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# ENVIRONMENTAL IMPACT ASSESSMENT REPORT & ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT FOR:

THE PROPOSED PROSPECTING RIGHT COMBINED WITH A WASTE LICENCE APPLICATION TO PROSPECT FOR CHROME ORE (CR), LG & MG SEAMS TOGETHER WITH PLATINUM GROUP METALS (PGM) NEAR RUSTENBURG ON A CERTAIN PORTION OF THE REMAINING EXTENT, A CERTAIN PORTION OF PORTION 1 & A CERTAIN PORTION OF PORTION 2 OF THE FARM UITVALGROND 105, REGISTRATION DIVISION JQ, NORTH WEST PROVINCE.

|                   |  |
|-------------------|--|
| NAME OF APPLICANT | Acacia Resources (Pty) Ltd             |
| PREPARED BY       | Milnex CC                              |
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### **PROJECT INFORMATION**

**Project Name:** Application for an Environmental Authorisation for the Prospecting Right combined with a Waste Licence application to prospect for Chrome Ore (Cr), LG & MG Seams together with Platinum Group Metals (PGM), near Rustenburg on a certain portion of The Remaining Extent, a certain portion of Portion 1 & a certain portion of Portion 2 of the Farm Uitvalgrond 105, Registration Division JQ, North West Province. The property is located approximately 18km North West of Rustenburg.

**Report Title:** EIR & EMP

**Prepared By:** Milnex CC

**Date:** January 2023

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### **QUALITY CONTROL:**

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|              | <b>Report Author:</b>   | <b>Report Reviewer:</b> |
|--------------|---|-------------------------|
| <b>Name:</b> | Christiaan Baron<br>Master's Degree in Environmental<br>Management<br>Registered EAP (EAPASA)<br><b>Reg No: 2020/2639</b> | N/A                     |

**Signature:**

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### **The DEA screening tool was used in compiling this document**

The Public Participation Process (PPP) must follow Regulation 41 of NEMA EIA Regulations; thus, the process needs to be transparent. However, due to the Protection of Personal Information Act (POPI Act) which commenced on 01 July 2021, Stakeholders, Landowners, surrounding landowners and registered I&AP' addresses, contact details and comments will not be included in any draft report to be circulated. All this information will form part of the final report to be submitted to the Competent Authority only.

Should you be identified as a Stakeholder, Landowner, Surrounding landowner and you do not wish to receive any further communicate from Milnex CC regarding the application in question, you may request in writing that your details be removed from the Milnex CC database for this application.

**PLEASE NOTE THAT THE ACACIA RESOURCES FOR THE PURPOSE OF THIS APPLICATION WILL NOW ONLY MAKE USE OF 40 BOREHOLES IN EXCESS OF 70M), 1 PIT (10m x 4m x 2.5m) & 1 TRENCH (40m x 20m x 5m). IT HAS BEEN AMENDED THROUGHOUT THE REPORT.**

## IMPORTANT NOTICE

In terms of the Mineral and Petroleum Resources Development Act (Act 28 of 2002 as amended), the Minister must grant a prospecting or mining right if among others the mining “will not result in unacceptable pollution, ecological degradation or damage to the environment”.

Unless an Environmental Authorisation can be granted following the evaluation of an Environmental Impact Assessment and an Environmental Management Programme report in terms of the National Environmental Management Act (Act 107 of 1998) (NEMA), it cannot be concluded that the said activities will not result in unacceptable pollution, ecological degradation or damage to the environment.

In terms of section 16(3)(b) of the EIA Regulations, 2014, any report submitted as part of an application must be prepared in a format that may be determined by the Competent Authority and in terms of section 17 (1) (c) the competent Authority must check whether the application has taken into account any minimum requirements applicable or instructions or guidance provided by the competent authority to the submission of applications.

**It is therefore an instruction that** the prescribed reports required in respect of applications for an environmental authorisation for listed activities triggered by an application for a right or permit are submitted in the exact format of, and provide all the information required in terms of, this template. Furthermore please be advised that failure to submit the information required in the format provided in this template will be regarded as a failure to meet the requirements of the Regulation and will lead to the Environmental Authorisation being refused.

**It is furthermore an instruction that** the Environmental Assessment Practitioner must process and interpret his/her research and analysis and use the findings thereof to compile the information required herein. (Unprocessed supporting information may be attached as appendices). The EAP must ensure that the information required is placed correctly in the relevant sections of the Report, in the order, and under the provided headings as set out below, and ensure that the report is not cluttered with un-interpreted information and that it unambiguously represents the interpretation of the applicant.

## ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

- (1) The environmental impact assessment process must be undertaken in line with the approved plan of study for environmental impact assessment.
- (2) The environmental impacts, mitigation and closure outcomes as well as the residual risks of the proposed activity must be set out in the environmental impact assessment report.

## OBJECTIVE OF THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

2. The objective of the environmental impact assessment process is to, through a consultative process-
  - (a) determine the policy and legislative context within which the activity is located and document how the proposed activity complies with and responds to the policy and legislative context;
  - (b) describe the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the preferred location;
  - (c) identify the location of the development footprint within the preferred site based on an impact and risk assessment process inclusive of cumulative impacts and a ranking process of all the identified development footprint alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects of the environment;
  - (d) determine the--
    - (i) nature, significance, consequence, extent, duration and probability of the impacts occurring to inform identified preferred alternatives; and
    - (ii) degree to which these impacts-
      - (aa) can be reversed;
      - (bb) may cause irreplaceable loss of resources, and
      - (cc) can be avoided, managed or mitigated;
  - (e) identify the most ideal location for the activity within the preferred site based on the lowest level of environmental sensitivity identified during the assessment;
  - (f) identify, assess, and rank the impacts the activity will impose on the preferred location through the life of the activity;
  - (g) identify suitable measures to avoid, manage or mitigate identified impacts; and
  - (h) identify residual risks that need to be managed and monitored.

## SCOPE OF ASSESSMENT AND CONTENT OF ENVIRONMENTAL IMPACT ASSESSMENT REPORTS

### A. CONTACT PERSON AND CORRESPONDENCE ADDRESS

#### a) Details of:

- i) The EAP who prepared the report
- ii) Expertise of the EAP

| Name of Practitioner | Qualifications   | Contact details   |
|----------------------|--|---|
| Christiaan Baron     | Master's Degree in Environmental Management (refer to Appendix 1)<br>Registered EAP (EAPASA)<br><b>Reg No: 2020/2639</b> | Tel No.: (018) 011 1925<br>Fax No. : (053) 963 2009<br>e-mail address: <a href="mailto:christiaan@milnex-sa.co.za">christiaan@milnex-sa.co.za</a> |

| Contact details of Milnex CC | Qualifications  | Contact details   |
|------------------------------|---|---|
| Lizanne Esterhuizen          | Honours Degree in Environmental Science (refer to <b>Appendix 1</b> ) | Tel No.: (018) 011 1925<br>Fax No. : (053) 963 2009<br>e-mail address: <a href="mailto:lizanne@milnex-sa.co.za">lizanne@milnex-sa.co.za</a>           |
| Andile Nxumalo               | Honours Degree in Environmental Science (refer to Appendix 1)         | Tel No.: (018) 011 1925<br>Fax No. : (053) 963 2009<br>e-mail address: <a href="mailto:andile.grant@milnex-sa.co.za">andile.grant@milnex-sa.co.za</a> |

#### Summary of the EAP's past experience. (Attach the EAP's curriculum vitae as **Appendix 2**)

Milnex CC was contracted by **Acacia Resources (Pty) Ltd** as the independent environmental consultant to undertake the Scoping and EIA process for a Prospecting Right combined with a Waste Licence application to prospect for Chrome Ore (Cr), LG & MG Seams together with Platinum Group Metals (PGM), near Rustenburg on a certain portion of The Remaining Extent, a certain portion of Portion 1 & a certain portion of Portion 2 of the Farm Uitvalgrond 105, Registration Division JQ, North West Province. The property is located approximately 18km North West of Rustenburg. Milnex CC does not have any interest in secondary developments that may arise out of the authorisation of the proposed project.

Milnex CC does not have any interest in secondary developments that may arise out of the authorisation of the proposed project.

Milnex CC is a specialist environmental consultancy with extensive experience in the mining industry which provides a holistic environmental management service, including environmental assessment and planning to ensure compliance with relevant environmental legislation. Milnex CC benefits from the pooled resources, diverse skills and experience in the environmental and mining field held by its team that has been actively involved in undertaking environmental studies for a wide variety of mining related projects throughout South Africa. The Milnex CC team has considerable experience in environmental impact assessment and environmental management, especially in the mining industry.

Milnex CC have extensive consulting experience in the environmental field. Their key focus is on environmental assessment, advice and management and ensuring compliance to legislation and guidelines. They are currently involved in undertaking EIAs for several projects across the country (refer to **Appendix 2** for CV).

## B. DESCRIPTION OF THE PROPERTY

|   |  |
|---|--|
| <b>Farm Name:</b>   | <p>1. A certain portion of the remaining extent of the farm Uitvalgrond 105<br/>Registration Division: JQ<br/>Title deed: T123395/2001<br/>Province: North-West</p> <p>2. A certain portion of portion 1 of the farm Uitvalgrond 105<br/>Registration Division: JQ<br/>Title Deed: T108393/2008<br/>Province: North-West</p> <p>3. A certain portion of portion 2 of the farm Uitvalgrond 105<br/>Registration Division: JQ<br/>Title Deed: T233/1984BP<br/>Province: North-West</p> |
| <b>Application area (Ha)</b>                                | 421.368661 hectares  |
| <b>Magisterial district:</b>                                | Bojanala District Municipality<br>Rustenburg Local Municipality  |
| <b>Registration division:</b>                               | JQ   |
| <b>Distance and direction from nearest town</b>             | The property is located approximately 18km North West of Rustenburg.   |
| <b>21 digit Surveyor General Code for each farm portion</b> | <p>1. TOJQ0000000001050000</p> <p>2. TOJQ0000000001050001</p> <p>3. TOJQ0000000001050002</p>   |
| <b>Minerals applied for</b>                                 | <p>Chrome ore (Cr)</p> <p>LG &amp; MG Seams</p> <p>Platinum Group Metals (PGM)</p>   |

### iii. Farm co-ordinates

| Farms   |   | Longitude         | Latitude          |
|---|---|-------------------|-------------------|
| A certain portion of the remaining extent of the farm Uitvalgrond 105 | 0 | 25° 28' 48,032" S | 27° 08' 15,297" E |
|   | 1 | 25° 27' 56,361" S | 27° 09' 37,902" E |
| A certain portion of Portion 1 of the farm Uitvalgrond 105            | 2 | 25° 28' 56,877" S | 27° 09' 15,402" E |
| A certain portion of Portion 2 of the farm Uitvalgrond 105            | 3 | 25° 30' 58,579" S | 27° 09' 10,532" E |
|   | 4 | 25° 29' 54,606" S | 27° 08' 52,848" E |
|   | 5 | 25° 29' 33,004" S | 27° 08' 44,215" E |

## C. LOCALITY MAP

(show nearest town, scale not smaller than 1:250000 attached as **Appendix 3**).

A Locality map is attached in **Appendix 3** and on figure 1 below.



**EIA592PR: LOCALITY MAP**

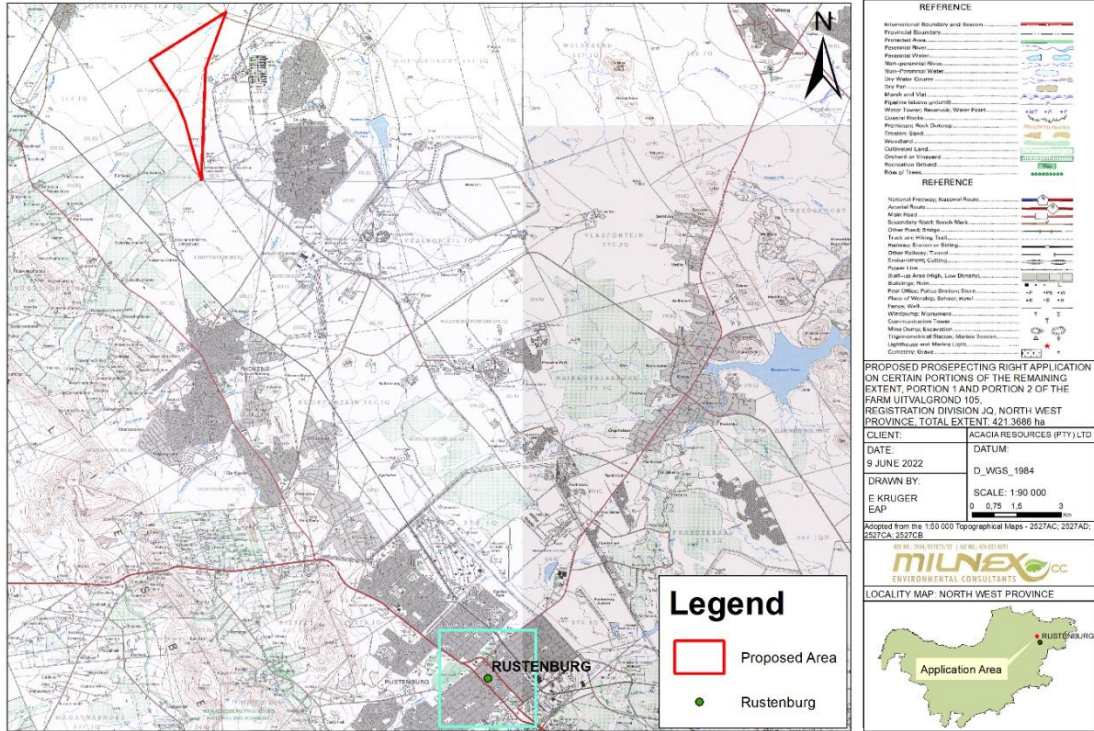


Figure 1: Locality Map of the proposed area

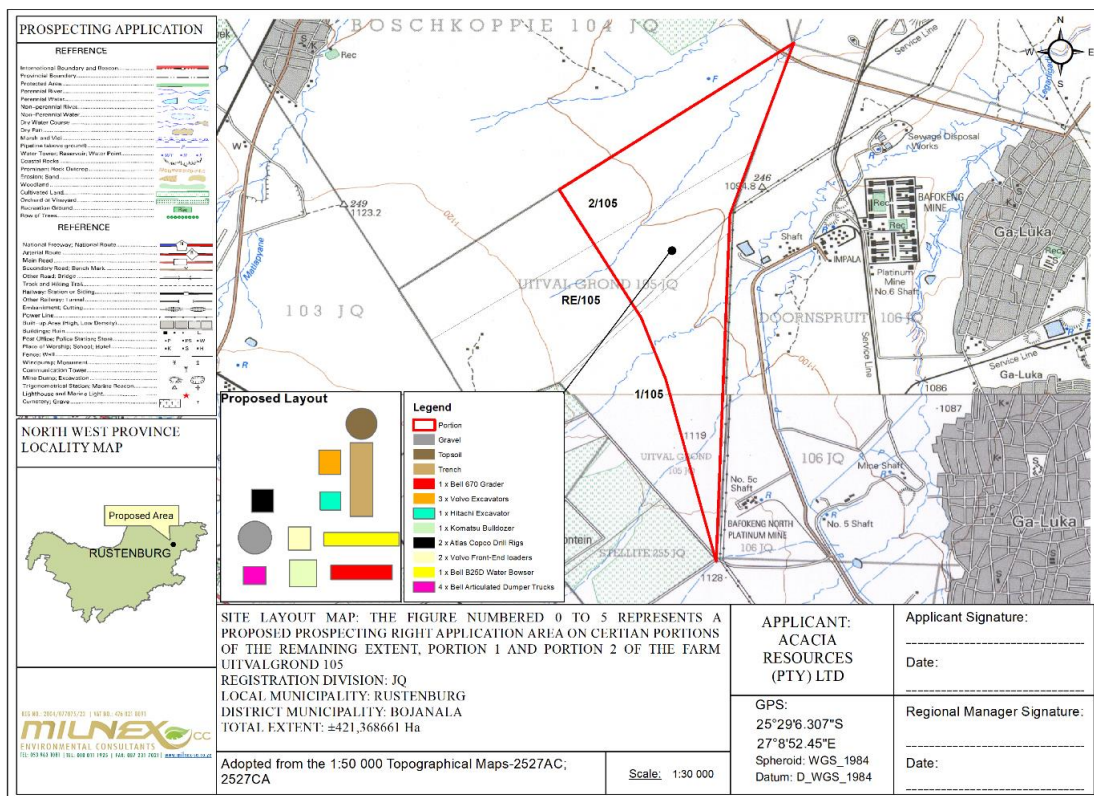


Figure 2: Site Plan

**D. DESCRIPTION OF THE SCOPE OF THE PROPOSED OVERALL ACTIVITY.**

**i) LISTED AND SPECIFIED ACTIVITIES**

|  |   |
|--|---|
| <p><b>Description of the overall activity. (Indicate Mining Right, Mining Permit, Prospecting right, Bulk Sampling, Production Right, Exploration Right, Reconnaissance permit, Technical co-operation permit, Additional listed activity)</b></p> | <ol style="list-style-type: none"> <li>1. <b>Listing Notice 1: GNR 327, Activity 19:</b> <i>The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse;</i></li> <li>2. <b>Listing Notice 1, GNR 327, Activity 20 (Amended GNR 517: 2021):</b> <i>“Any activity including the operation of that activity which requires a prospecting right in terms of section 16 of the Mineral and Petroleum Resources Development Act, as well as any other applicable activity as contained in this Listing Notice or in Listing Notice 3 of 2014, required to exercise the prospecting right”</i></li> <li>3. <b>Listing Notice 1, GNR 327, Activity 24:</b> <i>“The development of a road – with a reserve wider than 13,5 meters, or where no reserve exists where the road is wider than 8 metres”</i></li> <li>4. <b>Listing Notice 1, GNR 327, Activity 27:</b> <i>“The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation.”</i></li> <li>5. <b>Listing Notice 2, GNR 325, Activity 19 (As Amended GNR 517: 2021):</b> <i>“The removal and disposal of minerals which requires permission contemplated in terms of section 20 of the Mineral and Petroleum Resources Development Act, as well as any other applicable activity as contained in this Listing Notice, Listing Notice 1 of 2014 or in Listing Notice 3 of 2014, required to exercise the permission.</i></li> <li>6. <b>Listing Notice 3 GNR 324, Activity 12(h) (iv):</b> <i>The clearance of an area of 300 square metres or more of indigenous vegetation (h) North West (vi) Areas within a watercourse or wetland, or within 100 metres from the edge of a watercourse or wetland.</i></li> </ol> <p>NEM:WA 59 of 2008:</p> <ol style="list-style-type: none"> <li>7. <b>Residue stockpiles or residue deposits, Category A: (15)</b> <i>The establishment or reclamation of a residue stockpile or residue deposit resulting from activities which require a prospecting right or mining permit, in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002).</i></li> </ol> <p>Prospecting right with bulk samples for the prospecting of Chrome ore (Cr): LG &amp; MG Seams and Platinum Group Metals (PGM) including associated infrastructure, structure and earthworks.</p> |
|--|---|

| <b>NAME OF ACTIVITY</b><br>(E.g. For prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route etc...etc...etc<br>E.g. for mining,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)   | <b>Aerial extent of the Activity</b><br>Ha or m <sup>2</sup>  | <b>LISTED ACTIVITY</b><br>(Mark with an X where applicable or affected). | <b>APPLICABLE LISTING NOTICE</b><br>(GNR 324, GNR 325 or GNR 326) |
|---|---|--|---|
| <b>Prospecting Right:</b><br><br><b>BULK SAMPLING:</b><br>421,368661 Ha – 40 boreholes (depth in excess of 70m), 1 pit (10m x 4m x 2.5m), 1 trench (40m x 20m x 5m).<br><br><b>Listing Notice 1: GNR 327, Activity 19:</b> <i>The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse;</i>   | Extent of the proposed portions is 421,368661 Ha<br><br>Concurrent backfilling will take place in order to rehabilitate.  | X  | Listing Notice 1: GNR 327, Activity 19                            |
| <b>Prospecting Right:</b><br><br><b>BULK SAMPLING:</b><br>421,368661 Ha – 40 boreholes (depth in excess of 70m), 1 pit (10m x 4m x 2.5m), 1 trench (40m x 20m x 5m).<br><br><b>Listing Notice 1, GNR 327, Activity 20 (Amended GNR 517: 2021):</b> <i>“Any activity including the operation of that activity which requires a prospecting right in terms of section 16 of the Mineral and Petroleum Resources Development Act, as well as any other applicable activity as contained in this Listing Notice or in Listing Notice 3 of 2014, required to exercise the prospecting right”</i> | Extent of the proposed portions are 421,368661 Ha<br><br>Concurrent backfilling will take place in order to rehabilitate. | X  | Listing Notice 1, GNR 327, Activity 20                            |
| <b>Clearance of indigenous vegetation:</b><br><br><b>BULK SAMPLING:</b><br>421,368661 Ha – 40 boreholes (depth in excess of 70m), 1 pit (10m x 4m x 2.5m), 1 trench (40m x 20m x 5m).<br><br><b>Listing Notice 1, GNR 327, Activity 24:</b> <i>“The development of a road – with a reserve wider than 13,5 meters, or where no reserve exists where the road is wider than 8 metres”</i>  | Extent of the proposed portions are 421,368661 Ha<br><br>Concurrent backfilling will take place in order to rehabilitate. | X  | Listing Notice 1, GNR 327, Activity 24                            |

|   |  |          |   |
|---|--|----------|---|
| <p><b>Clearance of indigenous vegetation:</b></p> <p><b>BULK SAMPLING:</b><br/>421,368661 Ha – 40 boreholes (depth in excess of 70m), 1 pit (10m x 4m x 2.5m), 1 trench (40m x 20m x 5m).</p> <p><b>Listing Notice 1, GNR 327, Activity 27:</b> <i>"The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation."</i></p>  | <p>Extent of the proposed portions are 421,368661 Ha</p> <p>Concurrent backfilling will take place in order to rehabilitate.</p> | <p>X</p> | <p>Listing Notice 1, GNR 327, Activity 27</p>   |
| <p><b>Prospecting:</b></p> <p><b>BULK SAMPLING:</b><br/>421,368661 Ha – 40 boreholes (depth in excess of 70m), 1 pit (10m x 4m x 2.5m), 1 trench (40m x 20m x 5m).</p> <p><b>Listing Notice 2, GNR 325, Activity 19 (As Amended GNR 517: 2021):</b> <i>"The removal and disposal of minerals which requires permission contemplated in terms of section 20 of the Mineral and Petroleum Resources Development Act, as well as any other applicable activity as contained in this Listing Notice, Listing Notice 1 of 2014 or in Listing Notice 3 of 2014, required to exercise the permission."</i></p> | <p>Extent of the proposed portions are 421,368661 Ha</p> <p>Concurrent backfilling will take place in order to rehabilitate.</p> | <p>X</p> | <p>Listing Notice 2, GNR 325, Activity 19:</p>  |
| <p><b>Clearance of indigenous vegetation:</b></p> <p><b>BULK SAMPLING:</b><br/>421,368661 Ha – 40 boreholes (depth in excess of 70m), 1 pit (10m x 4m x 2.5m), 1 trench (40m x 20m x 5m).</p> <p><b>Listing Notice 3 GNR 324, Activity 12(h) (iv):</b> The clearance of an area of 300 square metres or more of indigenous vegetation (h) North West (vi) Areas within a watercourse or wetland, or within 100 metres from the edge of a watercourse or wetland.</p>  | <p>Extent of the proposed portions are 421,368661 Ha</p> <p>Concurrent backfilling will take place in order to rehabilitate.</p> | <p>X</p> | <p>Listing Notice 3 GNR 324, Activity 12(h)</p> |
| <p><b>NEM:WA 59 of 2008: Residue stockpiles or residue deposits, Category A: (15):</b> The establishment or reclamation of a residue stockpile or residue deposit resulting from activities which require a prospecting right or mining permit, in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002).</p>   |  |          | <p>NEM:WA 59 of 2008 Category A: (15)</p>       |

## ii) **DESCRIPTION OF THE ASSOCIATED STRUCTURES AND INFRASTRUCTURE RELATED TO THE DEVELOPMENT**

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

### **DESCRIPTION OF PLANNED NON-INVASIVE ACTIVITIES:**

(These activities do not disturb the land where prospecting will take place e.g. aerial photography, desktop studies, aeromagnetic surveys, etc)

#### **Pre-Feasibility Study and Evaluation:**

Geological field mapping and computer modelling of all available data. The overall geology of the area will be analyzed and interpreted using satellite imagery, aerial photographs and available literature on existing geological features to better understand the mineral deposit.

#### **Field Mapping:**

Mapping will be done to identify special geological features. Rock units or geologic strata are usually shown in color or symbols to indicate where they are exposed at the surface. Bedding planes and structural features such as faults, folds, foliations, and lineation will be shown with strike and dip or trend and plunge symbols which give these features three-dimensional orientations. Geological modelling will follow immediately after mapping to create computerized representations of the geophysical and geological observations made on and below the surface. Further field mapping will be undertaken to plan the 35 drill boreholes.

#### **Geophysical Survey Programme**

A gravimetric survey will be undertaken over certain areas only where drilling indicated economical mineral layers and warrants areal determination.

#### **Data Gathering and Evaluation**

From existing geological information, geophysical and topographical data, a geological base map will be produced and used as a basis for the exploration programme. Additional detailed geological field mapping will be conducted in order to finalize the borehole drilling programmes.

#### **Market research and Mining Right Application**

Agreements will be searched to market the mineral resources of the indicated economical viable mineral resource, required for a Mining Right Application.

### **DESCRIPTION OF PLANNED INVASIVE ACTIVITIES:**

(These activities result in land disturbances e.g. sampling, drilling, bulk sampling, etc)

#### **Phased drill boreholes Programme**

A programme of at least 40 drill borehole are planned to evaluate the mining potential of the LG & MG chromite seam. The drilling will consist of BQ core, comprising a minimum of 4000 metres of drilling. This phase of drilling will determine the continuity, competency, thickness and grades of the LG seam at depths in excess of 70m below surface.

The Cores will be tested for Cr minerals. All boreholes drilled will be rehabilitated by replacing unused cores back in the hole and replacing the soft overburden in the top 2m of each hole. The drilling sump will also be closed and any other materials removed from the drill site. If the quality and density of the minerals warrants further investigation, full oxide analysis will be undertaken.

#### Drilling calculations

It is planned that 100 pits will be dug (it may be less depending on the results) at an extent of 4m (length) x 3m (breadth) x 4m (depth).

- 40 boreholes / 2 years = 20 holes per year
- Total area to be disturbed per year = 20 holes x (2m x 2m) / 10 000 = 0.008 Ha disturbed per year
- Total area disturbed for 24 months = 40 holes x (2m x 2m) / 10 000 = **0.016 Ha disturbance for the whole drilling programme**

**Pitting, Trenching and Bulk Sampling**

Bulk sampling will include the excavation of 1 pit and 1 trench. The dimensions of the pit will be 10 m x 4m x 2.5 m deep. Dimensions of the trench will be 40m x 20m x 5m deep. The floor area will be wide enough to allow access for a front-end loader/excavator to collect sample material.

Pitting calculations

It is planned that 1 pits will be dug (it may be less depending on the results) at an extent of 10m (length) x 4m (breath) x 5m (depth).

- 1 pit / 1 year = 1 pit
- Total area to be disturbed = 1 pit x (10m x 4m) / 10 000 = **0.004 Ha disturbed**

Trench calculations

It is planned that 1 trench will be dug (it may be less depending on the results) at an extent of 40m (length) x 20m (breath) x 5m (depth).

- 1 trench / 1 year = 1 trench
- Total area to be disturbed = 1 trench x (40m x 20m) / 10 000 = **0.08 Ha Disturbance**

Total disturbance:

| Invasive technique | Disturbance         |
|--------------------|---------------------|
| Drilling           | 0.016 Hectares      |
| Pitting            | 0.004 Hectares      |
| Trenching          | 0.08 Hectares       |
| <b>Total</b>       | <b>0.1 Hectares</b> |

**Prospecting activities and phases**

Please find the Prospecting Work Programme attached as **Appendix 9**.

**Water uses:**

Minimal water will be used during the mining operation.

The following options will be used by the applicant:

- A water will be sourced from the municipality and trucked in. This water will be used to water down haul roads for dust control. Water consumption for the mining operation will be low (for dust suppression purposes).
- Seepage water from the mining cuts may be used for dust suppression
- The use of underground water will also be investigated by drilling boreholes and if requires a general authorisation (GA) or Water Use Licence will be lodged.

**Dust suppression**

It was the intention of the applicant to implement dust management on site to determine if unacceptable levels of dust fallout occur. Monitoring compliance with the requirements of the National Dust Control Regulations for an activity, in terms of nuisance or disturbance.

The National Framework for Air Quality Management in the Republic of South Africa (the National Framework), as published under Government Notice No. 1144 of 26 October 2018, underpins NEM:AQA by providing national norms and standards for air quality management to ensure compliance with legislation. The National Framework serves as the country's AQMP.

Section 32 of the NEM:AQA makes provision for the Minister or the MEC to prescribe measures for the control of dust in specific places or areas, or by specified machinery or in specific instances. While dust generally does not pose a health risk, it may be regarded as a nuisance. It is the responsibility of the owner of the dust generating activity to take reasonable measures to limit the nuisance factor.

With respect to this, the Minister has published in the gazette the regulations for the control of dust in 2013 (Notice 827, Government Gazette No. 36974). These regulations provide requirements for measures for the control of dust, which includes the requirements for monitoring, dust management plan development and implementation and reporting.

### Section 3. Dustfall standard

**Table 1. Acceptable dust fall rates**

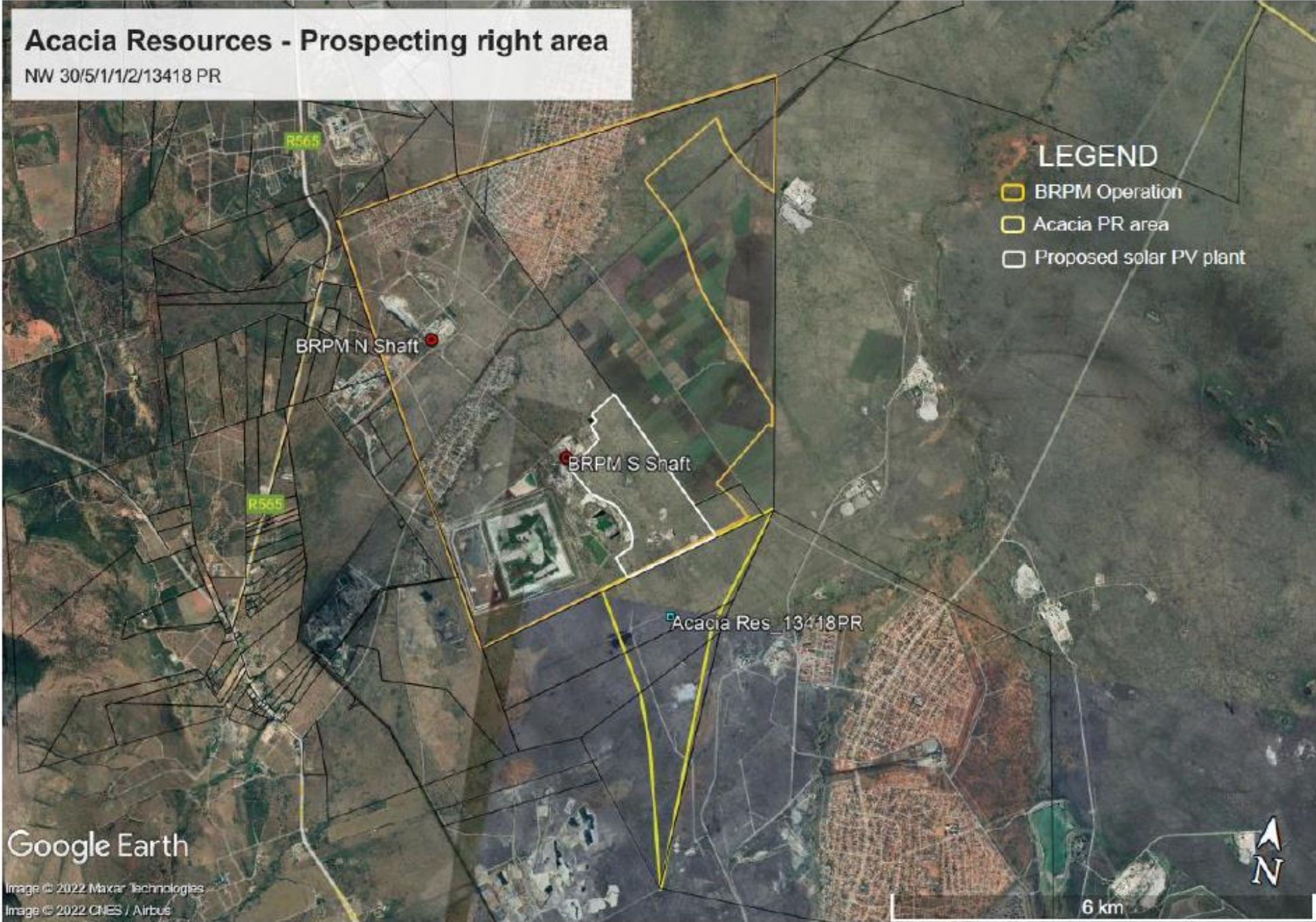
| Restriction Areas    | Dustfall rate (D) (mg/m <sup>2</sup> /day, 30-day average) | Permitted frequency of exceeding dust fall rates |
|----------------------|--|--|
| Residential Area     | D < 600  | Two within a year, not sequential months         |
| Non-residential Area | 600 < D < 1200   | Two within a year, not sequential months         |

Cognisance must be taken with regards to the feasibility study that is underway to determine feasibility of a Solar PV plant within the boundaries of Portion 1 of the farm Boschkopie 104 JQ, which borders to the north of the application area. It must be noted that Milnex CC has registered as I&AP with Gibb Environmental, however no correspondence from Gibb Environmental has been received to date.

As this application is currently in an advanced stage, and that the 106 days assessment will start after submitting the Final EIR and EMP'r, it is highly likely that this project might commence before the proposed solar plant to the north, as such Bafokeng Rasimone Platinum Mine (BRPM) should take note of this prospecting right, should it be granted.

Please refer to the map below provided by Royal Bafokeng Platinum Limited (RBPlat), indicating where the proposed solar PV plant is located in relation to the application area.

Milnex CC: EIA592 –EIR & EMP: The Prospecting Right combined with a Waste Licence application to prospect for Chrome Ore (Cr), LG & MG Seams together with Platinum Group Metals (PGM), near Rustenburg on a certain portion of The Remaining Extent, a certain portion of Portion 1 & a certain portion of Portion 2 of the Farm Uitvalgrond 105, Registration Division JQ, North West Province. The property is located approximately 18km North West of Rustenburg.





### Ablution

Chemical toilets shall be used, no french drains and pits shall be permitted.

### Storage of dangerous goods

During mining activities, limited quantities of diesel and fuel, oil and lubricants if any will be stored on site. These goods should be placed in a bunded area one and a half times the volume of the total amount of goods to be stored.

Types of lubricants should be dependent on the machines used, this will include diesel, fuel and oil. It should be noted that no more than 80 000 cubes metres of diesel may be stored on site.

### Prospecting activities and phases

Please find the Prospecting Work Programme attached as **Appendix 9**.

