# FINAL ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr)

**FOR THE PROPOSED**

## Schietfontein and Krelingspost

## Prospecting Right

**NAME OF APPLICANT:** **Eland Platinum (Pty) Ltd ("EP"), a subsidiary of Northam Platinum Limited ("Northam").**

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**FILE REFERENCE NUMBER SAMRAD: NW30/5/1/1/3/2/1/12604EM**

**Report No: CHEMC-Schietf-DEMPr – June 2019**


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# EXECUTIVE SUMARY

Eland Platinum Proprietary Limited ("**EP**"), a subsidiary of Northam Platinum Limited ("**Northam**"), has submitted an application for an environmental authorisation ("**EA Application**") under the National Environmental Management Act 107 of 1998 ("**NEMA**") to the Department of Mineral Resources ("**DMR**") for the proposed prospecting right application ("**Prospecting Right Application**") on the Remaining Extents of Portions 5, 32, 99 and Portions 24, 27, 28, 33, 34, 35, 100 and 101 of the Farm Schietfontein 437 JQ ("**Schietfontein**") and Portions 2, 3, 70, 71, 72, 73, 74, 75, 76, 79 and 80 of the Farm Krelingspost 425 JQ ("**Krelingspost**") ("**Proposed Schietfontein and Krelingspost Prospecting Area**").

The prospecting activities on the Proposed Prospecting Area will include the drilling of eleven diamond drilled boreholes on Schietfontein and eleven diamond drilled boreholes on Krelingspost for sampling over 5 years (the "**Proposed Project**").

The EA Application was submitted to the North-West Regional DMR ("**North-West DMR**") on the 4$^{th}$ of May 2019 and CHEMC Environmental subsequently received an acknowledgement of receipt, dated 28 March 2015, from the North-West DMR, with the application reference number **NW30/5/1/1/3/2/1/12604EM.**

As part of the basic assessment process an Environmental Management Programme ("**EMPr**") must be compiled.

# TABLE OF CONTENT

## LIST OF TABLES



## LIST OF FIGURES



## LIST OF APPENDIXES

# LIST OF ABBREVIATIONS

| Term/ Abbreviation | Definition |
|---|---|
| BIC | Bushveld Igneous Complex |
| BPDM | Bojanala Platinum District Municipality |
| CA | Competent Authority |
| CARA | Conservation of Agricultural Resources Act (Act No. 43. of 1983) |
| CBA | Critical biodiversity area |
| Constitution | Constitution of the Republic of South Africa (Act No.108 of 1996) |
| DBAR | Draft Basic Assessment Report |
| DEA | Department of Environmental Affairs |
| DMR | Department of Mineral Resources |
| EA | Environmental Authorisation |
| EAP | Environmental Assessment Practitioner |
| ECO | Environmental Control Officer |
| EM | Eland Platinum Mine |
| EMPr | Environmental Management Programme |
| EP | Eland Platinum Proprietary Limited |
| EPRP | Emergency Preparedness and Response Plan |
| GA | General Authorisation |
| GN | Government Notice |
| GN R893 | GN R893 published in Governmental Gazette No 37054, in terms of section 21(1)(b) of the NEM:AQA |
| GN R921 | GN R921, published under NEM:WA in *Government Gazette* 37083 on 29 November 2013 which contains the list of waste activities that requires a waste management licence |
| GN R982 | GN R982 published in Government Gazette 38282 on 8 December 2014 under section 24 of the NEMA |
| GN R983, GN R984 and GN R985 | GN R983, GN R984 and/or GN R985 all published in Government Gazette 38282 on 8 December 2014 under section 24 of the NEMA) |
| ha | Hectares (measure of area, 10 000 square metres) |
| HSA | Hazardous Substances Act (Act No. 15 of 1973) |
| HSEC | Health, Safety, Environment and Community |
| Km | Kilometres |
| $M^2$ | Square Metres |
| MHSA | Mine Health and Safety Act (Act No. 29 of 1996) |
| mm | Millimetres |
| MLM | Madibeng Local Municipality |
| MPRDA | Mineral and Petroleum Resources Development Act (Act No. 28 of 2002) |
| NEMA | National Environmental Management Act (Act No. 107 of 1998) |
| NEM:AQA | National Environmental Management: Air Quality Act (Act No. 39 of 2004) |
| NEM:BA | National Environmental Management: Biodiversity Act (Act No. 10 of 2004) |
| NEM:WA | National Environmental Management: Waste Act (Act No. 59 of 2008) |
| NHRA | National Heritage Resources Act (Act No. 25 of 1999) |
| NWA | National Water Act (Act No. 36 of 1998) |
| NWP | North-West Province |
| PAIA | Promotion of Access to Information Act (Act No. 2 of 2000) |

| | |
|---|---|
| PPE | Personal Protective Equipment |
| PWP | Prospecting Works Programme |
| SAHRA | South African National Heritage Resources Agency |
| SANS | South African National Standards |
| SDF | Spatial Development Framework |
| WUL | Water use licence |

# 1. INTRODUCTION

This Environmental Management Programme ("**EMPr**") addresses the management of potential environmental impacts related to the Proposed Project, situated adjacent to the area on which the Eland Platinum Mine's ("**EM**") surface infrastructure is located ("**EM Surface Area**"),

The Proposed Schietfontein and Krelingspost Prospecting Area is situated approximately 14km east of Brits and 60 km west of Pretoria in the North-West Province ("**NWP**"). The R566 (Brits - Rosslyn) provincial road is situated to the north and will be used as an access road to the Proposed Prospecting Area. The M21 runs to the east of the Proposed Prospecting Area and is mainly used to access a portion of Krelingspost. The N4 Bakwena National Highway forms the southern boundary of the Proposed Schietfontein and Krelingspost Prospecting Area.

The Proposed Project will include the drilling of eleven diamond drilled boreholes on Schietfontein and eleven diamond drilled boreholes on Krelingspost for sampling over a five-year period, targeting the Merensky Pyroxenite, UG2 and UG1.

This additional information will increase the confidence of the geological and resource model of the EM and confirm the presence of the Merensky Pyroxenite, UG2 and UG1 and their potential for economic consideration.

The Middle Group ("**MG**") and Lower Group (**"LG**") seams are therefore excluded from the scope of the Prospecting Right Application and associated prospecting works programme ("**PWP**"). It is also understood that Portions 1 and 3 of Krelingspost are subject to an existing prospecting right application for gold, silver, copper, cobalt, nickel and uranium by another entity. As such, the aforesaid minerals in relation to Portions 2 and 3 of Krelingspost are specifically excluded from the Prospecting Right Application's scope.

The EMPr is used for managing, mitigating, and monitoring of the environmental impacts associated with the Proposed Project, as identified during the Draft Basic Assessment Report conducted for the Proposed Project ("**DBAR**") (CHEMC Environmental, 2019). The DBAR is valuable in providing a reference source and context for understanding this EMPr.

# 2. OBJECTIVES

The primary objectives of the EMPr are as follows, to:

- describe action plans for achieving the mitigation measures described in the BAR; and
- indicate responsibilities regarding the implementation of these action plans.

# 3. CONTACT PERSON AND CORRESPONDENCE ADDRESS:

## 3.1 Details of:

### 3.1.1 The applicant:

EP, a subsidiary of Northam, owns and operates the EM and mineral processing operation near Brits, situated in the Madibeng Local Municipality ("**MLM**") that forms part of the Bojanala Platinum District Municipality ("**BPDM**"), in the NWP of South Africa.

***Table 1: Details of the applicant and contact person***

| | |
|---|---|
| **Landowner:** | Refer to Table 2 for a list of the landowners. |
| **Project applicant:** | Eland Platinum Proprietary Limited, a wholly owned subsidiary of Northam Platinum Limited |
| **Registration no:** | 2016/427918/07 |
| **Trading name:** | Eland Platinum |
| **Contact person:** | Jacques Pretorius (General Manager) |
| **Physical address:** | Farm Elandsfontein 440 JQ, District of Brits, South Africa |
| **Postal address:** | PO Box 3436, Brits, 0250, South Africa |
| **Telephone no:** | 012 381 4099 |
| **Fax no:** | 086 411 8000 |
| **Email:** | Jacques.Pretorius@norplats.co.za |
| **For the purpose of the application process the following people may be contacted at Eland Platinum:** | |
| Mr. M Prinsloo<br>Safety Coordinator<br>Tel No: 012 381 4099<br>Email: martiens.prinsloo@norplats.co.za | Ms. Baiphapi Sethaelo<br>Stakeholder Engagement Specialist<br>Tel No: 012 381 4099<br>Email: Baiphapi.Sethaelo@norplats.co.za |

### 3.1.2 The EAP who prepared the report:

**Company:** CHEMC Environmental.

**Name of the Practitioner:** Gerhardus Stephanus (Stephan) Barkhuizen

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**e-mail address:** stephan@chemc.com

## 4. DESCRIPTION OF THE PROPERTY:

The Proposed Schietfontein and Krelingspost Prospecting Area is situated adjacent to the EM Surface Area, approximately 14km east of Brits and 60 km west of Pretoria. The R566 (Brits - Rosslyn) provincial road is situated to the north and will be used as an access road to the Proposed Prospecting Area. The M21 runs to the east of the Proposed Prospecting Area and is mainly used to access a portion of Krelingspost. The N4 Bakwena National Highway forms the southern boundary of the Proposed Schietfontein and Krelingspost Prospecting Area.

Surrounding land-uses comprise of livestock grazing, agriculture, mining (EM, Hernic Ferrochrome, Crocodile River Mine's Maroelabult section, and granite mining further north), and community residential area and related activities. Directly to the south (across the N4 highway) is the Zilkaatsnek Eco-estate (mix land-use development). Further to the south and south-east, land is used for conservation purposes (Magaliesberg Nature Reserve and the De Wildt Cheetah Reserve).

The Proposed Schietfontein and Krelingspost Prospecting Area comprises mainly open agricultural farms, natural areas and cultivated fields. There are a few local businesses situated on the Krelingspost section, these include a local restaurant (Karen se Plaaskombuis), instant lawn distributors (Die Grasplaas and Easy Lawn) and a recycling business (Envirocycle). A solar power project is proposed on Portions 27 and 28 of Schietfontein. Samancor Chrome Ltd also holds a prospecting right to chrome in the MG and LG seams on the aforesaid properties. The R566 and Rosslyn – Brits railway traverses certain of the properties. The land uses of the

properties in the Proposed Schietfontein and Krelingspost Prospecting Area are discussed in detail in Table 22 of the DBAR.

The surrounding communities and their proximity to the Proposed Schietfontein and Krelingspost Prospecting Area include:

- Brits (14 km west);
- Damonsville (8.2 km north-west);
- Mothotlung (5.4 km north-west);
- Moumong (2.5 km north-west);
- Ramolapong (2.3 km north);
- Mmakau (4.5 km north-west);
- Ga-Kwate (1.8 km north); and
- De Wildt (1.4 km north).

