Volspruit North Metallurgical and Re-logging Final

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The Volspruit North Body Metallurgical Drilling and Re-logging Report

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COMPETENT PERSON'S CONSENT FORM

Under Clause 9 of the JORC Code 2012 Edition (Written Consent Statement)

Report Name:

EARTH-PPD_939-1-Report_1

The company releasing the Report:

Pan Palladium South Africa (Pty) Ltd.

This deposit to which this Report refers:

Volspruit North Body

Date of the Report (Publised Date of Final Draft)

12 September 2024

Date of the Report (Signed-off date)

26 April 2024

STATEMENT

I, Gideon Petrus (Deon) du Plessis,

Confirm that I am the Competent Person for the Report and:

- I have read and understood the requirements of the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources, and Ore Reserves (JORC Code, 2012 Edition).
- I am a Competent Person as defined by the JORC Code 2012 Edition, having more than five years of experience that is relevant to the style of mineralisation and the type of deposit described in the Report, and to the activity for which I am accepting responsibility.
- I am a Member in good standing of the South African Council for Natural Scientific Professions (SACNASP) (Reg No. 400050/05) and the Geological Society of South Africa (GSSA) (Reg No. 963338), both being Recognised Professional Organisations (RPO) included in the list promulgated by JORC.
- I have partially compiled and fully reviewed the Report to which this Consent Statement applies.

I am the founder, executive CEO, and a full-time employee of

Earthlab Technical Division (Pty) Ltd, registered in South Africa (Reg No. 2012/114510/07)

and have been engaged by

Pan Palladium (Pty) Ltd (hereafter "PPD"), a subsidiary of Sylvania Platinum Ltd (hereafter "Sylvania"), incorporated in South Africa, with its main country of operation currently being South Africa.

to prepare the documentation for

the Volspruit North deposit on the farm Volspruit 326 KR

on which the Report is based, for the period ended

12 September 2024 (Publised Date of Final Draft), 26 April 2024 (Signed-off date)

I have disclosed to the reporting company the full nature of the relationship between myself and the company, including any issue that could be perceived by investors as a conflict of interest.

I verify that the Report is based on and fairly and accurately reflects the form and context in which it appears, the information in my supporting documentation relating to the Metallurgical drilling, sampling and core re-logging.

DISCLAIMER

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CONSENT

I consent to the release of the Report and this Consent Statement by the directors of:

Sylvania Platinum Limited

	26 April 2024
Signature of Competent Person	Date
SACNASP	Pr.Sci.Nat. 400050/05
Professional Membership (a)	Membership Number (a)
FGSSA	963338
Professional Membership (b)	Membership Number (b)
Signature of Witness	Witness Name and Residence (suburb, town)

EXECUTIVE SUMMARY

Sylvania Platinum Limited. ("Sylvania"), is a lower cost Platinum Group Metal (PGM) producer and developer. This report details the work undertaken by Earthlab Technical Division Pty Ltd. (Earthlab) on behalf of Sylvania to upgrade the existing Volspruit Project (Volspruit) 2022 MRE aimed at representing a 5E and gold grade, with the addition of rhodium, ruthinium and iridium in the analytical samples. Metallurgical sample intervals were identified based on the grades of these samples. In addition, a re-logging campaign was also conducted on all of historical core for Volspruit North in an effort to improve the historical logging (stratigraphy, lithology, and mineralogy) to a higher resolution to aid the update of the new 2023 MRE.

Volspruit farm is located approximately 15 km south of the town Mokopane, Limpopo Province, South Africa, and comprises two PGE-Cu-Ni mineral deposits: the North and South Bodies. As the subject of the current study, the Volspruit Reef of the North Body is reasonably thick (average of 15m – 2022 MRE) and preserved as a near-surface Mineral Resource that is amenable to open-pit mining.

The re-logging of the historical core with the aid of historical downhole 2E and gold grade profiles revealed that the Volspruit Reef has been confined to the Cyclic Unit 11 Upper pyroxenites and that other sulphide mineralisation in the Cyclic Unit 12 and Cyclic Unit 11 Lower was not correlated economical grades. This logging technique was also applied to the newly drilled core of the metallurgical drilling campaign.

The metallurgical drilling was undertaken in 2023 and yielded 701.80 m of core. Quarter core samples were collected and sent for analysis of 5E (Pt, Pd, Rh, Ru, and Ir) and gold at SGS. The Ir results were largely below the detection limit and were not considered for further regression. Rh and Ru were regressed successfully.

The regression application conducted on Rhodium (Rh) and Ruthenium (Ru) utilising Platinum (Pt), Palladium (Pd), and Gold (Au) as input variables have yielded highly successful results. Both regression models for Rh and Ru demonstrated exceptional performance, with Mean Absolute Errors (MAE) well below the laboratory's detection limit of 0.02 ppm. Specifically, the Rhodium model achieved a remarkable MAE of 0.0092 ppm, while the Ruthenium model exhibited an even lower MAE of 0.0065 ppm. Furthermore, the rigorous cross-validation assessment, employing two-sample t-tests with an alpha value of 0.05, indicated that the predicted populations derived from the regression models can be confidently considered equal to that of the actual populations. The outcome highlights the reliability of both the predictive models, making them invaluable tools for accurately estimating Rh and Ru concentrations in assay sample and resource model datasets.

The volume of the work performed during the metallurgical drilling is summarised in the table below. The initial plan was canceled due to the outcome of the consultation between Sylvania and the lawful landowner. The drill plan was revised and the actual data obtained can be compared to this revised plan.

	# Drill holes	Total of meters	Total VR intersection (m)	Oxidised Metallurgical Material		Transitional Metallurgical Material		Fresh Metallurgical Material		Est Kg*	# Rh Samples
				VR (m)	Est Kg*	VR (m)	Est Kg*	VR (m)	Est Kg*	O+IW	
Initial Plan	10	690.00	207.81	40.51	166.68	28.32	125.68	138.98	665.76	958.12	231
Revised Plan	10	702.00	190.20	39.30	161.69	36.40	161.55	114.50	548.48	871.72	231
Actuals Obtained	10	701.80	163.92	34.24	87.65	26.83	95.25	102.85	492.65	675.55	288

* The estimated bulk weights for the planned and revised plan were calculated with historical SG measurements, whereas the estimated weights for the actuals were calculated using laboratory results.

The metallurgical drilling yielded the following estimated kilograms of material for metallurgical test work in North 1 and North 2, respectively:

Zone	Classification	Material Type	Est Kg
North 1	ORE	Oxides	53.22
North 1	ORE	Transitional	38.98
North 1	ORE	Fresh	234.85
North 1	INT_WASTE	Oxides	34.43
North 1	INT_WASTE	Transitional	56.27
North 1	INT_WASTE	Fresh	113.48
North 1	O+IW	Oxides	87.65
North 1	O+IW	Transitional	95.25
North 1	O+IW	Fresh	348.33
North 1	O+IW	OTF	531.23

Zone	Classification	Material Type	Est Kg
North 2	ORE	Fresh	97.81
North 2	INT_WASTE	Fresh	46.51
North 2	TOTAL O+IW	Fresh	144.32

The material recovered is sufficient according to the specifications set out by the DRA which require a 25 kg sample per ore type to perform the metallurgical test work.

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1 INTRODUCTION

The Volspruit Project is sub-divided into two domains due to faulting: the North Body, and the South Body. This report only provides technical reporting of the metallurgical drillinconcerning the North Body.

Earthlab Technical Division (Pty) Ltd (hereinafter referred to as “Earthlab”) was engaged by Pan Palladium South Africa (Pty) Ltd (hereinafter referred to as “PPD”), a subsidiary of Sylvania Platinum Ltd, to provide a metallurgical study on Volspruit North along with upgrading the Mineral Resource Estimates (MRE) to 5E (Platinum Group Metals - PGMs) and gold (Au) by adding rhodium (Rh), ruthenium (Ru), and iridium (Ir) along with platinum (Pt) and palladium (Pd). In addition, Earthlab was also tasked with providing a geological re-evaluation of the historical core logged to provide a better definition to the Volspruit Reef in the MRE. This was completed by re-logging all Grasvally North (GVN) drill holes on the farm Volspruit 326 KR (Volspruit) and defining the stratigraphy using detailed lithology and styles of mineralisation logging.

This report is intended to update the current JORC reported MRE with the remodelled and upgraded Mineral Resource of PPD at the appropriate study level. The user of this document must ensure that this document is the most recent Technical Report for the Volspruit Project and will be rendered not valid should a later Technical Report be issued.

The quality of the information, conclusions and estimates contained herein are subject to the sources of information at the time of preparation, data supplied by PPD, and assumptions, conditions, and qualifications outlined in this report. The information utilised in compiling this report has been drawn from the data supplied by PPD and scientific research conducted by Earthlab’s personnel. Maps and figures have been compiled by Earthlab personnel using various software and applications. Reference has been made to all relevant scientific publications within the document and is listed at the end of this document in the reference section. Reference to specific internal company reports and publications owned by PPD have been provided and are contained in the references section of this technical document where relevant.

2 PROJECT OUTLINE

2.1 Property Location

The Volspruit Project is located on the farm Volspruit 326 KR and portion two of Zoetveld 294 KR in the Mogalakwena district municipality, Limpopo Province, in the Republic of South (RSA). The farm is situated approximately 15 km to the south of the Mokopane town and 60 km south of the capital town of Limpopo, Polokwane.

2.2 Property Description

2.2.1 Infrastructure and Accessibility

The Volspruit Project is situated close to major infrastructure, including national roads, railways, and overhead power lines. The R101 national road from Mokgoophong (previously Naboomspruit) to Polokwane and the north-south railway lines are located on the northern side of the project area. The N11 national highway runs south-easterly to the eastern side of the project area, whereas the N1 national toll highway passes the western boundary fence of the project area (Figure 1).

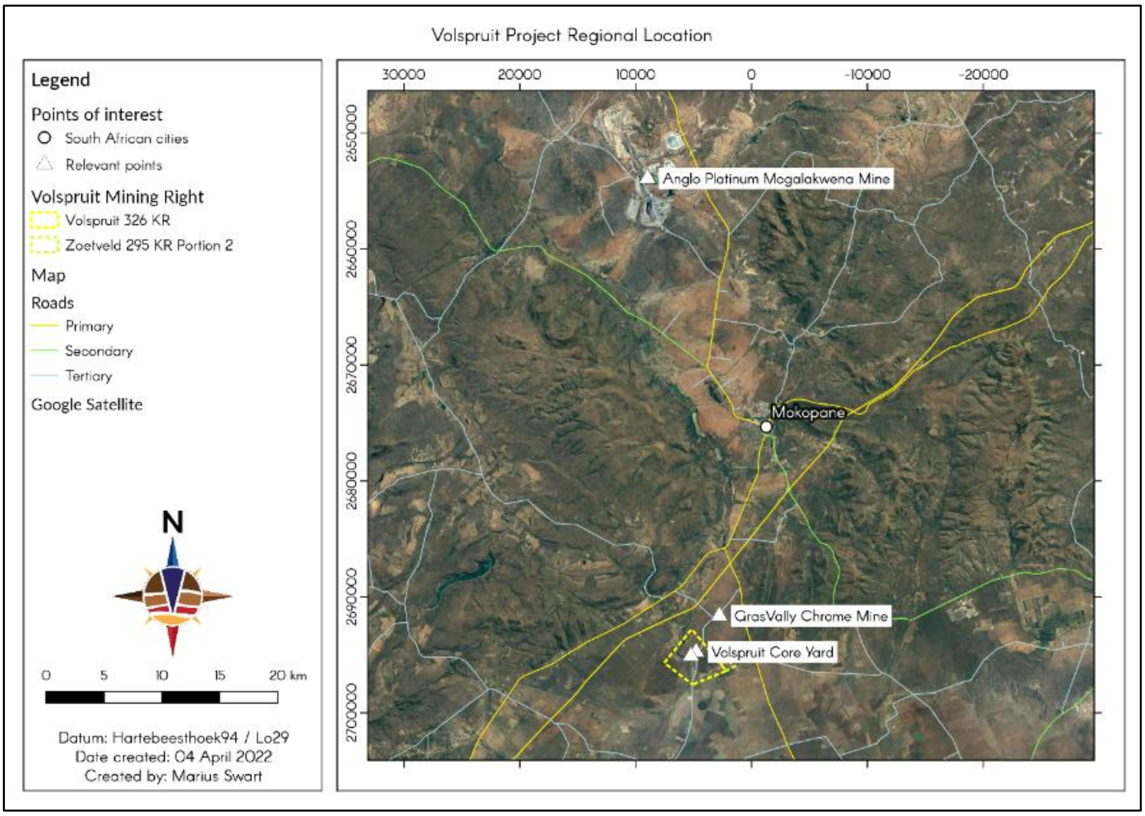


Figure 1. Locality map of the Volspruit Project region.

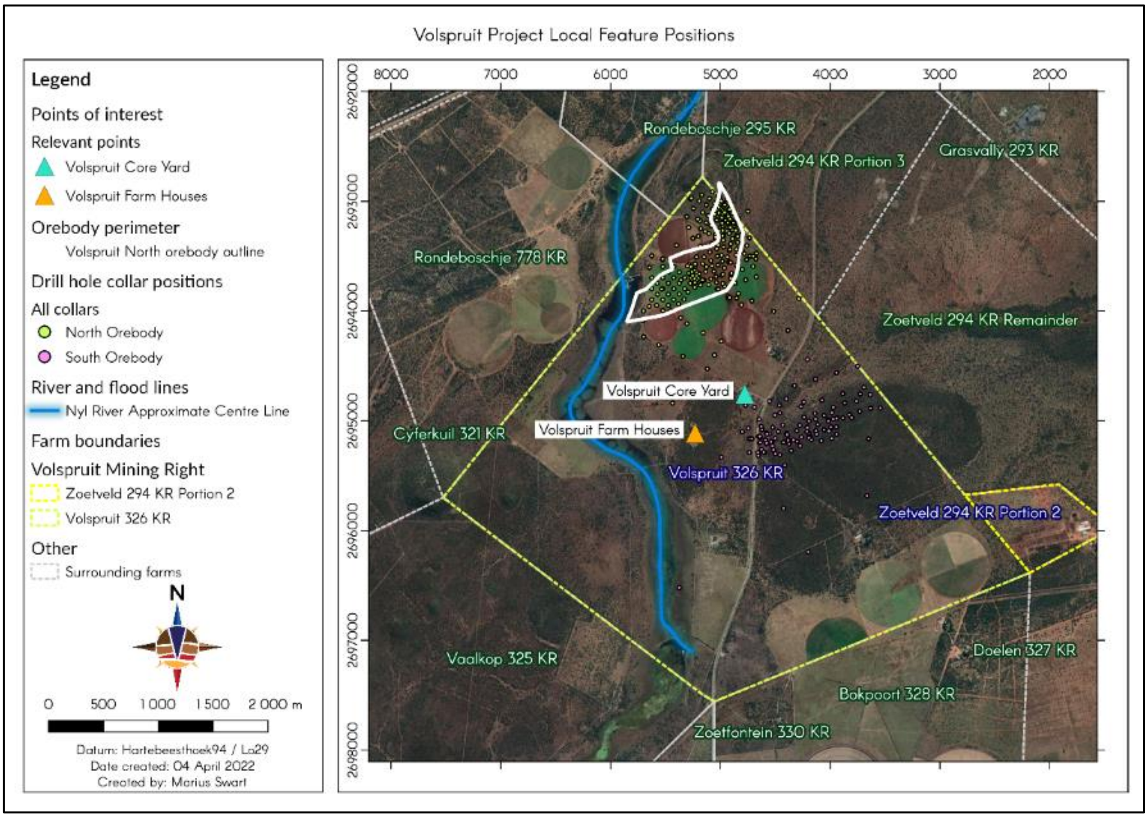


Figure 2. Locality map of the farms Volspruit 326KR and Zoetveld 294KR Portion 2.

There are two small farmsteads and farming land on the project location that are confined to the northern and south-eastern boundaries (Figure 2).

The project location can be accessed from the N11 national highway, via the Singlewood turnoff travelling toward the south. The Singlewood road is paved up to and within 5 km from the site, where access is over an all-weathered gravelled section of the road. The gravel road is maintained by graders on a semi-quarterly basis but is subject to municipal delays and governance.

3 LAND TENURE AND MINERAL TENEMENT

3.1 Land Tenure

The Surface Rights for the area covered by the Volspruit Mining Right are held by Sylvania in respect of Portions 5 and 7 of the farm Volspruit 326 KR, through a subsidiary company, the Volspruit Mining Proprietary Limited ("Volspruit"). The Surface Rights for portions 1, 2 and 8 of the farm Volspruit are held by private individuals.

The neighbouring farm Zoetveld 293 KR has relevance because some of the future mining infrastructure is planned to be situated on this farm. The Surface Rights for Zoetveld are held by Zoetveld Mining Proprietary Limited (Zoetveld). Zoetveld is a wholly owned subsidiary company of Sylvania and it is also the holder of a Mining Right in respect of the remaining extent and Portion 1 of the Zoetveld 294 KR.

The Surface Rights ownership over the Volspruit and Zoetveld are summarised in Table 1 below. The map in Figure 3 illustrates the relevant Surface Rights ownership.

Table 1. Surface Rights ownership across the Volspruit 326 KR and Zoetveld 294 KR.

Farm name	Portion	Owner	Contact person
Volspruit 326 KR	1	Faer Glen Properties No 55 (Pty) Ltd.	Phillipie de Klerk
Volspruit 326 KR	2	Elizabeth De Beer	Dewald De Beer
Volspruit 326 KR	5 and 7	Sylvania Properties	Anton de Vos
Volspruit 326 KR	8	L P Steenkamp	Lukie / Kariena Steenkamp
Zoetveld 294 KR	RE	Zoetveld Mining and Prospecting (Pty) Ltd.	Anton de Vos

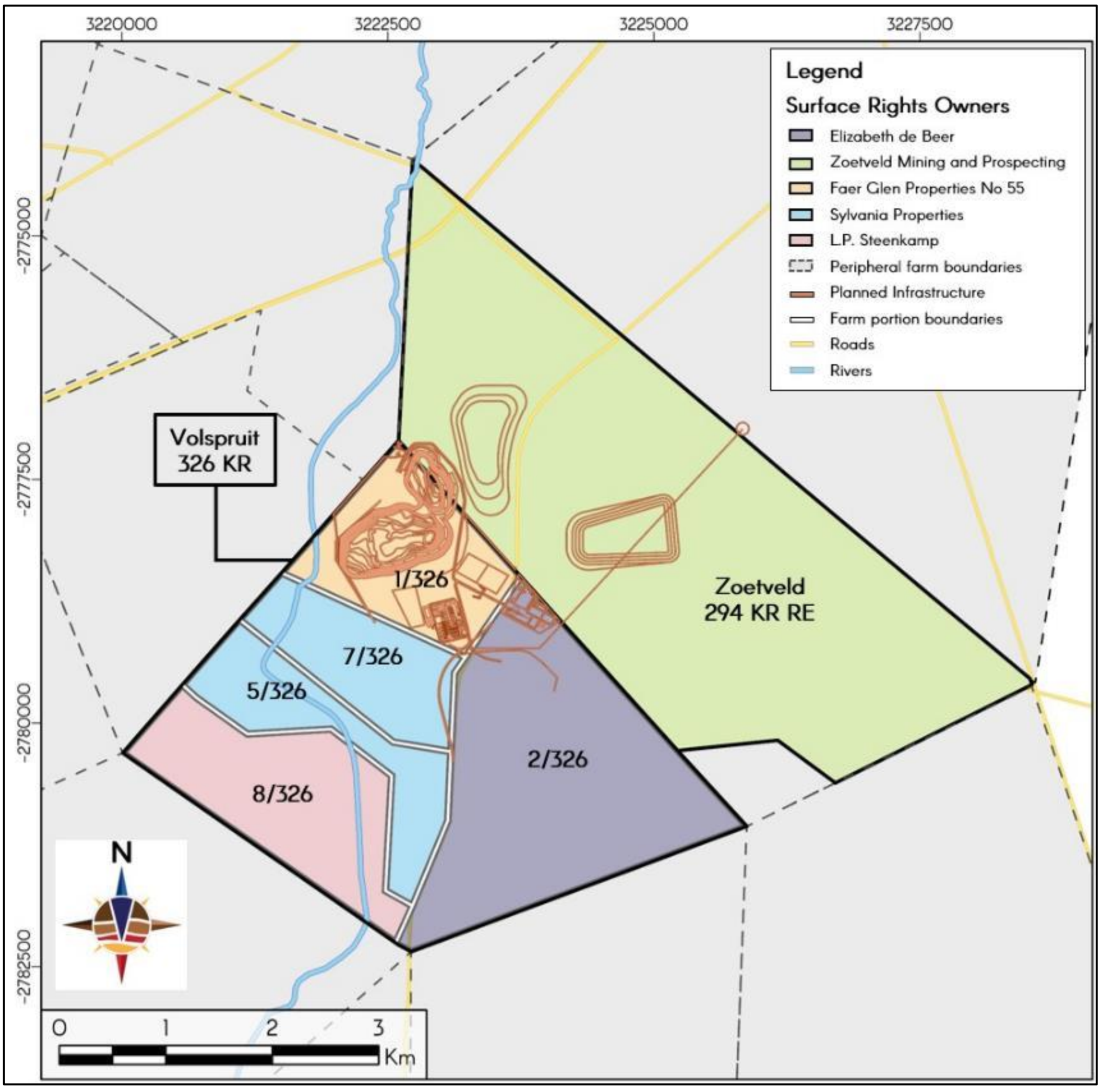


Figure 3. Map showing the Surface Rights ownership.

3.2 Mineral Tenement

The Volspruit Project, which comprises the North and South Bodies underlie the farm Volspruit 326 KR and a small portion of the adjoining farm Zoetveld 294 KR (Remaining Extent). The farm Volspruit 326 KR (all portions) and Portion 2 of the farm Zoetveld 294 KR had a Prospecting Right (PR), number 111/2006 which has been superseded by an approved Mining Right, MPT No. 11/2018.

A Sale of Shares and Claims Agreement (Agreement) has been established between Sylvania Resources Proprietary Limited (Sylvania Resources), Sylvania Metals Proprietary Limited (Sylvania Metals) and Forward Africa Mining Proprietary Limited (Forward Africa) on 03 November 2021. In this Agreement, Sylvania Resources and Sylvania Metals agree to sell their shares and claim in Grasvally Chrome Mine Proprietary Limited (Grasvally), respectively to Forward Africa. The Agreement further stipulates that Volspruit Mining Company Proprietary Limited (Volspruit) remains the mineral rights holder for Platinum Group Metals (PGMs) in respect of the Grasvally Mining Right. Volspruit intends to lodge a Section 102 to include the PGMs and associated minerals into the Volspruit Mining Right that falls within the current Grasvally Mining Right.

The Mining Right application was submitted to the Department of Mineral Resources and Energy (DMRE) by a subsidiary of Sylvania Platinum Ltd, the Volspruit Mining Company (Pty) Ltd, on 14 November 2017, and was registered on 27 February 2018, which is stated within the document titled – 'Mining Right Volspruit'. The Mining Right defines the minerals which can be mined as PGMs, Au, Nickel (Ni), and Chrome (Cr).

The Mining Right was authorised under the Power of Attorney granted by the Director-General of the DMR on 28 June 2017 in terms of section 103 (1) of the Act, No. 28 by the representative of PPD as director of Volspruit Mining Company (Pty) Ltd, Registration number: 2009/022451/07. The duration of the Mining Right shall commence on 04 October 2017 and will continue to be enforced for 30 years ending on 03 October 2047.

Suspension or cancellation of the right shall be enforced should the Holder not commence mining operation within one year of the effective starting date unless the Holder provides a written request for late-date commencement. Renewal of the right must be submitted within 60 working days before the date of expiry of the right.

3.3 Mining Rights

3.3.1 Volspruit 326 KR (MPT No. 11/2018)

This Mining Right was granted to Volspruit Mining Company (Pty) Ltd for PGMs, Au, Ni, and Cr in respect of the farms Volspruit 326 KR and Zoetveld 294 KR Portion 2, located in the Magisterial District of Mogalakwena (Figure 4), Limpopo Province. The Mining Right is valid for 30 years with the commencement date of 04 October 2017, expiring on 03 October 2047.

A Section 102 application was lodged with the DMRE to include the mineral copper (Cu) in terms of MPRDA. Section 102 was granted by the Department of Minerals and Energy on 12 January 2021 and notarially executed with the Mineral and Petroleum Titles Registration Office (MPTRO) in Pretoria.

