Platinum Group Metals Ltd

Technical Report on the Exploration of the Waterberg Extension Project, South Africa
(Latitude 23° 14’ 00”S, Longitude 28° 55’ 00”E)

Effective Date: 12 November 2013
Qualified Person: Kenneth Lomberg (Pr.Sci.Nat.)
Date and Signature Page

This report titled “Technical Report on the Exploration of the Waterberg Extension Project, South Africa” with an effective date of 12 November 2013 was prepared on behalf of Platinum Group Metals (Pty) Ltd by Kenneth Lomberg and signed:

Dated at Roodepoort, South Africa, this 12 November 2013

[signed]

Senior Principal
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1 SUMMARY

1.1 Introduction

Coffey Mining (South Africa) Pty Limited (Coffey) has been requested by Platinum Group Metals RSA (Pty) Ltd. (PTM), on behalf of Platinum Group Metals Ltd, the issuer, to complete an Independent NI 43-101 Technical Report on exploration at the Waterberg Extension Project. For clarity, this report pertains only to the Waterberg Extension Project which is considered separate from the adjacent Waterberg Joint Venture (JV) Project to the south. The ownership structure of the Waterberg Extension Project differs from the Waterberg JV Project. PTM holds a direct 74% share in the Waterberg Extension Project with Mnombo Wethu (Pty) Ltd (Mnombo), a BEE partner, holding the remaining 26% share. PTM has a 49.9% interest in Mnombo which brings the effective interest of PTM in Waterberg Extension Project to 86.974%.

This project is targeting the strike continuation of a recently discovered extension to the northern limb of the Bushveld Complex immediately adjacent to the Waterberg JV Project and may have further potential for Platinum Group Metals (PGMs), gold and base metals (Cu, Ni). This report complies with disclosure and reporting requirements set forth in the Toronto Stock Exchange Manual, National Instrument 43-101 Standards of Disclosure for Mineral Project (NI 43-101), Companion Policy 43-101CP to NI 43-101, and Form 43-101F1 of NI 43-101.

The report reviews exploration activities including diamond drilling completed to the effective date of 12 November 2013 and is based on documentation related to the project and discussions with project management as well as field visits to the project area.

1.2 Project Area and Location

The southern boundary of the Waterberg Extension Project is located some 85km north of the town of Mokopane, Limpopo Province. The project currently consists of registered Prospecting Right number LP30/5/1/1/2/10804PR, LP30/5/1/1/2/10805PR and LP30/5/1/1/2/10810PR. The area of the prospecting rights covers 488.86km² and extends some 35km from north to south and 28km from east to west. Additional Prospecting Licenses covering an area of 330.15km² adjoining the currently issued rights have been accepted by the Department of Mineral Resource (DMR).

The granted prospecting rights are centred on Latitude 23° 14′ 00″S, Longitude 28° 55′ 00″E. The current prospecting rights are set to expire in five years at which point PTM is allowed to apply to the Regional Manager, Limpopo Region, DMR for the conversion of the current prospecting rights into mining rights within that renewal period of three years.
1.3 Geological Setting, Deposit Type and Mineralisation

PGM-dominated deposits occur in large layered intrusions, such as the Bushveld Complex (South Africa), the Stillwater Complex (Montana) and the Great Dyke (Zimbabwe). The Waterberg Extension Project is located on the northern limb of the Bushveld Complex. The 2,060 million year old Bushveld Complex, with a total extent of approximately 66,000km², is the world’s largest zoned mafic intrusions. The mafic rocks of the Bushveld Complex host zones rich in PGM, chromium and vanadium, and constitute the largest known resource of these metals. In addition, nickel and copper are generally associated with the PGMs and are significant by-products.

The mafic rocks are collectively termed the Rustenburg Layered Suite (RLS) and have been divided into five zones known as the Marginal, Lower, Critical, Main and Upper Zones.

The Critical Zone is characterised by regular rhythmic layering of cumulus chromite within pyroxenites, anorthosites, norites and olivine-rich rocks. It hosts virtually all the economic mineralisation encountered in the Bushveld Complex.

The first economically significant cycle from a PGM perspective is the UG2 Chromitite Layer. The two uppermost cycles of the Critical Zone are the Merensky and Bastard cycles. The former is of great economic importance as it contains at its base the PGM-bearing Merensky Reef. In the western part of the Bushveld Complex, several metres below the Merensky Reef, a unit known as the Pseudo Reef occurs and is known to be mineralised with PGMs.

In the Northern Limb, the Platreef mineralisation occurs proximal to the basal contact of the Bushveld Complex with the country rock, typically as a thicker zone (up to 30m thick) containing disseminated sulphides. Where the Bushveld Complex is in contact with the Archaean granite and sediments of the Transvaal Supergroup floor rocks, the Platreef is developed. The contact between the RLS and footwall rocks in the northern limb is transgressive, with the Platreef in contact with progressively older rocks of different lithologies from south to north.

The Platreef is a series of pyroxenites and norites, containing xenoliths/rafts of footwall rocks. It is irregularly mineralised with PGM, Cu and Ni. The Platreef (sensu stricto) has a strike extent of some 30km, whereas Platreef-style mineralisation occurs over the 110km strike length of the northern limb (Kinnaird et al, 2005). The Platreef varies from 400m thick in the south of the northern limb to <50m in the north. The overall strike is northwest or north, with dips 40–45° to the west at surface with the dip becoming shallower down dip. The overall geometry of the southern Platreef appears to have been controlled by irregular floor topography.

The Waterberg Extension Project appears to be an extension of the Bushveld Complex. The mineralisation has a different setting and metal ration to the Platreef.
1.4 Local Geology

A drilling programme by PTM on the adjacent property, Waterberg JV Project to the south of the Waterberg Extension Project has identified an extension to the Bushveld Complex beneath the sedimentary rocks of the Paleoproterozoic Waterberg Group which is covered by a veneer of Quaternary sand. Further west, the Waterberg Group thickens to more than 760m and typically displays a downward coarsening with pebble beds and conglomerates towards the base.

The Waterberg Extension Project is the northeastward strike continuation of the same sequence of mafic rocks and mineralization style that has been revealed at the adjacent Waterberg JV Project to the south. The PGM mineralisation is also hosted in modified felsic rocks: gabbrons, anorthosites as well as pyroxenites, troctolites, harzburgites and norite of the Bushveld Complex. Layers of PGM mineralisation are generally accompanied by significant concentrations of base metal sulphides, with pyrrhotite and chalcopyrite being dominant over pentlandite.

A geological model was developed for the project area based on the data from the completed boreholes, structural interpretation from aerial photographs and geophysics (Figure 1_1) and extrapolation along strike from the adjacent Waterberg JV Project to the south. A general dip of 25° - 35° towards the northwest is observed from borehole core for the layered units intersected on the Waterberg Extension Project within the Bushveld Package. The model indicates that there is a slight flattening of layers northward of the southern property boundary within the first 4km. Some blocks may be tilted at different angles depending on structural and /or tectonic controls. Generally the Bushveld package strikes southwest to northeast changing to northerly.

The field relationships in the vicinity of the Waterberg Extension Project were noted to indicate that the Bushveld Complex is unconformably overlain by the sandstones of the Setlaole Formation of the Waterberg Group, which is post the Bushveld in age. The core drilling undertaken by PTM shows that an angular unconformity exists between the Waterberg Group and underlying Bushveld Complex. The nature of the relationship between the Waterberg Group and the Bushveld Complex is confirmed as having no bearing on the presence of mineralization in the gabbros (F - Zone).

A late granodiorite sill averaging 80m thick has intruded along the Waterberg-Bushveld unconformity. Vertical east-west dykes of similar age increase in frequency northward from the southern project boundary.
1.5 Exploration Status

Previous mineral exploration activities were limited due to the extensive sand cover and the understanding that the area was underlain by the Waterberg Group. Surface mapping has been undertaken but it is noted that most of the area surrounding the Waterberg Mountains is covered by Waterberg sands. Mapping in these areas has provided no information as the Bushveld Complex sub-outcrops below Waterberg sediments.

PTM contracted FUGRO Airborne Surveys (Pty) Ltd. to conduct airborne FALCON® gravity gradiometry and total field magnetic survey in April 2013s. The target for the surveys was the interpreted edge sub-outcropping of the denser Bushveld Complex to which the Waterberg Group sediments form the regional hanging wall. The survey was flown on 100m and 200m line spacing and comprised 2306.16 line kilometres of Airborne Gravity Gradiometry (AGG) data and 2469.35 line kilometres of magnetic and radiometric data. The total extent of the survey covered approximately 30km$^2$ of interpreted Bushveld Complex edge within the Waterberg JV Project and Waterberg Extension Project areas. Modeling of the data suggests that there may be a northeast and north trending continuity to the Bushveld Complex rocks on the Waterberg Extension Project which may have the potential to host PGM mineralization.

Later in September 2013 nine ground gravity traverses were completed by Geospec Instruments (Pty) Ltd along roads and tracks. The survey lines were designed to traverse the projected edge of the Bushveld Complex on the Waterberg Extension Project in the same area covered by the airborne survey as ground confirmation of the airborne results. The two surveys were compared and there was acceptable correlation between gravity data sets. In planning the ground survey, one control line over the known Bushveld Complex edge, at the point where it projected from the adjacent Waterberg JV Project was completed in order to acquire a signature profile over a known source with which to compare the remaining regional lines. The interpretation of the linked ground gravity profiles suggests that there may be a northeast trending continuity to the Bushveld Complex rocks.

The drilling confirmed the presence of the rocks of the Bushveld Complex. Exploration has thus been largely driven by drilling. The relationship between the Bushveld Complex and Waterberg Group is the subject of discussion between PTM and geologists from various universities. The age of the rocks of the Bushveld Complex relative to the sedimentary cover is not considered critical to the geological model of the mineralized rocks in the Bushveld Complex.

Ground exploration work undertaken includes geological mapping and ground verification of the geology presented in various government and academic papers. The major faults and South Marginal Zone geology described was confirmed to exist within the property. Contact relations with the Bushveld Complex were not seen due to the Waterberg cover rock and quaternary sand deposits.
1.6 Diamond Drilling

Based on the strike projections from adjacent properties, modelling of regional government data, detailed airborne gradient gravity and total field magnetic responses along with ground gravity confirmation drill targets were generated and drilling commenced in October 2013 on the farm Early Dawn 369LR. Diamond drilling continues with five drill machines. PGM results for two boreholes have been received at the effective date of this report.

Drilled core is cleaned, de-greased and packed into metal core boxes by the drilling company. The core is collected from the drilling site on a daily basis by a PTM geologist and transported to the coreyard by PTM personnel. Before the core is taken off the drilling site, core recovery and the depths are checked. Core logging is done by hand on a pro-forma sheet by qualified geologists under supervision of the Project Geologist.