***(Refer to Figure 1: Regional Locality map and Figure 2: Locality map).***

A detailed property description of the Proposed Schietfontein and Krelingspost Prospecting Area is listed in ***Table 2***, below:

***Table 2: Property description of the Proposed Schietfontein and Krelingspost Prospecting Area.***

| Farm Name | Portion and size | Owner Detail |
|---|---|---|
| **Farm Schietfontein 437 JQ ("Schietfontein"):** | Remaining Extent of Portion 5, measuring 2.1756 hectares in extent. | Private owners - FJ and L Strauss & NM Ras |
| | Portion 24 (a portion of Portion 2), measuring 17.8382 hectares in extent. | Private owners - FJ and L Strauss |
| | Portion 27 (a portion of Portion 2), measuring 8.8184 hectares in extent. | |
| | Portion 28 (a portion of Portion 2), measuring 8.7843 hectares in extent. | |
| | Portion 33 (a portion of Portion 32), measuring 8.5653 hectares in extent. | |
| | Portion 34 (a portion of Portion 32), measuring 17.7839 hectares in extent. | |
| | Remaining Extent of Portion 32, measuring 15.0021 hectares in extent. | Private owners – MN Ras |
| | Portion 35 (a portion of Portion 2), measuring 49.659 hectares in extent. | |
| | Remaining Extent of Portion 99, measuring 11.339 hectares in extent. | Private owners – RG Jacobs |
| | Portion 100 (a portion of Portion 99), measuring 30.1315 hectares in extent. | Private owners – JJR van der Merwe & JJ |

| | | |
|---|---|---|
| | | van der Merwe. |
| | Portion 101 (a portion of Portion 99), measuring 18.7922 hectares in extent. | Close Corporation – Madala's Padmark CC |
| **Farm Krelingspost 425 JQ ("Krelingspost"):** | Portion 2, measuring 6.5382 hectares in extent. | Close Corporation – Super Soya CC |
| | Portion 3, measuring 6.5382 hectares in extent. | Close Corporation – Macal Farms CC |
| | Portion 70 (a portion of Portion 67), measuring 4.9804 hectares in extent. | Private Company - Kreylingspost Nr 10 De Wildt Pty Ltd |
| | Portion 71 (a portion of Portion 67), measuring 5.1757 hectares in extent. | |
| | Portion 72 (a portion of Portion 67), measuring 5.5491 hectares in extent. | |
| | Portion 74, (a portion of Portion 67) measuring 5.529 hectares in extent. | |
| | Portion 75 (a portion of Portion 67), measuring 5.5411 hectares in extent. | |
| | Portion 76 (a portion of Portion 67), measuring 5.5850 hectares in extent. | |
| | Portion 79 (a portion of Portion 67), measuring 1.500 hectares in extent. | |
| | Portion 73 (a portion of Portion 67), measuring 10.4125 hectares in extent. | Close Corporation - Home Shopper CC |
| | Portion 80 (a portion of Portion 67), measuring 27.4933 hectares in extent. | Close Corporation - Corporate Flat CC |
| The above Schietfontein and Krelingspost properties are further collectively referred to as the "Proposed Schietfontein & Krelingspost Prospecting Area". | | |
| **Application area (Ha):** | Total area of 273.732 hectares ("Ha"). The Proposed Project will likely disturb a total area of +/- 4 000m2 (taking into account potential temporary access roads) | |
| **Magisterial district:** | Madibeng Local Municipality | |
| **Distance and direction from nearest town:** | The Proposed Schietfontein and Krelingspost Prospecting Area is located approximately 14 km west of Brits. Surrounding communities include Damonsville, Mothotlung, Mmakau, Ga-Kwate, Ramolapong and private landowners and farmers.<br>*(Refer to Figure 1: Regional Locality map and Figure 2: Locality map).* | |
| **21 digit Surveyor General Code for each farm portion:** | Portions of Schietfontein 437 JQ | |
| | Remaining Extent of Portion 5 | T0JQ00000000043700005 |
| | Portion 24 (a portion of Portion 2) | T0JQ00000000043700024 |
| | Portion 27 (a portion of Portion 2) | T0JQ00000000043700027 |
| | Portion 28 (a portion of Portion 2) | T0JQ00000000043700028 |
| | Remaining Extent of Portion 32 | T0JQ00000000043700032 |
| | Portion 33 (a portion of Portion 32) | T0JQ00000000043700033 |
| | Portion 34 (a portion of Portion 32) | T0JQ00000000043700034 |
| | Portion 35 (a portion of Portion 2) | T0JQ00000000043700035 |
| | Remaining Extent of Portion 99 | T0JQ00000000043700099 |
| | Portion 100 (a portion of Portion 99) | T0JQ00000000043700100 |

| | | |
|---|---|---|
| | Portion 101 (a portion of Portion 99) | T0JQ00000000043700101 |
| | Portions of Krelingspost 425 JQ | |
| | Portion 2 | T0JQ00000000042500002 |
| | Portion 3 | T0JQ00000000042500003 |
| | Portion 70 (a portion of Portion 67) | T0JQ00000000042500070 |
| | Portion 71 (a portion of Portion 67) | T0JQ00000000042500071 |
| | Portion 72 (a portion of Portion 67) | T0JQ00000000042500072 |
| | Portion 73 (a portion of Portion 67) | T0JQ00000000042500073 |
| | Portion 74 (a portion of Portion 67) | T0JQ00000000042500074 |
| | Portion 75 (a portion of Portion 67) | T0JQ00000000042500075 |
| | Portion 76 (a portion of Portion 67) | T0JQ00000000042500076 |
| | Portion 79 (a portion of Portion 67) | T0JQ00000000042500079 |
| | Portion 80 (a portion of Portion 67) | T0JQ00000000042500080 |

## 5. LOCALITY MAP

The Proposed Project will be located on the Remaining Extents of Portions 5, 32, 99 and Portions 24, 27, 28, 33, 34, 35, 100 and 101 of Schietfontein and Portions 2, 3, 70, 71, 72, 73, 74, 75, 76, 79 and 80 of Krelingspost (Refer to ***Figure 1 and 2***).