3.3.2 Zoetveld 294 KR (MPT No. 16/2019)

This Mining Right was granted to Grasvally Chrome (Pty) Ltd. (Grasvally) for the mineral Cr in respect of the remaining extent and Portions 4, 5 and 18 of the Grasvally 293 KR and the remaining extent and Portion 1 of the farm Zoetveld 294 KR, located in the Magisterial District of Mogalakwena (Figure 4), Limpopo Province. The Mining Right was granted in 2018 for 30 years expiring on 04 September 2048.

A Section 102 application was lodged with the DMRE on 13 December 2019 to include the mineral rock aggregate and PGMs in terms of MPRDA. Section 102 was granted by the Department of Minerals and Energy and notarially executed with the MPTRO in Pretoria on 07 February 2020.

3.3.3 Other Material Agreements

A Sale of Shares and Claims Agreement (Agreement) in respect of the Grasvally has been entered into between Sylvania Resources Proprietary Limited (Sylvania Resources), Sylvania Metals Proprietary Limited (Sylvania Metals) and Forward Africa Mining Proprietary Limited (Forward Africa) on 03 November 2021. In this agreement, Sylvania Resources and Sylvania Metals agreed to sell their shares and claim in Grasvally, respectively to Forward Africa. The agreement further stipulates that Volspruit Mining Company Proprietary Limited (Volspruit) remains the Mineral Rights holder for PGMs in respect of the Grasvally Mining Right. Volspruit intends to lodge a Section 102 application with the DMRE in terms of MPRDA to amend Volspruit Mining Right to include the Properties in the mining area to which the Volspruit Mining Right relates and to include the right to mine PGMs from the Grasvally Mining Right area.

According to the agreement, until such time that Section 102 has been granted and amendments to the Volspruit Mining Right have been notarially executed Grasvally and Volspruit shall enter into a contract mining agreement under which Grasvally will appoint Volspruit as contract miner, following the provisions of Section 101 of the MPRDA. Under this agreement, Volspruit will mine and process PGMs included in the Grasvally Mining Right and pursuant to which Grasvally will sell the PGMs so mined and processed to Volspruit until such time that Section 102 has been notarially executed.

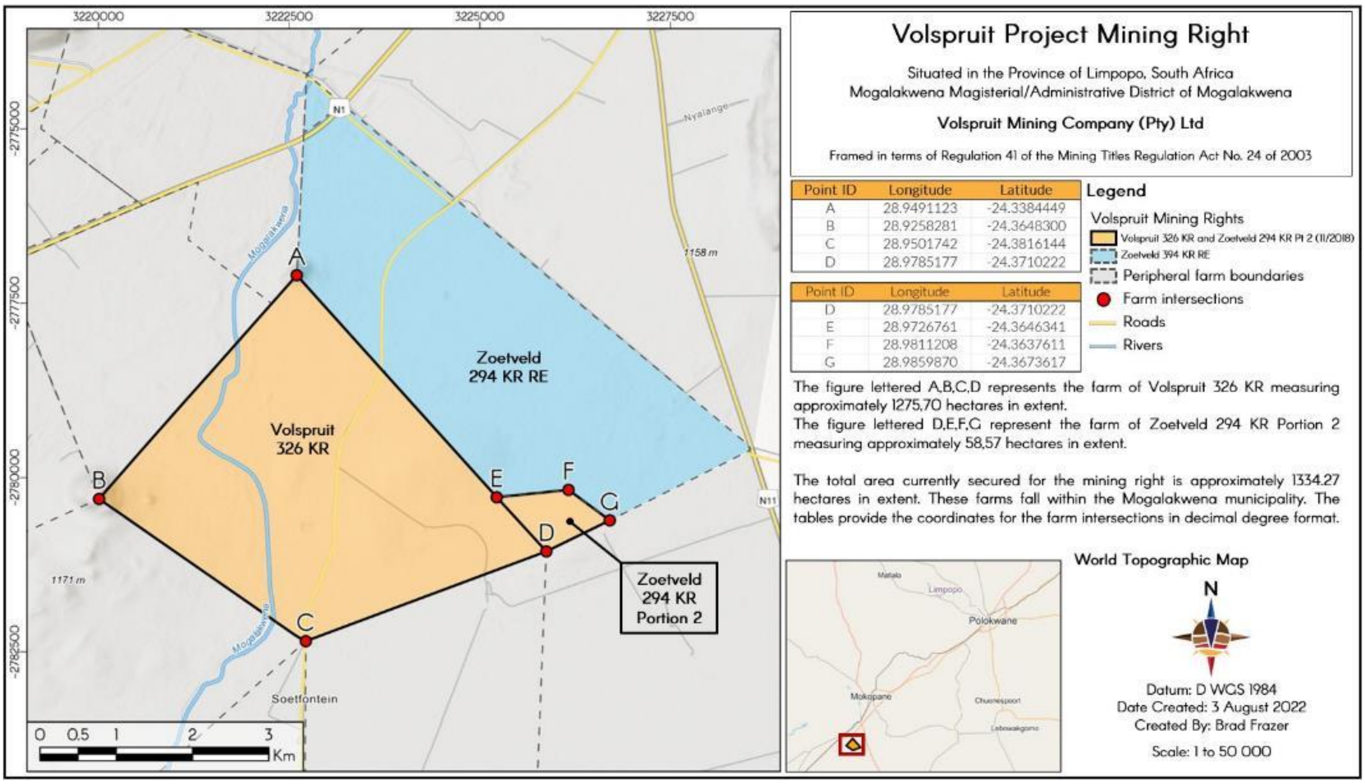


Figure 4. Map showing the location of the Volspruit Mining Right.

3.4 Ownership

Prospecting Licences over the properties comprising the Volspruit project were held at various stages by various mineral exploration companies. Previously, African Metals Corporation (Amcor), Anglo American Corporation (AA) and Shell held Prospecting Rights over Volspruit and conducted exploration work during the 1950s and 1960s. Rio Tinto Zinc (RTZ) was the holder of Mining Rights during the 1970s and 1980. Genmin held the Mineral Rights to some extent and drilled three metallurgical drill holes in addition to the 39 diamond drill holes over the Northern and Southern Bodies. Limited verifiable information is available from these periods (SRK , 2011).

In 2001 the rights to the property were taken over by PPD who drilled an additional 151 diamond drill holes in 2002 and 2003 over the project area that confirmed the mineralisation in the North and South Bodies and extended the North Body to the west (SRK , 2011). The Prospecting Right license was granted on 27 February 2006 for five years to the holding company of Pan Palladium South Africa (Pty) Ltd.

The current ownership structure of the Volspruit project is illustrated in Figure 5. Sylvania has a 74% shareholding in the Volspruit Project, while the Black Empowerment entity Iolite Trading 16 (Pty) Ltd. owns 26%.

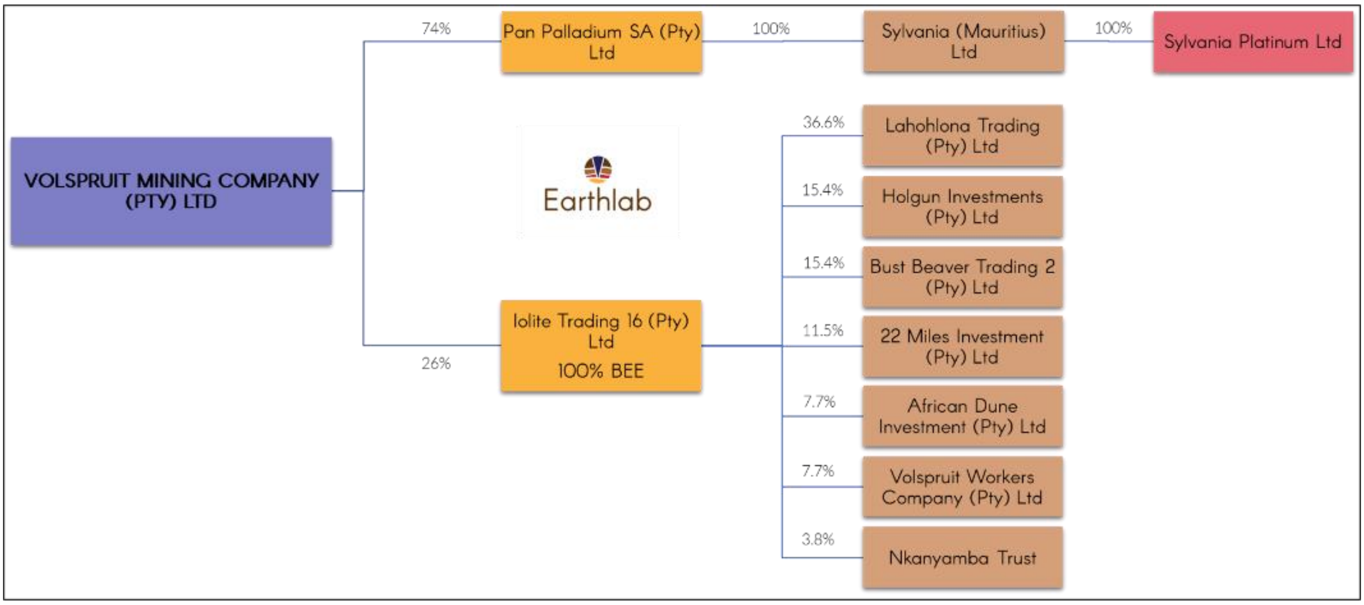


Figure 5. Corporate structure in respect of the Volspruit project owned by a wholly owned subsidiary of Sylvania, PPD.

4 GEOLOGICAL SETTING

4.1 Regional Geology

4.1.1 Bushveld Complex

The Bushveld Complex (BC) is the largest layered intrusion on Earth and hosts the world's largest magmatic ore deposits (Lee, 1996). The BC has emplaced 2055.91±0.26 Ma (Zeh, et al., 2015), and comprises several limbs; the Eastern, Western, and Northern Limbs, that cover an approximate areal extent of 90,000 km^2 (Finn, et al., 2015). The Northern Limb of the BC is separated from the Eastern and Western Limbs by the approximately east-west striking Thabazimbi-Murchison Lineament (TML) (Figure 6). The connection between the latter limbs of the BC remains under much debate amongst the geological community across the globe.

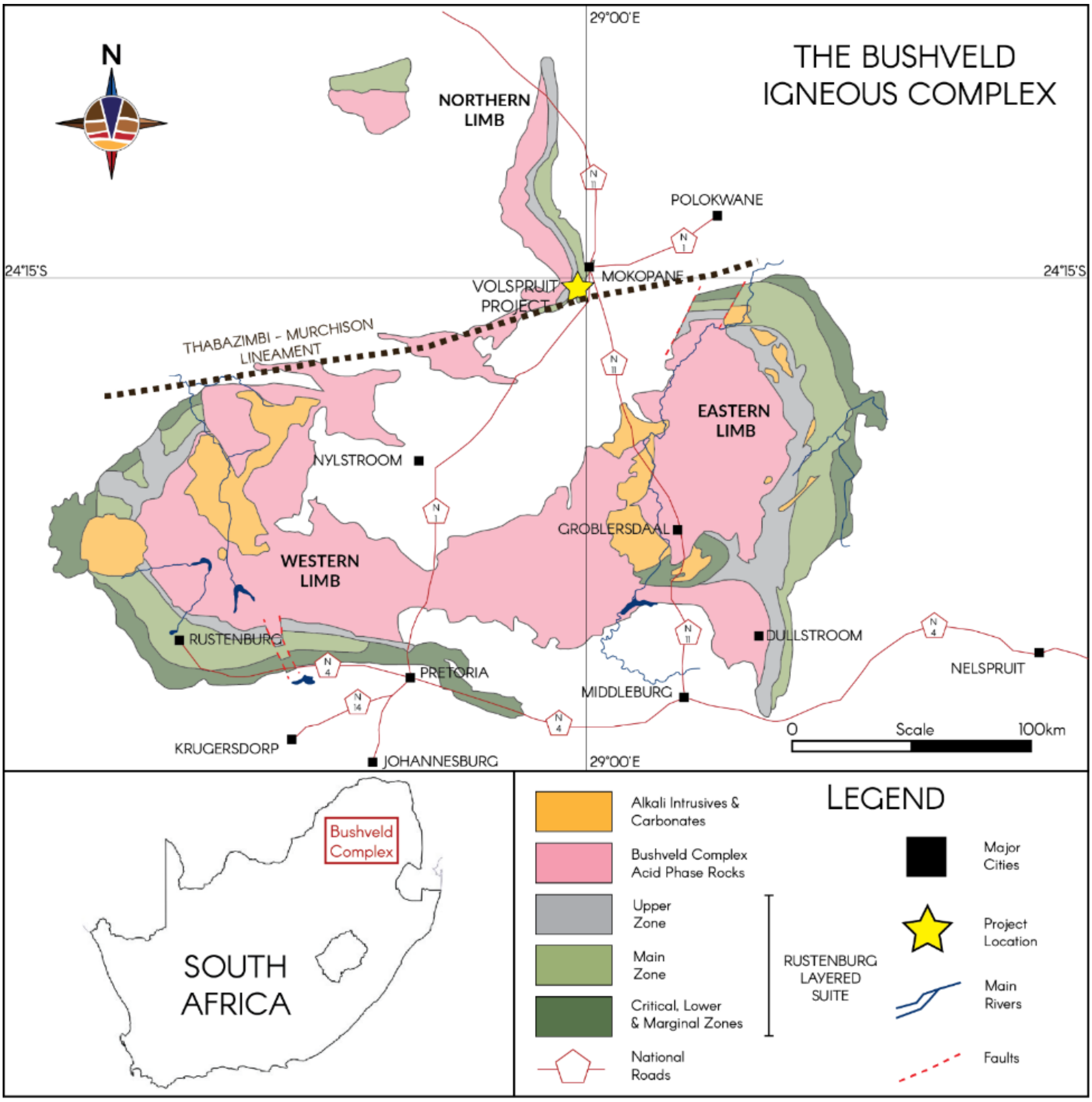


Figure 6. Bushveld Complex and its respective limbs, major towns, cities, and major road infrastructure

The BC is sub-divided into several igneous bodies which include the Rustenburg Layered Suite (RLS), the Lebowa Granite Suite, the Rashoop Granophyre Suite, and the Rooiberg Group Volcanics (Cawthorn, et al., 2006). The following sections describe the occurrences of these sub-divisions, where the Lebowa Granite Suite, Rashoop Granophyre Suite and Rooiberg Group Volcanics have been left out in this report as they are not directly relevant.

4.1.1.1 Rustenburg Layered Suite

The RLS is the world's largest layered mafic intrusion, covering approximately 65,000 km^2 reaching thicknesses between 7 – 9 km (Eales and Cawthorn, 1996). The RLS is a lopolith-like intrusive body and is host to the largest PGM reserves on the planet among other significant contributions to chrome production (Naldrett, et al., 2009).

The RLS was emplaced at shallow crustal levels beneath the Rooiberg Group Volcanics and the Transvaal Supergroup. The RLS comprises several main layers showing spectacular layering, which have been grouped according to spatial distribution, variation in lithology, and morphology. These layers include, from the base to top, the Marginal, Lower, Critical, Main, and Upper Zones:

- The Marginal Zone is not always present and ranges in thickness from zero to hundreds of metres situated at the very base of the intrusion and is best described as a contact facies of the RLS during its earliest intrusive phases into the Transvaal Supergroup.

- The Lower Zone is limited in its distribution across the BC and is usually confined to areas of basement lows. The best preservation of this zone is found in the northern sectors of the Eastern and Western Limbs, as well as the southern sector of the Northern Limb. The Lower Zone reaches a maximum thickness of approximately 1,300 m (Cawthorn, et al., 2002), and comprises four main lithological units which include a norite-pyroxenite at the base, a lower pyroxenite, harzburgite, and upper pyroxenite. The harzburgites contain cyclic layers containing dunite, harzburgite and pyroxenite.

- The Critical Zone is host to world-class Cr and PGM deposits. These deposits are found within several layers termed “reefs”, but the most well-known are the Merensky Reef and the UG2 Reef. This zone is approximately 1,500 m in thickness and is further sub-divided into the lower sub-zone, comprising an ultra-mafic succession of pyroxenites, as well as the upper sub-zone which comprises a series of chromitite, harzburgite, pyroxenite, norite, and anorthosite. Ultimately there have been approximately nine magmatic cycles identified within the lower sub-zone and eight in the upper sub-zone. Interestingly the Critical Zone marks the first appearance of cumulate plagioclase throughout the RLS and its base is determined by the lowest anorthositic layer between two chromitites.

- The Main Zone forms the largest body of magma by volume within the RLS, reaching thicknesses of over 3,000 m. It comprises a succession of layered gabbronorites with infrequent pyroxenite and anorthosite, where olivine and chromite are rare occurrences. The layers within the Main Zone are associated with multiple influxes of magma, however, this layering has been attributed to the mechanical distribution of crystals throughout the Main Zone, as their compositions are not within cotectic proportions.

- The Upper Zone can be characterised as a sequence of intensely banded gabbros with layers of anorthosites and magnetite. Magnetite layers within this zone are numerous, with some twenty-five layers being identified along with the Eastern Limb of BC (Molyneux, 1974). The Main Magnetite Layer, near the base of the Upper Zone sequence, has been recorded at 2 m thick and is mined for its highly economical vanadium content.

4.1.2 Northern Limb

The Northern Limb is separated from the Eastern and Western Limbs by the Thabazimbi Murchison Lineament and has been rather neglected in the past for its economic potential. Only in recent decades have there been major efforts to reignite exploration along the Northern Limb. The stratigraphy of the Northern Limb has been split into the traditional units established for the Eastern and Western Limbs, i.e., the Lower, Critical, Main and Upper Zones (Figure 7). The Lower Zone is predominantly harzburgites and pyroxenites. The Critical Zone contains layered ortho-pyroxene, clinopyroxene, chromite, and plagioclase cumulates. The Main Zone is dominated by gabbronorite with infrequent anorthosite and pyroxenite, with rare olivine-bearing units. The Upper Zone is mainly ferro-gabbros with variable magnetite.

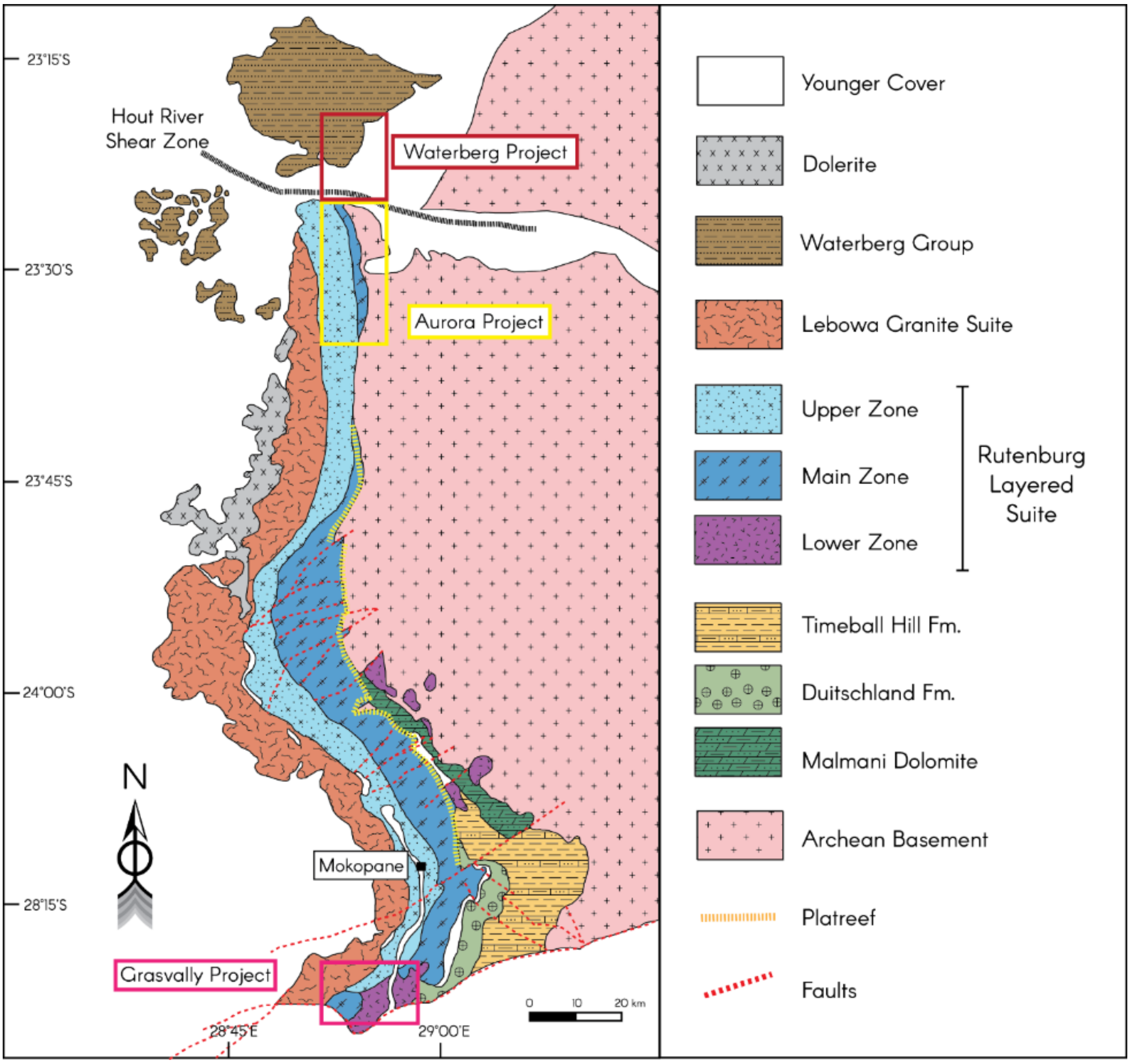


Figure 7. Simplified geological map of the Northern Limb showing the approximate locations of the Waterberg, Aurora, and Grasvally Projects. (Image modified after McCreesh, et al., 2018).

The mineral deposits within the Northern Limb can be separated into four major commodities: tin (Sn), Cr, vanadium (V), and PGMs. The first PGMs mined in this region come from the Platreef deposit, which is considered the Critical Zone equivalent of the Northern Limb and for the most part rest on top of the basement contact of the RLS. The Platreef has had a major impact on PGM mining across South Africa, as it is a shallow orebody, which can be mined using less costly open-cast mining methods. Thus, it has greatly bolstered the production of PGMs for the country and the rest of the world. Recently, new PGM deposits have been identified and undergoing considerable exploration to expand the PGM sector across the BC. These deposits include the Waterberg and Aurora Projects, located far to the northern sectors of the Northern Limb, as well as the Grasvally Project, which is located to the far south of the Northern Limb (Figure 7).

4.2 Local Geology and Stratigraphy

The local geology for the Volspruit Project is described based on historic interpretations and descriptions by PPD as well as information ascertained from literature by Hulbert (1983). No attempt was made by Earthlab to reinterpret the current understanding of geological information. The following paragraphs summarise the local geological setting for the project.

No surface geological mapping within the project area has been undertaken as the outcrop is extremely poor. Hulbert (1983) managed to construct the only geological map of the area using the drill core that was available at the time (Figure 8).