1.6.1 Sample Preparation

The sampling methodology accords with PTM protocol based on industry best practice. The quality of the sampling is monitored and supervised by a qualified geologist. The sampling is done in a manner that includes the entire potentially economic unit.

1.6.2 Analysis

The drill core samples have been analyzed by Set Point laboratories (South Africa).

Samples are received, sorted, verified and checked for moisture and dried if necessary. Each sample is weighed and the results are recorded. Rocks, rock chips or lumps are crushed using a jaw crushe to less than 10mm. The samples are then milled for 5 minutes in a Labtech Essa LM2 mill to achieve a fineness of 90% less than 106μm, which is the minimum requirement to ensure the best accuracy and precision during analysis.

Samples are analysed for Pt (ppb), Pd (ppb) Rh (ppb) and Au (ppb) by standard 25g lead fire-assay using a silver collector. After pre-concentration by fire assay the resulting solutions are analysed using ICP-OES (Inductively Coupled Plasma–Optical Emission Spectrometry).

The base metals (copper, nickel, cobalt and other base metals) are analysed using ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry) after a four acid digestion. This technique results in “almost” total digestion.

The drilling, sampling and analytical aspects of the project are considered to have been undertaken to industry standards. The data is considered to be reliable for reporting grade intervals in exploration drilling.
1.6.3 Quality Control and Quality Assurance

PTM have instituted a complete QA/QC programme including the insertion of blanks and certified reference materials as well as referee analyses. The programme is being followed and is considered to be to industry standard. The data is as a result, considered reliable.

1.7 Mineral Resources

A mineral resource estimate has not been declared for the Waterberg Extension Project. There is insufficient drilling completed to support a resource estimate. The author cautions that the resource estimate stated in the Adjacent Properties Section of this report is for the adjacent property named Waterberg JV Project and that it is not indicative of any resources on the property that is the subject of this report.

1.8 Interpretation and Conclusions

Exploration on the Waterberg Extension Project has confirmed the presence of Bushveld Rocks under the Waterberg Group. Exploration drilling has confirmed the presence of the continuation of the mineralised F - Zone along strike from the adjacent Waterberg JV Project. Elevated PGM concentrations have been identified in mineralised zones/layers consistent with layered magmatic sulphide deposits and displays characteristics of a geological setting, including the ration of precious metals that differs from other locations in the Bushveld Complex.

An interpretation of the position of the Bushveld Complex was made after modelling of data from airborne gradient gravity and magnetics, regional magnetics and ground gravity surveys. The three methods of interpretation all indicate that the Bushveld Complex continues in a northeast to northerly arc from the known position from drilling in the southern area of the Project.

The continuity of geological features and mineralised layers between the nine boreholes completed to the effective date of this report, allowed for geological modelling relative to geophysical data in order to continue the exploration drilling along the interpreted northward modeled edge of the Bushveld Complex. The mineralisation is considered open down-dip and along strike.

It is recommended that drilling continue on the Waterberg Extension Project to test the extent of the Bushveld Complex sequence for the continuation of the mineralized zones. It is further recommended to initiate infill drilling on a 250m x 250m grid to support a Mineral Resource Estimate in the areas where mineralization of sufficient grade and width has been intercepted in the step out drilling.
The results of exploration work and diamond drilling on the Waterberg Extension Project warrant a recommended Budget for the continued exploration of Waterberg Extension Project of CAN$20M.
2 INTRODUCTION

2.1 Scope of the Report

Coffey Mining (South Africa) Pty Limited (Coffey) has been requested by Platinum Group Metals RSA (Pty) Ltd. (PTM), on behalf of Platinum Group Metals Ltd, the issuer, to complete an Independent NI 43-101 Technical Report on exploration at the Waterberg Extension Project. For clarity, this report pertains only to the Waterberg Extension Project, which is considered separate and distinct from the adjacent and contiguous Waterberg Joint Venture Project to the immediate south. The Waterberg JV Project and the Waterberg Extension Project are managed and explored according to separate technical committees and are currently planned for separate development according to needs, requirements and objectives of the two distinct ownership groups.

This project is targeting the strike continuation of a recently discovered extension to the northern limb of the Bushveld Complex and may have further potential for Platinum Group Metals (PGMs), gold and base metals (Cu, Ni). This report complies with disclosure and reporting requirements set forth in the Toronto Stock Exchange Manual, National Instrument 43-101 Standards of Disclosure for Mineral Project (NI 43-101), Companion Policy 43-101CP to NI 43-101, and Form 43-101F1 of NI 43-101.

The report reviews exploration activities including diamond drilling completed to the effective date of 12 November, 2013 and is based on documentation related to the project and discussions with project management as well as field visits to the project area.

2.2 Principal Sources of Information

The sources of information and data include both public domain data (conventional publications, “Open File” and Internet) and information gathered or otherwise acquired by PTM, which are not generally available in the public domain. Where possible, published and/or generally available data on “Open File” in the Council of Geoscience, Pretoria, South Africa, was used.

The public domain sources and documents that were supplied by PTM are listed in Section 19 - References.

2.3 Qualifications and Experience

Coffey is part of Coffey International Limited which is one of the top 300 companies on the Australian Stock Exchange. Coffey International Limited consists of a range of specialist companies working in social infrastructure and physical infrastructure and operates in more than 60 countries around the world.
Coffey is an integrated Australian-based consulting firm, which has been providing services and advice to the international mineral industry and financial institutions since 1987. Coffey, previously RSG Global, has maintained a fully operational office at Accra in Ghana since 1996, providing an operational base for consulting and contracting assignments throughout the West African region. An additional African office was established in Johannesburg, South Africa, in 1999 to support expanding activities within southern and eastern portions of the continent. In 2007 an additional office was established in Lusaka, Zambia to provide consulting services to the Zambian mineral industry.

The following personnel were nominated to the project team and their specific areas of responsibility are shown below. The qualifications and appropriate experience of the author are detailed in the attached Authors’ Certificates. Mr K G Lomberg visited site on 8 November 2013.

PTM personnel on site facilitated the technical review by providing documentation, overview presentations, a field visit, access to the exploration results and drilling already completed, and access to the project database.

The overall report was compiled by Mr Lomberg.

Kenneth Lomberg, Principal Consultant Resources, Coffey – Southern Africa
Project management, site visits, geological review and interpretation, report preparation.

Mr Lomberg has the relevant experience to the type of deposit and resource estimation that is the subject of this report. More specifically, he is the Independent Qualified Person for the Mineral Resource Estimate on the adjacent and contiguous Waterberg JV Project. Mr Lomberg has done consultant work on various other projects on the Bushveld Complex including Aurora, Kransplaats, Bokoni Mine, Mecklenburg, Smokey Hills, Kalplats, Garatau, Kennedy’s Vale, Kalkfontein, Blue Ridge Mine, Eland Mine, Western Bushveld Joint Venture (WBJV), Palmietfontein, Stellite, Townlands and Tharisa. Mr Lomberg has assisted with approximately 15 of the estimated 20 Junior Platinum Exploration and Mining Companies in South Africa. These assignments have ranged from listings documents, CPRs, ITRs, feasibility studies, NI43-101 compliant resource estimations and valuations.

2.4 Independence

Neither Coffey, nor the key personnel nominated for the completed and reviewed work, have any material interest in PTM or its mineral properties. The proposed work, and any other work done by Coffey for PTM, is strictly in return for professional fees. Payment for the work is not in any way dependent on the outcome of the work or on the success or otherwise of PTM’s own business dealings. As such there is no conflict of interest in Coffey undertaking the Independent Qualified Person’s Report as contained in this document.
3 RELIANCE ON OTHER EXPERTS

This report was prepared as a National Instrument 43-101 Technical Report, in accordance with Form 43-101F1, for Platinum Group Metals (Pty) Ltd (PTM), on behalf of Platinum Group Metals Ltd, the issuer, by Coffey Mining (South Africa) Proprietary Limited (Coffey). The quality of information and conclusions contained herein is consistent with the level of effort involved in Coffey’s services and based on:

i) information available at the time of preparation by PTM,

ii) third party technical reports prepared by Government agencies and previous tenements holders, along with other relevant published and unpublished third party information, and

iii) the assumptions, conditions and qualifications set forth in this report. This report is intended to be used by PTM, subject to the terms and conditions of its contract with Coffey. This contract permits PTM to file this report as a Technical Report with Canadian Securities Regulatory Authorities pursuant to National Instrument 43-101, Standards of Disclosure for Mineral Projects. Any other use of this report by any third party is at that party’s sole risk.

A final draft of this report was provided to PTM, along with a written request to identify any material errors or omissions, prior to lodgement.

Neither Coffey, nor the author of this report, are qualified to provide extensive comment on legal facets associated with ownership and other rights pertaining to PTM’s mineral properties described in Section 4. Coffey did not see or carry out any legal due diligence confirming the legal title of PTM to the properties.

Similarly, neither Coffey nor the author of this report are qualified to provide extensive comment on environmental issues associated with PTM’s mineral properties, as discussed in Section 4.
4 PROPERTY DESCRIPTION AND LOCATION

4.1 Property Description and Location

The southern boundary of the Waterberg Extension Project is located some 85km north of the town of Mokopane (formerly Potgietersrus) (Figure 4.1.1). At the effective date of this report the project consists of prospecting rights LP 30/5/1/1/2/ 10804PR, LP 30/5/1/1/2/ 10805PR and LP 30/5/1/1/2/ 10810PR that combined cover a contiguous area of 488.86km² centred at Latitude 23° 14′ 00″S, Longitude 28° 55′ 00″E.

![Figure 4.1.1 Location of the Waterberg Extension Project Properties](image)

4.2 Mining Tenure

A summary of the mineral exploration and mining rights regime for South Africa is provided in Table 4.2.1. It should be noted that PTM have a prospecting right which allows them should they meet the requirements in the required time, to have the sole mandate to file an application for the conversion of the registered prospecting right to a mining right.
Table 4.2.1
Summary of Mineral Exploration and Mining Rights
(South Africa)

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<tr>
<th>South Africa</th>
<th>Mineral Exploration and Mining Rights</th>
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<tr>
<td>Mining Act</td>
<td>Mineral and Petroleum Resources Development Act, No. 28 of 2002 (Implemented 1 May 2004)</td>
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<tr>
<td>State Ownership of Minerals</td>
<td>State custodianship</td>
</tr>
<tr>
<td>Negotiated Agreement</td>
<td>In part, related to work programmes and expenditure commitments.</td>
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**Mining Title/Licence Types**
- **Reconnaissance Permission**: Yes
- **Prospecting Right**: Yes
- **Mining Right**: Yes
- **Retention Permit**: Yes
- **Special Purpose Permit/Right**: Yes
- **Small Scale Mining Rights**: Yes

**Reconnaissance Permission**
- **Name**: Reconnaissance Permission
- **Purpose**: Geological, geophysical, photo geological, remote sensing surveys. Does not include “prospecting”, i.e. does not allow disturbance of the surface of the earth.
- **Maximum Area**: Not limited.
- **Duration**: Maximum 2 years.
- **Renewals**: No and no exclusive right to apply for prospecting right.
- **Area Reduction**: No.
- **Procedure**: Apply to Regional Department of Mineral Resources.
- **Granted by**: Minister.