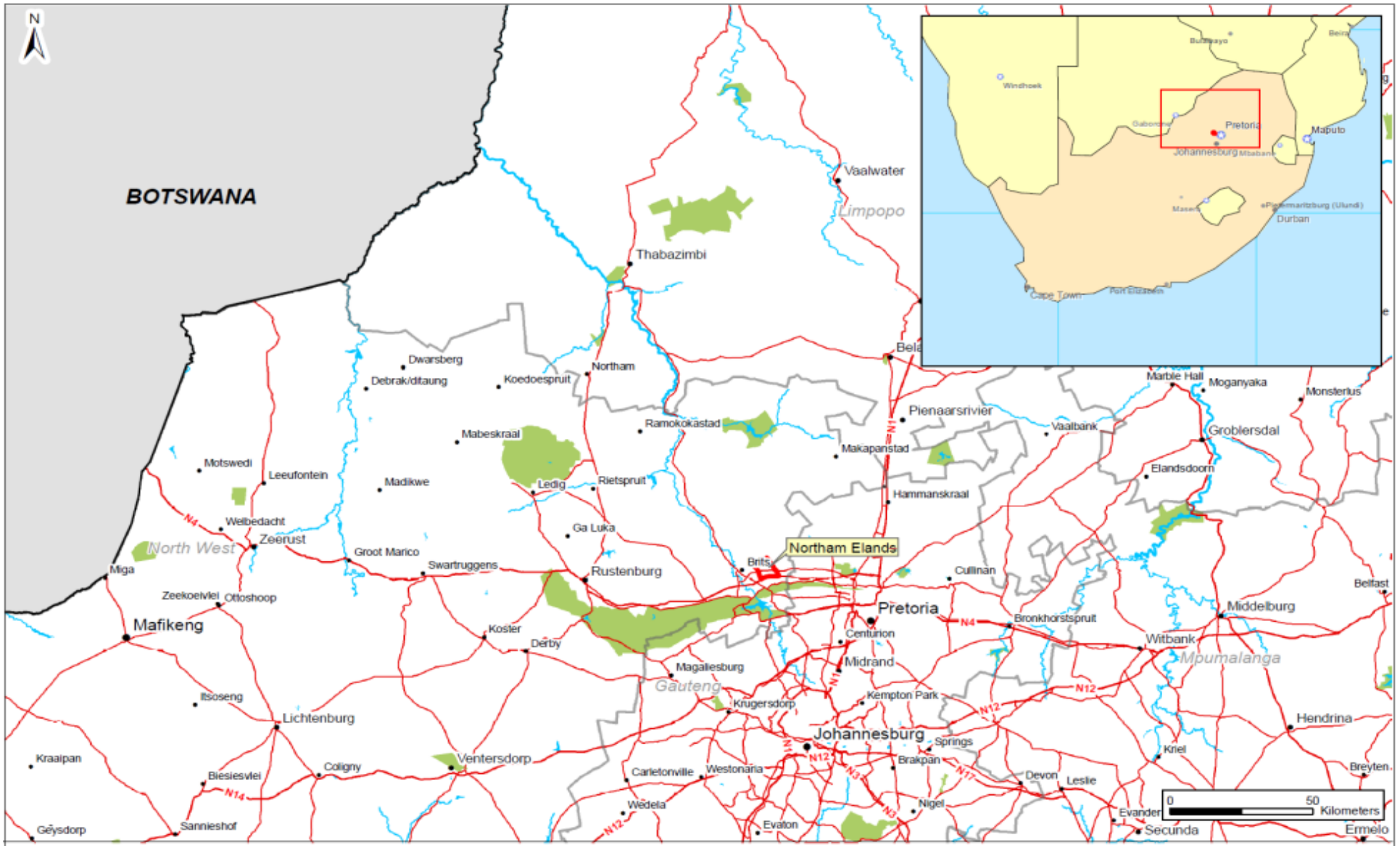


***Figure 1: Regional locality map of EM***


***Figure 2: Aerial locality map of EM Surface Area and the Proposed Schietfontein and Krelingspost Prospecting Area.***

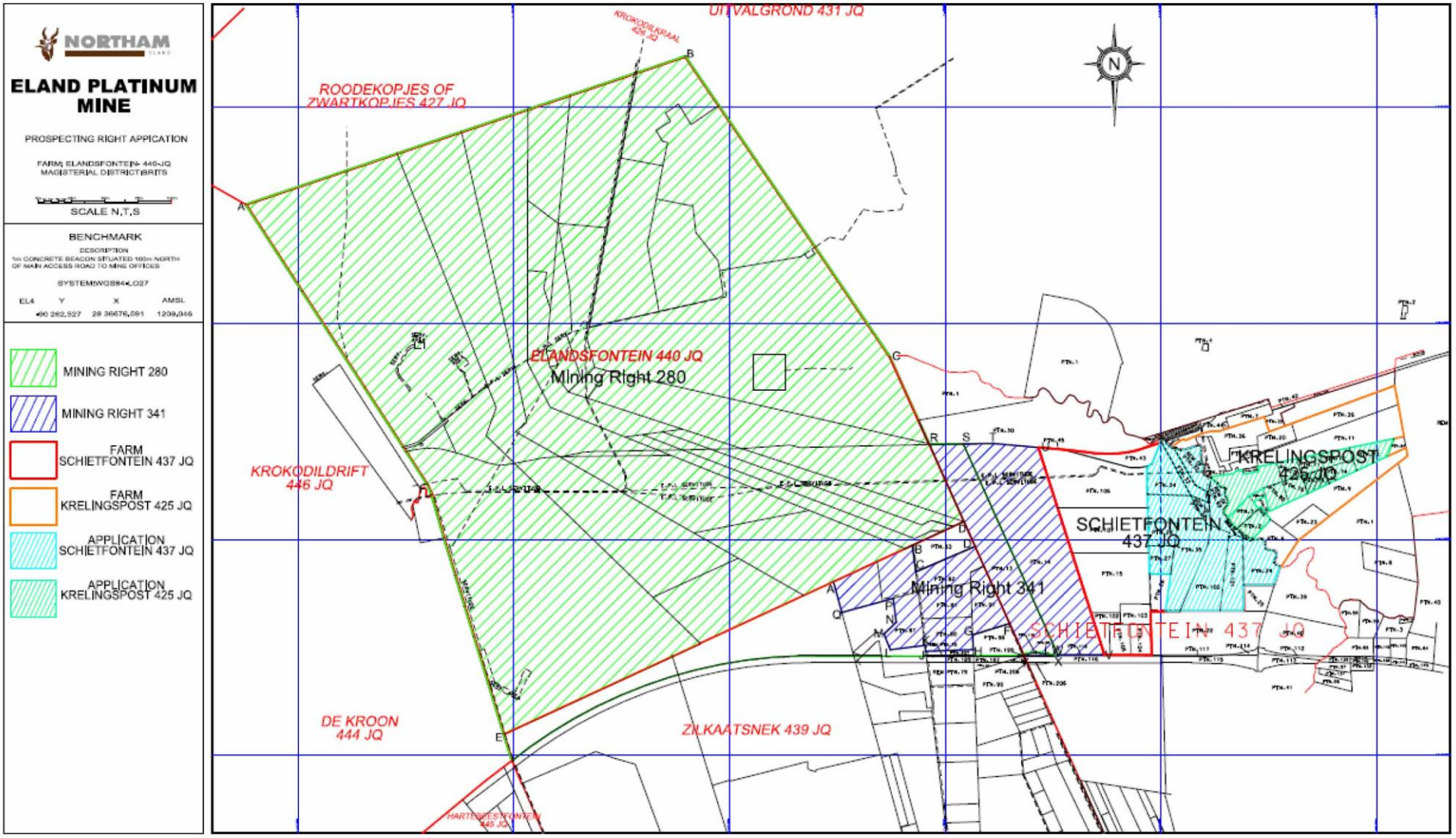


***Figure 3: Location for Proposed Project***

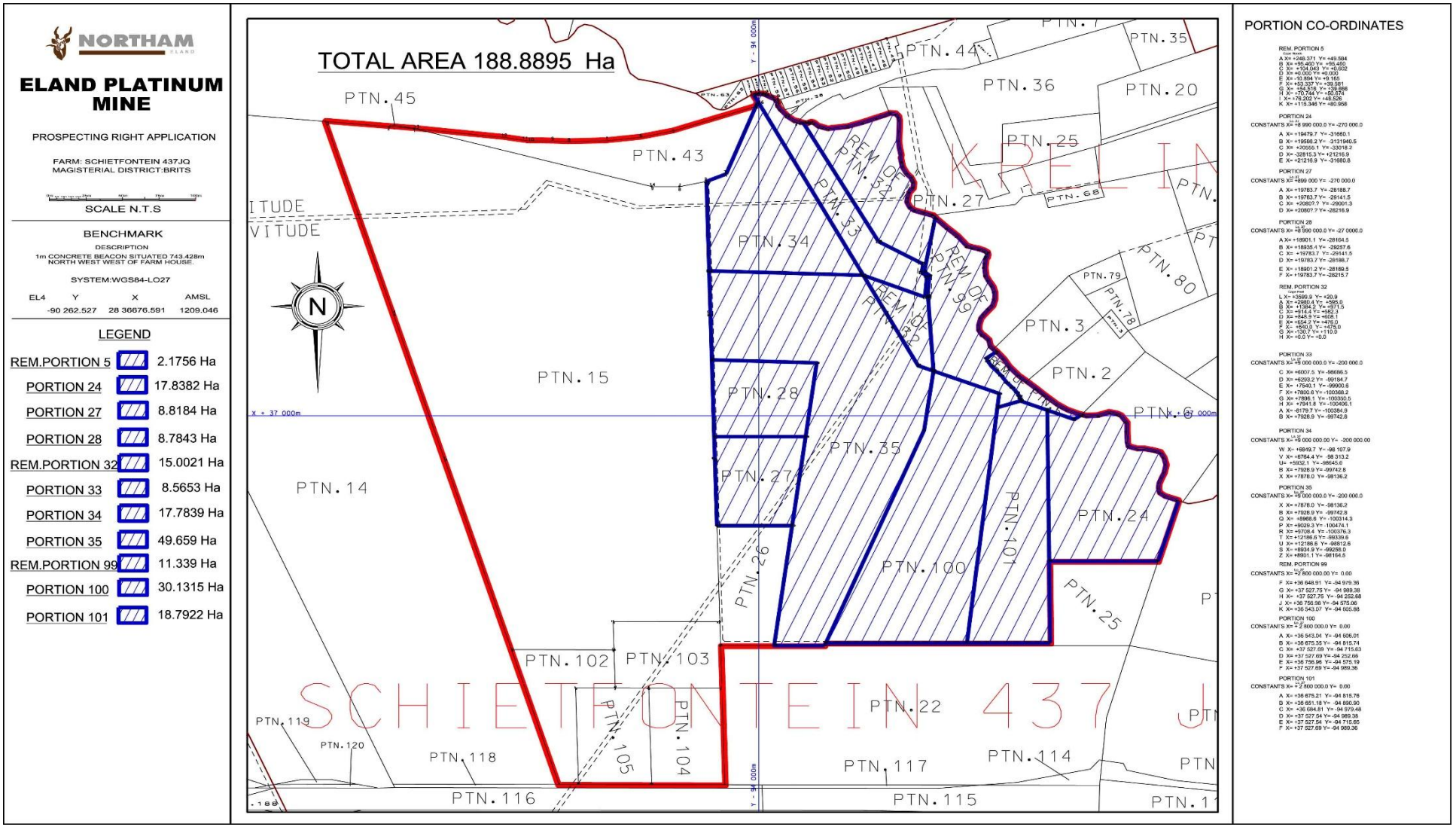


***Figure 4: Portions of the Farm Schietfontein 437 JQ***

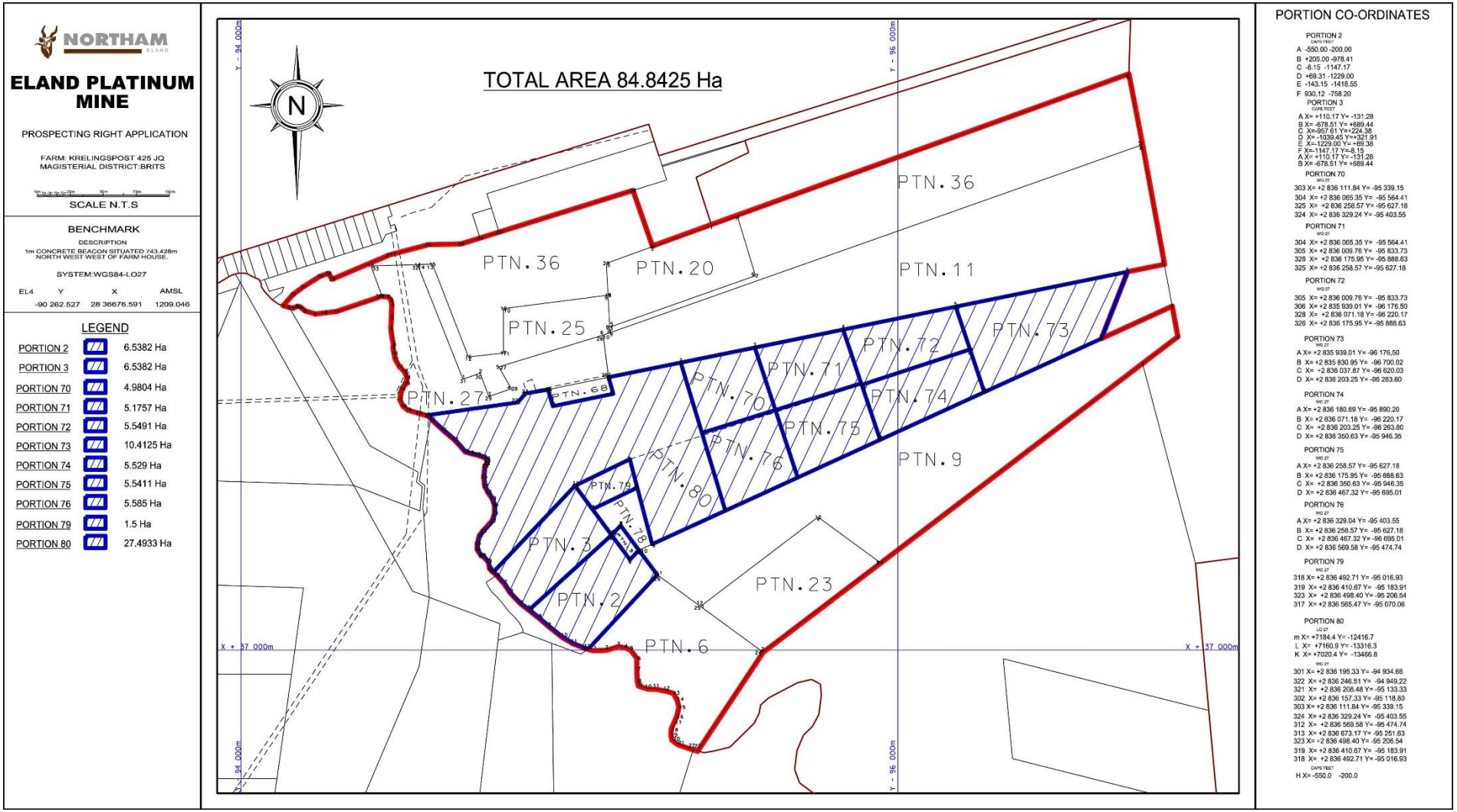


***Figure 5: Portions of the Farm Krelingspost 425 JQ***

# 6. DESCRIPTION OF THE SCOPE OF THE PROPOSED OVERALL ACTIVITY:

## 6.1 Listed and specified activities

### 6.1.1 EP's Current Mining Operations

EM is an existing mine that produces PGM concentrate and chromite concentrate as a co-product. Minimal mining and processing activities are taking place on the EM operation. Operations have re-commenced in 2019, after a care and maintenance phase from October 2015.

The existing mining, processing and auxiliary infrastructure comprise of the following:

- Workshops and Stores;
- Overburden Rock and Topsoil Dumps;
- Opencast Mining Pits;
- Concentrator Plant;
- On-site Laboratory;
- Mine clinic and training centre;
- Water Management Infrastructure (i.e. dams, channels and pipelines);
- Waste Water Treatment Plant and Water Treatment Plant;
- Two decline Shafts (Kukama and Nyala) and supporting infrastructure;
- Tailings Storage Facilities, comprising of four Paddocks;
- Offices and auxiliaries;
- Recreational Area (Game Farm);
- Agricultural fields; and
- Haul and internal Roads.

### 6.1.2 Proposed Activity Description

The following activities are planned on the Proposed Schietfontein and Krelingspost Prospecting Area:

#### *6.1.2.1 Schietfontein 437JQ*

Eleven diamond drilled boreholes are planned on the Remaining Extents of Portions 5, 32, 99 and Portions 24, 27, 28, 33, 34, 35, 100 and 101 of Schietfontein over a five-year period, targeting the Merensky Pyroxenite, UG2 and UG1 chromitite layers. These boreholes will provide valuable information relating to the continuity of both reefs and contribute to the understanding of the magnitude of the structural features, which currently prohibit a reliable resource estimation of the Merensky UG2 and UG1 Reefs.

The mineral distribution of the orebody is to be determined by means of diamond core drilling, core logging, sampling and assaying of the drill core.

The relevant lithological, structural and assay information of each borehole will be collected according to EP's prospecting protocols, which are considered acceptable for PGE resource estimation and comparable to industry standard practise.