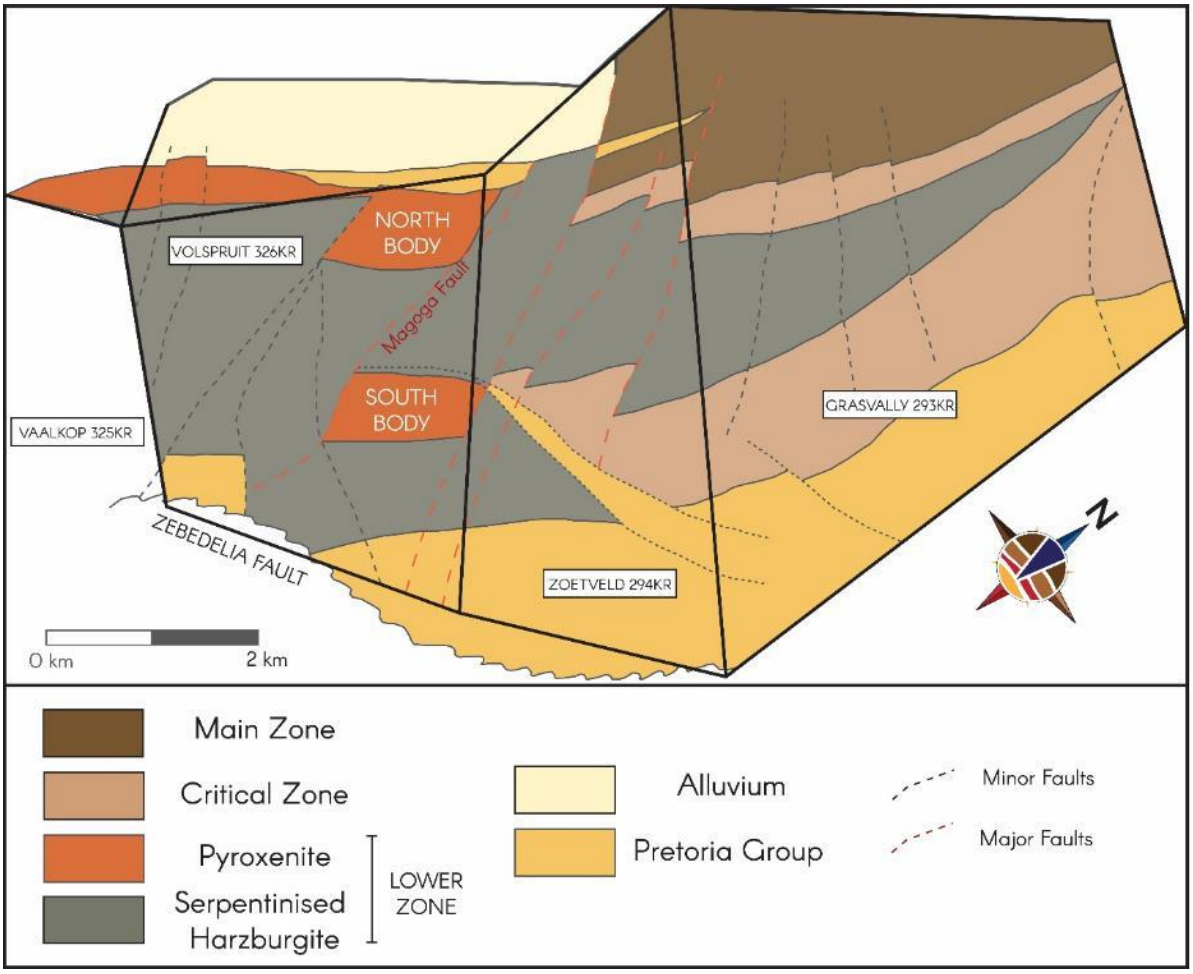


Figure 8. Local geology map of the Volspruit Project. Image modified after Hulbert (1983).

The schematic cross-section in Figure 9 has been largely confirmed by airborne geophysical data collected by PPD from 2001 to 2002. Hulbert's (1983) map reveals a structurally complex region, which is dominated by a series of horst blocks and graben structures with several generations of deformation:

- The first is described by (Hulbert, 1983) as an episode of north-south trending reverse faulting, which resulted in the horst block of the Lower Zone being vertically displaced by almost 800 m into the Critical Zone. This north-south trending fault system was later intruded by a granitic dyke swarm which likely represents the formation of the Lebowa Granite Suite which directly overlies the RLS.
- Second-generation faulting is a WNW to ESE reverse block faulting, which has resulted in a step-like displacement of the RLS towards the west (Hulbert, 1983). This faulting event has exposed parts of the Lower Zone from deeper stratigraphic horizons in the Volspruit, Zoetveld, and Vaalkop farms.
- The third generational faulting is ascribed to the final generation of faults that occurred post-Karoo where basalts from the Karoo have been faulted to contact the Lower Zone along the Zebediela fault (Hulbert, 1983).

Stratigraphically the Volspruit Project area falls within the Lower Zone of the RLS below the Critical Zone which is host to the Platreef deposit, making this particular PGM occurrence rather unique. The Lower Zone within the Northern Limb can be sub-divided into three main groups which include from the base upwards; the Volspruit Pyroxenite, the Drummondlea Harzburgite Chromitite, and the Moordrift Harzburgite Pyroxenite (Figure 10). The Lower Zone contains approximately 37 cyclic units which are numbered from the base upwards. These cyclic units grade in composition and morphology upwards forming the basis of the sub-division stated above.

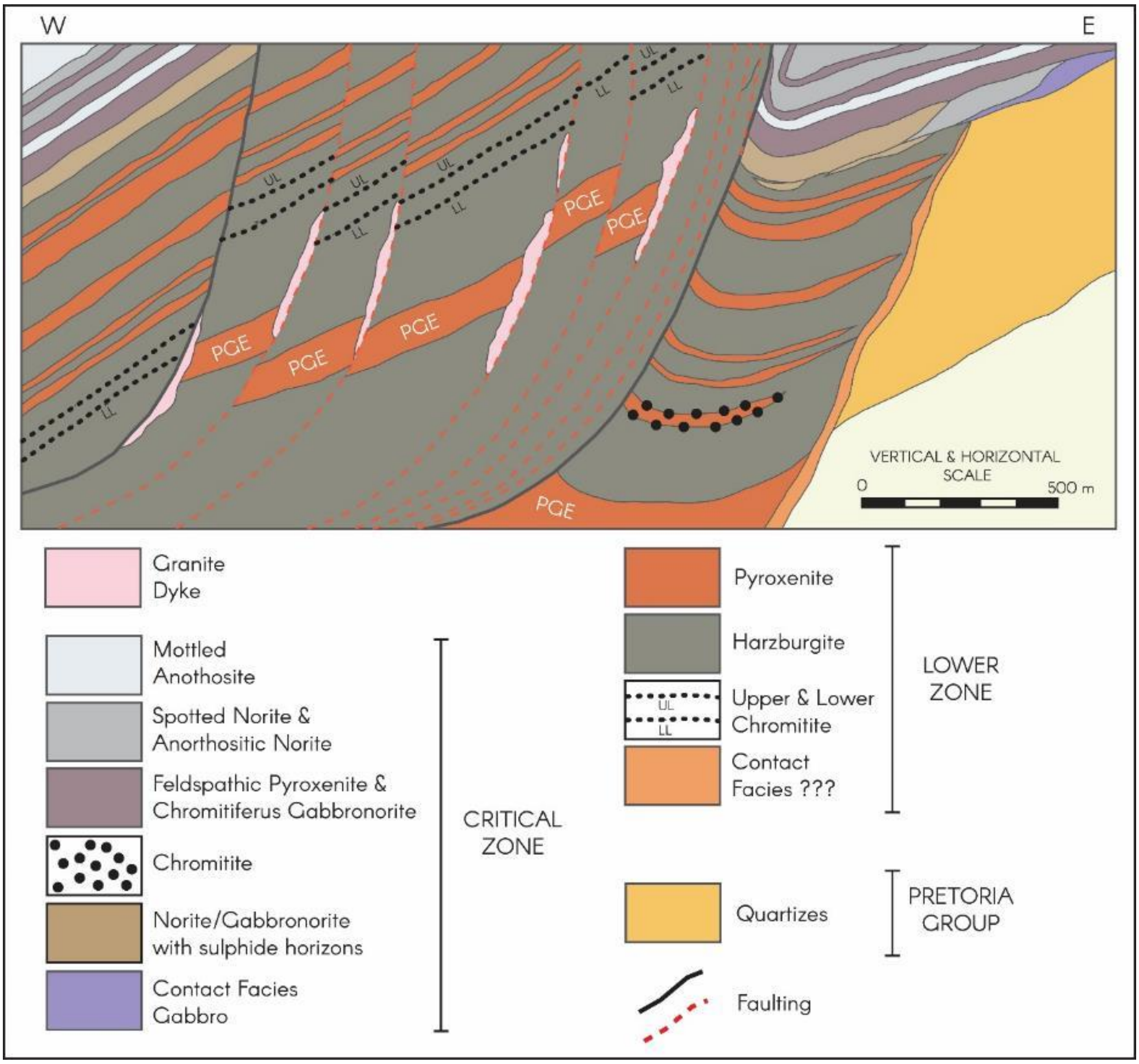


Figure 9. Schematic vertical cross-section of the local geology of the Volspruit Project. Image modified after Hulbert (1983).

Cyclic units 1 through 10 in the Volspruit subzone display incomplete cycles where olivine and chrome-bearing pyroxenites at the base of these units grade into pyroxenite at the top. The upper portion of the cyclic unit 11 contains significant PGE-Cu-Ni concentrations and is host to the Volspruit Reef. Cyclic unit 11 consists predominantly of orthopyroxenite with varying proportions of olivine, chrome, and minor plagioclase. The textures of the unit vary from massive equigranular, streaky to poikilitic pyroxenites (Figure 11).

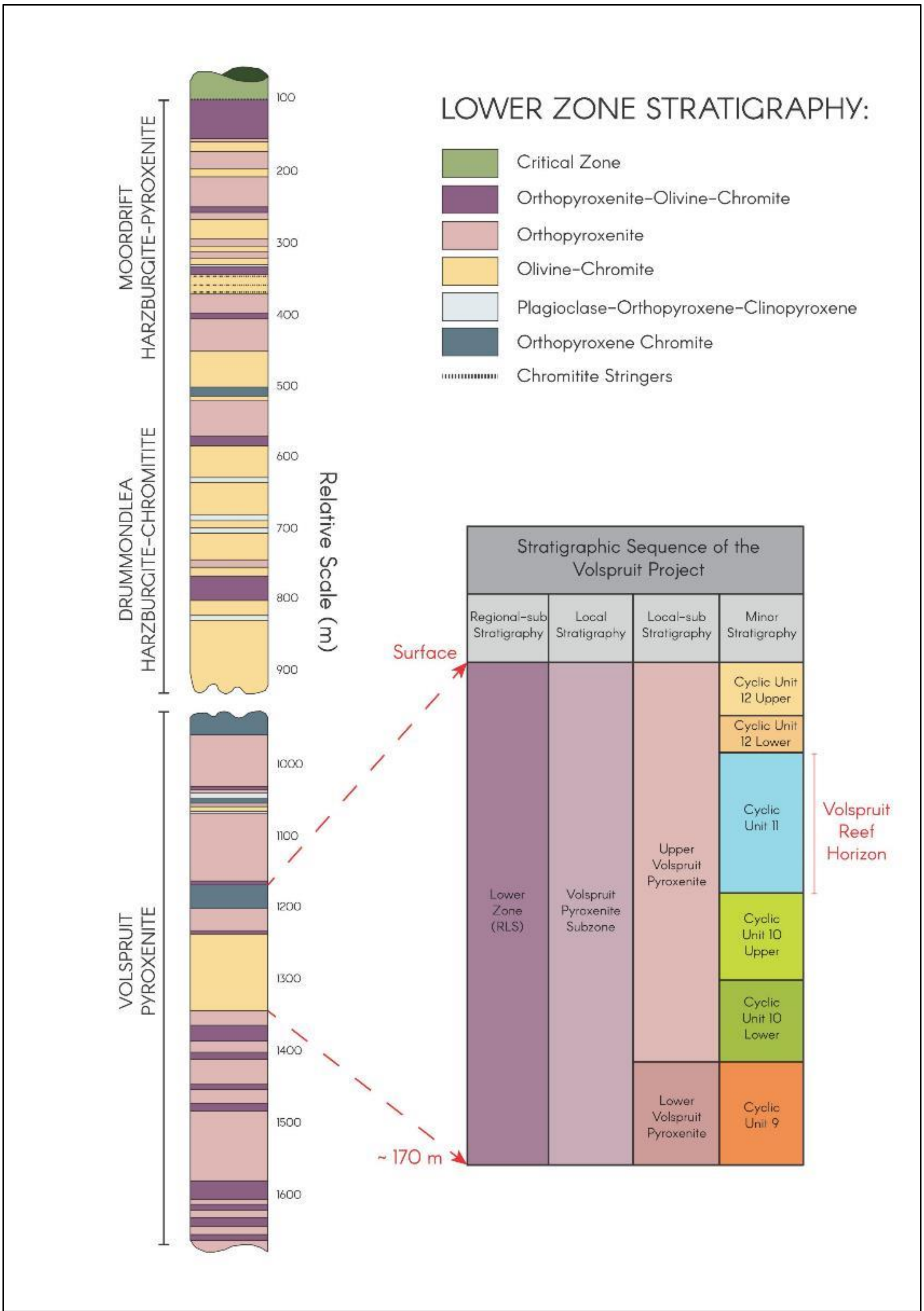


Figure 10. Lower Zone stratigraphy representing the Volspruit Project Area. Image modified after Hulbert (1983).

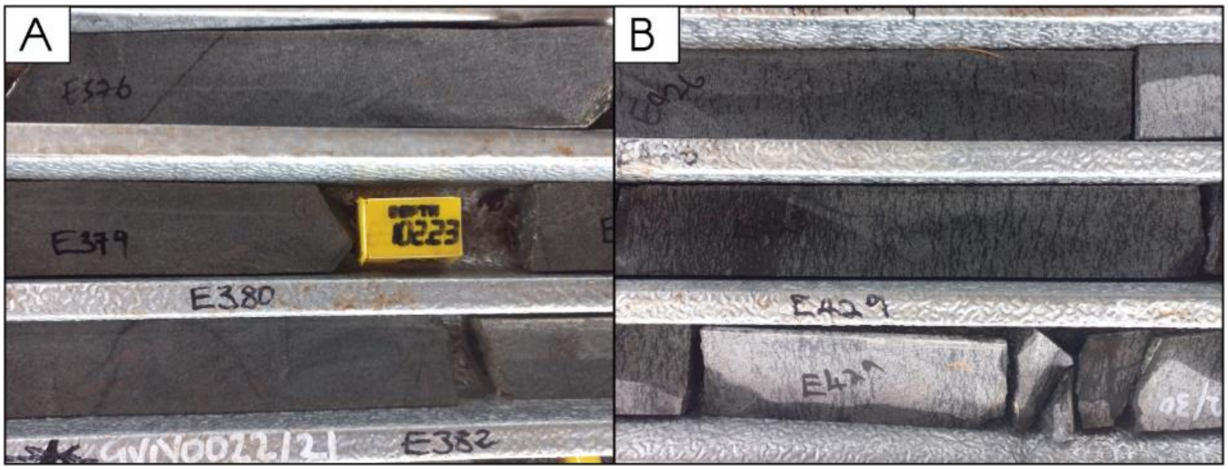


Figure 11. Drill core photographs representing the Volspruit Reef lithologies.

The lithological boundaries defining cyclic unit 11 are not always consistent between drill holes, however, loosely bounding approaches have been used. The upper boundary between cyclic units 11 and 12 is the most consistent throughout the drill holes and is defined as wispy stringers of chromitite locally termed the "Liama Layer". This layer is discontinuous, but recognisable, often marking the top of the mineralised interval. The bottom contact of cyclic unit 11 is not as readily identified within the drill core and often varied between a change from equigranular pyroxenites to streaky or poikilitic olivine-bearing pyroxenites, to even a basal unit of harzburgite. In some instances, the Volspruit Reef horizon has been cross-cut by a series of anastomosing alkali-granite dykes along previously mentioned generational fault systems (Figure 12).

Figure 12. Photograph showing alkali-granite dyke intrusion into the Volspruit Reef.

4.3 Re-logging Results – Grasvally North

Earthlab proposed to improve the geological logging of the Volspruit North deposit by implementing a re-logging campaign for the drill holes which have been used to update the resource model. The current geological model for the Volspruit North deposit has been modelled using historical assay data by assigning domains showing grade continuity at a minimum grade of 1.5 g/t 2E and Au.

The re-logging entailed detailed lithological logging, mineralogical logging, and stratigraphic logging in line with the newly defined stratigraphic units (Figure 14). The re-logging started in January 2023 and was completed in June 2023. A total of 21,949.38 m of core was re-logged.

This was performed because historical stratigraphic logging used multiple naming conventions as well as being based on the larger-scaled cyclic units 10, 11, and 12 within the Volspruit pyroxenite stratigraphic unit. However, this method produces a much longer unit which does not capture the resolution of the deposit within these cyclic units. Earthlab proposed a modified stratigraphic naming convention with new minor-sub and horizon-level stratigraphy fields in which the resolution of the deposit was captured. Figure 14 shows the proposed stratigraphic interpretation that was used to re-logged the Volspruit North deposit. The stratigraphic convention was supported by literature published by Hulbert (1983) and Tanner et al. (2019). Additionally, these new stratigraphic units were able to delineate specific hanging wall units. When estimates were made for the entire hanging wall domain, it resulted in dilution of the grades nearer to the reef interval.

The drill holes investigated for this report were all diamond drill core that was drilled during historical projects undertaken by PPD (Figure 13) and have since been stored in a core shed facility on Volspruit. Table 18 in Appendix A provides the drill hole information, and Figure 13 shows their collar positions on the respective farm.

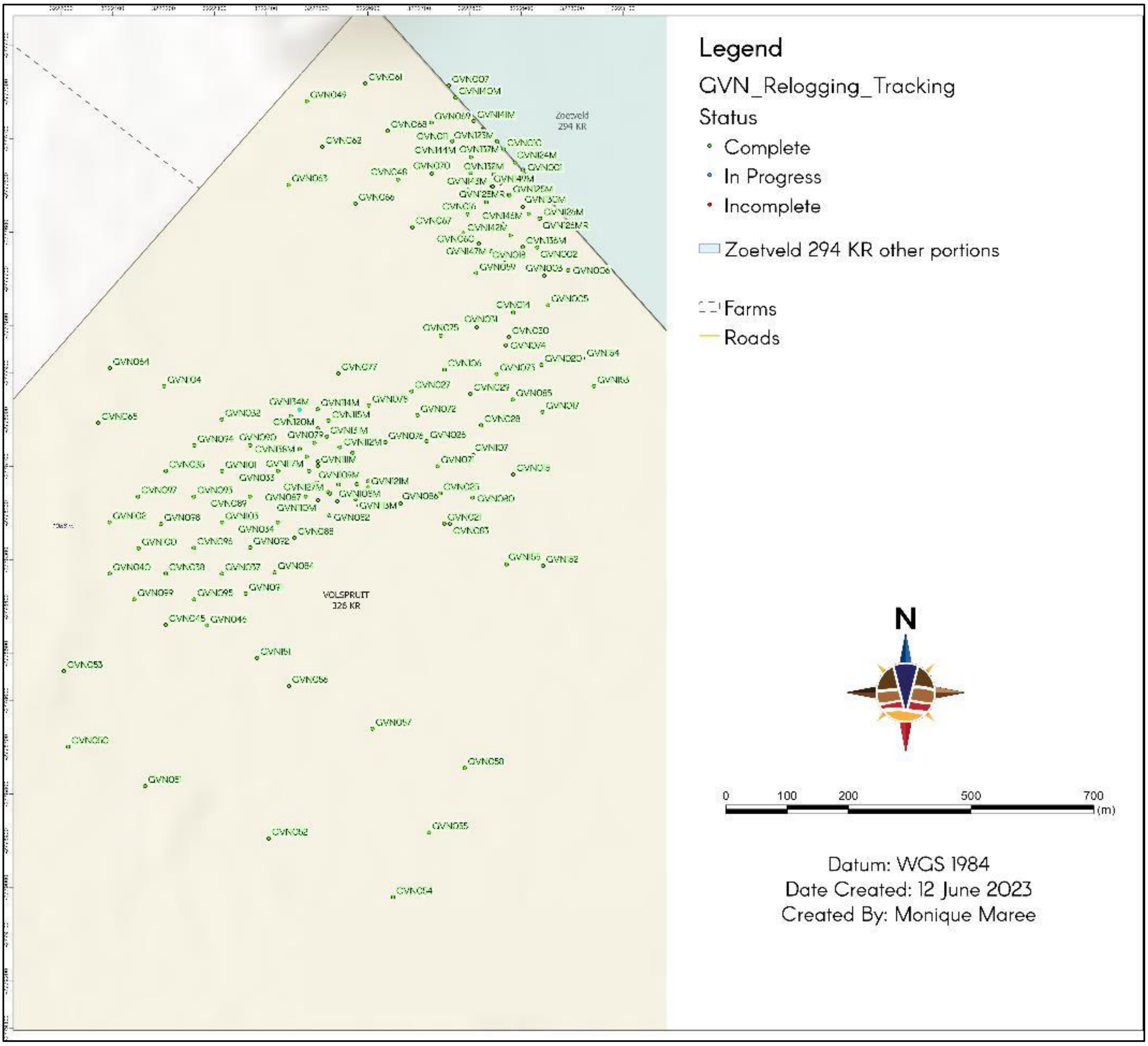


Figure 13: Drill holes that were re-logged in 2023 by Earthlab

4.3.1 Current Geological Findings

The re-logging campaign of 2023 was conducted based on a new stratigraphic understanding generated by Earthlab from the work of Hulbert (1983) and Tanner et al. (2019) (Figure 14), to better define the Volspruit

Reef. In this model it was established that the Volspruit Reef is only confined to Cyclic Unit 11 Upper hosted by pyroxenites (Figure 14).

Cyclic Unit 12 Upper comprises homogeneous ortho-pyroxenites with minor chromite and no sulphides observed.

Cyclic Unit 12 Lower comprises a relatively small unit of harzburgites containing olivine which vary from poikilitic to inequigranular in texture. This unit does occasionally have sulphides but there is no significant PGMs concentrated here. This unit marks the top contact of the hanging wall in the Volspruit Reef which is confined in the Cyclic Unit 11 Upper.

The Volspruit Reef (VR) is confined to the Cyclic Unit 11 Upper. Sulphide mineralisation observed in the cyclic units surrounding Cyclic Unit 11 Upper did not show any significant PGM (Pt and Pd) and Au grades according to historic downhole assay grade profiles of 2E and Au. The unit comprises homogeneous ortho-pyroxenites with minor chromite. It can be sub-divided into several mineralised units, most prominently three units i.e., VR1, VR2 and VR3 along with internal waste zones defined as VR middling units (VRMID) which can be barren or have insignificant scattered mineralisation. These mineralised units are characterised by their base metal sulphide content.

Cyclic Unit 11 Lower forms the basal layer of Cyclic Unit 11 Upper and can be compared to Cyclic Unit 12 Lower as it consists of the olivine-bearing harzburgites which vary from poikilitic to inequigranular in texture and are sometimes strongly serpentinised at certain intervals. Serpentinisation increases with depth and poikilitic harzburgites to equigranular fine-grained dunites form the dominant lithologies. The sulphides in this cyclic unit do not have significant PGM mineralisation according to historic downhole assay grade profiles of 2E and Au.

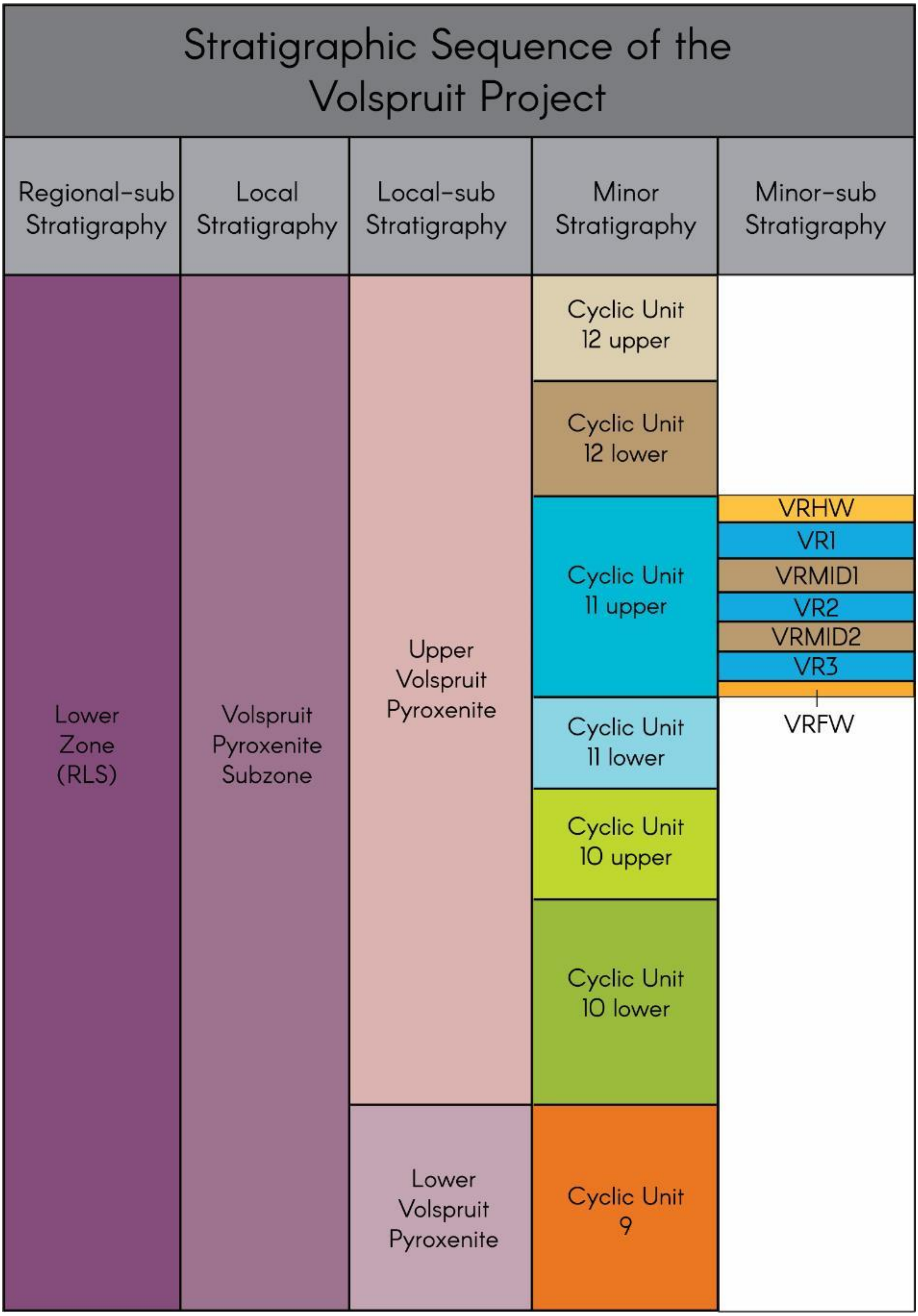


Figure 14: Redefined stratigraphy used by Earthlab for the re-logging of GVN drill holes in 2023.

