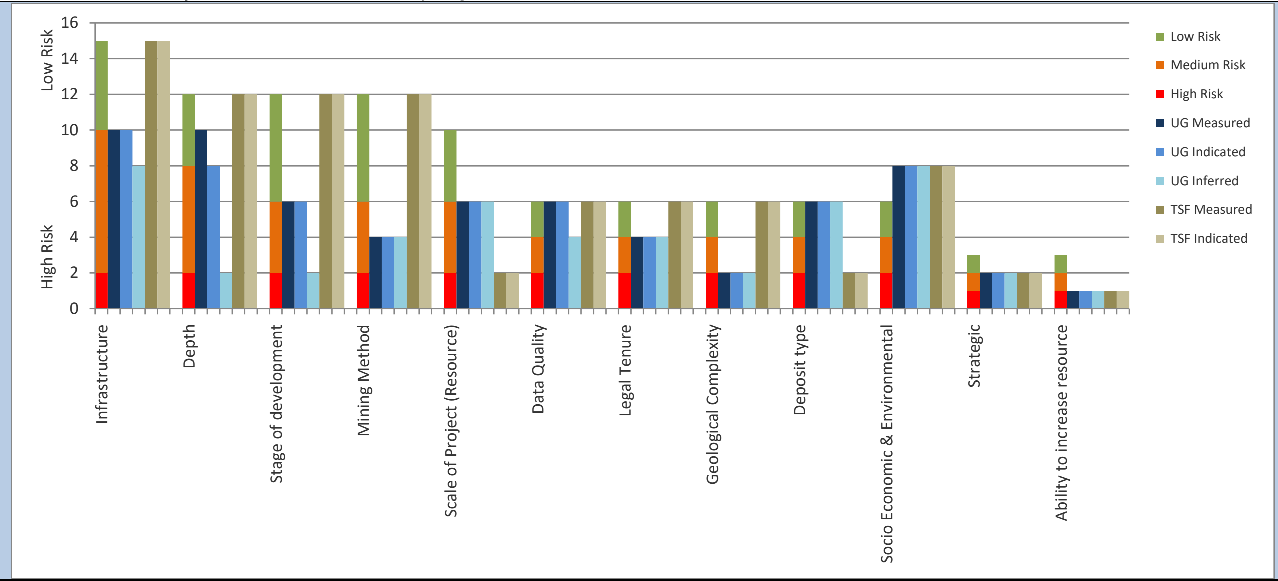
Table 98 summarises the Project modifying factors used in the valuation for the total 4E Resources of CRM. The numbers are indicative of the risk of each item compared to that of the industry. The higher the number, the lower the risk and therefore the willingness of a buyer to place a premium on the Project or operation. This is illustrated in the graph below plotting the Project specific criteria against the industry barometer.

Table 98: Principal Valuation Modifying Factors for CRM



	CRM
Infrastructure	Mining and support engineering infrastructure is established at the property, including chrome plant and infrastructure. For the current mine plan, the existing CRM vertical shaft and No. 3 decline and No. 4 decline will be utilised. The established TSF material is currently being retreated, and new underground tailings are planned to be deposited on the same footprint.
Depth	The Zondereinde mine is the deepest platinum mine in the world with mining taking place between 1.2 and 2.2 km in depth. At these depths, temperatures are so hot that it requires refrigerated air and water to be able to mine the newly exposed rock, which has a noteworthy cost component associated with it which places the project as a higher risk. Shallow platinum mines can typically be mined by open pits and can go as deep as 300 m (Magolakwena). CRM Measured Mineral Resources occur at depths up to 450 m from surface, Indicated occurs at 0-800 mbs and Inferred occurs at 0-1,900 mbs.
Stage of development	CRM has been under care and maintenance since 2013 with a restart of operations planned for 2022. The TSF has been in operation since 2019.
Mining Method	Mining operations at CRM is underground hybrid mining, with conventional stoping and trackless development. The underground workings are accessed via a decline.
Scale of Project (Resource)	The average resources of the SA shafts are approximately 39.2 million 4E ounces with 29% of the shafts having less than 5 Moz. Mines with 4E resources more than 5 Moz are considered as large-scale mines while mines with less than 1 Moz are considered as small scale operations. The updated Mineral Resource estimate for CRM comprises 19.48 million 4E ounces for the UG2 Reef, making it a comparatively large mine. The TSF comprises 480 koz 4E.
Data Quality	The Mineral Resources for CRM have been estimated by Minxcon in accordance with NI 43-101 guidelines. Grades were principally based on diamond drilling and underground grade control samples. The data quality for Measured and Indicated Mineral Resources is deemed of sufficient quality for the classification. Inferred Mineral Resource estimation is guided by only drillholes.
Legal Tenure	The Zandfontein and Crocette sections are held under executed mining rights, while the majority of Kareespruit is held under prospecting rights with a small portion covered by mining rights.
Geological Complexity	Faulting occurs across the Project Area. A graben and the faulting have guided the division of the Project into four main mining blocks. The nature of the geology and structure makes for complex mining.
Deposit Type	The Bushveld Complex is the world's largest layered intrusion and consists of Western, Eastern and Northern Limbs. The Merensky Reef in the Western and Eastern Limbs are generally considered as a uniform reef type, with the mineralisation in the western areas considered as less risky. Both the Merensky Reef and the UG2 Reef outcrop in the area. The UG2 Reef occurs from outcrop down to an estimated depth of at least 2,000 mbs. The Merensky Reef is seen as uneconomical in the Project Area thus the UG2 was investigated.
Strategic	The Project Area lies within the Bushveld Complex. Numerous similar projects surround the properties and the strategic potential of the Project to the market is neutral. It is opined that neither a discount nor a premium are appropriate for this Project.
Ability to increase resource	As the TSF is a man-made feature, there is no ability to increase the Mineral Resource from the current facility. The properties have been extensively drilled - there is thus limited potential to increase the Mineral Resource base. For the underground Mineral Resources, although categories may be improved, there is very limited scope for increasing the tonnage base.
Socio Economic & Environmental	CRM is an established mine site that is on care and maintenance, thus is already considered degraded. The potential impacts of the restarting underground operations are limited. Over time, dewatering of flooded mine workings may cause aquifer drawdown. TSF process water quality is not aligned with the mandated WUL limits. Even though the water is contained, it still poses a risk to the receiving environment. Various SLP commitments have been fulfilled

Note: As the valuation parameter increases, the Project value will increase, and the risk profile will decrease.

The analysis above rates the Project at overall less risky in comparison to industry criteria and the value was therefore adjusted accordingly.

8.13.4.2.3Market Approach Results

The valuation results for the underground CRM Mineral Resources (Crocette, Zandfontein and Kareespruit) are presented in Table 99. The *in situ* Mineral Resources have an average value of USD10.57/oz 4E. Based on the current Mineral Resource, a best estimated value of ZAR3,116.60 million was calculated.

Table 99: Market Approach Valuation CRM Underground UG2 Mineral Resources

Project Area	Mineral Resource Category	Tonnage	Grade	Contained Precious Metal		USD/oz	Value
		Mt	4E g/t	kg	koz		ZAR million
Crocette	Measured	3.65	3.88	14,151	455	43.35	306.51
Crocette	Indicated	7.09	3.89	27,540	885	16.50	227.07
Crocette	Inferred	0.03	3.91	124	4	3.15	0.20
Zandfontein	Measured	6.69	4.04	26,998	868	43.35	584.78
Zandfontein	Indicated	21.37	3.66	78,298	2,517	16.50	645.56
Zandfontein	Inferred	22.55	4.45	100,390	3,228	3.15	157.84
Kareespruit	Indicated	25.24	4.02	101,396	3,260	16.24	822.72
Kareespruit	Inferred	57.99	4.16	241,484	7,764	3.08	371.93
Total		**144.61**	**4.08**	**590,382**	**18,981**	**10.57**	**3,116.60**

Note: ZAR/USD exchange rate: 15.54

The valuation results for the TSF are presented in Table 100 on a contained 4E plus chrome 4E equivalent basis. The TSF has an average value of USD43.89/oz. Based on the current Mineral Resource, a best estimated value of ZAR330.27 million was calculated.

Table 100: Market Approach Valuation Zandfontein TSF (4E Equivalent)

Project Area	Mineral Resource Category	Tonnage	Grade	Contained Precious Metal		USD/oz	Value
		Mt	4E Eq. g/t	kg	Moz		ZAR million
TSF (4E Eq)	Measured	4.59	1.32	9,690	0.31	56.03	271.22
TSF (4E Eq)	Indicated	2.59	1.31	5,371	0.17	22.00	59.05
Total		**7.19**	**2.10**	**15,061**	**0.48**	**43.89**	**330.27**

Note: ZAR/USD exchange rate: 15.54

8.13.5 Sources of Information

SV T1.19

Other sources used to do the market studies and contracts include:-

- Edison Investment Research (2021). The PGM Markets. 13 December 2021. Accessed on 2 February 2022 via https://www.edisongroup.com/wp-content/uploads/2021/12/PGM-themes-1221-new-template_CR2_0-2.pdf.
- Johnson Matthey (2021). PGM Market Report May 2021. Accessed on 2 February 2022 via http://www.platinum.matthey.com/services/market-research.
- United States Geological Survey (2022). Platinum Group Metals Data Sheet - Mineral Commodity Summaries, January 2022.

8.13.6 Previous Valuation

SV T1.11

Minxcon is not aware of any valuations that have been completed for the Project in the past two years.

8.13.7 Competent Valuator

SV T1.0

8.13.7.1 Key Technical Staff

Mr Johan Odendaal (BSc (Geol.), BSc Hons (Min. Econ.), MSc (Min. Eng.), Pr.Sci.Nat., FSAIMM, MGSSA), Director at Minxcon, is the Competent Valuator of this Report. His details are provided in Section 8.13.7.3.

Mr Johannes Scholtz (B Eng Hons (Min.), Cand.Eng., ASAIMM), Mining Engineer & Valuator, Minxcon. A summary of Mr Scholtz's experience is provided in Appendix 3.

Miss Maria Antoniades (BSc Hons (Geol.), Pr.Sci.Nat., MGSSA), Geologist and Valuator, Minxcon. A summary of Miss Antoniades' experience is provided in Appendix 3.

8.13.7.2 Competent Valuator's Relationship to the Issuer

As the Competent Valuator of this Report, Mr Odendaal has no present or prospective interest in the subject property or asset and has no bias with respect to the assets that are the subject of the Report, or to the parties involved with the assignment. Mr Odendaal's compensation, employment or contractual relationship with the Commissioning Entity is not contingent on any aspect of the Report. All facts presented are correct to the best of the Competent Valuator's knowledge. The analyses and conclusions are limited only by the reported forecasts and conditions.

8.13.7.3 Competent Person Signature Page

The certificate of the Competent Valuator is given in Appendix 3.

8.13.8 Range of Values

8.13.8.1 Income Approach

A range of values was calculated for the DCF valuation by determining an upper and lower range. The upper and lower ranges were determined by applying a maximum and minimum standard deviation on the input parameters listed below. The variance on the commodity price and exchange rate is consistent with the historic real-term ranges over the past 10 years, corrected for outliers. The grade is not expected to vary significantly as it is based on the mineable Reserve with a high level of confidence. The variance in costs is consistent with the confidence in a PFS-level study cost estimation of 15% to 25%; Minxcon applied a 25% variance. The input parameters are as follows:-

- 4E Basket Price (USD/oz);
- Exchange Rate (ZAR/USD);
- Grade (g/t);
- Fixed OPEX;
- Variable OPEX;
- Mining CAPEX; and
- Plant CAPEX.

Figure 103 illustrates the historic real-term 4E basket price that would be applicable to CRM, using the CRM prill splits and the historic real-term prices for the various 4E metals. Minxcon applied a range of USD1,400/oz and USD2,250/oz as highlighted on the graph.

Figure 103: Historic Real-Terms Basket Price

Figure 104 illustrates the historic exchange rate adjusted for inflation. Minxcon applied a range of 14.00 and 17.00 as highlighted on the graph.

Figure 104: Historic Real-Terms Exchange Rate

In order to evaluate risk, a Monte Carlo simulation was developed using a population of 5,000 simulations. This allows the simulation of random scenarios to determine the effect thereof. Minxcon simulated various input parameters using a range in which a parameter is expected to vary. This is detailed in Table 101.

Table 101: Input Ranges

	Min	Max	Current Basis Over LoM	Current	Min	Max
4E Basket Price (USD/oz)	77%	123%	Average	1,825	1,400	2,250
Exchange Rate (ZAR/USD)	90%	109%	Average	15.53	14.0	17.0
4E Grade (g/t)	95%	105%	Weighted Average	3.56	3.4	3.7
Fixed Costs (ZAR/t)	90%	115%	Weighted Average	1,150	1,035	1,322
Variable Cost (ZAR/t)	90%	115%	Weighted Average	579	521	666
Mining CAPEX (ZARm)	90%	115%	Total including contingencies	3,877	3,489	4,459
Plant& Other CAPEX (ZARm)	90%	115%	Total including contingencies	140	126	161

By applying these ranges, a lower and upper market value was determined for the DCF, as displayed in Table 102. The mine, excluding the remining of the TSF, has a range of values between ZAR1,271 million and ZAR3,862 million with a best estimated full market value of ZAR2,918 million at a real discount rate of 11.87%. When including the remining of the TSF, the lower and upper values increase to ZAR1,424 million and ZAR4,122 million, respectively, with a best estimated full market value of ZAR3,136 million at a real discount rate of 11.87%. On an incremental cash flow basis, this would value the TSF at a lower and upper values of ZAR153 million and ZAR260 million, respectively, with a best estimated full market value of ZAR217 million at a real discount rate of 11.87%.

Table 102: Range of Market Values

Valuation Method	Unit	Lower Value	Estimated value	Upper Value
DCF – Excluding TSF	ZARm	1,271	2,918	3,862
DCF – Including TSF	ZARm	1,424	3,136	4,122
DCF – TSF	ZARm	153	217	260
DCF – Excluding TSF	USDm	82	188	249
DCF – Including TSF	USDm	92	202	266
DCF – TSF	USDm	10	14	17

Notes: Converted to USD using average ZAR/USD exchange rate over LoM, 15.53.

8.13.8.2 Market Approach

A range of values was calculated for the comparative valuation for both the underground and TSF Mineral Resources by determining an upper and lower range. The upper and lower ranges were determined by applying a maximum and minimum standard deviation on the following input parameters with the lower confidence categories having a wider variance:-

- Measured, Indicated and Inferred Determined Average (USD/4E oz).

This is detailed in Table 80 with the inputs of the Mineral Resource classification displayed in USD/4E oz. The general industry variance that can be expected for Inferred Mineral Resources is 50%, 25% for Indicated Mineral Resources and 10% for Measured Resources. This has been applied as minimum and maximum industry ranges.

Table 103: Input Ranges (Market Approach)

	Min	Max	Current	Min	Max
Inferred (USD/oz)	75%	125%	3.34	2.50	4.17
Indicated (USD /oz)	90%	110%	13.62	11.99	15.39
Measured (USD/oz)	95%	105%	34.68	32.95	36.42

By applying these ranges, a lower and upper value were determined for the comparable valuation as displayed in Table 104 and Table 105. For the market approach, the Project value based on underground Mineral Resources was calculated at between ZAR2,888.58 million and ZAR3,355.15 million with a best estimated market value of ZAR3,116.60 million. The TSF Mineral Resources, the value was calculated at between ZAR306.17 million and ZAR355.39 million with a best estimated market value of ZAR330.27 million.

Table 104: Project Range of Market Values Derived based on Underground Mineral Resources

Mineral Resource Category	Total 4E Content	Lower Price	Risk-Adjusted Price	Upper Price	Lower Value	Median Market Value	Upper Value
	Moz	USD/oz			ZARm		
Full Value							
Measured	1.32	624.41	43.35	725.26	826.08	891.28	959.50
Indicated	6.66	235.84	16.50	273.93	1,571.31	1,695.35	1,825.11
Inferred	11.00	44.67	3.15	51.89	491.20	529.97	570.53
Combined	**18.98**	**152.18**	**10.57**	**176.76**	**2,888.58**	**3,116.60**	**3,355.15**

Table 105: Project Range of Market Values Derived based on TSF Mineral Resources

Mineral Resource Category	Total 4E Content	Lower Price	Risk-Adjusted Price	Upper Price	Lower Value	Median Market Value	Upper Value
	Moz	USD/oz			ZARm		
Full Value							
Measured	0.31	807.10	5.27	936.85	251.43	271.22	291.85
Indicated	0.17	316.98	46.02	367.93	54.74	59.05	63.54
Combined	**0.48**	**632.30**	**43.89**	**733.95**	**306.17**	**330.27**	**355.39**

8.13.8.3 Conclusion

Two valuation approaches were used to value CRM as detailed in Table 106 and Table 107. The valuation was done at the Barplats level. The value derived for the income approach only reflects the reserve in the LoM. The confidence in the income approach is higher because it was performed using information that is to a PFS level. The income approach is therefore Minxcon's preference for establishing the Project valuation. The best-estimated value would be at the Estimated market value of ZAR2,918 million for the Underground Operations and ZAR217 million for the TSF.