## **E. POLICY AND LEGISLATIVE CONTEXT**

(a description of the policy and legislative context within which the development is located and an explanation of how the proposed development complies with and responds to the legislation and policy context;)

| <b>TITLE OF LEGISLATION, POLICY OR GUIDELINE:</b>                             | <b>ADMINISTERING AUTHORITY:</b>                  | <b>PROMULGATION DATE:</b> |
|---|--|---------------------------|
| National Environmental Management Act No. 107 of 1998 as amended.             | Department of Environmental Affairs              | 27 November 1998          |
| Constitution of South Africa Act 108 of 1996                                  | National   | 18 December 1996          |
| The National Heritage Resources Act (Act No. 25 of 1999)                      | SAHRA  | 1999                      |
| Mineral and Petroleum Resources Development Act (Act No. 28 of 2002)          | Department of Mineral Resources & Energy (DMRE)  | 2002                      |
| National Infrastructure Plan  | National   |                           |
| National Environmental Management: Biodiversity Act No. 10 of 2004            | Department of Environmental Affairs              | 7 June 2004               |
| National Environmental Management Waste Act, 2008 (Act No. 59 of 2008)        | National & Provincial                            | 1 July 2009               |
| EIA regulations under NEMA  | Department of Environmental Affairs              | 14 December 2014          |
| Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983)         | Department of Agriculture Forestry and Fisheries | 1 June 1984               |
| National Environmental Management Air Quality Act, 2004 (Act No. 39 of 2004). | National and Provincial                          | 11 September 2004         |
| National Water Act, 1998 (Act No. 36 of 1998).                                | National   | 20 August 1998            |
| North West Province Growth and Development Strategy                           | Provincial                                       | 11 August 2013            |

|  |           |                  |
|--|-----------|------------------|
| Bojanala District Municipality Integrated Development Plan (IDP) | Municipal |                  |
| Rustenburg Local Municipality Integrated Development Plan (IDP)  | Municipal |                  |
| National Forest Act (Act 84 of 1998) (NFA)                       | National  | 30 October 1998  |
| National Veld & Forest Fires Act (Act 101 of 1998)               | National  | 27 November 1998 |

## Policy and Legislative Context

| <b>APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT</b><br>(a description of the policy and legislative context within which the development is proposed including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process) | <b>REFERENCE WHERE APPLIED</b>   | <b>HOW DOES THIS DEVELOPMENT COMPLY WITH AND RESPOND TO THE LEGISLATION AND POLICY CONTEXT.</b><br><br>(E.g. In terms of the National Water Act a Water Use License has/ has not been applied for)  |
|---|----------------------------------|---|
| <b>The Constitution of South Africa (Act No. 108 of 1996)</b>   |                                  | The Constitution is the supreme law of the Republic and all law and conduct must be consistent with the Constitution. The Chapter on the Bill of Rights contains a number of provisions, which are relevant to securing the protection of the environment. Section 24 states that “everyone has the right to (a) an environment that is not harmful to their health or well-being and (b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that – (i) prevent pollution and ecological degradation; (ii) promote conservation; and (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development. The Constitution therefore, compels government to give effect to the people’s environmental right and places government under a legal duty to act as a responsible custodian of the countries environment. It compels government to pass legislation and use other measures to protect the environment, to prevent pollution and ecological degradation, promote conservation and secure sustainable development. |
| <b>The National Environmental Management Act (Act No. 107 of 1998)</b>  | S24(1) of NEMA<br>S28(1) of NEMA | NEMA provides for co-operative governance by establishing principles and procedures for decision-makers on matters affecting the environment. An important function of the Act is to serve as an enabling Act for the promulgation of legislation to effectively address integrated environmental management. Some of the principles in the Act are accountability; affordability; cradle to grave management; equity; integration; open information; polluter pays; subsidiary; waste avoidance and minimisation; co-operative governance; sustainable development; and environmental protection and justice.<br><br>The mandate for EIA lays with the National Environmental Management Act (107 of 1998) and the EIA Regulations No. 982, 983, 984, and 985 promulgated in terms of Section 24 of NEMA. The EIA Regulations determine that an Environmental Authorisation is required for certain listed activities, which might have a detrimental effect on the environment. This EIA was triggered by activity 21, 24(ii) and 27 listed in Regulation R983, which requires a ‘basic assessment process.’  |

|  |            |  |
|--|------------|--|
| <p><b>The National Water Act (Act No. 36 of 1998)</b></p>              | <p>S21</p> | <p>Sustainability and equity are identified as central guiding principles in the protection, use, development, conservation, management and control of water resources. The intention of the Act is to promote the equitable access to water and the sustainable use of water, redress past racial and gender discrimination, and facilitate economic and social development. The Act provides the rights of access to basic water supply and sanitation, and environmentally, it provides for the protection of aquatic and associated ecosystems, the reduction and prevention of pollution and degradation of water resources.</p> <p>As this Act is founded on the principle that National Government has overall responsibility for and authority over water resource management, including the equitable allocation and beneficial use of water in the public interest, a person can only be entitled to use water if the use is permissible under the Act. Chapter 4 of the Act lays the basis for regulating water use.</p>              |
| <p><b>Management: Air Quality Act (Act No. 39 of 2004)</b></p>         | <p>S21</p> | <p>The object of this Act is to protect the environment by providing reasonable measures for the protection and enhancement of the quality of air in the Republic; the prevention of air pollution and ecological degradation; and securing ecologically sustainable development while promoting justifiable economic and social development.</p> <p>Regulations No. R248 (of 31 March 2010) promulgated in terms of Section 21(1) (a) of the National Environmental Management Act: Air Quality Act (39 of 2004) determine that an Atmospheric Emission License (AEL) is required for certain listed activities, which result in atmospheric emissions which have or may have a detrimental effect on the environment. The Regulation also sets out the minimum emission standards for the listed activities. It is not envisaged that an Atmospheric Emission License will be required for the proposed development.</p>   |
| <p><b>The National Heritage Resources Act (Act No. 25 of 1999)</b></p> |            | <p>The Act aims to introduce an integrated and interactive system for the management of the heritage resources, to promote good government at all levels, and empower civil society to nurture and conserve heritage resources so that they may be bequeathed to future generations and to lay down principles for governing heritage resources management throughout the Republic. It also aims to establish the South African Heritage Resources Agency together with its Council to co-ordinate and promote the management of heritage resources, to set norms and maintain essential national standards and to protect heritage resources, to provide for the protection and management of conservation-worthy places and areas by local authorities, and to provide for matters connected therewith.</p> <p>The Act protects and manages certain categories of heritage resources in South Africa. For the purposes of the Heritage Resources Act, a "heritage resource" includes any place or object of cultural significance. In this</p> |

|   |  |   |
|---|--|---|
|   |  | regard the Act makes provision for a person undertaking an activity listed in Section 28 of the Act to notify the resources authority. The resources authority may request that a heritage impact assessment be conducted if there is reason to believe that heritage resources will be affected.   |
| <b>Conservation of Agricultural Resources Act (Act No. 85 of 1983)</b>      |  | <p>The objective of the Act is to provide for control over the utilization of the natural agricultural resources of the Republic in order to promote the conservation of the soil, the water sources and the vegetation and the combating of weeds and invader plants; and for matters connected therewith.</p> <p>Consent may be required from the Department of Agriculture in order to confirm that the proposed development is not located on high potential agricultural land.</p>   |
| <b>Mineral and Petroleum Resources Development Act (Act No. 28 of 2002)</b> |  | <p>The Minerals and Petroleum Resources Development Act identifies the state as the official custodian of South Africa’s Mineral and Petroleum Resources. Therefore all activities relating to the reconnaissance, prospecting rights, mining rights, mining permits and retention permits are regulated by the State.</p> <p>A mining permit application has been lodge with the Department of Mineral Resources – Northern Cape Province</p>  |
| <b>National Infrastructure Plan</b>   |  | <p>The National Government adopted a National Infrastructure Plan in 2012. With the plan they aim to transform the South African economic landscape while simultaneously creating significant numbers of new jobs, and strengthening the delivery of basic services.</p> <p>Government will over the three years from 2013/14 invest R827 billion in building and upgrading existing infrastructure.</p> <p>These investments will improve access by South Africans to healthcare facilities, schools, water, sanitation, housing and electrification. On the other hand, investments in the construction of ports, roads, railway systems, electricity plants, hospitals, schools and dams will contribute to faster economic growth.</p> <p>This mining activity will indirectly contribute to the growing of the South African economy by supplying SANRAL with material to build and upgrade road infrastructure.</p> |
| <b>National Forest Act 84 of 1998</b>                                       |  | The protection, sustainable management and use of forests and trees within South Africa are provided for under the National Forests Act (Act 84 of 1998).   |

|  |  |  |
|--|--|--|
|  |  | <p><b>Prohibition on destruction of trees in natural forests</b></p> <p>(1) No person may -</p> <ul style="list-style-type: none"> <li>(a) cut, disturb, damage or destroy any indigenous tree in a natural forest; or</li> <li>(b) possess, collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any tree, or any forest product derived from a tree contemplated in paragraph (a), except in terms of-             <ul style="list-style-type: none"> <li>(i) a licence issued under subsection (4) or section 23; or</li> <li>(ii) an exemption from the provisions of this subsection published by the Minister in the <i>Gazette</i> on the advice of the Council.</li> </ul> </li> </ul>                        |
| <p><b>National Environmental Management: Protected Areas Act 57 of 2003</b></p>  |  | <p>This Act provides for the protection and conservation of ecologically viable areas representative of South Africa’s biological diversity and its natural landscapes and seascapes. It also seeks to provide for the sustainable utilization of protected areas and to promote participation of local communities in the management of protected areas.</p>  |
| <p><b>National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)</b></p>  |  | <p>Section 24S of NEMA deals with the management of residue stockpiles and residue deposits and provides that Residue stockpiles and residue deposits must be deposited and managed in accordance with the provisions of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), on any site demarcated for that purpose in the environmental management plan or environmental management programme in question</p> <p>The management of residue stockpiles and residue deposits must be done in accordance with any conditions set out and any identified measures in the environmental authorisation issued in terms of NEMA, an environmental management programme and a waste management licence issued in terms of NEMA (Regulation 3(2)).</p> |
| <p><b>National Environmental Management: Waste Act, 2008 (Act No. 59 Of 2008) Regulations regarding the Planning &amp; Management of Residue Stockpiles &amp; Residue Deposits from a Prospecting, Mining, Exploration or Production Operation</b></p> |  | <p>The purpose of these Regulations is to regulate the planning and management of residue stockpiles and residue deposits from a prospecting, mining, exploration or production operation.</p>   |

#### **F. NEED AND DESIRABILITY OF THE PROPOSED ACTIVITIES.**

(a motivation for the need and desirability for the proposed development, including the need and desirability of the activity in the context of the preferred [location] development footprint within the approved site as contemplated in the accepted scoping report;).

Mining has played a vital role in the economy of South Africa for over 100 years. In 2015 the mining industry contributed R286 billion towards South African Gross Domestic Product (GDP) representing 7.1% of overall GDP. Mining is a significant contributor to employment in the nation, with 457 698 individuals directly employed by the sector in 2015. This represents just over 3% of all employed nationally. (Chamber of Mines, South Africa, 17:2016).

According to the Chamber of mines: Facts and Figures, 2016: Employment figures for chrome mining was 15,514 in 2016 (Chamber of Mines, South Africa, 35:2017).

Chrome is known for its high corrosion resistance and hardness. It is essential in the production of stainless steel, which accounts for 85% of its commercial use. Around 70% of the world's chrome resources can be found in South Africa. South Africa is also the largest producer of chrome globally. (Chamber of Mines, South Africa, 16:2016).

Prospecting and mining activities for chrome ore takes place in the facility of the proposed area which suggest the possibility of encountering further chrome deposits.

The North West Province is an important supplier of chrome to the international market and is a large corner stone of the South African economy.

#### **G. A MOTIVATION FOR THE PREFERRED DEVELOPMENT FOOTPRINT**

(-within the approved site as contemplated in the accepted scoping report;)

NB!! – This section is about the determination of the specific site layout and the location of infrastructure and activities on site, having taken into consideration the issues raised by interested and affected parties, and the consideration of alternatives to the initially proposed site layout.

##### **Location of the site**

The location of the site is preferred due to the presence of the minerals applied for. Access will be obtained from existing tar and gravel roads.

As discussed in the previous section, based on outcomes of previous studies in the vicinity of the proposed site, the possibility to encounter high volumes of Chrome Ore (Cr), LG & MG Seams together with Platinum Group Metals (PGM), near Rustenburg on a certain portion of The Remaining Extent, a certain portion of Portion 1 & a certain portion of Portion 2 of the Farm Uitvalgrond 105, Registration Division JQ, in the North West Province. were identified.

Where applicable a Water Use License Application will be launched for conducting mining operations. All infrastructure will be temporary and/or mobile.

##### **Preferred activity**

The prospecting of Chrome Ore (Cr), LG & MG Seams together with Platinum Group Metals (PGM) is the optimum preferred activity for the site.

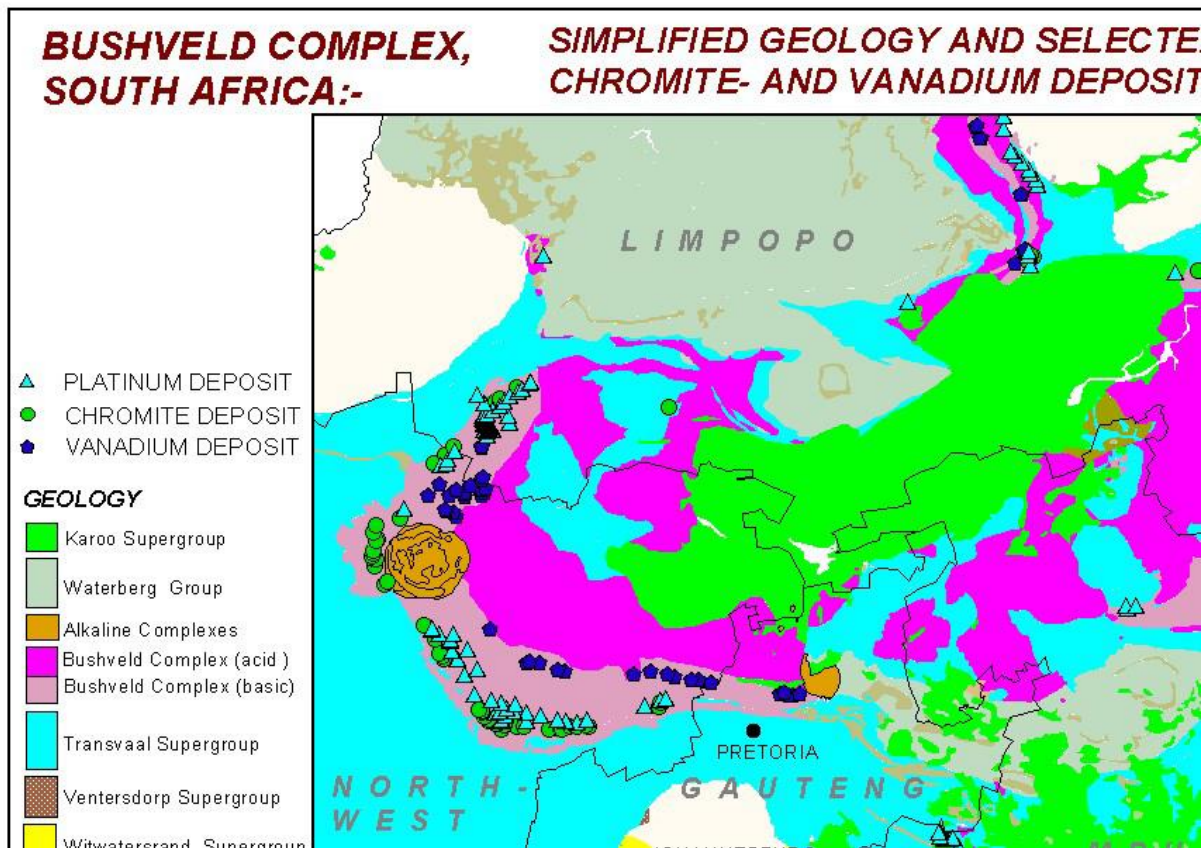


Figure 3: Simplified map indicating geology and selected Chromite - and Vanadium Deposits

The area of interest is located on the gabbros, norites, anorthosites and pyroxenites of the Rustenburg Layered Suite, which also belongs to the Northern limb of the Bushveld Igneous Complex. The plutonic igneous rocks are coarse grained and generally consist of calcic plagioclase, pyroxene and olivine. The anorthosites consist of > 90% plagioclase feldspar, with naturally high concentrations of sodium (Na) and calcium (Ca). The gabbros are low in silica but high in magnesium (Mg) and Ca. Na and potassium (K) content is low. The pyroxenites consist mainly of ferromagnesian pyroxenes.

Chromite is the only source of chromium and occurs in the two chrome seams considered currently to be economically viable. The lower of the two is known as the LG (Lower group) seam and is approximately 1.1 to 1.3 metres in thickness. The M seam is located above the LG seam and is approximately 1.6 and 1.8 m thick. The chrome content of the LG seam is relatively high and ranges between 43- 47% CrO<sub>3</sub>.

The Bushveld Complex ultrabasic and basic rocks host the PGM's and other base metal mineralization. The rocks which hosts the mineralization on the mine form part of the Northern Lobe of the Bushveld Complex. These include the upper critical zone and main zone of the complex. Upper Zone rocks with magnetite layers transgress and appears to truncate the lower zones to the North and South. The Upper Zone transgression to the West of Amandelbult is known as the Northern "gap".

The main economic horizons in this part of the complex are the chromitite layers of the Upper Group number two seam (UG2 Reef) and the Mersky Reef. Both these horizons are, in varying degrees platinumiferous.

Three dominant groups of intrusions are present at the mine. Lamprophyre dykes of unknown ages are also found on the mine.

#### H. A FULL DESCRIPTION OF THE PROCESS FOLLOWED TO REACH THE PROPOSED DEVELOPMENT FOOTPRINT

(-within the approved site as contemplated in the accepted scoping report, including:)

##### i) Details of the development footprint alternatives considered;

- **Consideration of alternatives**



The DEAT 2006 guidelines on 'assessment of alternatives and impacts' proposes the consideration of four types of alternatives namely, the no-go, site, activity, and technology alternatives. It is however, important to note that the regulation and guidelines specifically state that only 'feasible' and 'reasonable' alternatives should be explored. It also recognizes that the consideration of alternatives is an iterative process of feedback between the developer, the EAP and Interested and affected parties, which in some instances culminates in a single preferred project proposal. The following sections explore each type of alternative in relation to the proposed activity.

- **Location alternatives**

This alternative asks the question, if there is not, from an environmental perspective, a more suitable location for the proposed activity. No other properties have been secured by **Acacia Resources (Pty) Ltd** near the area.

As discussed in the previous section, based on outcomes of previous studies in the vicinity of the proposed site, the possibility to encounter high volumes of Chrome Ore (Cr), LG & MG Seams together with Platinum Group Metals (PGM), near Rustenburg on a certain portion of The Remaining Extent, a certain portion of Portion 1 & a certain portion of Portion 2 of the Farm Uitvalgrond 105, Registration Division JQ, in the North West Province. were identified.

- **Activity alternatives**

The environmental impact assessment process also needs to consider if the development of a Chrome Ore (Cr), LG & MG Seams together with Platinum Group Metals (PGM) mine would be the most appropriate land use for the particular site.

Prospecting of other commodities –from the surface and desktop assessment indicates that there are no indications that there are other commodities to be mined on the site, except Chrome Ore (Cr), LG & MG Seams together with Platinum Group Metals (PGM). As indicated in figure 3

- **Design and layout alternatives**

Design alternatives were considered throughout the planning and design phase (i.e. where is the diamond bearing gravel located?). In this regard discussions on the design were held between the EAP and the developer. The layout follows the limitations of the site and aspects such as, roads, site offices and workshop area.

According to the map below (**Figure 20** and **Figure 21**) the proposed area is largely natural, with schrubland being the most dominant feature. Current and previous mining as well as ticket/dense buses are present on the southern parts of the property.

All infrastructure will be temporary and/or mobile

According to Impala Platinum Holding part of the Acacia Prospecting Right Application falls within Impala's active surface holding (2C105), which is situated on the Mathuloe Area. Part of the application also falls within Impala's inactive surface holdings that Impala has not yet received closure on.

According to the letter dated 05 July 2022, Impala stated that it "has a statutory obligation to rehabilitate its disturbance. Acacia's planned prospecting activities fall within an area where Impala has multiple rehabilitated open cast pits, which have not yet reached sustainable rehabilitation status. Any prospecting activities will likely impact the rehabilitated areas, and this will negate the time, effort and money spent on rehabilitation thus far;

Currently it is not known exactly the active and inactive areas, as stated by Impala Platinum Holding, are located and it is also unclear exactly where Acacia Resources intends to prospect exactly, but it must be noted that Acacia Resources will be responsible to rehabilitate the area that they disturb and vice versa.

Impala stated that they are and will be mining underground and that surface impacts are finished.

- **Operational alternatives**

Due to the nature of the prospecting activities, no permanent services in terms of water supply, electricity, or sewerage services are required.

The activities will commence with a site investigation and desktop studies, which will comprise of non-invasive techniques. This manner of survey will ensure that the applicant can clearly delineate areas which are suitable for further investigation and no unnecessary surface disturbance will be undertaken.

The applicant will proceed with prospecting by means of the open cast/trenching method, simultaneously or after pitting and drilling depending on the information obtained from the earlier work done. Minerals extracted from the area will be sold as ROM (Run of Mine) and will not be processed on site. Thus, no crushing, screening or a wash plant will be established on site during this period.

All data will be consolidated and processed to determine Chrome Ore (Cr), LG & MG Seams together with Platinum Group Metals (PGM Chrome Ore (Cr), LG & MG Seams together with Platinum Group Metals (PGM resources on the property. This will be a continuous process throughout the prospecting work programme.

No feasible alternatives to the drilling, pitting and trenching method currently exists. Impacts associated with the prospecting operations will be managed through the implementation of a management plan, developed as part of the application for authorisation.

- **No-go alternative**

This alternative considers the option of 'do nothing' and maintaining the status quo. The description provided in section H of this report could be considered the baseline conditions (status quo) to persist should the no-go alternative be preferred. The site is currently zoned for agricultural land uses. Should the proposed activity not proceed, the site will remain unchanged.

**Technology alternatives**

In terms of the technologies proposed, these have been chosen based on the long-term success of their prospecting history. The prospecting activities proposed in the Prospecting Works Programme (**Appendix 9**) is dependent on the preceding phase as previously discussed, therefore no alternatives are indicated, but rather a phased approach of trusted prospecting techniques.

The preferred technology for the proposed prospecting activity, will be to do drilling, pitting and trenching, remove the mineral bearing ore with an excavator. Please find the Prospecting Work Programme attached as **Appendix 9**.

**Dust Suppression**

When it comes to dust suppression two main methods were considered, namely molasses stillage and the wetting (water) of roads. The table below provides a short summary of the advantages and disadvantages of each.

| Water   | Molasses stillage   |
|---|---|
| More cost effective   | Much more expensive   |
| Could lead to the depleting of water resources  | Requires less water   |
| No damage (only if used excessively)  | The product may be toxic to aquatic organisms. (As this product could have physical effects on aquatic organisms for e.g. floating, osmotic damage) |
| No harm to humans or animals (Only a high quantity will have harm to humans or animals) | Not Hazardous or toxic.<br>Could cause irritation to eyes, skin or when ingested and inhaled.   |
| Non-flammable   | Non-flammable   |
| Eye-wash fountains not needed   | Eye-wash fountains in the work place are strongly recommended   |
|   | Working procedures should be designed to minimize worker exposure to this product.  |

|                       |   |
|-----------------------|---|
| Basic storing methods | Storing methods are a bit more complicated. Should be stored in a plastic, plastic lined or stainless steel, tight closed containers between 5 and 40 degrees Centigrade. |
|-----------------------|---|

Considering the above mentioned information, water will be used for dust suppression purposes.

**ii) Details of the Public Participation Process Followed**

Describe the process undertaken to consult interested and affected parties including public meetings and one on one consultation. NB the affected parties must be specifically consulted regardless of whether or not they attended public meetings. (Information to be provided to affected parties must include sufficient detail of the intended operation to enable them to assess what impact the activities will have on them or on the use of their land.

**1. Advertisement and Notices**

**NEWSPAPER ADVERTISEMENT**

An advertisement was placed in English in the local newspaper (**Rustenburg Herald**) (see **Appendix 6**) notifying the public of the EIA process and requesting Interested and Affected Parties (I&APs) to register with, and submit their comments to Milnex CC. I&APs were given the opportunity to raise comments within 30 days of the advertisement.

An advertisement was also placed in English in the local newspaper (**Rustenburg Herald**) (see **Appendix 6**) notifying the public of the availability of the draft EIR and requesting Interested and Affected Parties (I&APs) to and submit their comments to Milnex CC. I&APs were given the opportunity to raise comments within 30 days of the advertisement.

**SITE NOTICES**

Site notices were placed (as anticipated on the coordinates below) near site in English to inform surrounding communities and immediately adjacent landowners of the proposed development. I&APs will be given the opportunity to raise comments. Photographic evidence of the site notices will be included in **Appendix 6**.



**Figure 4: Site notices placement**

**DIRECT NOTIFICATION AND CIRCULATION OF SCOPING REPORT TO IDENTIFIED I&APs, SURROUNDING LANDOWNERS AND OCCUPIERS**

Identified I&APs, including key stakeholders representing various sectors, are directly informed of the proposed development and the availability of the Scoping Report via registered post on **13 June 2022** and were requested to submit comments by **14 July 2022 (30 days)**.

A copy of the report is also available at the Milnex offices in Schweizer-Reneke, 4 Botha Street, Schweizer-Reneke and Potchefstroom (Waterberry Street, Waterberry Square, 1st floor, Office 5B, Potchefstroom), between 7:30AM and 5PM, Monday to Friday. For a complete list of I&AP details and for proof of registered post see **Appendix 6**. The consultees included:

#### LIST OF STAKEHOLDERS, LANDOWNERS, & SURROUNDING LANDOWNERS

| Stakeholders   |
|--|
| Department: Mineral Resources and Energy (DMRE)                                  |
| Department: Agriculture and Rural Development (DARD)                             |
| Department: Community Safety and Transport Management (DCSTM)                    |
| Department: Cooperative Governance and Traditional Affairs (DCGTA)               |
| Department: Economic Development, Environment, Conservation and Tourism (DEDECT) |
| Department: Public Works and Roads (DPWR)  |
| Department: Human Settlements  |
| Provincial Heritage Resources Authority (PHRA)                                   |
| Department: Water and Sanitation (DWS)   |
| Bojanala Platinum District Municipality  |
| Rustenburg Local Municipality  |
| Rustenburg (Ward 3 Councillor)   |
| Landowners   |
| Phore Trust  |
| Aaron Tampo Mokgoko Trust  |
| Madute Trust   |
| Bethuel Molotsane Trust  |
| TSB Mokgoko Props (Pty) Ltd  |
| Nkgadimeng Trust   |
| Engelina Molatsane   |
| Joseph Mosime  |
| Ntubi Felitsa Mokgatle   |
| Mosole Mary Kgamphe  |
| Ruben Mokgatle   |
| Christopher Serutle Kgamphe  |
| Maseate Lillian Mokgatle   |
| Boy Mokwena  |
| Nancy Kgamphe  |
| Mmanchala Lizzie Mahlangu  |
| Maggie Nqatjelwa   |
| Sekopi Mokgatle  |
| Sonny Victor Mngadi  |
| Justinus Kgamphe   |
| Alfred Mokgatle  |
| Salome Kgamphe   |
| Dina Kgamphe   |
| Sheila Kgamphe   |
| Philemon Kgamphe   |
| Leah Damaria Mathube   |
| Herstia Kelebogile Mathuloe  |
| Elnorah Kgamphe  |
| R A Mokgatle Prop CC   |

Milnex CC: EIA592 –EIR & EMP: The Prospecting Right combined with a Waste Licence application to prospect for Chrome Ore (Cr), LG & MG Seams together with Platinum Group Metals (PGM), near Rustenburg on a certain portion of The Remaining Extent, a certain portion of Portion 1 & a certain portion of Portion 2 of the Farm Uitvalgrond 105, Registration Division JQ, North West Province. The property is located approximately 18km North West of Rustenburg.

|   |
|---|
| Emmah Kgamphe                           |
| Mokgatle Trust                          |
| <b>Surrounding landowners</b>           |
| Republic of Bophuthatswana              |
| The Royal Bafokeng Nation               |
| Government of South Africa              |
| Rakgokong Edbaal                        |
| Merafe Ferrochrome and Mining (Pty) Ltd |
| Struthio (Pty) Ltd                      |
| Ilitha Mining (Pty) Ltd                 |
| <b>Other</b>                            |
| Gibb Environmental                      |
| WESSA                                   |
| Bafokeng North Mines                    |
| Impala Platinum Holdings Limited        |

**Meetings:**

**NB:** The interested and affected parties were given an opportunity to register by circulating, registered letters, press advert and letters.

A note was included that due to COVID-19, any meetings will be conducted virtually via Zoom or Microsoft Teams upon request by the I&APs.

**TSB Mokgoko Properties**

A meeting was held on 31/08/2022 with some of the Directors of TSB Mokgoko Properties. Refer to minutes of the meeting & correspondences on the comments & response form attached in **Appendix 6**



**Impala Platinum**

A meeting was held as per request on zoom on the 5<sup>th</sup> of December 2022

Present at the meeting was:

- Werner Broodryk & Christiaan Baron – Milnex CC Representative
- Dumisani Qina, Nqabakazi Beja & Gerhard van Dyk – Impala Platinum Holdings Limited
- 

The following transpired.

Everyone introduced themselves: Dumisani, Beja and Gerhard van Dyk from Impala Werner Broodryk and Christiaan Baron from Milnex CC.

Background was given and environmental presentation was made.

Impala representatives made it clear that the comments provided from a legal side has been made clear.

Impala stated that there are unrehabilitated areas and are they busy rehabilitating and will apply for closure once the rehabilitation is completed. Concern is that should these areas be disturbed by Acacia, then Impala will not be able to obtain closure as per their planning.

Impala mentioned that they are nearing the end of current lease agreement and will not be able to meet the statutory requirements if areas are disturbed again.

Impala representatives mentioned that it is not as easy, to say that each will be responsible for their own rehab, as disturbances now, can result in difficulties to obtain closure.

Impala stated that they are and will be mining underground and that surface impacts are finished.

Impala mentioned and asked about the water and monitoring thereof, but asked how it will be done and who will be responsible.

Impala asked if Acacia could indicate a area where they are planning to prospect and requested a map indicating same, and they will they indicate on a overlay map where previous mining took place and rehab has and is taking place.

#### **DIRECT NOTIFICATION AND CIRCULATION OF DRAFT EIR & EMPR TO IDENTIFIED I&APS, LANDOWNERS AND OCCUPIERS**

Identified I&APs, including key stakeholders representing various sectors, are directly informed of the proposed development and the availability of the Draft EIR & EMPr via registered post on **18 January 2023** and were requested to submit comments by **17 February 2023**. A copy of the report is also available at the Milnex offices in Schweizer-Reneke, 4 Botha Street, Schweizer-Reneke and Potchefstroom (Waterberry Street, Waterberry Square, 1st floor, Office 5B, Potchefstroom), between 7:30AM and 5PM, Monday to Friday. For a complete list of stakeholder details and for proof of registered post see **Appendix 6**.

#### **Issues Raised by Interested and Affected Parties**

Comments received during this period have been omitted from the Draft Environmental Impact Report and will be made available to the Department of Mineral Resources & Energy (DMRE) when submitting the Final Environmental Impact Report

iii) Summary of Issues Raised by I&APs

(Complete the table summarising comments and issues raised, and reaction to those responses)

| Interested and Affected Parties  |  | Issues raised                                       | EAPs response to issues as mandated by the applicant | Section and paragraph reference in this report where the issue and or response where incorporated |
|--|--|---|--|---|
| List the names of persons consulted in this column, and Mark with an X where those who must be consulted were in fact consulted. |  |   |  |   |
| Organisation   | Contact person   |   |  |   |
| RE of Uitvalgrond 105  | <b>Phore Trust</b><br>A B Huma<br>M E Matlou<br>H Von Zwiétring  | Comments will be included in the Final EIR and EMPR |  |   |
|  | <b>Aaron Tampo Mokgoko Trust</b><br>Dieter Werner Wenhold  | Comments will be included in the Final EIR and EMPR |  |   |
|  | <b>Madute Trust</b><br>A B Huma<br>C P Mokgoko<br>S L Molotsane  | Comments will be included in the Final EIR and EMPR |  |   |
|  | <b>Bethuel Molotsane Trust</b><br>P M N Molotsane  | Comments will be included in the Final EIR and EMPR |  |   |
|  | <b>TSB Mokgoko Props (Pty) Ltd</b><br>N S Koosaletse<br>D G Mokgoko<br>M E Mokgoko<br>M A Mokgoko<br>J K Motlhamme | Comments will be included in the Final EIR and EMPR |  |   |
|  | <b>Nkgadimeng Trust</b><br>A B Huma<br>C Mokgoko<br>S L Molotsane<br>D W Wenhold                                   | Comments will be included in the Final EIR and EMPR |  |   |

|  |   |   |  |  |
|--|---|---|--|--|
| Portion 1 of the Farm Uitvalgrond 105  | Engelina Molatsane  | Comments will be included in the Final EIR and EMPR |  |  |
|  | Joseph Mosime   | Comments will be included in the Final EIR and EMPR |  |  |
|  | Ntubi Felitsa Mokgatle                                    | Comments will be included in the Final EIR and EMPR |  |  |
|  | Mosole Mary Kgamphe                                       | Comments will be included in the Final EIR and EMPR |  |  |
|  | Ruben Mokgatle  | Comments will be included in the Final EIR and EMPR |  |  |
|  | Christopher Serutle Kgamphe                               | Comments will be included in the Final EIR and EMPR |  |  |
|  | Maseate Lillian Mokgatle                                  | Comments will be included in the Final EIR and EMPR |  |  |
|  | Boy Mokwena   | Comments will be included in the Final EIR and EMPR |  |  |
|  | Nancy Kgamphe   | Comments will be included in the Final EIR and EMPR |  |  |
|  | Mmanchala Lizzie Mahlangu                                 | Comments will be included in the Final EIR and EMPR |  |  |
|  | Maggie Nqatjelwa  | Comments will be included in the Final EIR and EMPR |  |  |
|  | Sekopi Mokgatle   | Comments will be included in the Final EIR and EMPR |  |  |
|  | Sonny Victor Mngadi                                       | Comments will be included in the Final EIR and EMPR |  |  |
|  | Justinus Kgamphe  | Comments will be included in the Final EIR and EMPR |  |  |
|  | Alfred Mokgatle   | Comments will be included in the Final EIR and EMPR |  |  |
|  | Salome Kgamphe  | Comments will be included in the Final EIR and EMPR |  |  |
|  | Dina Kgamphe  | Comments will be included in the Final EIR and EMPR |  |  |
|  | Sheila Kgamphe  | Comments will be included in the Final EIR and EMPR |  |  |
|  | Philemon Kgamphe  | Comments will be included in the Final EIR and EMPR |  |  |
|  | Leah Damaría Mathube                                      | Comments will be included in the Final EIR and EMPR |  |  |
| Herstia Kelebogile Mathuloe  | Comments will be included in the Final EIR and EMPR       |   |  |  |
| Elnorah Kgamphe  | Comments will be included in the Final EIR and EMPR       |   |  |  |
| <b>R A Mokgatle Prop CC</b><br>S M Makoe<br>B Mohapi<br>B Mokgatle<br>B T Mokgatle<br>K H Mokgatle<br>H Semoko | Comments will be included in the Final EIR and EMPR       |   |  |  |
| Emma Kgamphe   | Comments will be included in the Final EIR and EMPR       |   |  |  |
| Portion 2 of the Farm Uitvalgrond 105  | <b>Mokgatle Trust</b><br><br>Martin Rosenberg & Piet Smit | Comments will be included in the Final EIR and EMPR |  |  |

**Surrounding Landowners**



|   |  |  |  |  |
|---|--|--|--|--|
| Portion 1 of the Farm Boschkoppie 104                   | <b>Republic of Bophuthatswana</b><br><br>Modisaotsile Mokate<br>Letlhogonolo Masilo<br>Ogodiseng Letlape<br>Reotshepile Tlhapane   |  |  |  |
| Portion 0 of the Farm Doornspruit 106                   |  |  |  |  |
| Portion 0 (RE) of the Farm Goedgedacht 110              |  |  |  |  |
| Portion 0 of the Farm Kleindoornspruit 108              |  |  |  |  |
| Portion 0 of the Farm Turffontein 262                   |  |  |  |  |
| Portion 67 of Farm Boschhoek 103                        | <b>The Royal Bafokeng Nation</b><br><br>Modisaotsile Mokate<br>Letlhogonolo Masilo<br>Ogodiseng Letlape<br>Reotshepile Tlhapane  |  |  |  |
| Portion 0 (RE) of Farm Boschkoppie 104                  | Department of Rural Development & Land Reform  |  |  |  |
|   | Mr Moduku Kwene  |  |  |  |
|   | Ms Nomfundo Ntloko-Gobodo  |  |  |  |
| Portion 2 of the Farm Boschkoppie 104                   | Rakgokong Edbaal   |  |  |  |
| Portion 13 & Portion 2 (RE) of the Farm Bultfontein 259 | <b>Merafe Ferrochrome and Mining (Pty) Ltd</b><br><br>Z J Matlala<br>M A Mngomezulu<br>M J Vuso<br>S D Chocho<br>J P Mclaughlan<br>K Tlale<br>N Mabusela-Aikhuere<br>D A Mc Gluwa<br>D Green |  |  |  |
| Portion 10(RE) of the Farm Bultfontein 259              | <b>Struthio (Pty) Ltd</b><br>B L Makgale   |  |  |  |

|  |  |  |  |  |
|--|--|--|--|--|
|  | Kenneth Modisaotsile Mokate                                      |  |  |  |
| Portion 0 of the Farm Stellite 255   | <b>Ilitha Mining (Pty) Ltd</b><br>D Koncar<br>G Konsbruck        |  |  |  |
| <b>The Municipality in which jurisdiction the development is located</b>         |  |  |  |  |
| Rustenburg Local Municipality  | The Municipal Manager:<br>Victor Makona                          |  |  |  |
| <b>Municipal councilor of the ward in which the site is located</b>              |  |  |  |  |
| Rustenburg (Ward 3 Councillor)   | To whom it may concern   |  |  |  |
| <b>Organs of state having jurisdiction</b>                                       |  |  |  |  |
| Department: Mineral Resources and Energy (DMRE)                                  | <b>Reginal Manager:</b><br>Mr Phumudzo Nethwadzi                 |  |  |  |
|  | T. Nkwe  |  |  |  |
|  | Cynthia Mokgobi  |  |  |  |
| Department: Agriculture and Rural Development (DARD)                             | <b>Head of Department:</b><br>Mr Dipepeneneng Serage<br>(Acting) |  |  |  |
| Department: Community Safety and Transport Management (DCSTM)                    | <b>Head of Department</b><br>Ms B Mofokeng                       |  |  |  |
| Department: Cooperative Governance and Traditional Affairs (DCGTA)               | <b>Head of Department</b><br>Mr JK Mashego                       |  |  |  |
| Department: Economic Development, Environment, Conservation and Tourism (DEDECT) | <b>Ouma Skosana</b>  |  |  |  |
| Department: Public Works and Roads (DPWR)  | <b>Director:</b><br>Mr Sfiso Diko (Roads Project Implementation) |  |  |  |

|   |   |  |  |  |
|---|---|--|--|--|
| Department: Human Settlements                               | <b>Head of Department</b><br>Mr K.J Mashigo                               |  |  |  |
| Provincial Heritage Resources Authority (PHRA)              | Mr Mosiane Mothlabane   |  |  |  |
| Department: Water and Sanitation (DWS)                      | To whom it may concern  |  |  |  |
| Office of the Regional Land Claims Commissioner: North West | Agnes Montwedi<br>Sydney Masiga<br>Florence Bahurutshe<br>Kgomotso Majova |  |  |  |
| <b>Other–</b>   |   |  |  |  |
| Bojanala Platinum District Municipality                     | <b>Municipal Manager:</b><br>Mr P Shikwane                                |  |  |  |
| WESSA   | Mr John Wesson  |  |  |  |
| Bafokeng North Mines  |   |  |  |  |
| Impala Platinum Holdings Limited                            | Mining Rights Advisor:<br>Dumisani Qina                                   |  |  |  |
| Royal Bafokeng Platinum Ltd                                 | Chrisna von Alleman   |  |  |  |
| Gibb Environmental  | Umeshree Naicker  |  |  |  |

**iv) the environmental attributes associated with the development footprint alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;**

**Baseline Environment**

The baseline environment is described with specific reference to geotechnical conditions, ecological habitat and landscape features, Soil, land capability and agricultural potential, climate and the visual landscape.