4.3.2 Logging Validations

Upon completion of the re-logging of historic core, the data obtained was captured into a secure, SQL, database software, SABLE®7.2, by the respective geologists who logged the core. The data was internally evaluated visually with the aid of strip-logs (Figure 15) and signed off by the database manager once the drill hole has passed the validation.

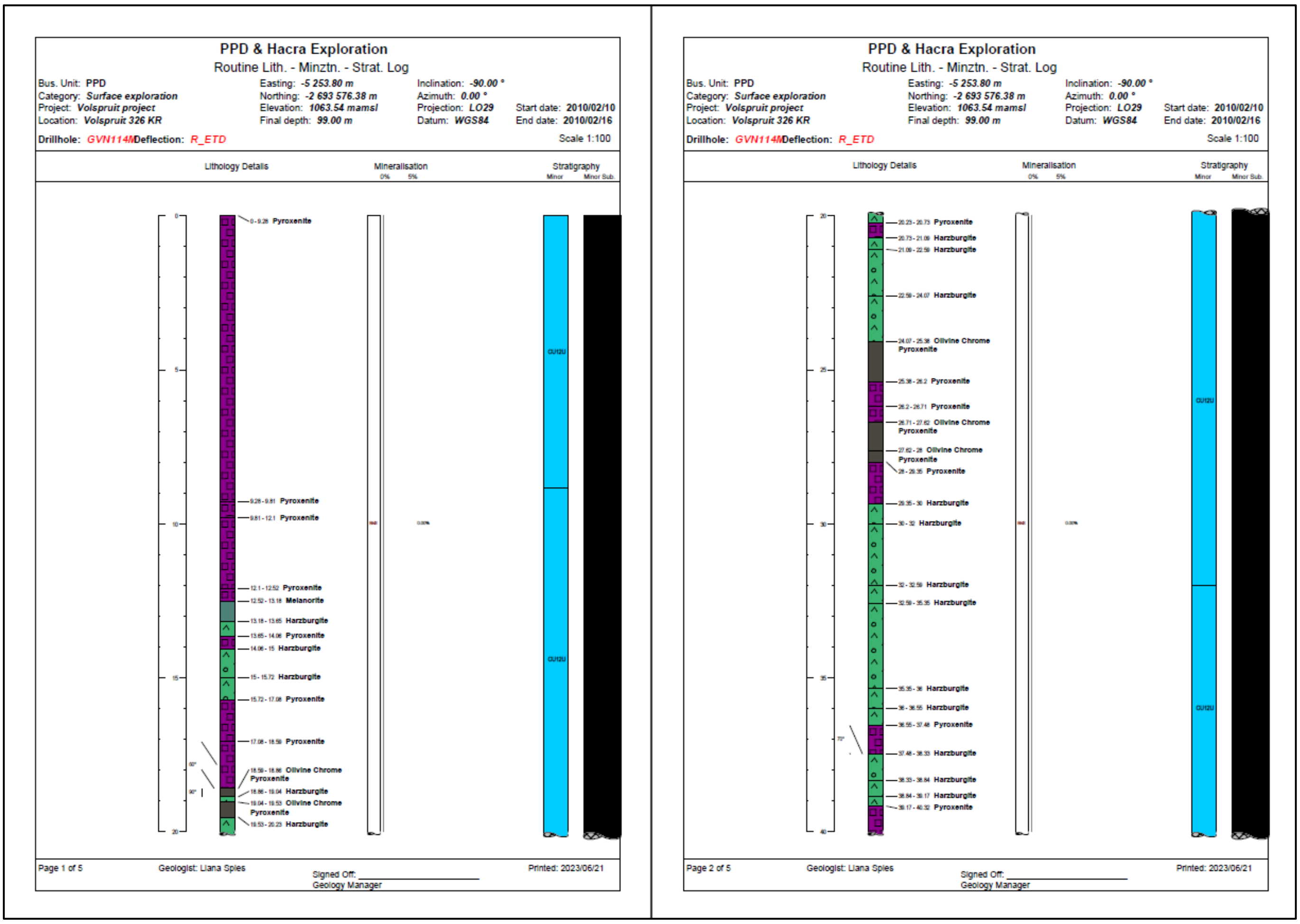
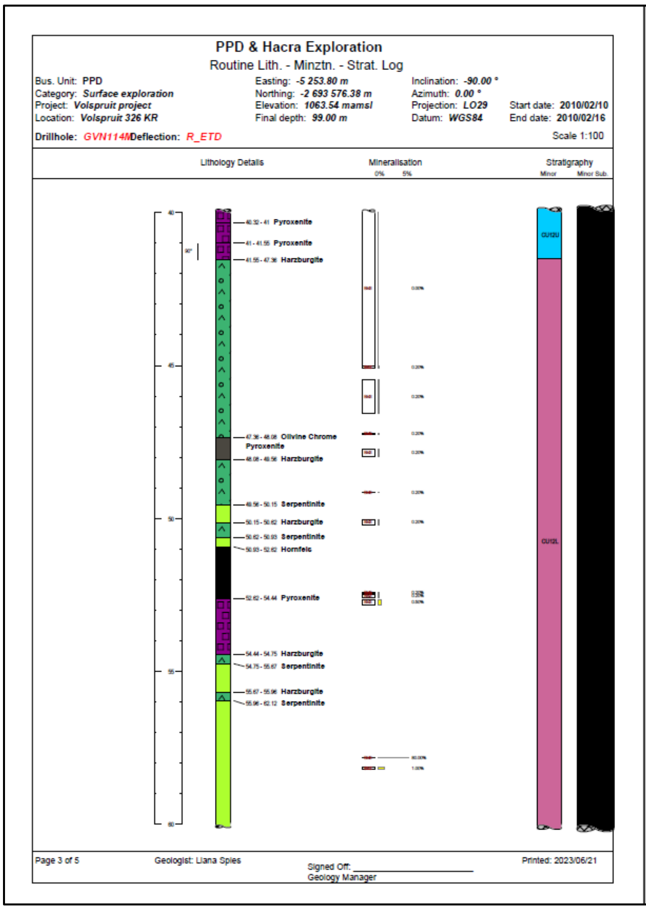
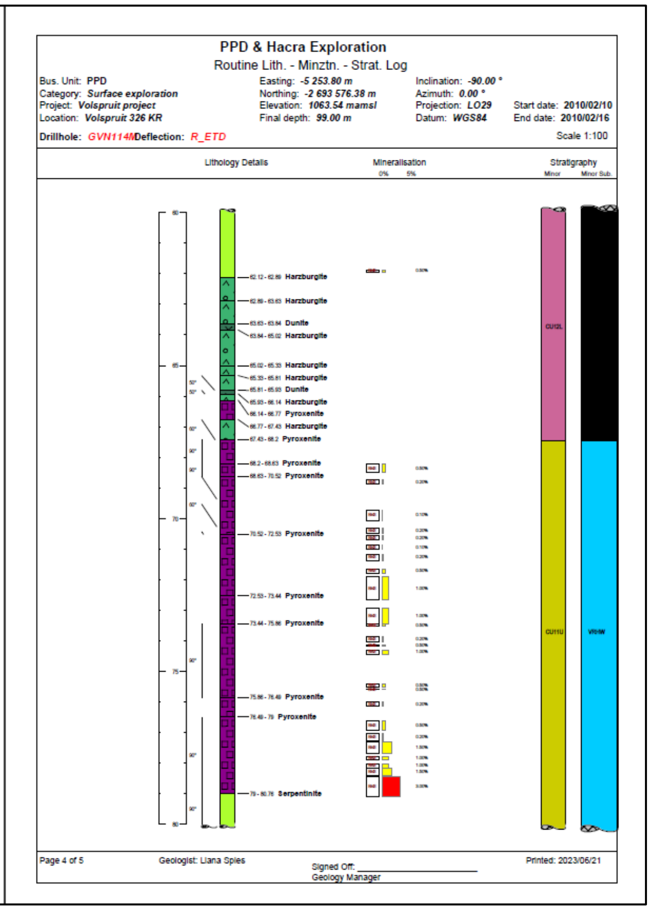


Figure 15: Example of a strip-log.


PPD & Hacra Exploration
Routine Lith. - Minztn. - Strat. Log
Bus. Unit: PPD
Category: Surface exploration
Project: Volspruit project
Location: Volspruit 326 KR
Easting: -5 253.80 m
Northing: -2 693 576.38 m
Elevation: 1063.54 mamsl
Final depth: 99.00 m
Inclination: -90.00 °
Azimuth: 0.00 °
Projection: LO29
Datum: WGS84
Start date: 2010/02/10
End date: 2010/02/16
Drillhole: GVN114M Deflection: R_ETD
Scale 1:100
Lithology Details
Mineralisation
Stratigraphy
Page 3 of 5
Geologist: Liana Spies
Signed Off:
Geology Manager
Printed: 2023/06/21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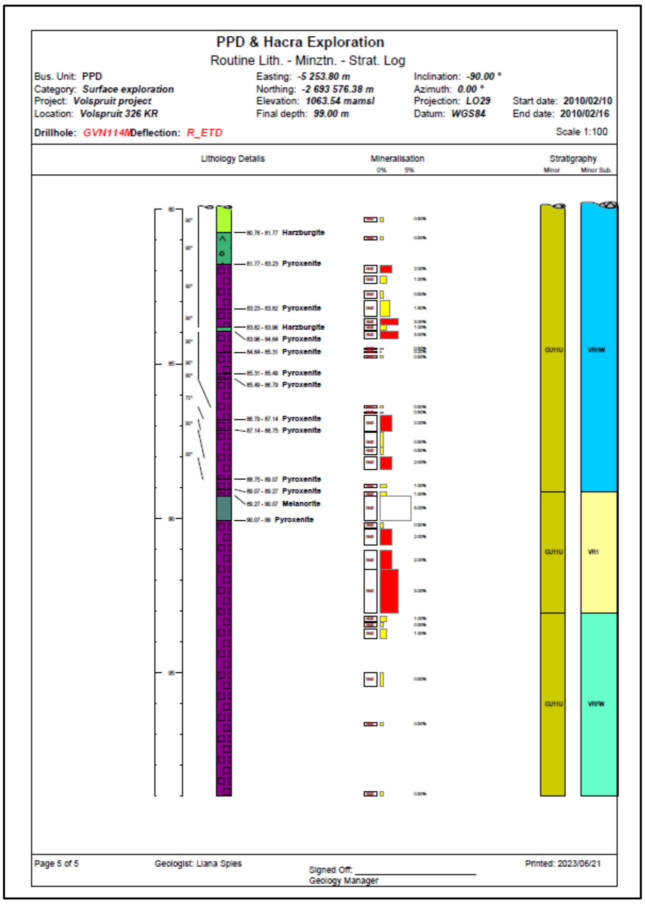
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Mineralisation
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4.4 Deposit Type

The Volspruit Reef has provisionally been classified as a disseminated, PGE-Cu-Ni, syn-genetic, ortho-magmatic deposit within the Lower Zone of the RLS by Hulbert, 1983. Tanner et al., 2019 suggested that the parental magma of the Lower Zone had a separate ultramafic source. The B1 magma is modelled as a mixture of 22% solids equivalent to Lower Critical Zone pyroxenite with 78% liquid while the B1-UM magma represents chills of a basal ultramafic sequence with distinct high siderophile element chemistry from magmas in the eastern limb of the BC corresponding with results obtained by Tanner et al., 2019. Tanner et al., 2019, views the deposit as primitive, ultramafic magmas which intruded along sedimentary contacts beneath the main Grasvally magma chamber. Their research indicates that the Malmani Dolomites may be the location of the sub-Grasvally staging chamber. Carbonates with a minor contribution from surrounding sediments locally increased the oxygen fugacity (fO_2) of the ultramafic magmas leading to chromite saturation and crystallisation evident from exotic chromite inclusions. The chromite crystallisation leading to a decrease iron along with an external influx of sulphur from sedimentary contamination led to lowered levels of required to achieve the sulphur saturation and crystallisation of the sulphide minerals. Turbulent pulses or sudden faults moved the magma slurries with crystals to the main Grasvally magma chamber. As the cumulates cooled, interstitial sulphide droplets fractionated, exsolving a copper rich liquid which crystallised Fe-Ni rich base metal sulphides and precious metal mineral assemblages of the Volspruit Reef Zone.

The metamorphic aureole surrounding the northern limb of the BC records two stages of metamorphism. The first the emplacement of the Lower Zone (Grasvally chamber) and the second the emplacement of the overlying layered rocks. The second phase altered and serpentinised the Lower Zone rocks with low-grade regional metamorphism and associated gentle folding and four episodes of faulting (Tanner, et al., 2019). The North Body deposit is displaced by a north-south trending fault termed the Magoga Fault, which has thrusted the ore body downwards towards the east. The deposit is subdivided into two main structural domains: a northern domain and a southern domain. The northern domain represents a flat-lying and sub-cropping body that is overlain by subsequent cyclic units or regolith. The southern domain is the largest, deepest domain and appears as a graben structure bounded by inward stepping faults along its peripherals.

4.5 Style of Mineralisation

The Volspruit Reef mineralisation is predominantly interstitial disseminated to net-textures sulphide assemblages hosted within olivine and chrome-bearing pyroxenites. The sulphide mineralisation within this horizon, in decreasing abundance, consists of pyrrhotite, pentlandite, chalcopyrite and cubanite (Hulbert, 1983). Sulphide assemblages reach their peak modal abundance at approximately 3 wt.% of the whole rock composition. Mineralisation is predominantly hosted by fine-grained equigranular ortho-pyroxenites with minor olivine and chrome occurrences.

According to Tanner, et al., 2019 the PGMs were directly observed within chromite-hosted sulphide inclusions. Their studies show it was unlikely that the late-magmatic fluids which migrated through the crystal pile played any significant role in enriching the PGMs of the Volspruit Sulphide Zone. Instead, the texture and high tenor of base metal sulphides in the Volspruit Sulphide Zone indicate that PGMs were partitioned into an immiscible sulphide liquid, which scavenged PGMs from a larger body of silicate magma.

5 METALLURGICAL DRILLING

PPD, the Mining Right holder of the Volspruit Project, approached Earthlab to scope an investigation study to find a solution for the unfavourable flotation response results obtained during the flotation test work undertaken by DRA. From the metallurgical optimisation studies conducted, DRA reported PGM recoveries of between 65 and 70% at a feed grade of 1.5 – 2 g/t. Earthlab recommended that mineralisation continuity be tested at a higher cut-off grade to determine if sufficient continuity exists and then based on the results, remodel the Mineral Resource. Furthermore, although rhodium (Rh) does not comprise any portion of the declared Mineral

Resource, it has been demonstrated in preliminary metallurgical test work by Mintek that Rh contributes around 6% to the 3E and Au prill split in the concentration feed material. It was therefore based on this observation decided that a representative number of samples be selected for Rh sampling.

5.1 Drilling Project Overview

5.1.1 Initial Planning

The drill hole positions have been planned to meet several requirements in addition to providing a representative metallurgical sample for test work to be conducted. These include upgrading a portion of the Indicated and Inferred Mineral Resources for the North Body, as well as being able to produce enough primary samples to satisfy a regression for the remainder of the 5E and Au element suite on the existing samples used for the current resource estimate.

The initial drill hole collar positions, as well as the depth intervals and material weights required for the metallurgical test work, were designed based on the 2022 MRE. The initial collar positions of the planned drill holes for the proposed metallurgical drilling campaign are presented in Table 2 below.

Table 2. Initially planned drill collar positions for the metallurgical drilling.

BHID	X	Y	Drill hole orientation	Proposed depth (m)
GVN201	-4864.021	-2693554.435	-90°	50
GVN202	-5393.835	-2693522.737	-90°	35
GVN203	-5070.905	-2693136.844	-90°	30
GVN204	-4944.371	-2693139.413	-90°	60
GVN205	-5204.545	-2693810.498	-90°	120
GVN206	-4887.169	-2693300.824	-90°	65
GVN207	-4845.489	-2693279.524	-90°	80
GVN208	-5255.089	-2693826.579	-90°	120
GVN209	-5164.730	-2693797.929	-90°	115
GVN210	-4962.740	-2693465.586	-90°	15
Total – 10 Drill holes				690 m

Due to some of the planned drill holes plotted on the cultivated pivots and/or irrigation pipes, the farmer raised objections in terms of cost and access, and this resulted in some of the drill holes being cancelled. The revised collar positions, as indicated in Figure 16, were re-designed to fit the farmers requirements and were approved by Sylvania.

The Volspruit Reef re-modelled in 2022 was created by constructing wireframes of the mineralised intervals that showed the best continuity between drill holes. In some areas, continuity could be inferred between more than one of the mineralised intervals. In the areas where multiple mineralised intervals existed but continuity between drill holes could not easily be determined for some of the intervals, those mineralised intervals were included in the hanging wall or footwall waste domains. The material to be recovered was planned on single reef wireframes (2022 Mineral Resource) and did not consider any potential second or third mineralised intervals (Table 3).

The ore/waste classification for the 2023 MRE modelling purposes was done based on a cut-off grade procedure. The position, thickness, and grade of the mineralised zones in the metallurgical holes turned out to be different from what the 2022 MRE suggested in the area and could be attributed to the short-scale variability of the deposit. This variation, not uncommon in exploration, adds to the growing appreciation of the gradational nature in the mineralisation envelopes of this specific deposit (which is also quite common in the Bushveld Complex i.e. the gradational grade profile of all the Merensky Reef facies). The actual metallurgical sample intervals are planned based on the ore/waste classification parameters applied in the 2023 MRE model, whether the drill hole information is included in the MRE or not.

To meet the farmer's (cost and access) and Sylvania's (cost) requirements and limitations mentioned above, the planned positions of the metallurgical drill hole collars were moved based on the consultation between Sylvania and the landowner. The new positions of these collars were placed with reference to the 2022 MRE model which assisted in their placement in areas where enough of each material type (oxidised, transitional, and fresh) could be achieved. Figure 16 below shows these revised changes to the positioning of the metallurgical drill holes. As a result of these changes, the deviation from the original design caused variation to what was set out to be achieved, as a consequence of Sylvania and the farmer/landowner and the management thereof by Sylvania.

The changes in the planned versus actual material are illustrated in Table 3 (as a result of the revised drilling plan). Also, subsequent changes are related to the material types i.e. oxide, transitional and fresh material, which now varies as well from the initial proposed plan.

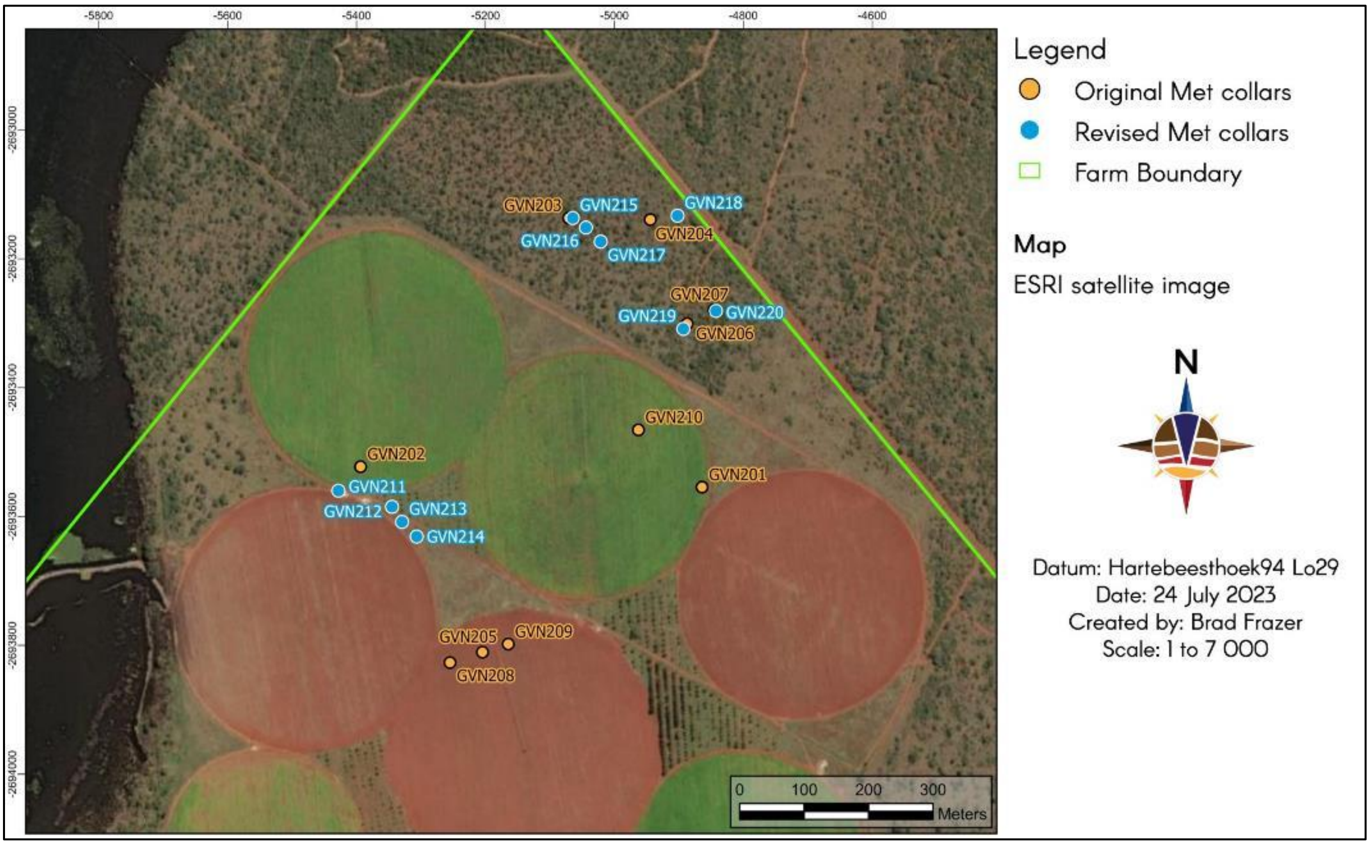

Figure 16. Design change comparison for the metallurgical drilling collar positions.

Table 3: Comparison of the initially planned proposal, the revised proposal and the actual achieved during the metallurgical drilling in 2023.

Summary of Initial Planned Metallurgical Drilling	EST Intersection Length (m)	EST Bulk Weight (kg)
Initial Planned Total Oxide	40.51	166.68
Initial Planned Total Transitional	28.32	125.68
Initial Planned Total Fresh	138.98	665.76
Total	207.81	958.12
Summary of Revised Metallurgical Drilling	EST Intersection Length (m)	EST Bulk Weight (kg)

Revised Total Oxide	39.30	161.69
Revised Total Transitional	36.40	161.56
Revised Total Fresh	114.50	548.48
Total	190.20	871.72
Summary of Actual 2023 Metallurgical Drilling	**Actual Intersection Length (m)**	**EST Bulk Weight (kg)**
Actual Achieved Total Oxide (O+W)	34.24	87.65
Actual Achieved Total Transitional (O+W)	26.83	95.25
Actual Achieved Total Fresh (O+W)	102.85	492.65
Total (O+W)	163.92	675.55

5.2 Drilling Technique

The 2023 metallurgical drilling campaign was drilled using the diamond drilling method, enabling a complete, intact, and uninterrupted whole core view of the subsurface geology, mineralisation, and stratigraphy. The core was retrieved in a 3 m core barrel situated within the end of the drill string, just above the diamond drill bit. As the bit rotates at high speed, it cuts through the rock, producing core that was sent into the core barrel. With a wireline overshot system, the core barrel was retrieved with every 3 m progression in the drilling. The drill bit was continuously cooled, and lubricated with chemicals mixed in water that was sent down the drill string. The core that was retrieved from the core barrel, is placed in a 1.5 m metal tray from left to right with a depth marker indicating any core loss/gain. All the drill holes in this campaign were drilled at -90° from the surface. The drill holes were drilled with HQ drill bit sizes. No orientated core drilling was drilled during this metallurgical drilling campaign. All depth markers where checked by Earthlab for any errors as part of the quality control.