Analysis of Pt, Pd, Rh, Au, Cu, Ni, $Cr_2O^3$ and $Fe_2O^3$ will be undertaken by an accredited laboratory and the remaining borehole core will be stored for reference purposes at the core storage facility, located at EM. All geological information collected from the borehole logs will be stored in digital format in a database.

A table listing the planned prospecting boreholes is inserted below (Table 3), followed by a locality plan indicating the borehole positions (Figure 6).

***Table 3: Planned diamond drilling activity on portions of Schietfontein.***

| FARM | PORTION | PLANNED BHOLE | X | Y | Z | FINAL DEPTH | TARGET |
|---|---|---|---|---|---|---|---|
| SCHIETFONTEIN 437JQ | PTN 28 | S_PL01 | 93973 | -37015 | 1229 | 170 | MR, UG2 |
| SCHIETFONTEIN 437JQ | PTN 35 | S_PL02 | 94271 | -37014 | 1232 | 170 | MR, UG2 |
| SCHIETFONTEIN 437JQ | PTN 100 | S_PL03 | 94632 | -37022 | 1233 | 170 | MR, UG2 |
| SCHIETFONTEIN 437JQ | PTN 99 | S_PL04 | 94615 | -36812 | 1230 | 245 | MR, UG2 |
| SCHIETFONTEIN 437JQ | PTN 27 | S_PL05 | 94057 | -37305 | 1234 | 250 | UG2,UG1 |
| SCHIETFONTEIN 437JQ | PTN 101 | S_PL06 | 94811 | -37236 | 1236 | 80 | UG2 |
| SCHIETFONTEIN 437JQ | PTN 24 | S_PL07 | 95049 | -37085 | 1236 | 150 | UG2 |
| SCHIETFONTEIN 437JQ | PTN 5 | S_PL08 | 94878 | -36906 | 1233 | 190 | MR, UG2 |
| SCHIETFONTEIN 437JQ | PTN 32 | S_PL09 | 94529 | -36408 | 1218 | 420 | MR, UG2 |
| SCHIETFONTEIN 437JQ | PTN 34 | S_PL10 | 94140 | -36446 | 1219 | 360 | MR, UG2 |
| SCHIETFONTEIN 437JQ | PTN 33 | S_PL11 | 94480 | -36496 | 1220 | 390 | MR, UG2 |
| | | | | | | 2595 | |

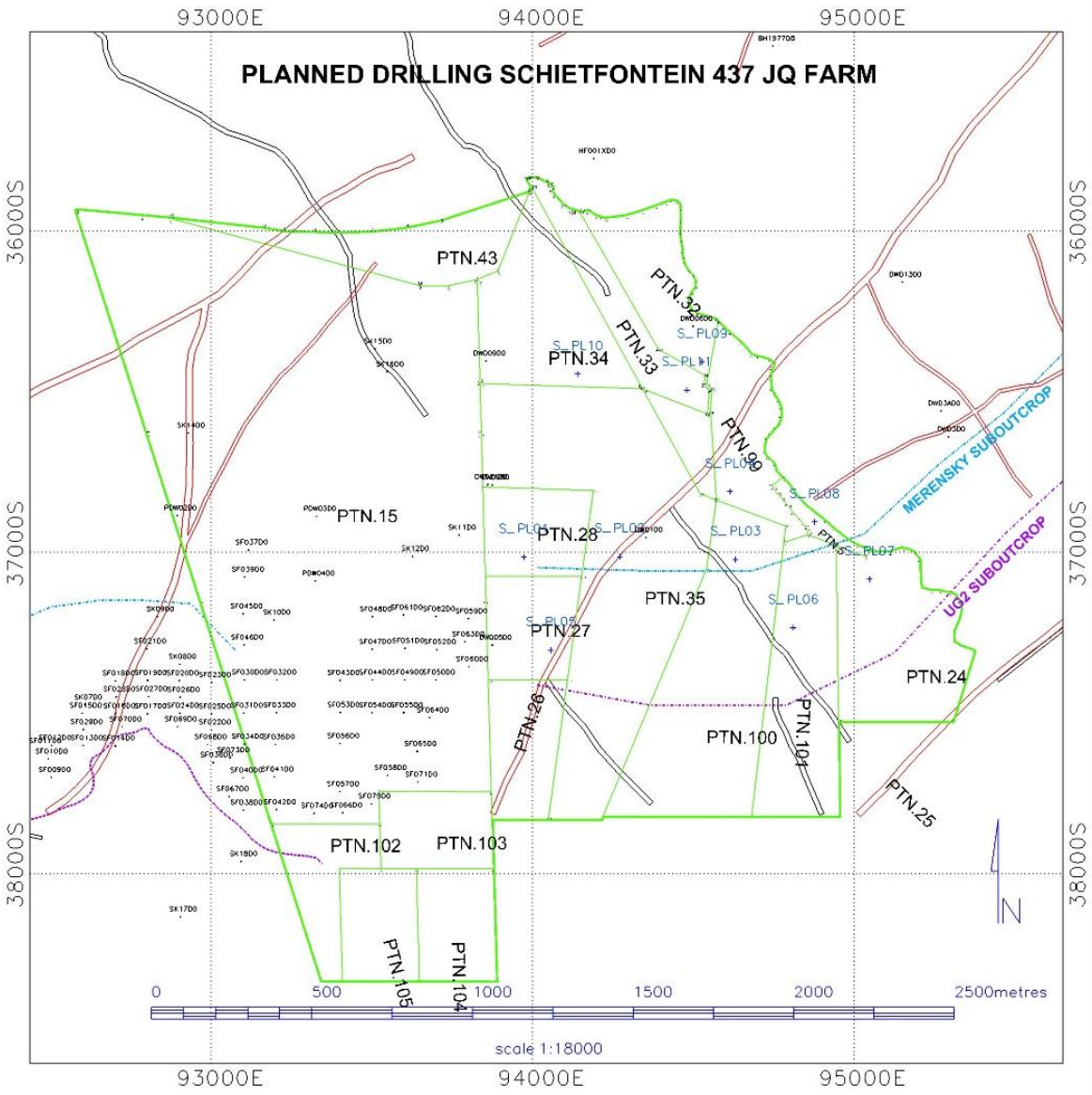


***Figure 6: Planned prospecting boreholes on Schietfontein***

### *6.1.2.2 Krelingspost 425JQ*

Eleven diamond drilled boreholes are planned on Portions 2, 3, 70, 71, 72, 73, 74, 75, 76, 79 and 80 of Krelingspost over a five-year period, targeting the Merensky Pyroxenite, UG2 and UG1 chromitite layers. These boreholes will provide valuable information relating to the continuity of these Reefs.

The mineral distribution of the orebody is to be determined by means of diamond core drilling, core logging, sampling and assaying of the drill core.

The relevant lithological, structural and assay information of each borehole will be collected according to the EP's prospecting protocols, which are considered acceptable for PGE resource estimation and comparable to industry standard practise.

Analysis of Pt, Pd, Rh, Au, Cu, Ni, $Cr_2O^3$ and $Fe_2O^3$ will be undertaken by an accredited laboratory and the remaining borehole core will be stored for reference purposes at the core storage facility located at EM. All geological information collected from the borehole logs will be stored in digital format in a database.

A table listing the planned prospecting boreholes is inserted below (Table 4), followed by a locality plan indicating the borehole positions (Figure 7).

***Table 4: Planned diamond drilling activity on portions of Krelingspost***

| FARM | PORTION | PLANNED BHOLE | X | Y | Z | FINAL DEPTH | TARGET |
|---|---|---|---|---|---|---|---|
| KRELINGSPOST 425JQ | PTN 2 | K_P01 | 95034 | -36853 | 1234 | 180 | MR, UG2 |
| KRELINGSPOST 425JQ | PTN 80 | K_P02 | 95406 | -36500 | 1233 | 175 | |
| KRELINGSPOST 425JQ | PTN 76 | K_P03 | 95559 | -36384 | 1235 | 180 | |
| KRELINGSPOST 425JQ | PTN 75 | K_P04 | 95835 | -36269 | 1237 | 340 | MR, UG2, UG1 |
| KRELINGSPOST 425JQ | PTN 74 | K_P05 | 96166 | -36153 | 1241 | 250 | |
| KRELINGSPOST 425JQ | PTN 73 | K_P06 | 96525 | -35927 | 1247 | 440 | MR, UG2 |
| KRELINGSPOST 425JQ | PTN 3 | K_P07 | 94876 | -36817 | 1232 | 230 | MR, UG2 |
| KRELINGSPOST 425JQ | PTN 79 | K_P08 | 95083 | -36527 | 1231 | 290 | MR, UG2 |
| KRELINGSPOST 425JQ | PTN 70 | K_P09 | 95421 | -36298 | 1235 | 270 | MR, UG2 |
| KRELINGSPOST 425JQ | PTN 71 | K_P10 | 95674 | -36210 | 1236 | 250 | MR, UG2 |
| KRELINGSPOST 425JQ | PTN 72 | K_P11 | 95978 | -36124 | 1238 | 260 | MR, UG2 |
| | | | | | | 2865 | |

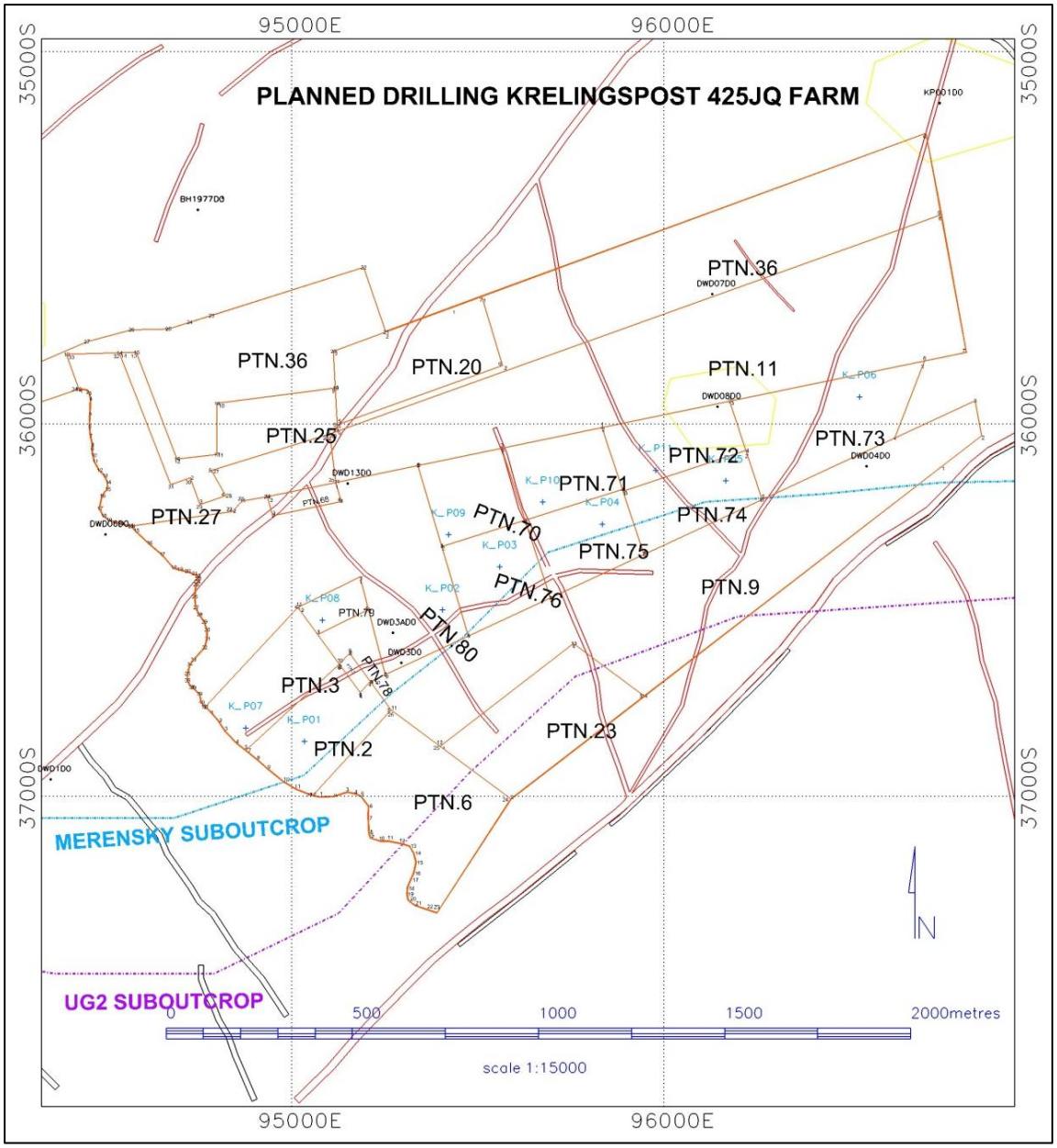


***Figure 7: Planned exploration boreholes on Krelingspost***

## 6.2 Description of the activities to be undertaken

(Describe Methodology or technology to be employed, and for a linear activity, a description of the route of the activity).