Table 106: Summary of Income Approach Valuation Estimates

Valuation Method	Unit	Lower Value	Estimated Value	Upper Value
Income Approach -Underground Operations	ZARm	1,271	2,918	3,862
Income Approach - TSF	ZARm	153	217	260
Combined	**ZARm**	**1,424**	**3,136**	**4,122**
Income Approach -Underground Operations	USDm	82	188	249
Income Approach - TSF	USDm	10	14	17
Combined	**USDm**	**92**	**202**	**266**

Notes: Converted to USD using average ZAR/USD exchange rate over LoM, 15.53.

Table 107: Summary of Market Approach Valuation Estimates

Valuation Method	Unit	Lower Value	Estimated Value	Upper Value
Comparative Approach – Underground	ZARm	2,889	3,117	3,355
Comparative Approach – TSF	ZARm	306	330	355
Combined	**ZARm**	**3,195**	**3,447**	**3,710**
Comparative Approach – Underground	USDm	186	201	216
Comparative Approach – TSF	USDm	20	21	23
Combined	**USDm**	**206**	**222**	**239**

Notes: Converted to USD using ZAR/USD exchange of 15.54.

8.13.9 Identifiable Component Asset Values

SV T1.16

According to SAMVAL, in some valuations the valuation shall be broken down into Identifiable Component Asset Values (an "ICA" valuation) equalling the Mineral Asset Value. This could be, for example, due to the requirements of other valuation rules and legislative practices.

An identifiable asset is anything that has commercial or exchange value and can provide future economic benefits. Identifiable assets can be tangible or intangible. If an asset is deemed to be identifiable, the purchasing company records it as part of its assets on its balance sheet. If an asset is not deemed to be an identifiable asset, then its value is considered part of the goodwill amount arising from the acquisition transaction.

For these Project valuations no ICA values were included as they are not applicable.

8.13.10 Historic Verification

SV T1.17

The only relevant parameter from when the CRM was operating that would affect the valuation is the historic recoveries. These are discussed in more detail in Section 8.4.1.2.

SV T1.18

8.13.11 Market Studies and Contracts

The suitability of the PGMs to the market as well as the market availability is discussed in more detail in Section 8.6.

8.13.11.1 Contracts

CRM has two offtake agreements in place for PGM concentrates, of which the details are confidential in nature. The high-grade PGM concentrates (fresh ore from UG2 reef) has a higher overall 4E payability of compared to the low-grade PGM concentrates (PGMs from the re-mined tailings material). The contractual terms were utilised for the financial modelling. Only 4E (platinum, palladium, rhodium and gold) metals were considered for financial modelling as no other metals are estimated in the Mineral Resource Statement.

CRM also has an offtake agreement in place for all chrome ore produced from the re-mined tailings, whereby the ore is sold on a cost-plus basis, considering the TSF remining costs, processing cost and chrome logistics costs. An additional allowance is made for certain overheads, hence the "Plus" portion of the offtake.

The underground operations will be owner-mined; hence no material contracts are applicable. The TSF remining is completed by a contractor, the costs of which have been incorporated into the financial modelling and appear reasonable.

8.13.12 Reviews

Minxcon is not aware of any other reviews that were done for this Project.

9 MINERAL RESERVE ESTIMATES

9.1 Estimation and Modelling Techniques

SC 4.5 (i)
SC 5.6 (v)
SC 6.1 (i)(ii)
SC 6.2 (i)
SC 6.3 (i)(ii)(iii)

9.1.1 Key Assumptions

9.1.1.1 Underground Operations

The Mineral Reserve pay limit calculation for the Zandfontein is detailed in Table 37.

Table 108: Mineral Reserve Pay Limit Calculation

Description	Unit	Value	Comment
4E Basket Price	USD/oz	2906.98	Inclusive of recovery and payability
Geological Losses	%	25	As per Mineral Resource estimation
Mining Losses	%	10	Calculation
Pillar Losses	%	10	Calculation
Dilution	%	7	Ukwazi trade-off study
Mine Call Factor	%	95	Ukwazi trade-off study
Plant Recovery	%	80	
Payability	%	86	
Mining Cost	USD/t	91.30	
Processing Cost	USD/t	15.00	
Other Cost	USD/t	14.77	
Total Cost	USD/t	121.06	
Pay limit	g/t	1.30	
Geological Losses and Mining Losses	g/t	1.88	After applying factors for losses
Dilution	g/t	2.01	After applying dilution
Mine Call Factor	g/t	2.12	After applying MCF
Plant Recovery and Payability	g/t	3.07	After applying recovery and payability

The Mineral Resource block model grade tonnage curve is illustrated in Figure 47.

Figure 105: Mineral Resource Model Grade Tonnage Curve

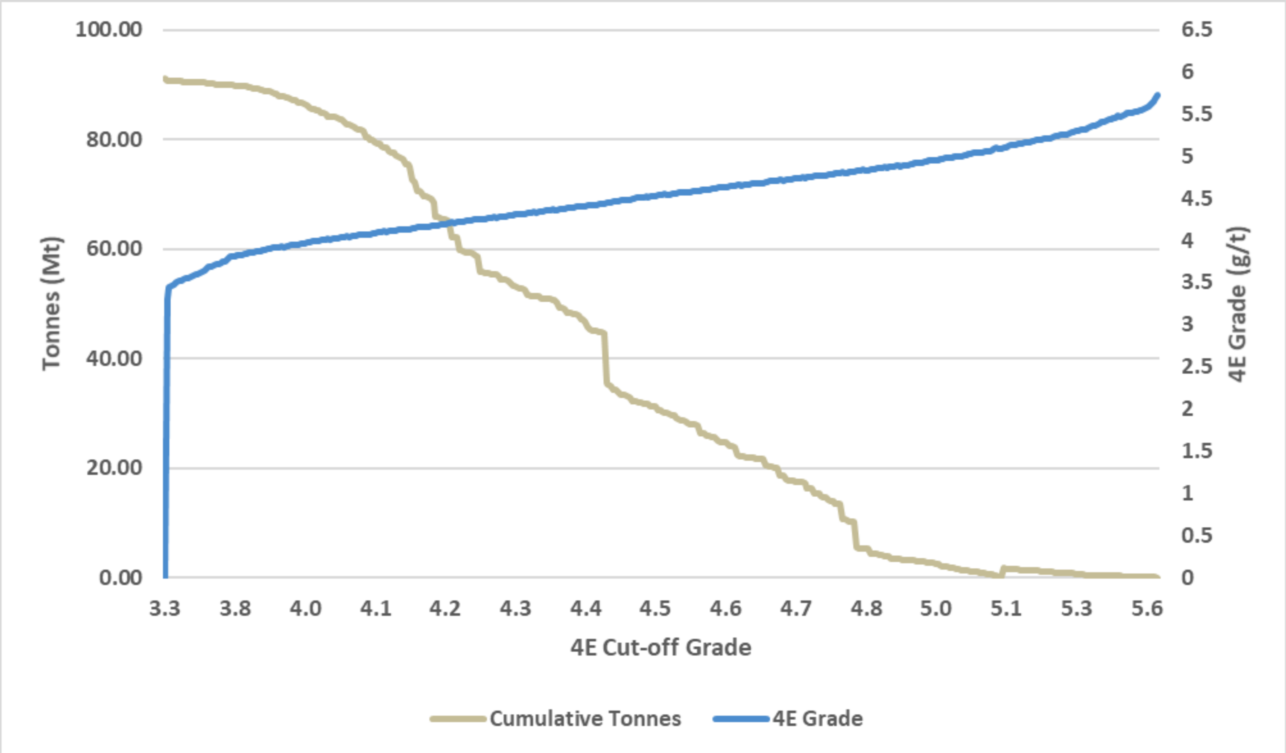


Figure 47 illustrates that the lowest 4E grade in the Mineral Resource model is 3.31 g/t. The lowest 4E grade as per the Mineral Resource model is approximately 8% higher than the calculated Mineral Reserve pay limit. This implies that the entire Mineral Resource could be economically mined considering the metal price, costs and factors applied as detailed in Table 37. The Mineral Reserve pay limit of 3.07 g/t has been applied to the Zandfontein but has no effect on the final Mineral Reserve estimation as it is below the lowest 4E grade in the Mineral Resource model.

9.1.1.2 TSF Re-mining Operations

No Mineral Resource or Mineral Reserve cut-off has been applied to the TSF re-mining operations. Mining of the TSF involves re-mining the entire planned area of the existing TSF, without applying any cut-off parameters.

9.1.2 Parameters

9.1.2.1 Underground Operations

The mining strategy for Zandfontein is to steadily ramp up to a peak production rate of approximately 1.02 million run of mine ("RoM") tonnes per annum from the underground operations utilising a hybrid mining method. The strategy aims to initially mine 5 Level and 4 Level with some minor potential from 2 Level and 3 Level, utilising the existing infrastructure, while the deeper levels are being developed during which period steady state production will be approximately 800 kt RoM per annum.

When 6 Level and below are brought into production, Zandfontein will produce approximately 1.02 Mt RoM per annum during steady state production. The current mining layout from 5 Level upwards will remain unchanged while a new mining layout from 6 Level downwards will be implemented. The planned mining blocks have been divided into three mining areas namely East, West and Central.

9.1.2.2 TSF Re-mining Operations

The mining strategy for the Zandfontein TSF re-mining is to mine approximately 195 ktpm from the existing TSF. The re-mining of the planned portion of the TSF will be conducted in parallel with tailings deposition on other portions of the existing TSF footprint.

Mining will commence in the North-eastern portion of the TSF and progress North-east and South-west until the planned area has been depleted completely. Re-mining of the TSF will be conducted by a contractor.

9.1.3 Methods

The mining methods are described in Section 8.3.7.

9.2 MINERAL RESERVE CLASSIFICATION CRITERIA

The Mineral Reserves as stated in the following section exclude all Inferred Mineral Resources. Measured Mineral Resources have been converted to Proven Mineral Reserves and Indicated Mineral Resources have been converted to Probable Mineral Reserves by applying the modifying factors as discussed in section 8.3.1 to the Mineral Resources contained in the LoM planning. A total of 34% Measured Mineral Resources and 58% Indicated Mineral Resources was converted to Proven Mineral Reserves and Probable Mineral Reserves respectively. SC 6.2 (iii) SC 6.3(v)

9.3 Mineral Reserve Statement

SC 6.1(ii)
SC 6.3 (ii)(v)(vi)
SV T1.9

9.3.1 Underground Operations

The Mineral Reserve estimate for the Zandfontein underground operations as at 1 January 2022 is detailed in Table 109. The Mineral Reserves are stated as material delivered to the plant.

Table 109: Zandfontein Underground Operations Mineral Reserve Estimation as at 1 January 2022

Mineral Reserve Category	Delivered Tonnes	4E Grade	4E Content	
	kt	g/t	kg	koz
Proved	2,282	4.75	10,829	348
Probable	12,298	3.48	42,777	1,375
Total	**14,580**	**3.68**	**53,605**	**1,723**

Notes:
1. The Mineral Reserve estimation includes only diluted Measured and Indicated Mineral Resources which have been converted to Proved and Probable Mineral Reserves.
2. A portion of Inferred Mineral Resources are included in the LoM plan, as it is required to mine through Inferred portions to access Measured and Indicated Mineral Resources. These Inferred Mineral Resources have, however, been excluded in the Mineral Reserve estimation and in the economic analysis.
3. No Inferred Mineral Resources have been included in the Mineral Reserve estimation.
4. The Mineral Reserve estimation was completed using a 4E basket price of USD1,825/oz and exchange rate of 15.53 ZAR/USD.
5. An uneconomical tail of 133.34 kt at a 4E grade of 3.51 g/t, containing 15.06 koz has been excluded from the Mineral Reserve estimate.
6. The Mineral Reserves are reported as total Mineral Reserves and are not attributed.

The Zandfontein Mineral Reserve estimation consists of 16% Proved and 84% Probable Mineral Reserves.

9.3.2 TSF Re-mining Operations

The Mineral Reserve estimate for the Zandfontein TSF Re-mining operation as at 1 January 2022 is detailed in Table 110. The Mineral Reserves are stated as material delivered to the plant.

Table 110: Zandfontein TSF Re-mining Operations Mineral Reserve Estimate as at 1 January 2022

Mineral Reserve Category	Tonnes	4E Grade	4E Content		Cr_2O_3 Content	Cr_2O_3 Grade
	kt	g/t	kg	koz	kt	%
Probable	7,570	1.10	8,345	268	1,371	18.12

Notes:
1. The Mineral Reserve estimation includes only diluted Measured and Indicated Mineral Resources which have been converted to Probable Mineral Reserves.
2. No Inferred Mineral Resources have been included in the Mineral Reserve estimation.
3. The Mineral Reserve estimation was completed using a 4E basket price of USD2,305/oz, and calculated Chrome price (as per offtake agreement) of USD106/t and exchange rate of 15.53 ZAR/USD.
4. Chrome ore produced from the re-mined tailings is sold on a cost-plus basis, considering the TSF remining costs, processing cost and chrome logistics costs and an additional allowance for certain overheads
5. The Mineral Reserve excludes PGMs and Chrome Oxide from the TSF already re-mined Since December 2018.
6. The Mineral Reserves are reported as total Mineral Reserves and are not attributed.

Diluted Measured and Indicated Mineral Resources in the Zandfontein TSF have been converted to Probable Mineral Reserves. Minxcon utilised the Zandfontein TSF Mineral Resource model provided by the Client and the 2022 Mineral Resource estimation conducted by Minxcon.

Minxcon did not complete a design and mining schedule for the Zandfontein TSF but relied on and reviewed the technical work conducted by SMS in 2017 titled *ITR for Zandfontein Tailing Retreatment Project to Recover Chrome* and the TSF mining schedule produced by SMS in June 2021.

Minxcon utilised the 2021 SMS mining schedule as a basis and adjusted the mining schedule to conform to the 2022 Mineral Resource estimation. Mineral Reserve conversion factors detailed in Table 35 were applied to obtain a diluted mining schedule for conversion to Mineral Reserves.

Although the business strategy for re-mining the TSF has changed from 2017 to 2022 in terms of not only recovering chrome, but also PGMs from the TSF, the technical work conducted by SMS is still applicable and at an acceptable level of confidence for the purposes of Mineral Reserve estimation. Therefore, only Probable Mineral Reserves for the Zandfontein TSF are stated.

9.3.3 Multiple Commodity Reserve (Prill Split Ratio)

9.3.3.1 Underground Operations

The Mineral Reserve estimation has not reported the polymetallic minerals' equivalent in this report, but the Mineral Reserve estimate has been stated as a 4E Mineral Reserve.

The prill splits for the CRM underground operations are detailed in Table 111.

Table 111: CRM Underground Operations Prill Split

Element	Unit	Prill Split
Platinum	%	62.1
Palladium	%	27.3
Rhodium	%	9.9
Gold	%	0.77

9.3.3.2 TSF Re-mining Operations

The prill splits for the Zandfontein TSF re-mining operations is detailed in Table 112.

Table 112: Zandfontein TSF Operations Prill Split

Element	Unit	Prill Split
Platinum	%	64.9
Palladium	%	26.1
Rhodium	%	7.5
Gold	%	1.46

9.4 Mineral Reserve Reconciliation

SC 6.1 (iii)
SC 6.3 (iv)

9.4.1 Underground Operations

The Mineral Reserve reconciliation for the Zandfontein TSF re-mining operations is detailed in Table 113.

The Mineral Reserve reconciliation was conducted between the 2022 Mineral Reserve estimation as at 1 January 2022 for the CRM underground operations conducted by Minxcon and the 2010 Mineral Reserve estimation as at 30 November 2010 conducted by Eastplats.