**(a) Type of environment affected by the proposed activity.**

(its current geographical, physical, biological, socio- economic, and cultural character).

**DEA Screening Report**

***Wind and Solar developments with an approved Environmental Authorisation or applications under consideration within 30 km of the proposed area according to the DEA Screening Tool.***

*No nearby wind or solar developments found.*

***Cognisance must be taken with regards to the feasibility study that is underway to determine feasibility of a Solar PV plant within the boundaries of Portion 1 of the farm Boschkoppie 104 JQ, which borders to the north of the application area. It must be noted that Milnex CC has registered as I&AP with Gibb Environmental, however no correspondence from Gibb Environmental has been received to date***

***According to the DEA Screening Tool the proposed development area Environmental sensitivity***

*The following summary of the development site environmental sensitivities is identified. Only the highest environmental sensitivity is indicated. The footprint environmental sensitivities for the proposed development footprint as identified, are indicative only and must be verified on site by a suitably qualified person before the specialist assessments identified below can be confirmed.*

| Theme                | Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|----------------------|-----------------------|------------------|--------------------|-----------------|
| Agriculture Theme    |                       |                  | X                  |                 |
| Animal Species Theme |                       |                  | X                  |                 |

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22/04/2022

|  |   |  |   |   |
|--|---|--|---|---|
| Aquatic Biodiversity Theme                 | X |  |   |   |
| Archaeological and Cultural Heritage Theme |   |  |   | X |
| Civil Aviation Theme                       |   |  | X |   |
| Defence Theme                              |   |  |   | X |
| Paleontology Theme                         |   |  | X |   |
| Plant Species Theme                        |   |  |   | X |
| Terrestrial Biodiversity Theme             |   |  |   | X |

**Geology and Soils**

### **Bushveld Igneous Complex, Rustenburg Layered Suite.**

The area of interest is located on the gabbros, norites, anorthosites and pyroxenites of the Rustenburg Layered Suite, which also belongs to the Northern limb of the Bushveld Igneous Complex. The plutonic igneous rocks are coarse grained and generally consist of calcic plagioclase, pyroxene and olivine. The anorthosites consist of > 90% plagioclase feldspar, with naturally high concentrations of sodium (Na) and calcium (Ca). The gabbros are low in silica but high in magnesium (Mg) and Ca. Na and potassium (K) content is low. The pyroxenites consist mainly of ferromagnesian pyroxenes.

Chromite is the only source of chromium and occurs in the two chrome seams considered currently to be economically viable. The lower of the two is known as the LG (Lower group) seam and is approximately 1.1 to 1.3 metres in thickness. The M seam is located above the LG seam and is approximately 1.6 and 1.8 m thick. The chrome content of the LG seam is relatively high and ranges between 43- 47% CrO<sub>3</sub>.

The Bushveld Complex ultrabasic and basic rocks host the PGM's and other base metal mineralization. The rocks which hosts the mineralization on the mine form part of the Northern Lobe of the Bushveld Complex. These include the upper critical zone and main zone of the complex. Upper Zone rocks with magnetite layers transgress and appears to truncate the lower zones to the North and South. The Upper Zone transgression to the West of Amandelbult is known as the Northern "gap".

The main economic horizons in this part of the complex are the chromitite layers of the Upper Group number two seam (UG2 Reef) and the Meresky Reef. Both these horizons are, in varying degrees platinumiferous.

Three dominant groups of intrusions are present at the mine. Lamprophyre dykes of unknown ages are also found on the mine.

### **Ecological habitat and landscape features**

The result obtained by plotting the coordinates are as follow:

The proposed area falls within vegetation unit SVcb 3, which is known as the Zeerust Thornveld.

**Distribution** North-West Province: Extends along the plains from the Lobatsi River in the west via Zeerust, Groot Marico and Mabaalstad to the flats between the Pilanesberg and western end of the Magaliesberg in the east (including the valley of the lower Selons River). Altitude mainly 1 000–1 250 m (Mucina & Rutherford 2006/2018).

**Vegetation & Landscape Features** Deciduous, open to dense short thorny woodland, dominated by *Acacia* species with herbaceous layer of mainly grasses on deep, high base-status and some clay soils on plains and lowlands, also between rocky ridges of SVcb 4 Dwaalboom-Swartruggens Mountain Bushveld (Mucina & Rutherford 2006/2018).

**Geology & Soils** Sediments of the Pretoria Group (Transvaal Supergroup) in this area, particularly the Silverton and Rayton Formations, are mostly shale with less quartzite and conglomerate. Carbonates, volcanic rocks, breccias and diamictites also occur in the Pretoria Group. Bronzite, harzburgite, gabbro and norite of the Rustenburg Layered Suite (Bushveld Igneous Complex) are also found. Soils are mostly deep, red-yellow, apedal, freely drained with high base status also with some vertic or melanic clays. Land types mainly Ae and Ea (Mucina & Rutherford 2006/2018).

**Climate** Summer rainfall with very dry winters. MAP has a relatively narrow range: 550–600 mm. Frost fairly frequent in winter. Mean monthly maximum and minimum temperatures for Marico-Irr weather station 36.7°C and –0.4°C for January and June, respectively. See also climate diagram for SVcb 3 Zeerust Thornveld (Mucina & Rutherford 2006/2018).

**Important Taxa** Tall Trees: *Acacia burkei* (d), *A. erioloba* (d). Small Trees: *Acacia mellifera* subsp. *detinens* (d), *A. nilotica* (d), *A. tortilis* subsp. *heteracantha* (d), *Rhus lancea* (d), *Acacia fleckii*, *Peltophorum africanum*, *Terminalia sericea*. Tall Shrubs: *Diospyros lycioides* subsp. *lycioides*, *Grewia flava*, *Mystroxydon aethiopicum* subsp. *burkeanum*. Low Shrubs: *Agathisanthemum bojeri*, *Chaetacanthus costatus*, *Clerodendrum ternatum*, *Indigofera filipes*, *Rhus grandidens*, *Sida chrysantha*, *Stylosanthes fruticosa*. Graminoids: *Eragrostis lehmanniana* (d), *Panicum maximum* (d), *Aristida congesta*, *Cymbopogon pospischilii*. Herbs: *Blepharis integrifolia*, *Chamaecrista absus*, *C. mimosoides*, *Cleome maculata*, *Dicoma anomala*, *Kyphocarpa angustifolia*, *Limeum viscosum*, *Lophiocarpus tenuissimus* (Mucina & Rutherford 2006/2018).

**Endemic Taxon** Low Shrub: *Rhus maricoana*.

**Conservation** Least threatened. Target 19%. Less than 4% statutorily conserved, spread between four reserves including the Pienaar and Marico Bushveld Nature Reserves. Some 16% transformed mainly by cultivation, with some urban or built-up. A few areas with scattered plants of the alien *Cereus jamacaru* and several other alien species very scattered elsewhere. Erosion is mainly very low to low (Mucina & Rutherford 2006/2018).

**Remark** This unit is somewhat more temperate than the SVcb 1 Dwaalboom Thornveld that borders it to the north.

**EIA592PR: VEGETATION MAP**

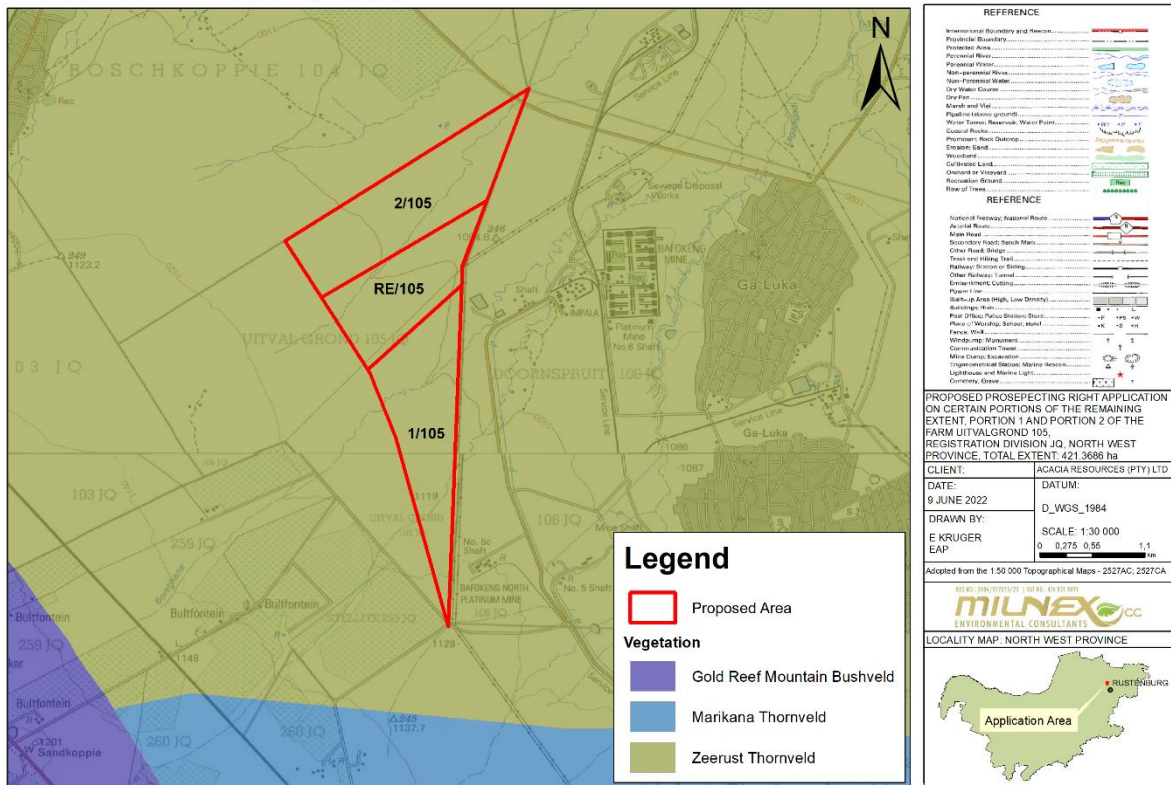


Figure 5: Vegetation Unit Map

According to the Terrestrial Biodiversity and Watercourse Impact Assessment Report attached as **Appendix 11**, The Study site can be divided into different vegetation units based on land use and vegetation structure. During the site visit, three (3) vegetation units were identified. These were a Historically Mined Shrubland, a Savanna and a Short and Tall Shrubland. The vegetation units identified on site were delineated and described in the proceeding subsections.

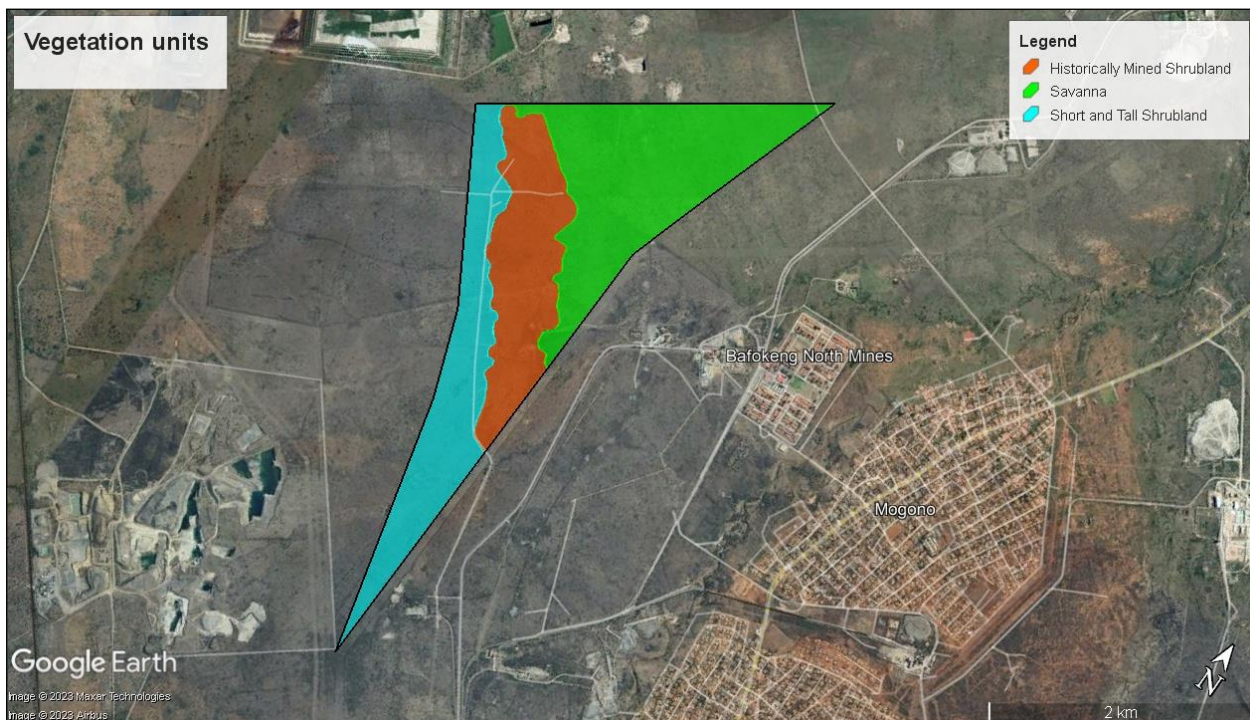


Figure: Vegetation units identified on site.

## Savanna

This section (**Figure below**) of the study site was observed to resemble a Savanna vegetation type in that it is comprised of a scattered tree canopy above a continuous grass understory. It is a mix of widely spaced woodland and dense grassland vegetation. This study area was observed to be impacted by intense overgrazing, stockpiles and selective logging (deforestation). These activities have resulted in a short canopy, and short grass. These impacts are mainly attributed to the relative location of the study area within urban build-up and intensive mining. Identification of graminoids and herbs was limited due to overgrazing. Dominant graminoid plants observed were those of the *Eragrostis*, *Panicum*, *Aristida* and *Cymbopogon* genus. Shrub species were dominated by *Asparagus sp*, *Grewia flava* and *Indigofera sp*, while trees were observed to be dominated by *Senegalia mellifera* and *Vachellia nilotica*. A list of plants identified is provided in the **Table under plant sensitivity**.



**Figure:** Savanna

## Short and Tall Shrubland

This section of the study site was observed to be the least disturbed vegetation unit (**Figure below**) in comparison to the other units assessed. Provided that most of the application area is used for grazing, the lack of disturbance in this unit can be attributed to the reduces encroachment by locals in the vicinity. This section overlaps with a privately owned property, therefore, grazing and selective logging is limited to the farm owners and workers. Plant species occurring in the area are mainly graminoids mentioned above, with the inclusion of shrubs (*Asparagus spp*, *Tarchonanthus camphoratus*, *Pentzia spp*, *Aptosimum sp* and *Indigofera sp*), Tall shrubs (*Diospyros lycoides* and *Grewia flava*), Short trees (*Senegalia mellifera*, *Searsia lancea* and *Vachellia nilotica*) and Tall trees (*Senegalia burkei*). A list of plants identified is provided in the **Table under plant sensitivity**.



**Figure:** Short and Tall Shrubland.

#### **Historically Mined Shrubland**

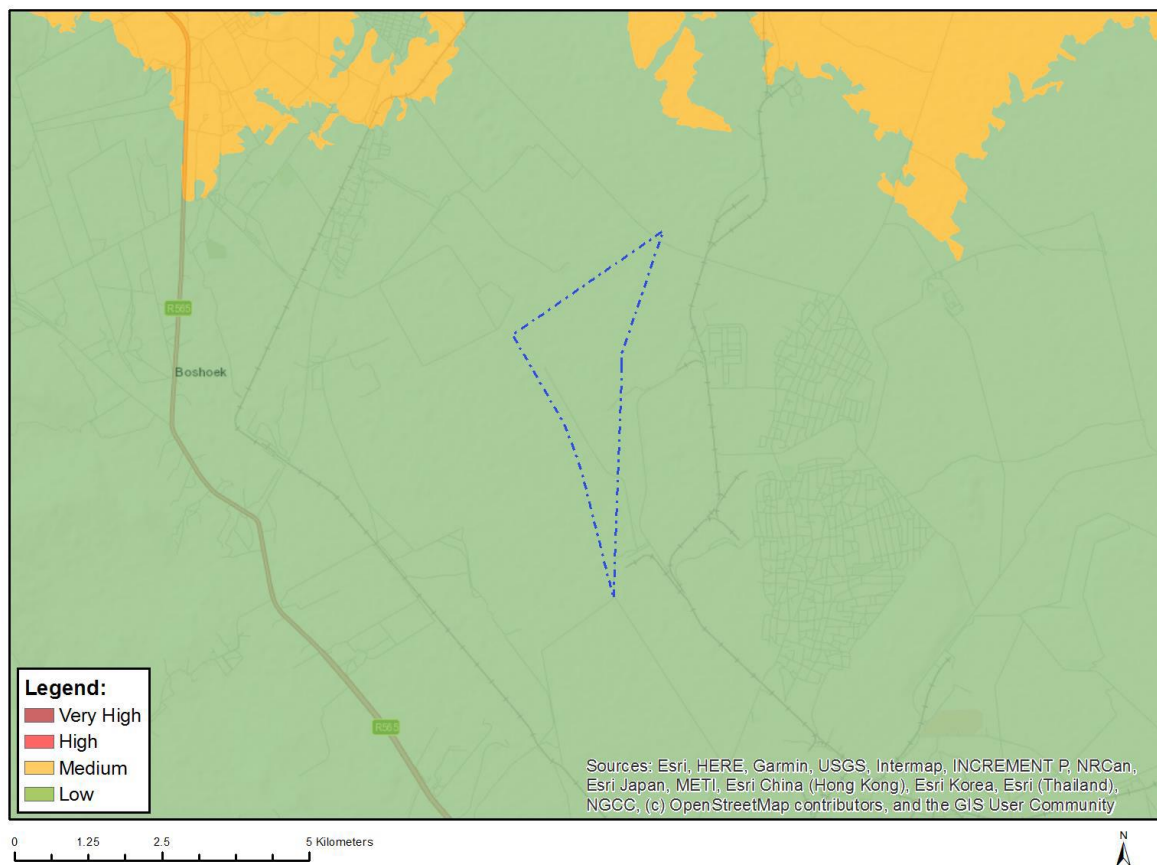
This section (**Figure below**) of the study site has been reshaped and disturbed as a result of historic prospecting or mining activities. Historic Google earth imagery show that mining was conducted in this area until as early as 2011. Even with the area being decommissioned and potentially rehabilitated, the landscape is comprised of stockpiles and unrehabilitated pits. The distinguishing factor between this area and the other vegetation units is the surface textures. The historic mining, and poor rehabilitation resulted in the formation of ditches, hills, channels and rocky surfaces. This resulted in the proliferation of plant species not found in the other vegetation units. Dominant plant species observed were similar to that of the Short and Tall Shrubland vegetation unit. However, this disturbance also resulted in the proliferation of alien-invasive plant species observed such as *Tagetes minuta*, *Bidens pilosa*, *Verbena bonariensis*, *Datura stramonium*, *Prosopis grandulosa* and *Erigeron canadensis*. Species such as *Aloe claviflora* and *Ziziphus mucronata* were also observed in these rocky, rough areas. A list of plants identified is provided in the **Table under plant sensitivity**.





**Figure:** Historically Mined Shrubland.

According to the DEA Screening Report the Plant Species theme sensitivity of the proposed area falls in a low sensitivity. Please see **Appendix 7** for the colour map.



**Figure 6:** Plant Species Combined Sensitivity

According to the Terrestrial Biodiversity and Watercourse Impact Assessment Report attached as **Appendix 11**, a post-screening site visit was therefore conducted to determine the accuracy of the generated information, and if the studies recommended should be conducted. After the site visit the following was concluded that the Plant Species Theme is revised to a **Medium Sensitivity**.. The Vegetation on site is disturbed with a few declared invader plant species, which mainly occur at the historically disturbed (mining activities) footprints. No plant species of conservation concern was recorded.

**Table:** Dominant plant species observed on the study site.

| Plant species list           |                    |                          |                               |
|------------------------------|--------------------|--------------------------|-------------------------------|
| Trees and Shrubs             |                    |                          |                               |
| Scientific Name              | Common Name        | Redlist Status           | Invader category (NEMBA 2020) |
| <i>Asparagus spp</i>         | Wild asparagus     | Least concern            |                               |
| <i>Dichrostachys cinerea</i> | Sickle bush        | Least concern            |                               |
| <i>Diospyros lycioides</i>   | Blue bush          | Least concern            |                               |
| <i>Grewia flava</i>          | Raisin tree        | Least concern            |                               |
| <i>Gymnosporia buxifolia</i> | Common spike-thorn | Least concern            |                               |
| * <i>Prosopis glandulosa</i> | Honey mesquite     | Exotic, declared invader | 1b                            |
| <i>Searsia lancea</i>        | Karree             | Least concern            |                               |
| <i>Senegalia burkei</i>      | Black monkey thorn | Least concern            |                               |
| <i>Senegalia cinerea</i>     | Blade thorn        | Least concern            |                               |
| <i>Vachelia nilotica</i>     | Sweet thorn tree   | Least concern            |                               |
| <i>Ziziphus mucronata</i>    | Buffalo-thorn      | Least concern            |                               |

| Graminoids                      |                           |                          |    |
|---------------------------------|---------------------------|--------------------------|----|
| <i>Aristida congesta</i>        | Spreading Three-awn       | Least concern            |    |
| <i>Cenchrus ciliaris</i>        | Foxtail buffalo grass     | Least concern            |    |
| <i>Cymbopogon sp</i>            | Turpentine grass          | Least concern            |    |
| <i>Cynodon dactylon</i>         | Couch Grass               | Least concern            |    |
| <i>Digitaria sp</i>             | Finger grass              | Least concern            |    |
| <i>Eragrostis spp</i>           | Soetgras                  | Least concern            |    |
| <i>Hyparrhenia hirta</i>        | Thatching grass           | Least concern            |    |
| <i>Melinis repens</i>           | Natal red top             | Least concern            |    |
| <i>Panicum spp</i>              | Small buffalo grass       | Least concern            |    |
| * <i>Pennisetum setaceum</i>    | Fountain grass            | Exotic, declared invader | 1b |
| <i>Setaria verticillata</i>     | Hooked bristlegrass       | Least concern            |    |
| Forbes                          |                           |                          |    |
| * <i>Argemone ochroleuca</i>    | Mexican poppy             | Exotic, declared invader | 1b |
| * <i>Bidens pilosa</i>          | Blackjack                 | Exotic                   |    |
| * <i>Caesalpinia gilliesii</i>  | Bird of paradise flower   | Exotic, declared invader | 1b |
| * <i>Cereus jamacaru</i>        | Queen of the night        | Exotic, declared invader | 1b |
| * <i>Datura stramonium</i>      | Common Thorn Apple        | Exotic, declared invader | 1b |
| # <i>Erigeron canadensis</i>    | Horseweed                 | Naturalized exotic weed  |    |
| * <i>Opuntia ficus-indica</i>   | Sweet prickly pear        | Exotic, declared invader | 1b |
| * <i>Verbena bonariensis</i>    | Tall verbena              | Exotic, declared invader | 1b |
| # <i>Tagetes minuta</i>         | Khakibos                  | Naturalized exotic weed  |    |
| Succulents                      |                           |                          |    |
| * <i>Aloe claviflora</i>        | Kraal aloe                | Protected                |    |
| Geophytes                       |                           |                          |    |
| <i>Trachyandra saltii</i>       | Wildecknoflok             | Least concern            |    |
| <i>Bulbine narcissifolia</i>    | Strap-leaved Bulbine      | Least concern            |    |
| <i>Sansevieria aethiopica</i>   | Bowstring hemp            | Least concern            |    |
| Herbs                           |                           |                          |    |
| <i>Nidorella resedifolia</i>    | Stinkkruid                | Least concern            |    |
| * <i>Solanum elaeagnifolium</i> | Silver-leave bitter apple | Exotic, declared invader | 1b |
| Creepers                        |                           |                          |    |
| <i>Gomphrena serrata</i>        | Prostate gomphrena        | Exotic                   |    |
| <i>Senna italica</i>            | Eland's pea               | Least concern            |    |

**P - Protected Species**

\* - Alien and Invasive Species

# - Naturalized exotic weeds (Not assessed for National Red List)

30% of *Aloe claviflora* plants should be relocated in areas to be disturbed as they are provincially protected.

**Land capability and agricultural potential**

According to an article on the Grain SA website by Garry Paterson from ARC-Institute for Soil, Climate and Water on the Grain SA website, agriculture rests on three pillars where natural resources are concerned. These are the soil (comprising the growth medium for the plant), the climate conditions (which supply the plant with sufficient water and heat) and the terrain (enabling the crop to be physically planted, to grow and to be harvested sustainably).

The concept of land capability combines the three natural resource elements or factors listed above (soil, climate and terrain) and uses set parameters to determine a specific class for a given area. The basis of the land capability assessment in South Africa is the well-known Land Type Survey, which is a country-wide inventory of natural resources, i.e. soil pattern, macroclimate and terrain type, carried out between 1972 and 2002 by the ARC-Institute for Soil, Climate and Water.

Each unique land type is allocated to one of eight land capability classes. These classes are based on the original USDA land capability system, whereby Classes I and II comprise areas with little or no limitations to rainfed agriculture, Classes III and IV comprise those areas which are still considered arable, but with moderate to severe restrictions. Classes V to VIII comprise non-

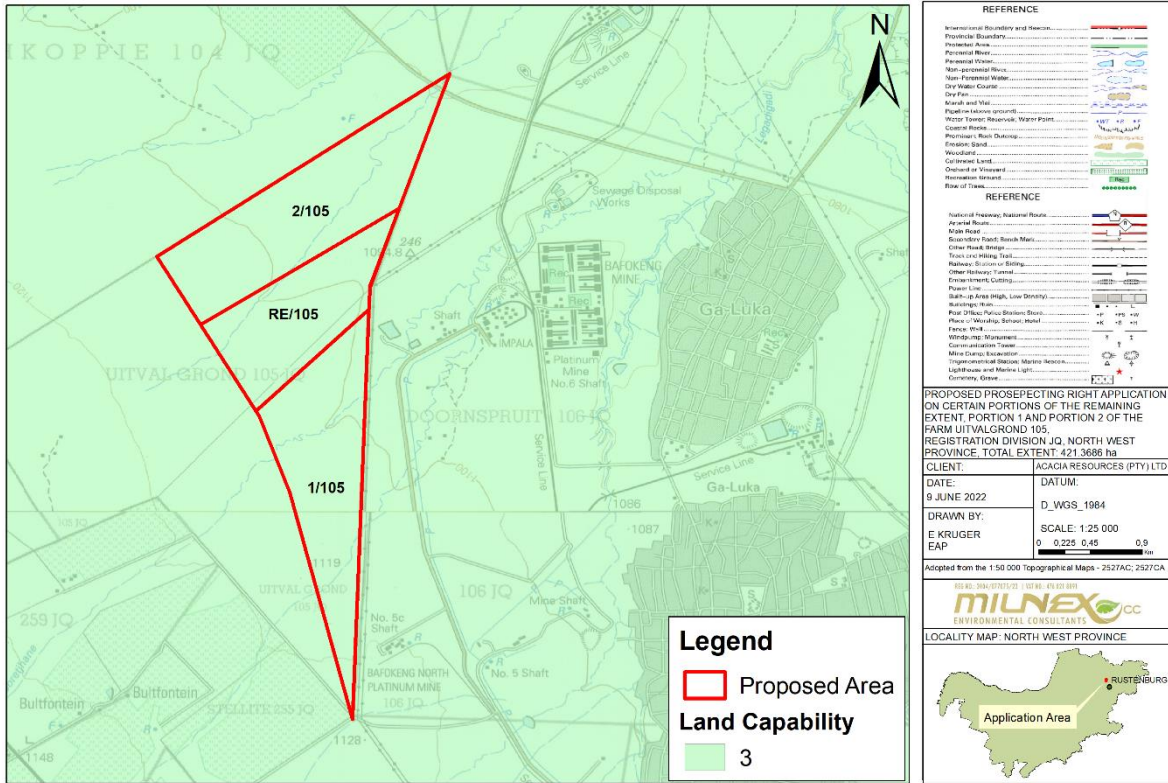
Milnex CC: EIA592 –EIR & EMP: The Prospecting Right combined with a Waste Licence application to prospect for Chrome Ore (Cr), LG & MG Seams together with Platinum Group Metals (PGM), near Rustenburg on a certain portion of The Remaining Extent, a certain portion of Portion 1 & a certain portion of Portion 2 of the Farm Uitvalgrond 105, Registration Division JQ, North West Province. The property is located approximately 18km North West of Rustenburg.

arable land with increasingly serious restrictions, either in terms of restricted soil, steep terrain, rockiness and/or an unfavourable climatic regime. (Garry Paterson, ARC-Institute for Soil, Climate and Water, November 2014.)

The proposed area falls within Land in Class 3 (refer to Land capability map on **figure 7** and attached as **Appendix 5**).

Refer to Land capability map attached as **Appendix 5** & **figure 7** below.

**EIA592PR: LAND CAPABILITY MAP**



**Figure 7:** Land capability

According to the DEA Screening Report the Agriculture theme sensitivity of the proposed area fall mostly within medium sensitivity, with patches of High sensitivity.

Please see **Appendix 7** for the colour map.

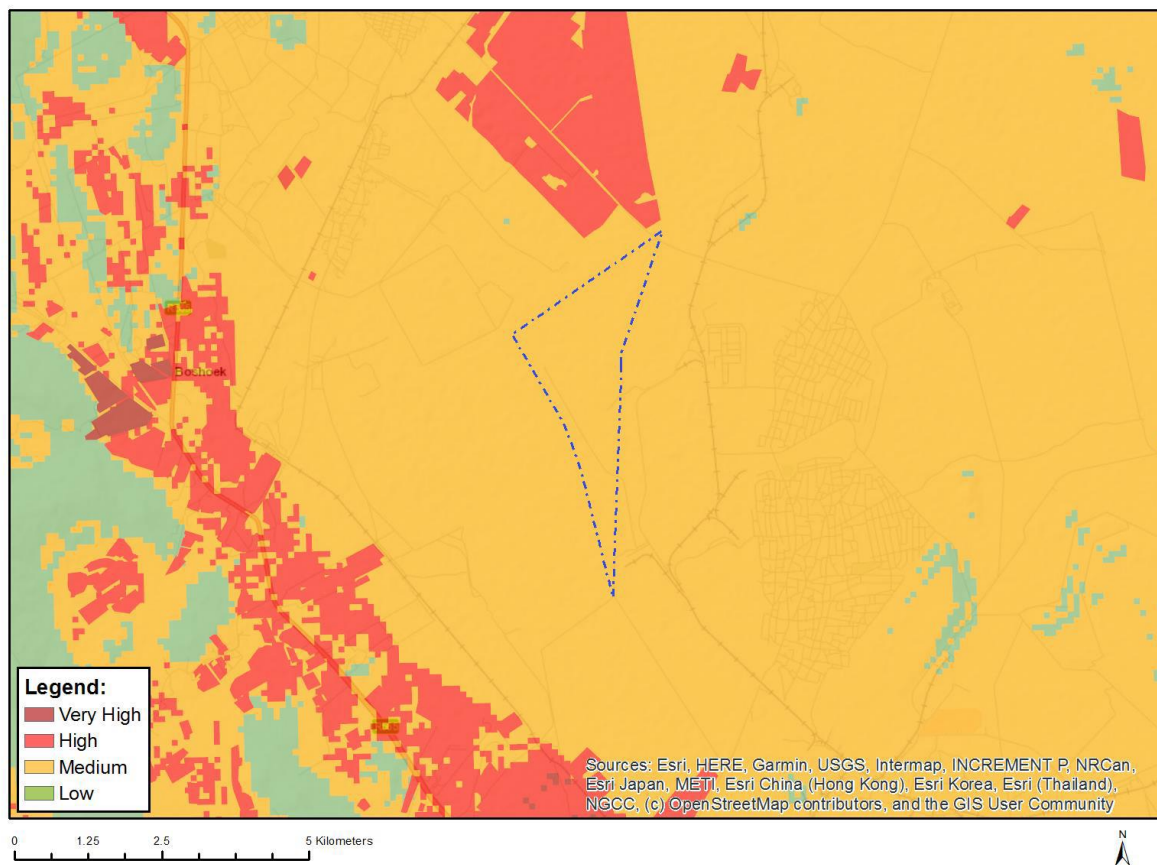


Figure 8: Agriculture Combined Sensitivity

### Threatened Ecosystems

Ecosystem threat status outlines the degree to which ecosystems are still intact or alternatively losing vital aspects of their structure, function and composition, on which their ability to provide ecosystem services ultimately depends (Driver *et al.* 2011). Datasets have been developed by SANBI (2016) in order to outline threatened ecosystems, with the primary objective of limiting the rate of ecosystem extinctions. Four established categories group these ecosystems namely: Critically Endangered (CR), Endangered (EN), Vulnerable (VU) and Protected.