**Prospecting Right**
- **Name**: Prospecting Right.
- **Purpose**: All exploration activities including bulk sampling.
- **Maximum Area**: Not limited.
- **Duration**: Up to 5 years.
- **Renewals**: Once, for 3 years.
- **Area Reduction**: No.
- **Procedure**: Apply to Regional Department of Mineral Resources.
- **Granted by**: Minister.

**Mining Right**
- **Name**: Mining Right.
- **Purpose**: Mining and processing of minerals.
- **Maximum Area**: Not limited.
- **Duration**: Up to 30 years.
- **Renewals**: Yes, with justification.
- **Procedure**: Apply to Regional Department of Mineral Resources.
- **Granted by**: Minister.
4.3 License Status

Platinum Group Metals (RSA) (Pty) Ltd, the majority-owned subsidiary of Platinum Group Metals Ltd, was granted Prospecting Rights LP30/5/1/1/2/10804PR, LP30/5/1/1/2/10805PR and LP30/5/1/1/2/10810PR for a period of five years (488.86km²) (Table 4.3_1 and Figure 4.3_1).

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<th>Registered Prospecting Right Holder</th>
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<td>PGM, Au, Cr, Ni, Cu, Fe, V</td>
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<td>LP 30/5/1/1/2/ 10805 PR</td>
<td>1/10/2018</td>
<td>PGM, Au, Cr, Ni, Cu, Fe, V</td>
<td>17,734.80ha</td>
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<td>LP 30/5/1/1/2/ 10810 PR</td>
<td>22/10/2018</td>
<td>PGM, Au, Cr, Ni, Cu, Fe, V</td>
<td>4,189.86ha</td>
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In addition the application for prospecting rights to two additional areas (LP30/5/1/1/2/10806PR, and LP30/5/1/1/2/11286PR) (330.56km²) has been submitted and have been accepted by the DMR. If granted, these two prospecting rights will be added to the Waterberg Extension Project.

4.4 Holdings Structure

PTM holds a direct 74% share in the Waterberg Extension Project with Mnombo Wethu (Pty) Ltd (Mnombo), a BEE partner, holding the remaining 26% share.

On November 7, 2011 the Company entered into an agreement with Mnombo whereby the Company will acquire 49.9% of the issued and outstanding shares of Mnombo in exchange for cash payments totalling R 1.2 million and paying for Mnombo's 26% share of project costs to feasibility. When combined with the Company's 74% direct interest in the Waterberg Extension Project, the 12.974% indirect interest to be acquired through Mnombo will bring the Company's effective project interest to 86.974%.

4.5 Legal Access

PTM has consulted with the community and received permissions to access the land where it holds Prospecting Permit licenses.
4.6 Royalties and Agreements

Coffey is not aware of any royalties, back-in rights, payments or other encumbrances that could prevent PTM from carrying out its plans or the trading of its rights to its license holdings at the Waterberg Extension Project.

4.7 Environmental Liabilities

All environmental requirements on the properties are subject to the terms of a current Environmental Management Plan (EMP) approved by the Department of Minerals Resources (DMR) prior to commencement of work on the properties. All rehabilitation of drillhole sites and access roads required in terms of this EMP has been completed or are on-going. In addition the required deposits into the approved environmental rehabilitation trust in respect of related potential liabilities are up to date. There are no other environmental liabilities on the properties.

All the necessary permissions and permits in terms of the environmental liabilities have been obtained. There are no known encumbrances of an environmental nature that may restrict the exploration of the properties.
Figure 4.3_1
Locations of the Waterberg Extension Project Prospecting Rights

Legend
- Waterberg Extension Granted Licenses
- Section 102 Application
- Addition to License
- Applied for Prospecting Right
5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 Access
The Waterberg Extension Project is some 85km north of the town of Mokopane (formerly Potgietersrus) in Seshego and Bochum Districts, Limpopo Province. Mokopane provides a full spectrum of local and urban infrastructure.

The Waterberg Extension Project is situated some 18.5km from the N11 national road that links Mokopane with the Groblers Bridge border post to Botswana. The current drilling area is some 37km from the N11 National Road. Access to the area from the national road is by unpaved roads that are generally in a reasonable condition.

5.2 Climate
The climate is semi-arid with moderate winter temperatures and warm to hot in the summer. The majority of the 350-400mm of average annual rainfall occurs in the period November to March. Climatic conditions have virtually no impact on potential mining operations in the project area. Mining and exploration activities can continue throughout the year.

5.3 Physiography
The project area to the west and east is relatively flat but the area in the central part of the project area is more mountainous with some steep near vertical cliffs and an elevation difference of 160 - 200m (Figure 5.3_1) The lowest point in the project area is at 880m amsl and the highest point at 1,365m amsl. The drilling has been undertaken on the eastern flat area with an elevation of approximately 1,000m amsl. The area is farmed by the local people who grow crops on a limited scale and farm various cattle. The vegetation is typically bushveld vegetation. The area has minor non-perennial rivers and is generally dry.

5.4 Local Resources and Infrastructure
Mining services and recruitment are readily available from Mokopane which has a long history of mining with the Mogalakwena Mine, formerly Potgietersrus Platinum Mine (Anglo Platinum), situated north of the town. Furthermore, drilling contractors, mining services and consultants are readily sourced within the greater Gauteng area. Mokopane provides a full spectrum of local and urban infrastructure.

Power, sewage and water infrastructure are poorly developed in this area. The infrastructural requirements of a mine would require additional planning to provide suitable infrastructure to the site. The current activity in the area is in the form of local people undertaking small scale farming on a subsistence basis for cattle and crops. The major restriction is water although the Glen Alpine dam is located some 10km to the west of the Waterberg Extension Project.
Figure 5.3_1
Photograph looking towards the Eastern side of the Waterberg Extension Project
6 HISTORY

The permit for the Waterberg Extension Project properties was applied for based on the initial findings on the adjacent Waterberg JV Project combined with an analysis of publicly available regional government geophysical data that showed an arching NNE tend to the signature of the interpreted edge of the Bushveld Complex.

Previous work that has been conducted over the property prior to PTM exploration was the regional mapping by the Council for Geoscience as presented on the 1:250,000 scale – Map No 2328 – Pietersburg. This sheet is the published geological map of the area and the basis for the metallurgical sheets, as well as regional aeromagnetic and gravity surveys that now form part of the public domain dataset.

6.1 Exploration History

There is no publically available detailed exploration history available for the area. As a result of the cover on the Bushveld Complex there is no record of specific exploration for platinum group metals and the extensive exploration for platinum group metals on the Platreef targets to the south did not extend this far north. There are undocumented reports of one borehole through the Waterberg Group into the Bushveld Complex on a property immediately west of the Waterberg Extension Project.
7 GEOLOGICAL SETTING AND MINERALISATION

7.1 Regional and Local Setting

The stable Kaapvaal and Zimbabwe Cratons in southern Africa are characterised by the presence of large mafic to ultramafic layered complexes, the best known of which are the Great Dyke in the Zimbabwe Craton and the Bushveld and Molopo Complexes in the Kaapvaal Craton. By far the largest, best-known and economically most important of these is the Bushveld Complex (Figure 7.1_1), which was intruded about 2,060 million years ago into rocks of the Transvaal Supergroup, largely along an unconformity between the Magaliesberg quartzite of the Pretoria Group and the overlying Rooiberg felsites. The total estimated extent of the Bushveld Complex is some 66,000km², of which about 55% is covered by younger formations. The mafic rocks of the Bushveld Complex host layers rich in Platinum Group Metals (PGM), chromium and vanadium, and constitute the world's largest known resource of these metals.

The Waterberg Extension Project is situated off the northern end of the previously known northern limb, where the mafic rocks have a different sequence to those of the eastern and western limbs. Furthermore, the Bushveld rocks transgress the Transvaal Supergroup from the Smelterskop and Magaliesberg formations in the south to the ironstones of the Penge formation further north, the dolomites of the Malmani Subgroup, and eventually resting on the Turfloop granite in the north (Vermaak and Van der Merwe, 2000).

The Bushveld Complex in the Waterberg Extension Project area has intruded across a pre-existing craton scale lithological and structural boundary between two geological zones. The known North Limb has a north south orientation to the edge contact that makes an abrupt strike change to the northeast coincident with projection of the east-west trending Hout River Shear system, a major shear that marks the southern boundary of the South Marginal Zone (SMZ). The SMZ is a 3500Ma aged compressional terrain formed within the Kaapvaal Craton during the collision with the Zimbabwe Craton. It is comprised of granulite facies granitic gneiss, amphibolitic gneiss, minor quartzite. Within the SMZ there are several major shears that trend parallel the Hout River Shear (van Reenen, 1992) and trend through the Waterberg Extension Project area (Figure 7.3_1). The footwall to the Bushveld on Waterberg Extension Project is interpreted to be comprised of facies of the SMZ.

The geology of the northern limb of the Bushveld Complex is characterised by the existence of the platiniferous Platreef which was first described by Van der Merwe (Van der Merwe, 1976). The Platreef is typically a wide pyroxenite hosted zone (up to 100s of metres), of elevated Cu and Ni mineralisation with associated anomalous PGM concentrations. The sulphide mineralisation is typically pyrrhotite, chalcopyrite and pentlandite. It has been postulated that the interaction with the basement rocks and in particular the dolomites has been instrumental in the formation of the mineralisation (Vermaak and Van der Merwe, 2000).

The Waterberg Extension Project is an extension of the Northern Limb of the Bushveld Complex. The mineralised layers are considered have a different setting to the Platreef.
7.1.1 Bushveld Complex Stratigraphy

The mafic rocks (collectively termed the Rustenburg Layered Suite (RLS)) can be divided into five zones known as the Marginal, Lower, Critical, Main and Upper Zones from the base upwards (Figure 7.1.1_1).

The Marginal Zone comprises generally finer grained rocks than those of the interior of the Bushveld Complex and contains abundant xenoliths of country rock. It is highly variable in thickness and may be completely absent in some areas and contains no known economic mineralisation.

The Lower Zone is dominated by orthopyroxenite with associated olivine-rich cumulates in the form of harzburgites and dunites. The Lower Zone may be completely absent in some areas.

The Critical Zone is characterised by regular and often fine-scale rhythmic, or cyclic, layering of well-defined layers of cumulus chromite within pyroxenites, olivine-rich rocks and plagioclase-rich rocks (norites, anorthosites etc). The economically important PGM deposits are part of the Critical Zone.