Table 113: Underground Operations Mineral Reserve Reconciliation

Mineral Reserve Category	Tonnes	4E Grade	4E Content	
	kt	g/t	kg	koz
2010 Mineral Reserve Estimate				
Proved	842	4.08	3,435	110
Probable	22,748	4.08	92,896	2,987
Total	23,590	4.08	96,331	3,097
2022 Mineral Reserve Estimate				
Proved	2,282	4.75	10,829	348
Probable	12,298	3.48	42,777	1,375
Total	14,580	3.68	53,605	1,723
Reconciliation				
Proved	171%	16%	215%	215%
Probable	-46%	-15%	-54%	-54%
Total	-38%	-10%	-44%	-44%

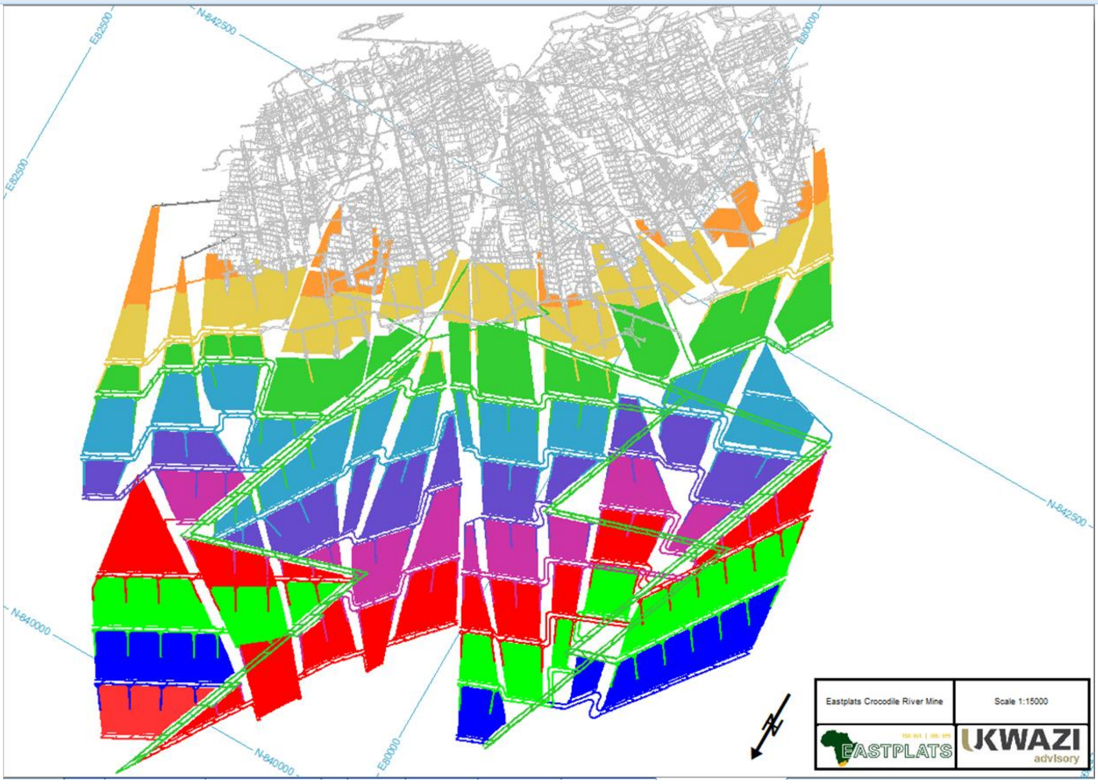
A significant difference between the 2022 and 2010 Mineral Reserve estimate for the Zandfontein area is noted. Approximately 2.08 Mt has been depleted from Zandfontein during the period 2010 to 2013, at which point the mine was placed under care and maintenance.

The 2010 mine plan included several planned mining areas, which do not form part of the 2022 LoM plan. The 2010 and 2022 LoM plans are illustrated in Figure 106. The 2010 LoM plan considered mining the Zandfontein area up to 15 Level with a significant amount of mining planned from 10 Level to 15 Level (Montpellier, 2010).

The 2022 LoM plan considers mining the Zandfontein area up to 12 Level. Therefore, there is a significant difference between the 2010 and 2022 Mineral Reserve estimate. The reduction in the Mineral Reserve estimate does not affect the economic viability of the current Mineral Reserve plan.

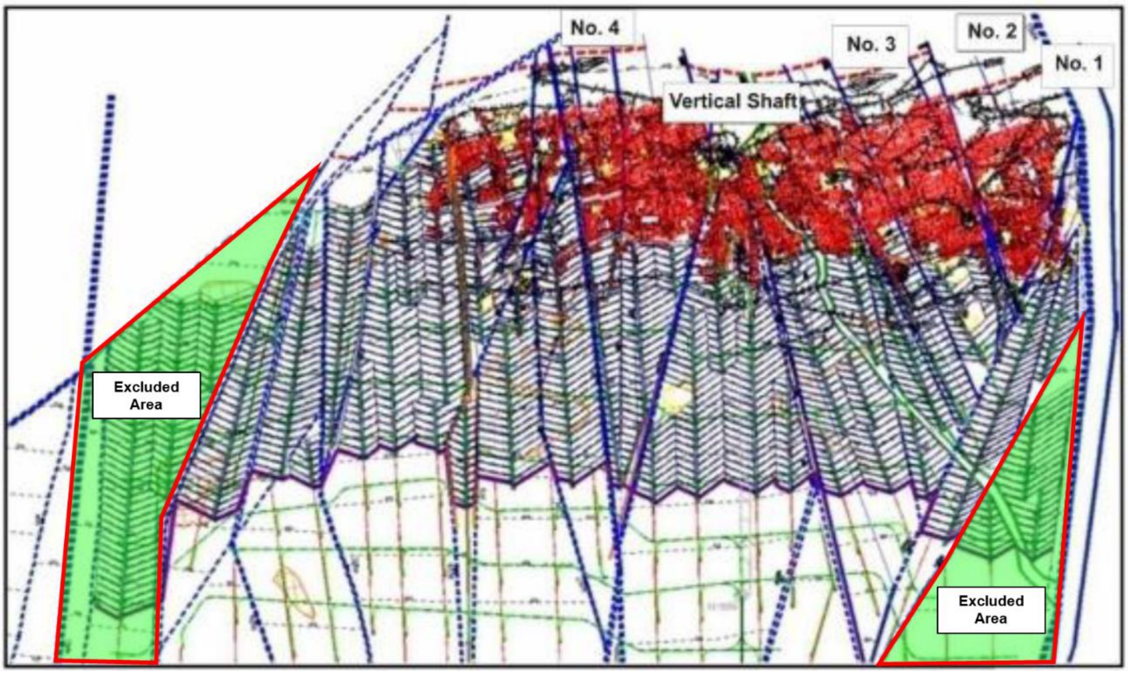
Figure 106: 2022 LoM Plan vs 2010 LoM Plan

2022 Life of Mine Plan



Source: Ukwazi, 2021.

2010 Life of Mine Plan Showing some Excluded Areas



Note: This snapshot does not represent the full 2010 LoM plan

2022 LoM Plan vs 2010 LoM Plan	January 2022

9.4.2 TSF Re-mining Operations

The Mineral Reserve reconciliation for the Zandfontein TSF re-mining operations is detailed in Table 114.

The Mineral Reserve reconciliation was conducted between the 2022 Mineral Reserve estimation as at 1 January 2022 conducted by Minxcon and the 2017 Mineral Reserve estimation as at 1 September 2017 conducted by SMS.

Table 114: Zandfontein TSF Re-mining Operations Mineral Reserve Reconciliation

Mineral Reserve Category	Tonnes	4E Grade	4E Content		Cr_2O_3 Content	Cr_2O_3 Grade
	kt	g/t	kg	koz	kt	%
2017 Mineral Reserve Estimate						
Proved	6,250	-	-	-	1,400	22.42
Probable	180	-	-	-	40	20.28
Total	6,420	-	-	-	1,440	22.36
2022 Mineral Reserve Estimate						
Proved	-	-	-	-	-	-
Probable	7,570	1.10	8,345	268	1,371	18.12
Total	7,570	1.10	8,345	268	1,371	18.12
Reconciliation						
Proved	-100%	-	-	-	-100%	-100%
Probable	4105%	-	-	-	3329%	-11%
Total	18%	-	-	-	-5%	-19%

Notes:

1. The 2017 Mineral Reserve estimation includes only Chrome. No PGM Mineral Reserve estimate was conducted in 2017.
2. The 2022 Mineral Reserve estimation includes Chrome and PGMs.
3. The 2017 Mineral Reserve estimation included the entire TSF Mineral Resource as per the 2017 technical study. The 2022 Mineral Reserve estimate contains only a portion of the total TSF as a mineable Mineral Resource.
4. The 2017 Mineral Reserve statement includes Proved and Probable Chrome Mineral Reserves which were derived from diluted Measured and Indicated Mineral Resources, respectively. The 2022 Mineral Reserve statement includes only Probable Mineral Reserves derived from diluted Measured and Indicated Mineral Resources.

10 OTHER RELEVANT DATA AND INFORMATION

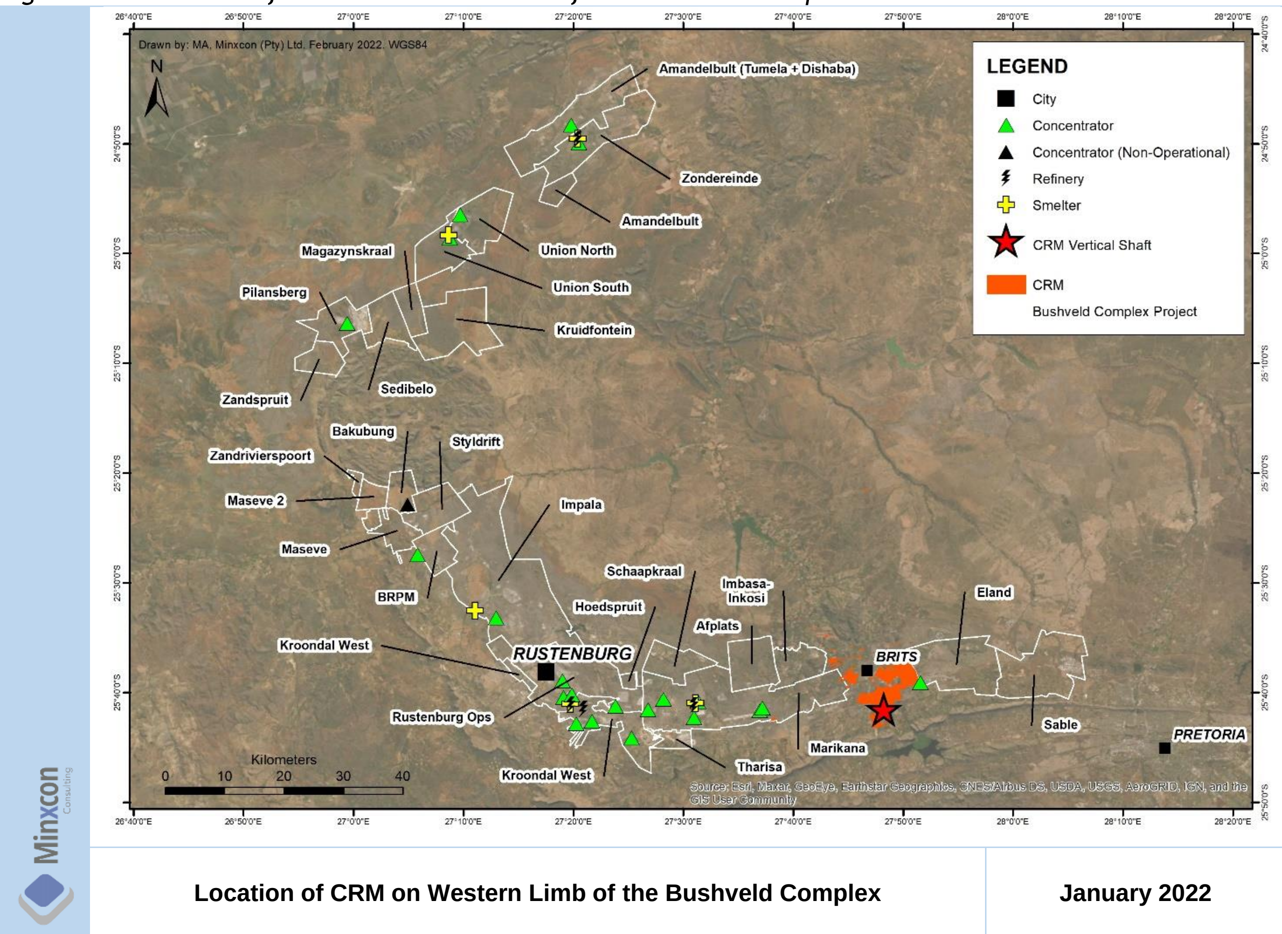
SC 8.1 (i)

10.1 Adjacent Properties

SC 1.3 (i)

CRM is located on the Western Limb of the Bushveld Complex, along which a multitude of PGM and chrome mines and exploration projects are established, as shown in Figure 107. Mineralised structures could not be illustrated.

Figure 107: Location of CRM on Western Limb of the Bushveld Complex



The Eland Mine lies adjacent to the east of CRM and employs both open pit and hybrid conventional breast stoping with conveyor ore transport underground mining. Opencast operations were established in 2007, followed in 2010 by underground production from two decline systems, namely Kukama (West Portal) System and Nyala (East Portal) on the UG2 with each system and the on-site process plant designed at 250 ktpm (DRA, 2022). The mine was placed on care and maintenance in 2015 due in part to the steep dip (18° N) of the UG2 Reef presenting challenges with the mechanised bord and pillar mining methods employed (Northam, 2021; DRA, 2022).

Eland was acquired by Northam Platinum from Glencore Operations South Africa in December 2017 with significant infrastructure in place, including PGM and chrome concentrators, TSFs and surface infrastructure. Underground mining restarted Kukama Shaft in September 2020 using hybrid mining following completion of feasibility studies. Annual steady state production of 150 kt 4E in concentrate after a six-year ramp-up was planned. Commissioning of the primary circuit has commenced to treat RoM ore. Mine planning includes open pit UG2 mining in the east of the property. TSF reprocessing for PGM and chrome concentrates is undertaken via the recommissioned concentrator secondary circuit. The Mine has a life of mine of over

30 years. Northam has purchased Maroelabult section from Barplats which lies immediately west of Kukama, with the aim to connect the western strike development with the Maroelabult decline (Northam, 2021).

Mineral Resources and Mineral Reserves for Eland are reported in accordance with the SAMREC Code (2016) guidelines. These are presented respectively in Table 115 and Table 116.

Table 115: Eland Mineral Resources as at 30 June 2021

Mineral Resource Category	Tonnage	Grade	Content
	Mt	4E g/t	4E Moz
Combined Measured, Indicated, Inferred	116.03	3.83	14.29

Source: Northam (2021)

Table 116: Eland Mineral Reserves as at 30 June 2021

Mineral Reserve Category	Tonnage	Grade	Content
	Mt	4E g/t	4E Moz
Combined Proved and Probable	26.94	3.37	2.92

Source: Northam (2021)

The established 214 km^2 Marikana complex of Sibanye-Stillwater, acquired as part of Lonmin PLC, lies immediately west of the CRM properties. Marikana operates via five shafts, namely 4Belt, K3, Rowland, Saffy and E3, with a number of additional shafts under care and maintenance. The Merensky and UG2 Reefs are simultaneously mined at an average depth of 500 m. Vertical shafts utilise conventional mining methods with limited breast mining, while shallow inclines utilise conventional breast mining with limited up-dip down-dip mining. The TSF retreatment project retreats UG2 tailings via hydraulic mining from one TSF for chrome and PGM. The Mine has a life to 2036 and produced 656 koz 4E in 2020 – 539 koz from underground and 86 kt from TSF retreatment. K4 is an additional brownfields project requiring re-start and completion of vertical shaft infrastructure to exploit both the Merensky and UG2 reefs over 50 years (Sibanye-Stillwater, 2021 and 2022).

Six on-site concentrator plants service the Marikana operations with a combined milling capacity of 600 ktpm. Concentrate is taken to the smelter where a sulphide-rich matte is produced for further processing at the Base Metal Refinery near Johannesburg, where base metals are removed and the PGM-rich residue, is sent to the Precious Metal Refinery for final treatment to produce precious metal products (Sibanye-Stillwater, 2022).

Marikana Mineral Resources (Table 117) and Mineral Reserves (Table 118) are reported in accordance the SAMREC Code (2016) guidelines.

Table 117: Marikana Mineral Resources as at 31 December 2020

Mineral Resource Category	Tonnage	Grade		Content	
	Mt	4E g/t	6E g/t	4E Moz	6E Moz
Underground					
Measured	77.3	4.1	4.9	10.143	12.230
Indicated	605.2	4.3	5.2	84.545	100.401
Inferred	202.2	4.6	5.4	29.663	35.167
Total	**884.7**	**4.4**	**5.2**	**124.351**	**147.798**
Surface - TSF					
Measured	-	-	-	-	-
Indicated	11.5	1.2	-	0.434	-
Inferred	-	-	-	-	**-**
Total	**11.5**	**1.2**	**-**	**0.434**	**-**
Total - underground and surface	**896.2**	**4.3**	**5.1**	**124.785**	**147.798**

Source: Sibanye-Stillwater (2021)

Table 118: Marikana Mineral Reserves as at 31 December 2020

Mineral Reserve Category	Tonnage	Grade		Content	
	Mt	4E g/t	6E g/t	4E Moz	6E Moz
Underground					
Proved	19.6	3.9	4.7	2.442	2.929
Probable	141.6	4.1	4.8	18.678	21.92
Total	**161.2**	**4.1**	**4.8**	**21.121**	**24.849**
Surface - TSF					
Probable	11.5	1.2	1.2	0.434	0.434
Total	11.5	1.2	1.2	0.434	0.434
Total - underground and surface	**172.7**	**3.9**	**4.6**	**21.555**	**25.283**

Source: Sibanye-Stillwater (2021)

Minxcon has relied on the information as is presented by the above sources. Verification has been limited to that data which is made available publicly and has been limited to cross-referencing information presented by the individual sources.