The proposed portion does not fall within a threatened ecosystem according to **Figure 9**.

### Protected Areas

According to the data for protected areas (**Figure 9**), the proposed area does not fall within a formally protected area.

### EIA592PR: PROTECTED AREAS MAP

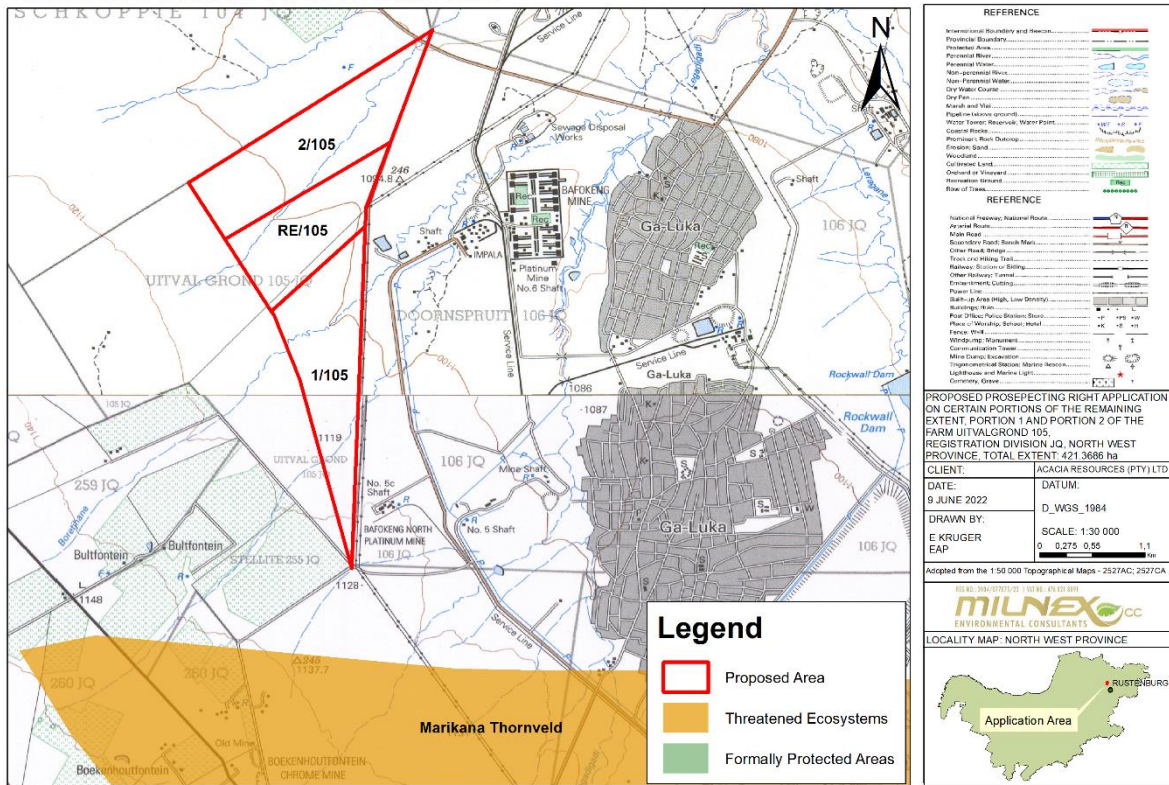


Figure 9: Threatened and Protected Areas Map

### Critical Biodiversity Area

Critical Biodiversity Areas (CBAs) are terrestrial and aquatic areas of high biodiversity value that need to be conserved and maintained in a natural or near-natural state to ensure the continued existence and functioning of species and ecosystems and the delivery of ecosystem services (MTPA, 2014). According to the National Environmental Management Act (NEMA) (Act no. 107 of 1998) certain activities have strict guidelines or are prohibited within CBAs and ESAs. Refer to the listed activities under the NEMA: Environmental Impact Assessment Regulations of 2014 (GNR 982) as promulgated in terms of the National Environmental Management Act (Act 107 of 1998) (NEMA) [as amended] for a comprehensive breakdown. The following terms are used to categorise the various land used types according to their biodiversity and environmental importance:

- Critical Biodiversity Area One (CBA1);
- Critical Biodiversity Area Two (CBA2);
- Ecological Support Area (ESA);
- Other Natural Areas (ONA); and
- Protected Area (PA).

Based on the desktop information (Figure 10), the proposed area does not fall on any ESA1, ESA2 nor CBA2 or CBA1 areas.

Milnex CC: EIA592 –EIR & EMP: The Prospecting Right combined with a Waste Licence application to prospect for Chrome Ore (Cr), LG & MG Seams together with Platinum Group Metals (PGM), near Rustenburg on a certain portion of The Remaining Extent, a certain portion of Portion 1 & a certain portion of Portion 2 of the Farm Uitvalgrond 105, Registration Division JQ, North West Province. The property is located approximately 18km North West of Rustenburg.

**EIA592PR: CRITICAL BIODIVERSITY AREAS MAP**

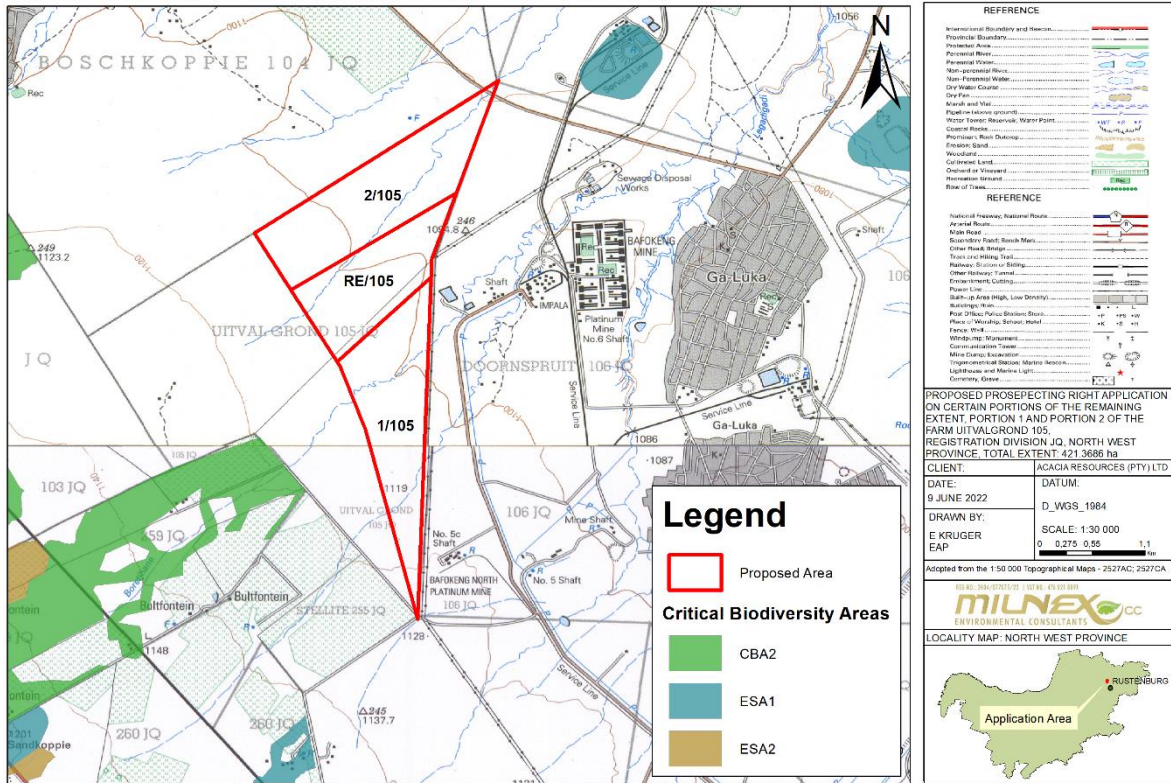
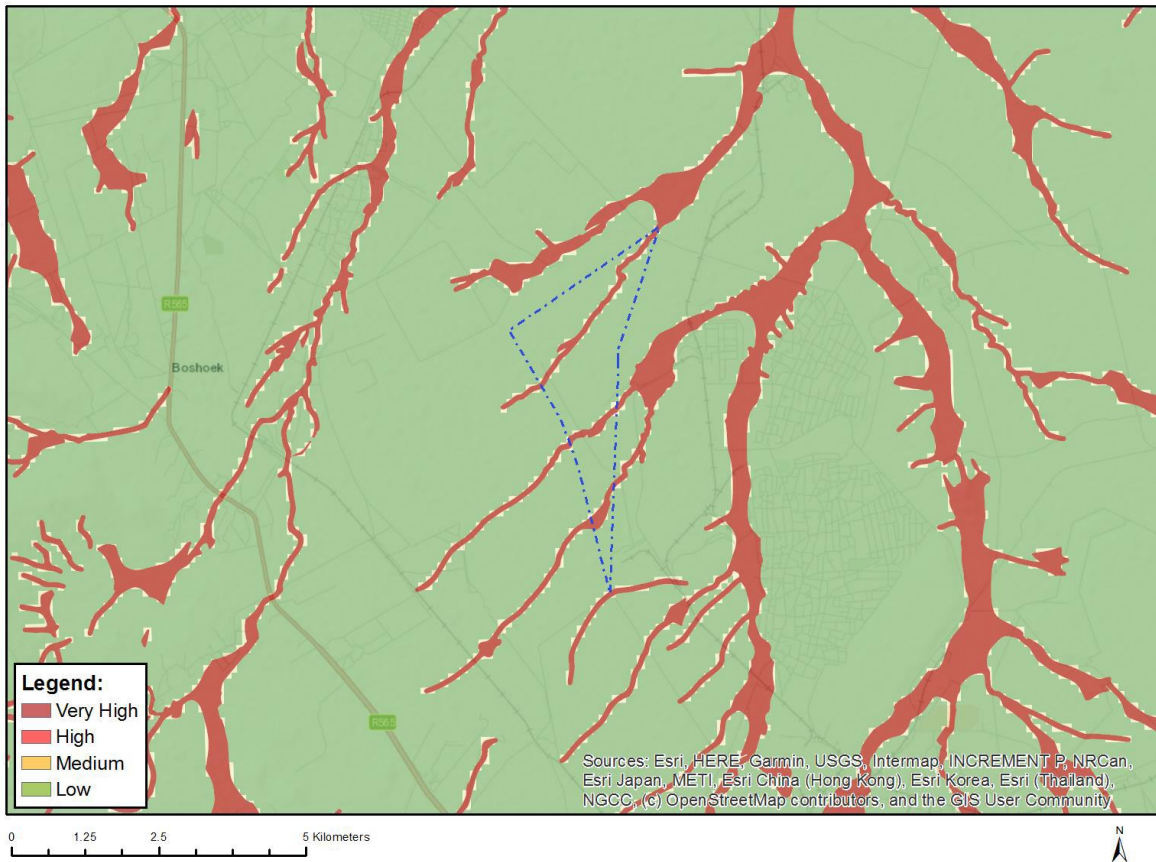


Figure 10: Critical Biodiversity Areas Map.

According to the DEA Screening Report most of the proposed area falls mostly within Very High and Low Aquatic Biodiversity sensitivity. Please see **figure 11** below & **Appendix 7** for the colour map.

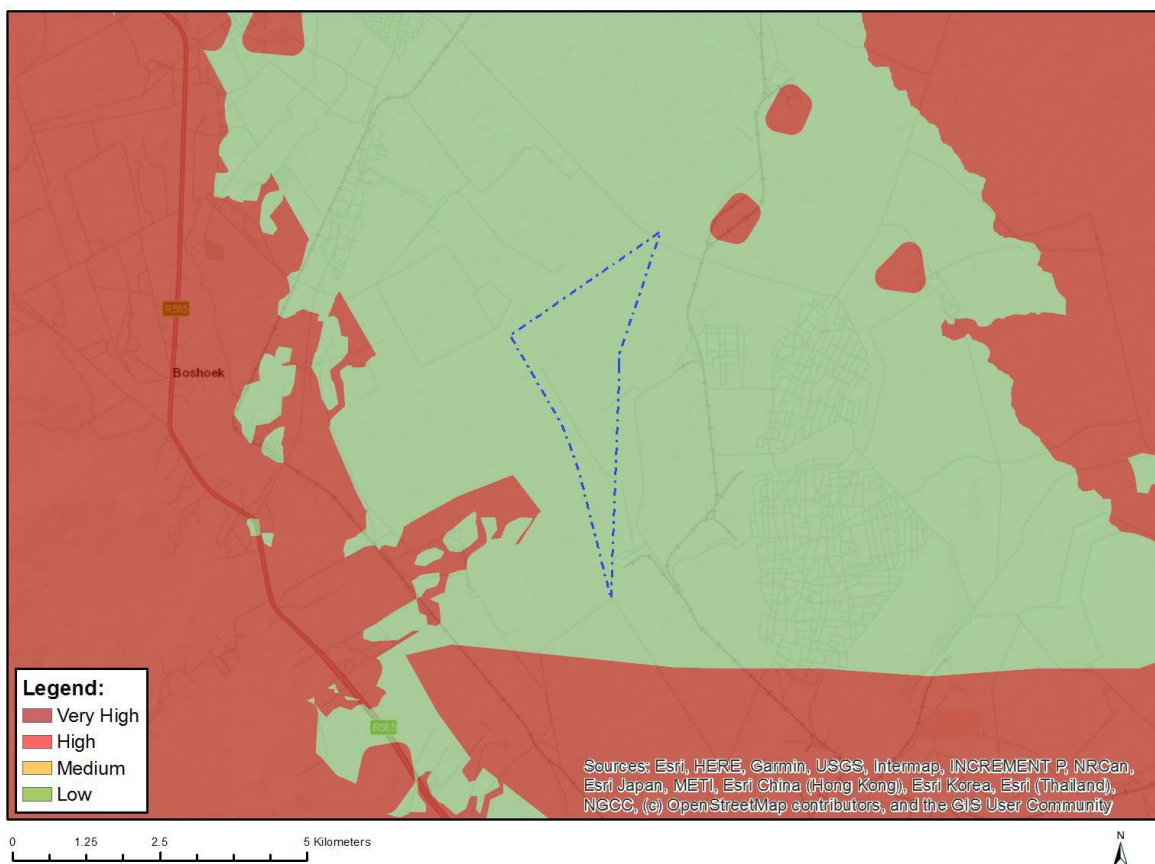


**Figure 11:** Aquatic Biodiversity Combined Sensitivity

A post-screening site visit was therefore conducted to determine the accuracy of the generated information, and if the studies recommended should be conducted. After the site visit it was concluded that the Aquatic Biodiversity Theme is revised to a **Low Sensitivity**. The site presented a Low Sensitivity for the Aquatic Species Theme due to the watercourses not being true wetlands. These drainage lines were also observed to be impacted by historic mining which altered their hydrological functionalities.



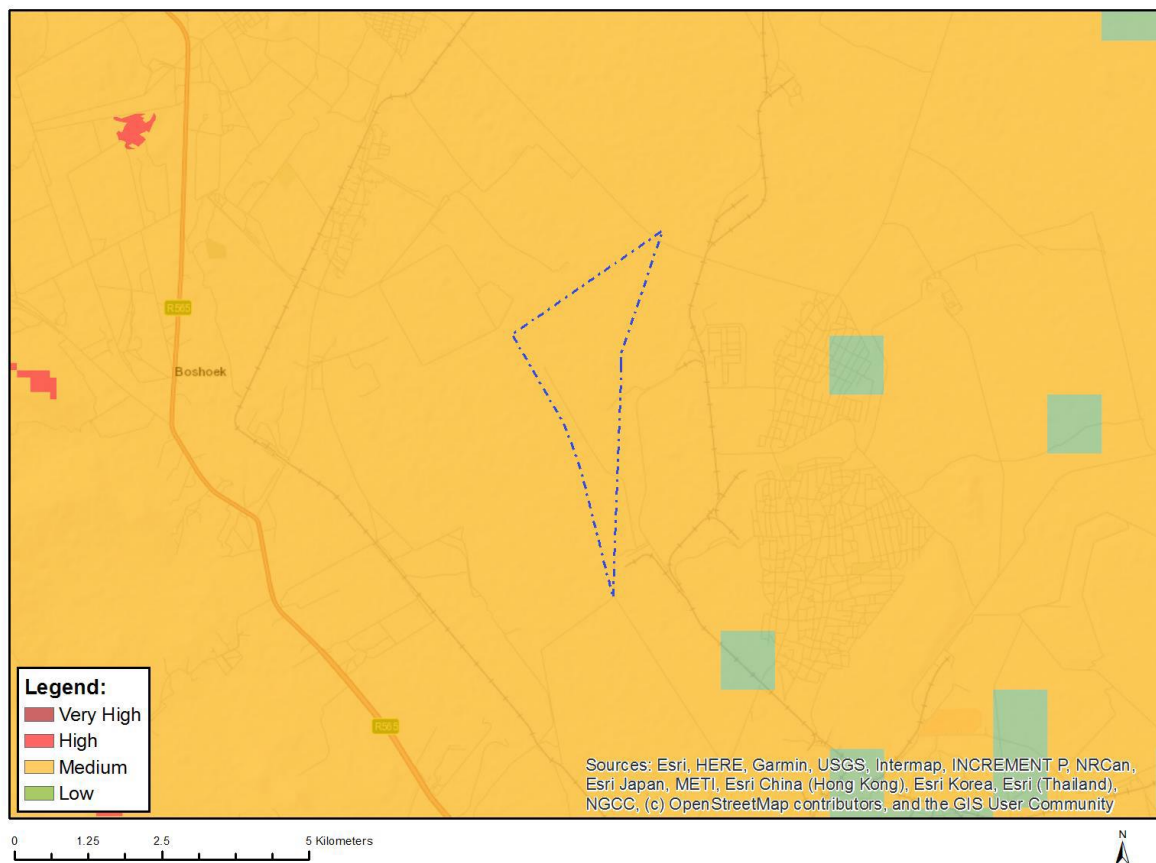
According to the DEA Screening Report the proposed area falls mostly within a low Terrestrial Biodiversity theme sensitivity. Please see **Appendix 7** for the colour map.



**Figure 12: Terrestrial Biodiversity Combined Sensitivity**

A post-screening site visit was therefore conducted to determine the accuracy of the generated information, and if the studies recommended should be conducted. After the site visit the following was concluded: The site has a Medium sensitivity from a terrestrial biodiversity perspective. A significant portion of the study site was observed to be in a degraded state due to historic mining activities. With that being noted, most of the study area was in a near natural state, with vast grassland and shrubland vegetation units which are essential for fossorial and cursorial existence. Evidence of organisms (Porcupine droppings and quills) re-establishing themselves within these old rehabilitated areas was observed.

According to the DEA Screening Report the proposed portions fall within a medium Animal Species theme sensitivity. Please see Figure 13 below & **Appendix 7** for the colour map.



**Figure 13:** Animal Species theme sensitivity

A post-screening site visit was therefore conducted to determine the accuracy of the generated information, and if the studies recommended should be conducted. After the site visit the following was concluded: The site presented a Low-Medium Sensitivity for the Animal Species Theme due to the moderate presence of fauna and faunal habitats. Species of conservation concern were not observed on site and have a moderately low probability of occurrence due to the existing disturbances caused by anthropogenic activities.

### Faunal Assessment

#### Avifauna

Many avifaunal species are adaptable as they are habitat generalists and can therefore accommodate a certain degree of habitat degradation and transformation (Harrison *et al.*, 1997). Other species are extremely habitat specific and have to rely on certain habitat units for breeding, hunting or foraging and roosting. It is the survival of these species that become threatened as they cannot adapt to habitat changes. Habitat-specific species are sensitive to environmental change, with destruction of habitat being the leading cause of species decline worldwide (Barnes, 2000).

It is widely accepted that vegetation structure, rather than the actual plant species, influences bird species' distribution and abundance (Harrison *et al.*, 1997). Therefore, the vegetation description used in the Bird Atlas does not focus on lists of plant species, but rather on factors which are relevant to bird distribution. After generating a screening report (**Appendix 7**) of the study site, it was observed that the Endangered *Sagittarius serpentarius* (Secretary bird) is expected to occur within the region.

Secretary birds are adapted to open grasslands and shrublands which are essential for their cursorial existence. Suitable breeding and feeding habitats influencing distribution were observed on site in the form of short grass and short shrubs (Taylor *et al.*, 2015). Secretary birds are known to roost in trees of the genus *Acacia* (*Vachellia*) and *Balanites*. The presence of *Vachellia spp* trees in the study area presents suitable breeding habitats for these birds. With that being noted, their potential for occurrence is decreased

by the level of disturbance (Mining, Selective logging, and grazing) in the study area and surroundings. Birds observed on site, and those which potentially occur in the study area and enjoy conservation status in the IUCN Red List are presented in the Table below.

Highlighted Species were observed on site and Several species potentially occurring on site are protected under NEMBA (See species in bold).

**Table 1:** List of Birds Possibly Occurring on Site (IUCN, 2021)

| Scientific Name                     | Common Name                 | Red Data List Category | Likelihood of Occurrence | ToPS             |
|-------------------------------------|-----------------------------|------------------------|--------------------------|------------------|
| <i>Sagittarius serpentarius</i>     | Secretarybird               | EN                     | Medium                   |                  |
| <i>Circus maurus</i>                | Black Harrier               | EN                     | Medium                   |                  |
| <i>Oxyura maccoa</i>                | Maccoa Duck                 | VU                     | Low                      |                  |
| <b><i>Gyps africanus</i></b>        | <b>White-backed Vulture</b> | CR                     | Medium                   | <b>Protected</b> |
| <b><i>Torgos tracheliotos</i></b>   | <b>Lappet-faced Vulture</b> | EN                     | Medium                   | <b>Protected</b> |
| <b><i>Gyps coprotheres</i></b>      | <b>Cape Vulture</b>         | EN                     | Medium                   | <b>Protected</b> |
| <b><i>Polemaetus bellicosus</i></b> | <b>Martial Eagle</b>        | EN                     | High                     | <b>Protected</b> |
| <b><i>Aquila rapax</i></b>          | <b>Tawny Eagle</b>          | VU                     | High                     | <b>Protected</b> |
| <b><i>Calidris ferruginea</i></b>   | <b>Curlew Sandpiper</b>     | NT                     | Medium                   | <b>Protected</b> |
| <b><i>Phoeniconaias minor</i></b>   | <b>Lesser Flamingo</b>      | NT                     | Low                      | <b>Protected</b> |
| <i>Glareola nordmanni</i>           | Black-winged pratincole     | NT                     | Medium                   |                  |
| <i>Falco vespertinus</i>            | Red-footed Falcon           | NT                     | Medium                   |                  |
| <i>Circus macrourus</i>             | Pallid Harrier              | NT                     | Medium                   |                  |
| <i>Numenius arquata</i>             | Eurasian Curlew             | NT                     | Low                      |                  |
| <b><i>Ardeotis kori</i></b>         | <b>Kori Bustard</b>         | NT                     | Low                      | <b>Protected</b> |
| <i>Bucorvus leadbeateri</i>         | Southern Ground-hornbill    | VU                     | Low                      |                  |
| <i>Egretta Garzetta</i>             | Little Egret                | LC                     | High                     |                  |
| <i>Elanus axillaris</i>             | Black-shouldered Kite       | LC                     | High                     |                  |
| <i>Lanius collurio</i>              | Red-backed Shrike           | LC                     | High                     |                  |
| <i>Ploceus velatus</i>              | Southern Masked Weaver      | LC                     | High                     |                  |
| <i>Euplectes orix</i>               | Southern Red Bishop         | LC                     | High                     |                  |
| <i>Chrysococcyx caprius</i>         | Diederik Cuckoo             | LC                     | High                     |                  |
| <i>Ardea cinerea</i>                | Grey Heron                  | LC                     | Medium                   |                  |
| <i>Anas undulata</i>                | Yellow-billed Duck          | LC                     | Low                      |                  |

| Scientific Name              | Common Name              | Red Data List Category | Likelihood of Occurrence | ToPS |
|------------------------------|--------------------------|------------------------|--------------------------|------|
| <i>Phalacrocorax lucidus</i> | White-breasted cormorant | LC                     | Low                      |      |

### Mammals

The table below lists the mammal species possibly occurring on the proposed site according to the Animal Demography Unit (2019) alongside the designated statuses of those species in the South African Red list of Mammals (2012) and the Threatened or Protected Species (ToPS) List (NEMBA, 10 of 2004). Several species potentially occurring on site are protected under NEMBA (See species in bold).

The DFFE screening tool report (**Appendix 7**) flagged two SCC that may potentially occur on site, these are the *Acinonyx jubatus* (Cheetah) and the *Crociodura maquassiensis* (Makwassie musk shrew). A few of the mammals listed in the **Table** below have a likelihood of occurrence within the study area due to the presence of suitable habitat in the Short and Tall Shrubland vegetation unit (**Figure 5**), but Low in the rest of the study area due to anthropogenic encroachment and disturbance (Poaching and habitat destruction) in large sections of the study area. Therefore, likelihood of occurrence is ranked Low. Most of the listed mammals are adapted to grassland and shrubland biomes. Evidence of occurrence for mammals observed on site was noted in the form of observation, spoor, holes and droppings. Neither animals triggered in the screening tools' spoor nor droppings were observed on site. The Cheetah was not expected to occur on site due to their occurrence being limited to protected or private game reserves.

Highlighted Species were noted on site.

**Table 2:** List of Mammals Possibly Occurring on Site (ADU, 2019)

| Family         | Scientific Name                            | Common Name               | Red List Category             | ToPS             |
|----------------|--|---------------------------|-------------------------------|------------------|
| Bathyergidae   | <i>Cryptomys hottentotus</i>               | Southern African Mole-rat | Least Concern (2016)          |                  |
| Bovidae        | <i>Aepyceros melampus</i>                  | Impala                    | Least Concern                 |                  |
| Bovidae        | <i>Alcelaphus buselaphus</i>               | Hartebeest                | Least Concern                 |                  |
| Bovidae        | <i>Alcelaphus buselaphus caama</i>         | Red Hartebeest            | Least Concern (2008)          |                  |
| Bovidae        | <i>Antidorcas marsupialis</i>              | Springbok                 | Least Concern (2016)          |                  |
| Bovidae        | <i>Connochaetes taurinus taurinus</i>      | Blue Wildebeest           | Least Concern (2016)          |                  |
| Bovidae        | <i>Damaliscus pygargus phillipsi</i>       | Blesbok                   | Least Concern (2016)          |                  |
| Bovidae        | <i>Hippotragus niger</i>                   | Sable Antelope            | Least Concern (ver 3.1, 2017) |                  |
| <b>Bovidae</b> | <b><i>Hippotragus niger niger</i></b>      | <b>Sable Antelope</b>     | <b>Vulnerable (2016)</b>      | <b>Protected</b> |
| Bovidae        | <i>Kobus ellipsiprymnus</i>                | Waterbuck                 | Least Concern (ver 3.1, 2016) |                  |
| Bovidae        | <i>Kobus ellipsiprymnus ellipsiprymnus</i> | Water buck                | Least Concern (2016)          |                  |
| Bovidae        | <i>Oreotragus oreotragus</i>               | Klipspringer              | Least Concern (2016)          |                  |
| Bovidae        | <i>Oryx gazella</i>                        | Gemsbok                   | Least Concern (2016)          |                  |
| <b>Bovidae</b> | <b><i>Ourebia ourebi</i></b>               | <b>Oribi</b>              | <b>Endangered</b>             | <b>Protected</b> |
| <b>Bovidae</b> | <b><i>Philantomba monticola</i></b>        | <b>Blue Duiker</b>        | <b>Vulnerable (2016)</b>      | <b>Protected</b> |
| Bovidae        | <i>Raphicerus campestris</i>               | Steenbok                  | Least Concern (2016)          |                  |
| Bovidae        | <i>Redunca arundinum</i>                   | Southern Reedbuck         | Least Concern (2016)          |                  |

|                 |                                   |                             |                                  |           |
|-----------------|-----------------------------------|-----------------------------|----------------------------------|-----------|
| Bovidae         | <i>Redunca fulvorufula</i>        | Mountain Reedbuck           | Least Concern                    |           |
| Bovidae         | <i>Sylvicapra grimmia</i>         | Bush Duiker                 | Least Concern (2016)             |           |
| Bovidae         | <i>Taurotragus oryx</i>           | Common Eland                | Least Concern (2016)             |           |
| Bovidae         | <i>Tragelaphus angasii</i>        | Nyala                       | Least Concern (2016)             |           |
| Bovidae         | <i>Tragelaphus scriptus</i>       | Bushbuck                    | Least Concern                    |           |
| Bovidae         | <i>Tragelaphus strepsiceros</i>   | Greater Kudu                | Least Concern (2016)             |           |
| Canidae         | <i>Canis mesomelas</i>            | Black-backed Jackal         | Least Concern (2016)             |           |
| Cercopithecidae | <i>Chlorocebus pygerythrus</i>    | Vervet Monkey               | Least Concern (2016)             |           |
| Cercopithecidae | <i>Papio ursinus</i>              | Chacma Baboon               | Least Concern (2016)             |           |
| Equidae         | <i>Equus quagga</i>               | Plains Zebra                | Near Threatened (IUCN, 2016)     | Protected |
| Felidae         | <i>Caracal caracal</i>            | Caracal                     | Least Concern (2016)             |           |
| Felidae         | <i>Leptailurus serval</i>         | Serval                      | Near Threatened (2016)           | Protected |
| Felidae         | <i>Panthera pardus</i>            | Leopard                     | Vulnerable (2016)                | Protected |
| Galagidae       | <i>Galago moholi</i>              | Mohol Bushbaby              | Least Concern (2016)             |           |
| Giraffidae      | <i>Giraffa giraffa giraffa</i>    | South African Giraffe       | Least Concern (2016)             |           |
| Herpestidae     | <i>Helogale parvula</i>           | Common Dwarf Mongoose       | Least Concern (2016)             |           |
| Herpestidae     | <i>Herpestes sanguineus</i>       | Slender Mongoose            | Least Concern (2016)             |           |
| Hyaenidae       | <i>Hyaena brunnea</i>             | Brown Hyena                 | Near Threatened (2015)           | Protected |
| Hyaenidae       | <i>Proteles cristata</i>          | Aardwolf                    | Least Concern (2016)             |           |
| Hystricidae     | <i>Hystrix africaeaustralis</i>   | Cape Porcupine              | Least Concern                    |           |
| Leporidae       | <i>Lepus saxatilis</i>            | Scrub Hare                  | Least Concern                    |           |
| Leporidae       | <i>Pronolagus sp.</i>             | Rock-hares                  | Least Concern                    |           |
| Leporidae       | <i>Pronolagus randensis</i>       | Jameson's Red Rock Hare     | Least Concern (2016)             |           |
| Macroscelididae | <i>Elephantulus myurus</i>        | Eastern Rock Elephant Shrew | Least Concern (2016)             |           |
| Muridae         | <i>Aethomys ineptus</i>           | Tete Veld Aethomys          | Least Concern (2016)             |           |
| Muridae         | <i>Aethomys namaquensis</i>       | Namaqua Rock Mouse          | Least Concern                    |           |
| Muridae         | <i>Dasymys incomtus</i>           | Common Dasymys              | Least Concern                    |           |
| Muridae         | <i>Lemniscomys rosalia</i>        | Single-Striped Lemniscomys  | Least Concern (2016)             |           |
| Muridae         | <i>Mastomys sp.</i>               | Multimammate Mice           | Least Concern                    |           |
| Muridae         | <i>Otomys angoniensis</i>         | Angoni Vlei Rat             | Least Concern (2016)             |           |
| Muridae         | <i>Rattus rattus</i>              | Roof Rat                    | Least Concern                    |           |
| Mustelidae      | <i>Mellivora capensis</i>         | Honey Badger                | Least Concern (2016)             |           |
| Procaviidae     | <i>Procavia capensis capensis</i> | Cape Rock Hyrax             | LC (IUCN 2015, global sp. level) |           |
| Sciuridae       | <i>Paraxerus cepapi</i>           | Smith's Bush Squirrel       | Least Concern (2016)             |           |

|                  |                                |                                       |                      |  |
|------------------|--------------------------------|---------------------------------------|----------------------|--|
| Suidae           | <i>Phacochoerus africanus</i>  | Common Warthog                        | Least Concern (2016) |  |
| Suidae           | <i>Potamochoerus larvatus</i>  | Bush-pig                              | Least Concern (2016) |  |
| Suidae           | <i>Potamochoerus porcus</i>    | Red River Hog                         | Least Concern        |  |
| Thryonomyidae    | <i>Thryonomys swinderianus</i> | Greater Cane Rat                      | Least Concern (2016) |  |
| Vespertilionidae | <i>Scotophilus dinganii</i>    | Yellow-bellied House Bat              | Least Concern (2016) |  |
| Viverridae       | <i>Genetta tigrina</i>         | Cape Genet (Cape Large-spotted Genet) | Least Concern (2016) |  |

## Herpetofauna

The local occurrences of reptiles and amphibians (collectively known as Herpetofauna) are closely dependent on broadly defined habitat types, terrestrial, arboreal (tree-living), rupicolous (rock dwelling) and wetland-associated vegetation cover. Based on the DFFE Screening tool, no Herpetofauna SCC are expected to occur on site. Based on the Reptile Atlas of Africa and the Frog Atlas of South Africa (ADU, 2019) The Near threatened *Pyxicephalus adspersus* (Giant Bull frog) and Vulnerable *Kinixys lobatsiana* (Lobatse Hinged Tortoise) are expected to occur on site. During the site assessment, evidence of Serpentes was observed on site in the form of trails. Anecdotal evidence suggests the common occurrence of *Boaedon capensis* (Brown House snake), *Bitis arietans* (Puff adder), *Stigmochelys pardalis* (leopard tortoise) and *Varanus niloticus* (Water Monitor). Reptiles which were observed on site were the *Trachylepis punctatissima* (Speckled Rock Skink) and the *Acanthocercus atricollis* (Southern tree agama).

Based on the DFFE Screening tool, the study area was expected to present low sensitivity for Terrestrial Biodiversity. The site visit confirmed this to be true due to the evident degradation of large parts of the study area. Even with mining not being conducted in the study area, the area has been, and is still being used by locals for grazing, poaching, logging, and residence. The occurrence of charismatic fauna, plants and suitable habitat in the study area is medium to low due to historic and existing impacts mentioned prior. With that being noted, the study site is located within proximity (10 to 16 km) of Important Bird and Biodiversity Areas and Protected areas (Pilanesberg National park and the Magaliesberg Nature Area and Reserve) Due to the migratory behaviour of certain organisms, and tolerance to disturbed habitat. A few species of conservation concern may sporadically be seen in the study area.