The Critical Zone hosts all the chromitite layers of the Bushveld Complex, of which up to 14 have been identified. The first important cycle is the Upper Group Chromitite Layer (UG1 Chromitite Layer and UG2 Chromitite Layer). The UG1 Chromitite Layer, which is lower unit, consists of a chromitite layer and underlying footwall chromitite layers that are interlayered with anorthosite. The most important of the chromite cycles for PGM mineralisation is the upper unit, the UG2 Chromitite Layer, which averages some 1m in thickness.
Underlying the UG Chromitite Layers are the Middle Group Chromitite Layers which consists of four groups of chromitite layers over an overall thickness of 15 – 80m.

The two uppermost units of the Critical Zone are the Merensky and Bastard units. The former is also of great economic importance as it contains at its base the PGM-bearing Merensky Reef, a feldspathic pyroxenitic assemblage with associated thin chromitite layers that rarely exceeds 1m in thickness. The top of the Critical Zone is generally defined as the top of the robust anorthosite (the Giant Mottled Anorthosite) that forms the top of the Bastard cyclic unit.

The Critical Zone may be subdivided into the Upper and Lower Critical Zones based on the last appearance of cumulus feldspar. This boundary is considered to be between the Upper and Middle Group Chromitite Layers.

The economically viable chromite reserves of the Bushveld Complex, most of which are hosted in the Critical Zone, are estimated at 68% of the world's total, whilst the Bushveld Complex also contains 56% of all known platinum group metals. The Merensky Reef, which developed near the top of the Critical Zone, can be traced along strike for 280km and is estimated to contain 60,000t of PGM to a depth of 1,200m below surface. The pyroxenitic Platreef mineralisation, north of Mokopane (formerly Potgietersrus), contains a wide zone of more disseminated style platinum mineralisation, along with higher grades of nickel and copper than occur in the rest of the Bushveld Complex.

The well-developed Main Zone consists of norites grading upwards into gabbronorites. It includes several mottled anorthosite layers in its lower sector and a distinctive pyroxenite layer two thirds of the way up, termed the Pyroxenite Marker.

The base of the overlying Upper Zone is defined by the first appearance of cumulus magnetite above the Pyroxenite Marker. In all, 25 layers of cumulus magnetite punctuate the Upper Zone, the fourth (Main Magnetite layer) being the most prominent. This is a significant marker, some 2m thick, resting upon anorthosite, and is exploited for its vanadium and titanium content in the eastern and western limbs of the Bushveld Complex.
7.1.2 The Northern Limb

The northern limb is a slightly sinuous, north-west striking sequence of igneous rocks of the Bushveld Complex with a length of 110km and a maximum width of 15km (Figures 7.1.2_1 and 7.1.2_2). It is generally divided up into three different sectors namely the Southern, Central and Northern sectors which have characteristic footwalls:

- The Southern Sector is characterised by a footwall of the Penge Formation of the Transvaal Supergroup
- The Central Sector generally has a footwall of Malmani Subgroup and
- The Northern Sector has a footwall consisting of Archaean granite
Figure 7.1.2_1
General Geology of the Northern Limb of the Bushveld Complex

Source: Sharman-Harris (2006)
Figure 7.1.2_2
Geology of the Northern Limb of the Bushveld Complex showing the Various Footwall Lithologies

Source: Sharman-Harris (2006)
7.1.3 The Platreef and its Mineralisation

In the northern limb of the Bushveld Complex, the Lower and the Critical Zones of the Bushveld Complex are poorly developed. Where the Bushveld Complex is in contact with the Archaean granite and sediments of the Transvaal Supergroup floor rocks the Platreef is developed. The contact between the RLS and footwall rocks in the northern limb is transgressive, with the Platreef in contact with progressively older rocks of different lithologies from south to north.

The Platreef is a series of pyroxenites and norites, containing xenoliths/rafts of footwall rocks. It is irregularly mineralised with PGM, Cu and Ni. The Platreef (sensu stricto) has a strike extent of some 30km, whereas Platreef-style mineralisation occurs over the 110km strike length of the northern limb (Kinnaird et al, 2005). The Platreef varies from 400m thick in the south of the northern limb to <50m in the north. The overall strike is northwest or north, with dips 40–45° to the west at surface with the dip becoming shallower down dip. The overall geometry of the southern Platreef appears to have been controlled by irregular floor topography.

The Platreef is also a highly geochemically variable unit, with research suggesting that lateral variations in the geochemistry of the Platreef are the result of interaction with and incorporation of different types of footwall rock. The Platreef consists of a complex assemblage of pyroxenites, serpentinites and calc-silicates. The nature of these rocks is related to interaction of the Bushveld magma with the lime-rich floor rocks which resulted in the formation of abundant lime-rich minerals (calc-silicates) as well as the serpentinisation of the overlying pyroxenites. Base metal and PGM concentrations are found to be highly irregular, both in value as well as in distribution. The mineralisation in places reaches a thickness of up to 40m.

Lithologically, the southern Platreef is heterogeneous and more variable than sectors further north and, although predominantly pyroxenitic, includes dunites, peridotites and norite cycles with anorthosite in the mid to upper portion. Zones of intense serpentinisation may occur throughout the package. Country rock xenoliths, <1,500m long, are common. In the south these are typically quartzites and hornfelsed banded ironstones, shales, mudstones and siltstones whereas further north dolomitic or calc-silicate xenoliths also occur.

Faults offset the strike of the Platreef: a north–south, steeply dipping set is predominant with secondary east-northeast and east-southeast sets dipping 50–70°S. The fault architecture was pre-Bushveld and also locally controlled thickening and thinning of the succession.

Although the major platinum group minerals consist of PGM tellurides, platinum arsenides and platinum sulphides, there appears to be a link between the rock type and the type of platinum group minerals with the serpentinites being characterised by a relative enrichment in sperrylite (PtAs₂), the upper pyroxenites generally being characterised by more abundant PGM sulphides and alloy (Schouwstra et al, 2000). PGM alloys typically dominate the mineralisation closer to the floor rocks. Sulphides may reach >30% in some intersections. These are dominated by pyrrhotite, with lesser pentlandite and chalcopyrite, minor pyrite and traces of a wide compositional range of sulphides. The presence of massive sulphides is localised, commonly, but not exclusively towards the contact with footwall metasedimentary rocks. The magmatic sulphides are disseminated or have a net-texture with a range of a few microns to 2cm sized grains. Much of the sulphide mineralisation is associated with intergranular plagioclase, or
quartz-feldspar symplectites, along the margins of rounded cumulus orthopyroxenes. The PGMs in the southern sector occur as tellurides, bismuthides, arsenides, antimonides, bismuthoantimonides and complex bismuthotellurides. PGM are rarely included in the sulphides but occur as micron-sized satellite grains around interstitial sulphides and within alteration assemblages in serpentinised zones. The Pt:Pd ratio is ±1 with the PGM concentration not necessarily linked to either the sulphur or base metal abundance.

In the southern sector, mineralised zones have grades of 0.1–0.25% Cu and 0.15–0.36% Ni.

7.2 Waterberg Group /Bushveld Complex Age Relationship

The age relationship of the Waterberg Group and the Bushveld Complex was re-examined as a result of the new drill data from the area.

Conventional understanding is that the Bushveld Complex is dated at 2,060Ma. The Waterberg Group is dated at 1,879 – 1,872Ma based on dolerite intrusions into the upper strata. Other references in the literature are made to the relationship:

- An unconformity resting on rocks including the Bushveld granites and mafic rock of the Bushveld (Barker et al, 2006)
- The Swaershoek Formation which is at the base of the Nylstroom Subgroup is reported to be deposited penecontemporaneous with the Bushveld granites (Barker et al, 2006)
- The Nebo Granite which are recognised to form the roof to the Bushveld
- The SHRIMP U-Pb dating of the Waterberg Group suggests that quartz porphyry lavas near the base have ages between 2,054±4Ma and 2,051±8Ma. It has been interpreted that sedimentation begun immediately after the intrusion of the Bushveld Complex (Dorland et al., 2006).

In this context the relationship has been examined by Prof TS McCarthy of The University of the Witwatersrand (October 2012). The field relationships in the vicinity of the Waterberg Extension Project were noted to indicate that the Bushveld Complex is unconformably overlain by the sandstones of the Setlaole Formation of the Waterberg Group, which is post-Bushveld in age. The core drilling undertaken by PTM shows that an angular unconformity exists between the Waterberg Group and underlying Bushveld Complex.

The contact between the Waterberg Group and the weathered Bushveld Complex has been observed in the borehole core to generally be sharp. In several of the drill intersections, conglomerate and grit horizons are developed on the contact and appear to contain altered magnetite, suggesting the development of placer mineralization. If present, such mineralization is likely to be channelized, as the basal deposits appear to be fluvial. The unusual contact zone between the two rock units was examined by Prof McCarthy and is interpreted as a palaeosol (fossilized soil) developed on the Bushveld gabbros. Features in the palaeosol are reminiscent of modern weathering of Bushveld rocks were observed. The weathering is considered typically spheroidal in character and culminates in a very fine-grained upper black turf layer (vertisol), corresponding to the ‘shale’ in the drill intersections. This contact is currently the subject of study to better determine the relation and mechanism of development.
The nature of the relationship between the Waterberg Group and the Bushveld Complex is confirmed as having no bearing on the presence of mineralization in the gabbros (F - Zone) (McCarthy, 2012).

Further to this Prof McCarthy observes that the northern extremity of the Northern Limb of the Bushveld Complex contains a well-developed Platreef horizon, but in addition has mineralization developed in the Upper Zone. The layered sequence in the south of the property is underlain by quartzite basement lithology which appears to be a correlative of the upper Pretoria Group. This being the case, Prof McCarthy considers that there is the potential for the development of a fairly extensive Bushveld sub-basin beneath the Waterberg which is also supported by a local gravity high in the area.

7.3 Project Geology

Borehole intercepts to date of the Bushveld Complex at the Waterberg Extension Project consists predominantly of Main Zone gabbros, gabbronorites, norites, pyroxenites and anorthositic rock types with more mafic rock material such as harzburgite and troctolites that partially grade into dunites towards the base of the package. In the southern part of the project area, Bushveld Upper Zone lithologies such as magnetite gabbros and gabbronorites have not been noted in drill core to date but given the geometry of the intrusive suite may sub-crop below Waterberg sediment rock further west on the Property.

A general dip of the layers in the Bushveld Complex rocks of 25º - 38º towards the west is observed from the geometry from borehole logging. However, some blocks may be tilted at different angles depending on structural and/or tectonic controls. Generally the Bushveld layered package strikes south-west to north-east in the southern 5km part of the Project area and then appears to turn to a more north-south strike direction. This change in strike direction loosely corresponds to the western strike projection of a major shear within the South Marginal Zone.

The Bushveld Complex as intersected to date in the Project area is overlain by a minimum 300m of Waterberg Group which is a sedimentary package predominantly made up of sandstones. The two sedimentary formations known as the Setlaole and Makgabeng Formations constitute the Waterberg Group within the Project area. The Waterberg package is flat lying with dip angles ranging from to 2º to 5º.