The economic reefs of the Bushveld Complex occur relatively consistently over the various limbs, including the Western Limb. However, although the occurrence may be predictable, the deposits on neighbouring properties to CRM may not necessarily be used as indication of grade or potential at CRM.

10.2 Audits and Reviews

SC 7.1 (i)(ii)

With the exception of the procedure described in Section 6.3.3.4 of this Report, Minxcon is not aware of any audits or reviews that have been conducted for any aspect of the Project.

10.3 Risk Assessment

SC 5.7 (i)

A risk assessment to consider and quantify risks within the Project was conducted by Minxcon based on a simplified approach. The result is not designed to be a definitive assessment of the risks, but is rather a tool to articulate and evaluate those risks as identified by persons present at the risk assessment session.

10.3.1 Risk Assessment Methodology

All items were reviewed and assessed using the risk severity criteria shown below:-

- Green – Low risk (score 1-5);
- Yellow – Medium risk (score 6-12);
- Orange - Significant risk (score 13-20); and
- Red – High risk (score greater than 21).

Once a high risk is identified, the project team is required to take remedial action to either resolve or mitigate the risk. The identification and recording of corrective and remedial measures was beyond the scope of this particular risk assessment exercise. The risk matrix table is detailed in Table 119.

10.3.2 Risk Assessment Outcome

The outcome of the risk assessment is provided in Table 120.

Table 119: Minxcon Risk Matrix

Consequence	1 - Insignificant	2 - Minor	3 – Moderate	4 - Major	5 - Catastrophic
Project Schedule	Less than 1% impact on overall project timeline	May result in overall project timeline overrun equal to or more than 1% and less than 5%	May result in overall project timeline overrun of equal to or more than 5% and less than 20%	May result in overall project timeline overrun of equal to or more than 20% and less than 50%	May result in overall project timeline overrun of 50% or more
Cost	Less than 1% impact on the budget of the project	May result in overall project budget overrun equal to or more than 1% and less than 5%	May result in overall project budget overrun of equal to or more than 5% and less than 20%	May result in overall project budget overrun of equal to or more than 20% and less than 50%	May result in overall project budget overrun of 50% or more
NPV Change	Less than 1% impact on NPV	Equal to or more than 1% to less than 5% change in NPV	Equal to or more than 5% to less than 20% change in NPV	Equal to or more than 20% to less than 50% change in NPV	Change in NPV of 50% or more
Quality and Technical Integrity	No significant impact on quality of deliverables or effect on production	Quality issues that can be addressed prior to handover or could affect production by more than 1% and less than 5%	Quality issues that can be addressed during ramp-up or could affect production by more than 5% and less than 10%	Quality issues that require significant intervention to maintain performance or could affect production by more than 10% and less than 20%	Quality issues that require significant intervention to achieve performance or could affect production by 20% or more
Safety/Health	First aid case / Exposure to minor health risk	Medical treatment case / Exposure to major health risk	Lost time injury / Reversible impact on health	Single fatality or loss of quality of life / Irreversible impact on health	Multiple fatalities / Impact on health ultimately fatal
Environment	Minimal environmental harm - L1 incident	Material environmental harm - L2 incident remediable short term	Serious environmental harm - L2 incident remediable within LOM	Major environmental harm - L2 incident remediable post LOM	Extreme environmental harm - L3 incident irreversible
Legal & Regulatory	Low level legal issue	Minor legal issue; non compliance and breaches of the law	Serious breach of law; investigation/report to authority, prosecution and or moderate penalty possible	Major breach of the law; considerable prosecution and penalties	Very considerable penalties and prosecutions. Multiple law suits and jail terms
Reputation/Social/Community	Slight impact - public awareness may exist but no public concern	Limited impact - local public concern	Considerable impact - regional public concern	National impact - national public concern	International impact - international public attention

Likelihood				Risk Level				
	90%	Near Certainty: 90% chance	Cannot avoid this risk with standard practices, probably not able to mitigate.	Medium - 11	Significant - 16	Significant - 20	High - 23	High - 25
	75%	Highly Likely: 75% chance	Cannot avoid this risk with standard practices, but a different approach may work.	Medium - 7	Medium - 12	Significant - 17	High - 21	High - 24
	50%	Possible: 50% chance	May avoid risk, but rework will be required.	Low - 4	Medium - 8	Significant - 13	Significant - 18	High - 22
	25%	Unlikely: 25% chance	Have usually avoided this type of risk with minimal oversight in similar cases.	Low - 2	Low - 5	Medium - 9	Significant - 14	Significant - 19
	15%	Rare: 15% chance	Will effectively avoid this risk based on standard practices.	Low 1	Low - 3	Medium - 6	Medium - 10	Significant - 15

Risk Level	Guidelines for Risk Matrix
High	A high risk exists that management's objectives may not be achieved. Appropriate mitigation strategy to be devised immediately.
Significant	A significant risk exists that management's objectives may not be achieved. Appropriate mitigation strategy to be devised as soon as possible.
Medium	A moderate risk exists that management's objectives may not be achieved. Appropriate mitigation strategy to be devised as part of the normal management process.
Low	A low risk exists that management's objectives may not be achieved. Monitor risk, no further mitigation required.

Table 120: Risk Assessment

Project	Risk Category	Risk	Description / Cause	Risk Likelihood	Impact	Risk Rating	Mitigation/Control	Risk Likelihood	Impact	Residual Risk Rating
Zandfontein	Environment / Legals	Potential groundwater and soil pollution	The process water quality indicators exceed the mandated WUL limits and even though the water is contained on site, it still poses a risk to the receiving environment.	2	2	5	Align the process water quality indicators with all the mandated WUL limits.	1	2	3
Zandfontein	Resource / Geology	Grade data reliability on the farm Zandfontein	The drillhole data on the farm Zandfontein has no or limited logging, assaying, geological and QAQC information. Thus, the data could not be verified.	2	2	5	Production grade sheets were captured by Minxcon to verify the grade model for the measured and indicated Mineral Resource. QAQC should be implemented in the production grade sampling to assist with the confidence in the data.	1	2	3
Zandfontein	Mining	Delay in production ramp-up	Conversion of mining method from historic mining method to Hybrid mining method could cause delays in production ramp-up. Conversions such as this often go through some teething problems	3	2	3	During recruitment phase, focus should be on identifying personnel with hybrid mining experience. Provide sufficient support (material, administrative and leadership) to enable a smooth mining method conversion	1	2	1
Zandfontein	Legals	Potential loss of resource and prospecting rights	A few prospecting rights were renewed over several years ago and the renewals are yet to be issued by DMRE.	2	2	5	Continued follow up and engagement with DMRE.	1	1	1
Zandfontein	Resource / Geology	Density could be over or understated	There are limited density measurements and the density utilised is a historical density	2	2	5	Additional density measurements should be completed to confirm the current density being used.	1	1	1
Zandfontein	Resource / Geology	Geological loss factor could be over or understated	There is no backing information for the 25% geological losses applied historically	2	2	5	Geological loss factors should be checked based on the fault, dyke and pothole data captured on the production grade sheets.	1	1	1

11 INTERPRETATION AND CONCLUSIONS

The following interpretations and conclusions are made by the Competent Persons regarding the Project:-

Environment

- There are several renewal applications that have been pending at DMRE for several years and these need to be followed up.
- The invasive plant species management is required to prevent further infestation.
- The process water quality indicators exceed the mandated WUL limits. Even though the water is contained on site, it still poses a potential risk to the receiving environment in the event that the dams overflow. The WUL is being updated with new limits.

Mineral Resources

- The database has been reviewed and verified as much as possible and deemed suitable for use in a Mineral Resource.
- Historical QAQC data does not include duplicate and umpire samples.
- There is no QAQC for the underground production samples.
- There is limited Ru, Ir, Ni, Cu and Cr_2O_3 data available and hence the potential grade distribution is not well understood. There may be future upside potential for the extraction of these metals.
- There has been a significant decrease in the inferred Mineral Resource due to the expiration of some of the exploration rights.
- The TSF Mineral Resource estimation was not reviewed for this CPR and only depleted for current mining operations.

Mining

- Underground Operations:
  - The selected mining method is well suited to the orebody and allows for minimum off-reef development.
  - The mine plan is practical and realistic production ramp up to steady state production volumes has been planned.
  - The lowest 4E grade in the Mineral Resource model is 3.31 g/t. The lowest 4E grade as per the Mineral Resource model is higher than the calculated Mineral Reserve pay limit of 3.07 g/t. This implies that the entire Mineral Resource could be economically mined considering the metal price, costs and factors utilised.
  - A LoM of approximately 22 years is envisaged, which will deliver 14,580 kt of material at a 4E grade of 3.68 g/t.
  - No Inferred Mineral Resources have been excluded for the LoM plan for Mineral Reserve estimation and economic analysis.
  - An uneconomical tail which contains 15.06 koz of 4E material has been excluded from the Mineral Reserve estimation, as it is not economically viable on its own.
  - The Mineral Reserve estimate contains 14,580 kt at a 4E grade of 3.68 g/t.
- TSF Re-mining Operations:
  - A combination of hydraulic and mechanical mining methods will be utilised for mining the TSF. These methods have been proven in industry and is effective in handling the planned production volumes.
  - The TSF LoM utilises the June 2021 SMS mining plan, which has been adjusted by Minxcon to incorporate the 2022 TSF Mineral Resource estimation.
  - A LoM of approximately 40 months is envisaged for the TSF re-mining operation.

- The TSF Mineral Reserve estimate contains 7,570 kt of material at a 4E grade of 1.10 g/t and Chrome grade of 18.12%.
- The Mineral Reserve excludes PGMs and Chrome Oxide from the TSF already re-mined Since December 2018.
- The TSF re-mining operating costs are at a high level of accuracy as it is operating, and actual costs have been utilised for the economic analysis.

Engineering and Infrastructure

- Existing and planned infrastructure at Zandfontein are sufficient to sustain the current production profile and the planned increased production.

Processing

- Sufficient capital has been allocated to the process plant upgrades to accommodate underground and TSF remining material.
- A potential risk to the process recoveries and operational stability is the amount of vegetation within the TSF remining material, therefore a 2-stage screening step will be introduced before being pumped through the DC tank to the plant.

Mineral Reserve Evaluation and Valuation

- The Project excluding TSF remining is financially viable with a best-estimated NPV of ZAR2,919 million at an 11.9% discount rate and an IRR of 118%. The high IRR is due to the mine already having most of the required infrastructure in place as it was on care and maintenance.
- The Project including TSF remining is financially viable with a best-estimated NPV of ZAR3,136 million at an 11.9% discount rate, indicating an incremental value of ZAR217 million for the TSF. The IRR increases to 138%.
- Both options are financially viable, hence a Reserve can be declared on both the underground operations and the TSF remining operations.
- Two valuation approaches were considered, namely the Income Approach and the Market Comparable Approach.
- The Income Approach valuation was the preferred valuation methodology, as it only reflects the Mineral Reserve in the LoM plan with information that is at an overall PFS level.
- The Project has a market value of ZAR2,918 million excluding the TSF remining and ZAR3,136 million including the TSF remining, valuing the TSF at ZAR217 million.
- The Project has an all-in cost margin of 21% and 20% excluding and including the TSF remining, which is comparable to similar mines.
- A peak capital investment of ZAR239 million on an annual cumulative cash flow basis is required to fund the Project in 2022, excluding the remining of the TSF. The peak funding requirement increases to ZAR269 million when remining of the TSF is considered.
- The Project is most sensitive to commodity prices, exchange rates and grade.
- The Project has a break-even 4E price including capital of USD1,441/oz and USD1,537/oz, excluding and including the TSF remining, respectively.
- All-in sustaining costs for the Project amount to USD1,405/oz and USD1,502/oz, excluding and including the TSF remining, respectively.

Risk Assessment

- No significant risks or uncertainties have been identified.

12 RECOMMENDATIONS

The following recommendations are made by the Competent Persons regarding the Project:-

Environment

- Continued follow up and engagement with DMRE regarding the status of applications.
- The invasive plant species management plan must be implemented to prevent further deterioration of the receiving environment.

Mineral Resources

- The QAQC protocols should include duplicate and umpire samples
- QAQC samples should also be inserted in the underground production samples.
- Ni, Cu and Cr_2O_3 should be analysed in the future to better understand their potential.

Mining

- Underground operations
  - It is recommended to operationally optimise the LoM by aligning the development requirements with the stoping production requirements to minimise the uneconomical tail towards the end of the LoM.
  - The level of confidence in the mining operating costs should be improved during the next study phase.
  - Equipment selection and labour requirements should be refined to a higher level of confidence during the next study phase.
- TSF Re-mining operations
  - The technical work conducted to date on the re-mining of the TSF should be updated to include PGMs which was not previously included since previously the focus was limited to chrome in the TSF.
  - The June 2021 TSF re-mining schedule should be revised and updated to incorporate the latest information of the TSF Mineral Resource and TSF mining strategy.

Processing

- The possibility of introducing a tramp screen to reduce the amount of vegetation reporting to the processing plant should be investigated.

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14 APPENDICES

Appendix 1: Glossary of Terms

The following terms are used in this Report:-

Term	Definition
Aeromagnetic survey	A common type of geophysical survey carried out using a magnetometer aboard or towed behind an aircraft to detect magnetic anomalies close to the earth's surface
Alluvial	The product of sedimentary processes in rivers, resulting in the deposition of alluvium (soil deposited by a river).
Anorthosite	An igneous rock consisting almost entirely of plagioclase feldspar, especially the labradorite variety
Archaean	Relating to or denoting the eon that constitutes the earlier (or middle) part of the Precambrian, in which there was no life on earth (from 4 to 2.5 billion years ago)
Arenite	A sedimentary rock composed mainly of quartz minerals.
Assay laboratory	A facility in which the proportions of metal in ores or concentrates are determined using analytical techniques.
Basalt	A dark, fine-grained, igneous rock consisting mostly of plagioclase feldspar and pyroxene, and sometimes olivine. Basalt makes up most of the ocean floor and is the most common type of lava.
Basic volcanics	Volcanic material (igneous rock having a relatively low silica content) ejected through a vent in the earth's crust continuously or at irregular intervals, typical of ocean floor basalts
Blanks	A blank is a sample in which you will find none of the analyte being investigated for.
Certified Reference Material	'Controls' or standards used to check the quality and metrological traceability of products, to validate analytical measurement methods, or for the calibration of instruments. A certified reference material is a particular form of measurement standard.
Core Recovery	Solid core recovery (SCR) is the borehole core recovery percentage of solid, cylindrical, pieces of rock core
Coretray	A receptacle for drilled diamond core for the purposes of storage in an orderly fashion
Craton	A large stable block of the earth's crust forming the nucleus of a continent
Cut-off grade	The cut-off grade is the level below which material within an ore body does not contain sufficient value to economically justify processing into a final saleable form
Development	Activities related to preparation for mining activities to take place and reach the required level of production.
Diamond drilling	An exploration drilling method, where the rock is cut with a diamond drilling bit, usually to extract core samples.
Dilution	Waste which is mixed with ore in the mining process.
Dip	The angle that a structural surface, *i.e.* a bedding or fault plane, makes with the horizontal. It is measured perpendicular to the strike of the structure.
Discount Rate	The interest rate used in discounted cash flow analysis to determine the present value of future cash flows. The discount rate takes into account the time value of money (the idea that money available now is worth more than the same amount of money available in the future because it could be earning interest) and the risk or uncertainty of the anticipated future cash flows (which might be less than expected).
Discounted Cash Flow (DCF)	In finance, discounted cash flow analysis is a method of valuing a project, company, or asset using the concepts of the time value of money. All future cash flows are estimated and discounted to give their present values (PVs) – the sum of all future cash flows, both incoming and outgoing, is the net present value (NPV), which is taken as the value or price of the cash flows in question.
Duplicates	Duplicate samples taken in order to test precision or repeatability of assay results. Disparate results may indicate poor assay calibration or high nugget effects in mineralised material
Dyke	A sheet of rock that formed in a fracture in a pre-existing rock body and form when magma intrudes into a crack then crystallizes as a sheet intrusion, either cutting across layers of rock or through an unlayered mass of rock.
Exploration	Prospecting, sampling, mapping, diamond drilling and other work involved in the search for mineralisation.
Facies	The character of a rock expressed by its formation, composition, and fossil content.
Faulting	The process of fracturing that produces a displacement within, of across lithologies.
Feasibility Study	A comprehensive technical and economic study of the selected development option for a mineral project that includes appropriately detailed assessments of applicable Modifying Factors together with any other relevant operational factors and detailed financial analysis that are necessary to demonstrate at the time of reporting that extraction is reasonably justified (economically mineable). The results of the study may reasonably serve as the basis for a final decision by a proponent or financial institution to proceed with, or finance, the development of the project.
Felsic	Relating to an igneous rock that contains a group of light-coloured silicate minerals, including feldspar, feldspathoid, quartz, and muscovite. Compare mafic.