5.3 Spatial Data Integrity

5.3.1 Methods and Equipment

For exploration projects, it is necessary to record the exact location of geological features and drill holes. This is conducted with a collar survey. The X-, Y- and Z-coordinates of all relevant geological information need to be recorded with a high level of accuracy. This ensures effective and optimised planning throughout the exploration and mining life cycle of a mineral project.

The second and most important application of survey work in exploration drilling involves downhole surveying of the drill holes. Downhole survey data (dip and azimuth) and drill hole location (X-, Y-, and Z-coordinates) are used to calculate the 3D spatial locations of downhole data including lithological logging, sampling, and assays. Survey data must be managed and interpreted to maximize the accuracy of the downhole data, which can ultimately affect resource modelling.

5.3.1.1 Drill Collar Survey

Rasema Geomatics, a contracted certified land survey used a differential Trimble R-4 GPS system to conduct collar surveys on all completed drill holes. Drill hole coordinates were given in the Hartebeeshoek 1994 LO 29 national coordinate system. The surveyed collar positions of these drill holes are listed in Table 4 and graphically shown in Figure 17.

Table 4: Surveyed drill hole collar positions of the 2023 metallurgical drilling campaign.

BHID	XCOLLAR	YCOLLAR	ZCOLLAR	SURVEY_DATE	PROJECTION	DATUM
GVN211	-5427.147	-2693559.639	1061.642	2023/03/01	LO29	WGS84
GVN212	-5345.534	-2693584.984	1062.395	2023/03/01	LO29	WGS84
GVN213	-5333.169	-2693611.956	1062.409	2023/03/01	LO29	WGS84

GVN214	-5309.275	-2693628.343	1062.737	2023/03/01	LO29	WGS84
GVN215	-5064.529	-2693139.706	1070.166	2023/03/01	LO29	WGS84
GVN216	-5043.211	-2693153.645	1069.877	2023/03/01	LO29	WGS84
GVN217	-5019.771	-2693171.877	1069.879	2023/03/01	LO29	WGS84
GVN218	-4902.279	-2693132.149	1070.936	2023/03/01	LO29	WGS84
GVN219	-4893.652	-2693308.137	1068.763	2023/03/01	LO29	WGS84
GVN220	-4842.086	-2693279.582	1069.624	2023/03/01	LO29	WGS84

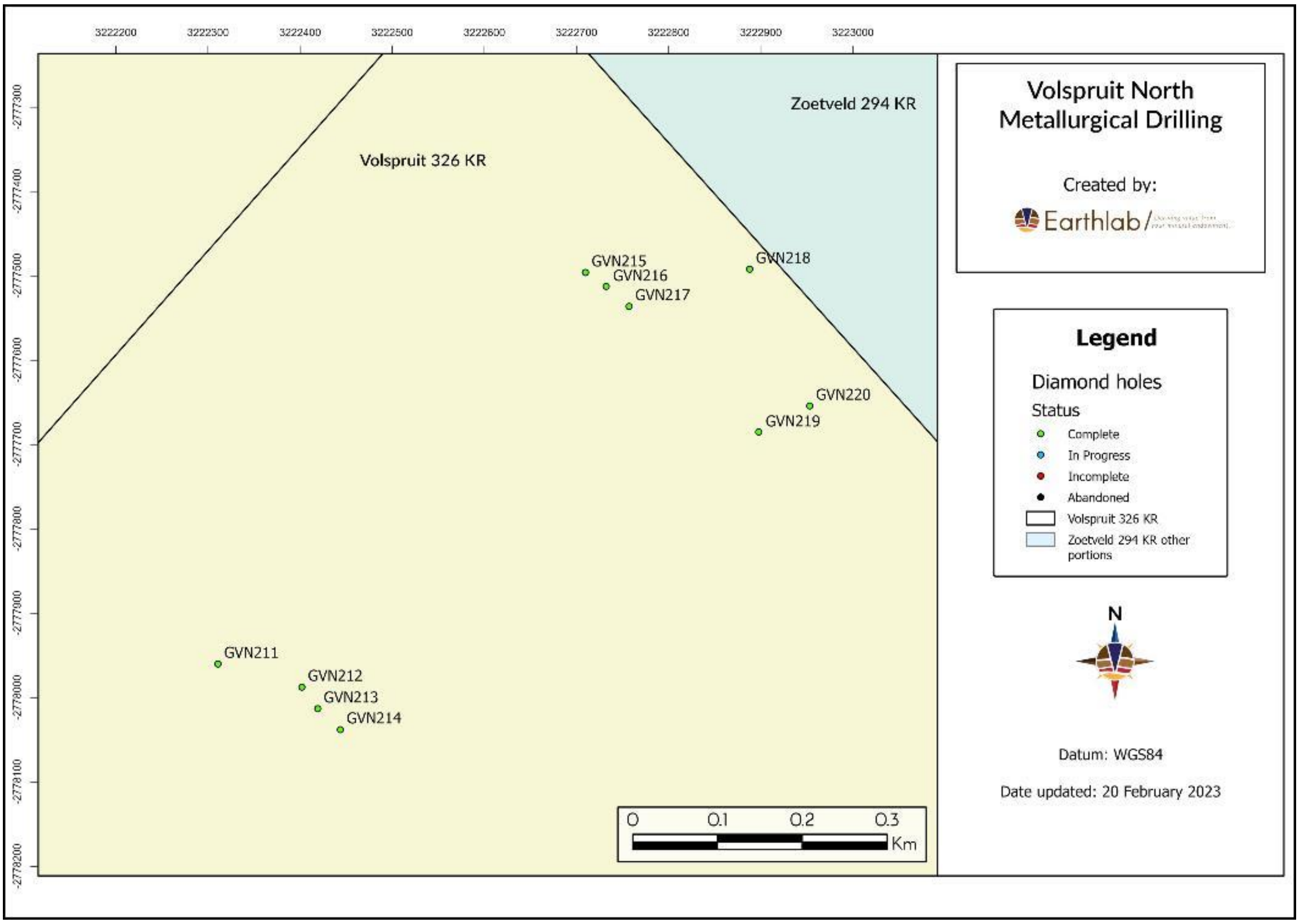

Figure 17: Drill holes drilled for the metallurgical drilling campaign of 2023 by Earthlab.

5.3.1.2 Downhole Survey

Knowing the true thickness of geological and sampling units for accurate volume calculations during the MRE is important. To achieve this, the dip correction to the geological and sampling units must be performed accurately to represent the true thickness of the deposit. For this reason, the downhole survey was conducted, to determine the deflection of the hole from its collar position on the surface.

Downhole surveys were conducted on 3 m intervals using the Reflex EZ-TRAC electronic multi-shot (EMS) tool (Figure 18). The EMS tool utilises magnetometer and accelerometer technology to track the path of a drill hole below the surface. The device initially measures the direction and strength of the Earth's magnetic field (Magnetic North) at the project location and then records the subtle deviations in strength and direction as it moves down the drill hole. The tool will only be able to make recordings from 98° to 70° dip angle. The device then records the dip and azimuth readings for a specified depth interval every seven seconds and must be manually controlled to take a reading. The tool is inherently susceptible to magnetic interference, which may include the rock types along the sidewalls. The tool comprises several components, starting from top to bottom: the landing collar, three 1.5 m aluminium rods (non-magnetic) survey tool containing the magnetometer and accelerometer. The length of the tool is 6 m when fully constructed and is placed within the drill hole after removing the inner tube.

Figure 18. Reflex electronic multi-shot survey tool used for the down hole surveying.

5.3.2 Drilling Time Frame

Earthlab engaged the services of Ibhubesi Exploration Drilling (Ibhubesi) for the metallurgical drilling campaign who mobilised out of Secunda in Mpumalanga, South Africa to Volspruit site in November 2022. The drilling commenced from 18 January 2023 to 17 February 2023. Drill site rehabilitation was conducted in March 2023. All drill sites were inspected by Earthlab and signed off for compliance.

5.4 Drill Hole Information

Drill holes for the 2023 Metallurgical drilling campaign on Volspruit were drilled to increase the metallurgical confidence within the mining area as well as add Rh, Ir, and Ru as part of the Mineral Resource. Two drill rigs capable of drilling PQ and HQ-size core were used to complete the drilling. No deflections were drilled during the programme. The drillers ensured the correct stick-up measurements, core recoveries, and depth marks for each hole were correctly indicated on core blocks. These measurements were checked and validated by the geologists at the core yard upon the exchange of custody of the core.

All relevant drill hole information was recorded into a secure database and validated by the geological database manager to ensure quality data has been used during the development of a resource for the area. Figure 17 shows the location of all the drill holes on the Volspruit site.

Table 5 summarises the drill hole information for the 2023 metallurgical drilling campaign and indicates the depth of intersection for the targeted Volspruit Reef, the final depth of the hole, dip and azimuth of the hole, as well as additional features. In the 2023 metallurgical drilling campaign, a total of 701.80 m was drilled. The total metres drilled with PQ drill bits amounted to 103.67 m, and the total metres drilled with HQ drill bits amounted to 598.12 m.

All the drill holes intersected VR except for GVN211. This drill hole was planned and drilled on an inferred fault block with the expectation that the ore zone would be very shallow, but this was not the case. There is now more confidence in the model that the fault block is not there and that the ore zone is in continuity with the rest of the North 2 drill holes.

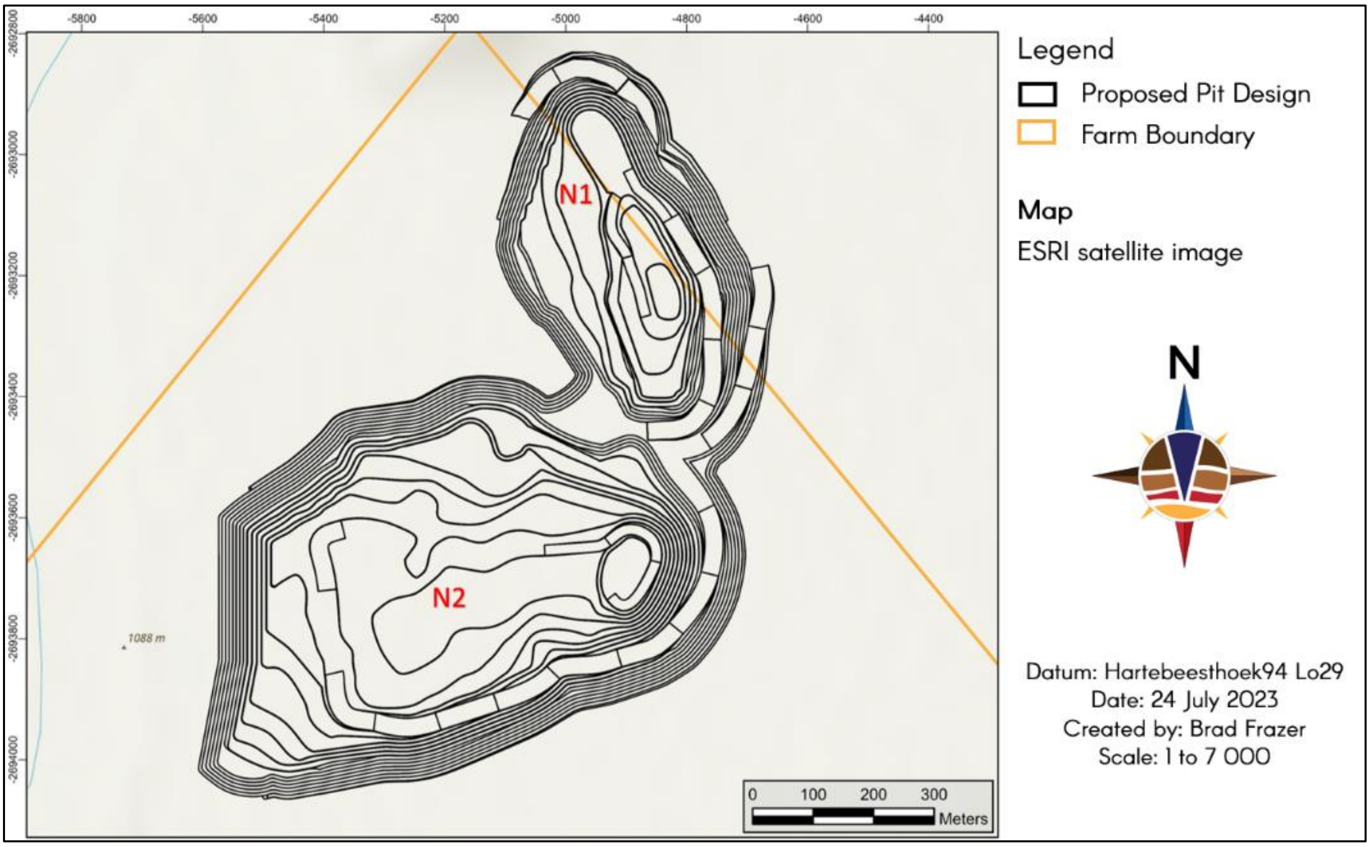

Figure 19 Map showing the location of North 1 (N1) and North 2 (N2) for the proposed pit design.

Table 5: Summary of the 2023 metallurgical drill holes.

BHID	Zone	Final Depth	Inclination	True Azimuth	Core Size	Rehabilitated	Volspruit Reef Intersection Start Depth
GVN211	North 2	37.78	-90	0	HQ	YES	-
GVN212	North 2	103.08	-90	0	HQ	YES	81.22
GVN213	North 2	106.07	-90	0	HQ	YES	84.70
GVN214	North 2	106.92	-90	0	HQ	YES	72.69
GVN215	North 1	39.40	-90	0	HQ	YES	14.49
GVN216	North 1	46.87	-90	0	HQ	YES	13.36
GVN217	North 1	40.74	-90	0	HQ	YES	16.00
GVN218	North 1	68.09	-90	0	HQ	YES	21.92
GVN219	North 1	64.77	-90	0	HQ	YES	31.37
GVN220	North 1	88.07	-90	0	HQ	YES	41.33

5.5 Geological Logging

All the drill cores received from the drill site were logged in terms of their stratigraphy, lithology, and mineralogy at the core yard. Logging was conducted by Earthlab's logging geologists under the supervision of a senior exploration geologist. Geological features often occurred at both a micro and macro scale, containing crucial information about the deposit being explored. The geological logging was conducted at a centimetre scale to ensure that a sufficient amount of information was collected from the drill core. Stratigraphy, lithology, mineralisation, sampling, material recovery and relative density were all included in logging the core and were captured into relevant logbooks by the responsible geologist.

The programme did not include detailed geotechnical logging, although core recovery logs and RQD measurements were taken at the intervals between core blocks and captured for a permanent record.

5.5.1 Material Recovery and RQD

Material recovery was the first step taken when handling the diamond drill core. It was essential to ascertain that the core received from the drillers correlates to the metres drilled and that the core was correctly assembled in the core box. The first step was to take the last piece of core from the previous run and fit it with the first piece of the next run. This ensures that the core run was the correct way up. If there were sections out of place the drillers must be informed and their procedures for core handling checked. The geologist or geological technician fixed any problems that may have been apparent, i.e., a piece of core in the box may have been turned the wrong way around. Each run of core between the stickup core blocks was measured and filled into the core recovery register.

The material recovery on average for all the drill holes in the 2023 metallurgical drilling campaign was summarised in Figure 20 as a percentage of the material recovered against depth bins in ten-metre intervals. In the first ten (10) metres, the material recovery was relatively low at 50%. This was due to the soil, highly weathered and fractured rock material that was easily washed away during the drilling process. Thereafter the percentage of the material recovered increased to about 75% up to twenty (20) metres where the rock material is still in some cases weathered. The average recovery from 20 m to the maximum depth drill hole was above 90%.

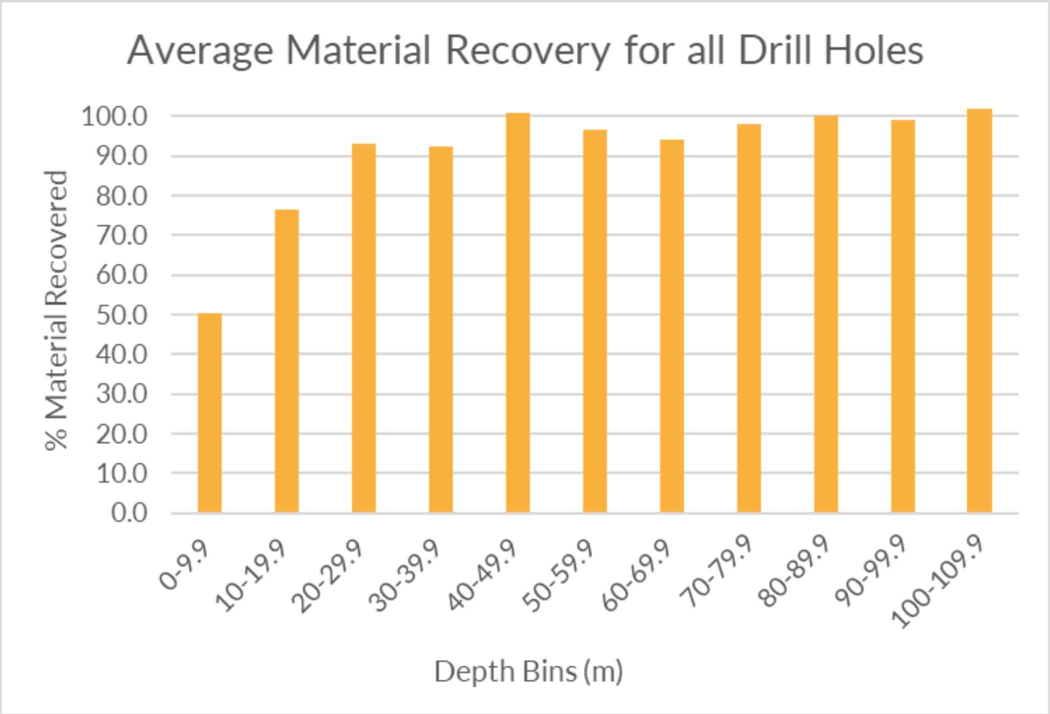

Figure 20: Average material recoveries for all the 2023 metallurgical drill holes in 10 m bins

The material recovery for PQ core drilled is very low since it was the initial core size used to drill through about the first 20 metres of soft, fractured, and weathered material to install casing. After the installation of the casing, HQ was drilled in a more competent rock material reflected in better material recoveries in Figure 21.

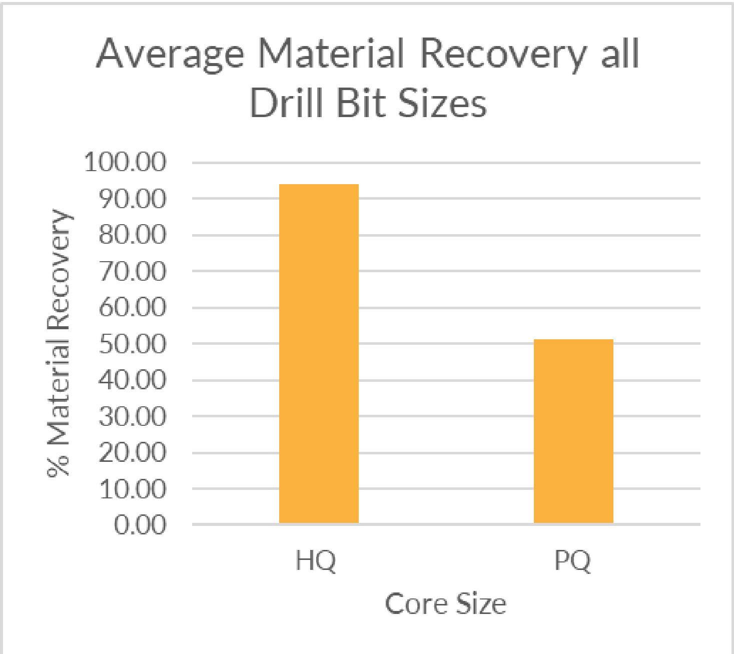

Figure 21: Average material recoveries per core size.

Rock-quality designation (RQD) is a measure of the overall competence the rock possesses. It is a function of the sum of the core longer than 100 mm divided by the total length of the core run and represented as a percentage.

RQD = (SUM (length of core >10cm)/Total core run length) x100

RQD was used to evaluate rock quality (Table 6), allowing for delineating zones of weakness and fracturing which could adversely affect any engineering structures or mining operation.

Table 6: Description of the RQD and the quality of the rocks

Rock Quality	RQD (%)
Very poor (Completely weathered rock)	<25%
Poor (weathered rocks)	25 to 50%
Fair (Moderately weathered rocks)	51 to 75%
Good (Hard Rock)	76 to 90%
Very Good (Fresh rocks)	91 to 100%

The RQD on average for all the drill holes in the 2023 metallurgical drilling campaign was summarised in Figure 22 as a percentage RQD against depth bins in 10-metre intervals. The first thirty (30) metres have an average RQD of 25% and below, indicating the rock material here is very friable, fractured, and highly weathered. This increases slightly from forty (40) metres in depth where the rocks are still slightly weathered in some cases. After fifty (50) metres in depth, the RQD indicate good hard rocks with some fracturing present lowering the RQD at some depths.

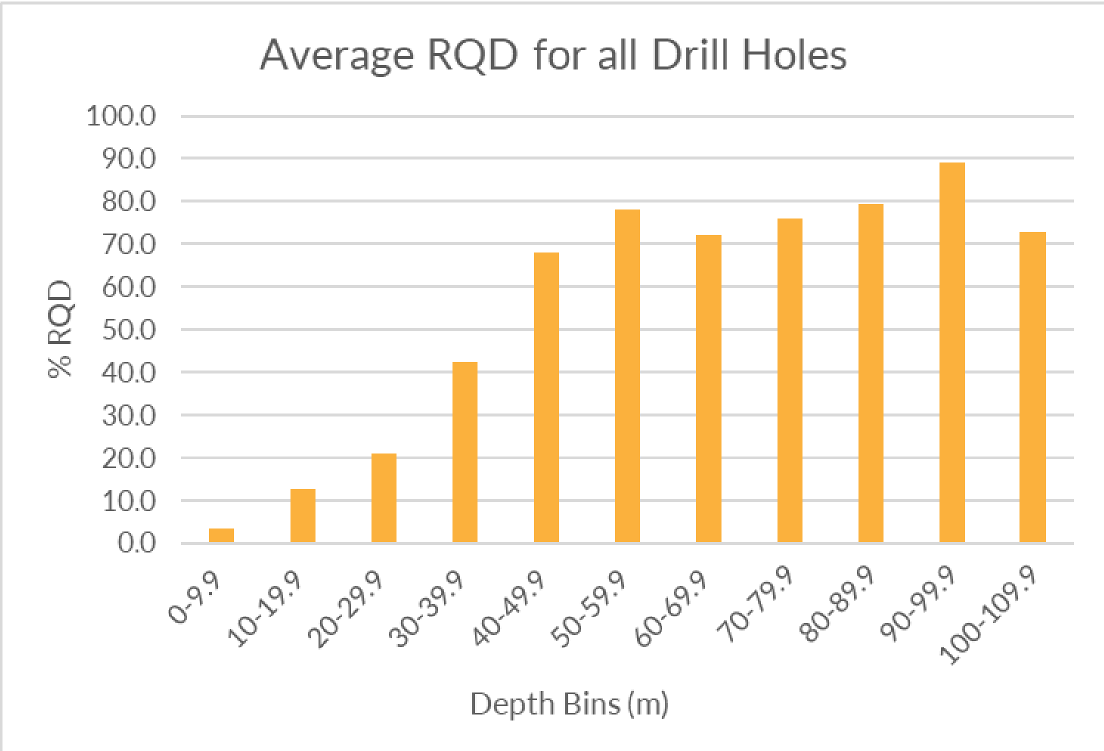

Figure 22: Average RQD of all the 2023 metallurgical drill holes in 10 m bins

Considering the material recoveries for the weathering zone for all the drill holes (Figure 23), the regolith horizon had about 20% as this horizon consists of soil and completely weathered rock material, which is easily washed away during the drilling procedures. The oxidised zone had about 70% core recoveries and increasing to 90% and above for the transitional and the fresh zone.