The base of the Bushveld Main Zone package is marked by the presence of a transitional zone that constitutes a mixed zone of Bushveld with gneiss and/or altered sediments/quartzites before intersecting the Basement Gneiss, quartzite/ metasediments and lithologies of the South Marginal Zone mobile belt lithologies consisting of granulite facies gneiss, mafic gneiss and a later pegmatoidal pink granitoid. South Marginal Zone rocks are mapped on surface to within 1km east of the intrusive edge before being covered by Waterberg sedimentary rocks. The nature of the basement rock on the Waterberg Extension Project is currently being studied in the context of regional geology.

Structurally, faults have been interpolated from the aerial photographs, airborne geophysical surveys, geological interpretation from drilling and regional mapping projects (Van Reenen,
The faults generally trend east-west across the property and some are north-west and south-west trending (Figure 7.3_1). Two major shear zones from the South Marginal Zone project into the Project area; the Matok Shear and the Petronella Shear (Van Reenen 1992). These structures were pre-existent to the intrusion of the Bushveld Complex and are interpreted to play a role in the geometry of the intrusive chamber and mineralized layers.

There is a general increase in the frequency of late intrusive rocks in the form of dolerite, diorite and granodiorite dykes predominantly in the Waterberg package. A few and thin sills or dykes were intersected within the Bushveld package. The dolerite dykes have variable positive magnetic response and have been modelled in 3D form the detailed airborne magnetic data as being vertical to a minimum depth of 300m. Field mapping confirms the vertical nature of the dykes and recessive weathering nature on surface. The sills and dykes are of similar composition however the interrelation of the two is currently not known. Many of the east-west dykes appear to have exploited pre-existing structures such as major shears and faults.

A flat lying granodiorite sill with average thicknesses of 80m appears to be exploiting the contact between the Bushveld Complex igneous rocks and the overlying Waterberg sedimentary rocks. This sill as seen in borehole intercepts displays both an upper and lower chill margin indicating post Waterberg emplacement. The sill outcrops to the east of the projected edge of the Bushveld and forms low, flat top hills. Using the depth of the sill intersections in drilling and the surface outcrop pattern to the east there appears to be a kink in the dip of sill at or near the projected Bushveld edge that explains the vertical difference in the position of the sill between surface and downhole.
Figure 7.3_1
Section Showing Geology at Waterberg Extension Project, South Area

Geological Section Looking North

- Waterberg Sediments
- Dolerite Sill
- Basement Gneiss
- Bushveld Main Zone
- ZN
- F Zone

500m
7.3.1 Stratigraphy

The initial phase of diamond exploration drilling on Waterberg Extension Project has intercepted similar stratigraphy to the adjacent and contiguous Waterberg JV Project to the south. Generally, the layers correlate well between the projects and at Waterberg Extension Project initial drilling has intersected Waterberg Group Sediments (sandstones) and Bushveld Main Zone lithologies in the southern portion of the farm Early Dawn. The stratigraphy encountered follows a generalised schematic stratigraphic section that has been adopted from the adjacent Waterberg JV Project for use in this property as presented in Figure 7.3.1_1.

Floor Rocks

The floor rocks underlying the Transitional zone are predominantly granite gneiss hosting remnants of magnetite quartzite, metaquartzite, metapelites, serpentinites and metasediments. Some boreholes within the project area have shown dolerite intrusions within the floor rocks. Pink granitic pegmatite was noted in the basement of one borehole.
**Bushveld Complex**

Igneous Bushveld lithologies underlie the Waterberg Group starting with the Upper Zone and underlain by the Main Zone.

**The Main Zone**

The Main Zone which hosts the PGM mineralised layers in its cyclic sequences of mafic and felsic rocks, is 150m to 900m thick. It is predominantly composed of gabbro-norite, norite, pyroxenite, harzburgite, troctolite with occasional anorthositic phases.

Abundant alteration occurs in these lithologies including chloritisation, epidotisation and serpentinisation. Parts of the F - Zone are magnetic due to the serpentinisation of the olivines. The F - Zone forms the base of the Main Zone, and is usually underlain by a transitional zone of intermixed lithologies such as metasediments, metaquartzite / quartzite, and Bushveld lithologies.

**The Upper Zone**

The drilling to date on Waterberg Extension Project has not encountered Upper Zone lithologies however, it is expected from geological modeling that the Upper zone sub-crops against the base of the Waterberg sediment cover-rock to the west of current drilling. In the adjacent property the Upper Zone consists of magnetite gabbro, mela-gabbro-norite and magnetite seams and may be as thick as 350m.

The appearance of the first non-magnetic mafic lithology indicates the start of the underlying Main Zone.
Figure 7.3.1_1
General Stratigraphy of the Waterberg JV and Waterberg Extension Projects

<table>
<thead>
<tr>
<th>UNIT</th>
<th>LOG m</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overburden</td>
<td>0 - 20</td>
<td>Weathered Rock material</td>
</tr>
<tr>
<td>Waterberg Group Sediments</td>
<td>120 - 750</td>
<td>Makgabeng Formation – reddish purple coloured, thinly laminated sandstone</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Setlaole Formation – medium to coarse grained purple red sandstone, mudstone and basal conglomerate</td>
</tr>
<tr>
<td>BUSHVELD Upper Zone</td>
<td>0 - 350</td>
<td>Magnetite Gabbros, Gabbronorite, and Cumulus Magnetite seams</td>
</tr>
<tr>
<td></td>
<td>150 - 900</td>
<td>A sequence of Norite, Gabbros and Gabbronorites with occasional Anorthositic Phase underlying (AN – Layer)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>T – Layer: hosted in a Pyroxenite (partial mineralisation)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A sequence of Gabbronorite, Norite and Gabbros with underlying Pyroxenitic band (T0 – Layer)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UPA – Upper Pegmatoidal Anorthosite / Pegmatoidal Gabbro</td>
</tr>
<tr>
<td></td>
<td></td>
<td>T1 – Mineralised Zone – Troctolite / Harzburgite / Harzburgitic Pyroxenite</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LPA – Lower Pegmatoidal Anorthosite / Pegmatoidal Gabbro</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LPP – Lower Pegmatoidal Pyroxenite</td>
</tr>
<tr>
<td></td>
<td></td>
<td>T2 – Mineralised Zone – Sulphides hosted in a Gabbronorite &amp; Norite</td>
</tr>
<tr>
<td></td>
<td></td>
<td>T3 – Mineralised Zone – Partially mineralised Gabbronorite &amp; Norite</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A Thick Sequence of Gabbronorite, Norite, Gabbros and Gabbronorites with occasional alternating bands of Pyroxenites towards the bottom contact</td>
</tr>
<tr>
<td></td>
<td></td>
<td>F – Mineralised Zone - Predominantly troctolite and mineralised bands hosted in Harzburgitic and Pyroxenitic Bands named FH and FP Respectively</td>
</tr>
<tr>
<td>FOOTWALL</td>
<td>5 - 300</td>
<td>Transitional Zone – Mixed up lithologies: Granofels / Quartzites &amp; metasediments</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MetaQuartzite / Quartzite / Granite</td>
</tr>
</tbody>
</table>
Waterberg Group

The Waterberg Sedimentary package occurs with mostly two formations within the project area i.e. the Makgabeng and Setlaole Formations. The whole package may have a thickness ranging from 120m to just over 760m. Generally the Waterberg Sedimentary package has shown thickens from the southwest and shallows towards the centre of the project area before thickening to the north of the east-west trending feature considered to be an erosional channel, through the middle part of the farm.

Setlaole Formation

This is the sedimentary formation underlying the Makgabeng Formation and sits at the base of the Waterberg Group sedimentary succession. It is this formation that overlies the Bushveld igneous rocks, and has been intersected in all the boreholes within the project area.

Lithologically, the Setlaole Formation consists of medium to coarse grained sandstones and several mudstones and shales, that have a general purple colour and usually the package displays a coarsening down sequence. Towards the base of the formation, pebbles may be seen that will eventually appear to be forming conglomerates. The rocks are frequently intruded by dolerite and granodiorite sills. A red shale band of variable thickness is generally present at the base of the Setlaole Formation, below the basal conglomerate.

Makgabeng Formation

This sedimentary formation overlies the Setlaole Formation and is mostly exposed in the mountain cliffs in the northern part of the project area. The formation is composed of light-red coloured banded sandstone rocks and generally displays a horizontal inclination.

7.3.2 Structure

The Waterberg Sedimentary package has been intersected by numerous criss-crossing dolerite or granodiorite sills or dykes. These usually range from as thin as 5cm to as thick as 90m.

A major northwest-southeast trending fault has been inferred based on boreholes towards the southern part of the Ketting property. The fault throw is estimated to be approximately 300m. A further fault splay has also been interpreted on the south-eastern part of Ketting.

7.4 Mineralised Zones

PGM mineralisation within the Bushveld package underlying the Waterberg Extension Project has been intersected in one main package, the F – Zone. The F – Zone is hosted in a thick package of troctolite located towards the base of the Main Zone. The mineralisation in this package is concentrated in pyroxenitic / pegmatoidal pyroxenitic and harzburgitic bands. The mineralisation in the Waterberg Extension Project area generally comprises sulphide blebs, net-textured to interstitial sulphides and disseminated sulphides within gabbronorite and norite, pyroxenite, harzburgite.
Description of Mineralised Zones

**F - Zone mineralisation** is hosted in a thick package of troctolite which usually has thin layers of pyroxenite and/or pegmatoidal pyroxenite and harzburgite.

Within the F - Zone, basement topography may have played a role in the formation of higher grade and thicknesses where embayments or large scale changes in magma flow direction facilitated the accumulation of magmatic sulphides. These areas are referred to by the Company as the “Super F” Zones where the sulphide mineralization is over 40m thick and within the defined areas average 3g/t to 4g/t 2PGE+Au. Layered magmatic sulphide mineralization is generally present at the base of the F - Zone. As with the T - Zone, the sub-outcrop of the F - Zone unconformably abuts the base of the Waterberg Group sedimentary rocks and trends northeast from the end of the known North Limb and dips moderately to the northwest.

Analysis of the Waterberg JV Project information concluded that the primary mineralised units are the harzburgites and the pyroxenites. Anomalously high grade values have also been detected within other rock types which are poorly represented. Within each rock lithology, grade values are broadly related. Between rock lithologies correlations exist between major elements. Based on this analysis, it was concluded that the mineralisation is not restricted to a single lithology and the full F - Zone package needs to be considered.
8 DEPOSIT TYPES

The Platreef (\textit{sensu stricto}) as described in Section 7.1.2 has a strike extent of some 30 km, whereas Platreef-style mineralisation, which is the anticipated target of the Waterberg Extension Project, occurs over the 110km strike length of the northern limb (Kinnaird et al, 2005).