The purpose of this application is to obtain an EA from the DMR to successfully undertake prospecting activities on certain farm portions, known as the Proposed Schietfontein and Krelingspost Prospecting Area.

The Proposed Schietfontein and Krelingspost Prospecting Area is to the east of the existing EM, over which two mineral rights are held, namely the Zilkaatsnek Mining

Right (DMR Reference. No: NW 30/5/1/2/2/341MR) and Elandsfontein Mining Right (DMR Ref. No: NW 30/5/1/2/2/280MR), (collectively the "**EP Mining Rights**"). The main objective of the Prospecting Right Application is to apply for prospecting works to better understand the structural complexity of the Bushveld Igneous Complex ("**BIC**") to the east of EM.

The Proposed Project will comprise of several diamond-drilled boreholes over a five-year period, targeting the Merensky Pyroxenite, UG2 and UG1 chromitite layers. These boreholes will provide valuable information relating to the continuity of both reefs and contribute to the understanding of the magnitude of the structural features, which currently prohibit a reliable resource estimation of the Merensky, UG2 and UG1 Reefs.

The mineral distribution of the orebody will be determined by means of core logging, sampling and assaying of the drill core.

The Proposed Activities: (i) will comprise of prospecting activities and vegetation clearance; and (ii) may require / entail the widening of an existing road and / or impacting on land within 32m of a watercourse.

Each drill site will be fenced off and only EP's personnel, contractors or their representatives will be allowed to enter the drill site. Diamond core drilling will be conducted within the Proposed Schietfontein and Krelingspost Prospecting Area. The drill rigs will be wheel mounted, with outriggers to stabilize the rigs. The ground below the drill rigs will be covered with devices to contain any possible drill rig leakages. The drilling fluids will be pumped through a settling sump, which will be lined. The contents of the sump will be removed from the Proposed Prospecting Area after the drilling and disposed at an approved dumping site.

The drilled core will be packed into core trays, which will be removed from the site and transported to EM for further processing. A geological report will be compiled containing all the historical and current data, geological modelling outcomes, resource estimations, conclusions and recommendations for any possible further investigations and exploratory work.

# 7. POLICY AND LEGISLATIVE CONTEXT

***Table 5: Policy and legislative context of the proposed activity***

| APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT | REFERENCE WHERE APPLIED | HOW DOES THIS DEVELOPMENT COMPLIY WITH AND RESPOND TO THE LEGISLATION AND POLICY CONTEXT? |
|---|---|---|
| **1. <u>Constitution of the Republic of South Africa (Act No. 108 of 1996)</u>**<br><br>In terms of section 24 of the Constitution of the Republic of South Africa (Act No.108 of 1996) (the "**Constitution**"), everyone has the right to an environment that is not harmful to their health or well-being and to have the environment protected, for the benefit of present and future generations, through reasonable legislation and other measures that prevent pollution and ecological degradation, promote conservation and secure ecologically sustainable development and use of natural resources while prompting justifiable economic and social development. The needs of the environment, as well as affected parties, should thus be integrated into overall project management to fulfil the requirements of section 24 of the Constitution. | ***Refer to point 1 in table 5.*** | ***<u>Applicability to the Proposed Project:</u>***<br><br>The implications for the Proposed Project include the obligation to ensure that it: (i) will not result in significant pollution and/or ecological degradation; and (ii) is ecologically sustainable, while promoting justifiable economic and social development. |
| **2. <u>National Environmental Management Act (Act No. 107 of 1998)</u>**<br><br>The NEMA, as amended, contains a set of principles in Chapter | ***Refer to point 2 in table 5.*** | ***<u>Applicability to the Proposed Project</u>***<br><br>The EA Application has been submitted.<br><br>The Duty of Care has been during the basic assessment process, |

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| 2 that govern environmental management. These principles must be adhered to and taken into consideration during the EA Application and the life cycle phases of the Proposed Project. The term 'environment' is defined in terms of NEMA as:<br><br>*"Environment means the surroundings within which humans exist and that are made up of –*<br><br>*(i) the land, water and atmosphere of the earth;*<br><br>*(ii) micro-organisms, plant and animal life;*<br><br>*(iii) any part or combination of (i) or (ii) and the interrelationship among and between them; and*<br><br>*(iv) the physical, chemical, aesthetic and cultural, properties and conditions of the foregoing that influence human health and wellbeing".*<br><br>Section 24(1) of the NEMA states:<br><br>*"In order to give effect to the general objectives of integrated environmental management laid down in this Chapter* [Chapter 5], *the potential consequences for or impacts on the environment of listed activities or specified activities must be considered, investigated, assessed and reported on to the competent authority or the Minister of Minerals and Energy, as the case may be, except in respect of those activities that may commence without having to obtain an environmental* | | through the consideration of potential impacts (cumulative, direct, and indirect). It will continue to apply throughout the life cycle of the Proposed Project. |

<table>
<tr>
<td>authorisation in terms of this Act."<br><br>Section 28 of the NEMA places a duty of care on all persons to prevent, limit or remediate any pollution or degradation of the environment (the "Duty of Care"). Section 28 applies to all activities taking place, and not solely focused on the listed activities being applied for.</td>
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<td>3. <u>EIA Regulations (GN R982 of 8 December 2014) (Describe the listed activities which occur as part pf the Proposed Project)</u><br><br>The EIA Regulations (published in GN R982 of Government Gazette 38282 on 8 December 2014 under section 24 of the NEMA), to manage the process, methodologies and requirements for the undertaking of an EA Application. The EIA Regulations stipulate that the applicant must appoint an independent EAP to manage the EA Application process where a development constitutes activity/ies listed in terms of GN R983, GN R984 and/or GN R985 (all published in Government Gazette 38282 of 8 December 2014 under section 24 of the NEMA) ("GN R983", "GN R984" and "GN R985" respectively).<br><br>GN R982 defines two categories for undertaking an application for EA, namely the basic assessment process and the 'full' EIA process.<br><br>Section 24C(2A) of NEMA indicates that where listed activities</td>
<td>Refer to point 3 in table 5.</td>
<td><u>Applicability to the Proposed Project:</u><br><br>The drilling of twenty-two diamond drilled boreholes triggers a listed activity in terms of GN R983 and GN R985. Based on the regulatory requirements, a basic environmental assessment process must be undertaken in terms of GN R982.<br><br><u>Applicability to the Proposed Project:</u><br><br>The drilling of twenty-two diamond drilled boreholes triggers a listed activity in terms of GN R983 and GN R985. Based on the regulatory requirements, a basic environmental assessment process must be undertaken in terms of GN R982.<br><br>
<table>
<tr><th>Number and date of relevant notice</th><th>Activity No.</th><th>Description of each listed activity as per the GN.</th><th>Description of the proposed activities in relation to the listed activities being applied for.</th></tr>
<tr><td>GN. 983</td><td>20</td><td>Any activity, including the operation of that activity, which requires a prospecting right in terms of section 16 of the MPRDA, including-</td><td>The Proposed Project will comprise of 22 diamond drilled boreholes over a five-year period, targeting the Merensky Pyroxenite, UG2 and</td></tr>
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| are directly related to the extraction and primary processing of a mineral or petroleum resource the Minister of Mineral Resources is the Competent Authority (**"CA**") or officials at the DMR to whom he has delegated his authority, being the Regional Managers. | | | | | (a) associated infrastructure, structures and earthworks, directly related to prospecting of a mineral resource; or<br>(b) the primary processing of a mineral resource including winning, extraction, classifying, concentrating, crushing, screening or washing. | UG1 chromitite layers. These boreholes will provide valuable information relating to the continuity of both reefs and contribute to understanding the magnitude of the structural features, which currently prohibit a reliable resource estimation of the Merensky, UG2 and UG1 Reefs. |
| | | | GN R. 985 | 12(h) | The clearance of an area of 300 square metres or more of indigenous vegetation (except where such clearance is required for maintenance purposes undertaken in accordance with a maintenance management plan) in the NWP on land, where such land is situated within a CBA, as identified in systematic biodiversity plans adopted by the CA; | Vegetation will be cleared for the drilling sites and potentially for the temporary access roads. It is likely that the impacted vegetation will include indigenous vegetation, as the Proposed Schietfontein and Krelingspost Prospecting Area is within / near the Marikana Thornveld ecosystem and is situated in a CBA as per the NWP BSP. |
| | | | GN R. 985 | 14(h) | The development of infrastructure or structures with a physical footprint of 10m$^2$ or more, where such development occurs-<br><br>(a) within a watercourse;<br><br>(c) if no development setback has been adopted, within 32m of a watercourse, measured from the edge of a watercourse in the NWP on land, where such land is | It is not foreseen that any prospecting activities will be undertaken within 32m of a watercourse. However, provision is made to include the listed activity should this be required. The Proposed Project is within / near the Marikana Thornveld ecosystem and is situated in a CBA as per the NWP BSP. |

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| | | | | | situated within *inter alia*:<br><br>(i) a CBA, as identified in systematic biodiversity plans adopted by the CA; or<br><br>(ii) b) 5 kilometres from protected as identified in terms of the NEM:PAA or from the core areas of a biosphere reserve. | The MPNE is situated ± 3.1 km south of the Proposed Schietfontein and Krelingspost Prospecting Area. The Hartbeespoort Dam Nature Reserve and M'Nandi Private Nature Reserve are located ± 4.1 km south-west and ± 0.2 km east of the Proposed Prospecting Area respectively. The prospecting area falls within the Magaliesberg Biosphere Reserve. |
| | | | GN R. 985 | 18(h) | The widening of a road by more than 4m, or the lengthening of a road by more than 1Km, in the NWP on land, where such land is situated within i*nter alia:*<br><br>(i) a CBA, as identified in systematic biodiversity plans adopted by the CA; or<br><br>(ii) b) 5 kilometres from protected as identified in terms of the NEM:PAA or from the core areas of a biosphere reserve. | The proposed drilling localities have been determined and existing access roads will be used as far as possible. There will however potentially be a need to widen these roads to allow for access. The Proposed Activities is within / near the Marikana Thornveld ecosystem and is situated in a CBA, as per the NWP BSP.<br><br>The MPNE is situated ± 3.1 km south of the Proposed Schietfontein and Krelingspost Prospecting Area. The Hartbeespoort Dam Nature Reserve and M'Nandi Private Nature Reserve are located ± 4.1 km south-west and ± 0.2 km east of the |