## Biodiversity Priority Areas for Mining

The Mining and Biodiversity Guideline was developed in 2013 for the purpose of mainstreaming biodiversity management practices into the mining sector (DEA, DMR, Chamber of Mines, SAMBF & SANBI 2013). This Guideline provides explicit direction in terms of where mining-related impacts are legally prohibited, where biodiversity priority areas may present high risks for mining projects, and where biodiversity may limit the potential for mining. The Guideline distinguishes between four categories of biodiversity priority areas in relation to their importance from a biodiversity and ecosystem service perspective as well as the implications for mining in these areas

Four categories of biodiversity priority areas in relation to their biodiversity importance and implications for mining.

| Category                    | Biodiversity Priority Areas  | Risks for Mining         | Implications for Mining  |
|-----------------------------|--|--------------------------|--|
| <b>A. Legally Protected</b> | <ul style="list-style-type: none"> <li>Protected areas (including National Parks, Nature Reserves, World Heritage Sites, Protected Environments, Nature Reserves)</li> <li>Areas declared under Section 49 of the Mineral and Petroleum Resources</li> </ul> | <b>Mining Prohibited</b> | <p>Mining projects cannot commence as mining is legally prohibited. Although mining is prohibited in Protected Areas, it may be allowed in Protected Environments if both the Minister of Mineral Resources and Minister of Environmental Affairs approve it.</p> <p>In cases where mining activities were conducted lawfully in protected areas before Section 48 of the Protected Areas Act (No. 57 of 2003) came into effect, the Minister of Environmental Affairs may, after consulting with the Minister of Mineral Resources, allow such mining</p> |

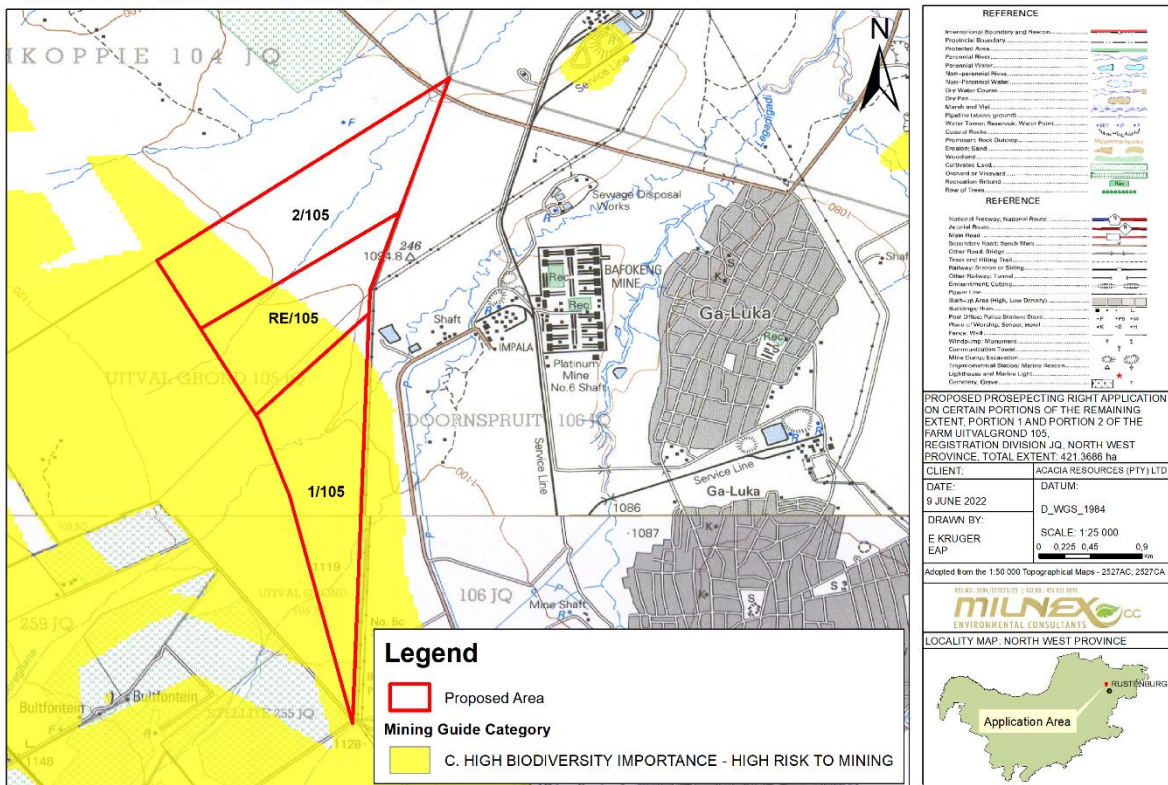
|   |  |                                |  |
|---|--|--------------------------------|--|
|   | Development Act (No. 28 of 2002)   |                                | activities to continue, subject to prescribed conditions that reduce environmental impacts.  |
| <b>B. Highest Biodiversity Importance</b> | <ul style="list-style-type: none"> <li>• Critically endangered and endangered ecosystems</li> <li>• Critical Biodiversity Areas (or equivalent areas) from provincial spatial biodiversity plans</li> <li>• River and wetland Freshwater Ecosystem Priority Areas (FEPAs) and a 1km buffer around these FEPAs</li> <li>• Ramsar Sites</li> </ul>   | <b>Highest Risk for Mining</b> | <p>Environmental screening, environmental impact assessment (EIA) and their associated biodiversity specialist studies should focus on confirming the presence and significance of these biodiversity features, and to provide site-specific basis on which to apply the mitigation hierarchy to inform regulatory decision-making for mining, water use licences, and environmental authorisations.</p> <p>If they are confirmed, the likelihood of a fatal flaw for new mining projects is very high because of the significance of the biodiversity features in these areas and the associated ecosystem services. These areas are viewed as necessary to ensure protection of biodiversity, environmental sustainability, and human well-being.</p> <p>An EIA should include the strategic assessment of optimum, sustainable land use for an area and will determine the significance of the impact on biodiversity.</p> <p>This assessment should fully consider the environmental sensitivity of the area, the overall environmental and socio-economic costs and benefits of mining, as well as the potential strategic importance of the minerals to the country.</p> <p>Authorisations may well not be granted. If granted, the authorisation may set limits on allowed activities and impacts and may specify biodiversity offsets that would be written into licence agreements and/or authorisations.</p> |
| <b>C. High Biodiversity Importance</b>    | <ul style="list-style-type: none"> <li>• Protected area buffers (including buffers around National Parks, World Heritage Sites* and Nature Reserves)</li> <li>• Transfrontier Conservation Areas (remaining areas outside of formally proclaimed protected areas)</li> <li>• Other identified priorities from provincial spatial biodiversity plans</li> <li>• High water yield areas</li> <li>• Coastal Protection Zone</li> <li>• Estuarine functional zone</li> </ul> <p>*Note that the status of buffer areas of World Heritage Sites is subject to a current intra-governmental process</p> | <b>High Risk for Mining</b>    | <p>These areas are important for conserving biodiversity, for supporting or buffering other biodiversity priority areas, and for maintaining important ecosystem services for communities or the country.</p> <p>An EIA should include an assessment of optimum, sustainable land use for an area and will determine the significance of the impact on biodiversity.</p> <p>Mining options may be limited in these areas, and limitations for mining projects are possible.</p> <p>Authorisations may set limits and specify biodiversity offsets that would be written into licence agreements and/or authorisations.</p>   |

Milnex CC: EIA592 –EIR & EMP: The Prospecting Right combined with a Waste Licence application to prospect for Chrome Ore (Cr), LG & MG Seams together with Platinum Group Metals (PGM), near Rustenburg on a certain portion of The Remaining Extent, a certain portion of Portion 1 & a certain portion of Portion 2 of the Farm Uitvalgrond 105, Registration Division JQ, North West Province. The property is located approximately 18km North West of Rustenburg.

|   |  |  |  |
|---|--|--|--|
| <p><b>D. Moderate Biodiversity Importance</b></p> | <ul style="list-style-type: none"> <li>• Ecological support areas</li> <li>• Vulnerable ecosystems</li> <li>• Focus areas for protected area expansion (land-based and offshore protection)</li> </ul> | <p><b>Moderate Risk for Mining</b></p> | <p>These areas are of moderate biodiversity value.</p> <p>EIAs and their associated specialist studies should focus on confirming the presence and significance of these biodiversity features, identifying features (e.g. threatened (land-based and offshore protection) species) not included in the existing datasets, and on providing site-specific information to guide the application of the mitigation hierarchy.</p> <p>Authorisations may set limits and specify biodiversity offsets that would be written into licence agreements and/or authorisations.</p> |
|---|--|--|--|

Based on Figure 13, the area overlaps with category C

**EIA592PR: MINING GUIDE MAP**



**Figure 14:** Biodiversity priority areas, in accordance with the Mining of Biodiversity Guidelines, associated with the study site.

**Wetland Areas**

In terms of Section 1 of the National Water Act (No. 36 of 1998) (NWA), wetlands are legally defined as: “land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil” (NWA 1998).

Wetlands are defined by the presence of unique soils and vegetation that do not occur in terrestrial and purely aquatic environments (Edwards *et al.* 2018). Wetland soils are referred to as hydric soils that develop under anaerobic conditions (condition where oxygen is virtually absent from the soil). Wetlands are also typically characterized by relatively large and dense stands of plants

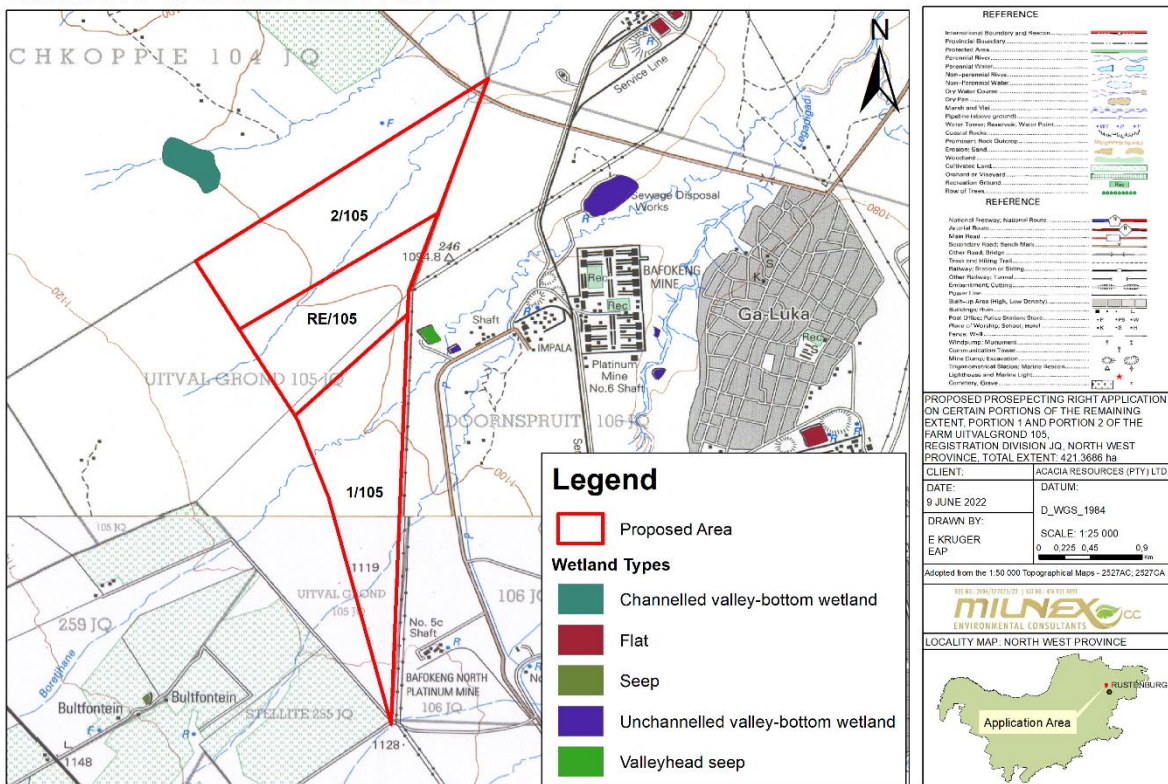


sticking out of shallow water or wet soil. Plants adapted to such waterlogged conditions are referred to as hydrophytes. Wetlands are distinct from true aquatic ecosystems like river ecosystems, which are characterized by fast flowing water within channels, and lake ecosystems, that are flooded to great depth; both of which are not primarily characterized by the occurrence of hydric soils and hydrophytes.

A wide variety of wetland types are present in South Africa, and can be classified into six broad types, namely floodplain wetlands, unchannelled valley bottom wetlands, channelled valley bottom wetlands, seeps, depressions and wetland flats. Owing to the large variations in climate and topography across South Africa, vegetation and habitat associated with these wetland types vary tremendously from subtropical reed beds and tall swamp forests to arid salt pans, which all support unique and varied animal life.

**Figure 15:** illustrates all wetland types associated with the study area. According to the map there are no wetland on the properties

**EIA592PR: WETLAND AREA MAP**



**Figure 15:** Wetland types located within or near the study site.

**Watercourse Habitat Description and System Characterisation**

The watercourse assessment was conducted on the 2<sup>nd</sup> of November 2022, which was within the wet season. A hand-held auger and GPS phone were used to log all information in the field. The wetlands within the 500m regulated area were identified and delineated in accordance with the DWAF (2005) guidelines. Based on the development type, the risks radius of the development on the wetland systems were deemed to be within 100m. Therefore, the field survey focused on the wetlands that were potentially most at risk.

From the desktop assessment, two (2) wetland types were expected to occur around the study area (**Figure 15**). These are a Channelled Valley Bottom, an Unchannelled Valley Bottom and a Valleyhead seep. A site visit was conducted to confirm the desktop findings and are discussed below.

Three (3) watercourses were identified during the site visit. The site visit confirmed the assessed watercourses to be drainage lines which are defined as “a natural channel in which water flows regularly or intermittently”, therefore deeming the systems not to be wetlands. The rationale for this was that these systems did not present any of the following indicators:

- Wetland (hydromorphic) soils that display characteristics resulting from prolonged saturation such as grey horizons, mottling streaks, hard pans, organic matter depositions, iron and manganese concretion resulting from prolonged saturation;
- The presence of water loving plants (hydrophytes); (e.g Sedges)
- A high-water table that results in saturation at or near the surface, leading to anaerobic conditions developing in the top 50 cm of the soil.

The Wetland vegetation that the site has been associated with the Central Bushveld Group 2, as depicted in the figure below.

### EIA592PR: WETLAND VEGETATION MAP

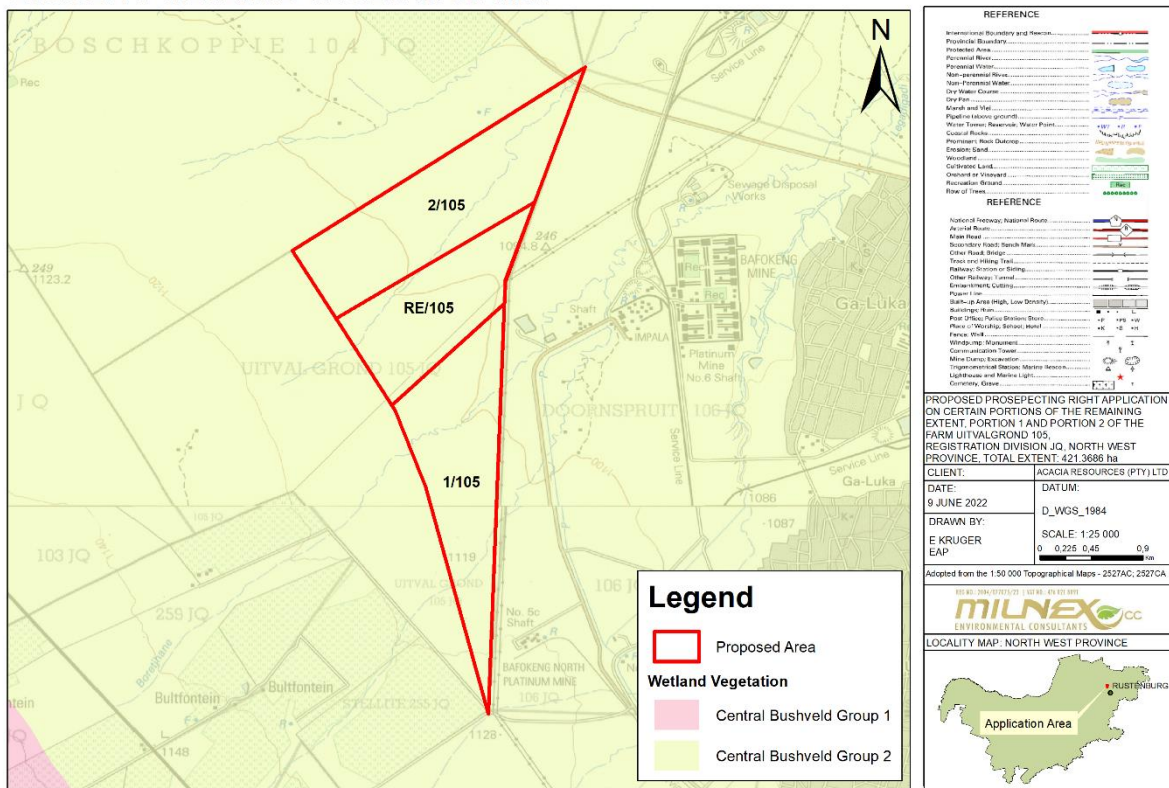


Figure 16: Wetland vegetation type

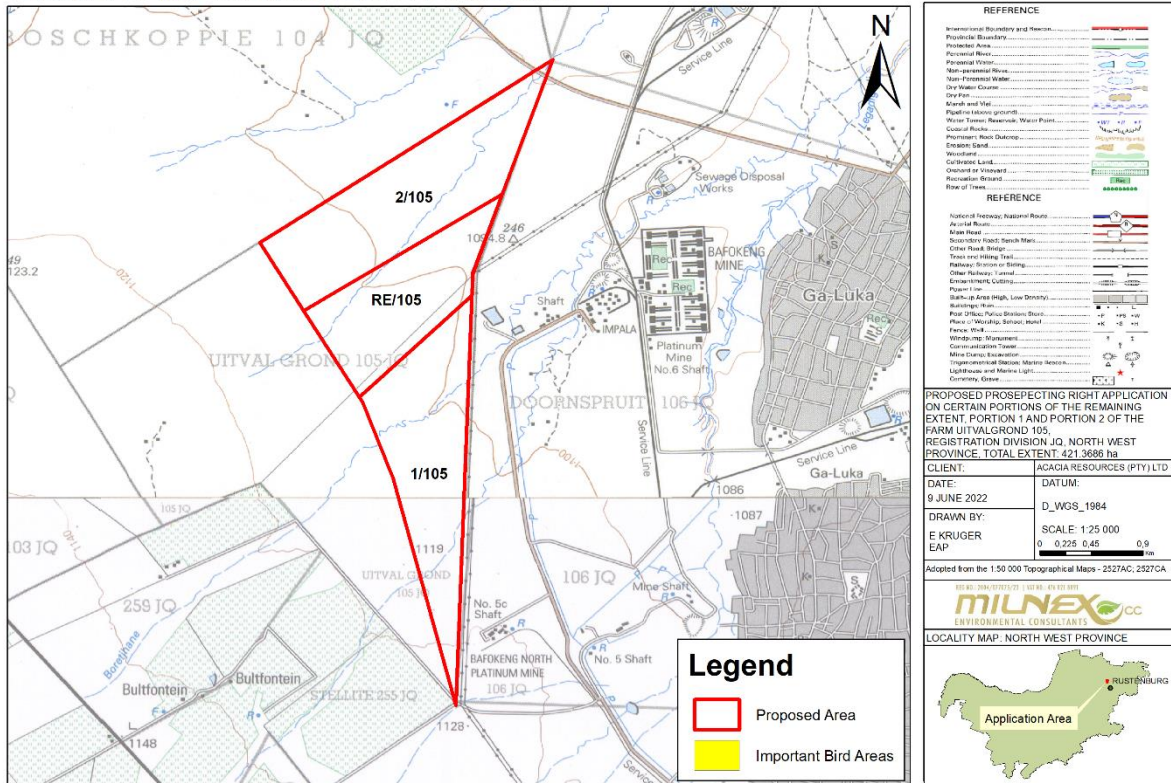
### Important Bird and Biodiversity Areas

Important Bird and Biodiversity Areas (IBAs) are a network of sites that are significant for the long-term viability of naturally occurring bird populations (Birdlife 2019). Many sites are also important for other forms of biodiversity; therefore, the conservation of Important Bird & Biodiversity Areas ensures the survival of a correspondingly large number of other animals and plants.

No IBAs were identified within the vicinity of the study site (Figure 17).

Milnex CC: EIA592 –EIR & EMP: The Prospecting Right combined with a Waste Licence application to prospect for Chrome Ore (Cr), LG & MG Seams together with Platinum Group Metals (PGM), near Rustenburg on a certain portion of The Remaining Extent, a certain portion of Portion 1 & a certain portion of Portion 2 of the Farm Uitvalgrond 105, Registration Division JQ, North West Province. The property is located approximately 18km North West of Rustenburg.

**EIA592PR: IMPORTANT BIRD AREAS MAP**

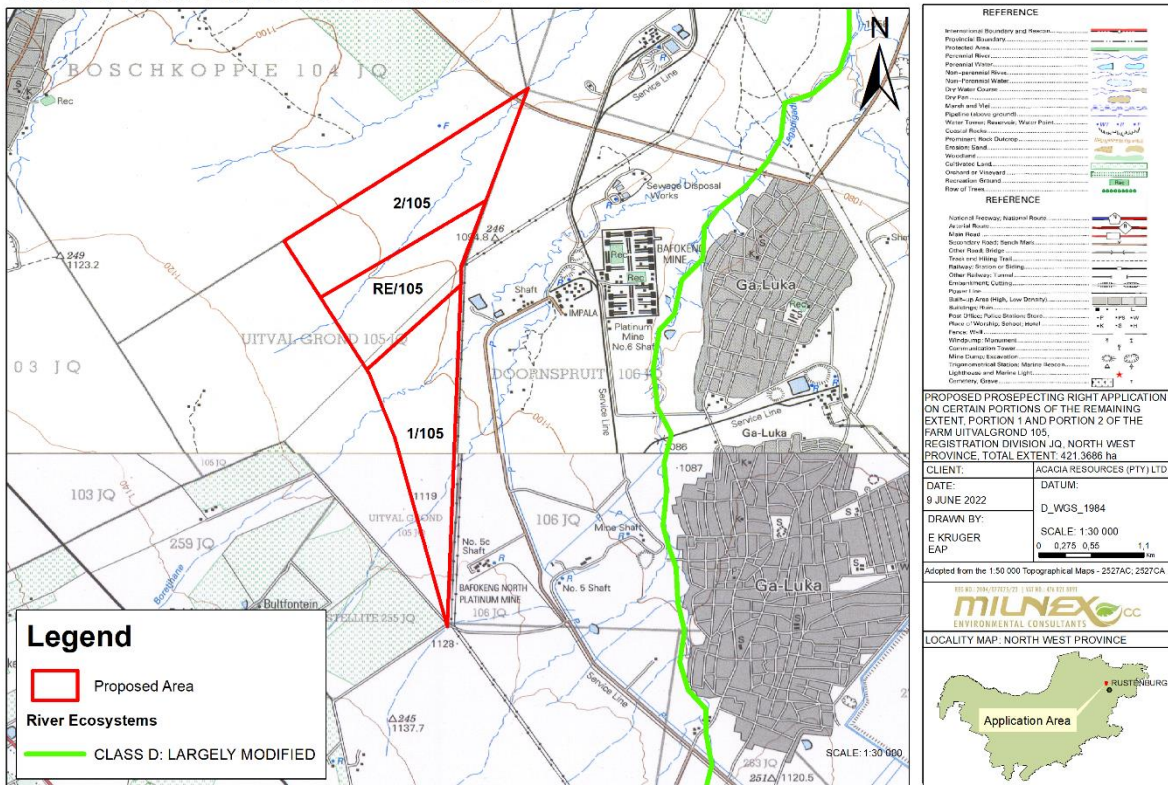


**Figure 17:** Important Bird and Biodiversity Areas associated with the study site.

**River Ecosystem Status**

According to **Figure 18**, there is no river on the proposed area. But according to the screening tool there are a few drainage lines traversing the area.

**EIA592PR: RIVER ECOSYSTEM MAP**



**Figure 18:** Ecosystem status of the rivers occurring in close proximity to the study site.

**Climate & Rainfall**

Rustenburg is already a hot place, with summer day-time temperatures sometimes reaching the high into the 30s Celsius. Climate scientists predict a rise in average temperatures as a result of climate change. Rustenburg normally receives about 513mm of rain per year, with most rainfall occurring mainly during mid-summer. The City normally receives the lowest rainfall (0mm) in June and the highest (101mm) in January. The monthly distribution of average daily maximum temperatures (centre chart below) shows that the average midday temperatures for Rustenburg range from 19.30C in June to 29.40C in January. The region is the coldest during July when the mercury drops to 1.70C on average during the night (Rustenburg Local Municipality IDP,2019).

The total mean monthly rainfall for the municipality is estimated at 513mm, precipitation is the lowest in July, with an average of 7 mm (SAWS.2017/18), with an average of 117 mm, the most precipitation falls in January as shown in the graph below. The highest rainfall occurs in January (118mm), moderate to high rainfall characterises the month of February, March, November December). The lowest rainfall occurs in July. From an air quality perspective, the winter period, especially June and July offer the conditions necessary for pollution episodes. These months have low rainfall and low temperatures, factors which could create less turbulence and possible atmospheric stability. In the event of such stable atmospheric conditions, pollutants could be trapped degrading air quality (Rustenburg Local Municipality IDP,2019).

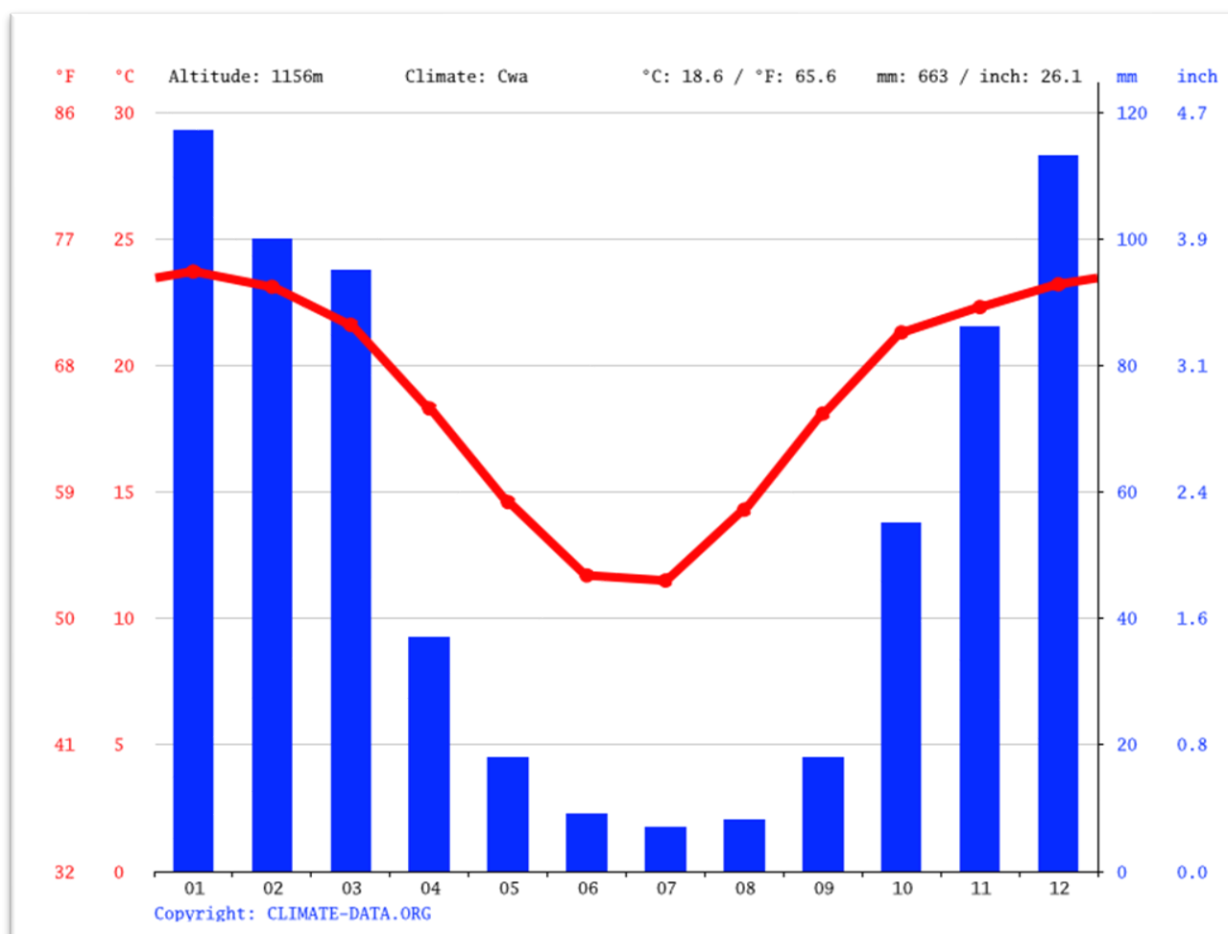


Figure 19: Climate chart for the Rustenburg local municipality

## Description of the socio-economic environment

### Geographic Profile of the Municipality

The Rustenburg Local Municipality is a Category B municipality situated within the Bojanala Platinum District in the North West Province. It is one of the five municipalities in the district. It is home to Boekenhoutfontein, the farm of Paul Kruger, president of the South African Republic. Rustenburg is a large town situated at the foot of the Magaliesberg Mountain Range. Rustenburg (meaning 'town of rest' or 'resting place') was proclaimed a township in 1851. This large town is situated some 112km north-west and is a 90-minute drive from both Johannesburg and Pretoria. It is the fastest growing municipality in South Africa and the most populous municipality in the North West Province.

Rustenburg Local Municipality is one of 21 local municipalities in North West Province and forms part of the Bojanala District Municipality. It represents the core part of platinum mining in South Africa, and the N4 Platinum Development Corridor runs from east to west through the municipal area.

The RLM accommodates about 16% of the provincial population, and it is estimated that it will in future experience significant population growth (up to 32.9% of the provincial population growth). At present it also represents about 18% of the provincial housing backlog ( $\pm$  60 000 units). Rustenburg Town is classified as one of five primary nodes in the provincial SDF, but it also comprises a large number of Villages, Towns and Small Dorpiens (second, third and fourth order nodes).

The bulk of platinum mining activity is located in the RLM area, within the Bojanala District Municipality. From here it extends northwards towards Moses Kotane LM (west of the Pilanesberg) and eastwards past Marikana towards Madibeng LM.

The platinum mining belt runs parallel to the north of the Magalies Mountain which extends from the Pilanesberg right up to the City of Tshwane to the far east. Also evident is the concentration of informal settlements along the mining belt. Another prominent feature is the large number of rural villages and small towns located in the northern extents of the District, and more specifically in Moses Kotane, northern parts of Rustenburg, Madibeng and the Moretele municipalities. Most of these areas are under traditional leadership. The regional road and railway network traversing the district provides good accessibility to the majority of areas in the district and surrounding provinces (Limpopo and Gauteng). Most notable in this regard is the N4 Development Corridor (Rustenburg Local Municipality IDP,2019).

The municipality covers an area of about 3416 km<sup>2</sup>. Towns/Cities within the municipality includes Hartbeesfontein-A, Marikana, Phatsima, Rustenburg, Tlhabane. The main economic sectors include mining & trade.

#### Population Size

With 645 000 people, the Rustenburg Local Municipality housed 1.1% of South Africa's total population in 2017. Between 2007 and 2017 the population growth averaged 3.05% per annum which is about double than the growth rate of South Africa as a whole (1.56%). Compared to Bojanala Platinum's average annual growth rate (2.34%), the growth rate in Rustenburg's population at 3.05% was slightly higher than that of the district municipality.

When compared to other regions, the Rustenburg Local Municipality accounts for a total population of 645,000, or 37.9% of the total population in the Bojanala Platinum District Municipality, which is the most populous region in the Bojanala Platinum District Municipality for 2017. The ranking in terms of the size of Rustenburg compared to the other regions remained the same between 2007 and 2017. In terms of its share the Rustenburg Local Municipality was significantly larger in 2017 (37.9%) compared to what it was in 2007 (35.4%).When looking at the average annual growth rate, it is noted that Rustenburg ranked third (relative to its peers in terms of growth) with an average annual growth rate of 3.0% between 2007 and 2017 (Rustenburg Local Municipality IDP,2019).

#### Population Gender & Groups

The total population of a region is the total number of people within that region measured in the middle of the year. Total population can be categorised according to the population group, as well as the subcategories of age and gender. The population groups include African, White, Coloured and Asian, where the Asian group includes all people originating from Asia, India and China. The age subcategory divides the population into 5-year cohorts, e.g. 0-4, 5-9, 10-13, etc.

Rustenburg Local Municipality's male/female split in population was 118.4 males per 100 females in 2017. The Rustenburg Local Municipality has significantly more males (54.21%) relative to South Africa (48.95%), and what is typically seen in a stable population. This is usually because of physical labour intensive industries such as mining. In total there were 295 000 (45.79%) females and 350 000 (54.21%) males. This distribution holds for Bojanala Platinum as a whole where the female population counted 809 000 which constitutes 47.52% of the total population of 1.7 million (Rustenburg Local Municipality IDP,2019).

In 2017, the Rustenburg Local Municipality's population consisted of 89.89% African (580 000), 8.33% White (53 700), 0.91% Coloured (5 850) and 0.88% Asian (5 660) people.

**POPULATION BY POPULATION GROUP, GENDER AND AGE - RUSTENBURG LOCAL MUNICIPALITY, 2017 [NUMBER].**

|              | African        |                | White         |               | Coloured     |              | Asian        |              |
|--------------|----------------|----------------|---------------|---------------|--------------|--------------|--------------|--------------|
|              | Female         | Male           | Female        | Male          | Female       | Male         | Female       | Male         |
| 00-04        | 28,200         | 28,600         | 2,020         | 2,120         | 305          | 316          | 198          | 204          |
| 05-09        | 23,700         | 23,900         | 1,980         | 2,110         | 281          | 222          | 208          | 251          |
| 10-14        | 19,400         | 19,000         | 1,560         | 1,550         | 180          | 175          | 171          | 153          |
| 15-19        | 18,800         | 18,400         | 1,420         | 1,550         | 171          | 184          | 102          | 114          |
| 20-24        | 25,500         | 26,900         | 1,570         | 1,720         | 243          | 275          | 141          | 89           |
| 25-29        | 33,300         | 38,700         | 2,310         | 2,400         | 275          | 331          | 191          | 193          |
| 30-34        | 31,500         | 42,600         | 2,070         | 2,490         | 330          | 386          | 292          | 211          |
| 35-39        | 23,800         | 32,800         | 2,020         | 2,040         | 221          | 287          | 290          | 319          |
| 40-44        | 17,300         | 22,900         | 2,010         | 2,000         | 174          | 266          | 344          | 325          |
| 45-49        | 11,500         | 19,400         | 1,980         | 2,220         | 148          | 228          | 209          | 271          |
| 50-54        | 9,360          | 16,100         | 1,880         | 1,940         | 133          | 144          | 108          | 136          |
| 55-59        | 6,720          | 12,500         | 1,550         | 1,710         | 106          | 116          | 105          | 101          |
| 60-64        | 5,090          | 6,890          | 1,210         | 1,180         | 79           | 53           | 166          | 82           |
| 65-69        | 3,260          | 3,540          | 1,040         | 822           | 62           | 40           | 218          | 41           |
| 70-74        | 2,500          | 2,150          | 799           | 597           | 38           | 21           | 190          | 71           |
| 75+          | 2,930          | 2,370          | 1,220         | 631           | 39           | 24           | 104          | 56           |
| <b>Total</b> | <b>263,000</b> | <b>317,000</b> | <b>26,600</b> | <b>27,100</b> | <b>2,780</b> | <b>3,070</b> | <b>3,040</b> | <b>2,620</b> |

Source: IHS Markit Regional eXplorer version 1479

Economic Sector

In 2017, the mining sector is the largest within Rustenburg Local Municipality accounting for R 40.5 billion or 75.0% of the total GVA in the local municipality's economy. The sector that contributes the second most to the GVA of the Rustenburg Local Municipality is the finance sector at 6.3%, followed by the community services sector with 6.2%. The sector that contributes the least to the economy of Rustenburg Local Municipality is the agriculture sector with a contribution of R 305 million or 0.57% of the total GVA.

- Cultural and heritage aspects.

According to the DEA Screening Report the proposed area falls within low Archaeological and Cultural Heritage Theme Sensitivity. Please see figure 20 below & colour map under **Appendix 7**.

According to the Phase 1 Heritage Impact Assessment that was conducted in December 2022, by Mr FP Coetzee, no archaeological (both Stone Age and Iron Age) or historical artefacts, assemblages, features, structures or settlements were recorded during the survey of the project footprint. It is well known that Late Iron Age stone-walled settlements do not usually occur in open low-lying grasslands, especially black cottons soils high in clay content.