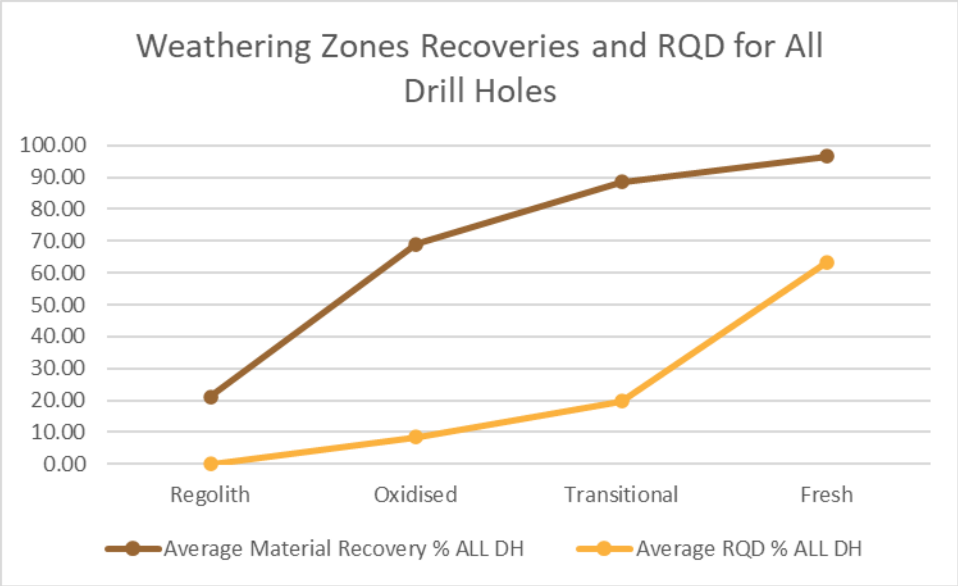

Figure 23: Weathering zone material recoveries and RQD percentages.

Within the Volspruit Reef Zone (Table 7) the composited oxidised material recovered was 90%, the transitional zone had material recoveries of 98 % and the fresh zones 99% of the material was recovered. Overall, the reef zone had a satisfactory material recovery of 98.15%. GVN215, was the only drill hole that showed recoveries of 85% in the oxidised reef zone which is still an acceptable amount of core loss according to Annels and Dominy, 2003, especially in a weak zone.

Table 7: Summary of composites representing the material type of the 2023 metallurgical drilling results.

Classification Ore/Waste	Material Type	4E and Au	Actual Material Recovery	Intersection Length	Density (Kg/m)	Est Bulk Weight (Kg)
ORE	Oxide	2.18	80.37	20.79	2.56	53.22
ORE	Transitional	3.63	98.66	10.98	3.55	38.98
ORE	Fresh	2.34	99.43	69.45	4.79	332.67
INT_WASTE	Oxide	0.60	70.05	13.45	2.56	34.43
INT_WASTE	Transitional	0.37	94.79	15.85	3.55	56.27
INT_WASTE	Fresh	0.62	99.52	33.40	4.79	159.99
Total O+IW	Oxide	1.56	76.32	34.24	2.56	87.65
Total O+IW	Transitional	1.70	96.37	26.83	3.55	95.25
Total O+IW	Fresh	1.78	99.46	102.85	4.79	492.65
Total O+IW	OTF	1.72	94.12	163.92		675.55

The ore zones were composited using a 1.2 g/t 2E and Au with a minimum ore length of 2.5 m as parameter and allowing a maximum of 2.5 m of internal waste. When compositing samples with the configuration: ore – waste – ore, it was composited if either adjacent ore sample could carry the internal waste. The compositing was confined to the C11 Upper unit.

The 2023 remodeled MRE incorporated the re-logging of all the historical GVN drill holes as well as the newly drilled 2023 metallurgical drill holes to refine the ore zone, stratigraphy, weathered zones, lithology and mineralisation.

5.5.2 Core Photography

Core photography occurred after the material recovery and RQD was completed to have a reference photograph of the core while it was still freshly recovered from drilling and minimally altered by personnel.

Photographs of wet and dry core were taken for each core tray. A wet core photo was taken as it helps with the identification of various features within the rock. The core tray was placed on a metal stand with an ID board for each different tray. The ID board displayed the drill hole name, box number, from and to depths, and core tray ID. The core trays were photographed with a mobile camera (Figure 24).

Figure 24: Example of the photographs takes of a core tray dry (left) and wet (right).

5.5.3 Logging Data and Procedure

After core photography, the core was metre-marked with the use of a clino-ruler, and black paint marker before logging of the core commenced. Where core recoveries were low, metre intervals were measured from the front core block and the back core block and the middle point between these two marks were taken as the metre mark was placed with dotted lines. The geologist logging the core marked out lithological contacts with a wax marker and wrote the lithology and identified mineralogy down on the core for reference when recording the entries into the logging books. The lithological names assigned to the rocks were derived from the geological standard provided by the database manager. Dip angles of contacts were measured with clino-rulers and noted in the logging books.

During the logging process, a qualitative approach was adopted. The logging included visual (qualitative) descriptions of the core, noting lithological changes, grain size changes, textural changes, and its degree/intensity. The types of alterations and structures were recorded in the comments as additional data in the lithology logging. The degree/intensity of mineralisation was also captured. Additionally, mineralisation was estimated for modal abundance where a percentage value was given for the mineralisation between the from and to depth specified for each logged entry.

5.6 Metallurgical Testing Requirements

The initial proposal to Sylvania stated that the metallurgical drilling campaign of the Volspruit North Body was aimed at being able to provide a sufficiently large sample mass containing fresh core samples on which to conduct the test work. To truly optimise the test work in the downstream processes the samples must be tested using both Fire Assay and Nickel Sulphide collection methods. It should be in triplicate and approximately 50 kg's would be needed per sample, requiring 300 kg's per method. Therefore, a total of 600 kg of core would be required. In addition to the bulk metallurgical sampling Sylvania also opted to include Rh (and potentially Iridium and Ruthenium) into the MRE during FY2023 which has the potential to significantly increase the resource base of the North Body. Earthlab still tried to honour these specifications with the placement of the revised drill holes.

It is important to note that the initial and revised planned metallurgical drill holes intersection lengths were based off historical logging and the MRE block model as per 2022 and can only be considered as estimates of the lengths. The same can be said for the bulk weights as it was determined by historical density measurements. The actual data is what was achieved during the 2023 metallurgical drilling from the revised plan. The metallurgical drilling was only able to intersect a total of approximately 164 m of reef material including ore and internal waste, which amounted to 675.55 kg for metallurgical testing. Table 8 and Table 9 indicate a summary of the ore and waste material obtained from the 2023 metallurgical drilling showing the 4E and Au, material recovery, the intersection length and the estimated bulk weight of the VR intersections in North 1 and 2 sectors, respectively. North 1 have enough ore material in all the ore types to perform the metallurgical testwork, as 25 kg of each were required by DRA.

Table 8: Contains a summary of the metallurgical ore material obtained from 2023 metallurgical drilling in the North 1 sector.

Zone	Classification	Material Type	4E and Au	Material Recovery	Length	Density Kg/m	Est Kg
North 1	ORE	Oxides	2.18	80.37	20.79	2.56	53.22
North 1	ORE	Transitional	3.63	98.66	10.98	3.55	38.98
North 1	ORE	Fresh	2.48	99.38	49.03	4.79	234.85
North 1	INT_WASTE	Oxides	0.60	70.05	13.45	2.56	34.43
North 1	INT_WASTE	Transitional	0.37	94.79	15.85	3.55	56.27
North 1	INT_WASTE	Fresh	0.65	99.26	23.69	4.79	113.48
North 1	O+IW	Oxides	1.56	76.32	34.24	2.56	87.65
North 1	O+IW	Transitional	1.70	96.37	26.83	3.55	95.25
North 1	O+IW	Fresh	1.88	99.34	72.72	4.79	348.33
North 1	O+IW	OTF	1.76	92.85	133.79		531.23

Table 9: Contains a summary of the metallurgical ore material obtained from the 2023 metallurgical drilling in the North 2 sector.

Zone	Classification	Material Type	4E and Au	Material Recovery	Length	Density Kg/m	Est Kg
North 2	ORE	Fresh	2.01	99.55	20.42	4.79	97.81
North 2	INT_WASTE	Fresh	0.57	100.14	9.71	4.79	46.51
North 2	TOTAL O+IW	Fresh	1.54	99.74	30.13	4.79	144.32

5.6.1 Proposed Method

Although the initial proposal sent to PPD, by Earthlab, considered using both the Lead collection Fire Assay and Nickel Sulphide Fire Assay (NiS) methods to verify recoveries, we firmly believe NiS will be sufficient when used alone given the material changes that have occurred.

Earthlab proposed the NiS method to the conventional Pb collection Fire Assay technique for determining PGMs in recovery test work for several reasons:

5.6.1.1 Enhanced precision and accuracy

In terms of precision and accuracy, NiS method performs better than the conventional Lead collection method. This is so because the Lead collection method involves a high-temperature fusion process when PGMs are collected onto a Lead button, resulting in the loss of volatile PGMs.

The NiS method offers enhanced precision and accuracy by forming stable and precise NiS precipitates which prevents the loss of volatile PGMs during the fusion process. This leads to more reliable data for the metallurgical test work.

5.6.1.2 Reduced interference from matrix effects

One of the major disadvantages of the Lead collection Fire Assay is the possibility of interference from complex matrix present in some samples. These matrix effects can have a negative impact on PGM recoveries, leading to incorrect results and potentially jeopardising the project's success.

The NiS approach, on the other hand, is less vulnerable to matrix effects due to its unique selective precipitation process, allowing for a more thorough separation of PGMs from the sample matrix. As a result, the NiS technique provides a more robust and reliable methodology for quantifying PGMs, particularly in complex geological samples.

5.6.1.3 Lower detection limits and wider analytical ranges

Additionally, the NiS method can reliably detect PGMs with lower detection limits, making it suitable for trace-level analysis and it provides a wider analytical range, broadening the scope of the metallurgical test work.

Overall, adopting the NiS method is expected to lead to successful project closure and advancement in PGM recovery methodologies. The added sensitivity of the NiS method enhances the ability to explore and optimise the recovery processes, even in samples with low PGM concentrations.

5.6.1.4 Material Requirements for Bench Scale Metallurgical Testwork

In 2010, bulk samples were sent to Mintek for floatation characterisation and bulk concentrate production testwork by PPD. Three types of material were received by Mintek comprising fresh, transitional and oxide ore types. The three bulk samples were first air dried before being stage crushed to 100% -25 mm in a pilot scale crushing plant. The samples were blended and dried before removing 1 x 30 kg, 1 x 15 kg, and 3 x 10 kg from each ore type, and further crushed to the size required for comminution testwork. For the flotation testwork, a 55 kg sample of fresh ore was sub-sampled, whereas 12 kg each of transitional and oxide ore was sub-sampled.

These samples were individually re-blended before being stage crushed to 100% – 1.7 mm. The samples were then blended again and two 200 g sub-samples were removed for head assay, while the remaining material was split into 1 kg bags.

We propose that the combined estimated 95 kg of oxide and transitional ore material and 260 kg of fresh ore available will be sufficient to conduct the required testwork.

6 SAMPLING METHODS

6.1 Assay Sampling

6.1.1 Sampling Techniques and Sample Preparation

The assay samples consisted of 1 m composite samples that covered the whole mineralised intersection. The primary samples consisted of quarter-core samples. The sampling of the 1 m composite samples was conducted with some degree of sensitivity to lithological contacts as well as weathering boundaries. The minimum sample length was limited to 30 cm of HQ quarter core and the maximum sample length was limited to 100 cm. Instances where the sampling interval exceeds 100 cm, it was due to rock conditions. The order in which sample types were inserted into a batch was based on a predetermined sampling sequence. The sampling sequence was based on the number of each different sample type that needed to be included. For every 10 primary (P) samples, 1 blank (B), 1 CRM (C) and 1 pulp duplicate (PD) sample was included in the sequence (13 samples) before a new sequence was started. 288 primary samples were sampled during the 2023 metallurgical drilling and sent for analysis by SGS for their PGM content.

6.1.1.1 Sample Marking

Steps that were followed for marking out sample locations on the drill core:

- The HQ drill core was taken out of the core box and stacked together to try and get the drill core to fit together as best as possible. The reason for this was to get the drill core in the same orientation so that sampling was performed on the same side of the drill core.

- A blue wax marker was used to draw in the first orientation line that was used to guide the core cutter to split the core into two equal pieces of half core.
- A blue wax marker was used to draw in the second orientation line that was used to guide the core cutter to split a half core into two equal pieces of quarter core.
- A yellow wax marker was used to mark out the 1 m quarter core primary assay samples, indicating the sample ID of the primary sample in yellow at the "from" depth of the primary sample.
- A white wax marker was used to mark out the position of an inserted QAQC sample in between primary samples. Note that the QAQC (Blank, standard, or pulp duplicate sample) has the same sample-ID naming convention as the primary samples. The sample ID of the QAQC sample was indicated in white at the "to" depth of the previous primary sample after which the QAQC sample was inserted in the sequence.
- A blue wax marker was used to mark out the "from" and "to" contacts on the quarter core of the rock type that was weighed for SG calculations and to indicate the sample ID.
- Assay Sample Naming Convention:

NRS ### 001

NRS = North Rh Sample
= Drill hole ID
001 = Sample Number

- SG Sample Naming Convention:

GNS ### 001

GNS = SG Sample
= Drill hole ID
001 = Sample Number

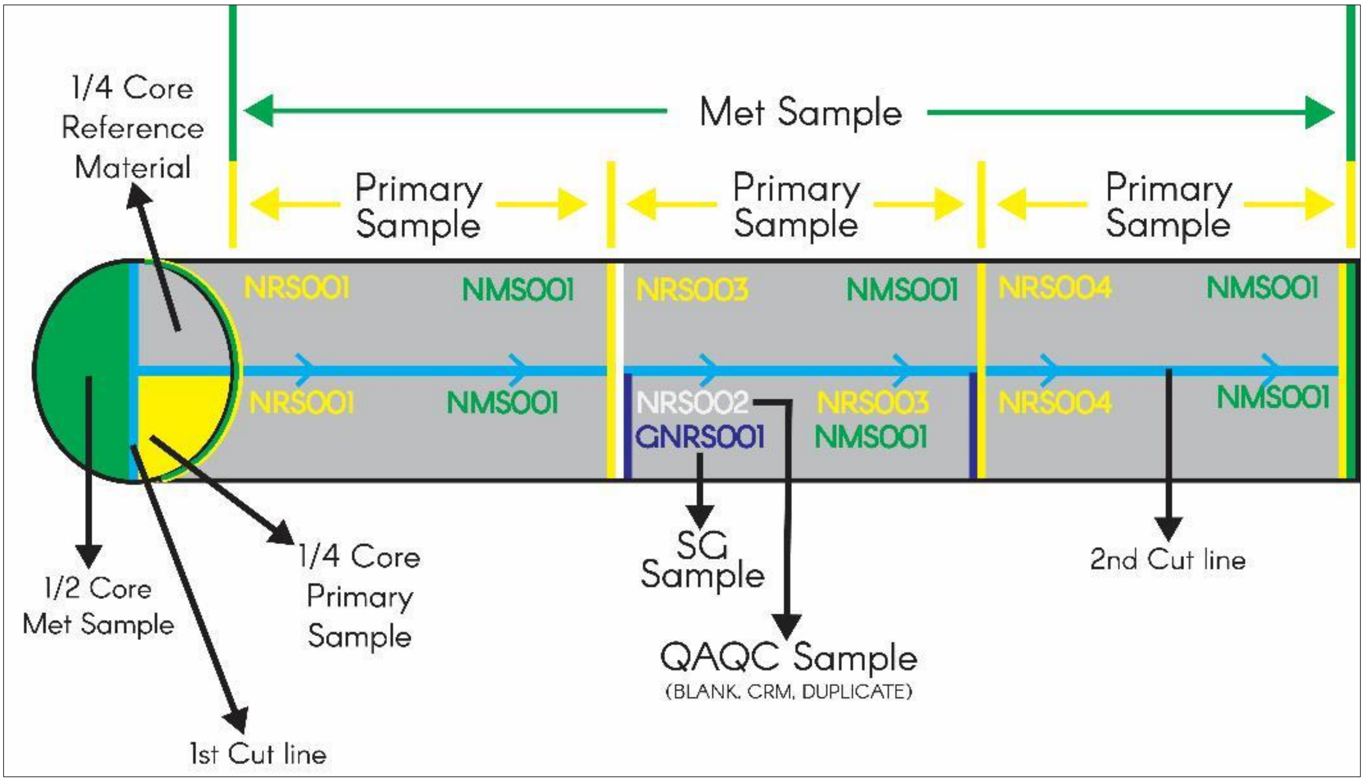

Figure 25: Convention used to mark out the sampling intersections, sampling nomenclature and cutting line.

6.1.1.2 Cutting and Specific Gravity Measurements

After all of the writing was completed on the drill core, the drill core was stacked back into the core boxes and handed over to the core cutter to start cutting the drill core into halve and quarter cores.

The Specific Gravity (SG) of a substance is a measure of its density (also referred to as the bulk in-situ density). It is expressed as the ratio of the weight of a given volume of the sample material compared to the weight of an equal volume of a reference substance usually water. The water has a given SG of 1. In the International System of Units (SI) the weight of water is defined in terms of its volume: thus 1 litre of water weighs 1 kilogram and 1 cubic meter (1000 litres) of water weighs 1 tonne (1000 kg). Thus, the weight in tonnes of any substance whose volume is expressed in cubic meters can be simply calculated by multiplying that volume by its SG.

Specific Gravity = Weight of rock in air / Weight of rock in air – Weight of the rock in water

SG weight measurements were performed after all samples were cut and before the sampling procedures began on every fifth sample. Samples were weighed dry, and the same sample was weighed again in water. The data was recorded in a logging book and captured into SABLE®7.2.

6.1.1.3 Sampling Procedure and Quality Assurance

Steps that were used for bagging and tagging the samples:

- Each sample was bagged in transparent sample bags and tagged with 2 manilla tags, each with the sample ID written on them. The open top end of the sample bag was folded over at least 2 times and stapled on the rolled-up portion to seal the sample bag and to prevent sample spillage or contamination.

- All QC (standards and blanks) samples were bagged in small brown paper envelopes and placed inside a small sample bag and tagged with manilla sample ID tags as explained above.
- Pulp duplicate samples were indicated by including 2 orange sample ID tags with the primary sample ID and two plain manilla tags with the sample ID which should be duplicated by the laboratory.

A sample batch contained primary samples from more than one drill hole. A batch of assay samples consisted of 53 samples which included 40 primary samples, 5 blank samples, 4 CRM samples, and 4 pulp duplicate samples. Each batch started and ended with a blank sample. Once all 53 samples which made up a batch were bagged, they were split and placed in two big sample bags together with a sub-batch ID form. The sub-batch ID form indicated the sub-batch ID as well as containing the sample IDs of all the samples inside the batch bag. The big sub-batch sample bags were sealed with a red security seal, which also indicates the sub-batch ID.

Earthlab conducted an extensive quality assurance programme on all samples that were submitted during the 2023 metallurgical drilling campaign. This involved producing and inserting 23% of QAQC samples as part of the sampling campaign. In total four different CRMs were used, and one blank sample was used for the accuracy analysis of the assay data.

Table 10. Summary of CRMs used for quality assurance during sampling.

Certified Reference Material	Description
AMIS0502	Platinum (PGM) Platreef Ore Bushveld Complex, South Africa
AMIS0486	Platinum (PGM), Merensky Bushveld Complex, South Africa
AMIS0498	Platinum (PGM) Platreef Ore Bushveld Complex, South Africa
AMIS0499	Platinum (PGM) Platreef Ore Bushveld Complex, South Africa
AMIS0577	Blank silica powder

6.1.1.4 Sample Security

Samples that were being sent for laboratory analysis, were transported from the core yard near Mokopane to the SGS laboratory in Rustenburg by a senior geologist. The samples were checked into the facility and signed for in the sample security register by a facility representative. It was the responsibility of the person delivering the samples, to ensure that the facility representative or their assistants sign on the receipt of the samples and check to see all sub-batch bags were present and accounted for. The remaining three quarters core was stored in a locked core shed for any future re-logging, or sampling requirements should they arise.

6.1.2 Laboratory Sample Preparation and Analysis Procedures

6.1.2.1 Pre-Analysis Sample Preparation Procedure

This comprises steps followed by SGS in their laboratory to ensure that samples were in a format that would allow for reliable data analysis (Figure 26). Sample splitting was performed to reduce the sample size to form a homogeneous sub-sample, representative of the material submitted to the laboratory. Quality control procedures were followed in this regard. Furthermore, SGS used industry standard procedures along with their technical expertise in the preparation of all the samples.

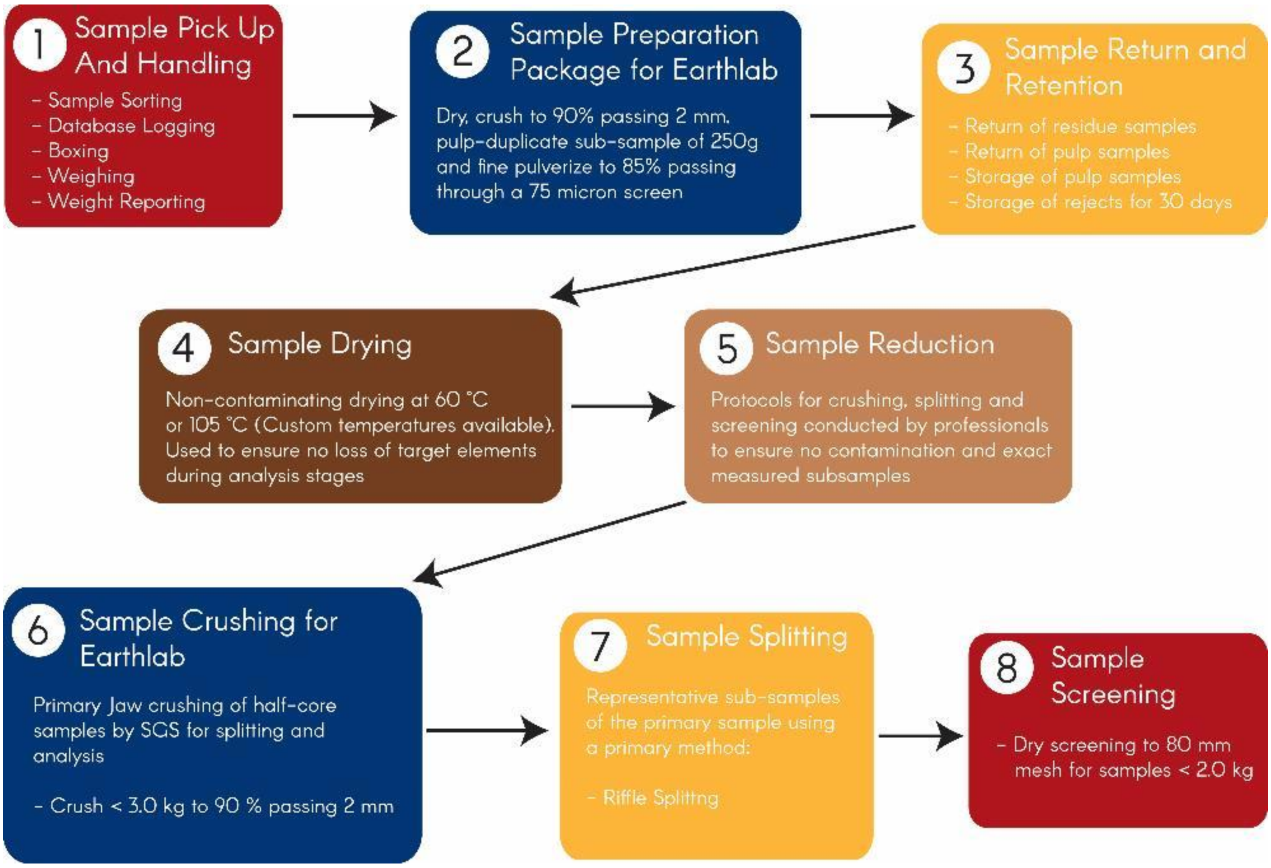

Figure 26. Flow chart for SGS sample preparation before conducting elemental determination methods.

6.1.2.2 Analysis Procedure

The NiS method covers the determination of Au, Pd, Pt, Rh, Ir, and Ru in ores, rocks, soils and metallurgical products (Table 11).