Term	Definition
Footwall	The underlying side of a fault, orebody or stope.
Gabbro	Gabbro is a coarse-grained, dark-coloured, intrusive igneous rock. It is usually black or dark green in colour and composed mainly of the minerals plagioclase and augite. It is the most abundant rock in the deep oceanic crust.
Grade	The quantity of metal per unit mass of ore expressed as a percentage or, for gold, as grams per tonne of ore.
Granite	Granite is a light-coloured igneous rock with grains large enough to be visible with the unaided eye. It forms from the slow crystallization of magma below Earth's surface. Granite is composed mainly of quartz and feldspar with minor amounts of mica, amphiboles, and other minerals.
Gravimetric finish	Determination of mass of material based upon measurement by means of an analytical scale or mass balance
Hanging wall	The overlying side of a fault, orebody or stope.
Histogram	A display of statistical information that uses rectangles to show the frequency of data items in successive numerical intervals of equal size. In the most common form of histogram, the independent variable is plotted along the horizontal axis and the dependent variable is plotted along the vertical axis.
In situ	In place, *i.e.* within unbroken rock.
Indicated Mineral Resource (SAMREC, 2016)	An "Indicated Mineral Resource" is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation.
Inferred Mineral Resource (SAMREC, 2016)	An "Inferred Mineral Resource" is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade continuity. An Inferred Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.
Intrusion	Any formation of intrusive igneous rock; rock formed from magma that cools and solidifies within the crust of the planet. In contrast, an extrusion consists of extrusive rock; rock formed above the surface of the crust.
ISO Certification	International Organization for Standardization which develops and publishes International Standards.
Kriging	An estimation method that minimises the estimation error between data points in determining mineral resources. Kriging is the best linear unbiased estimator of a mineral resource.
Mafic	Mafic is an adjective describing a silicate mineral or rock that is rich in magnesium and iron, and is thus a portmanteau of magnesium and ferric. Most mafic minerals are dark in colour, and common rock-forming mafic minerals include olivine, pyroxene, amphibole, and biotite.
Measured Mineral Resource (SAMREC, 2016)	A "Measured Mineral Resource" is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation. A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proved Mineral Reserve or to a Probable Mineral Reserve.
Mine call factor	the ratio, expressed as a percentage, which the specific product accounted for in recovery plus residues bears to the corresponding product called for by, the mine's measuring methods.
Mineable	That portion of a mineral resource for which extraction is technically and economically feasible.
Mineral Reserve (SAMREC, 2016)	A "Mineral Reserve" is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified. The reference point at which Mineral Reserves are defined, usually the point where the ore is delivered to the processing plant, must be stated. It is important that, in all situations where the reference point is different, such as for a saleable product, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported.
Mineral Resource (SAMREC, 2016)	A "Mineral Resource" is a concentration or occurrence of material of economic interest in or on the earth's crust in such form, quality and quantity that there are reasonable and realistic prospects for eventual economic extraction. The location, quantity, grade, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling.
Mineralisation	The presence of a target mineral in a mass of host rock.

Term	Definition
Mineralised area	Any mass of host rock in which minerals of potential commercial value occur.
Mining Right	A licence granted for the purpose of undertaking mining activities.
Net Present Value (NPV)	The difference between the present value of cash inflows and the present value of cash outflows. NPV is used in capital budgeting to analyse the profitability of an investment or project.
Ore	A mixture of valuable and worthless minerals from which at least one of the minerals can be mined and processed at an economic profit.
Orebody	A continuous well defined mass of material of sufficient ore content to make extraction economically feasible.
Outcrop	The exposure of rock on surface.
Probable Mineral Reserve (SAMREC, 2016)	A "Probable Mineral Reserve" is the economically mineable part of an Indicated, and in some circumstances, a Measured Mineral Resource. The confidence in the Modifying Factors applying to a Probable Mineral Reserve is lower than that applying to a Proved Mineral Reserve.
Prospecting Right	A licence granted for the purpose of undertaking prospecting operations; which means any operations undertaken for the purpose of exploring, locating or proving mineral deposits.
Proved Mineral Reserve (SAMREC, 2016)	A "Proved Mineral Reserve" is the economically mineable part of a Measured Mineral Resource. A Proved Mineral Reserve implies a high degree of confidence in the Modifying Factors.
RC drilling	A drilling method in which the fragmented sample is brought to the surface inside the drill rods, thereby reducing contamination.
Recovered grade	The actual grade of ore realised or produced after the mining and treatment processes.
Reef	A narrow gold-bearing lithology, normally a conglomerate in the Witwatersrand Basin that may contain economic concentrates of gold and uranium.
Rehabilitation	The process of restoring mined land to a condition approximating to a greater or lesser degree its original state. Reclamation standards are determined by the South African Department of Mineral and Energy Affairs and address ground and surface water, topsoil, final slope gradients, waste handling and re-vegetation issues.
Sampling	Taking small pieces of rock at intervals along exposed mineralisation for assay (to determine the mineral content).
Sedimentary	Formed by the deposition of solid fragmental material that originates from weathering of rocks and is transported from a source to a site of deposition.
Shaft	A shaft provides principal access to the underground workings for transporting personnel, equipment, supplies, ore and waste. A shaft is also used for ventilation and as an auxiliary exit. It is equipped with a hoist system that lowers and raises conveyances for men, material and ore in the shaft
Specific Gravity	A ratio of the mineral's mass to the mass of an equal volume of water - may often be defined by units to be Bulk Density
Standard deviation	A statistic that tells you how tightly data are clustered around the mean.
Stratigraphic	A term describing the chronological sequence in which bedded rocks occur that can usually be correlated between different localities.
Swath Plot	Graphical representation of grade distribution derived from a series of sectional zones or bands (swaths), generated in two- dimensional sections which are propagated by a given step size along the vector normal to the sectional data.
Tailings	Finely ground rock from which valuable minerals have been extracted by milling.
Tonnage	Quantities where the tonne is an appropriate unit of measure. Typically used to measure reserves of gold-bearing material in situ or quantities of ore and waste material mined, transported or milled.
Ultramafics	An igneous rock with a very low silica content and rich in minerals such as hypersthene, augite, and olivine.
Variogram	A function of the distance and direction separating two locations that is used to quantify dependence. The variogram is defined as the variance of the difference between two variables at two locations.
Waste rock	Rock with an insufficient gold content to justify processing.
Wireframe	An informal term for a skeletal framework of a 3D triangulation or digital terrain model

Appendix 2: Abbreviations

The following acronyms and abbreviations are used in this Report:-

Abbreviation	Description
3E	Platinum, palladium, rhodium
4E	Platinum, palladium, rhodium, gold
6E	Platinum, palladium, rhodium, iridium, ruthenium, gold
AIC	All-in Cost
AISC	All-in Sustaining Cost
ASG	Advance strike gully
Au	Gold
Barplats or the Client	Barplats Mines (Pty) Ltd
BEE	Black Economic Empowerment
BRC	Bottom of Reef Contact
CAPEX	Capital Expenditure
CAPM	Capital Asset Pricing Model
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
CIMVal	CIM Standards and Guidelines for Valuation of Mineral Properties
CPR	Competent Persons Report
Cr_2O_3	Chromium oxide
CRM	Crocodile River Mine
CZ	Critical Zone
DCF	Discounted Cash Flow
DMRE	Department of Mineral Resources and Energy
EA	Environmental Authorisation
Eastplats	Eastern Platinum Limited
EBIT	Earnings before Interest and Tax
EBITDA	Earnings before Interest, Tax, Depreciation and Amortisation
Edison	Edison Investment Research
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
FCFE	Free Cash Flow to Equity
FCFF	Free Cash Flow to Firm
HPE	Hydro power equipment
Implats	Impala Platinum Holdings Limited
Ir	Iridium
IRR	Internal Rate of Return
IRS	Impala Refinery Services
JSE	Johannesburg Securities Exchange
LCZ	Lower Critical Zone
LDV	Light duty vehicle
LGS	Lebowa Granite Suite
LHD	Load haul dumper
LoM	Life of Mine
LSE	London Stock Exchange
LZ	Lower Zone
mamsl	Metres Above Mean Sea Level
mbs	Metres Below Surface
MCF	Mine Call Factor
MF2	Mill Float Mill Float
Minxcon	Minxcon (Pty) Ltd
MPRD Regulations	Mineral and Petroleum Resources Development Regulations
MPRDA	Mineral and Petroleum Resources Development Act, No. 28 of 2002
MPRDAA	Minerals and Petroleum Resources Development Amendment Act, No. 49 of 2008
MZ	Main Zone
NEMA	National Environmental Management Act, No. 107 of 1998
NEMWA	National Environmental Management Waste Act, No. 59 of 2008
NI 43-101	National Instrument 43-101 - *Standards of Disclosure for Mineral Projects*, Form 43-101 F1 – *Technical Report* and the Companion Policy 43-101CP
NPV	Net Present Value
NWA	National Water Act, No. 36 of 1998
OPEX	Operating Expenditure

Abbreviation	Description
Pd	Palladium
PFS	Preliminary Feasibility Study
PGM	Platinum Group Metal
PSD	Particle Size Distribution
Pt	Platinum
READ	Rural, Environment and Agricultural Development
RG	Rooiberg Group
Rh	Rhodium
RLS	Rustenburg Layered Suite
ROD	Record of Decision
RoM	Run of Mine
SAMREC Code	South African Code for Reporting of Exploration Results, Mineral Resources and Mineral Reserves (2016 Edition)
SAMVAL Code	South African Code for the Reporting of Mineral Asset Valuation (2016 Edition)
SLP	Social and Labour Plan
SMS	Sound Mining Solutions (Pty) Ltd
SRK	SRK Consulting (South Africa) Pty Ltd
TBD	To Be Determined
This Report	Eastern Platinum Limited, An Independent Competent Person's Report on the Crocodile River Mine - North West Province, South Africa. Effective date 1 January 2022
TLB	Tractor loader backhoe
TRC	Top Reef Contact
TSF	Tailings Storage Facility
TSX	Toronto Stock Exchange
UCZ	Upper Critical Zone
UG2	Upper Group 2
USD	United States Dollar
USDm	United States Dollar Millions
UV	Utility vehicle
UZ	Upper Zone
WHIMS	Wet High Intensity Magnetic Separation
WRD	Waste Rock Dump
WUL	Water Use Licence
ZAR	South African Rand
ZARm	South African Rand Millions

Appendix 3: Compliance Statement, Certificate of Competence and Key Technical Staff

SC 9.1 (i)(ii)(iii)

The information in this Report that relates to **Exploration Results and Mineral Resources** is based on information compiled by Mr Uwe Engelmann, a Competent Person who is registered with SACNASP and is a Member of the GSSA included in a list of recognised organisations promulgated by the SSC from time to time.

Mr Uwe Engelmann is a full-time employee of Minxcon (Pty) Ltd.

Mr Uwe Engelmann has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2016 of the South African Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Uwe Engelmann consents to the inclusion in the Report of the matters based on his information in the form and context in which it appears.

The information in this Report that relates to **Mineral Reserves** is based on information compiled by Mr Daan van Heerden, a Competent Person who is registered with ECSA and is a Fellow of the SAIMM included in a list of recognised organisations promulgated by the SSC from time to time.

Mr van Heerden is a full-time employee of Minxcon (Pty) Ltd.

Mr van Heerden has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2016 of the South African Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr van Heerden consents to the inclusion in the Report of the matters based on his information in the form and context in which it appears.

The information in this Report that relates to **economic assessment and valuation** is based on information compiled by Mr Johan Odendaal, a Competent Valuator who is registered with SACNASP, is a Member of the GSSA and a Fellow of the SAIMM included in a list of recognised organisations promulgated by the SSC from time to time.

Mr Johan Odendaal is a full-time employee of Minxcon (Pty) Ltd.

Mr Johan Odendaal has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Valuator as defined in the 2016 of the South African Code for Reporting of Mineral Asset Valuations. Mr Johan Odendaal consents to the inclusion in the Report of the matters based on his information in the form and context in which it appears.

CERTIFICATE of COMPETENT PERSON – D v Heerden

As the author of the report titled *An Independent Competent Person's Report on the Crocodile River Mine - North West Province, South Africa* prepared for Eastern Platinum Limited with an effective date of 1 January 2022 ("Report"), I hereby state:-

1. My name is Daniel (Daan) van Heerden and I am Director of:-
   Minxcon (Pty) Ltd
   Suite 5, Coldstream Office Park,
   2 Coldstream Street,
   Little Falls, Roodepoort, South Africa
2. I am a Mining Engineer affiliated with the following professional associations, which meet all the attributes of a Professional Association or a Self-Regulatory Professional Association, as applicable (as those terms are defined in the SAMREC Code):-

Class	Professional Society	Year of Registration
Professional Engineer	Engineering Council of South Africa (Pr.Eng. Reg. No. 20050318)	2005
Member	Association of Mine Managers of SA	1989
Fellow	South African Institute of Mining and Metallurgy (FSAIMM Reg. No. 37309)	1985

3. I graduated with a B Eng (Mining) degree from the University of Pretoria in 1985 and a MCom (Business Administration) degree from the Rand Afrikaans University in 1993. In addition, I obtained diplomas in Data Metrics from the University of South Africa and Advanced Development Programme from London Business School in 1989 and 1995, respectively. In 1989 I was awarded with a Mine Managers Certificate from the Department of Mineral and Energy Affairs.
4. I have worked as a Mining Engineer for more than 30 years with my specialisation lying within Mineral Reserve and mine management. I have completed a number of Mineral Reserve estimations and mine plans pertaining to various commodities, including PGM, using approaches described by the SAMREC Code.
5. I am a "Competent Person" as defined in the SAMREC Code.
6. I did not undertake a personal inspection of the property but relied on such observations made during 2021 site visits by technical authors of this Report.
7. I am responsible for sections 8 and 9 (excluding 8.5 and 8.11) of the Report and am jointly responsible for sections 1 and 10-14.
8. I am not aware of any material fact or material change with respect to the subject matter of the Report, which is not reflected in the Report, the omission of which would make the Report misleading.
9. I declare that this Report appropriately reflects the Competent Person's/author view.
10. I am independent or Eastern Platinum Limited.
11. I have read the SAMREC Code (2016) and the Report has been prepared in accordance with the guidelines of the SAMREC Code.
12. I do not have nor do I expect to receive a direct or indirect interest in the Crocodile River Mine or Eastern Platinum Limited.
13. At the effective date of the Report, to the best of my knowledge, information and belief, the Report contains all scientific and technical information that is required to be disclosed to make the Report not misleading.

Signed at Little Falls, Roodepoort on 15 June 2022.

D v HEERDEN
B Eng (Min.), MCom (Bus. Admin.), MMC
Pr.Eng., FSAIMM, AMMSA

CERTIFICATE of COMPETENT PERSON – U Engelmann

As the author of the report titled *An Independent Competent Person's Report on the Crocodile River Mine - North West Province, South Africa* prepared for Eastern Platinum Limited with an effective date of 1 January 2022 ("Report"), I hereby state:-

1. My name is Uwe Engelmann and I am Director of:-
   Minxcon (Pty) Ltd
   Suite 5, Coldstream Office Park,
   2 Coldstream Street,
   Little Falls, Roodepoort, South Africa
2. I am a Geologist affiliated with the following professional associations, which meet all the attributes of a Professional Association or a Self-Regulatory Professional Association, as applicable (as those terms are defined in the SAMREC Code):-

Class	Professional Society	Year of Registration
Member	Geological Society of South Africa (MGSSA No. 966310)	2010
Professional Natural Scientist	South African Council for Natural Scientific Professions (Pr.Sci.Nat. Reg. No. 400058/08)	2008

3. I graduated with a BSc Honours (Geology) degree from the University of the Witwatersrand in 1991.
4. I have more than 24 years' experience in the mining and exploration industry. This includes eight years as an Ore Resource Manager at the Randfontein Estates Projects on the West Rand. I have completed a number of assessments and technical reports pertaining to various commodities, including PGM, using approaches described by the SAMREC Code.
5. I am a "Competent Person" as defined in the SAMREC Code.
6. I undertook a personal inspection of the subject properties on 2 December 2021 to review geological and Mineral Resource databases and information.
7. I am responsible for sections 2-7 of the Report and am jointly responsible for sections 1 and 10-14.
8. I am not aware of any material fact or material change with respect to the subject matter of the Report, which is not reflected in the Report, the omission of which would make the Report misleading.
9. I declare that this Report appropriately reflects the Competent Person's/author view.
10. I am independent of Eastern Platinum Limited.
11. I have read the SAMREC Code (2016) and the Report has been prepared in accordance with the guidelines of the SAMREC Code.
12. I do not have nor do I expect to receive a direct or indirect interest in the Crocodile River Mine or Eastern Platinum Limited.
13. At the effective date of the Report, to the best of my knowledge, information and belief, the Report contains all scientific and technical information that is required to be disclosed to make the Report not misleading.