The Platreef comprises a layered deposit hosted by a combination of norite, pyroxenite, and harzburgite lithologies and is present towards the base of the Bushveld Complex, in contact with metasedimentary and granitic floor rocks. The Platreef varies from 400m thick in the south of the northern limb to <50m in the north. The overall strike is northwest or north, with dips 40–45° to the west at surface with the dip becoming shallower down dip. The overall geometry of the southern Platreef appears to have been controlled by irregular floor topography.

The Platreef-type deposits can include the following features:

- Sulphide hosted nickel, copper and PGM mineralization considered to be of magmatic origin.
- A deposit hosted by a composite a combination of norite, pyroxenite, and harzburgite rocks.
- Contact style mineralization along the base of the intrusion; which may be several hundreds of metres in thickness.
- The mineralized rocks contain locally abundant xenoliths of floor rocks (typically dolomite and shale) suggesting interaction of the magma with relatively reactive floor rocks.
- Thick mineralized intervals greater than 5m and locally tens to hundreds of metres thick.

The mineralised layers of the Waterberg Extension Project meet some these criteria:

- The mineralisation is hosted by sulphides that are apparently magmatic in origin.
- The mineralised layers are relatively thick up to 20m.

The other criteria relating to the Platreef have yet to be demonstrated. As a result this mineralisation is considered to be Platreef-like but its stratigraphic position, geochemical and lithological profiles suggest a type of mineralisation not previously recognised on the Bushveld Complex.
9 EXPLORATION

9.1 Current Exploration

A multidisciplinary project team established by PTM identified and ranked 108 Southern African targets through an interactive process using an expert ranking system. These are located in mafic to ultramafic rocks and have the potential, or have already been shown, to host PGM and Ni deposits. Targets were characterised by varying maturity. In addition, an innovative approach has been adopted, which also resulted in the identification and definition of “out of the box” targets defining some 12 targets. Four of these targets were applied for as prospecting rights.

The original exploration models for the Waterberg property involved a potential for paleo placer deposits at the base of the Waterberg Group sediments or an embayment to the west. Both of these models have been discarded with the current discovery and drilling data showing a strike to the north northeast.

Farm boundaries were defined for these various targets areas. Project activities began with the deed searches, detailed desk top studies of the selected areas, and the subsequent compilation of prospecting right applications. Ground exploration on Waterberg Extension Project commenced with the grant of the Prospecting Rights 10804PR, 10805PR and 10810PR.

The shape and extent of the extension to the Bushveld Complex below younger rocks and cover, was not known. Regional gravity and magnetics indicated potential existence of rocks of the Bushveld Complex that had not been explored. Detailed airborne gradient gravity and magnetic surveys and geophysical modelling of the resulting data completed for PTM, indicated the possibility of Bushveld Complex rocks continuing beneath Waterberg cover rocks a further 25km to the northeast and north of the newly discovered area on the adjacent Waterberg JV Project.

Previous mineral exploration activities were limited due to the extensive sand cover and the understanding that the area was underlain by the Waterberg Group. Initial exploration was driven by detailed gravity and magnetics. Subsequently exploration was driven by drilling and has been undertaken by PTM.

9.1.1 Surface Mapping

Topographical and aerial maps for Waterberg at a scale of 1:10,000 were used for surface mapping. A combination of surface geological maps, public aeromagnetic and gravity maps and results from the detailed property scale airborne geophysical survey formed the basis for the follow up ground work and property mapping.

Ground exploration work undertaken includes geological mapping and ground verification of the geology presented in various government and academic papers. The major faults and South Marginal Zone geology described was confirmed to exist within the property. Contact relations with the Bushveld Complex were not seen due to the Waterberg cover rock and quaternary sand deposits.
Data for any outcrop observed (or control point) was recorded. Each such outcrop point had the following recorded in the field book: point’s name, description of the outcrop’s rock, identified rock name, XY coordinate points, and if well oriented the dip and strike for the outcrop.

It is noted that most of the area surrounding the Waterberg Mountains is covered by eroded Waterberg sands and as such mapping in these areas has provided minimal information. Access to some parts of the Waterberg Mountains is problematic due to steepness of the mountains.

9.2 Geophysical Surveys

Due to the Waterberg Group cover rocks, there has been no exposure of Bushveld Complex rocks on the property. Geophysical techniques have been employed to aid in the modelling of the projected Bushveld Complex. Comparing the projected edge of the Bushveld Complex from the regional geophysics modelling, the FALCON airborne survey interpretation and the ground gravity profiles, there is general correlation, with local variations, of a north-northeast arch where the edge of the more dense mafic intrusive rock may project beneath the Waterberg Group sediment cover.

9.2.1 Property Airborne Gravity Gradient and Magnetics

An airborne gravity survey was completed on 100 and 200m line spacing. An interpretation of the results of the survey suggests that there may be continuity to the Bushveld Complex rocks to the northeast and north, which has the potential to host PGM mineralization to the northeast within the Waterberg Extension Project area.

PTM contracted FUGRO Airborne Surveys (Pty) Ltd. to conduct airborne FALCON® gravity gradiometry and total field magnetic surveys. The target for the survey was the interpreted edge sub-cropping of the Bushveld Complex to which the Waterberg sediments form the regional hanging wall. Conducted in April 2013, the survey comprised 2306.16 line kilometres of Airborne Gravity Gradiometry (AGG) data and 2469.35 line kilometres of magnetic and radiometric data. The total extent of the survey covered approximately 25km of interpreted Bushveld Complex edge within the Waterberg Extension Project area (Figure 9.2.1_1).

Interpretation was based on an initial model using the known geology from drilling at the adjacent Waterberg JV Project and linking it to the airborne response (Figures 9.2.1_2 and 9.2.1_3). The geologic units were modelled in three dimensions in order to facilitate a three dimensional stochastic inversion of the geometry and density of the units making use of the gravity gradient data. Average rock unit densities were extrapolated from the adjacent Waterberg JV Project.
Figure 9.2.1_1
Airborne Gradient Gravity and Magnetic survey Flight Lines
Figure 9.2.1_2
Waterberg Extension Project Airborne Gradient Gravity Plot with Interpreted Bushveld Complex Edge

Bushveld Complex Edge denoted in orange
9.2.2 Ground Gravity

A total of nine ground gravity traverses were completed by Geospec Instruments (Pty) Ltd along roads and tracks. The survey lines were designed to traverse the projected edge of the Bushveld Complex in the same area covered by the airborne survey as ground confirmation of the airborne results. The two surveys were compared and good correlation between gravity data sets. In planning the ground survey, one control line over the known deposit edge at the point where it projected from the adjacent Waterberg JV Project was completed in order to acquire a signature profile over a known source to compare the remaining regional lines to. The interpretation of the linked ground gravity profiles suggests that there may be a northeast
trending continuity to the Bushveld Complex rocks which have the potential to host PGM mineralization.

9.3 Exploration Conclusion and Recommendation

The extent of the Bushveld Complex rocks and associated mineralization remain open to depth and along strike within the Waterberg Extension Project area.

It is recommended that further exploration and drilling be undertaken to confirm the extent of the mineralisation and to provide data for a mineral resource estimate.

9.4 Coffey: Technical Review

In the opinion of the QP suitable exploration for this style of deposit has been undertaken with appropriate conclusions drawn.
10 DRILLING

10.1 Core Drilling in 2013

Diamond drilling commenced in October 2013 upon the official granting of the prospecting right for the Waterberg Extension Projects. The initial borehole locations were chosen to test the interpreted northeast strike continuation of the Bushveld Complex edge and mineralised layers defined on the adjacent Waterberg JV Project with step outs of 1 to 2km. Six diamond drill machines were mobilized. Currently eight of the nine initial boreholes intersected Bushveld Complex stratigraphy. One borehole that did not intersect Bushveld Complex stratigraphy (WE-005) and is interpreted to be just east of the edge projection (Figures 10.1_1 and 10.1_2). A borehole located 500m west of this point (WE-007) has subsequently intersected Bushveld Complex stratigraphy. The second borehole (WE-008) is in progress at the effective date of this report and has not drilled deep enough to intersect the Bushveld Complex. A total of 5759m in nine boreholes has been drilled and drilling is continuing.

Drilling in some areas proved to be difficult due to bad ground conditions particularly in the Waterberg Group sediments and so some boreholes took longer than anticipated and involved reaming down through collapsed fracture zones.

10.2 Drilling Quality

Coffey has examined randomly selected drillhole cores. The core recovery and core quality meet industry standards.

10.3 Diamond Core Sampling

Sample selection was undertaken by qualified geologists based on a minimum sample length of approximately 25cm – 50cm. All core with visually identifiable sulphide mineralization has been sampled. Low grade and waste portions straddling these layers have also been sampled. A maximum sample length of 1m has been applied where appropriate. The true width of the shallow dipping (30 to 35°) mineralized zones that have been sampled are approximately 82% to 87% of the reported interval from the vertical borehole.

The sampled core is split using an electric powered circular diamond blade saw.

10.4 Sample Recovery

Core recoveries, RQD (Rock Quality Designation) and a note of core quality, are recorded continuously for each drillhole. Minimum core recovery accepted 95% measured over a 6m run. This was achieved for all drillholes.
Figure 10.1_1

Location of Boreholes on the Waterberg Extension Project

Legend
- Borehole
Waterberg Extension Boundaries
- Platinum
- Kimberlite
- Waterberg Extension Project
- Adjacent Property - Waterberg JV Project
- South Africa Projections WGS84, Gauss-Krige U30 WGS
- m to km
10.5 Sample Quality

Coffey has examined selected boreholes and has assessed the quality of sampling to meet industry standards.

10.6 Drilling Results

At the effective date of this report the assays from two boreholes have been returned. Table 10.6_1 presents the composite intersections from WE01 and WE02.
Table 10.6.1
Mineralised Intersections from Boreholes WE01 and WE02

<table>
<thead>
<tr>
<th></th>
<th>From (m)</th>
<th>To(m)</th>
<th>Length (m)</th>
<th>2PGE+Au (g/t)</th>
<th>Pt (g/t)</th>
<th>Pd (g/t)</th>
<th>Au(g/t)</th>
<th>Pt:Pd:Au</th>
<th>Cu (%)</th>
<th>Ni (%)</th>
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<td>NA</td>
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<tr>
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<td>6.76</td>
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<td>2.35</td>
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<tr>
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<td>0.33</td>
</tr>
</tbody>
</table>

10.7 Interpretation of Results

The stratigraphic position and assay results of the sulphide mineralized zones intercepted in drilling confirm that they are F-Zone mineralization.

The results of the drilling and the general geological interpretation are digitally captured in SABLE and a GIS software package named ARCVIEW. The borehole locations, together with the geology and assay results, are plotted on plan. Regularly spaced sections are drawn to assist with correlation and understanding of the geology. This information was useful for interpreting the sequence of the stratigraphy intersected as well as for verifying the borehole information.