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| | | | | | | Proposed Prospecting Area respectively. The prospecting area falls within the Magaliesberg Biosphere Reserve. |
| **4. <u>National Environmental Management: Air Quality Act (Act No. 39 of 2004</u>)**<br><br>The National Environmental Management: Air Quality Act (Act No. 39 of 2004) ("**NEM:AQA**") was implemented on 24 February 2005 and reforms the law regulating air quality, in order to protect the environment by providing: (i) reasonable measures be implemented for the prevention of pollution and ecological degradation and securing ecologically sustainable development while promoting justifiable economic and social development; and (ii) for national norms and standards regulating air quality monitoring, management and control by all spheres of government; for specific air quality measures; and for matters incidental thereto.<br><br>On 22 November 2013 the List of Activities which result in Atmospheric Emissions which have or may have a significant detrimental effect on the environment, including health, social conditions, economic conditions, ecological conditions or cultural heritage was published under GN R893 in Governmental Gazette No 37054, in terms of section 21(1)(b) of the NEM:AQA (**GN R893**") thereby repealing the previous list of | ***Refer to point 4 in table 5.*** | ***<u>Applicability to the Proposed Project:</u>***<br><br>No activity listed GN R893 is applicable to the Proposed Project.<br><br>The Proposed Schietfontein and Krelingspost Prospecting Area falls within the Waterberg-Bojanala National Priority Area, as contemplated in section 18(1) of NEMAQA. | | | | |

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| activities which were promulgated on 31 March 2010. | | |
| **5. <u>National Environmental Management: Biodiversity Act (Act No. 10 of 2004)</u>**<br><br>In In line with the Convention on Biological Diversity, the National Environmental Management: Biodiversity Act (Act No. 10 of 2004) ("**NEM:BA**") aims to legally provide for biodiversity conservation, sustainable use and equitable access and benefit sharing. NEM:BA creates a basic legal framework for the formation of a national biodiversity strategy and action plan and identification of biodiversity hotspots and bioregions, which will then be given legal recognition.<br><br>It imposes obligations on landowners (state or private) governing alien invasive and regulates the introduction of genetically modified organisms. The NEM:BA ensures that provision is made by the site developer to remove any aliens which have been introduced to, or are present on, the site.<br><br>NEM:BA also provides for listing of threatened or protected ecosystems, in one of four categories: critically endangered, endangered, vulnerable or protected. Threatened ecosystems are listed to reduce the rate of ecosystem and species extinction by preventing further degradation and loss of structure, function and composition of threatened ecosystems. The purpose of listing protected ecosystems is primarily to conserve sites of | ***Refer to point 5 in table 5.*** | ***<u>Applicability to the Proposed Project:</u>***<br><br>The Proposed Project will take place on degraded, cultivated fields and natural open areas. No critical endangered ecosystems are located within the area, however the prospecting area falls within the vulnerable Marikana Thornveld Ecosystem. |

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| exceptionally high conservation value. | | |
| **6. <u>National Environmental Management: Waste Act (Act No. 59 of 2008)</u>**<br><br>Th he NEM:WA was implemented on 1 July 2009 and section 20 of the Environment Conservation Act (Act No. 73 of 1989) ("**ECA**"), under which waste disposal sites was previously governed, was repealed.<br><br>The objectives of NEM:WA involve the protection of health, wellbeing and the environment by providing reasonable measures for the minimisation of natural resource consumption; avoiding and minimising the generation of waste; reducing, recycling and recovering waste; and treating and safely disposal of waste as a last resort.<br><br>In terms of the NEM:WA, all waste management activities must be licenced. According to section 44 of the NEM:WA, the licensing procedure must be integrated with an EIA process in terms of the NEMA. GN R921, published under NEM:WA in *Government Gazette* 37083 on 29 November 2013 contains the list of waste activities that requires a waste management licence ("**GN R921**"). | ***Refer to point 6 in table 5.*** | ***<u>Applicability to the Proposed Project:</u>***<br><br>No listed activities in terms of GN R921 are anticipated for the Proposed Project.<br><br>Waste handling, storage and disposal during operation are required to be undertaken in accordance with the requirements of the Act, as has been detailed in the EMPr. |
| **7. <u>National Heritage Resources Act (Act No. 25 of 1999)</u>**<br><br>The protection and management of South Africa's heritage | ***Refer to point 7 in table 5.*** | ***<u>Applicability to the Proposed Project:</u>***<br><br>Based on the desktop survey of specialist studies conducted in the area no heritage resources of significance are present on the |

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| resources are regulated by the National Heritage Resources Act (Act No. 25 of 1999) ("**NHRA**"). The national enforcing authority for the NHRA is the South African Heritage Resources Agency ("**SAHRA**"). In terms of the NHRA, historically important features such as graves, archaeology and fossil beds are protected. Similarly, culturally significant symbols, spaces and landscapes are also afforded protection. Permits are required to damage or destroy such heritage resources, unless the provisions of section 38(8) of NEMA are followed. | | Proposed Schietfontein and Krelingspost Prospecting Area. |
| **8. <u>National Water Act (Act No. 36 of 1998)</u>**<br><br>The National Water Act (Act No. 36 of 1998) ("**NWA**") is the primary regulatory legislation, controlling and managing the use and pollution of water resources. It provides for fundamental reformation of legislation relating to water resource use. The NWA's preamble recognises that the: (i) ultimate aim of water resource management is to achieve sustainable use of water for the benefit of all users; and (ii) protection of water resources' quality is necessary to ensure sustainability of the nation's water resources in all water users' interests. The NWA's purpose is stated in section 2 and enforced by the Department of Water and Sanitation. The NWA's principles are set out in section 2 and include the following:<br><br>• *Promoting the efficient, sustainable and beneficial use of water in the public interest;* | ***Refer to point 8 in table 5.*** | ***<u>Applicability to the Proposed Project:</u>***<br><br>The Proposed Project for the drilling of diamond drilled boreholes may potentially require a General Authorisation in terms of the NWA, 1998. This is due to the fact that some of the drilling sites might potentially be situated within 100m of the 1 in 100 year floodline of the non-perennial stream that traverses between the Schietfontein and Krelingspost Farm boundary. |

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| • *Facilitating social and economic development;*<br>• *Protecting aquatic and associated ecosystems and their biological diversity;*<br>• *Reducing and preventing pollution and degradation of water resources; and*<br>• *Meeting international obligations.*<br><br>The NWA presents strategies to facilitate sound management of water resources; provides for the protection of water resources; and regulates use of water by means of Catchment Management Agencies, Water User Associations, Advisory Committees and International Water Management. As the NWA is founded on the principle that government has overall responsibility for and authority over water resource management, including the equitable allocation and beneficial use of water in the public interest, an industry (including mines) can only be entitled to use water if it has an entitlement for such use under the NWA. | | |
| **9. <u>Mineral and Petroleum Resources Development Act (Act No. 28 of 2002)</u>**<br><br>The MPRDA's main objective is to recognise the State as the custodian over all the mineral and petroleum resources in South Africa and promote equitable access to the country's resources. It allows for previously disadvantaged persons to enter the minerals and petroleum industry and benefit from the | ***Refer to point 9 in table 5.*** | ***<u>Applicability to the Proposed Project:</u>***<br><br>A prospecting right application for the Proposed Project was submitted by EP to the DMR as the CA. |

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| exploitation of the country's minerals. This is done through the focus on job creation in the mining industry for previously disadvantaged people. The MPRDA ensures that holders of existing and new mining rights contribute towards the socio-economic development in the areas in which they operate, promoting economic growth, employment and advance the social- economic welfare of all South Africans.<br><br>A prospecting right is required to be granted by the DMR for prospecting activities relating to mineral resources. | | |
| **10. <u>Mine Health and Safety Act (Act No. 29 of 1996)</u>**<br><br>The Mine Health and Safety Act (Act No. 29 of 1996) ("**MHSA**") aims to provide for protection of the health and safety of all employees and other personnel at South African mines. Its main objectives are:<br><br>• Protection of the health and safety of all persons at mines;<br>• Requiring employers and employees to identify hazards and eliminate, control and minimise the risks relating to health and safety at mines;<br>• Giving effect to the public international law obligations of South Africa that concern health and safety at all mines;<br>• Providing for -<br>o employee participation in matters of health and | ***Refer to point 10 in table 5.*** | ***<u>Applicability to the Proposed Project:</u>***<br><br>EP will need to ensure that the MHSA is adhered to on Proposed Schietfontein and Krelingspost Prospecting Area by employees, contractors, sub-contractors and visiting personnel. This is especially pertinent during the operational phase of the Proposed Project. |

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| safety through health and safety representatives and the health and safety committees at mines;<br>o effective monitoring of health and safety conditions at mines;<br>o enforcement of health and safety measures at mines;<br>o investigations and inquiries to improve health and safety at mines; and<br>• To promote:<br>o a culture of health and safety in the mining industry;<br>o training in health and safety in the mining industry; and<br>o co-operation and consultation on health and safety between the State, employers, employees and their representatives. | | |
| **11. <u>Conservation of Agricultural Resources Act (Act No. 43 of 1983)</u>**<br><br>The CARA aims to provide for control over the utilisation of natural agricultural resources, including: promoting the conservation of soil, water resources and vegetation; and combatting weeds and invader plants. It makes provision for control measures to achieve the CARA's objectives relating to *inter alia*: | ***Refer to point 11 in table 5.*** | ***<u>Applicability to the Proposed Project:</u>***<br><br>The Proposed Project will take place on degraded, cultivated fields and natural open area and EP will take cognisance of the requirements of CARA, where applicable. |

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| • Cultivation of virgin soil;<br>• Utilisation / protection of wetlands, marshes, water sponges, watercourses / sources;<br>• Regulating of the flow pattern of run-off water;<br>• Utilisation and protection of vegetation;<br>• Grazing capacity of veld and the number and type of animals;<br>• Control of weeds and invader plants; and<br>• Restoration or reclamation of eroded land or land which is disturbed or denuded. | | |
| **12. <u>Hazardous Substance Act (Act No. 15 of 1973)</u>**<br><br>The Hazardous Substances Act (Act No. 15 of 1973) ("**HSA**") provides for the:<br><br>• Control of substances which may cause injury or ill-health to or death of human beings by reason of their toxic, corrosive, irritant, strongly sensitizing or flammable nature or the generation of pressure thereby in certain circumstances;<br>• Control of certain electronic products;<br>• Division of such substances or products into groups in relation to the degree of danger;<br>• Prohibition and control of the importation, manufacture, sale, use, operation, application, modification, disposal or dumping of such substances and products; and | ***Refer to point 12 in table 5.*** | ***<u>Applicability to the Proposed Project:</u>***<br><br>EP will take cognisance of the requirements of the HSA in relation to hazardous substances that may be used for the Proposed Project. It is not anticipated that significant volumes of hazardous substances will be used. |