Signed at Little Falls, Roodepoort on 15 June 2022.

U Engelmann

U ENGELMANN
BSc (Zoo. & Bot.), BSc Hons (Geol.)
Pr.Sci.Nat., MGSSA

CERTIFICATE of COMPETENT VALUATOR - NJ Odendaal

As the author of the report titled *An Independent Competent Person's Report on the Crocodile River Mine - North West Province, South Africa* prepared for Eastern Platinum Limited with an effective date of 1 January 2022 ("Report"), I hereby state:-

1. My name is Johan Odendaal and I am a Director of:-

   Minxcon (Pty) Ltd
   Suite 5, Coldstream Office Park,
   2 Coldstream Street,
   Little Falls, Roodepoort, South Africa

2. I am a Geoscientist affiliated with the following professional associations, which meet all the attributes of a Professional Association or a Self-Regulatory Professional Association, as applicable (as those terms are defined in the SAMREC Code):-

Class	Professional Society	Year of Registration
Member	Geological Society of South Africa (MGSSA Reg. No. 965119)	2003
Fellow	South African Institute of Mining and Metallurgy (FSAIMM Reg. No. 702615)	2003
Professional Natural Scientist	South African Council for Natural Scientific Professions (Pr.Sci.Nat. Reg. No. 400024/04)	2003

3. I graduated with a BSc (Geology) degree from the Rand Afrikaans University in 1985. In addition, I obtained a BSc Honours (Mineral Economics) from the Rand Afrikaans University in 1986 and an MSc (Mining Engineering) from the University of the Witwatersrand in 1992.
4. I have worked as a Geoscientist for over 30 years. As a former employee of Merrill Lynch, I was actively involved in advising mining companies and investment bankers on corporate-related issues, analysing platinum and gold companies. I have completed a number of valuations on various commodities, including PGM, using the valuation approaches described by the SAMVAL Code.
5. I am a "Competent Person" as defined in the SAMREC Code and a "Competent Valuator" as described by the SAMVAL Code.
6. I did not undertake a personal inspection of the property but relied on such observations made during 2021 site visits by technical authors of this Report.
7. I am responsible for sections 8.5 and 8.11 of the Report and am jointly responsible for sections 1 and 10-14.
8. I am not aware of any material fact or material change with respect to the subject matter of the Report, which is not reflected in the Report, the omission of which would make the Report misleading.
9. I declare that this Report appropriately reflects the Competent Valuator's view.
10. I am independent of Eastern Platinum Limited.
11. I have read the SAMREC Code (2016) and SAMVAL Code (2016) and the Report has been prepared in accordance with the guidelines of the SAMREC Code and SAMVAL Code.
12. I do not have nor do I expect to receive a direct or indirect interest in the Crocodile River Mine or Eastern Platinum Limited.
13. At the effective date of the Report, to the best of my knowledge, information and belief, the Report contains all scientific and technical information that is required to be disclosed to make the Report not misleading.

Signed at Little Falls, Roodepoort on 15 June 2022.

NJ ODENDAAL
BSc (Geol.), BSc Hons (Min. Econ.), MSc (Min. Eng.)
Pr.Sci.Nat., FSAIMM, MGSSA

Key Technical Staff

Mr Daniel (Daan) van Heerden (Director, Minxcon): B Eng (Min.), MCom (Bus. Admin.), MMC, Pr.Eng. (Reg. No. 20050318), FSAIMM (Reg. No. 37309), AMMSA.

Daan has worked in the mining industry for over 30 years. He has a vast amount of experience in managing underground and open cast mining operations in South Africa and abroad for world-class mining majors and junior mining companies. He was responsible for new business development for two major mining companies and has experience in mining mergers and acquisitions. He is currently heading the Mining Engineering division of Minxcon, where he is integrally involved in activities such as valuation, due diligence, finance structuring, change management required post the event, feasibility studies, life of mine plans, technical reviews and writing of technical reports for various commodities.

Mr Uwe Engelmann (Director, Minxcon): BSc (Zoo. & Bot.), BSc Hons (Geol.), Pr.Sci.Nat. (Reg. No. 400058/08), MGSSA (Reg. No. 966310).

Uwe Engelmann has gained over 24 years' experience in the mining and exploration industry working for various mining companies in South Africa. During this time, he was involved in research in Antarctica, held various geological positions as well as an Ore Resource Manager for eight years where he was involved in the production and exploration on the shafts, strategic planning, ore resources and reserves as well as the daily management of the shafts. He has been heading up the exploration division of Minxcon Exploration since 2007 where he has been involved in most aspects of exploration, predominantly in Africa, in a wide range of commodities including gold, platinum, copper, coal, manganese, chrome and iron ore.

Mr Johan Odendaal (Director, Minxcon): BSc (Geol.), BSc Hons (Min. Econ.), MSc (Min. Eng.), Pr.Sci.Nat. (Reg. No. 400024/04), FSAIMM (Reg. No. 702615), MGSSA (Reg. No. 965119).

Johan Odendaal has over 30 years' experience in the mining and financial industry. This includes 15 years as independent mining consultant specialising in the valuation of Mining Projects and 12 years as a mining analyst at two major stockbroking firms and investment bank. During this time, he was rated one of the top platinum and gold mining analysts and became a globally recognised industry specialist in various commodities. Regular contact with the mining, corporate and investment community allowed him to build an extensive network of contacts around the globe specialising in valuation of mining companies. He commands a wide range of knowledge on both local and international mining companies. As a former employee of a Global Investment Bank, he was actively involved in Financial Analysis and advising mining companies and investment bankers on corporate mining transactions. Johan has a vast experience in fundamental analysis of commodity markets. His experience with regard to Mineral Asset Valuations, Concept Studies, Competent Persons Reports, Due Diligence and Technical Reports includes precious metals, ferrous and non-ferrous metals, coal, diamonds and a number of minor metals and commodities. Johan also serves on the JSE Issuer Regulation Advisory Committee and SAMVAL Working Group.

Mr Laurence Hope (Senior Resource Geologist, Minxcon): NHD (Econ. Geol.), Pr.Sci.Nat. (Reg. No. 200010/11).

Laurence has been involved in the mining industry for over 26 years in both production and consulting. As a geologist, he has held managerial level positions for over 12 years, leading teams in numerous work environments. He has extensive experience of some 20 years in 3D geological modelling and Mineral Resource estimation for a variety of deposit types. He is proficient in many geological modelling software programs, including Vulcan, Surpac, Datamine, Micromine and Leapfrog3D. He has worked as a production geologist on a variety of mines and conducted exploration programmes in the field. As a consultant, a main function of his career had been in mine database management and QAQC, with his main role currently in 3D geological modelling and Mineral Resource estimation.

Miss Maria Antoniades (Geologist, Minxcon): BSc Hons (Geol.), Pr.Sci.Nat. (Reg. No. 114426), MGSSA (Reg. No. 966167).

Maria has a decade of experience in the mining industry. For the majority of this time, she has been positioned in consulting firms servicing the minerals and mining industry. As such, she has gained experience in the assessment of mineral projects across a variety of development stages, commodities, countries and geological terrains. Maria forms an integral part of the Minxcon team, assessing geology, identifying target areas, performing GIS analysis and co-ordinating projects. She has extensive experience in compiling technical reports compliant with various regulatory bodies and reporting codes in different jurisdictions globally. In addition, she forms part of the project valuation team, undertaking commodity market assessments and historic cost and market approach valuations. Her experience includes the assessment of legal and environmental considerations for mineral projects.

Mr Johannes Scholtz (Mining Engineer & Valuator, Minxcon): B Eng Hons (Min.), Cand.Eng. (Reg. No. 2019201536), ASAIMM (Reg. No. 709546).

Johannes forms part of the team of Mining Engineers at the financial side at Minxcon, working on a wide range of projects involved in market research, mine operating cost and capital cost evaluation and financial estimations. Johannes completed his Honours Degree in mining engineering in 2015, specialising in mineral economics and has since worked as a mining researcher. Research projects included both technical and market research topics for the MHSC and private companies.

Mr Benja van Lille (Process Engineer, Minxcon): B Eng (Met.), Cand.Eng. (Reg. No. 2019201928).

Benja has experience in process design, plant optimisations, research and development, commissioning, and project execution. He gained his experience from phosphate production at the Foskor Mine. As a Process Engineer at Minxcon, he is responsible for leading process engineering work with his skills directed at the metallurgical discipline in all projects that involve processing from metallurgical accounting reviews to feasibility studies and onsite optimisation.

Mr Jano Visser (Mechanical Engineer, Minxcon): B Eng (Mech.), GCC.

Jano obtained his B.Eng. (Mechanical) degree from the North West University in 2009. From 2010 he was an employee of Anglo American Platinum on the Engineer in Training Programme. During a two-and-a-half-year period he gained exposure and experience in the different company fields including shafts, underground mining (conventional and trackless), concentrators, smelters and refineries. As part of the programme he acted in various Foreman, Senior Foreman and Section Engineer roles. Jano obtained his Government Certificate of Competency –Mines and Works (Mechanical) in June 2012. In October 2012 he was appointed as Section Engineer (Production) within Anglo American Platinum. Jano joined Minxcon in November 2015 as a mechanical engineer, consulting on various mining projects and a variety of commodities. He has valuable experience in mine infrastructure design and operating and capital cost estimations.

Mr Roelof van der Colff (Mining Engineer, Minxcon): B Eng (Min.), Cand.Eng. (Reg. No. 2019201539), ASAIMM (Reg. No. 709638)

Roelof joined the team at Minxcon in June 2018 as a Mining Engineer. His duties at Minxcon include Mine Design and scheduling, LoM estimations, Feasibility Studies and acting as a Project Leader in designated projects. Roelof completed his BEng Mining Engineering degree in 2015. Commencing his career as a learner miner, he then completed his National Certificate in mining operations underground for coal in 2017. As a miner at Balindi Mining on Forzando South Colliery he gained production experience. He was later a Mining Engineer Intern for Exxaro Coal central, and had the opportunity to work with a variety of Mine Managers gaining a wide range of skills in an open cast operation. He has supervisory and management experience for coal mining operations.

Mr Gerard Kleyn (Mining Engineer, Minxcon): B Eng (Min.), ASAIMM (Reg. No. 706364), AMMSA

Gerard joined the team at Minxcon in April 2020 as a Mining Engineer. His duties include mine design and scheduling, life of mine estimations and feasibility studies. Gerard completed his BEng Mining Engineering degree in 2015 as a Goldfields bursar. Commencing his career as learner miner, he then completed his National Certificate in underground mining operations for hard rock mines and Production Supervisor's certificate in 2017. He gained production experience as a miner, shift boss and acting mine overseer at Sibanye-Stillwater on Beatrix Gold Mine. During his career in the gold mining industry, he had the opportunity to work on various shafts gaining a range of skills in underground gold operations. As a member of the Beatrix Proto Team, Gerard gained valuable experience in Mines Rescue Operations. He has supervisory and management experience for gold mining operations.

Mr Christiaan Müller (Mechanical Engineer, Minxcon): N.Dip. (Mech. Eng.), Cand.Tech.

Christiaan obtained his National Diploma in Mechanical Engineering from the Tshwane University of Technology in 2017. Once he graduated, he was employed as a contract manager by CMTI Consulting implementing mining machinery (XLP sweepers and drill rigs) at gold and platinum operations. In 2018, he was employed by ElectroWeb where he was mainly in charge of 3D design drawings and redesigning of electrical products and components in the mining and safety, as well as electrical LED lighting industries. Christiaan joined the Minxcon team in January 2019 as a junior mechanical engineer, consulting on various mining projects and a variety of commodities. He has valuable experience in manufacturing, mechanical design and mechanical draughting.

Miss Martha Monoke (Environmental Scientist, Minxcon): BSc Hons (Env. Man.), Pr.Sci.Nat. (Reg. No. 119492), IAIASA (Reg. No. 6835).

Martha has six years' experience within the mining environmental field. Majority of those years have been within consulting where she developed and monitored core competencies in the following areas: licence applications, ISO14001, ISO18001 and ISO9001 systems, environmental monitoring, environmental auditing, and ventilation in underground hard rock operations. This has contributed to her experience in various developmental stages of mining for a variety of minerals. She is well conversant with environmental laws and related legislation and policies. Martha forms part of the Minxcon environmental team; with her focus areas being Environmental Impact Assessments, due diligence assessments, Environmental Management Programmes and Environmental Authorisations.

JSE 12.4 (c)

Appendix 4: Checklists: JSE Listings Requirements, SAMREC Compliance, SAMVAL Compliance

JSE SECTION 12.10 LISTING REQUIREMENTS

Section 12.10	JSE Contents	Report Section
12.10	A Competent Person's Report must comply with the SAMREC and SAMVAL Codes and must:-	-
(a)	Have an effective date (being the date at which the contents of the Competent Person's Report are valid) less than six months prior to the date of publication of the pre-listing statement, listing particulars, prospectus or Category 1 circular.	1.1
(b)	Be updated prior to publication of the pre-listing statement, listing particulars, prospectus or Category 1 circular if further material data becomes available after the effective date.	-
(c)	If the Competent Person is not independent of the issuer, clearly disclose the nature of the relationship or interest.	1.2
(d)	Show the particular paragraph of this section, the SAMREC Code (including Table 1) and SAMVAL Code complied with in the margin of Competent Person's Report.	Throughout document where SC = SAMREC Code item and SV = SAMVAL Code item; 1.1
(e)	Contain a paragraph stating that all requirements of this section, the SAMREC Code (including Table 1) and SAMVAL Code have been complied with, or state that certain clauses were not applicable and provide a list of such clauses; and	1.1
	Include a statement detailing:	-
	(i) exploration expenditure incurred to date by the applicant issuer and by other parties, where available;	6.6
	(ii) planned exploration expenditure that has been committed, but not yet incurred, by the applicant issuer concerned; and	6.6
	(iii) planned exploration expenditure that has not been committed to by the applicant issuer but which is expected to be incurred sometime in the future, in sufficient detail to fairly present future expectations;	6.6
(f)	Contain a valuation section which must be completed and signed off by a Competent Valuator in terms of and in compliance with the SAMVAL Code;	8.13
(g)	Be published in full on the applicant issuer's website;	-
(h)	Be included in the relevant JSE document either in full or as an executive summary. The executive summary must be approved by the JSE (after approval by the Readers Panel) at the same time as the Competent Person's Report is approved by the JSE and the Readers Panel. The executive summary should be a concise summary of the Competent Person's Report and must cover, at a minimum, where applicable:	Executive Summary
	(i) purpose;	
	(ii) project outline;	
	(iii) location map indicating area of interest;	
	(iv) legal aspects and tenure, including any disputes, risks or impediments;	
	(v) geological setting description;	
	(vi) exploration programme and budget;	
	(vii) brief description of individual Key modifying factors;	
	(viii) brief description of key environmental issues;	
	(ix) Mineral Resource and Mineral Reserve Statement;	
	(x) reference to risk paragraph in the full Competent Person's Report;	
	(xi) statement by the Competent Person that the summary is a true reflection of the full Competent Person's Report; and	
	(xii) summary valuation table. Where the cash flow approach has been employed, the valuation summary must include the discount rate(s) applied to calculate the NPV(s) (net present value(s)) per share with reference to the specific paragraph in the Competent Person's Report. If inferred resources are used. Show the summary valuation with and without inclusion of such inferred resources.	