10.8 Coffey: Technical Review

Suitable drilling has been undertaken with appropriate standards in place to ensure that the data is suitable for use in geological modelling. Appropriate conclusions have been made and follow-up work is ongoing.
11 SAMPLE PREPARATION, ANALYSES AND SECURITY

11.1 Core Handling
Drilled core is cleaned, de-greased and packed into metal core boxes by the drilling company. The core is collected from the drilling site on a daily basis by a PTM geologist and transported to the coreyard at Marken by PTM personnel. Before the core is taken off the drilling site, the depths are checked and entered on a daily drilling report, which is then signed off by PTM. The core yard manager is responsible for checking all drilled core pieces and recording the following information:

- Drillers' depth markers (discrepancies are recorded);
- Fitment and marking of core pieces;
- Core losses and core gains;
- Grinding of core;
- One-meter-interval markings on core for sample referencing; and
- Re-checking of depth markings for accuracy

11.2 Core Logging and Identification of Mineralized Layers
Core logging is done by hand on a pro-forma sheet by qualified geologists under supervision of the Project Geologist. This data is entered into an electronic logging program, SABLE, by data capturers under supervision of the Database Manager. Electronic data is backed up daily and the entire database is backed up on a weekly basis and duplicated off-site.

A printout of the logging is handed back to the relevant geologists, who then verify their logging for precision and accuracy.

If the geologist is satisfied with the validity of the data, the logging is signed off and filed in a designated borehole file. The borehole files are stored in a filing cabinet on site and will ultimately contain all relevant information pertaining to a particular borehole and all activities relating to it. A control matrix forms part of the borehole file QA&QC and only when completed, will be signed off by the Project Geologist, the Internal QP as well as the External QP.

11.3 Sampling Methodology
Sampling tests are usually conducted at the beginning of exploration programs to determine the heterogeneity of mineralization in order to eliminate sampling error and to determine proper sampling protocol. Deposit type, lithologies encountered, style of mineralization and heterogeneity all play a role in the method of sampling.
The sampling methodology applied is based on industry accepted “Best Practices”. The sampling is done in a manner that includes the entire economic unit together with hanging wall and foot wall sampling.

The first step in the sampling of the diamond core is to mark the core from the distance below collar in 1m units. The lithologies are logged and an initial stratigraphy interpreted. The potential mineralised layers are marked for sampling. Thereafter the core is oriented using the layering or stratification as a reference and to ensure a consistent approach to the sampling. A centre cut line is then drawn lengthways for cutting. After cutting, the material is replaced in the core trays (Figure 11.3_1). The sample intervals are then marked as a line and a distance from collar.

Figure 11.3_1
Photograph of Core Cutting
The sample intervals are typically 25-50cm in length. In areas where potential mineralisation is less likely, the sampling interval could be as much as a metre. The sample intervals are allocated a sampling number, which is written on the core for reference purposes. The half-core is then removed and placed into high-quality plastic bags together with a sampling tag containing the sampling number, which is entered onto a sample sheet. The start and end depths are marked on the core with a corresponding line (Figure 11.3_2). The duplicate tag stays as a permanent record in the sample booklet, which is secured on site. The responsible project geologist then seals the sampling bag. The sampling information is recorded on a specially designed sampling sheet that facilitates digital capture into the SABLE system (commercially available logging software). The sampling extends to core which is considered to be of less economic potential in order to verify the bounds of mineralization.

11.4 Sample Quality and Sample Bias

The sampling methodology accords with PTM protocol based on industry best practice. The quality of the sampling is monitored and supervised by a qualified geologist. The sampling is done in a manner that includes the entire potentially economic unit. Sampling over-selection and sampling bias is minimised by rotating the core so that the stratification is vertical and by inserting a cutline down the centre of the core and removing one side of the core only.

11.5 Supervision of Sample Preparation

Core sampling is undertaken by qualified geologists under the supervision of the project geologist, who is responsible for timely delivery of the samples to the relevant laboratory. The supervising and project geologists ensure that samples are transported in accordance with the PTM protocols.
Figure 11.3_2
Photographs of an Example of Sampling Methodology
11.6 Sample Preparation

When samples are prepared for shipment to the analytical facility the following steps are followed:

- Samples are sequenced within the secure storage area and the sample sequences examined to determine if any samples are out of order or missing;
- The sample sequences and numbers are recorded both on the chain-of-custody form and on the analytical request form;
- The samples are placed according to sequence into large plastic bags. (The numbers of the samples are enclosed on the outside of the bag with the shipment, waybill or order number and the number of bags included in the shipment);
- The chain-of-custody form and analytical request sheet are completed, signed and dated by the project geologist before the samples are removed from secured storage. The project geologist keeps copies of the analytical request form and the chain-of-custody form on site; and
- Once the above is completed and the sample shipping bags are sealed, the samples may be removed from the secured area. The method by which the sample shipment bags have been secured must be recorded on the chain-of-custody document so that the recipient can inspect for tampering of the shipment.

11.7 Sample Security

Half core samples are labelled twice, once in the bag and again on the top of the bag. Batches of approximately 20 samples are packed into large poly-weave bags and sealed with a plastic cable tie. The batch submission number, sample numbers and number of samples are recorded on the outside of the bag.

Sample batches are collected by the laboratory. Duplicate sample forms, bearing the batch lot number, sample numbers and number of samples are delivered with each batch. One copy is signed for by the laboratory receiving personnel and the duplicate is returned to the Mokopane office for incorporation into the database.

Crushed coarse fraction of the samples and the balance of the pulp is eventually returned and stored at the Mokopane office. These are bagged together, labelled and stored in plastic crates in a dry storage area.

All drill core is stored in galvanised steel core trays in a secure under cover core racking system.

Assay results from the Set Point laboratory are transmitted electronically in a standard format to the Mokopane office. They are imported to an Access database directly from the laboratory files.
Certified assay certificates and a CD containing PDF versions of the certificates are filed at the Mokopane office.

The database has been customised to site specific use and all logging data, core recoveries and sampling data are captured. Assays are electronically matched and joined on sample number.

11.8 Chain of Custody

Samples are subject to a chain of custody which is tracked at all times. Samples are not removed from their secured storage location without the chain of custody documentation being completed to track the movement of the samples and persons responsible for the security of the samples during the movement. Ultimate responsibility for the safe and timely delivery of the samples to the chosen analytical facility rests with the Project Geologist and samples are not transported in any manner without his written permission.

During the transportation process between the project site and analytical facility the samples are inspected and signed for by each individual or company handling the samples. It is the mandate of both the Supervising and Project Geologist to ensure safe transportation of the samples to the analytical facility. The Project Geologist ensures that the analytical facility is aware of the PTM requirements. A photocopy of the chain of custody letter, signed and dated by an official from the analytical facility, is faxed to PTM’s offices in Johannesburg upon receipt of the samples by the analytical facility and the original signed letter is returned to PTM along with the signed analytical certificate/s.

11.9 Analytical Procedure

For the present database, field samples have been analyzed by two different laboratories: the primary laboratory is currently Set Point laboratories (South Africa) and Genalysis (Australia) is used for round robin test work to confirm the accuracy of the primary laboratory. Both laboratories are independent of PTM.

Samples are collected by Set Point Laboratory, a laboratory accredited with the South African National Accreditation System (SANAS), and sample preparation undertaken at the local preparation facility at Mokopane. Transportation of prepared sample pulps from their preparation laboratory in Mokopane to their laboratory in Johannesburg was done under secure conditions as required by PTM.

11.9.1 Sample Preparation

Samples are received, sorted, verified and checked for moisture and dried if necessary. Each sample is weighed and the results are recorded. Rocks, rock chips or lumps are crushed using a jaw crusher to less than 10mm. The samples are then milled for 5 minutes in a Labtech Essa
LM2 mill to achieve a fineness of 90% less than 106μm, which is the minimum requirement to ensure the best accuracy and precision during analysis.

11.9.2 Precious Metal Determination

Samples are analysed for Pt (ppb), Pd (ppb) Rh (ppb) and Au (ppb) by standard 25g lead fire-assay using silver as a co-collector to facilitate easier handling of prills as well as to minimise losses during the cupellation process. Although collection of three elements (Pt, Pd and Au) is enhanced by this technique, the contrary is true for rhodium (Rh), which volatilises in the presence of silver during cupellation. Palladium is used as the co-collector for Rh analysis. The resulting prills are dissolved with aqua regia for Inductively Coupled Plasma (“ICP”) analysis.

After pre-concentration by fire assay and microwave dissolution, the resulting solutions are analysed for Au and PGMs by the technique of ICP-OES (Inductively Coupled Plasma—Optical Emission Spectrometry).

11.9.3 Base metals Determination

The base metals (copper, nickel, cobalt and other base metals) are analysed using ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry) after a four acid digest. This technique results in “almost” total digestion.

11.9.4 Laboratory QA/QC

Precious Metals

A calibration range contains at least 4 data points for all elements. The correlation coefficient of the calibration must be greater than 0.999. If this fails, the instrument is recalibrated. If it fails again new standards are to be made up to calibrate with.

After the instrument is calibrated, the Drift control standard is read back to ensure that the calibration is correct. Thereafter, this standard is read at the end of every worksheet to check for instrument drift. The limits for this standard are not be greater than 10% (in the range from 1 to 25ppm) for Au, Pt or Pd or else the batch fails.

Base Metals

After the ICP-OES instrument is calibrated, the QC control standard is read back to ensure that it has been calibrated correctly. Thereafter, this standard is read at intervals of 35 samples or less to check for instrument drift. Each batch of samples shall contain at least one blank sample, one QC sample and a duplicate. The duplicate is a repeat of a randomly chosen sample from the batch.
11.10 Adequacy of Procedures

The assay techniques used are considered appropriate for the style of mineralisation and the anticipated concentrations of the metals of interest. The analytical techniques are certified and sufficient company and laboratory QA/QC is undertaken to ensure the results can be relied upon.

11.11 Coffey: Technical Review

The drilling, sampling and analytical aspects of the project are considered to have been undertaken to industry standards. The data is considered to be reliable and suitable for geological investigation.
12 DATA VERIFICATION

The Quality Assurance and Quality Control program of PTM addresses all aspects of the exploration project to ensure high integrity of data obtained through drilling, sampling, assaying and recording of geological observations for the purpose of attaining an accurate geological model and a reliable mineral resource estimate. The data has been verified by Coffey to a level satisfactory for disclosure.

12.1 Accurate Placement and Survey of Borehole Collars

Boreholes were sited with a handheld GPS (Garmin GPSMAP 62) by the Project Geologist based on planned locations to test geophysical and stratigraphic models. All borehole collar positions will be permanently marked on completion and surveyed by an accredited surveyor.

12.2 Downhole Surveys

The boreholes are surveyed with a down-hole survey instrument in order to accurately determine the coordinates of intersections and plot the deflection (off the vertical) of the borehole.