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| • Matters connected therewith. | | |
| **13. <u>Promotion of Access to Information Act (Act No. 2 of 2000)</u>**<br><br>The Promotion of Access to Information Act (Act No. 2 of 2000) ("**PAIA**") recognises that everyone has a right of access to any information held by the State; and another person when that information is required to exercise or protect any right. PAIA's purpose is to promote transparency and accountability in public and private bodies and a society in which people have access to information that enables them to exercise and protect their rights. | ***Refer to point 13 in table 5.*** | ***<u>Applicability to the Proposed Project:</u>***<br><br>GN R982 contains regulations pertaining to public involvement and the provision of *inter alia* BARs to interested and affected parties to enable public comment. These Regulations will be adhered to during the PPP. However, the PAIA will also be considered and adhered to. |
| **14. <u>Provincial and Municipal Bylaws</u>**<br><br>The MLM, BPDM and NWP has developed local bylaws, provincial legislation and various policies relating to waste disposal, water, economic development, air quality etc. | ***Refer to point 14 in table 5.*** | ***<u>Applicability to the Proposed Project:</u>***<br><br>The following provincial legislation, municipal bylaws and policies are applicable to EM:<br><br>➢ Spatial Development Framework ("**SDF**"), 2016: North West Province;<br>➢ MLM: Air Quality Management By-Laws, 2013;<br>➢ MLM: Waste Management By-Laws, 2008;<br>➢ MLM: Storm water management By-laws, 2013; and<br>➢ MLM: Water & Sanitation By-Laws, 2015.<br><br>EP will ensure that such policies, provincial legislation and bylaws, are adhered to during the Proposed Project's commencement and |

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| | | operation. |
| **15. <u>Guidelines</u>**<br><br>In addition to the abovementioned Acts and their associated Regulations, the following guidelines and reports have been taken cognisance of during the application process:<br><br>• BPDM Integrated Development Plan, 2012.<br><br>• BPDM SDF, 2016.<br><br>• MLM IDP, 2017-2018.<br><br>• Madibeng Environmental Management Framework, 2009.<br><br>• SANS 10103 of 2008.<br><br>• SANS 10210 of 2004.<br><br>• NEMA Implementation Guidelines: Sector Guidelines for Environmental Impact Assessment Regulation (published under GN 654 in GG 3333 of 29 June 2010).<br><br>• DEA (2011); A user friendly guide to the National Environmental Management: Waste Act, 2008. South Africa, Pretoria.<br><br>• Department of Environmental Affairs and Tourism (2004): Criteria for determining Alternatives in EIA, Integrated | ***Refer to point 15 in table 5.*** | ***<u>Applicability to the Proposed Project:</u>***<br><br>EP will ensure that such policies and standards, as far as possible, are adhered to during the Proposed Project. |

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| Environmental Management, Information Series 11.<br>• DEA (2017) Guideline on Need and Desirability.<br>• Guideline for Implementation: Public Participation in the EIA Process (published in under GN 807 in GG 35769 of 10 October 2012). | | |
| **16. <u>Eland Platinum Health, Safety, Environmental and Community (HSEC) Policy and EPRP</u>**<br>A copy of EP's HSEC Policy can be found under ***Appendix 5***. | ***Refer to point 16 in table 5.*** | ***<u>Applicability to the project:</u>***<br>EP will ensure that its HSEC Policy is adhered to during the Proposed Project's operational phase. |

# 8. ROLES AND RESPONSIBILITIES

The following role players will participate in the environmental management of the site, namely:

- EP; and
- Contractors (this includes Service Providers).

This EMPr must be attached as an Appendix to service provider tender documents and referred to in the tender documents as “special conditions of tender”.

## 8.1 EP

Ultimate responsibility for implementation of the EMPr lies with EP. This responsibility, in some instances, may be delegated to contractors in the service of EP for practical purposes but EP will retain legal accountability. In this regard, EP should delegate a suitably qualified environmental control officer ("**ECO**") with the responsibility to ensure the implementation of the EMPr, and who will:

- Know the contents and implications of the BAR and monitor the implementations of the findings using the EMPr;
- Guide, advise, and consult the contractors on environmental issues during construction, operation, decommissioning and post-decommissioning of the Proposed Project;
- Revise the EMPr, as required, and inform relevant parties of the changes; and
- Protect the environment.
- Monitor the EMPr throughout the Proposed Project through site visits and meetings. This should be documented as part of the site meeting minutes.

ECO details will be available as soon as he / she is appointed by EP.

## 8.2 Contractor

Responsibility of the contractors during the Proposed Project's construction, operation, decommissioning and post-decommissioning is to:

- Ensure that all requirements of the EMPr are communicated to, understood and followed by all persons working on the Proposed Project who may have an environmental impact;
- Ensure that a procedure exists for reporting incidents and resolving any problems rapidly; and
- Keep adequate records relating to the compliance or non-compliance of responsible parties to relevant EA conditions. These records must be made available to the relevant CA within seven days of a written request.

# 9. PROJECT MANAGEMENT PRINCIPLES

Project management principles will form the basis for environmental management on the Proposed Schietfontein and Krelingspost Prospecting Area. Should these principles require modification or additions during the Proposed Project's phases, this should be done at the discretion of the responsible person (e.g. ECO), who will ensure that any modifications are communicated, explained to, and discussed with all affected parties.

## 9.1 Preparation for the Proposed Project

The following points outline the steps required in preparing for the Proposed Project's implementation.

- All general workers will receive induction training which will be presented by EP. This induction training must include a health and safety, and an environmental management, component.
- The contractors must be made aware of the hazards, risk and environment management, including:
    - Why environmental management is required for the Proposed Project;
    - Roles and responsibilities of individuals associated with the Proposed Project; and
    - Specific issues that need to be managed, such as:
        - Dust;
        - Materials handling and storage;
        - Leaks and spill prevention;

- Noise;
- Waste;
- Biodiversity; and
- Demarcated and no-go areas.

## 9.2 EM Policies and Procedures

EP subscribes to strict environmental, health, safety and community procedures for its operations. It has developed an EPRP for its mining and mineral processing operations. The EPRP is attached under Appendix 1. In general, the EPRP endeavours to ensure:

- A safe environment for all internal and external stakeholders;
- That all activities are conducted in an environmentally responsible manner, consistent with environmental regulations, guidelines and best practice;
- The identification and management of all significant environmental risks;
- The existence of a comprehensive system for managing emergencies and a high degree of emergency preparedness;
- That the response to emergencies is predicated primarily on the preservation of human life and safety of emergency response personnel;
- The containment of emergencies and their effects within facility boundaries; and
- Cooperation with external emergency response organizations.

Implementation of the EPRP will be the responsibility of the HSEC manager. Personnel will be designated and trained to activate and implement the EPRP in reaction to onsite and offsite accidental releases of contaminants, or other environmental emergencies that may occur. Contractors performing work for EP will be required to be appropriately trained and have ready access to equipment and supplies that would allow them to contain and control an accidental contaminant release until the arrival of an emergency response team.

### 9.3 Record Keeping

All records related to the implementation of this management plan (e.g. site induction records, Site Officer diary, methods statements etc.) must be kept together in an office where it is safe and can be retrieved easily. These records should be kept for two years and at any time be available for scrutiny by any relevant CA.

### 9.4 Stakeholder Engagement

A complaints register must be kept at the EM security gate. All complaints must be recorded and replied to as soon as possible. The complaints register must be made available any time for scrutiny by any relevant CA.

## 10. ENVIRONMENTAL PERFORMANCE REPORTING

### 10.1 Quarterly ECO reporting reports

The ECO will produce an environmental performance report on a regular basis for the duration of the Proposed Project's Construction Phase. Monthly inspections will be conducted; and quarterly ECO reports need to be submitted to the authorities.

### 10.2 Annual EMPr compliance audit reports

EMPr compliance audits will be conducted on an annual basis. Independent qualified companies with adequate audit experience must be used and compliance reports need to be submitted to the authorities.

## 11. METHODOLOGY USED FOR COMPILATION OF ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPR)

Different impacts are associated with the different phases of the Proposed Project. The significance will be determined by both the extent and duration of the impact. The environmental risk of any aspect is determined by a combination of parameters

associated with the impact. Each parameter connects the physical characteristics of an impact to a quantifiable value to rate the environmental risk. A description of the parameters used in this impact assessment is given in the table below.

***Table 6: Impact Assessment Methodology.***

| Parameter | Description |
|---|---|
| **Extent:** | **Area extent affected by the potential impact:**<br>• **Onsite – Within specific site boundary (weight value – 1)**<br>• **Local – Within municipal boundary (weight value – 2)**<br>• **Regional – Outside municipal boundary (weight value – 3)** |
| **Duration:** | **Time that the potential impact will be in effect**<br>• **Short term – 1 Year or less (weight value – 1)**<br>• **Medium term – 1 - 5 Years (weight value –2)**<br>• **Long term – Longer than 5 Years (weight value – 3)** |
| **Intensity:** | **The severity of an impact on the receiving environment:**<br>• **Low – Natural and / or cultural processes continue in a modified way and is reversible (weight value – 1)**<br>• **Medium – Natural and/or cultural processes stop and is partially reversible (weight value – 2)**<br>• **High – Natural and / or cultural processes disturbed to an irreversible state (weight value – 3)** |
| **Significance of Impact / Consequence** | **Adding the extent, duration and intensity together provides the significance of the impact (High, Medium or Low).**<br>**Extent + Duration + Intensity = High/Medium/Low Impact** |
| **Probability:** | **The likelihood of an impact occurring:**<br>• **Unlikely – 0% - 45% chance of the potential impact occurring (weight value – 1)**<br>• **Possible – 46% - 75% chance of the potential impact occurring (weight value – 2)**<br>• **Likely - >75% chance of the potential impact occurring (weight value – 3)** |
| **Environmental Risk Refer to the table below** | **Multiplication of the significance of the impact by the probability of the impact occurring produces a final conclusion of the overall risk that an impact poses to the surrounding environment.**<br>**High / Medium/Low Impact X Probability = High / Medium / Low Environmental Risk** |

# 12. ASSESSMENT OF EACH IDENTIFIED POTENTIALLY SIGNIFICANT IMPACT AND RISK

(This section of the report must consider all the known typical impacts of each of the activities (including those that could or should have been identified by knowledgeable persons and not only those that were raised by registered interested and affected parties).