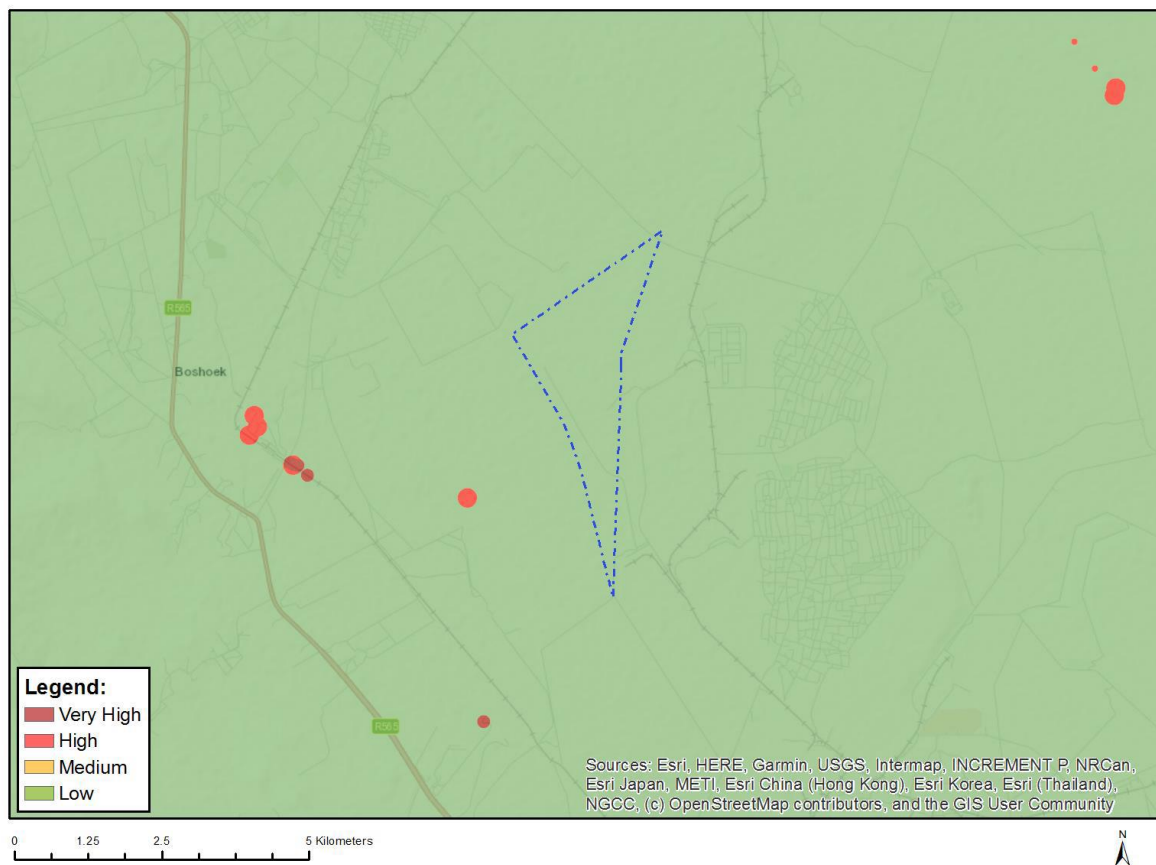
It is therefore recommended, from a cultural heritage perspective that the proposed prospecting activities may proceed, taking into account the mitigation measures.

Also, please note:

Archaeological deposits usually occur below ground level. Should archaeological artefacts or skeletal material be revealed in the area during development activities, such activities should be halted, and a university or museum notified in order for an investigation and evaluation of the find(s) to take place (*cf. NHRA (Act No. 25 of 1999)*, Section 36 (6)).

**No severe physical restrictions were encountered as the survey area was generally accessible. However please note that permission to access a certain portion of Portion 1 was not granted by the current landowner. However, aerial surveys confirmed that no structures are present in this section.**

Please find attached the full Report in **Appendix 11**

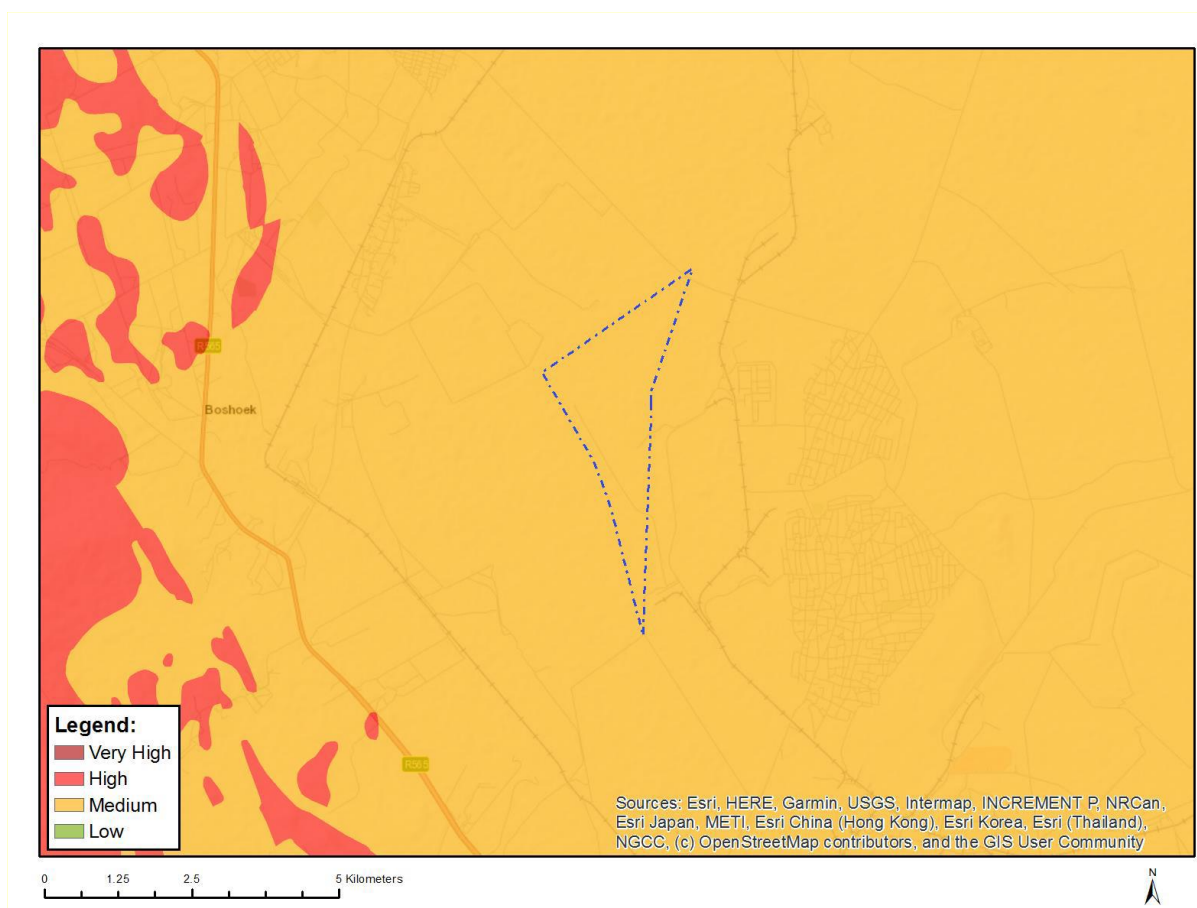


**Figure 20:** Archaeological and Cultural Heritage Combined Sensitivity

According to the DEA Screening Report the proposed area falls mostly within medium to high Palaeontology Theme Sensitivity Please see figure 21 below & colour map under **Appendix 7**.

The proposed Mining development on a certain portion of the Remaining Extent, a certain portion of Portion 1 and a certain portion of Portion 2 of the Farm Uitvalgrond 105, Registration Division JQ, North West Province is underlain by sediments of the Rustenburg Layered Suite, Bushveld Complex. According to the PalaeoMap of the South African Heritage Resources Information System (SAHRIS) the Palaeontological Sensitivity of the Rustenburg Layered Suite, Bushveld Complex is Zero (Almond et al, 2013; SAHRIS website). This correlates with the fact that the sediments of the Bushveld Complex are igneous in origin and thus unfossiliferous. **For this reason, an overall Zero Palaeontological Sensitivity is allocated to the development footprint. Thus, the construction of the development may be authorised in its whole extent, as the development footprint is not considered sensitive in terms of palaeontological resources.**





**Figure 21:** Relative Palaeontology Theme Sensitivity

Should any cultural artefacts or palaeontological features be identified during the project the following must be taken note of:

Cultural Heritage in South Africa (includes all heritage resources) is protected by the **National Heritage Resources Act (Act 25 of 1999) (NHRA)**. According to Section 3 of the Act, all Heritage resources include “**all objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens**”.

If such resources are found during the mining or development activities, they shall not be disturbed without a permit from the relevant heritage resource Authority, which means that before such sites are disturbed by development it is incumbent on the developer to ensure that a heritage impact assessment is done and the Provincial Heritage Resources Authority and SAHRA must be contacted immediately and work must stop.

If anything of Archaeological and/or paleontological significance is found during the construction and operational phase of the mine the following applies:

- NHRA 38(4)c(i) – If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA APM Unit (021 462 5402) must be alerted as per section 35(3) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule;
- NHRA 38(4)c(ii) – If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (012 320 8490), must be alerted immediately as per section 36(6) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule;
- NHRA 38(4)e – The following conditions apply with regards to the appointment of specialists: i) If heritage resources are uncovered during the course of the development, a professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the heritage resource. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required subject to permits issued by SAHRA;

If fossil remains or trace fossils are discovered during any phase of construction, either on the surface or exposed by excavations the **Chance Find Protocol** must be implemented by the Environmental Control Officer (ECO) in charge of these developments. These discoveries ought to be protected and the ECO must report to SAHRA (Contact details: SAHRA, 111 Harrington Street, Cape Town. PO Box 4637, Cape Town 8000, South Africa. Tel: 021 462 4502. Fax: +27 (0)21 462 4509. Web: www.sahra.org.za) so that mitigation can be carry out by a paleontologist.

### **Chance Find Procedure**

- If a chance find is made the person responsible for the find must immediately stop working and all work that could impact that finding must cease in the immediate vicinity of the find.
- The person who made the find must immediately report the find to his/her direct supervisor which in turn must report the find to his/her manager and the ESO or site manager. The ESO or site manager must report the find to the relevant Heritage Agency (South African Heritage Research Agency, SAHRA). (Contact details: SAHRA, 111 Harrington Street, Cape Town. PO Box 4637, Cape Town 8000, South Africa. Tel: 021 462 4502. Fax: +27 (0)21 462 4509. Web: www.sahra.org.za). The information to the Heritage Agency must include photographs of the find, from various angles, as well as the GPS co-ordinates.
- A preliminary report must be submitted to the Heritage Agency within 24 hours of the find and must include the following: 1) date of the find; 2) a description of the discovery and a 3) description of the fossil and its context (depth and position of the fossil), GPS co-ordinates.
- Photographs (the more the better) of the discovery must be of high quality, in focus, accompanied by a scale. It is also important to have photographs of the vertical section (side) where the fossil was found.

Upon receipt of the preliminary report, the Heritage Agency will inform the ESO (or site manager) whether a rescue excavation or rescue collection by a palaeontologist is necessary.

- The site must be secured to protect it from any further damage. No attempt should be made to remove material from their environment. The exposed finds must be stabilized and covered by a plastic sheet or sand bags. The Heritage agency will also be able to advise on the most suitable method of protection of the find.
- In the event that the fossil cannot be stabilized the fossil may be collected with extreme care by the ESO (site manager). Fossils finds must be stored in tissue paper and in an appropriate box while due care must be taken to remove all fossil material from the rescue site.
- Once Heritage Agency has issued the written authorization, the developer may continue with the development on the affected area.

### **(b) Description of the current land uses.**

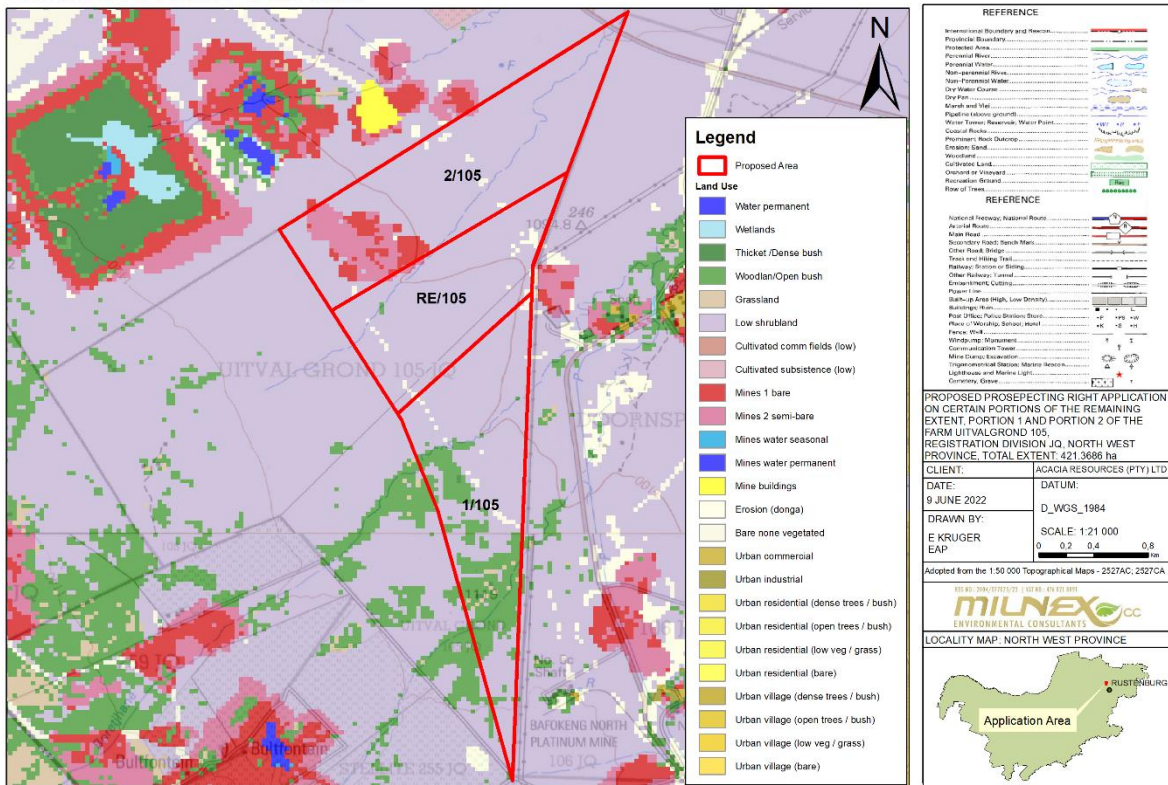
Below is the land cover of the farm which depicts that the area is dominated by natural land with agricultural fields

According to the map below (**Figure 22** and **Figure 23**) the proposed area is largely natural, with schrubland being the most dominant feature. Current & Previous mining as well as ticket/dense buses are present on the southern parts of the property.

If applicable a Water Use License Application will be launched for conducting prospecting operations.

All infrastructure will be temporary and/or mobile.

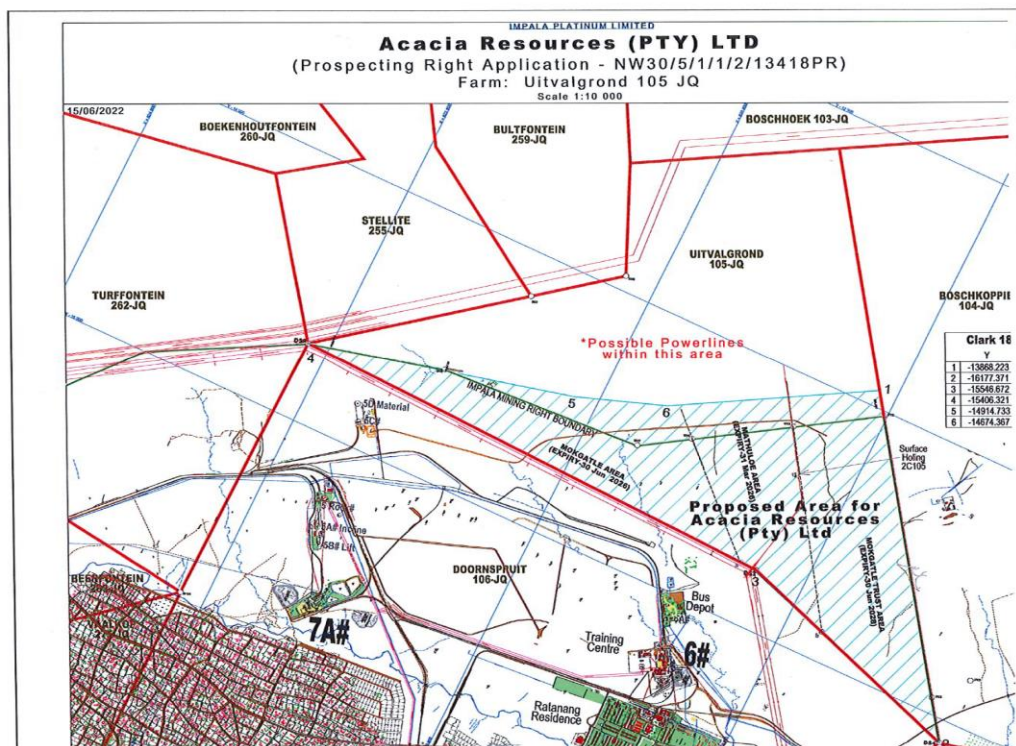
**EIA592PR: LAND USE MAP**



**Figure 22:** Land use map associated with study site and surrounding areas.

During public participation it became known to Milnex CC that Impala Platinum Limited holds a registered Converted Mining Right on the Farm Uitvalgrond 105 JQ, with reference number 132 MR, which commenced on 12 December 2008. Impala Platinum Limited holds the right to mine for platinum group metals, nickel ore, gold ore, cobalt, copper ore, silver ore, sulphur, sand (manufactured from waste rocks), iron ore and chrome ore. See map below that was provided by Impala Platinum Limited, depicting their mining right area in relation to Acacia Resources (Pty) Ltd proposed prospecting right.

AI



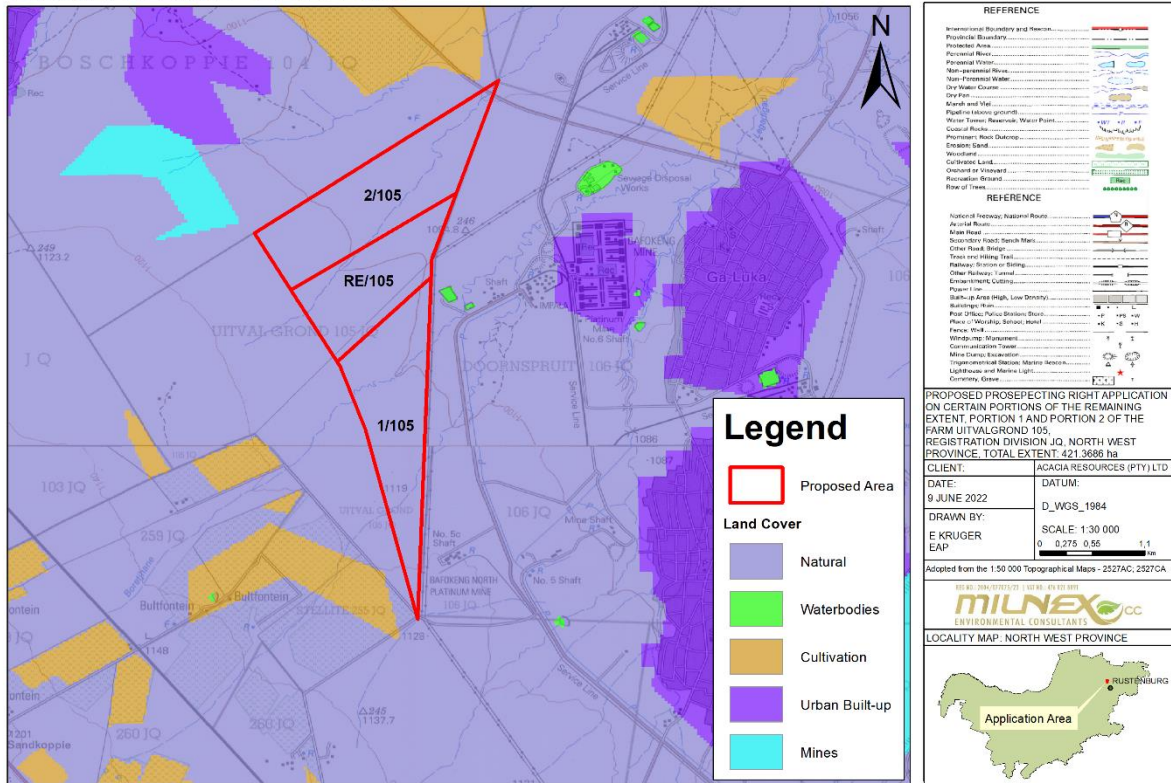
According to Impala Platinum Holding part of the Acacia Prospecting Right Application falls within Impala’s active surface holding (2C105), which is situated on the Mathuloe Area. Part of the application also falls within Impala’s inactive surface holdings that Impala has not yet received closure on.

According to the letter dated 05 July 2022, Impala stated that it “has a statutory obligation to rehabilitate its disturbance. Acacia’s planned prospecting activities fall within an area where Impala has multiple rehabilitated open cast pits, which have not yet reached sustainable rehabilitation status. Any prospecting activities will likely impact the rehabilitated areas, and this will negate the time, effort and money spent on rehabilitation thus far;

Currently it is not known exactly the active and inactive areas, as stated by Impala Platinum Holding, are located and it is also unclear exactly where Acacia Resources intends to prospect exactly, but it must be noted that Acacia Resources will be responsible to rehabilitate the area that they disturb and vice versa.

Impala stated that they are and will be mining underground and that surface impacts are finished.

**EIA592PR: LAND COVER MAP**



**Figure 23:** Landcover map associated with study site and surrounding areas.

- v) **The impacts and risks identified including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts—**
  - (aa) can be reversed;
  - (bb) may cause irreplaceable loss of resources; and
  - (cc) can be avoided, managed or mitigated;

Please see heading J) AN ASSESSMENT OF EACH IDENTIFIED POTENTIALLY SIGNIFICANT IMPACT AND RISK,, for the impacts identified and their assessment.

- vi) **the methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks;**

**Method of environmental assessment**

The environmental assessment aims to identify the various possible environmental impacts that could result from the proposed development. Different impacts need to be evaluated in terms of its significance and in doing so highlight the most critical issues to be addressed.

Significance is determined through a synthesis of impact characteristics which include context and intensity of an impact. Context refers to the geographical scale i.e. site, local, national or global whereas intensity is defined by the severity of the impact e.g. the magnitude of deviation from background conditions, the size of the area affected, the duration of the impact and the overall probability of occurrence. Significance is calculated as shown in the Table below.

Significance is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. The total number of points scored for each impact indicates the level of significance of the impact.

**Impact Rating System**

Impact assessment must take account of the nature, scale and duration of impacts on the environment whether such impacts are positive or negative. Each impact is also assessed according to the following project phases:

- Construction
- Operation
- Decommissioning

Where necessary, the proposal for mitigation or optimisation of an impact should be detailed. A brief discussion of the impact and the rationale behind the assessment of its significance should also be included. The rating system is applied to the potential impacts on the receiving environment and includes an objective evaluation of the mitigation of the impact. In assessing the significance of each impact the following criteria is used:

**Table: The rating system**

| NATURE   |                            |   |
|--|----------------------------|---|
| Include a brief description of the impact of environmental parameter being assessed in the context of the project. This criterion includes a brief written statement of the environmental aspect being impacted upon by a particular action or activity. |                            |   |
| GEOGRAPHICAL EXTENT  |                            |   |
| This is defined as the area over which the impact will be experienced.   |                            |   |
| 1  | Site                       | The impact will only affect the site.   |
| 2  | Local/district             | Will affect the local area or district.   |
| 3  | Province/region            | Will affect the entire province or region.  |
| 4  | International and National | Will affect the entire country.   |
| PROBABILITY  |                            |   |
| This describes the chance of occurrence of an impact.  |                            |   |
| 1  | Unlikely                   | The chance of the impact occurring is extremely low (Less than a 25% chance of occurrence).   |
| 2  | Possible                   | The impact may occur (Between a 25% to 50% chance of occurrence).   |
| 3  | Probable                   | The impact will likely occur (Between a 50% to 75% chance of occurrence).   |
| 4  | Definite                   | Impact will certainly occur (Greater than a 75% chance of occurrence).  |
| DURATION   |                            |   |
| This describes the duration of the impacts. Duration indicates the lifetime of the impact as a result of the proposed activity.  |                            |   |
| 1  | Short term                 | The impact will either disappear with mitigation or will be mitigated through natural processes in a span shorter than the construction phase (0 – 1 years), or the impact will last for the period of a relatively short construction period and a limited recovery time after construction, thereafter it will be entirely negated (0 – 2 years). |
| 2  | Medium term                | The impact will continue or last for some time after the construction phase but will be mitigated by direct human action or by natural processes thereafter (2 – 10 years).   |
| 3  | Long term                  | The impact and its effects will continue or last for the entire operational life of the development, but will be mitigated by direct human action or by natural processes thereafter (10 – 30 years).   |
| 4  | Permanent                  | The only class of impact that will be non-transitory. Mitigation either by man or natural process will not occur in such a way or such a time span that the impact can be considered indefinite.  |
| INTENSITY/ MAGNITUDE   |                            |   |

|   |                               |  |
|---|-------------------------------|--|
| Describes the severity of an impact.  |                               |  |
| 1   | Low                           | Impact affects the quality, use and integrity of the system/component in a way that is barely perceptible.   |
| 2   | Medium                        | Impact alters the quality, use and integrity of the system/component but system/component still continues to function in a moderately modified way and maintains general integrity (some impact on integrity).   |
| 3   | High                          | Impact affects the continued viability of the system/ component and the quality, use, integrity and functionality of the system or component is severely impaired and may temporarily cease. High costs of rehabilitation and remediation.   |
| 4   | Very high                     | Impact affects the continued viability of the system/component and the quality, use, integrity and functionality of the system or component permanently ceases and is irreversibly impaired. Rehabilitation and remediation often impossible. If possible rehabilitation and remediation often unfeasible due to extremely high costs of rehabilitation and remediation. |
| <b>REVERSIBILITY</b>  |                               |  |
| This describes the degree to which an impact can be successfully reversed upon completion of the proposed activity.   |                               |  |
| 1   | Completely reversible         | The impact is reversible with implementation of minor mitigation measures.   |
| 2   | Partly reversible             | The impact is partly reversible but more intense mitigation measures are required.   |
| 3   | Barely reversible             | The impact is unlikely to be reversed even with intense mitigation measures.   |
| 4   | Irreversible                  | The impact is irreversible and no mitigation measures exist.   |
| <b>IRREPLACEABLE LOSS OF RESOURCES</b>  |                               |  |
| This describes the degree to which resources will be irreplaceably lost as a result of a proposed activity.   |                               |  |
| 1   | No loss of resource           | The impact will not result in the loss of any resources.   |
| 2   | Marginal loss of resource     | The impact will result in marginal loss of resources.  |
| 3   | Significant loss of resources | The impact will result in significant loss of resources.   |
| 4   | Complete loss of resources    | The impact is result in a complete loss of all resources.  |
| <b>CUMULATIVE EFFECT</b>  |                               |  |
| This describes the cumulative effect of the impacts. A cumulative impact is an effect which in itself may not be significant but may become significant if added to other existing or potential impacts emanating from other similar or diverse activities as a result of the project activity in question.                     |                               |  |
| 1   | Negligible cumulative impact  | The impact would result in negligible to no cumulative effects.  |
| 2   | Low cumulative impact         | The impact would result in insignificant cumulative effects.   |
| 3   | Medium cumulative impact      | The impact would result in minor cumulative effects.   |
| 4   | High cumulative impact        | The impact would result in significant cumulative effects  |
| <b>SIGNIFICANCE</b>   |                               |  |
| Significance is determined through a synthesis of impact characteristics. Significance is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. The calculation of the significance of an impact uses the following formula: |                               |  |
| (Extent + probability + reversibility + irreplaceability + duration + cumulative effect) x magnitude/intensity.   |                               |  |

| The summation of the different criteria will produce a non-weighted value. By multiplying this value with the magnitude/intensity, the resultant value acquires a weighted characteristic which can be measured and assigned a significance rating. |                            |  |
|---|----------------------------|--|
| Points  | Impact significance rating | Description  |
| 6 to 28   | Negative low impact        | The anticipated impact will have negligible negative effects and will require little to no mitigation.   |
| 6 to 28   | Positive low impact        | The anticipated impact will have minor positive effects.   |
| 29 to 50  | Negative medium impact     | The anticipated impact will have moderate negative effects and will require moderate mitigation measures.  |
| 29 to 50  | Positive medium impact     | The anticipated impact will have moderate positive effects.  |
| 51 to 73  | Negative high impact       | The anticipated impact will have significant effects and will require significant mitigation measures to achieve an acceptable level of impact.                      |
| 51 to 73  | Positive high impact       | The anticipated impact will have significant positive effects.   |
| 74 to 96  | Negative very high impact  | The anticipated impact will have highly significant effects and are unlikely to be able to be mitigated adequately. These impacts could be considered "fatal flaws". |
| 74 to 96  | Positive very high impact  | The anticipated impact will have highly significant positive effects.  |

**vii) positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;**

- Ecological Impacts
- Increased ambient noise levels resulting from geophysics surveys and increased traffic movement during all prospecting phases.
- Potential water and soil pollution impacts resulting from hydrocarbon spills and soil erosion which may impact on environmental resources utilized by communities, landowners and other stakeholders.
- Potential water and soil pollution impacts resulting from hydrocarbon spills and soil erosion which may impact on ecosystem functioning.
- Increased vehicle activity within the area resulting in the possible destruction and disturbance of fauna and flora.
- Poor access control to farms which may impact on cattle movement, breeding and grazing practices.
- Access control to portion which may impact on cattle movement, breeding and grazing practices of the surrounding community.
- Influx of persons (job seekers) to site as a result of increased activity and the possible resultant increase in opportunistic crime.
- Potential visual impacts caused by prospecting activities.
- Prospecting will be undertaken by specialist sub-contractors and it is not anticipated that employment opportunities for local and / or regional communities will result from the prospecting activities.
- Negative impacts on the groundwater resources.
- Longterm loss of indigenous vegetation.
- Dust pollution
- Air pollution due to dust to the surrounding community and hospital.
- Impact on tourism.

**viii) the possible mitigation measures that could be applied and level of residual risk;**

(With regard to the issues and concerns raised by affected parties provide a list of the issues raised and an assessment/discussion of the mitigations or site layout alternatives available to accommodate or address their concerns, together with an assessment of the impacts or risks associated with the mitigation or alternatives considered).

Adverse environmental associated with the prospecting activity have been identified through the Scoping & EIR process. Mitigation measures as set out in the Environmental Management Programme (EMP) attached in Part B must be implemented in order to minimise any potential impacts.



All comments received during the review period of the EIR report, as well as response provided is captured and recorded within the Comments and Response Report and will be attached in the Final EIR.

- ix) **if no alternative development [location] footprints for the activity were investigated, the motivation for not considering such; and**

As discussed in the previous section, based on outcomes of previous studies in the vicinity of the proposed site, the possibility to encounter high volumes of Chrome Ore (Cr), LG & MG Seams together with Platinum Group Metals (PGM), near Rustenburg on a certain portion of The Remaining Extent, a certain portion of Portion 1 & a certain portion of Portion 2 of the Farm Uitvalgrond 105, Registration Division JQ, North West Province were identified. The specific site has been chosen for its mineral resources thus making an alternative site selection null and void. No prospecting should commence without the necessary permits and the impacts on the surrounding area, the livestock grazing, agricultural land and natural area should be kept to the minimum.

- x) **a concluding statement indicating the location of the preferred alternative development [location] footprint within the approved site as contemplated in the accepted scoping report;**  
(Provide a statement motivating the final site layout that is proposed)

Design alternatives were considered throughout the planning and design phase (i.e. where is the rock bed located?). In this regard discussions on the design were held between the EAP and the developer. The layout follows the limitations of the site and aspects such as, roads, site offices and workshop area as well as fencing.

**I. A FULL DESCRIPTION OF THE PROCESS UNDERTAKEN TO IDENTIFY, ASSESS AND RANK THE IMPACTS THE ACTIVITY AND ASSOCIATED STRUCTURES AND INFRASTRUCTURE WILL IMPOSE ON THE PREFERRED [LOCATION] DEVELOPMENT FOOTPRINT ON THE APPROVED SITE**  
(AS CONTEMPLATED IN THE ACCEPTED SCOPING REPORT THROUGH THE LIFE OF THE ACTIVITY, INCLUDING—.)

- i. **A description of all environmental issues and risks that are identified during the environmental impact assessment process**

**Process for the identification of key issues**

The methodology for the identification of key issues aims, as far as possible, to provide a user-friendly analysis of information to allow for easy interpretation.

- **Checklist:** The checklist consists of a list of structured questions related to the environmental parameters and specific human actions. They assist in ordering thinking, data collection, presentation and alert against the omission of possible impacts.
- **Matrix:** The matrix analysis provides a holistic indication of the relationship and interaction between the various activities, development phases and the impact thereof on the environment. The method aims at providing a first order cause and effect relationship between the environment and the proposed activity. The matrix is designed to indicate the relationship between the different stressors and receptors which leads to specific impacts. The matrix also indicates the specialist studies, which will be submitted as part of the Environmental Impact Report in order to address the potentially most significant impacts.

**Checklist analysis**


The site visit was conducted to ensure a proper analysis of the site specific characteristics of the study area. The table below provides a checklist, which is designed to stimulate thought regarding possible consequences of specific actions and so assist scoping of key issues. It consists of a list of structured questions related to the environmental parameters and specific human actions. They assist in ordering thinking, data collection, presentation and alert against the omission of possible impacts. The table highlights certain issues, which are further analysed in matrix format.

**Table:** Environmental checklist

| QUESTION | YES | NO | Un-<br>sure | Description |
|----------|-----|----|-------------|-------------|
|----------|-----|----|-------------|-------------|

| 1. Are any of the following located on the site earmarked for the development?                       |   |   |   |   |
|--|---|---|---|---|
| I. A river, stream, dam or wetland   | × |   |   | According to the screening tool (Appendix 7) the area has 3 drainage lines/wetlands/non perennial rivers.   |
| II. A conservation or open space area  |   | × |   |   |
| III. An area that is of cultural importance  |   | × |   | According to the DEA Screening Report the area falls within low Archaeological and Cultural Heritage Theme Sensitivity ( <b>Appendix 7</b> ). The area is already disturbed by previous mining on some areas.         |
| IV. Site of geological significance  |   |   | × | According to the DEA Screening Report the proposed area falls within mostly withing medium Palaeontology Theme Sensitivity ( <b>Appendix 7</b> ). The area is already disturbed by previous mining on some areas      |
| V. Areas of outstanding natural beauty   |   | × |   |   |
| VI. Highly productive agricultural land  |   | × |   | According to the Land Capability map the proposed area falls within land capability Class 3 ( <b>Appendix 5</b> ). The DEA Screening Report shows the Agriculture Theme Sensitivity is medium. ( <b>Appendix 7</b> ). |
| VII. Floodplain  |   | × | × |   |
| VIII. Indigenous forest  |   | × |   | According to the land use map the proposed area is mostly covered in Grasslands, mines and tickets( <b>Appendix 5</b> ).  |
| IX. Grass land   | × |   |   | According to the land use map small areas of the proposed area is covered in Grasslands ( <b>Appendix 5</b> ). However, the area is already disturbed by previous mining on some areas                                |
| X. Bird nesting sites  |   | × |   | According to the Important Bird Areas map ( <b>Appendix 7</b> ) the proposed area does not fall within an Important Bird Area (IBAs).   |
| XI. Red data species   |   |   | × | However, some area is already disturbed by previous mining on some areas  |
| XII. Tourist resort  |   | × |   |   |
| 2. Will the project potentially result in potential?   |   |   |   |   |
| I. Removal of people   |   | × |   | None.   |
| II. Visual Impacts   | × |   |   | Visual impacts will be managed.   |
| III. Noise pollution   | × |   |   | The noise impact will be limited to working hours.  |
| IV. Construction of an access road   |   | × |   | Access will be obtained from existing tarr roads off the R565.  |
| V. Risk to human or valuable ecosystems due to explosion/fire/ discharge of waste into water or air. |   | × |   | None.   |

|   |   |   |   |  |
|---|---|---|---|--|
| VI. Accumulation of large workforce (>50 manual workers) into the site.                 |   | × |   | Approximately 15 employment opportunities will be created during the construction and operational phase of the project.  |
| VII. Utilisation of significant volumes of local raw materials such as water, wood etc. |   |   | × |  |
| VIII. Job creation  | × |   |   | Approximately 15 employment opportunities will be created during the construction and operational phase of the project.  |
| IX. Traffic generation  |   | × |   | None.  |
| X. Soil erosion   | × |   |   | Only areas earmarked for mining will be cleared. prospecting will be phased and the topsoil stockpiled separately. Concurrent rehabilitation will take place.                  |
| XI. Installation of additional bulk telecommunication transmission lines or facilities  |   | × |   | None.  |
| <b>3. Is the proposed project located near the following?</b>                           |   |   |   |  |
| I. A river, stream, dam or wetland  | × |   |   | The topographical map indicates there are multiple wetlands around the proposed site.  |
| II. A conservation or open space area   |   | × |   |  |
| III. An area that is of cultural importance   |   | × |   | According to the DEA Screening Report the area surrounding the proposed portions fall within low Archaeological and Cultural Heritage Theme Sensitivity ( <b>Appendix 7</b> ). |
| IV. A site of geological significance   |   |   | × | According to the DEA Screening Report the surrounding area falls within medium to high Paleontology  |
| V. An area of outstanding natural beauty  |   |   | × |  |
| VI. Highly productive agricultural land   |   |   | × | According to the Land Capability map the surrounding area falls within land capability Class 3 ( <b>Appendix 5</b> ).  |
| VII. A tourist resort   |   | × |   |  |

|                                       |  |  |   |  |
|---------------------------------------|--|--|---|--|
| VIII. A formal or informal settlement |  |  | × | <p>The Mogono &amp; Ga Luka residential establishments are located on the neighbouring farm (Doornspruit 106).</p> <p>The Rasimone &amp; Boschoek residential establishments are located to the north-east of the proposed site with Phokeng located to the south. See figure below</p>  |
|---------------------------------------|--|--|---|--|

**Matrix analysis**

The matrix describes the relevant listed activities, the aspects of the development that will apply to the specific listed activity, a description of the environmental issues and potential impacts, the significance and magnitude of the potential impacts, and the mitigation of the potential impacts. The matrix also highlights areas of particular concern, which requires more in depth assessment. Each cell is evaluated individually in terms of the nature of the impact, duration and its significance – should no mitigation measures be applied. This is important since many impacts would not be considered insignificant if proper mitigation measures were implemented. The matrix also provides an indication if mitigation measures are available.