12.3 Quality Assurance and Quality Control (QA/QC) Procedures and Results

The documented PTM protocols for quality control are in place. An examination of the procedures and their implementation confirms that the procedures are to industry standards and that the procedures are being implemented as required.

12.3.1 Sample Preparation

The sampling methodology accords with PTM protocol based on industry best practice. The quality of the sampling is monitored and supervised by a qualified geologist. The sampling is done in a manner that includes the entire potentially economic unit.

12.3.2 Analysis

The drill core samples have been analyzed by Set Point laboratories (South Africa).

Samples are received, sorted, verified and checked for moisture and dried if necessary. Each sample is weighed and the results are recorded. Rocks, rock chips or lumps are crushed using a jaw crusher to less than 10mm. The samples are then milled for 5 minutes in a Labtech Essa LM2 mill to achieve a fineness of 90% less than 106µm, which is the minimum requirement to ensure the best accuracy and precision during analysis.
Samples are analysed for Pt (ppb), Pd (ppb) Rh (ppb) and Au (ppb) by standard 25g lead fire-assay using a silver collector. After pre-concentration by fire assay the resulting solutions are analysed using ICP-OES (Inductively Coupled Plasma–Optical Emission Spectrometry).

The base metals (copper, nickel, cobalt and other base metals) are analysed using ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry) after a four acid digestion. This technique results in "almost" total digestion.

The drilling, sampling and analytical aspects of the project are considered to have been undertaken to industry standards. The data is considered to be reliable for reporting grade intervals in exploration drilling.

12.3.3 Quality Control and Quality Assurance

PTM have instituted a complete QA/QC programme including the insertion of blanks and certified reference materials as well as referee analyses. The programme is being followed and is considered to be to industry standard. The data is as a result, considered reliable.

12.3.4 Assay Validation

Although samples are assayed with reference materials, an assay validation programme is being conducted to ensure that assays are repeatable within statistical limits for the styles of mineralisation being investigated. It should be noted that validation is different from verification; the latter implies 100% repeatability. The assay validation programme entails:

- a re-assay programme conducted on standards that failed the tolerance limits set at two and three standard deviations from the Round Robin mean value of the reference material;
- ongoing blind pulp duplicate assays at Set Point Laboratory;
- check assays conducted at an independent assaying facility (Genalysis).

12.4 Data Quality Summary

The data is considered suitable for reporting weighted grade averages for individual mineralized intervals within boreholes.
13 MINERAL PROCESSING AND METALLURGICAL TESTING

There has been no mineral processing or metallurgical testing completed on the mineralization encountered on The Waterberg Extension Project.
There has been insufficient exploration completed to make a Mineral Resource Estimate on the Waterberg Extension Project.
15 ADJACENT PROPERTIES

Numerous mineral deposits have been outlined along the Northern Limb of the Bushveld Complex. The information on these deposits including mineral resource and reserve estimates, has not been verified. The F - Zones have some similarities to the other North Limb deposits in metal prill splits. However, there may be distinct differences in the geological units containing the mineralization.

15.1 Waterberg JV Project

The Waterberg JV Project is contiguous to the southern boundary of the Waterberg Extension Project. PTM has a 37% direct interest in the project with Joint Venture partners JOGMEC earned in to 37% interest and Mnombo, the Black Empowerment partner retaining the remaining 26% interest. PTM has acquired 49.9% of Mnombo thus bringing PTM's effective interest in the Waterberg JV Project to 49.74%.

The information on the Waterberg JV Project within this section has been publically disclosed in the technical report “Revised and Updated Mineral Resource Estimate for the Waterberg Platinum Project, South Africa. (Latitude 23° 22’ 01”S, Longitude 28° 49’ 42”E” by KG Lomberg and AB Goldschmidt (2 September 2013). and is available on SEDAR. The mineral resource estimates were undertaken by the authors of that report.

The most recent Mineral Resource Estimate declared for the adjacent Waterberg JV Project (which is not the subject of this report) is detailed in Table 15.1. The author cautions that the mineral resource estimate is for an adjacent property and may not be indicative of any resource on the Waterberg Extension Project that is the subject of this report.

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<th>Strati-</th>
<th>Tonnag</th>
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Content (koz) 5,252 10,558 1,715
15.2 Harriet's Wish and Aurora Projects

Sylvania Resources is undertaking exploration activities on the extreme northern end of the Northern Limb on the farms Harriet's Wish and Nonnenwerth which are adjacent to and contiguous with the southern boundary of the Waterberg JV Project described in this section. According to Sylvania, the northern portion of Harriet's Wish is covered by the Waterberg Sediments and the boreholes have intersected PGM mineralisation with descriptions similar to that of mineralization found in the Waterberg zones. The author has not been able to verify this data. No mineral resource or reserve has been declared. (www.sylvaniaplatinum.com)
16 OTHER RELEVANT DATA AND INFORMATION

To the best of the author’s knowledge there is no other relevant data or information, the omission of which would make this report misleading.
17 INTERPRETATION AND CONCLUSIONS

The exploration undertaken confirmed the presence of Bushveld Complex rocks under the Waterberg Group cover rocks within the Waterberg Extension Project area. Exploration drilling confirmed the presence of elevated PGM concentrations in zones/layers of identified mineralisation. The mineralization is consistent with layered magmatic sulphide deposits and displays characteristics of a geological setting that differs from other locations in the Bushveld Complex.

Geophysical surveys including airborne gradient gravity and magnetics, ground gravity and regional government magnetics and gravity display characteristics similar to those associated known mineralization on adjacent properties. Modelling of gravity survey data shows areas of higher density extending a further 25km northeast and curving to north within the Waterberg Extension Project area. These high density zones are targets for drill testing to test for the presence of dense mafic intrusive rocks of the Bushveld Complex that may host sulphide mineralization with elevated PGM values.

Given the results of the initial diamond drilling on the Waterberg Extension Project and the extent of target areas generated by geophysical surveys, further exploration drilling is warranted on the Waterberg Extension Project.
18 RECOMMENDATIONS

It is recommended that further exploration and drilling be undertaken to confirm the extent of the mineralisation and to provide data for a mineral resource estimate.

It is recommended that drilling continue to test the extent of the mineralized zones encountered to date by step out drilling following the trend of the edge of the Bushveld Complex modelled from geophysics. In addition, it is recommended that infill drilling be carried out in support of a possible initial mineral resource estimate.

The results of exploration completed to date justify a proposed budget of CAN$20,000,000 in further diamond drilling, analysis and exploration work.

<table>
<thead>
<tr>
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<th>Cost Estimate</th>
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<tr>
<td>Description</td>
<td>Rand (ZAR)</td>
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<tr>
<td>Exploration drilling along 25 km strike of interpreted Bushveld</td>
<td>R62 million</td>
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<tr>
<td>Infill drilling to improve the understanding of the geology and potentially support an initial mineral resource estimation (80,000m)</td>
<td>R124 million</td>
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<tr>
<td>Initial Resource Estimate</td>
<td>R1 million</td>
</tr>
<tr>
<td>Metallurgical studies</td>
<td>R3 million</td>
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<tr>
<td>Contingency, Escalation</td>
<td>R10 million</td>
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<tr>
<td>Total</td>
<td>R200 million</td>
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Table 18_1
Waterberg Extension Project-
Recommended Exploration Budget

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<thead>
<tr>
<th></th>
<th>Canadian dollars (CAN$)</th>
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<tr>
<td>Exploration drilling along 25 km strike of interpreted Bushveld</td>
<td>$6.2 million</td>
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<tr>
<td>Infill drilling to improve the understanding of the geology and potentially support an initial mineral resource estimation (80,000m)</td>
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<td>Initial Resource Estimate</td>
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<td>Metallurgical studies</td>
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<td>Contingency, Escalation</td>
<td>$1.0 million</td>
</tr>
<tr>
<td>Total</td>
<td>$20 million</td>
</tr>
</tbody>
</table>
REFERENCES


Bumby AJ. (November 2000) The geology of the Blouberg Formation, Waterberg and Soutpansberg Groups in the area of Blouberg mountain, Northern Province, South Africa. Doctor of Philosophy thesis (unpublished), Faculty of Science University of Pretoria.

CIM DEFINITION STANDARDS - For Mineral Resources and Mineral Reserves Prepared by the CIM Standing Committee on Reserve Definitions Adopted by CIM Council on November 27, 2010


Report prepared for Platinum Group Metals.


Appendix A

Authors Certificate
Certificate of Qualified Person

As the author of the report titled “Technical Report on the Exploration of the Waterberg Extension Project, South Africa (Latitude 23° 14′ 00″S, Longitude 28° 55′ 00″E)” dated effective 12 November 2013” (the “Report”), I hereby state:-

1. My name is Kenneth Graham Lomberg and I am Principal Consultant Resources with the firm of Coffey Mining South Africa Pty. Ltd. of 604 Kudu Avenue, Allen’s Nek 1737, Gauteng, South Africa.
2. I am a practising geologist registered with the South African Council for Natural Scientific Professions (Pr.Sci.Nat.).
3. I am a graduate of the University of Cape Town and hold a Bachelor of Science with Honours (Geology) degree (1984) from this institute. I also hold a Bachelor of Commerce degree (1993) from the University of South Africa and a Masters in Engineering (2011) from The University of the Witwatersrand.
4. I have practiced my profession continuously since 1985. I have over 5 years of relevant experience having completed mineral resource estimations on various properties located on the Bushveld Complex hosting Magmatic Layered Intrusive style mineralization including for the adjacent Waterberg JV Project.
5. I am a “qualified person” as that term is defined in and for the purposes of the National Instrument 43-101 (Standards of Disclosure for Mineral Projects) (the “Instrument”).
6. I have performed consulting services and reviewed files and data supplied by Platinum Group Metals Ltd on the Waterberg Extension Project since October 2013.
7. I have visited the Waterberg Extension Project for personal inspection on 8 November 2013.
8. I prepared all sections of the Report and am responsible for the Report.
9. I am not aware of any material fact or material change with respect to the subject matter of the Report, which is not reflected in the Report, the omission of which would make the Report misleading.
10. I am independent of Platinum Group Metals Ltd pursuant to section 1.5 of the Instrument.
11. I have read the National Instrument and Form 43-101F1 (the “Form”) and the Report has been prepared in compliance with the Instrument and the Form.
12. I do not have nor do I expect to receive a direct or indirect interest in the mineral properties of Platinum Group Metals Ltd, and I do not beneficially own, directly or indirectly, any securities of Platinum Group Metals Ltd or any associate or affiliate of such company.
13. I have not been involved in any capacity on the Waterberg Extension Project prior to October 2013.
14. At the effective date of the Report, to the best of my knowledge, information and belief, the Report contains all scientific and technical information that is required to be disclosed to make the Report not misleading.

Dated at Johannesburg, South Africa, on 12 November 2013

[Signed]
Kenneth Lomberg  
B.Sc (Hons) Geology, B.Com, M.Eng., Pr.Sci.Nat.  
Senior Principal