SAMREC 2016 TABLE 1 COMPLIANCE CHECKLIST

<table>
<tr><th colspan="3">SAMREC TABLE 1</th><th>Exploration Results</th><th>Mineral Resources</th><th>Mineral Reserves</th><th>Report Section</th></tr>
<tr><td colspan="7">Section 1: Project Outline</td></tr>
<tr><td rowspan="3">1.1</td><td rowspan="3">Property Description</td><td>(i)</td><td colspan="3">Brief description of the scope of project (i.e. whether in preliminary sampling, advanced exploration, scoping, pre-feasibility, or feasibility phase, Life of Mine plan for an ongoing mining operation or closure).</td><td>2.1</td></tr>
<tr><td>(ii)</td><td colspan="3">Describe (noting any conditions that may affect possible prospecting/mining activities) topography, elevation, drainage, fauna and flora and vegetation, the means and ease of access to the property, the proximity of the property to a population centre, and the nature of transport, the climate, known associated climatic risks and the length of the operating season and to the extent relevant to the mineral project, the sufficiency of surface rights for mining operations including the availability and sources of power, water, mining personnel, potential tailings storage areas, potential waste disposal areas, heap leach pad areas, and potential processing plant sites.</td><td>3</td></tr>
<tr><td>(iii)</td><td colspan="3">Specify the details of the personal inspection on the property by each CP or, if applicable, the reason why a personal inspection has not been completed.</td><td>1.5</td></tr>
<tr><td rowspan="3">1.2</td><td rowspan="3">Location</td><td>(i)</td><td colspan="3">Description of location and map (country, province, and closest town/city, coordinate systems and ranges, etc.).</td><td>2.2</td></tr>
<tr><td>(ii)</td><td colspan="3">Country Profile: describe information pertaining to the project host country that is pertinent to the project, including relevant applicable legislation, environmental and social context etc. Assess, at a high level, relevant technical, environmental, social, economic, political and other key risks.</td><td>2.3</td></tr>
<tr><td>(iii)</td><td>Provide a general topo-cadastral map.</td><td>Provide a topo-cadastral map in sufficient detail to support the assessment of eventual economics. State the known associated climatic risks.</td><td>Provide a detailed topo-cadastral map. Confirm that applicable aerial surveys have been checked with ground controls and surveys, particularly in areas of rugged terrain, dense vegetation or high altitude.</td><td>2.2</td></tr>
<tr><td>1.3</td><td>Adjacent Properties</td><td>(i)</td><td colspan="3">Discuss details of relevant adjacent properties If adjacent or nearby properties have an important bearing on the report, then their location and common mineralised structures should be included on the maps. Reference all information used from other sources.</td><td>10.1</td></tr>
<tr><td rowspan="4">1.4</td><td rowspan="4">History</td><td>(i)</td><td colspan="3">State historical background to the project and adjacent areas concerned, including known results of previous exploration and mining activities (type, amount, quantity and development work), previous ownership and changes thereto.</td><td>4.1, 4.2</td></tr>
<tr><td>(ii)</td><td colspan="3">Present details of previous successes or failures with reasons why the project may now be considered potentially economic.</td><td>4.1, 4.2</td></tr>
<tr><td>(iii)</td><td></td><td colspan="2">Discuss known or existing historical Mineral Resource estimates and performance statistics on actual production for past and current operations.</td><td>4.3, 4.5</td></tr>
<tr><td>(iv)</td><td></td><td></td><td>Discuss known or existing historical Mineral Reserve estimates and performance statistics on actual production for past and current operations.</td><td>4.4, 4.5</td></tr>
<tr><td rowspan="6">1.5</td><td rowspan="6">Legal Aspects and Permitting</td><td colspan="4">Confirm the legal tenure to the satisfaction of the Competent Person, including a description of the following:-</td><td>-</td></tr>
<tr><td>(i)</td><td colspan="3">Discuss the nature of the issuer's rights (e.g. prospecting and/or mining) and the right to use the surface of the properties to which these rights relate. Disclose the date of expiry and other relevant details.</td><td>2.4.2, 2.4.3</td></tr>
<tr><td>(ii)</td><td colspan="3">Present the principal terms and conditions of all existing agreements, and details of those still to be obtained, (such as, but not limited to, concessions, partnerships, joint ventures, access rights, leases, historical and cultural sites, wilderness or national park and environmental settings, royalties, consents, permission, permits or authorisations).</td><td>2</td></tr>
<tr><td>(iii)</td><td colspan="3">Present the security of the tenure held at the time of reporting or that is reasonably expected to be granted in the future along with any known impediments to obtaining the right to operate in the area. State details of applications that have been made.</td><td>2.4.2</td></tr>
<tr><td>(iv)</td><td colspan="3">Provide a statement of any legal proceedings for example; land claims that may have an influence on the rights to prospect or mine for minerals, or an appropriate negative statement.</td><td>2.4.9</td></tr>
<tr><td>(v)</td><td colspan="3">Provide a statement relating to governmental/statutory requirements and permits as may be required, have been applied for, approved or can be reasonably be expected to be obtained.</td><td>2.4.5</td></tr>
<tr><td>1.6</td><td>Royalties</td><td>(i)</td><td colspan="3">Describe the royalties that are payable in respect of each property.</td><td>2.5.1</td></tr>
</table>

SAMREC TABLE 1			Exploration Results	Mineral Resources	Mineral Reserves	Report Section
1.7	Liabilities	(i)	Describe any liabilities, including rehabilitation guarantees that are pertinent to the project. Provide a description of the rehabilitation liability, including, but not limited to, legislative requirements, assumptions and limitations.			2.5.2
Section 2: Geological Setting, Deposit, Mineralisation						
2.1	Geological Setting, Deposit, Mineralisation	(i)	Describe the regional geology.			5.1.1
		(ii)	Describe the project geology including deposit type, geological setting and style of mineralisation.			5.1.2, 5.2, 5.3
		(iii)	Discuss the geological model or concepts being applied in the investigation and on the basis of which the exploration program is planned. Describe the inferences made from this model.			5.4
		(iv)	Discuss data density, distribution and reliability and whether the quality and quantity of information are sufficient to support statements, made or inferred, concerning the Exploration Target or Mineralisation.			5.4
		(v)	Discuss the significant minerals present in the deposit, their frequency, size and other characteristics. Includes minor and gangue minerals where these will have an effect on the processing steps. Indicate the variability of each important mineral within the deposit.			5.1.2
		(vi)	Describe the significant mineralised zones encountered on the property, including a summary of the surrounding rock types, relevant geological controls, and the length, width, depth, and continuity of the mineralisation, together with a description of the type, character, and distribution of the mineralisation.			5.3
		(vii)	Confirm that reliable geological models and / or maps and cross sections that support interpretations exist.			5.4
Section 3: Exploration and Drilling, Sampling Techniques and Data						
3.1	Exploration	(i)	Describe the data acquisition or exploration techniques and the nature, level of detail, and confidence in the geological data used (i.e. geological observations, remote sensing results, stratigraphy, lithology, structure, alteration, mineralisation, hydrology, geophysical, geochemical, petrography, mineralogy, geochronology, bulk density, potential deleterious or contaminating substances, geotechnical and rock characteristics, moisture content, bulk samples etc.). Confirm that data sets include all relevant metadata, such as unique sample number, sample mass, collection date, spatial location etc.			6
		(ii)	Identify and comment on the primary data elements (observation and measurements) used for the project and describe the management and verification of these data or the database. This should describe the following relevant processes: acquisition (capture or transfer), validation, integration, control, storage, retrieval and backup processes. It is assumed that data are stored digitally but hand-printed tables with well-organized data and information may also constitute a database.			6.9
		(iii)	Acknowledge and appraise data from other parties and reference all data and information used from other sources.			6
		(iv)	Clearly distinguish between data / information from the property under discussion and that derived from surrounding properties.			6
		(v)	Describe the survey methods, techniques and expected accuracies of data. Specify the grid system used.			6
		(vi)	Discuss whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the estimation procedure(s) and classifications applied.			6
		(vii)	Present representative models and / or maps and cross sections or other two or three dimensional illustrations of results, showing location of samples, accurate drill-hole collar positions, down-hole surveys, exploration pits, underground workings, relevant geological data, etc.			6
		(viii)	Report the relationships between mineralisation widths and intercept lengths are particularly important, the geometry of the mineralisation with respect to the drill hole angle. If it is not known and only the down-hole lengths are reported, confirm it with a clear statement to this effect (e.g. 'down-hole length, true width not known').			6.2.1
3.2	Drilling Techniques	(i)	Present the type of drilling undertaken (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Banka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).			6.2.1
		(ii)	Describe whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, technical studies, mining studies and metallurgical studies.			6.2.2
		(iii)	Describe whether logging is qualitative or quantitative in nature; indicate if core photography, (or costean, channel, etc.) was undertaken.			6.2.2
		(iv)	Present the total length and percentage of the relevant intersections logged.			6.2.2
		(v)	Results of any downhole surveys of the drill hole to be discussed.			6.2.3

SAMREC TABLE 1			Exploration Results	Mineral Resources	Mineral Reserves	Report Section
3.3	Sample method, collection, capture and storage	(i)	Describe the nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.			6.3.1
		(ii)	Describe the sampling processes, including sub-sampling stages to maximize representivity of samples. This should include whether sample sizes are appropriate to the grain size of the material being sampled. Indicate whether sample compositing has been applied.			6.3.1
		(iii)	Appropriately describe each data set (e.g. geology, grade, density, quality, diamond breakage, geo-metallurgical characteristics etc.), sample type, sample-size selection and collection methods			6.3.1
		(iv)	Report the geometry of the mineralisation with respect to the drill-hole angle. State whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. State if the intersection angle is not known and only the downhole lengths are reported.			6.3.1
		(v)	Describe retention policy and storage of physical samples (e.g. core, sample reject, etc.).			6.3.1
		(vi)	Describe the method of recording and assessing core and chip sample recoveries and results assessed, measures taken to maximise sample recovery and ensure representative nature of the samples and whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.			6.3.1
		(vii)	If a drill-core sample is taken, state whether it was split or sawn and whether quarter, half or full core was submitted for analysis. If a non-core sample, state whether the sample was riffled, tube sampled, rotary split etc. and whether it was sampled wet or dry.			6.3.1
3.4	Sample Preparation and Analysis	(i)	Identify the laboratory(s) and state the accreditation status and Registration Number of the laboratory or provide a statement that the laboratories are not accredited.			6.3.2
		(ii)	Identify the analytical method. Discuss the nature, quality and appropriateness of the assaying and laboratory processes and procedures used and whether the technique is considered partial or total.			6.3.2
		(iii)	Describe the process and method used for sample preparation, sub-sampling and size reduction, and likelihood of inadequate or non-representative samples (i.e. improper size reduction, contamination, screen sizes, granulometry, mass balance, etc.).			6.3.2
3.5	Sampling Governance	(i)	Discuss the governance of the sampling campaign and process, to ensure quality and representivity of samples and data, such as sample recovery, high grading, selective losses or contamination, core/hole diameter, internal and external QA/QC, and any other factors that may have resulted in or identified sample bias.			6.3.3
		(ii)	Describe the measures taken to ensure sample security and the Chain of Custody.			6.3.3
		(iii)	Describe the validation procedures used to ensure the integrity of the data, e.g. transcription, input or other errors, between its initial collection and its future use for modelling (e.g. geology, grade, density, etc.).			6.3.3
		(iv)	Describe the audit process and frequency (including dates of these audits) and disclose any material risks identified.			6.3.3
3.6	Quality Control/Quality Assurance	(i)	Demonstrate that adequate field sampling process verification techniques (QAQC) have been applied, e.g. the level of duplicates, blanks, reference material standards, process audits, analysis, etc. If indirect methods of measurement were used (e.g. geophysical methods), these should be described, with attention given to the confidence of interpretation.			6.3.4
3.7	Bulk Density	(i)	Describe the method of bulk density determination with reference to the frequency of measurements, the size, nature and representativeness of the samples.			6.3.5
		(ii)	If target tonnage ranges are reported state the preliminary estimates or basis of assumptions made for bulk density.			6.3.5
		(iii)	Discuss the representivity of bulk density samples of the material for which a grade range is reported.			6.3.5
		(iv)	Discuss the adequacy of the methods of bulk density determination for bulk material with special reference to accounting for void spaces (vugs, porosity etc.), moisture and differences between rock and alteration zones within the deposit.			6.3.5
3.8	Bulk-Sampling and/or trial-mining	(i)	Indicate the location of individual samples (including map).			6.3.6
		(ii)	Describe the size of samples, spacing/density of samples recovered and whether sample sizes and distribution are appropriate to the grain size of the material being sampled.			6.3.6
		(iii)	Describe the method of mining and treatment.			6.3.6
		(iv)	Indicate the degree to which the samples are representative of the various types and styles of mineralisation and the mineral deposit as a whole.			6.3.6
Section 4: Estimation and Reporting of Exploration Results and Mineral Resources						

SAMREC TABLE 1			Exploration Results	Mineral Resources	Mineral Reserves	Report Section
4.1	Geological model and interpretation	(i)	Describe the geological model, construction technique and assumptions that forms the basis for the Exploration Results or Mineral Resource estimate. Discuss the sufficiency of data density to assure continuity of mineralisation and geology and provide an adequate basis for the estimation and classification procedures applied.			5.4
		(ii)	Describe the nature, detail and reliability of geological information with which lithological, structural, mineralogical, alteration or other geological, geotechnical and geo-metallurgical characteristics were recorded.			5.4
		(iii)	Describe any obvious geological, mining, metallurgical, environmental, social, infrastructural, legal and economic factors that could have a significant effect on the prospects of any possible exploration target or deposit.			N/A
		(iv)		Discuss all known geological data that could materially influence the estimated quantity and quality of the Mineral Resource.		6
		(v)		Discuss whether consideration was given to alternative interpretations or models and their possible effect (or potential risk) if any, on the Mineral Resource estimate.		5.4
		(vi)		Discuss geological discounts (e.g. magnitude, per reef, domain, etc.), applied in the model, whether applied to mineralised and / or un-mineralised material (e.g. potholes, faults, dykes, etc.).		7.1
4.2	Estimation and modelling techniques	(i)	Describe in detail the estimation techniques and assumptions used to determine the grade and tonnage ranges.			7.1
		(ii)		Discuss the nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values (cutting or capping), compositing (including by length and/or density), domaining, sample spacing, estimation unit size (block size), selective mining units, interpolation parameters and maximum distance of extrapolation from data points.		7.1
		(iii)		Describe assumptions and justification of correlations made between variables.		7.1
		(iv)		Provide details of any relevant specialized computer program (software) used, with the version number, together with the estimation parameters used.		7
		(v)		State the processes of checking and validation, the comparison of model information to sample data and use of reconciliation data, and whether the Mineral Resource estimate takes account of such information.		7.1
		(vi)		Describe the assumptions made regarding the estimation of any co-products, by-products or deleterious elements.		7.4
4.3	Reasonable and realistic prospects for eventual economic extraction	(i)		Disclose and discuss the geological parameters. These would include (but not be limited to) volume / tonnage, grade and value / quality estimates, cut-off grades, strip ratios, upper- and lower- screen sizes.		7.3
		(ii)		Disclose and discuss the engineering parameters. These would include mining method, dilution, processing, geotechnical, geohydraulic and metallurgical) parameters.		7.3
		(iii)		Disclose and discuss the infrastructural including, but not limited to, power, water, site-access.		7.3
		(iv)		Disclose and discuss the legal, governmental, permitting, statutory parameters.		7.3
		(v)		Disclose and discuss the environmental and social (or community) parameters.		7.3
		(vi)		Disclose and discuss the marketing parameters.		7.3
		(vii)		Disclose and discuss the economic assumptions and parameters. These factors will include, but not limited to, commodity prices and potential capital and operating costs.		7.3
		(viii)		Discuss any material risks.		7.3
		(ix)		Discuss the parameters used to support the concept of "eventual".		7.3

SAMREC TABLE 1			Exploration Results	Mineral Resources	Mineral Reserves	Report Section
4.4	Classification Criteria	(i)		Describe and justify criteria and methods used as the basis for the classification of the Mineral Resources into varying confidence categories.		7.2
4.5	Reporting	(i)	Discuss the reported low and high-grades and widths together with their spatial location to avoid misleading the reporting of Exploration Results, Mineral Resources or Mineral Reserves.			7
		(ii)	Discuss whether the reported grades are regional averages or if they are selected individual samples taken from the property under discussion.			7
		(iii)	State assumptions regarding mining methods, infrastructure, metallurgy, environmental and social parameters. State and discuss where no mining related assumptions have been made.			N/A
		(iv)	State the specific quantities and grades / qualities which are being reported in ranges and/or widths, and explain the basis of the reporting.			N/A
		(v)		Present the detail for example open pit, underground, residue stockpile, remnants, tailings, and existing pillars or other sources in the Mineral Resource statement.		7.5
		(vi)		Present a reconciliation with any previous Mineral Resource estimates. Where appropriate, report and comment on any historic trends (e.g. global bias).		7.6
		(vii)		Present the defined reference point for the tonnages and grades reported as Mineral Resources. State the reference point if the point is where the run of mine material is delivered to the processing plant. It is important that, in all situations where the reference point is different, such as for a saleable product, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported.		7.5
		(viii)	If the CP is relying on a report, opinion, or statement of another expert who is not a CP, disclose the date, title, and author of the report, opinion, or statement, the qualifications of the other expert and why it is reasonable for the CP to rely on the other expert, any significant risks and any steps the CP took to verify the information provided.			1.6
		(ix)	State the basis of equivalent metal formulae, if applied.			7
Section 5: Technical Studies						
5.1	Introduction	(i)	Technical Studies are not applicable to Exploration Results.	State the level of study - whether scoping, prefeasibility, feasibility or ongoing Life of Mine.	State the level of study - whether prefeasibility, feasibility or ongoing Life of Mine. The Code requires that a study to at least a Pre-Feasibility level has been undertaken to convert Mineral Resource to Mineral Reserve. Such studies will have been carried out and will include a mine plan or production schedule that is technically achievable and economically viable, and that all Modifying Factors have been considered.	8
		(ii)			Provide a summary table of the Modifying Factors used to convert the Mineral Resource to Mineral Reserve for Prefeasibility, Feasibility or on-going life-of-mine studies.	8.2