In order to conceptualise the different impacts the matrix specify the following:

- **Stressor:** Indicates the aspect of the proposed activity, which initiates and cause impacts on elements of the environment.
- **Receptor:** Highlights the recipient and most important components of the environment affected by the stressor.
- **Impacts:** Indicates the net result of the cause-effect between the stressor and receptor.
- **Mitigation:** Impacts need to be mitigated to minimise the effect on the environment.

ii) An assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures;

**MATRIX ANALYSIS**

| LISTED ACTIVITY<br>(The Stressor)   | ASPECTS OF THE DEVELOPMENT /ACTIVITY  | POTENTIAL IMPACTS           |                                  | SIGNIFICANCE AND MAGNITUDE OF POTENTIAL IMPACTS   |       |          | MITIGATION OF POTENTIAL IMPACTS | SPECIALIST STUDIES / INFORMATION |   |
|---|---|-----------------------------|----------------------------------|---|-------|----------|---------------------------------|----------------------------------|---|
|   |   | Receptors                   | Impact description               | Minor   | Major | Duration | Possible Mitigation             |                                  |   |
| <b>CONSTRUCTION PHASE</b>   |   |                             |                                  |   |       |          |                                 |                                  |   |
| <p><b>Listing Notice 1, (GNR 327), Activity 19:</b> <i>The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse;</i></p> <p><b>Listing Notice 1, GNR 327, Activity 24:</b> <i>“The development of a road – with a reserve wider than 13,5 meters, or where no reserve exists where the road is wider than 8 metres”</i></p> <p><b>Listing Notice 1 (GNR 327), Activity 27:</b> <i>“The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation”</i></p> <p><b>Listing Notice 3 (GNR 324), Activity 12:</b> <i>“The clearance of an area of 300 square metres or more of indigenous vegetation. (h) North-West, (vi): Areas within a watercourse or wetland, or within 100 metres from the edge of a watercourse or wetland</i></p> | <p><u>Site clearing and preparation</u><br/>Areas earmarked for prospecting will need to be cleared, topsoil will be stockpiled separately.</p> | BIOPHYSICAL ENVIRONMENT     | Fauna & Flora                    | <ul style="list-style-type: none"> <li>Loss or fragmentation of indigenous natural vegetation.</li> <li>Loss of sensitive species.</li> <li>Loss or fragmentation of habitats.</li> </ul>                             | -     |          | S                               | Yes                              | - |
|   |   |                             | Air                              | <ul style="list-style-type: none"> <li>Air pollution due to the increase of traffic.</li> <li>Dust from mining/prospecting activities</li> </ul>  | -     |          | M                               | Yes                              | - |
|   |   |                             | Soil                             | <ul style="list-style-type: none"> <li>Soil degradation, including erosion.</li> <li>Loss of topsoil.</li> <li>Disturbance of soils and existing land use (soil compaction).</li> </ul>                               | -     | -        | S                               | Yes                              | - |
|   |   |                             | Geology                          | <ul style="list-style-type: none"> <li>It is not foreseen that the removal of indigenous vegetation will impact on the geology or vice versa.</li> </ul>  | -     |          | S                               | Yes                              | - |
|   |   |                             | Existing services infrastructure | <ul style="list-style-type: none"> <li>Generation of waste that need to be accommodated at a licensed landfill site.</li> <li>Generation of sewage that need to be accommodated by the local sewage plant.</li> </ul> | -     |          | S                               | Yes                              | - |
|   |   |                             | Ground water                     | <ul style="list-style-type: none"> <li>Pollution due to construction vehicles.</li> </ul>   | -     |          | S                               | Yes                              | - |
|   |   |                             | Surface water                    | <ul style="list-style-type: none"> <li>Increase in storm water run-off.</li> <li>Pollution of water sources due to soil erosion.</li> <li>Destruction of watercourses (pans/dams/streams/wetlands).</li> </ul>        |       | -        | S                               | Yes                              | - |
|   |   | SOCIAL/ECONOMIC ENVIRONMENT | Local unemployment rate          | <ul style="list-style-type: none"> <li>Job creation.</li> <li>Business opportunities.</li> <li>Skills development.</li> </ul>   |       | +        | S                               | Yes                              | - |
|   |   |                             | Visual landscape                 | <ul style="list-style-type: none"> <li>Potential visual impact on residents of farmsteads and motorists in close proximity to proposed facility.</li> </ul>   | -     |          | L                               | Yes                              | - |
|   |   |                             | Traffic volumes                  | <ul style="list-style-type: none"> <li>Increase in construction vehicles.</li> </ul>  | -     |          | S                               | Yes                              | - |
|   |   |                             | Health & Safety                  | <ul style="list-style-type: none"> <li>Air/dust pollution.</li> <li>Road safety.</li> <li>Increased risk of veld fires.</li> </ul>  |       | -        | S                               | Yes                              | - |
|   |   |                             | Noise levels                     | <ul style="list-style-type: none"> <li>The generation of noise as a result of construction vehicles, the use of machinery such as drills, excavators, dumper trucks and people working on the site.</li> </ul>        | -     |          | L                               | Yes                              | - |
|   |   |                             | Tourism industry                 | <ul style="list-style-type: none"> <li>Since there are no tourism facilities in close proximity to the site, the construction activities will not have an impact on tourism in the area.</li> </ul>                   | N/A   | N/A      | N/A                             | N/A                              | - |

|  |   |                                |                                    |  |  |     |   |     |     |   |
|--|---|--------------------------------|------------------------------------|--|--|-----|---|-----|-----|---|
|  |   |                                | Heritage resources                 | <ul style="list-style-type: none"> <li>Removal or destruction of archaeological and/or paleontological sites.</li> <li>Removal or destruction of buildings, structures, places and equipment of cultural significance.</li> <li>Removal or destruction of graves, cemeteries and burial grounds.</li> </ul>  | -  |     | L | Yes | -   |   |
| <b>OPERATIONAL PHASE</b>   |   |                                |                                    |  |  |     |   |     |     |   |
| <p><b>Listing Notice 1 (GNR 327), Activity 20 (Amended GNR 517: 2021):</b> "Any activity including the operation of that activity which requires a prospecting right in terms of section 16 of the Mineral and Petroleum Resources Development Act, as well as any other applicable activity as contained in this Listing Notice or in Listing Notice 3 of 2014, required to exercise the prospecting right"</p> <p><b>Listing Notice 2 (GNR 325), Activity 19 (Amended GNR 517: 2021):</b> "The removal and disposal of minerals which requires permission contemplated in terms of section 20 of the Mineral and Petroleum Resources Development Act, 2002, as well as any other applicable activity as contained in this Listing Notice, Listing Notice 1 of 2014 or in Listing Notice 3 of 2014, required to exercise the permission.</p> <p><b>NEM:WA 59 of 2008: Residue stockpiles or residue deposits, Category A: (15)</b> The establishment or reclamation of a residue stockpile or residue deposit resulting from activities which require a prospecting right or mining permit, in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002).</p> | <p>The key components of the proposed project are described below:</p> <ul style="list-style-type: none"> <li><b>Supporting Infrastructure</b> - A control facility with basic services such as water and electricity will be constructed on the site and will have an approximate footprint 50m<sup>2</sup> or less. Other supporting infrastructure includes a site office and workshop area.</li> <li><b>Roads</b> - Access will be obtained from existing gravel roads off the nearby tarr roads.</li> <li><b>Fencing</b> - For health, safety and security reasons, the facility will be required to be fenced off from the surrounding farm.</li> </ul> | <b>BIOPHYSICAL ENVIRONMENT</b> | Fauna & Flora                      | <ul style="list-style-type: none"> <li>Fragmentation of habitats.</li> <li>Establishment and spread of declared weeds and alien invader plants (operations).</li> </ul>  | -  |     | L | Yes | -   |   |
|  |   |                                | Air quality                        | <ul style="list-style-type: none"> <li>Air pollution due to the mining / prospecting activity and transport of the ore to the designated areas.</li> </ul>   | -  |     | S | Yes | -   |   |
|  |   |                                | Soil                               | <ul style="list-style-type: none"> <li>Soil degradation, including erosion.</li> <li>Disturbance of soils and existing land use (soil compaction).</li> <li>Loss of agricultural potential (low - medium significance relative to agricultural potential of the site).</li> </ul>  | -  |     | L | Yes | -   |   |
|  |   |                                | Geology                            | <ul style="list-style-type: none"> <li>Collapsible soil.</li> <li>Seepage (shallow water table).</li> <li>Active soil (high soil heave).</li> <li>Erodible soil.</li> <li>The presence of undermined ground.</li> <li>Instability due to soluble rock.</li> <li>Steep slopes or areas of unstable natural slopes.</li> <li>Areas subject to seismic activity.</li> <li>Areas subject to flooding.</li> </ul>   | -  |     | L | Yes | -   |   |
|  |   |                                | Existing services infrastructure   | <ul style="list-style-type: none"> <li>Generation of waste that need to be accommodated at a licensed landfill site.</li> <li>Generation of sewage that need to be accommodated by the municipal sewerage system and the local sewage plant.</li> <li>Increased consumption of water, dust suppression.</li> </ul>   | -  |     | L | Yes | -   |   |
|  |   |                                | Ground water                       | <ul style="list-style-type: none"> <li>Leakage of hazardous materials. The machinery on site require oils and fuel to function. Leakage of these oils and fuels can contaminate water supplies.</li> </ul>   | -  |     | L | Yes | -   |   |
|  |   |                                | Surface water                      | <ul style="list-style-type: none"> <li>Increase in storm water runoff. The development will potentially result in an increase in storm water run-off that needs to be managed to prevent soil erosion.</li> <li>Destruction of watercourses (pans/dams/streams/wetlands).</li> <li>Leakage of hazardous materials. The machinery on site require oils and fuel to function. Leakage of these oils and fuels can contaminate water supplies.</li> </ul> | -  |     | L | Yes | -   |   |
|  |   |                                | <b>SOCIAL/ECONOMIC ENVIRONMENT</b> | Local unemployment rate  | <ul style="list-style-type: none"> <li>Job creation. Security guards will be required for 24 hours every day of the week.</li> <li>Skills development.</li> </ul>  | -   |   | L   | Yes | - |
|  |   |                                |                                    | Visual landscape   | <ul style="list-style-type: none"> <li>The proposed portions are used for livestock grazing and cultivation which will still take place simultaneously with the prospecting activity, however this depends on the location of the activity.</li> </ul> | -   |   | L   | Yes | - |
|  |   |                                |                                    | Traffic volumes  | <ul style="list-style-type: none"> <li>Increase in vehicles collecting ore for distribution.</li> </ul>  | -   |   | S   | Yes | - |
| Health & Safety  | <ul style="list-style-type: none"> <li>Air/dust pollution.</li> <li>Road safety.</li> </ul>   | -                              |                                    |  | S  | Yes | - |     |     |   |

|                              |  |  |                                  |  |     |     |     |     |   |
|------------------------------|--|--|----------------------------------|--|-----|-----|-----|-----|---|
|                              |  |  | Noise levels                     | <ul style="list-style-type: none"> <li>The proposed development will result in noise pollution during the operational phase.</li> </ul>  | -   |     | M   | Yes | - |
|                              |  |  | Tourism industry                 | <ul style="list-style-type: none"> <li>Since there are tourism facilities in close proximity to the site, the decommissioning activities may have an impact on tourism in the area.</li> </ul>   | N/A | N/A | N/A | N/A | - |
|                              |  |  | Heritage resources               | <ul style="list-style-type: none"> <li>It is not foreseen that the proposed activity will impact on heritage resources or vice versa.</li> </ul>   | N/A | N/A | N/A | N/A | - |
| <b>DECOMMISSIONING PHASE</b> |  |  |                                  |  |     |     |     |     |   |
| -                            | <p><u>Mine closure</u><br/>During the mine closure the Mine and its associated infrastructure will be dismantled.</p> <p><u>Rehabilitation of biophysical environment</u><br/>The biophysical environment will be rehabilitated.</p> |  | Fauna & Flora                    | <ul style="list-style-type: none"> <li>Re-vegetation of exposed soil surfaces to ensure no erosion in these areas.</li> </ul>  |     | +   | L   | Yes | - |
|                              |  |  | Air quality                      | <ul style="list-style-type: none"> <li>Air pollution due to the increase of traffic of construction vehicles.</li> </ul>   | -   |     | S   | Yes | - |
|                              |  |  | Soil                             | <ul style="list-style-type: none"> <li>Backfilling of all voids</li> <li>Placing of topsoil on backfill</li> </ul>   |     | +   | L   | Yes | - |
|                              |  |  | Geology                          | <ul style="list-style-type: none"> <li>It is not foreseen that the decommissioning phase will impact on the geology of the site or vice versa.</li> </ul>  | N/A | N/A | N/A | N/A | - |
|                              |  |  | Existing services infrastructure | <ul style="list-style-type: none"> <li>Generation of waste that need to be accommodated at the local landfill site.</li> <li>Generation of sewage that need to be accommodated by the municipal sewerage system and the local sewage plant.</li> <li>Increase in construction vehicles.</li> </ul> | -   |     | S   | Yes | - |
|                              |  |  | Ground water                     | <ul style="list-style-type: none"> <li>Pollution due to construction vehicles.</li> </ul>  | -   |     | S   | Yes | - |
|                              |  |  | Surface water                    | <ul style="list-style-type: none"> <li>Increase in storm water run-off.</li> <li>Pollution of water sources due to soil erosion.</li> <li>Destruction of watercourses (pans/dams/streams/wetlands).</li> </ul>   | -   |     | S   | Yes | - |
|                              |  |  | Local unemployment rate          | <ul style="list-style-type: none"> <li>Loss of employment.</li> </ul>  | -   |     | L   | Yes | - |
|                              |  |  | Visual landscape                 | <ul style="list-style-type: none"> <li>Potential visual impact on visual receptors in close proximity to proposed facility.</li> </ul>   | -   |     | S   | Yes | - |
|                              |  |  | Traffic volumes                  | <ul style="list-style-type: none"> <li>Increase in construction vehicles.</li> </ul>   | -   |     | S   | Yes | - |
|                              |  |  | Health & Safety                  | <ul style="list-style-type: none"> <li>Air/dust pollution.</li> <li>Road safety.</li> <li>Increased crime levels. The presence of mine workers on the site may increase security risks associated with an increase in crime levels as a result of influx of people in the rural area.</li> </ul>   |     | -   | L   | Yes | - |
|                              |  |  | Noise levels                     | <ul style="list-style-type: none"> <li>The generation of noise as a result of construction vehicles, the use of machinery and people working on the site.</li> </ul>   | -   |     | S   | Yes | - |
|                              |  |  | Tourism industry                 | <ul style="list-style-type: none"> <li>Since there are no tourism facilities in close proximity to the site, the decommissioning activities will not have an impact on tourism in the area.</li> </ul>   | N/A | N/A | N/A | N/A | - |
|                              |  |  | Heritage resources               | <ul style="list-style-type: none"> <li>It is not foreseen that the decommissioning phase will impact on any heritage resources.</li> </ul>   | N/A | N/A | N/A | N/A | - |

(N/A) No impact (+) Positive Impact (-) Negative Impact (S) Short Term (M) Medium Term (L) Long Term

**J. AN ASSESSMENT OF EACH IDENTIFIED POTENTIALLY SIGNIFICANT IMPACT AND RISK, INCLUDING—**

- (i) cumulative impacts;
- (ii) the nature, significance and consequences of the impact and risk;
- (iii) the extent and duration of the impact and risk;
- (iv) the probability of the impact and risk occurring;
- (v) the degree to which the impact and risk can be reversed;
- (vi) the degree to which the impact and risk may cause irreplaceable loss of resources; and
- (vii) the degree to which the impact and risk can be mitigated;

**Significance of potential impacts**

The following sections present the outcome of the significance rating exercise. The results suggest that almost none of the key issues identified as part of the EIR process had a negative high environmental significance. Instead the overall score indicate a low environmental significance score.

**INITIAL CLEARANCE AND SITE PREPARATION PHASE**

**Direct impacts:** During this phase minor negative impacts are foreseen over the short term. The latter refers to a period of weeks. The site preparation may result in the loss or fragmentation of indigenous natural fauna and flora, loss or fragmentation of habitats, soil erosion, hydrology, and temporary noise disturbance, generation of waste, visual intrusions, increase in heavy vehicle traffic, and risk to safety, livestock and farm infrastructure, and increased risk of veld fires. The abovementioned impacts are discussed in more detail below:

Impacts on the Ecological aspects:

According to the Watercourse Delineation and Ecological Impact Assessment Report, the prospecting activities will result in a range of anticipated impacts. See **Table** below for a list of expected impacts.

**Table:** Summary of potential impacts

| Construction Phase                          | Operational Phase                           | Decommissioning Phase                       |
|---|---|---|
| Loss of terrestrial habitat                 | Loss of terrestrial habitat                 | Loss of terrestrial habitat                 |
| Loss of Terrestrial Fauna                   | Loss of Terrestrial Fauna                   | Introduction and spread of alien vegetation |
| Loss of Terrestrial Flora                   | Loss of Terrestrial Flora                   |   |
| Introduction and spread of alien vegetation | Introduction and spread of alien vegetation |   |

**Construction Phase Impact Assessment**



| Potential Environmental Impact              | Environmental Impact Before Mitigation |                       |          |               |          | Significance        | Environmental Impact After Mitigation |                       |          |               |          | Significance   |
|---|--|-----------------------|----------|---------------|----------|---------------------|---------------------------------------|-----------------------|----------|---------------|----------|----------------|
|   | Frequency of Impact                    | Frequency of Activity | Severity | Spatial Scale | Duration |                     | Frequency of Impact                   | Frequency of Activity | Severity | Spatial Scale | Duration |                |
| Loss of terrestrial habitat                 | 5                                      | 4                     | 3        | 3             | 3        | 81<br>Medium – High | 3                                     | 4                     | 2        | 2             | 2        | 42<br>Low      |
| Loss of Terrestrial Fauna                   | 4                                      | 3                     | 2        | 3             | 3        | 56<br>Medium – Low  | 2                                     | 3                     | 1        | 1             | 1        | 15<br>Very Low |
| Loss of Terrestrial Flora                   | 4                                      | 4                     | 3        | 2             | 3        | 64<br>Medium – Low  | 3                                     | 4                     | 2        | 1             | 1        | 28<br>Low      |
| Introduction and spread of alien vegetation | 4                                      | 3                     | 3        | 3             | 4        | 70<br>Medium – Low  | 3                                     | 3                     | 2        | 2             | 2        | 36<br>Low      |

**Proposed management measures relevant to the proposed prospecting operations**

| Impact                             | Source of Impact  | Recommended Mitigation Measures   |
|------------------------------------|---|---|
| <b>Loss of terrestrial habitat</b> | <p><b>Construction:</b></p> <ul style="list-style-type: none"> <li>Clearing of vegetation – vegetation loss</li> </ul> <p><b>Operational:</b></p> <ul style="list-style-type: none"> <li>Removal of substrate within watercourses</li> <li>Clearing of vegetation during prospecting operations</li> </ul> <p><b>Decommissioning:</b></p> <ul style="list-style-type: none"> <li>Damage to vegetated areas</li> <li>Ineffective rehabilitation measures</li> <li>Vehicles driving in and through naturally vegetated areas</li> </ul> | <ul style="list-style-type: none"> <li>Areas that are stripped during construction and operation should be re-vegetated with indigenous vegetation.</li> <li>It is recommended that areas to be developed be specifically demarcated so that during the construction phase, only the demarcated areas be impacted upon (including fencing off the defined project area) and preventing movement of workers into natural areas.</li> <li>The duration of the prospecting should be minimised to as short term as possible, in order to reduce the period of disturbance on fauna and flora.</li> <li>Areas of indigenous vegetation should under no circumstances be fragmented or disturbed or used as an area for dumping of waste.</li> <li>As far as possible the existing road network should be utilised, minimising the need to develop new access routes resulting in an increased impact on the local environment.</li> <li>All staff and visitors to the site must undergo an induction process and must be made aware of the sensitive nature of the environment and floral species which occur there.</li> </ul> |

|   |   |   |
|---|---|---|
|   |   | <ul style="list-style-type: none"> <li>• The area must be re-vegetated with plant and grass species which are endemic to the exact vegetation types.</li> <li>• Rehabilitation measures that are implemented must be continually monitored to ensure that proper succession has occurred and that there is no erosion occurring.</li> <li>• An alien invasive vegetation management plan should be developed and implemented.</li> <li>• Alien and invasive vegetation control should take place throughout all phases to prevent loss of floral habitat.</li> </ul>  |
| <p><b>Loss of Terrestrial Fauna</b></p> | <p><b><u>Construction and Operational:</u></b></p> <ul style="list-style-type: none"> <li>• Vegetation loss and disturbance – clearing of vegetation</li> <li>• Excessive noise disturbances</li> <li>• Illegal hunting</li> <li>• Habitat fragmentation destruction</li> <li>• Vehicles driving through naturally vegetated areas</li> </ul> | <ul style="list-style-type: none"> <li>• Site clearing to take place in a phased manner (where possible) to allow for any faunal species present to move away from the study site to the surrounding open space areas.</li> <li>• Prior and during vegetation clearance any larger fauna species noted should be given the opportunity to move away from the construction machinery.</li> <li>• Fauna species such as frogs and reptiles that have not moved away should be carefully and safely removed to a suitable location beyond the extent of the development footprint by a suitably qualified ECO trained in the handling and relocation of animals.</li> <li>• Fencing should be erected around the project area to prevent workers and members of the public from entering the surrounding environments. This fence should have small openings to allow wildlife to pass through.</li> <li>• Waste management must be a priority and all waste must be collected and stored adequately. It is recommended that all waste be removed from site on a weekly basis to prevent rodents and pests entering the site.</li> <li>• Should any sensitive or Red Data animal or bird species be encountered during the construction, operation and decommissioning activities, these should be relocated to natural areas in the vicinity. Any sensitive fauna that are inadvertently killed during earthmoving operations should be preserved as museum voucher specimens.</li> <li>• No hunting, trapping or killing of fauna are allowed.</li> <li>• Any lizards, snakes or monitors encountered should be allowed to escape to a suitable habitat away from disturbance.</li> <li>• General avoidance of snakes is the best policy if encountered. Snakes should not be intentionally harmed or killed and allowed free movement away from the area.</li> <li>• Trenches and deep excavations should not be left open for extended periods of time as fauna and</li> </ul> |

|  |   |   |
|--|---|---|
|  |   | livestock may fall in and become trapped in them. Trenches which are exposed should contain soil ramps allowing fauna to escape the trench.   |
| <b>Loss of Terrestrial Flora</b>                   | <p><b><u>Construction and Operational:</u></b></p> <ul style="list-style-type: none"> <li>• Vegetation clearance</li> <li>• Vehicles driving through natural vegetated areas</li> <li>• Habitat fragmentation and destruction</li> </ul>  | <ul style="list-style-type: none"> <li>• Areas that are stripped during construction and operation should be re-vegetated with indigenous vegetation as soon as possible. This will also reduce the likelihood of encroachment by alien invasive plant species.</li> <li>• Protected plants (<i>Aloe claviflora</i>) shall not be removed or damaged without prior approval, permits or licenses from the relevant authority.</li> </ul>  |
| <b>Introduction and spread of alien vegetation</b> | <p><b><u>Construction:</u></b></p> <ul style="list-style-type: none"> <li>• Clearing of vegetation</li> </ul> <p><b><u>Operational:</u></b></p> <ul style="list-style-type: none"> <li>• Removal of substrate within watercourses</li> <li>• Clearing of vegetation during prospecting operations</li> <li>• Vehicles driving in and through naturally vegetated areas</li> </ul> <p><b><u>Decommissioning:</u></b></p> <ul style="list-style-type: none"> <li>• Damage to vegetated areas</li> <li>• Ineffective rehabilitation measures</li> <li>• Vehicles driving in and through naturally vegetated areas</li> </ul> | <ul style="list-style-type: none"> <li>• Proliferation of alien and invasive species is expected within any disturbed areas particularly as there are some alien and invasive species present within the study site. These species should be eradicated and controlled to prevent further spread beyond.</li> <li>• An alien invasive vegetation management plan should be developed and implemented.</li> <li>• Alien and invasive vegetation control should take place throughout all phases to prevent loss of floral habitat.</li> <li>• Footprint areas should be kept as small as possible when removing alien plant species.</li> <li>• No vehicles should be allowed to drive through designated sensitive drainage and wetlands areas during the eradication of alien and weed species.</li> </ul> |

- **Loss of topsoil** – Topsoil may be lost due to poor topsoil management (burial, erosion, etc.) during construction related soil profile disturbance (levelling, excavations, disposal of spoils from excavations etc.) The effect will be the loss of soil fertility on disturbed areas after rehabilitation.

| Loss of topsoil                 | Pre-mitigation impact rating   | Post mitigation impact rating |
|---------------------------------|--|-------------------------------|
| Status (positive or negative)   | Negative   | Negative                      |
| Geographical extent             | Site (1)   | Site (1)                      |
| Probability                     | Possible (2)   | Unlikely (1)                  |
| Duration                        | Medium term (2)  | Medium term (2)               |
| Magnitude                       | High (3)   | High (3)                      |
| Reversibility                   | Partly reversible (2)  | Partly reversible (2)         |
| Irreplaceable loss of resources | Significant (3)  | Marginal (2)                  |
| Cumulative impact               | Medium cumulative impact (2).  |                               |
| <b>Significance</b>             | <b>Negative Medium (36)</b>  | <b>Negative Medium (30)</b>   |
| Can impacts be mitigated?       | <p>The following mitigation or management measures are provided:</p> <ul style="list-style-type: none"> <li>• If an activity will mechanically disturb below surface in any way, then any available topsoil should first be stripped from the entire surface and stockpiled for re-spreading during rehabilitation.</li> <li>• Topsoil stockpiles must be conserved against losses through erosion by establishing vegetation cover on them.</li> <li>• Dispose of all subsurface spoils from excavations where they will not impact on undisturbed land.</li> <li>• During rehabilitation, the stockpiled topsoil must be evenly spread over the entire disturbed surface.</li> <li>• Erosion must be controlled where necessary on top soiled areas.</li> </ul> <p>Establish an effective record keeping system for each area where soil is disturbed for constructional purposes. These records should be included in environmental performance reports, and should include all the records below.</p> <ul style="list-style-type: none"> <li>• Record the GPS coordinates of each area.</li> <li>• Record the date of topsoil stripping.</li> <li>• Record the GPS coordinates of where the topsoil is stockpiled.</li> <li>• Record the date of cessation of constructional (or operational) activities at the particular site.</li> <li>• Photograph the area on cessation of constructional activities.</li> <li>• Record date and depth of re-spreading of topsoil.</li> <li>• Photograph the area on completion of rehabilitation and on an annual basis thereafter to show vegetation establishment and evaluate progress of restoration over time.</li> </ul> <p>Section (f) of the EMP also provide mitigation measures related to topsoil management.</p> |                               |

- **Soil erosion** – Soil erosion due to alteration of the land surface run-off characteristics. Alteration of run-off characteristics may be caused by construction related land surface disturbance, vegetation removal and the establishment of roads. Erosion will

cause loss and deterioration of soil resources. The erosion risk is low due to the low slope gradients and low to moderate erodibility of the soils.

| Soil erosion                    | Pre-mitigation impact rating  | Post mitigation impact rating |
|---------------------------------|---|-------------------------------|
| Status (positive or negative)   | Negative  | Negative                      |
| Geographical extent             | Site (1)  | Site (1)                      |
| Probability                     | Possible (2)  | Possible (2)                  |
| Duration                        | Medium term (2)   | Medium term (2)               |
| Magnitude                       | High (3)  | Medium (2)                    |
| Reversibility                   | Partly reversible (2)   | Partly reversible (2)         |
| Irreplaceable loss of resources | Marginal (2)  | Marginal (2)                  |
| Cumulative impact               | Medium cumulative impact (2).   |                               |
| <b>Significance</b>             | <b>Negative Medium (33)</b>   | <b>Negative medium (22)</b>   |
| Can impacts be mitigated?       | <p>The following mitigation or management measures are provided:<br/>                     Implement an effective system of run-off control, where it is required, that collects and safely disseminates run-off water from all hardened surfaces and prevents potential down slope erosion.</p> <p>Include periodical site inspection in environmental performance reporting that inspects the effectiveness of the run-off control system and specifically records the occurrence any erosion on site or downstream – refer to section (f) of the EMP.</p> |                               |

- **Temporary noise disturbance** - Preparation activities will result in the generation of noise over a period of months. Sources of noise are likely to include vehicles, the use of machinery such as back actors and people working on the site. The noise impact is likely to be significant; but activities should be limited to normal working days and hours.

### Community Noise

Community noise impacts should not exceed the levels presented in Table below of South African Standards or result in a maximum increase above background levels of 3 dBA at the nearest receptor location off-site.

- The noise levels are relevant to noise impacts beyond the property boundary of the facility. However, noise prevention and mitigation measures should be applied where predicted or measured noise impacts from a project facility or operations exceed the applicable noise level guideline at the most sensitive point of reception. A point of reception or receptor may be defined as any point on the premises occupied by persons where extraneous noise and/or vibration are received.
- South African National Standard (SANS) 10103 (2008) provides a guideline for estimating community response to an increase in the general ambient noise level caused by intruding noise.

| SITE                                       | WHO / IFC<br>LAEQ (1H) DBA |               | SOUTH AFRICAN STANDARDS |               |
|--|----------------------------|---------------|-------------------------|---------------|
|  | DAY                        | NIGHT         | DAY                     | NIGHT         |
|  | 07:00 – 19:00              | 19:00 – 07:00 | 07:00 – 19:00           | 19:00 – 07:00 |
| Residential; Institutional;<br>Educational | 55                         | 45            | 55                      | 45            |
| Industrial, Commercial                     | 70                         | 70            | 70                      | 60            |

The possible noise and increased ground vibration during mine activities can however be controlled by means of approved acoustic screening measures, state of the art equipment, proper noise management principles, compliance to the Local Noise Regulations, and the International Finance Corporation’s Environmental Health and Safety Guidelines.

| Temporary noise disturbance     | Pre-mitigation impact rating   | Post mitigation impact rating |
|---------------------------------|--|-------------------------------|
| Status (positive or negative)   | Negative   | Negative                      |
| Extent                          | Local (2)  | Local (2)                     |
| Probability                     | Definite (4)   | Probable (3)                  |
| Duration                        | Short term (1)   | Short term (1)                |
| Magnitude                       | High (3)   | Medium (2)                    |
| Reversibility                   | Completely reversible (1)  | Completely reversible (1)     |
| Irreplaceable loss of resources | No loss of resource (1)  | No loss of resource (1)       |
| Cumulative impact               | The impact would result in negligible to no cumulative effects (1).                        |                               |
| <b>Significance</b>             | <b>Negative medium (30)</b>  | <b>Negative low (20)</b>      |
| Can impacts be mitigated?       | Yes, management actions related to noise pollution are included in section (f) of the EMP. |                               |

- Generation of waste - general waste, construction waste, sewage and grey water - The workers on site are likely to generate general waste such as food wastes, packaging, bottles, etc. The applicant will need to ensure that general waste is appropriately disposed of i.e. taken to the nearest licensed landfill.

Sanitation for mine employees will consist of sufficient ablution facilities portable toilets serviced by one septic tank which is pumped out regularly. No further sanitation infrastructure is envisioned for the proposed expansion of the mining activities.

No pit latrines, French drain systems or soak away systems shall be allowed.

| Generation of waste             | Pre-mitigation impact rating  | Post mitigation impact rating |
|---------------------------------|---|-------------------------------|
| Status (positive or negative)   | Negative  | Negative                      |
| Extent                          | Local/district (2)  | Local/district (2)            |
| Probability                     | Definite (4)  | Definite (4)                  |
| Duration                        | Short term (1)  | Short term (1)                |
| Magnitude                       | Medium (2)  | Low (1)                       |
| Reversibility                   | Partly reversible (2)   | Partly reversible (2)         |
| Irreplaceable loss of resources | No loss of resource (1)   | No loss of resource (1)       |
| Cumulative impact               | Medium cumulative impact (3) - An additional demand for landfill space could result in significant cumulative impacts if services become unstable or unavailable, which in turn would negatively impact on the local community. |                               |
| <b>Significance</b>             | <b>Negative low (26)</b>  | <b>Negative low (13)</b>      |
| Can impacts be mitigated?       | Yes, it is therefore important that all management actions and mitigation measures included in section (f) of the EMP are implemented.  |                               |

#### Groundwater:

| Pollution of ground – and surface water | Pre-mitigation impact rating  | Post mitigation impact rating  |
|---|---|--------------------------------|
| Status (positive or negative)           | Negative  | Negative                       |
| Extent                                  | Local/District (2)  | Local/District (2)             |
| Probability                             | Probable (3)  | Probable (3)                   |
| Duration                                | Medium term (2)   | Medium term (2)                |
| Magnitude                               | Medium (2)  | Medium (2)                     |
| Reversibility                           | Partly reversible (2)   | Partly reversible (2)          |
| Irreplaceable loss of resources         | Significant loss of resources (3)   | Marginal loss of resources (2) |
| Cumulative impact                       | Medium cumulative impacts (3) – Pollution of ground and surface water could result in a significant cumulative impact with regards to the quality of water. |                                |

|                           |   |                             |
|---------------------------|---|-----------------------------|
| <b>Significance</b>       | <b>Negative medium impact (30)</b>  | <b>Negative medium (28)</b> |
| Can impacts be mitigated? | Yes, management actions and mitigation measures related to the use of water are included in section (f) of the EMP. |                             |

- **Impacts on heritage objects** – Protection of archaeological, historical and any other site or land considered being of cultural value within the project boundary against vandalism, destruction and theft. The preservation and appropriate management of new discoveries in accordance with the NHRA, should these be discovered during construction activities.

The following are findings and recommendations from the Phase 1 Heritage Impact Assessment that was conducted.