Samples are prepared using the appropriate nickel flux type depending on the type of material analysed. The fusion process promotes the separation of the precious metals. Pt, Pd, Rh, Ru and Ir are collected in a NiS sulphide button by fire assay procedure. The technique is used to separate NiS from PGM and Au sulfides and tellurides. NiS dissolves readily in hot concentrated Hydrochloric acid while Pt, Pd, Rh, Ru, Ir residue and Au sulfides remain reasonably undissolved and can be separated from the acidic $NiCl_2$ solution by filtration. Tellurium is added to precipitate any dissolved PGM and Au as tellurides, Stannous chloride is added to reduce Te^{6+} to lower oxidation states for tellurides and elemental tellurium to form. The PGMs and Au collected via filtration are digested in aqua regia and making up to a specific volume. After the dissolution of the residue, the precious metal solutions are then analysed for Au, Pt, Pd, Rh, Ru, and Ir by ICP-OES. Traditionally, the recovery of PGMs by fire assay involves the fusion of the sample with lead, and some Rh is lost in the dissolution of the silver bead and some ruthenium is absorbed into the cupel during the cupellation stage. Therefore, the NiS method was preferred to analyse for Pt, Pd, Ir, Ru, Rh, and Au.

Table 11: Determination of Gold, Platinum, Palladium, Rhodium, Iridium and Ruthenium by Ni Sulphide Fusion – (FAI41V10 scheme)

Item	Description					
Analytes	Au, Pd, Pt, Rh, Ir, Ru					
Units	g/t					
Analytes	Au	Pd	Pt	Rh	Ir	Ru
Lower Report Limit	0.01	0.01	0.01	0.01	0.01	0.01
Upper Report Limit	100	1000	1000	100	100	100
Analysis Detection Limit (SLIM)	0.01					
Statistical Detection Limit (SLIM)	0.025					
Limiting Repeatability (SLIM)	7.5%					

Sample Size	30 g variable
Matrix	Pulverised/screened ore grade samples (mucks, chips, drill core, test holes)

The quality was assisted by placing a duplicate, replicate, an in-house and/or standard reference material and blank for every batch of 25 samples. The precision was monitored by SGS Laboratory as per the following formula based on their method capability in the lab:

$$\text{Tolerance (\%)} = (100 * \text{SDL}) + \text{LR}$$

Where:

- SDL = Statistical Detection Limit (by default = 2.5 x Detection Limit)
- LR = Limit of Repeatability of the Method
- EV = Expected Value Concentration/average of data pair

7 DATA MANAGEMENT

7.1 Database Storage

The physical hardcopy logs and sampling books are stored at the Volspruit core yard facility. These were used as a reference for any data quality queries. Additionally, it provides a physical backup of the data.

All data was captured onto a dedicated electronic SABLE®7.2 database which runs on an SQLite server where security and access to the database were managed.

The databases were managed by a dedicated geologist (geological database manager) to ensure data quality, integrity, and security. Various data logs exist on the database. The drill hole databases include the stratigraphy, lithology, mineralisation, sampling, relative density, assay results, collar survey, downhole survey, and material recovery logs. Each drill hole has a collar, lithology, stratigraphy, sampling, and downhole survey log as a minimum requirement. The remaining logs were populated where required. The dataset includes 'From' and 'To' metre fields, rock types, stratigraphic nomenclature used on the project area, mineralisation, alteration, and additional comments where applicable. Quality control data, such as inserted CRMs and twin stream data was housed in the database in the sampling log and assay results tables. The sampling dataset includes the methods used for sampling, the laboratory used for the analysis and units of measure. The assay result datasets include all the grade values available for each sample. All additional information was populated in the 'Comments' field of the associated data log. The deflection was signed-off by the responsible geologist indicating that the deflection was ready for validation by the database manager.

7.2 Database Integrity

The SABLE®7.2 database contains a series of built-in customised as well as default active validations which were run concurrent to the time of data capture. This ensured the quality of the data being captured by preventing faulty data entries from being captured through security and appending rules specified by the database manager. The database manager produced a final system validation print out which flags any erroneous or suspect data entries, which were then subsequently queried and resolved accordingly.

Manual validations undertaken by the database manager include the following checks:

- All required logs and fields within the logs have been populated
- The appropriate lithological and stratigraphic coding has been used and was in sequence
- There were no overlaps, gaps or zero lengths in the lithological and sampling logs
- All the relevant fields within the sampling log have been populated correctly
- Quality assurance of the inserted certified reference materials has been correctly populated

- Check that the grade content was aligned with the stratigraphy

Once validations were completed and issues had been attended to by the geological database manager, the data was signed off to be analysed for assay quality control and extracted for geological modelling and MRE.

8 ASSAY QAQC

This report contains all the summarised quality control analysis done on the 2023 GVN drilling program. Details and demonstrations of the python scripts used to generate the results will be made available on request. Blank samples that fall above 10x the detection limit, as well as certified reference samples that fall outside the third standard deviation upper and lower limits specified on the certificate, will be flagged, and labelled as a failed sample. The main body of this report does not contain individual graphs for control charts but will be provided upon request.

8.1 Accuracy Analysis Report

A total of 70 control samples were analysed and their results are separated by element to produce a list of failed samples. The elements analysed include Platinum (Pt), Palladium (Pd), Gold (Au), Rhodium (Rh) and Ruthenium (Ru). The CRMs selected for use in this sampling program consist of material derived from the Platreef and Merensky Reef, albeit these materials do not reflect exactly the GVN material, which can have an effect on the performance of the laboratory analysis, particularly on the CRMs themself. The table below lists the CRMs used in the accuracy analysis and the origin of the material composition (Table 12).

Table 12 List of CRMs used for the GVN drilling campaign.

Certified Reference Material	Description
AMIS0486	Merensky Bushveld Complex, South Africa
AMIS0498	Platreef Ore Bushveld Complex, South Africa
AMIS0499	Platreef Ore Bushveld Complex, South Africa
AMIS0502	Platreef Ore Bushveld Complex, South Africa
AMIS0577	Blank silica powder

The results for the accuracy analysis are summarised in the table below. Despite the limited number of control samples used in the sampling program, the control results show good accuracy with all analytes falling well within the accepted tolerance limits. Pd, Au and Pt displayed the best results with 98,57% (Pd and Au) and 97.14% (Pt) of the control samples falling within tolerance limits. The Rh and Ru results showed more failures yet still produced good results with 94.29% and 92.89% for the control samples falling within tolerance limits. The possible reason for the higher number of failures seen for Rh and Ru may be due to the very strict tolerance limits set for these analytes. It is also important to note that reporting bias was noted in the results of some analytes which may have resulted in additional failures. These include a clear under reporting bias for Pt in AMIS0486 and an over reporting bias for Pd and Ru in AMIS0502. The results received from the Blank control samples show that there was no contamination present during the analysis process as no samples failed for any of the analytes.

Table 13 Summary table of GVN project's control sample analyses for accuracy analysis indicating the total perventage pf failed samples per element.

CRM		Pt			Pd			Au			Rh			Ru		
		n	Outliers		n	Outliers		n	Outliers		n	Outliers		n	Outliers	
			N	%		n	%		n	%		n	%		n	%
Standards	AMIS0486	10	2	20.00	10	0	0.00	10	0	0.00	10	3	30.00	10	1	10.00
	AMIS0498	10	0	0.00	10	0	0.00	10	0	0.00	10	0	0.00	10	1	10.00
	AMIS0499	9	0	0.00	9	0	0.00	9	1	11.11	9	1	11.11	9	1	11.11

	AMIS0502	4	0	0.00	4	1	25.00	4	0	0.00	4	0	0.00	4	2	50.00
BLANK		37	0	0.00	37	0	0.00	37	0	0.00	37	0	0.00	37	0	0.00
TOTAL		70	2	2.86%	70	1	1.43%	70	1	1.43%	70	4	5.71%	70	5	7.14%

8.2 Precision Analysis Report

The duplicate data used in this analysis was summarised from the results obtained from the laboratory's twinstream process of the pulp duplicate samples. The duplicate samples analysed were distributed evenly throughout the sampling intervals specified beforehand. The twinstream results were analysed using the Half Absolute Relative Difference (HARD) method and are summarised in Table 14 below.

The results analysed show the repeatability and precision of the duplicate results are relatively good for Pd, Rh and Ru as 96.30%, 94.44% and 90.74% of the samples fall within 15% half absolute relative difference. Au shows slightly less repeatability where 87.04% of the samples fall within 15% half absolute relative difference. Pt has the poorest repeatability and precision as only 81.48% of the samples fall within 15% half absolute relative difference.

Table 14 Summary of GVN project's twinstream results using Half Absolute Relative Difference outlier method.

Project	Element	No. of Samples	Mean Original	Mean Duplicate	|Mean Difference|	Within 15% Difference	No. of Outliers	Outliers (%)
GVN Rh Sampling	Pt	27	0.47	0.50	0.02	81.48	5	18.52
	Pd	27	0.61	0.62	0.02	96.30	1	3.70
	Au	27	0.03	0.03	0.00	87.04	3	11.11
	Rh	27	0.08	0.08	0.00	94.44	1	3.70
	Ru	27	0.03	0.03	0.00	90.74	2	7.41

	>90%
	>85%
	<85%

9 REGRESSION OF RH AND RU

The objective of this section is to provide a comprehensive overview of the assay regression process carried out using the scikit-learn Python library. The regression aims to derive reliable estimates of Rhodium and Ruthenium concentrations from the metallurgical drilling project samples. These estimated values are intended to augment the existing historic assays, enabling a wholistic resource model which includes these fundamental metal contributors. This section comprehensively outlines the methodology employed, including the selection of appropriate regression models, parameter tuning, and evaluation error metrics.

When comparing the regression of rhodium using a straight-line equation versus utilising machine learning regression models in Python through scikit-learn, it becomes evident that the latter approach is significantly more effective. While a simple linear regression may provide a basic correlation, machine learning regressors offer a superior ability to capture complex non-linear relationships and patterns within the data. Scikit-learn, with its versatile algorithms, allows for more accurate predictions and improved model performance by adapting to the intricacies of the rhodium dataset. This advanced approach, bolstered by extensive libraries and optimisation techniques, enhances the precision and reliability of regression analysis for rhodium data in a way that a traditional linear equation cannot achieve.

9.1 Python Programming – Scikit-learn Library

Scikit-learn is a widely adopted machine learning library in Python renowned for its simplicity, flexibility, and extensive functionality. It provides a user-friendly interface for implementing a wide range of regression techniques, including linear models, support vector machines, decision trees, and ensemble methods. Scikit-learn's implementation of these models incorporates efficient algorithms and best practices, making it highly suitable for regression tasks in diverse scientific and industrial domains. Moreover, its robust documentation and active community support ensure reliable and up-to-date guidance throughout the regression process.

9.2 Regression Requirements

The regression process aimed to estimate and train and regression model for the concentrations of Rhodium and Ruthenium from Platinum, Palladium, and Gold in the given set of samples obtained during the metallurgical drilling programme. This task necessitated the construction of a regression model capable of predicting the values of these additional elements accurately. The resulting regression model would then be integrated into the historic assays to enhance the metal evaluation by incorporating the predicted Rh and Ru concentrations into the existing resource model.

9.3 Regression Methodology

To accomplish the assay regression task, an iterative approach utilising algorithmic design and scikit-learn's regression models was employed. The following steps were followed:

9.3.1 Model Selection and Parameter Tuning

Various regression models available in scikit-learn were tested to identify the best-performing model for each individual element. The tested models included Linear Regression, RANSAC Regressor, Ridge Regression, Support Vector Regression (SVR), Decision Tree Regressor, Random Forest Regressor, Gradient Boosting Regressor, and AdaBoost Regressor. Each model was evaluated based on its ability to accurately predict the target element's concentration. The following subsections outline each of these models capabilites and functionalities at a high level.

9.3.1.1 Linear Regression:

A simple and widely used regression model that assumes a linear relationship between the predictor variables and the target variable. Suitable for scenarios where the relationship between the input variables and the output variable can be adequately approximated by a linear equation.

9.3.1.2 RANSAC Regressor:

Robust model that mitigates the impact of outliers in the data by iteratively fitting the model to a subset of inliers. Particularly useful when the dataset contains noisy or anomalous data points that could adversely affect the regression model's performance.

9.3.1.3 Ridge Regression:

Regression technique that incorporates regularisation by adding a penalty term to the loss function, encouraging smaller parameter values. Effective in handling multicollinearity issues and reducing overfitting by shrinking the regression coefficients.

9.3.1.4 Support Vector Regression (SVR):

Utilises support vector machines (SVMs) to perform regression tasks. Applies a non-linear mapping of the input variables to a high-dimensional feature space, where a linear regression model is constructed. Suitable for complex relationships between input and output variables and can handle datasets with high dimensionality.

9.3.1.5 Decision Tree Regressor:

Employs a decision tree structure to model the relationships between input variables and the target variable. Makes a series of binary decisions based on the feature values to predict the target variable's value. Provides interpretability and handles non-linear relationships effectively.

9.3.1.6 Random Forest Regressor:

Ensemble learning method that combines multiple decision trees to create a more robust and accurate regression model. Uses bootstrapping and random feature selection during model construction to improve generalisation and reduce overfitting.

9.3.1.7 Gradient Boosting Regressor:

Ensemble learning technique that combines weak regression models sequentially to build a strong predictive model. Each subsequent model is trained to correct the errors made by the previous models, gradually improving the overall predictive performance.

9.3.1.8 AdaBoost Regressor:

Another ensemble learning algorithm that iteratively combines weak regression models. Focuses on adjusting the weights of training instances to give more emphasis to those that were previously mispredicted.

9.4 Error Metric Extraction

Two commonly used error metrics, Mean Absolute Error (MAE) and Mean Squared Error (MSE), were employed to quantify the performance of each regression model. The scikit-learn library facilitated the computation of these metrics, which provide insights into the magnitude and distribution of prediction errors. By extracting the error metrics for each model, a comprehensive evaluation of their performance could be obtained.

9.5 Iterative Testing with Different Parameters

To account for potential variations in model performance, iterative testing was conducted by systematically varying two parameters: test size and random state. Test sizes were selected from a list ranging from 0.1 to 0.9, allowing for an assessment of the impact of training data size on model performance. Test sizes are proportional in percentages based on the decimal indicated, where a test size of 0.1 indicates 10% of the original dataset is used to train the regression model. The random state values, ranging from 0 to 100, enabled the evaluation of model sensitivity to different random data shuffling scenarios. The total number of regression models tested using this iterative functionality amounted to 3,636 models being outputted by analysis.

9.6 Model Ranking and Selection

To determine the best-performing model for each element, a ranking scheme based on MAE and MSE was utilised over the 3,636 regression models. The error metrics are calculated using the predicted values vurses the actual values of the analyte being predicted. The average rank between the two error metrics was computed for each model, facilitating an objective selection process. This approach ensured that both metrics were considered, allowing for a balanced assessment of the models' predictive capabilities.

9.6.1 Ranking and Selection Results

Ranking results achieved during the training of the regression models was conducted on results received by the laboratories which are strictly above the detection limit, so as not to add unnecessary noise to the regression model training. The error metrics MAE and RMSE are the actual measures in ppm for which the accuracy of the predicted analytes can be achieved utilising the selected regression model and its parameters (Table 15 and Table 16).

Table 15 Rhodium regression model rankings (top 5 displayed)

Model	Test Size	Random State	MAE (ppm)	MSE (ppm^2)	RMSE (ppm)	MAE Rank	MSE Rank	Average Rank
Linear Regression	0.1	67	0.0092	0.0002	0.0124	1	1	1
Ridge Regression	0.1	67	0.0099	0.0002	0.0128	2	2	2
RANSAC Regression	0.1	67	0.0109	0.0002	0.0146	4	4	4
Linear Regression	0.1	15	0.0110	0.0002	0.0146	6	5	5.5
Ridge Regression	0.1	78	0.0114	0.0002	0.0137	8	3	5.5

Table 16 Ruthenium regression model rankings (top 5 displayed)

Model	Test Size	Random State	MAE	MSE	RMSE	MAE Rank	MSE Rank	Average Rank
RANSAC Regression	0.1	66	0.0065	0.00007	0.0084	1	1	1
Ridge Regression	0.1	3	0.0067	0.00008	0.0089	2	2	2
RANSAC Regression	0.1	53	0.0075	0.00009	0.0093	5	3	4
RANSAC Regression	0.1	94	0.0082	0.00009	0.0096	14	4	9
Ridge Regression	0.2	30	0.0081	0.00009	0.0097	13	5	9

Based on the tables presented above, the best ranking regression model for Rhodium regression is the Linear Regressor with a test size of 10% of the training dataset and a random state of 67, whereas the best regression model for Ruthenium regression is the RANSAC Regressor with a test size of 10% of the training dataset at a random state of 66. Both regressor models are able to predict their target analyte with an accuracy, based on the average between MAE and RMSE, below the detection limits capable by the laboratories, which is 0.02 ppm for both analytes.

9.6.2 Performance of selected regression models

The predictions regression models were applied to the desurveyed and composited drill hole database files containing the actual rhodium and ruthenium sample grades of the metallurgical drill holes to further assess the performance of the models predictive capabilities. Due to the nature of regression, original Pt, Pd, and Au values which are extremely low may produce a predicted value for Rh and/or Ru which is less than zero. These less than zero predictions are then removed for performance testing, as well as any values which fall below detection limit, as these are the essential limit of performance to be graded against. Performance is tested through statistical probability using the two-sample students t-test against the means of the predicted results vurses actual results populations (Table 17). The populations of the predicted versus the actual values of each element have also been graphically presented below (Figure 27 to Figure 30).

Table 17 Summary of the two sample T-Test for Rh and Ru.

Element	Actual Mean ($\bar{X}a$)	Predicted Mean ($\bar{X}p$)	Null Hypothesis	Alpha (α)	P-Value	Accept
Rhodium (Rh)	0.098	0.099	$\bar{X}a = \bar{X}p$	0.05	0.901	Yes
Ruthenium (Ru)	0.044	0.039	$\bar{X}a = \bar{X}p$	0.05	0.058	Yes

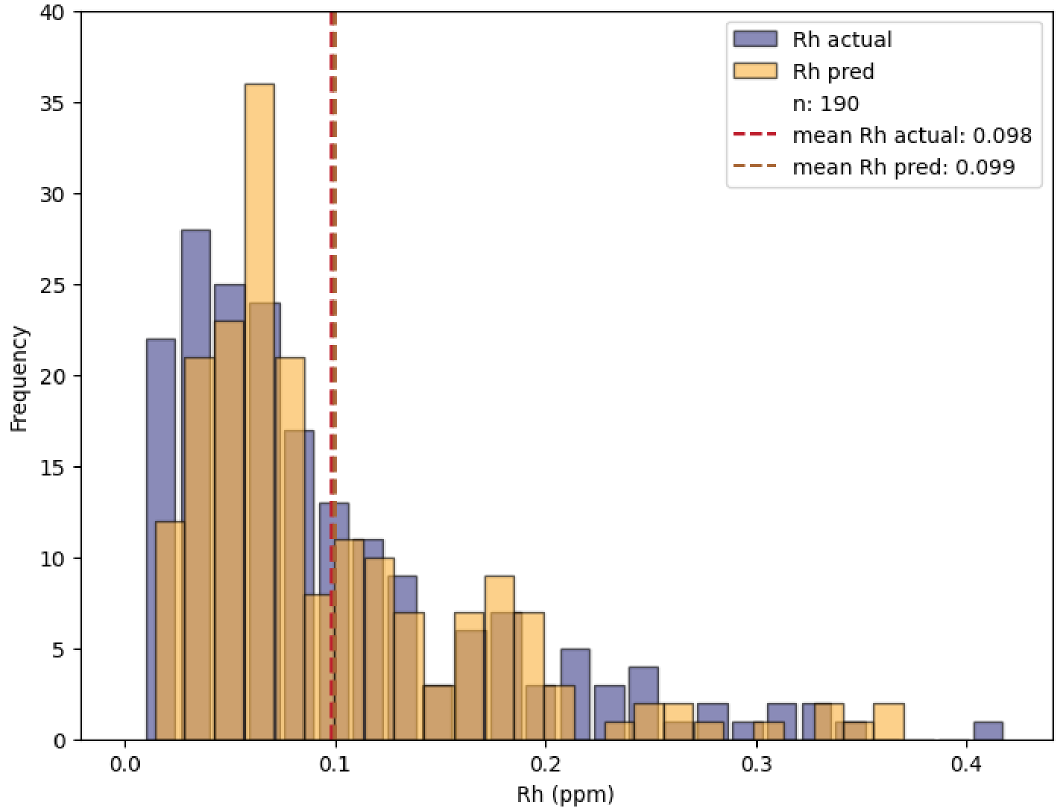

Figure 27 Histogram showing the distribution of the actual versus predicted Rh values.

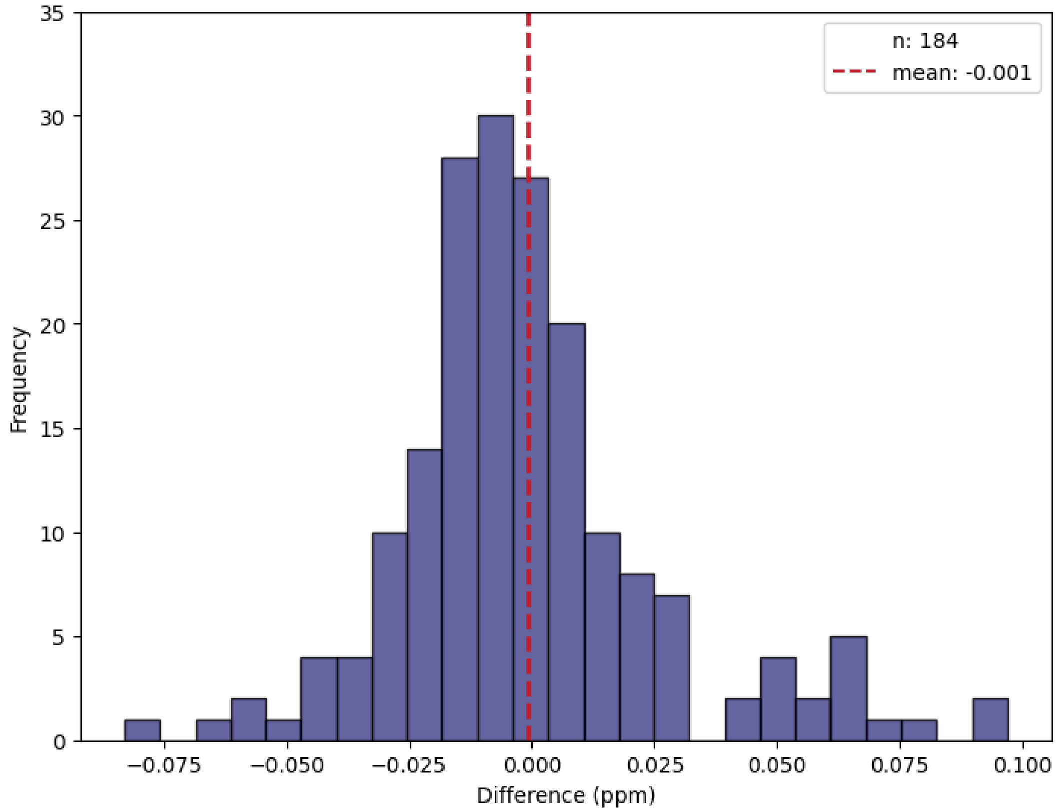

Figure 28 Histogram of difference between the actual and predicted values of Rh.