***Table 7: Environmental management mitigation measures for the different activities and phases of the proposed expansion project.***

| Activity | Phase | Impact | Mitigation Measure | Monitoring | Compliance Standard | Responsibility | Start Date | End Date |
|---|---|---|---|---|---|---|---|---|
| **1. Biodiversity** | | | | | | | | |
| The following activities might potentially have an impact on the biodiversity:<br>• Site establishment;<br>• Site clearing;<br>• Vehicle and equipment movement;<br>• Access road clearing;<br>• Drilling operation;<br>• Excavations;<br>• Site de-establishment;<br>• Vegetation clearing. | Construction<br><br>Operation<br><br>Decommissioning | Habitat destruction<br><br>Loss of Biodiversity<br><br>Loss of indigenous natural vegetation<br><br>Establishment and spread of declared weeds and alien invader plants.<br><br>Habitat transformation | 1) Avoid unnecessary impacts on natural vegetation. Impacts should be contained, as much as possible, within the footprint of the drilling area.<br>2) Keep disturbance of vegetation surrounding drilling area to a minimum.<br>3) Rehabilitate disturbed areas as quickly as possible following completion of prospecting activities in an area.<br>4) Do not translocate soil stockpiles from areas with alien plants.<br>5) Control any alien plants immediately, to avoid establishment of a soil seed bank that would take decades to remove.<br>6) Establish an on-going monitoring programme to detect and quantify any aliens that may become established.<br>7) Rehabilitate and re-vegetate the disturbed areas as per the EM rehabilitation plan. | Monthly inspections<br><br>Quarterly ECO reporting<br><br>Annual EMPr Audits | PWP<br><br>EMPr<br><br>Rehabilitation Plan | EP,<br><br>ECO,<br><br>Site Manager | No dates available | All phases to Decommissioning Phase |
| **2. Soil** | | | | | | | | |
| The following activities might potentially have an impact on the soil:<br>• Site establishment; | Construction<br><br>Operation | Land clearing causing physical disturbance to | 1) Impacts should be contained, as much as possible, within the footprint of the drilling area. | Monthly inspections<br><br>Quarterly | PWP<br><br>EM Soil Conservation | EP,<br><br>ECO, | No dates available | All phases to Decommissioning Phase |

| Activity | Phase | Impact | Mitigation Measure | Monitoring | Compliance Standard | Responsibility | Start Date | End Date |
|---|---|---|---|---|---|---|---|---|
| • Site clearing;<br>• Vehicle and equipment movement;<br>• Access road clearing;<br>• Drilling operation;<br>• Excavations;<br>• Site de-establishment. | Decommissioning | the soil.<br><br>Loss of topsoil<br><br>Soil compaction<br><br>Soil erosion | 2) Rehabilitate disturbed areas as quickly as possible following completion of prospecting activities in an area.<br>3) Do not translocate soil stockpiles from areas with alien plants.<br>4) Rehabilitate and re-vegetate the disturbed areas as per the EM rehabilitation plan. | ECO reporting<br><br>Annual EMPr Audits | Procedure<br><br>EPRP | Site Manager | | |
| **3. Surface Water** | | | | | | | | |
| Chemical and solvent spillages from drilling and earth moving equipment. | Construction<br><br>Operation<br><br>Decommissioning | Impact on the surface water quality or run-off | 1) The location of all activities and infrastructure should be outside of the specified zones and/or floodlines of watercourses. If this is unavoidable, the necessary exemptions / approvals will be obtained;<br>2) Potential pollution will be managed by implementing the following processes:<br>- maintenance of equipment;<br>- education and training of workers (permanent and temporary);<br>- appropriate management of hazardous materials and waste;<br>- the required steps to enable containment and remediation of pollution incidents; and<br>- specifications for post rehabilitation audit criteria, to ascertain whether the remediation has been successful and if not, to recommend and implement further measures. | Monthly inspections<br><br>Quarterly ECO reporting<br><br>Annual EMPr Audits<br><br>Monthly Surface Water Monitoring; | EP WUL;<br><br>EPRP | EP,<br><br>ECO,<br><br>Site Manager | No dates available | All phases to Decommissioning Phase |

| Activity | Phase | Impact | Mitigation Measure | Monitoring | Compliance Standard | Responsibility | Start Date | End Date |
|---|---|---|---|---|---|---|---|---|
| **4. Ground water** | | | | | | | | |
| Chemical and solvent spillages from drilling and earth moving equipment. | Construction<br><br>Operation<br><br>Decommissioning | Impact on the groundwater quality | 1) EP must identify boreholes on the Proposed Schietfontein and Krelingspost Prospecting Area and monitor the groundwater quality prior to commencement of the activities to establish the baseline.<br>2) It is recommended that quarterly monitoring samples be taken of boreholes within the prospecting area.<br>3) Equipment and vehicles must be maintained; and<br>4) Potential pollution will be managed by implementing the following processes:<br>- maintenance of equipment;<br>- education and training of workers (permanent and temporary);<br>- appropriate management of hazardous materials and waste;<br>- the required steps to enable containment and remediation of pollution incidents; and<br>- specifications for post rehabilitation audit criteria, to ascertain whether the remediation has been successful and if not, to recommend and implement further measures. | Monthly inspections<br><br>Quarterly ECO reporting<br><br>Annual EMPr Audits<br><br>Quarterly Groundwater Monitoring; | EPRP<br><br>EMPr<br><br>SANS 241 | EP,<br><br>ECO,<br><br>Site Manager | No dates available | All phases to Decommissioning Phase |
| **5. Noise** | | | | | | | | |
| Increased ambient noise levels due to the following activities:<br><br>Movement of vehicles, drilling equipment and | Construction<br><br>Operation<br><br>Decommissioning | Increased ambient noise levels that may have a potential impact on the | 1) Establish, implement and maintain an effective vehicle maintenance system;<br>1) Construction activities should be undertaken | Monthly inspections<br><br>Quarterly ECO reporting | Noise Control Regulations | EP,<br><br>ECO,<br><br>Site Manager | No dates available | All phases to Decommissioning Phase |

| Activity | Phase | Impact | Mitigation Measure | Monitoring | Compliance Standard | Responsibility | Start Date | End Date |
|---|---|---|---|---|---|---|---|---|
| site clearing equipment to the prospecting sites;<br><br>Drilling activities;<br><br>Rehabilitation activities once drilling has been completed. | | wellbeing of surrounding land users and employees. | during weekdays from 6:00 to 18:00; and<br>2) Adequate Personal Protective Equipment ("**PPE**") must be used. | Annual EMPr Audits<br><br>Noise Monitoring<br><br>Compliant Register | | | | |
| **6. Waste** | | | | | | | | |
| Generation of general (non-hazardous) industrial waste materials during the different phases of the prospecting activities. | Construction<br><br>Operation<br><br>Decommissioning | Waste | 1) Provide suitable containers and temporary storage areas, as close to the point of generation as practical possible;<br>2) Implement the waste management hierarchy principles where practical possible;<br>3) Separate waste at source and recycle wherever possible; and<br>4) Ensure unusable waste is disposed of in an environmentally responsible manner at licensed disposal facilities only ("cradle to grave" responsibility). | Annual EMPr Audits;<br><br>ECO Monitoring;<br><br>Safe disposal certificates | Integrated waste and water management plan | EP,<br><br>ECO,<br><br>Site Manager<br><br>Waste removal contractors | No dates available | All phases to Decommissioning Phase |
| **7. Air** | | | | | | | | |
| Movement of vehicles and operation of equipment | Construction<br><br>Operation<br><br>Decommissioning | Dust emissions | 1) Dust suppression mitigation measures, such as wetting of roads and stopping drilling operations during high wind conditions, must be implemented to limit and / or minimise / control airborne dust.<br>2) Ensure that a complaints register is kept at EM's entrance to capture any complaints from surrounding land users.<br>3) The construction activities should be kept to a small footprint. | Monthly inspections<br><br>Quarterly ECO reporting<br><br>Annual EMPr Audits<br><br>Monthly Dust fallout Monitoring<br><br>Compliant Register | Dust Control Regulations | EP,<br><br>ECO,<br><br>Site Manager | No dates available | All phases to Decommissioning Phase |

| Activity | Phase | Impact | Mitigation Measure | Monitoring | Compliance Standard | Responsibility | Start Date | End Date |
|---|---|---|---|---|---|---|---|---|
| | | | 4) Monthly dust monitoring should be implemented on the Proposed Schietfontein and Krelingspost Prospecting Area.<br>5) Adequate PPE must be used. | | | | | |
| **8. Economic (Positive)** | | | | | | | | |
| Employment and skills development due to the Proposed Project. | Construction<br><br>Operation<br><br>Decommissioning | Positive economic benefits | 1) It is recommended that local contractors are used to maximise the opportunities made available to the local labour force.<br>2) Training and skills development programmes should be initiated prior to the commencement of the operational phase.<br>3) Develop a database of local black economic empowerment service providers and ensure that they are informed of economic opportunities. | Monthly inspections<br><br>Quarterly ECO reporting<br><br>Annual EMPr Audits | EMPr<br><br>EP procurement procedure | EP,<br><br>ECO,<br><br>Site Manager | No dates available | All phases to Decommissioning Phase |
| **9. Economic (Negative)** | | | | | | | | |
| Impact on the surrounding landowners and users. Impact includes:<br>• Property damage<br>• Trespassing on private property<br>• Nuisance<br>• Disturbance of day to day activities<br>• Damage to private roads | Construction<br><br>Operation<br><br>Decommissioning | Negative social impacts | 2) Prospecting activities must only be undertaken during weekdays from 6:00 to 18:00.<br>3) Damage caused as a result of prospecting activities must be repaired to the satisfaction of the landowner.<br>4) Final prospecting site locations must be agreed upon with the landowner and tenants. | Monthly inspections<br><br>Quarterly ECO reporting<br><br>Annual EMPr Audits<br><br>Complaints register | EMPr<br><br>EP procurement procedure | EP,<br><br>ECO,<br><br>Site Manager | No dates available | All phases to Decommissioning Phase |
| **10. Heritage** | | | | | | | | |
| Discovery of heritage resources. | Construction<br><br>Operation<br><br>Decommissioning | Heritage resources | 1) On discovery of heritage resources the operations must be stopped. Do not further disturb the area before the below is undertaken.<br>2) Notify the ECO. The ECO | Monthly inspections<br><br>Quarterly ECO reporting | EMPr<br><br>SAHRA | EP,<br><br>ECO,<br><br>Site Manager | No dates available | All phases to Decommissioning Phase |

| Activity | Phase | Impact | Mitigation Measure | Monitoring | Compliance Standard | Responsibility | Start Date | End Date |
|---|---|---|---|---|---|---|---|---|
| | | | must arrange an assessment of the resource. If confirmed significant, the ECO must liaise with National, Cultural and History Museum.<br>P.O. Box 28088<br>SUNNYSIDE<br>0132<br>3) Work must only recommence when cleared by ECO. | Annual EMPr Audits | | | | |

# 13. FINANCIAL PROVISION

State the amount that is required to both manage and rehabilitate the environment in respect of rehabilitation.

The financial provision has been provided for in the PWP. R8 463 000 has been provided for the Proposed Project, which includes rehabilitation and managing the environmental impact.

### 13.1 Explain how the aforesaid amount was derived.

The amounts required for the rehabilitation was derived from the GNR 1147 NEMA Regulation for Financial Provision for Prospecting, Exploration, Mining or Production Operations. The provision was determined by acquiring market related rates for the rehabilitation and closure of the prospecting sites.

### 13.2 Confirm that this amount can be provided for from operating expenditure.

The applicant has confirmed that the finances are available

# 14. ENVIRONMENTAL AWARENESS

EP has a prerequisite site induction that all employees and contractors must undertake before entering the EM Surface Area or working on prospecting areas. The site induction provides information on the hazards, areas of concern and procedure to follow in emergency situations. This site induction will also be used for purposes of the Proposed Project.

Contractors and employees must annually retake the site induction. The site induction includes:

- Explanation of the importance of complying with the legal approvals and management plans.
- Discussion of the potential environmental impacts of activities.
- Employees' roles and responsibilities, including emergency preparedness.

- Explanation of the mitigation measures that must be implemented when carrying out their activities.
- Contractors shall keep records of all environmental training sessions, including names and dates.
- Notwithstanding the specific provisions of this particular section it is incumbent upon the Contractor to convey the sentiments of the EMPr to all personnel involved with the works.

The EPRP in Appendix 1 contains information on what procedures and processes to follow in emergency situations.

## 15. EMERGENCY AND RISK MANAGEMENT

EM has developed an EPRP as part of its mining and processing operations. The EPRP is attached under appendix 1 of the EMPr. The method statement and process to follow in emergency situations (i.e. fire, spillages, etc.) is detailed in the EPRP. Employees and contractors must familiarise themselves with the conditions of the EPRP for the Proposed Project.

# Appendix 1