SAMREC TABLE 1			Exploration Results	Mineral Resources	Mineral Reserves	Report Section
5.2	Mining Design	(i)	Technical Studies are not applicable to Exploration Results.	State assumptions regarding mining methods and parameters when estimating Mineral Resources or explain where no mining assumptions have been made.		8.3
		(ii)			State and justify all modifying factors and assumptions made regarding mining methods, minimum mining dimensions (or pit shell) and internal and, if applicable, external) mining dilution and mining losses used for the techno-economic study and signed-off, such as mining method, mine design criteria, infrastructure, capacities, production schedule, mining efficiencies, grade control, geotechnical and hydrological considerations, closure plans, and personnel requirements.	8.3.1
		(iii)			State what mineral resource models have been used in the study.	8.3.2
		(iv)			Explain the basis of (the adopted) cut-off grade(s) or quality parameters applied. Include metal equivalents if relevant.	8.3.3
		(v)			Description and justification of mining method(s) to be used.	8.3
		(vi)			For open-pit mines, include a discussion of pit slopes, slope stability, and strip ratio.	Not applicable
		(vii)			For underground mines, discussion of mining method, geotechnical considerations, mine design characteristics, and ventilation/cooling requirements.	8.3
		(viii)			Discussion of mining rate, equipment selected, grade control methods, geotechnical and hydrogeological considerations, health and safety of the workforce, staffing requirements, dilution, and recovery.	8.3
		(ix)			State the optimisation methods used in planning, list of constraints (practicality, plant, access, exposed Mineral Reserves, stripped Mineral Reserves, bottlenecks, draw control).	8.3
5.3	Metallurgical and Testwork	(i)	Technical Studies are not applicable to Exploration Results.		Discuss the source of the sample and the techniques to obtain the sample, laboratory and metallurgical testing techniques.	8.4.1
		(ii)			Explain the basis for assumptions or predictions regarding metallurgical amenability and any preliminary mineralogical test work already carried out.	8.4.1
		(iii)		Discuss the possible processing methods and any processing factors that could have a material effect on the likelihood of eventual	Describe and justify the processing method(s) to be used, equipment, plant capacity, efficiencies, and personnel requirements.	8.4.2

SAMREC TABLE 1			Exploration Results	Mineral Resources	Mineral Reserves	Report Section
				economic extraction. Discuss the appropriateness of the processing methods to the style of mineralisation.		
		(iv)			Discuss the nature, amount and representativeness of metallurgical test work undertaken and the recovery factors used. A detailed flow sheet / diagram and a mass balance should exist especially for multi-product operations from which the saleable materials are priced for different chemical and physical characteristics.	8.4
		(v)			State what assumptions or allowances have been made for deleterious elements and the existence of any bulk-sample or pilot-scale test work and the degree to which such samples are representative of the orebody as a whole.	8.4.3
		(vi)			State whether the metallurgical process is well-tested technology or novel in nature.	8.4.2
5.4	Infrastructure	(i)	Technical Studies are not applicable to Exploration Results.	Comment regarding the current state of infrastructure or the ease with which the infrastructure can be provided or accessed.		8.5
		(ii)			Report in sufficient detail to demonstrate that the necessary facilities have been allowed for (which may include, but not be limited to, processing plant, tailings dam, leaching facilities, waste dumps, road, rail or port facilities, water and power supply, offices, housing, security, resource sterilisation testing etc.). Provide detailed maps showing locations of facilities.	8.5
		(iii)			Statement showing that all necessary logistics have been considered.	8.5
5.5	Environmental and Social	(i)	Technical Studies are not applicable to Exploration Results.	Confirm that the company holding the tenement has addressed the host country environmental legal compliance requirements and any mandatory and/or voluntary standards or guidelines to which it subscribes.		2.4, 8.7
		(ii)		Identify the necessary permits that will be required and their status and where not yet obtained, confirm that there is a reasonable basis to believe that all permits required for the project will be obtained.		2.4
		(iii)		Identify and discuss any sensitive areas that may affect the project as well as any other environmental factors including I&AP and/or studies that could have a material effect on the likelihood of eventual economic extraction. Discuss possible means of mitigation.		8.7
		(iv)		Identify any legislated social management programmes that may be required and discuss the content and status of these.		8.10
		(v)		Outline and quantify the material socio-economic and cultural impacts that need to be mitigated, and their mitigation measures and where appropriate the associated costs.		8.10

SAMREC TABLE 1			Exploration Results	Mineral Resources	Mineral Reserves	Report Section
5.6	Market Studies and Economic criteria	(i)	Technical Studies are not applicable to Exploration Results.		Describe the valuable and potentially valuable product(s) including suitability of products, co-products and by products to market.	8.6
		(ii)			Describe product to be sold, customer specifications, testing, and acceptance requirements. Discuss whether there exists a ready market for the product and whether contracts for the sale of the product are in place or expected to be readily obtained. Present price and volume forecasts and the basis for the forecast.	8.6
		(iii)			State and describe all economic criteria that have been used for the study such as capital and operating costs, exchange rates, revenue / price curves, royalties, cut-off grades, reserve pay limits.	8
		(iv)			Summary description, source and confidence of method used to estimate the commodity price/value profiles used for cut-off grade calculation, economic analysis and project valuation, including applicable taxes, inflation indices, discount rate and exchange rates.	8.13
		(v)			Present the details of the point of reference for the tonnages and grades reported as Mineral Reserves (e.g. material delivered to the processing facility or saleable product(s)). It is important that, in any situation where the reference point is different, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported.	9.2
		(vi)			Justify assumptions made concerning production cost including transportation, treatment, penalties, exchange rates, marketing and other costs. Provide details of allowances that are made for the content of deleterious elements and the cost of penalties.	8.13
		(vii)			Provide details of allowances made for royalties payable, both to Government and private.	8.13
		(viii)			State type, extent and condition of plant and equipment that is significant to the existing operation(s).	8.4.2
		(ix)			Provide details of all environmental, social and labour costs considered.	8.13
5.7	Risk Analysis	(i)	Technical Studies are not applicable to Exploration Results.	Report an assessment of technical, environmental, social, economic, political and other key risks to the project. Describe actions that will be taken to mitigate and/or manage the identified risks.		10.3

SAMREC TABLE 1			Exploration Results	Mineral Resources	Mineral Reserves	Report Section
5.8	Economic Analysis	(i)	Technical Studies are not applicable to Exploration Results	At the relevant level (Scoping Study, Pre-feasibility, Feasibility or on-going Life-of Mine), provide an economic analysis for the project that includes:-		8.13
		(ii)		Cash Flow forecast on an annual basis using Mineral Reserves or an annual production schedule for the life of the project.		8.13
		(iii)		A discussion of net present value (NPV), internal rate of return (IRR) and payback period of capital.		8.13
		(iv)		Sensitivity or other analysis using variants in commodity price, grade, capital and operating costs, or other significant parameters, as appropriate and discuss the impact of the results.		8.13
Section 6: Estimation and Reporting of Mineral Reserves						
6.1	Estimation and modelling techniques	(i)		Describe the Mineral Resource estimate used as a basis for the conversion to a Mineral Reserve.		8.3.2
		(ii)		Report the Mineral Reserve Statement with sufficient detail indicating if the mining is open pit or underground plus the source and type of mineralisation, domain or ore body, surface dumps, stockpiles and all other sources.		9.3
		(iii)			Provide a reconciliation reporting historic reliability of the performance parameters, assumptions and modifying factors including a comparison with the previous Reserve quantity and qualities, if available. Where appropriate, report and comment on any historic trends (e.g. global bias).	9.4
6.2	Classification Criteria	(i)			Describe and justify criteria and methods used as the basis for the classification of the Mineral Reserves into varying confidence categories, based on the Mineral Resource category, and including consideration of the confidence in all the modifying factors.	9.2
6.3	Reporting	(i)			Discuss the proportion of Probable Mineral Reserves, which have been derived from Measured Mineral Resources (if any), including the reason(s) therefore.	9.2
		(ii)			Present details of for example open pit, underground, residue stockpile, remnants, tailings, and existing pillars or other sources in respect of the Mineral Reserve statement.	9.3
		(iii)			Present the details of the defined reference point for the Mineral Reserves. State where the reference point is the point where the run of mine material is delivered to the processing plant. It is important that, in all situations where the reference point is different, such as for a saleable product, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported. State clearly whether the tonnages and grades reported for Mineral Reserves are in respect of material delivered to the plant or after recovery.	9.3

SAMREC TABLE 1			Exploration Results	Mineral Resources	Mineral Reserves	Report Section
		(iv)			Present a reconciliation with the previous Mineral Reserve estimates. Where appropriate, report and comment on any historic trends (e.g. global bias).	9.4
		(v)			Only Measured and Indicated Mineral Resources can be considered for inclusion in the Mineral Reserve.	9.2
		(vi)			State whether the Mineral Resources are inclusive or exclusive of Mineral Reserves.	8.3.2
Section 7: Audits and Reviews						
7.1	Audits and Reviews	(i)	State type of review/audit (e.g. independent, external), area (e.g. laboratory, drilling, data, environmental compliance etc), date and name of the reviewer(s) together with their recognized professional qualifications.			6.3.3.4, 10.2
		(ii)	Disclose the conclusions of relevant audits or reviews. Note where significant deficiencies and remedial actions are required.			10.2
			Provide a description of legal compliance audits undertaken during the period including a summary of material findings and management plans to address these findings. Focus on issues that are likely to remain significant despite the implementation of proven and economically viable mitigation measures.			10.2
Section 8: Other Relevant Information						
8.1		(i)	Discuss all other relevant and material information not discussed elsewhere.			10
Section 9: Qualification of Competent Person(s) and other key technical staff. Date and Signature Page						
9.1		(i)	State the full name, registration number and name of the professional body or RPO, for all the Competent Person(s). State the relevant experience of the Competent Person(s) and other key technical staff who prepared and are responsible for the Public Report.			Appendix 3
		(ii)	State the Competent Person's relationship to the issuer of the report.			Appendix 3
		(iii)	Provide the Certificate of the Competent Person (Appendix 2), including the date of sign-off and the effective date, in the Public Report.			Appendix 3

SAMVAL 2016 TABLE 1 COMPLIANCE CHECKLIST

Criteria	Comments	Report Section
T1.0 General	The Valuation Report shall contain: The signature of the CV; The CV's qualifications and experience in valuing mineral properties, or relevant valuation experience; A statement that all facts presented in the report are correct to the best of the CVs knowledge; A statement that the analyses and conclusions are limited only by the reported forecasts and conditions; A statement of the CV's present or prospective interest in the subject property or asset; A statement that the CV's compensation, employment, or contractual relationship with the Commissioning Entity is not contingent on any aspect of the Report; A statement that the CV has no bias with respect to the assets that are the subject of the Report, or to the parties involved with the assignment; A statement that the CV has (or has not) made a personal inspection of the property; and A record of the CP's and experts who have contributed to the valuation. Written consent to use and rely on such Reports shall be obtained. Significant contributions made by such experts shall be highlighted individually.	8.13
T1.1 Illustrations	There are numerous instances (especially in the non-listed environment) when a valuation is not accompanied by the CPR on which it is based. In these cases, especially, diagrams/illustrations are required and shall be in the required format. Diagrams, maps, plans, sections, and illustrations shall be legible and prepared at an appropriate scale to distinguish important features. Maps shall be dated and include a legend, author or information source, coordinate system and datum, a scale in bar or grid form, and an arrow indicating north. A location or index map and more detailed maps showing all important features described in the text, including all relevant cadastral and other infrastructure features, shall be included.	(Throughout document)
T1.2 Synopsis	Provide the salient features of the report - a brief description of the terms of reference, scope of work, the Valuation Date, the mineral property; its location, ownership, geology, and mineralization; history of exploration and production, current status, Exploration Targets, mineralization and/or production forecast, Mineral Resources and Mineral Reserves, production facilities (if any); environmental, social, legal, and permitting considerations; valuation approaches and methods, valuation, and conclusions.	1-7, 8.1-8.12
T1.3 Introduction and Scope	Introduction and scope, specifying commissioning instructions including reference to the valuation, engagement letter, date, purpose and intended use of the valuation. The CV shall fully disclose any interests in the Mineral Asset or Commissioning Entity. Any restrictions on scope and special instructions followed by the C V, and how these affect the reliability of the valuation, shall be disclosed.	1, 8.13.1
T1.4 Compliance	A statement that the report complies with SAMVAL shall be included. Any variations shall be described and discussed.	1.1
T1.5 Identity, Tenure and Infrastructure	The identity, tenure, associated infrastructure and locations of the property interests, rights or securities to be valued {i.e. the physical, legal, and economic characteristics of the property) shall be disclosed.	2
T1.6 History	History of activities, results, and operations to date shall be included.	4
T1.7 Geological Setting	Geological setting, models, and mineralization shall be described.	5
T1.8 Exploration Results and Exploration Targets	Exploration programmes, their location, results, interpretation, and significance shall be described. Exploration Targets shall be discussed.	6
T1.9 Mineral Resources and Mineral Reserves	Mineral Resource and Mineral Reserve statements shall be provided. They shall be signed off by a Competent Person in compliance with the SAMREC Code or another CRIRSCO code. The CV shall set out the manner in which he has satisfied himself that he can rely upon the information in the CPR.	7.5, 9.3, 8.13.1

Criteria	Comments	Report Section
T1.10 Modifying Factors and Key Assumptions	A statement of Modifying Factors shall be included, separately summarizing material issues relating to each applicable Modifying Factor. The CV shall set out the manner in which he has satisfied himself that he can rely upon the technical information provided. (NOTE: All the Modifying Factors shall be listed, or references provided to relevant definitions). This shall include an explanation of all material assumptions and limiting factors. When reporting on environmental, social and governance modifying factors, reference should be made to the ESG reporting parameters as required by the Southern African Minerals Environmental. Social and Governance Guideline (SAMESG) or other recognised code, e.g. Equator Principles.	8.13.4.2.2
T1.11 Previous Valuations	The valuation shall refer to all available and relevant previous valuations of the Mineral Asset that have been performed in at least the previous two years, and explain any material differences between these and the present valuation.	8.13.6
T1.12 Valuation Approaches and Methods	The valuation approaches and methods used in the valuation shall be described and justified in full.	8.13.2
T1.13 Valuation Date	A statement detailing the Report Date and the Valuation Date, as defined in this Code, and whether any material changes have occurred between the Valuation Date and the Report Date.	8.13.3
T1.14 Valuation Results	For the Income Approach, the valuation cash flow shall be disclosed. For the Market Approach, the market comparable information shall be disclosed.	8.13.4
	For the Cost Approach, the relevant and applicable cost shall be disclosed.	8.13.4
T1.15 Valuation Summary and Conclusions	A summary of the valuation details, consolidated into single material line items, shall be provided. The Mineral Asset Valuation shall specify the key risks and forecasts used in the valuation. A cautionary statement concerning all forward-looking or forecast statements shall be included. The valuation's conclusions, illustrating a range of values, the best estimate value for each valuation, and whether the conclusions are qualified or subject to any restrictions imposed on the CV, shall be included.	8.13.4
T1.16 Identifiable Component Asset (ICA) Values	In some valuations, the valuation shall be broken down into Identifiable Component Asset Values (an ICA valuation) equalling the Mineral Asset Value. This could be. for example, due to the requirements of other valuation rules and legislative practices including taxation (i.e. fixed property, plant, and equipment relative to Mineral Asset Value allocations such as in recoupment or capital gains tax calculations or where a commissioned Mineral Asset Valuation specifies a need for a breakdown of the Mineral Asset Valuation). In such cases, the separate allocations of value shall be made by taking account of the value of every separately identifiable component asset Allocation of value to only some, and not all identifiable component assets is not allowed. This requires a specialist appraisal of each identifiable component asset of property, plant and equipment, with the 'remaining' value of the Mineral Asset being attributed to the Mineral Resources and Reserves. Such valuations shall be performed by suitably qualified experts, who may include the CV. If the Mineral Asset Valuation includes an ICA Valuation, the CV shall satisfy himself or herself that the ICA Valuation is reasonable before signing off the Mineral Asset Valuation.	8.13.9
T1.17 Historic Verification	A historic verification of the performance parameters on which the Mineral Asset Valuation is based shall be presented.	8.12.10
T1.18 Market Assessment	A comprehensive market assessment should be presented.	8.6, 8.13.11
T1.19 Sources of Information	The sources of all material information and data used in the report shall be disclosed, as well as references to any published or unpublished technical papers used in the valuation, subject to confidentiality. A reference shall be made to any other report that has been compiled, for the purpose of providing information for the valuation, including SAMREC-compliant reports and any other contributions or reports from experts.	8.13.5