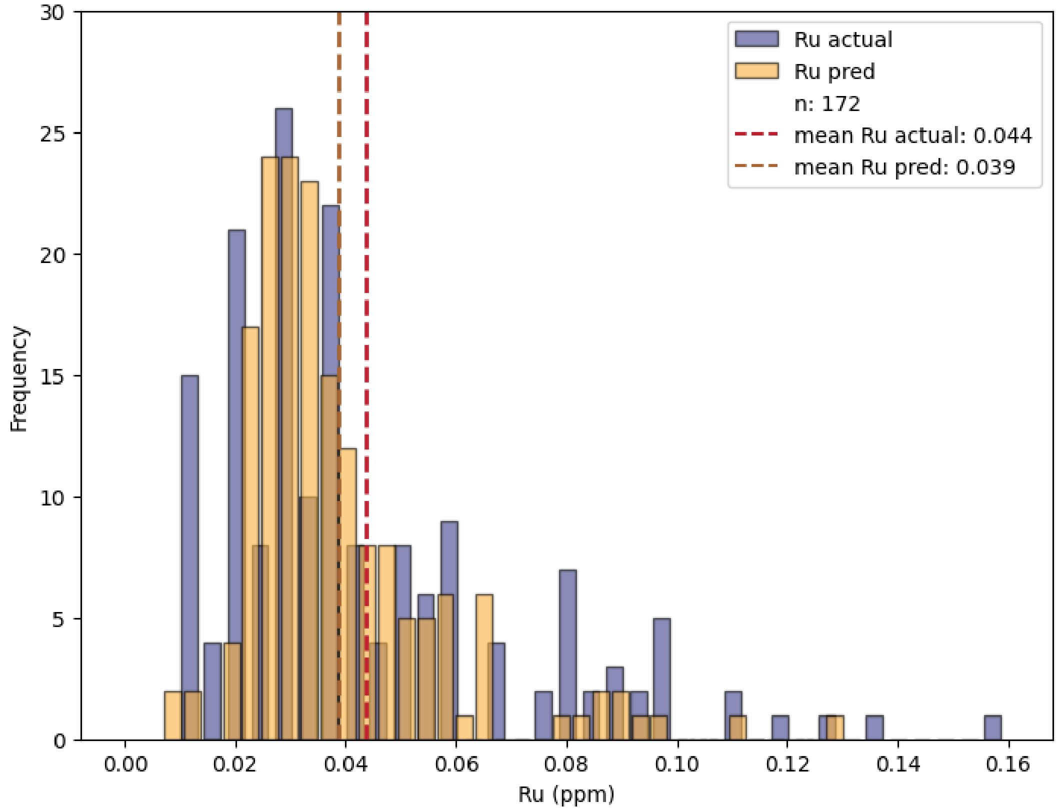

Figure 29 Histogram showing the distribution of the actual versus predicted Ru values.

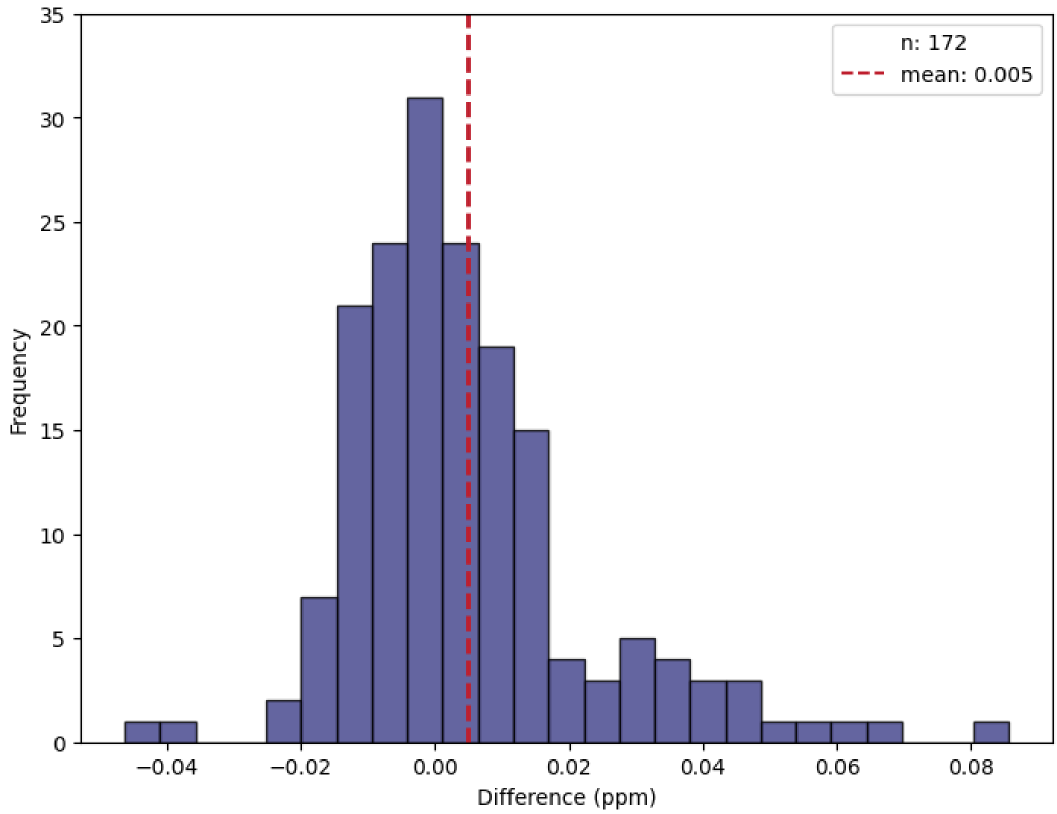

Figure 30 Histogram of difference between the actual and prediccted values of Ru.

9.7 Regression results on the Volspruit North Body MRE

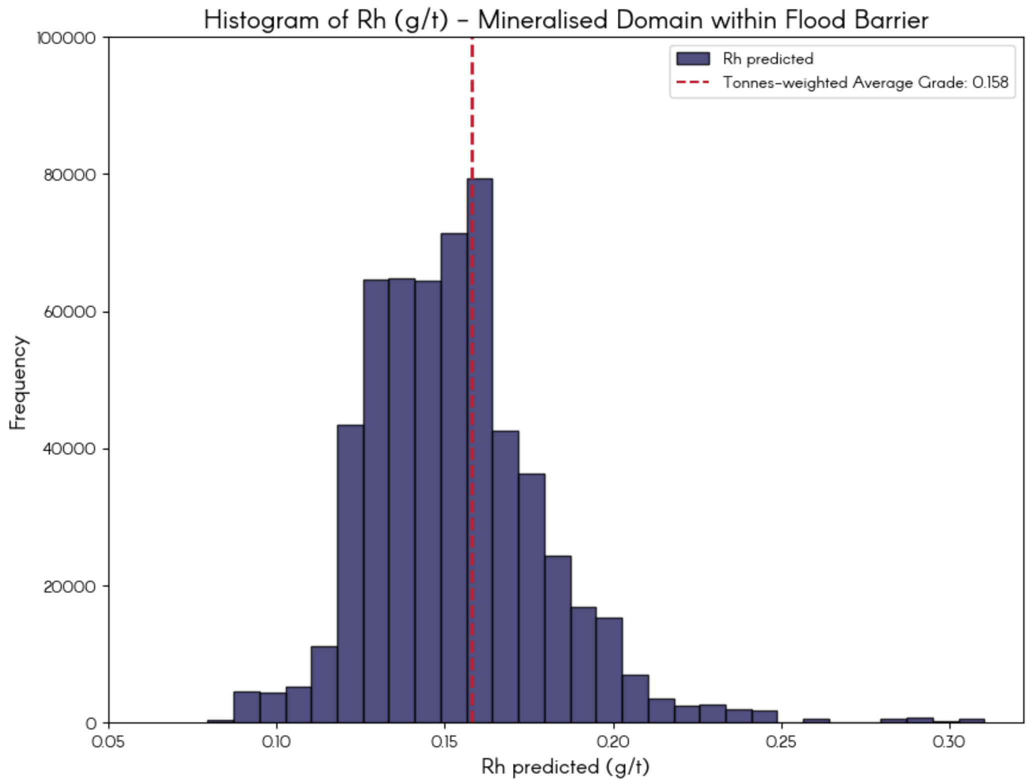

Figure 31 Rhodium regressed grades for the Volspruit North MRE mineralised domain within the flood barrier.

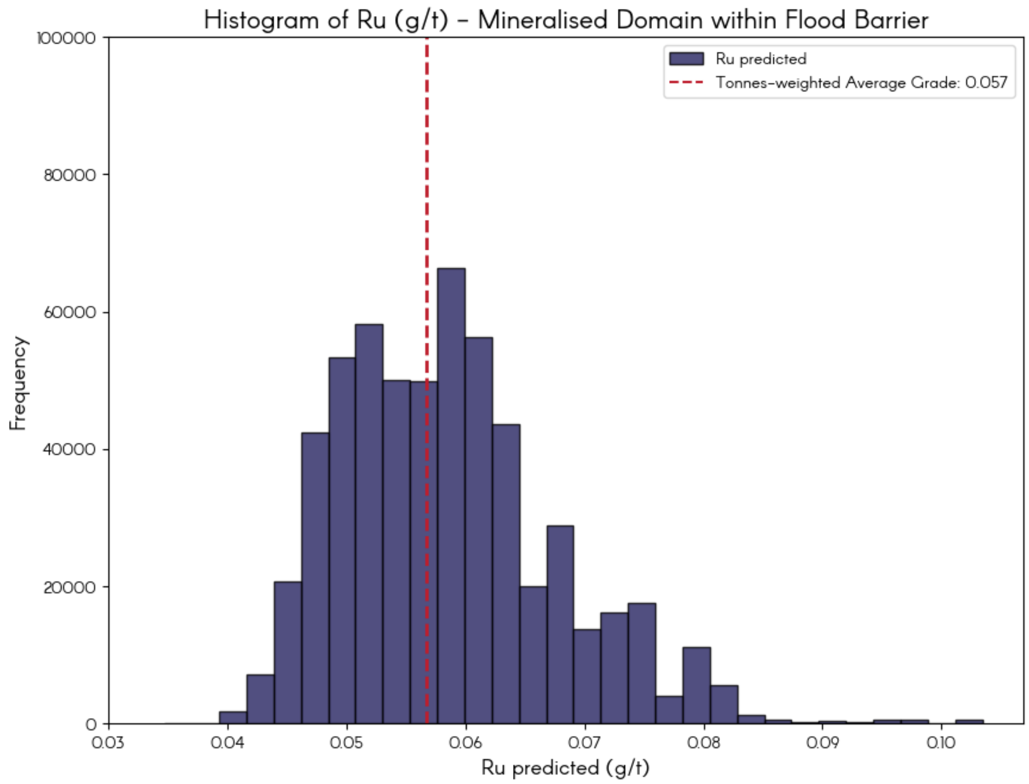

Figure 32 Ru regressed grades for the Volspruit North MRE mineralised domain within the flood barrier.

10 CONCLUSION AND RECOMMENDATIONS

Earthlab has been successful in interpreting and defining the stratigraphic succession occurring in the Grassvalley North drill holes, during the detailed re-logging campaign of the historical core. The Volspruit Reef is confined in the Cyclic Unit 11 Upper. These relogged drill holes were used to update the 2023 MRE technical report.

The 2023 metallurgical drilling was successfully drilled, logged, and analysed for 5E and gold. The recovery of the material in the oxidised zone in particular the first ~20 m of drilling was low due to the large diameter drill bit (for casing installation), highly weathered and fractured material and easy washout thereof due to the condition of the rocks. In the transitional and fresh zone core recoveries drastically increased.

These drill holes were not incorporated into the 2023 MRE update report, but the assay results were successfully used for Rh and Ru regression.

The regression application conducted on Rhodium (Rh) and Ruthenium (Ru) utilising Platinum (Pt), Palladium (Pd), and Gold (Au) as input variables has yielded highly successful results. Both regression models for Rh and Ru demonstrated exceptional performance, with Mean Absolute Errors (MAE) well below the laboratory's detection limit of 0.02 ppm. Specifically, the Rhodium model achieved a remarkable MAE of 0.0092 ppm, while the Ruthenium model exhibited an even lower MAE of 0.0065 ppm. Furthermore, the rigorous cross-validation assessment, employing two-sample t-tests with an alpha value of 0.05, indicated that the predicted populations derived from the regression models can be confidently considered equal to that of the actual populations. The outcome highlights the reliability of both the predictive models, making them invaluable tools for accurately estimating Rh and Ru concentrations in assay sample and resource model datasets.

The amended metallurgical drilling campaign achieved the targeted mass of material available for bench-scale metallurgical testwork, as required by the DRA.

It is further suggested that should any additional metallurgical sampling be done by DRA in the future, that said sampling take place in the core yard located on the Volspruit farm as it is advised that the core boxes should not be transported due to the possibility of compromising the integrity of the exploration drill core.

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A. Re-logged Drill Holes

Table 18: All GVN Drill holes that were re-logged.

DHID	Depth	Xcollar	Ycollar	Zcollar	Volspruit Reef Intersected	Volspruit Reef Start Depth
GVN001	214.01	-4887.94	-2693109.77	1071.11	Missing Core	?
GVN002	208.03	-4862.46	-2693260.98	1069.45	No	-
GVN003	140.00	-4849.76	-2693316.64	1069.20	Yes	51.10
GVN004	172.10	-4834.55	-2693213.54	1070.11	Yes	82.64
GVN005	139.20	-4843.02	-2693373.58	1068.47	Yes	58.42
GVN006	142.20	-4806.78	-2693305.70	1068.97	No	-
GVN007	150.32	-5020.21	-2692946.06	1077.00	No	-
GVN008	136.18	-4877.23	-2693196.06	1070.03	Yes	45.30
GVN009	120.90	-4927.49	-2693135.91	1070.68	Yes	68.00
GVN010	140.36	-4922.09	-2693070.07	1071.93	Yes	41.70
GVN011	112.15	-5013.80	-2693054.29	1072.36	Yes	32.00
GVN012	115.14	-4959.72	-2693032.00	1072.84	Yes	42.48
GVN013	107.50	-4986.02	-2693149.59	1070.34	Yes	37.11
GVN014	85.20	-4904.91	-2693388.18	1067.82	Yes	31.00
GVN015	178.60	-4904.66	-2693703.04	1066.23	Yes	91.42
GVN016	84.95	-4986.36	-2693196.63	1069.43	Yes	33.53
GVN017	105.87	-4852.65	-2693581.42	1067.03	Yes	24.83
GVN018	102.50	-4920.06	-2693290.93	1068.66	Yes	35.11
GVN019	100.08	-4909.34	-2693237.49	1069.37	Yes	50.23
GVN020	110.01	-4854.66	-2693489.84	1065.00	Yes	77.48
GVN021	82.43	-5027.66	-2693798.83	1067.00	Yes	62.59
GVN022	160.00	-5180.66	-2693763.83	1063.00	Yes	56.80
GVN023	164.40	-5191.55	-2693661.27	1063.62	Yes	93.21
GVN024	160.16	-5229.40	-2693570.75	1063.44	Yes	89.00
GVN025	160.38	-5035.27	-2693740.01	1065.01	Yes	63.38
GVN026	200.00	-5059.19	-2693638.51	1065.10	Yes	76.80
GVN027	109.20	-5086.57	-2693541.33	1065.19	Yes	43.37
GVN028	148.40	-4962.27	-2693607.53	1066.09	Yes	63.70
GVN029	127.10	-4981.33	-2693546.23	1066.21	Yes	33.81
GVN030	98.80	-4912.86	-2693435.77	1067.36	Missing Core	?
GVN031	90.00	-4970.04	-2693416.36	1067.05	Missing Core	?
GVN032	474.69	-5425.07	-2693596.23	1061.16	Yes	184.48
GVN033	306.78	-5324.54	-2693696.37	1061.99	Yes	72.41
GVN034	288.93	-5324.97	-2693796.52	1061.90	Yes	60.30
GVN035	320.93	-5524.97	-2693696.52	1059.80	Missing Core	?
GVN037	239.73	-5424.97	-2693896.52	1060.90	Yes	41.82
GVN038	293.03	-5524.97	-2693896.52	1059.70	Yes	39.20
GVN040	248.88	-5624.97	-2693896.52	1058.60	No	-
GVN042	287.88	-5231.82	-2693740.36	1063.00	Yes	67.00
GVN043	167.88	-5301.81	-2693589.53	1062.80	Missing Core	?
GVN045	227.78	-5524.97	-2693996.52	1059.86	Yes	29.17
GVN046	302.83	-5451.65	-2693997.17	1060.78	Yes	29.83

GVN048	332.68	-5110.57	-2693129.54	1069.70	No	-
GVN049	398.83	-5273.17	-2692976.68	1071.16	Yes	131.80
GVN050	137.88	-5698.79	-2694233.99	1058.51	No	-
GVN051	116.88	-5561.98	-2694310.32	1059.86	No	-
GVN052	89.43	-5340.91	-2694412.16	1062.66	No	-
GVN053	76.98	-5706.89	-2694086.77	1057.70	No	-
GVN054	77.78	-5119.09	-2694526.65	1065.38	No	-
GVN055	323.88	-5055.00	-2694400.68	1065.87	No	-
GVN056	128.88	-5305.00	-2694115.31	1062.44	No	-
GVN057	104.83	-5156.03	-2694198.68	1064.19	No	-
GVN058	56.88	-4991.19	-2694274.95	1066.52	No	-
GVN059	114.09	-4971.50	-2693310.81	1068.12	Yes	45.30
GVN060	120.00	-4966.50	-2693253.97	1068.73	Yes	21.00
GVN061	175.01	-5169.22	-2692942.20	1077.41	Yes	60.35
GVN062	186.01	-5245.75	-2693065.34	1068.89	Yes	96.57
GVN063	195.01	-5306.04	-2693139.50	1066.14	Yes	108.55
GVN064	48.10	-5625.16	-2693496.51	1059.11	No	-
GVN065	60.01	-5645.46	-2693603.19	1058.62	No	-
GVN066	165.01	-5186.77	-2693175.92	1067.49	Yes	104.36
GVN067	123.01	-5084.94	-2693221.52	1068.17	Yes	19.00
GVN068	180.01	-5129.30	-2693034.17	1072.42	Yes	105.36
GVN069	132.01	-5051.15	-2693018.27	1073.70	No	-
GVN070	129.01	-5050.28	-2693117.36	1070.57	Yes	53.43
GVN071	171.01	-5039.57	-2693687.24	1065.10	Yes	95.13
GVN072	135.01	-5076.10	-2693588.01	1065.23	Yes	69.93
GVN073	117.01	-4934.78	-2693507.77	1066.88	Yes	24.60
GVN074	90.01	-4918.34	-2693451.39	1067.29	Yes	26.64
GVN075	99.01	-5034.10	-2693432.90	1066.51	Yes	37.68
GVN076	174.01	-5133.32	-2693640.54	1064.30	Yes	8.48
GVN077	174.01	-5217.09	-2693506.63	1064.06	Yes	66.94
GVN078	162.01	-5162.37	-2693568.97	1064.35	Yes	63.59
GVN079	189.01	-5259.76	-2693641.62	1063.05	Yes	73.14
GVN080	186.01	-4977.58	-2693748.51	1065.64	No	-
GVN081	171.01	-5163.95	-2693716.50	1063.85	Yes	91.64
GVN082	171.01	-5233.45	-2693783.43	1063.08	Yes	68.60
GVN083	144.01	-5017.86	-2693799.52	1065.15	Yes	61.16
GVN084	111.01	-5330.72	-2693894.10	1061.90	Yes	65.79
GVN085	150.01	-4905.62	-2693557.49	1066.81	Yes	31.43
GVN086	186.01	-5106.43	-2693759.86	1064.42	No	-
GVN087	165.01	-5275.20	-2693746.34	1062.55	Yes	91.74
GVN088	167.35	-5295.26	-2693826.93	1062.24	Yes	69.01
GVN089	177.08	-5374.56	-2693746.56	1061.46	Yes	77.17
GVN090	177.01	-5374.58	-2693646.51	1061.64	Yes	90.54
GVN091	159.01	-5382.21	-2693935.46	1061.29	Yes	51.01
GVN092	156.01	-5374.46	-2693845.71	1061.43	Yes	58.43
GVN093	197.31	-5474.83	-2693746.59	1060.36	Yes	69.38

GVN094	121.09	-5474.24	-2693646.69	1060.54	Missing Core	?
GVN095	141.01	-5474.60	-2693946.78	1060.44	Yes	22.21
GVN096	153.80	-5475.04	-2693846.38	1060.43	Yes	40.76
GVN097	210.01	-5574.57	-2693746.52	1059.28	Yes	85.42
GVN098	186.01	-5533.38	-2693799.77	1059.73	Yes	70.31
GVN099	156.01	-5581.26	-2693946.58	1059.31	Yes	21.72
GVN100	180.01	-5573.57	-2693847.30	1059.28	Yes	41.00
GVN101	168.01	-5424.68	-2693696.78	1060.91	Missing Core	?
GVN102	186.00	-5625.34	-2693796.76	1058.65	Yes	71.51
GVN103	183.01	-5424.73	-2693796.78	1061.05	Yes	60.81
GVN104	159.01	-5527.95	-2693531.49	1060.43	No	-
GVN105	174.01	-5253.29	-2693678.17	1062.96	Yes	105.12
GVN106	141.01	-5027.41	-2693499.28	1066.07	Yes	1.97
GVN107	201.01	-4976.51	-2693665.62	1065.79	Yes	71.42
GVN108	128.44	-5219.09	-2693755.17	1063.30	Yes	66.91
GVN109M	117.00	-5255.35	-2693719.09	1062.99	Yes	81.18
GVN110M	120.00	-5253.26	-2693753.18	1062.96	Yes	75.96
GVN111M	111.26	-5253.70	-2693686.50	1063.15	Yes	72.70
GVN112M	115.00	-5214.70	-2693650.28	1063.70	Yes	75.95
GVN113M	129.00	-5186.24	-2693751.83	1063.66	Yes	61.00
GVN114M	99.00	-5253.80	-2693576.38	1063.54	Yes	89.16
GVN115M	103.00	-5235.13	-2693598.30	1063.56	Yes	75.10
GVN116M	128.00	-5198.47	-2693741.11	1063.55	Yes	66.40
GVN117M	107.00	-5273.10	-2693668.83	1062.96	Yes	94.94
GVN118M	125.10	-5183.88	-2693722.00	1063.68	Yes	73.53
GVN119M	119.00	-5216.83	-2693681.35	1063.52	Yes	77.92
GVN120M	104.00	-5253.68	-2693613.79	1063.38	Yes	84.48
GVN121M	129.00	-5164.12	-2693728.88	1064.02	Yes	72.66
GVN122M	126.00	-5199.48	-2693703.61	1063.56	Yes	100.74
GVN123M	96.00	-4933.48	-2693055.40	1072.51	Yes	52.83
GVN124M	101.00	-4902.18	-2693095.86	1071.64	Yes	58.51
GVN125M	77.00	-4912.63	-2693158.52	1070.62	Yes	30.30
GVN126M	97.00	-4856.67	-2693204.56	1070.25	Yes	55.48
GVN127M	124.00	-5235.36	-2693737.40	1063.00	Yes	75.51
GVN128M	125.43	-5216.90	-2693723.00	1063.43	Yes	90.49
GVN129M	107.00	-5269.39	-2693696.89	1062.91	Yes	75.42
GVN130M	86.10	-4888.01	-2693182.06	1070.34	Yes	54.93
GVN131M	105.00	-5237.64	-2693629.78	1063.51	Yes	80.52
GVN132M	77.00	-4939.81	-2693118.86	1071.29	Yes	64.37
GVN133M	117.00	-5236.00	-2693703.61	1063.40	Yes	98.09
GVN134M	99.00	-5286.55	-2693577.37	1063.28	Yes	65.62
GVN135M	134.00	-5149.22	-2693720.64	1064.19	Yes	85.05
GVN136M	77.00	-4887.90	-2693260.21	1069.47	Yes	42.63
GVN137M	76.22	-4980.15	-2693085.33	1071.96	Yes	41.71
GVN138M	107.00	-5286.08	-2693653.99	1062.92	Yes	86.97
GVN139M	101.00	-5268.88	-2693597.38	1063.40	Yes	74.24

GVN140M	116.00	-5008.16	-2692969.27	1075.90	Yes	34.39
GVN141M	90.00	-4975.43	-2693014.76	1073.71	Missing Core	?
GVN142M	66.00	-4994.11	-2693233.24	1069.09	Missing Core	?
GVN143M	73.00	-4981.01	-2693116.10	1071.18	Yes	38.23
GVN144M	63.13	-4999.29	-2693066.62	1072.37	Yes	48.22
GVN145M	74.00	-4953.00	-2693173.08	1070.32	Yes	55.00
GVN146M	76.00	-4920.98	-2693214.82	1069.83	Yes	34.30
GVN147M	65.00	-4944.18	-2693268.52	1068.96	Yes	36.94
GVN148M	60.00	-4978.10	-2693226.94	1069.34	Yes	37.76
GVN149M	76.00	-4943.01	-2693142.01	1070.83	Missing Core	?
GVN151	185.73	-5361.86	-2694060.79	1061.91	No	-
GVN152	285.54	-4851.82	-2693880.92	1067.07	No	-
GVN153	78.36	-4760.84	-2693531.16	1068.09	No	-
GVN154	159.68	-4780.92	-2693476.68	1068.19	No	-
GVN155	149.73	-4916.44	-2693878.35	1066.41	Missing Core	?
GVN149MR	77.00	-4941.54	-2693142.77	1070.84	Missing Core	?