### Findings and conclusion

No archaeological (both Stone Age and Iron Age) or historical artefacts, assemblages, features, structures or settlements were recorded during the survey of the project footprint. It is well known that Late Iron Age stone-walled settlements do not usually occur in open low-lying grasslands. Especially black cottons soils high in clay content.

It is therefore recommended, from a cultural heritage perspective that the proposed prospecting activities may proceed, taking into account the mitigation measures.

Also, please note:

Archaeological deposits usually occur below ground level. Should archaeological artefacts or skeletal material be revealed in the area during development activities, such activities should be halted, and a university or museum notified in order for an investigation and evaluation of the find(s) to take place (*cf. NHRA (Act No. 25 of 1999), Section 36 (6)*).

**Indirect impacts:** The nuisance aspects generally associated with the installation of infrastructure or ground preparation will also be applicable to this development, which relates primarily to the increase in vehicle traffic associated with prospecting practices, the influx of job seekers to the area, risk to safety, livestock and farm infrastructure, and increased risk of veld fires.

- **Increase in vehicle traffic** – The movement of heavy vehicles have the potential to damage local roads and create dust and safety impacts for other road users in the area.

The movement of heavy vehicles during the clearance of vegetation and topsoil has the potential to damage local farm roads and create dust and safety impacts for other road users in the area.

Access will be obtained from gravel roads off the nearby tarr roads. The volume of traffic along this road is medium to high and the movement of heavy vehicles along this road is likely to damage the road surface and impact on other road users.

| Increase in vehicle traffic     | Pre-mitigation impact rating   | Post mitigation impact rating |
|---------------------------------|--|-------------------------------|
| Status (positive or negative)   | Negative   | Negative                      |
| Extent                          | Local (2)  | Local (2)                     |
| Probability                     | Probable (3)   | Probable (3)                  |
| Duration                        | Short term (1)   | Short term (1)                |
| Magnitude                       | High (3)   | Medium (2)                    |
| Reversibility                   | Completely reversible (1)  | Completely reversible (1)     |
| Irreplaceable loss of resources | No loss of resource (1)  | No loss of resource (1)       |
| Cumulative impact               | Medium cumulative impact (3). If damage to roads is not repaired then this will affect the farming activities in the area and result in higher maintenance costs for vehicles of local farmers and other road users. The costs will be borne by road users who were no responsible for the damage. |                               |
| <b>Significance</b>             | <b>Negative medium impacts (33)</b>  | <b>Negative low (11)</b>      |

|                           |  |
|---------------------------|--|
| Can impacts be mitigated? | <p>The potential impacts associated with heavy vehicles can be effectively mitigated. The mitigation measures include:</p> <ul style="list-style-type: none"> <li>• The contractor must ensure that damage caused by construction on the roads are repaired. The costs associated with the repair must be borne by the contractor;</li> <li>• Dust suppression measures must be implemented for heavy vehicles such as wetting of gravel roads on a regular basis and ensuring that vehicles used to transport sand and building materials are fitted with tarpaulins or covers;</li> <li>• All vehicles must be road-worthy and drivers must be qualified and made aware of the potential road safety issues and need for strict speed limits.</li> </ul> <p>Also refer section (f) of the EMP. For mitigation measures related to traffic.</p> |
|---------------------------|--|

- Risk to safety, livestock and farm infrastructure - The presence and movement of workers on and off the site poses a potential safety threat to owners and farm workers in the vicinity of the site.

In addition, farm infrastructure, such as fences and gates, may be damaged and stock losses may also result from gates being left open and/or fences being damaged or stock theft linked either directly or indirectly to the presence of farm workers on the site.

| <b>Risk to safety, livestock and farm infrastructure</b> | <b>Pre-mitigation impact rating</b>   | <b>Post mitigation impact rating</b> |
|--|---|--------------------------------------|
| Status (positive or negative)                            | Negative  | Negative                             |
| Extent   | Local (2)   | Local (2)                            |
| Probability  | Probable (3)  | Probable (3)                         |
| Duration   | Medium term (2)   | Medium term (2)                      |
| Magnitude  | High (3)  | Medium (2)                           |
| Reversibility  | Barely reversible (3)   | Partly reversible (2)                |
| Irreplaceable loss of resources                          | Significant resource (3)  | Marginal resource (2)                |
| Cumulative impact  | Medium cumulative effects (3), provided losses are compensated for.   |                                      |
| <b>Significance</b>                                      | <b>Negative medium (48)</b>   | <b>Negative low (28)</b>             |
| Can impacts be mitigated?                                | <p>Key mitigation measures include:</p> <ul style="list-style-type: none"> <li>• <b>Acacia Resources (Pty) Ltd</b> should enter into an agreement with the local farmers in the area whereby damages to farm property etc. during the construction phase will be compensated for. The agreement should be signed before the construction phase commences;</li> <li>• The construction area should be fenced off prior to the commencement of the construction phase. The movement of construction workers on the site should be confined to the fenced off area;</li> <li>• Contractors appointed by <b>Acacia Resources (Pty) Ltd</b> should provide daily transport for low and semi-skilled workers to and from the site. This would reduce the potential risk of trespassing on the remainder of the farm and adjacent properties;</li> <li>• <b>Acacia Resources (Pty) Ltd</b> should hold contractors liable for compensating farmers in full for any stock losses and/or damage to farm infrastructure that can be linked to construction workers. This should be contained in the Code of Conduct to be signed between the proponent, the contractors and neighbouring landowners. The agreement should also cover losses and costs associated with fires caused by construction workers or construction related activities (see below);</li> </ul> |                                      |



|  |   |
|--|---|
|  | <ul style="list-style-type: none"> <li>• The Environmental Management Programme (EMPr) should outline procedures for managing and storing waste on site, specifically plastic waste that poses a threat to livestock if ingested;</li> <li>• Contractors appointed <b>Acacia Resources (Pty) Ltd</b> must ensure that all workers are informed at the outset of the construction phase of the conditions contained on the Code of Conduct, specifically consequences of stock theft and trespassing on adjacent farms.</li> <li>• Contractors appointed by <b>Acacia Resources (Pty) Ltd</b> must ensure that construction workers who are found guilty of trespassing, stealing livestock and/or damaging farm infrastructure are dismissed and charged. This should be contained in the Code of Conduct. All dismissals must be in accordance with South African labour legislation;</li> <li>• The housing of construction workers on the site should be strictly limited to security personnel (if any).</li> </ul> |
|--|---|

- Increased risk of veld fires - The presence of construction workers and construction-related activities on the site poses an increased risk of grass fires that could in turn pose a threat to livestock, crops and farmsteads in the area.

In the process, farm infrastructure may also be damaged or destroyed and human lives threatened. The potential risk of grass fires was heightened by the windy conditions in the area, especially during the dry, windy winter months from May to October. In terms of potential mitigation measures, a fire-break should be constructed around the perimeter of the site prior to the commencement of the construction phase. In addition, fire-fighting equipment should be provided on site during the construction phase.

| Increased risk of veld fires    | Pre-mitigation impact rating   | Post mitigation impact rating |
|---------------------------------|--|-------------------------------|
| Status (positive or negative)   | Negative   | Negative                      |
| Extent                          | Region (3)   | Local (2)                     |
| Probability                     | Probable (3)   | Probable (3)                  |
| Duration                        | Medium term (2)  | Short term (1)                |
| Magnitude                       | High (3)   | Low (1)                       |
| Reversibility                   | Completely reversible (1)  | Completely reversible (1)     |
| Irreplaceable loss of resources | No loss of resource (1)  | No loss of resource (1)       |
| Cumulative impact               | Negligible cumulative effects (1), provided losses are compensated for.  |                               |
| <b>Significance</b>             | <b>Negative medium (33)</b>  | <b>Negative low (9)</b>       |
| Can impacts be mitigated?       | The mitigation measures include: <ul style="list-style-type: none"> <li>• A fire-break should be constructed around the perimeter of the site prior to the commencement of the construction phase;</li> <li>• Contractor should ensure that open fires on the site for cooking or heating are not allowed except in designated areas;</li> <li>• Contractor to ensure that construction related activities that pose a potential fire risk, such as welding, are properly managed and are confined to areas where the risk of fires has been reduced. Measures to reduce the risk of fires include avoiding working in high wind conditions when the risk of fires is greater. In this regard special care should be taken during the high risk dry, windy winter months;</li> <li>• Contractor to provide adequate firefighting equipment on-site, including a fire fighting vehicle;</li> <li>• Contractor to provide fire-fighting training to selected construction staff;</li> <li>• No construction staff, with the exception of security staff, to be accommodated on site over night;</li> </ul> |                               |

|  |   |
|--|---|
|  | <ul style="list-style-type: none"> <li>As per the conditions of the Code of Conduct, in the advent of a fire being caused by construction workers and or construction activities, the appointed contractors must compensate farmers for any damage caused to their farms. The contractor should also compensate the firefighting costs borne by farmers and local authorities.</li> </ul> |
|--|---|

**OPERATIONAL PHASE**

**Direct impacts:** During the operational phase the study area will serve as an prospecting area and the impacts are generally associated with ecological, soil erosion, change in land use, impacts associated with the, increase in storm water runoff, increased consumption of water, visual intrusion, the generation of general waste, leakage of hazardous materials, and the change in the sense of place. The operational phase will also have a direct positive impact through the provision of permanent employment opportunities and facilitating a positive economic growth. The abovementioned impacts are discussed in more detail below:

Operational Phase Impact Assessment

| Potential Environmental Impact              | Environmental Impact Before Mitigation |                       |          |               |          | Significance        | Environmental Impact After Mitigation |                       |          |               |          | Significance       |
|---|--|-----------------------|----------|---------------|----------|---------------------|---------------------------------------|-----------------------|----------|---------------|----------|--------------------|
|   | Frequency of Impact                    | Frequency of Activity | Severity | Spatial Scale | Duration |                     | Frequency of Impact                   | Frequency of Activity | Severity | Spatial Scale | Duration |                    |
| Loss of terrestrial habitat                 | 5                                      | 4                     | 3        | 3             | 5        | 99<br>Medium – High | 4                                     | 4                     | 2        | 2             | 4        | 64<br>Medium – Low |
| Loss of Terrestrial Fauna                   | 4                                      | 3                     | 3        | 3             | 4        | 70<br>Medium – Low  | 3                                     | 3                     | 2        | 2             | 3        | 42<br>Low          |
| Loss of Terrestrial Flora                   | 5                                      | 4                     | 3        | 3             | 5        | 99<br>Medium – High | 4                                     | 4                     | 2        | 2             | 3        | 56<br>Medium – Low |
| Introduction and spread of alien vegetation | 4                                      | 3                     | 3        | 3             | 5        | 77<br>Medium – High | 2                                     | 3                     | 2        | 1             | 3        | 30<br>Low          |

Proposed management measures relevant to the proposed prospecting operations

| Impact                             | Source of Impact  | Recommended Mitigation Measures   |
|------------------------------------|---|---|
| <b>Loss of terrestrial habitat</b> | <p><u>Construction:</u></p> <ul style="list-style-type: none"> <li>Clearing of vegetation – vegetation loss</li> </ul> <p><u>Operational:</u></p> <ul style="list-style-type: none"> <li>Removal of substrate within watercourses</li> <li>Clearing of vegetation during prospecting operations</li> </ul> <p><u>Decommissioning:</u></p> <ul style="list-style-type: none"> <li>Damage to vegetated areas</li> </ul> | <ul style="list-style-type: none"> <li>Areas that are stripped during construction and operation should be re-vegetated with indigenous vegetation.</li> <li>It is recommended that areas to be developed be specifically demarcated so that during the construction phase, only the demarcated areas be impacted upon (including fencing off the defined project area) and preventing movement of workers into natural areas.</li> <li>The duration of the prospecting should be minimised to as short term as possible, in order to reduce the period of disturbance on fauna and flora.</li> </ul> |

|   |   |   |
|---|---|---|
|   | <ul style="list-style-type: none"> <li>• Ineffective rehabilitation measures</li> <li>• Vehicles driving in and through naturally vegetated areas</li> </ul>  | <ul style="list-style-type: none"> <li>• Areas of indigenous vegetation should under no circumstances be fragmented or disturbed or used as an area for dumping of waste.</li> <li>• As far as possible the existing road network should be utilised, minimising the need to develop new access routes resulting in an increased impact on the local environment.</li> <li>• All staff and visitors to the site must undergo an induction process and must be made aware of the sensitive nature of the environment and floral species which occur there.</li> <li>• The area must be re-vegetated with plant and grass species which are endemic to the exact vegetation types.</li> <li>• Rehabilitation measures that are implemented must be continually monitored to ensure that proper succession has occurred and that there is no erosion occurring.</li> <li>• An alien invasive vegetation management plan should be developed and implemented.</li> <li>• Alien and invasive vegetation control should take place throughout all phases to prevent loss of floral habitat.</li> </ul>  |
| <p><b>Loss of Terrestrial Fauna</b></p> | <p><b><u>Construction and Operational:</u></b></p> <ul style="list-style-type: none"> <li>• Vegetation loss and disturbance – clearing of vegetation</li> <li>• Excessive noise disturbances</li> <li>• Illegal hunting</li> <li>• Habitat fragmentation destruction</li> <li>• Vehicles driving through naturally vegetated areas</li> </ul> | <ul style="list-style-type: none"> <li>• Site clearing to take place in a phased manner (where possible) to allow for any faunal species present to move away from the study site to the surrounding open space areas.</li> <li>• Prior and during vegetation clearance any larger fauna species noted should be given the opportunity to move away from the construction machinery.</li> <li>• Fauna species such as frogs and reptiles that have not moved away should be carefully and safely removed to a suitable location beyond the extent of the development footprint by a suitably qualified ECO trained in the handling and relocation of animals.</li> <li>• Fencing should be erected around the project area to prevent workers and members of the public from entering the surrounding environments. This fence should have small openings to allow wildlife to pass through.</li> <li>• Waste management must be a priority and all waste must be collected and stored adequately. It is recommended that all waste be removed from site on a weekly basis to prevent rodents and pests entering the site.</li> <li>• Should any sensitive or Red Data animal or bird species be encountered during the construction, operation and decommissioning activities, these should be relocated to natural areas in the vicinity. Any sensitive fauna that are inadvertently killed during</li> </ul> |

|   |   |   |
|---|---|---|
|   |   | <p>earthmoving operations should be preserved as museum voucher specimens.</p> <ul style="list-style-type: none"> <li>• No hunting, trapping or killing of fauna are allowed.</li> <li>• Any lizards, snakes or monitors encountered should be allowed to escape to a suitable habitat away from disturbance.</li> <li>• General avoidance of snakes is the best policy if encountered. Snakes should not be intentionally harmed or killed and allowed free movement away from the area.</li> <li>• Trenches and deep excavations should not be left open for extended periods of time as fauna and livestock may fall in and become trapped in them. Trenches which are exposed should contain soil ramps allowing fauna to escape the trench.</li> </ul>   |
| <p><b>Loss of Terrestrial Flora</b></p>                   | <p><b><u>Construction and Operational:</u></b></p> <ul style="list-style-type: none"> <li>• Vegetation clearance</li> <li>• Vehicles driving through natural vegetated areas</li> <li>• Habitat fragmentation and destruction</li> </ul>  | <ul style="list-style-type: none"> <li>• Areas that are stripped during construction and operation should be re-vegetated with indigenous vegetation as soon as possible. This will also reduce the likelihood of encroachment by alien invasive plant species.</li> <li>• Protected plants (<i>Aloe claviflora</i>) shall not be removed or damaged without prior approval, permits or licenses from the relevant authority.</li> </ul>  |
| <p><b>Introduction and spread of alien vegetation</b></p> | <p><b><u>Construction:</u></b></p> <ul style="list-style-type: none"> <li>• Clearing of vegetation</li> </ul> <p><b><u>Operational:</u></b></p> <ul style="list-style-type: none"> <li>• Removal of substrate within watercourses</li> <li>• Clearing of vegetation during prospecting operations</li> <li>• Vehicles driving in and through naturally vegetated areas</li> </ul> <p><b><u>Decommissioning:</u></b></p> <ul style="list-style-type: none"> <li>• Damage to vegetated areas</li> <li>• Ineffective rehabilitation measures</li> <li>• Vehicles driving in and through naturally vegetated areas</li> </ul> | <ul style="list-style-type: none"> <li>• Proliferation of alien and invasive species is expected within any disturbed areas particularly as there are some alien and invasive species present within the study site. These species should be eradicated and controlled to prevent further spread beyond.</li> <li>• An alien invasive vegetation management plan should be developed and implemented.</li> <li>• Alien and invasive vegetation control should take place throughout all phases to prevent loss of floral habitat.</li> <li>• Footprint areas should be kept as small as possible when removing alien plant species.</li> <li>• No vehicles should be allowed to drive through designated sensitive drainage and wetlands areas during the eradication of alien and weed species.</li> </ul> |

- **Soil erosion** – The largest risk factor for soil erosion will be during the operational phase when the prospecting activity ensues and soil is left bare until rehabilitation is initiated. Erosion will be localised within the site. This will ultimately lead to the irretrievable commitment of this resource. The measurable effect of reducing erosion by utilizing mitigation measures may reduce possible erosion significantly.

| <b>Soil erosion</b>             | <b>Pre-mitigation impact rating</b>  | <b>Post mitigation impact rating</b> |
|---------------------------------|--|--------------------------------------|
| Status (positive or negative)   | Negative   | Negative                             |
| Extent                          | Local/District (2)   | Local/District (2)                   |
| Probability                     | Definite (4)   | Unlikely (1)                         |
| Duration                        | Long term (3)  | Long term (3)                        |
| Magnitude                       | High (3)   | Medium (2)                           |
| Reversibility                   | Partly reversible (2)  | Partly reversible (2)                |
| Irreplaceable loss of resources | Significant loss of resource (3)   | Marginal loss of resource (2)        |
| Cumulative impact               | Medium cumulative impact (3). Should these impacts occur, there will be a cumulative impact on the air and water resources in the study area in terms of pollution.  |                                      |
| <b>Significance</b>             | <b>Negative High (51)</b>  | <b>Negative Low (26)</b>             |
| Can impacts be mitigated?       | Yes, to avoid soil erosion it will be a good practice to not remove all the vegetation at once but to only clear the area as it becomes necessary and to implement concurrent rehabilitation.<br><br>Also refer to section (f) of the EMP. |                                      |

- **Change in land-use** – The use of the area for the operation of the prospecting activity will not disturb any activities on most of the portions as all activities can be done concurrently.

| <b>Change in land use</b>       | <b>Pre-mitigation impact rating</b>  | <b>Post mitigation impact rating</b> |
|---------------------------------|--|--------------------------------------|
| Status (positive or negative)   | Negative   | Negative                             |
| Extent                          | Local (2)  | Local (2)                            |
| Probability                     | Definite (4)   | Definite (4)                         |
| Duration                        | medium term (2)  | medium term (2)                      |
| Magnitude                       | High (3)   | Medium (2)                           |
| Reversibility                   | Barely reversible (3)  | Partly reversible (2)                |
| Irreplaceable loss of resources | Significant loss of resource (3)   | Marginal loss of resource (2)        |
| Cumulative impact               | Medium cumulative impacts (3).   |                                      |
| <b>Significance</b>             | <b>Negative high (51)</b>  | <b>Negative medium (30)</b>          |
| Can impacts be mitigated?       | The proponent should establish a Rehabilitation Fund to be used to rehabilitate the area once the proposed facility has been decommissioned. The fund should be funded by revenue generated during the operational phase of the project. The motivation for the establishment of a Rehabilitation Fund is based on the experience in the mining sector where many mines on closure have not set aside sufficient funds for closure and decommissioning.<br><br>Also refer to section (f) of the EMP. |                                      |

- **Generation of alternative land use income** – Income generated through the mine will provide the enterprise with increased cash flow and rural livelihood, and thereby improve the financial sustainability.

| <b>Generation of alternative land use income</b> | <b>Pre-mitigation impact rating</b> | <b>Post mitigation impact rating</b> |
|--|-------------------------------------|--------------------------------------|
| Status (positive or negative)                    | Positive                            | Positive                             |
| Geographical extent                              | Site (1)                            | Site (1)                             |
| Probability                                      | Definite (4)                        | Definite (4)                         |
| Duration   | Long term (3)                       | Long term (3)                        |
| Magnitude  | Medium (2)                          | High (3)                             |
| Reversibility                                    | Completely reversible (1)           | Completely reversible (1)            |

|                                 |                               |                             |
|---------------------------------|-------------------------------|-----------------------------|
| Irreplaceable loss of resources | No loss of resources (1)      | No loss of resources (1)    |
| Cumulative impact               | Medium cumulative impact (3). |                             |
| <b>Significance</b>             | <b>Positive Low (24)</b>      | <b>Positive medium (39)</b> |
| Can impacts be mitigated?       | No mitigation required.       |                             |

- Generation of dust due to vehicles & prospecting activities– Dust can become airborne due to drilling, pitting and trenching and vehicles moving around

| <b>Generation of alternative land use income</b> | <b>Pre-mitigation impact rating</b> | <b>Post mitigation impact rating</b> |
|--|-------------------------------------|--------------------------------------|
| Status (positive or negative)                    | Negative                            | Negative                             |
| Geographical extent                              | Local (2)                           | Local (2)                            |
| Probability                                      | Definite (4)                        | Definite (4)                         |
| Duration   | Short term (1)                      | Short term (1)                       |
| Magnitude  | Medium (2)                          | Low (1)                              |
| Reversibility                                    | Partly reversible (2)               | Completely reversible (1)            |
| Irreplaceable loss of resources                  | No loss of resources (1)            | No loss of resources (1)             |
| Cumulative impact                                | Medium cumulative impact (3).       |                                      |
| <b>Significance</b>                              | <b>Negative Medium (39)</b>         | <b>Negative Low (27)</b>             |
| Can impacts be mitigated?                        | No mitigation required.             |                                      |

- Increase in storm water runoff – The development will potentially result in an increase in storm water run-off that needs to be managed to prevent soil erosion, especially where vegetation will be cleared.

Not all the vegetation should be removed at once. Only the specific pit/trench being excavated at the specific time should be cleared

| <b>Increase in storm water runoff</b> | <b>Pre-mitigation impact rating</b>   | <b>Post mitigation impact rating</b> |
|---------------------------------------|---|--------------------------------------|
| Status (positive or negative)         | Negative  | Negative                             |
| Extent                                | Local (2)   | Local (2)                            |
| Probability                           | Probable (3)  | Unlikely (1)                         |
| Duration                              | Long term (3)   | Long term (3)                        |
| Magnitude                             | Medium (2)  | Low (1)                              |
| Reversibility                         | Completely reversible (1)   | Completely reversible (1)            |
| Irreplaceable loss of resources       | Marginal loss of resource (2)   | Marginal loss of resource (2)        |
| Cumulative impact                     | Medium cumulative impact (3) - Should these impacts occur, there will be a cumulative impacts on the wider area.  |                                      |
| <b>Significance</b>                   | <b>Negative low (28)</b>  | <b>Negative low (12)</b>             |
| Can impacts be mitigated?             | <p>Yes. It is therefore important that all management actions and mitigation measures included in section (f) of the EMP. are implemented to ensure that these impacts do not occur</p> <p>The cut-off trenches and silt fences will be installed where necessary as to control runoff storm water by attenuating it and control the movement of sediment on the premises.</p> <p>These structures will be monitored on a regular basis. It is suggested that it be monitored on a weekly basis during the rainy season, and after possible rain events during the dry season.</p> <p>If these practices is found to be insufficient for the control of storm water and sedimentation, other alternatives should immediately be investigated and implemented.</p> |                                      |

Increased consumption of water -

Additional water requirements related to the portable water supply for employees and workers. Water will also be used for dust suppression.

The prospecting operation in the operational phase may draw down the water table, affecting boreholes of adjacent property owners

| Increased consumption of water  | Pre-mitigation impact rating   | Post mitigation impact rating  |
|---------------------------------|--|--------------------------------|
| Status (positive or negative)   | Negative   | Negative                       |
| Extent                          | Local/District (2)   | Local/District (2)             |
| Probability                     | Definite (4)   | Definite (4)                   |
| Duration                        | Medium term (2)  | Medium term (2)                |
| Magnitude                       | Medium (2)   | Medium (2)                     |
| Reversibility                   | Irreversible (4)   | Irreversible (4)               |
| Irreplaceable loss of resources | Significant loss of resources (3)  | Marginal loss of resources (2) |
| Cumulative impact               | High cumulative impacts (4) - An additional demand on water sources could result in a significant cumulative impact with regards to the availability of water. |                                |
| <b>Significance</b>             | <b>Negative medium impact (38)</b>   | <b>Negative medium (36)</b>    |
| Can impacts be mitigated?       | Yes, management actions and mitigation measures related to the use of water are included in section (f) of the EMP.  |                                |

- Surface/Groundwater: Pollution on ground water & surface water resources due to leakages from equipment and other aspects of the operations

| Pollution of ground – and surface water | Pre-mitigation impact rating  | Post mitigation impact rating  |
|---|---|--------------------------------|
| Status (positive or negative)           | Negative  | Negative                       |
| Extent                                  | Local/District (2)  | Local/District (2)             |
| Probability                             | Probable (3)  | Probable (3)                   |
| Duration                                | Medium term (2)   | Medium term (2)                |
| Magnitude                               | Medium (2)  | Medium (2)                     |
| Reversibility                           | Partly reversible (2)   | Partly reversible (2)          |
| Irreplaceable loss of resources         | Significant loss of resources (3)   | Marginal loss of resources (2) |
| Cumulative impact                       | Medium cumulative impacts (3) – Pollution of ground and surface water could result in a significant cumulative impact with regards to the quality of water. |                                |
| <b>Significance</b>                     | <b>Negative medium impact (30)</b>  | <b>Negative medium (28)</b>    |
| Can impacts be mitigated?               | Yes, management actions and mitigation measures related to the use of water are included in section (f) of the EMP.   |                                |

- Generation of waste – Approximately 15 Workers will be present on site during working hours, Monday to Saturday. Sources of general waste will be waste food, packaging, paper, etc. General waste will be stored on the site and removed on a weekly basis by a contractor.

| Generation of waste           | Pre-mitigation impact rating | Post mitigation impact rating |
|-------------------------------|------------------------------|-------------------------------|
| Status (positive or negative) | Negative                     | Negative                      |
| Extent                        | Local (2)                    | Local (2)                     |
| Probability                   | Definite (4)                 | Definite (4)                  |
| Duration                      | Long term (3)                | Long term (3)                 |
| Magnitude                     | Low (1)                      | Low (1)                       |
| Reversibility                 | Partly reversible (2)        | Partly reversible (2)         |

|                                 |   |                          |
|---------------------------------|---|--------------------------|
| Irreplaceable loss of resources | No loss of resource (1)   | No loss of resource (1)  |
| Cumulative impact               | Medium cumulative impact (3) - An additional demand for landfill space could result in significant cumulative impacts with regards to the availability of landfill space. |                          |
| <b>Significance</b>             | <b>Negative low (15)</b>  | <b>Negative low (15)</b> |
| Can impacts be mitigated?       | Yes, management actions related to waste management are included in section (f) of the EMP.   |                          |

- Leakage of hazardous materials - The proposed prospecting activity will make use of machinery that use fuel and oil. Leakage of these oils and fuel can contaminate water supplies and must be prevented by constructing oil and diesel permeable bunds to ensure that any spills are suitably attenuated and not released into the environment.

| Leakage of hazardous materials  | Pre-mitigation impact rating   | Post mitigation impact rating |
|---------------------------------|--|-------------------------------|
| Status (positive or negative)   | Negative   | Negative                      |
| Extent                          | Local (2)  | Local (2)                     |
| Probability                     | Possible (2)   | Unlikely (1)                  |
| Duration                        | Long term (3)  | Long term (3)                 |
| Magnitude                       | High (3)   | Medium (2)                    |
| Reversibility                   | Partly reversible (2)  | Partly reversible (2)         |
| Irreplaceable loss of resources | Marginal loss of resource (2)  | Marginal loss of resource (2) |
| Cumulative impact               | The impact would result in negligible to no cumulative effects (1)   |                               |
| <b>Significance</b>             | <b>Negative medium (36)</b>  | <b>Negative low (22)</b>      |
| Can impacts be mitigated?       | <p>Yes. To manage these impacts all staff and supervisors at workshops and fuel storage areas should be trained in hydrocarbon spill response and each of these areas should be equipped with the appropriate spill response kits and any contaminated soil must be disposed of correctly at a suitable location.</p> <p>It is therefore important that all management actions and mitigation measures included in the section (f) of EMP are implemented to ensure that these impacts do not occur.</p> |                               |

- Noise disturbance - Prospecting activities will result in the generation of noise over a period of 3-5 years. Sources of noise are likely to include vehicles, the use of machinery such as backactors, and people working on the site. The noise impact is likely to be significant as the closest

The following three primary variables should be considered when designing acoustic screening measures for the control of sound and/or noise:

- The source – Reduction of noise at the source;
- The transmission path – Reduction of noise between the source and the receiver;
- The receiver – Reduction of the noise at the receiver.

Increased noise levels are directly linked with the various activities associated with the construction of the proposed facility and related infrastructure, as well as the operational phase of the activity

| Temporary noise disturbance   | Pre-mitigation impact rating | Post mitigation impact rating |
|-------------------------------|------------------------------|-------------------------------|
| Status (positive or negative) | Negative                     | Negative                      |
| Extent                        | Local (2)                    | Local (2)                     |
| Probability                   | Definite (4)                 | Probable (3)                  |
| Duration                      | Medium term (2)              | Medium term (2)               |
| Magnitude                     | Very high (4)                | High (3)                      |
| Reversibility                 | Completely reversible (1)    | Completely reversible (1)     |



|                                 |  |                             |
|---------------------------------|--|-----------------------------|
| Irreplaceable loss of resources | No loss of resource (1)  | No loss of resource (1)     |
| Cumulative impact               | The impact would result in medium cumulative effects (3).                                  |                             |
| <b>Significance</b>             | <b>Negative High (52)</b>  | <b>Negative medium (36)</b> |
| Can impacts be mitigated?       | Yes, management actions related to noise pollution are included in section (f) of the EMP. |                             |

**Indirect impacts:** The operational phase will have an indirect negative impact through the change in the sense of place and an indirect positive impact through the provision of additional electrical infrastructure.

- Potential impact on tourism – There are no tourist facilities in close proximity to the proposed area.

| Potential impacts on tourism    | Pre-mitigation impact rating | Post mitigation impact rating |
|---------------------------------|------------------------------|-------------------------------|
| Status (positive or negative)   | Negative                     | Negative                      |
| Extent                          | Local (2)                    | Local (2)                     |
| Probability                     | Unlikely (1)                 | Unlikely (1)                  |
| Duration                        | Medium term (2)              | Medium term (2)               |
| Magnitude                       | Low (1)                      | Low (1)                       |
| Reversibility                   | Completely reversible (1)    | Completely reversible (1)     |
| Irreplaceable loss of resources | N/A                          | N/A                           |
| Cumulative impact               | N/A                          |                               |
| <b>Significance</b>             | <b>Negative low (6)</b>      | <b>Negative low (6)</b>       |
| Can impacts be mitigated?       | No mitigation required       |                               |

- Potential impact on tourism
  - The Magaliesberg Protected Natural Environment is situated approximately 16km away from the application area.
  - Pilanesberg National Park is situated approximately 12kmm away from the application area.
  - Kgaswane Mountain Nature Reserve is situated approximately 21km away from the application area.
  - McGregor Private Nature Reserve is situated approximately 15km away from the application area.

| Potential impacts on tourism    | Pre-mitigation impact rating | Post mitigation impact rating |
|---------------------------------|------------------------------|-------------------------------|
| Status (positive or negative)   | Negative                     | Negative                      |
| Extent                          | Local (2)                    | Local (2)                     |
| Probability                     | Possible (2)                 | Unlikely (1)                  |
| Duration                        | Medium term (2)              | Medium term (2)               |
| Magnitude                       | Medium (2)                   | Medium (2)                    |
| Reversibility                   | Partly reversible (2)        | Completely reversible (1)     |
| Irreplaceable loss of resources | N/A                          | N/A                           |
| Cumulative impact               | N/A                          |                               |
| <b>Significance</b>             | <b>Negative low (16)</b>     | <b>Negative low (12)</b>      |
| Can impacts be mitigated?       | No mitigation required       |                               |

## DECOMMISSIONING PHASE (MINE CLOSURE AND REHABILITATION)

**Direct impacts:** Typically, the major social impacts associated with the decommissioning phase are linked to ecological impacts, the loss of jobs and associated income. This has implications for the households who are directly affected, the communities within

which they live. If infrastructures are removed after a 3/5 year period, the site will be returned to its natural state. Therefore the physical environment will benefit from the closure of the prospecting area.

- Rehabilitation of the physical environment – There is a minimal chance to restore the site to its natural state.
  - Any residue stockpiles need to be removed and placed in the base of the final void (excluding the final waste rock dump that will remain).
  - It is recommended that the Waste Rock dump be shaped to an 18° slope; and
  - Topsoil will be spread over all disturbed areas and re-vegetated.

| Rehabilitation of the physical environment | Pre-mitigation impact rating                                       | Post mitigation impact rating |
|--|--|-------------------------------|
| Status (positive or negative)              | Positive   | Positive                      |
| Extent                                     | Site (1)   | Site (1)                      |
| Probability                                | Definite (4)   | Definite (4)                  |
| Duration                                   | Long term (3)  | Long term (3)                 |
| Magnitude                                  | High (3)   | High (3)                      |
| Reversibility                              | N/A  | N/A                           |
| Irreplaceable loss of resources            | N/A  | N/A                           |
| Cumulative impact                          | The impact would result in negligible to no cumulative effects (1) |                               |
| <b>Significance</b>                        | <b>Positive low (27)</b>   | <b>Positive low (27)</b>      |
| Can impacts be mitigated?                  | No mitigation measures required.                                   |                               |

## Ecological Desktop Assessment

### Decommissioning Phase Impact Assessment

| Potential Environmental Impact              | Environmental Impact Before Mitigation |                       |          |               |          | Significance       | Environmental Impact After Mitigation |                       |          |               |          | Significance |
|---|--|-----------------------|----------|---------------|----------|--------------------|---------------------------------------|-----------------------|----------|---------------|----------|--------------|
|   | Frequency of Impact                    | Frequency of Activity | Severity | Spatial Scale | Duration |                    | Frequency of Impact                   | Frequency of Activity | Severity | Spatial Scale | Duration |              |
| Loss of terrestrial habitat                 | 4                                      | 4                     | 2        | 2             | 3        | 56<br>Medium – Low | 3                                     | 4                     | 2        | 1             | 2        | 35<br>Low    |
| Introduction and spread of alien vegetation | 4                                      | 3                     | 3        | 3             | 3        | 63<br>Medium – Low | 3                                     | 3                     | 2        | 1             | 2        | 30<br>Low    |

### INDIRECT AND CUMULATIVE IMPACTS

- Increased impact on the remaining catchment due to changes in run-off characteristics;
- Habitat changes due to substrate-size changes;
- Loss of floristic and faunistic biodiversity.

- Loss of employment - Given the relatively large number of people employed during the operational phase, the decommissioning of the facility has the potential to have a negative social impact on the local community.

| Loss of employment              | Pre-mitigation impact rating  | Post mitigation impact rating |
|---------------------------------|---|-------------------------------|
| Status (positive or negative)   | Negative  | Negative                      |
| Extent                          | Local (2)   | Local (2)                     |
| Probability                     | Possible (2)  | Possible (2)                  |
| Duration                        | Medium term (2)   | Short term (1)                |
| Magnitude                       | High (3)  | Medium (2)                    |
| Reversibility                   | Partly reversible (2)   | Partly reversible (2)         |
| Irreplaceable loss of resources | No loss of resource (1)   | No loss of resource (1)       |
| Cumulative impact               | The impact would result in negligible to no cumulative effects (1)  |                               |
| <b>Significance</b>             | <b>Negative medium (30)</b>   | <b>Negative low (18)</b>      |
| Can impacts be mitigated?       | <p>The following mitigation measures are recommended:</p> <ul style="list-style-type: none"> <li>• All structures and infrastructure associated with the proposed facility should be dismantled and transported off-site on decommissioning;</li> <li>• <b>Acacia Resources (Pty) Ltd</b> should establish an Environmental Rehabilitation Trust Fund to cover the costs of decommissioning and rehabilitation of disturbed areas.</li> </ul> |                               |

**Indirect impacts:** No indirect impacts are anticipated from the decommissioning phase of the proposed development.

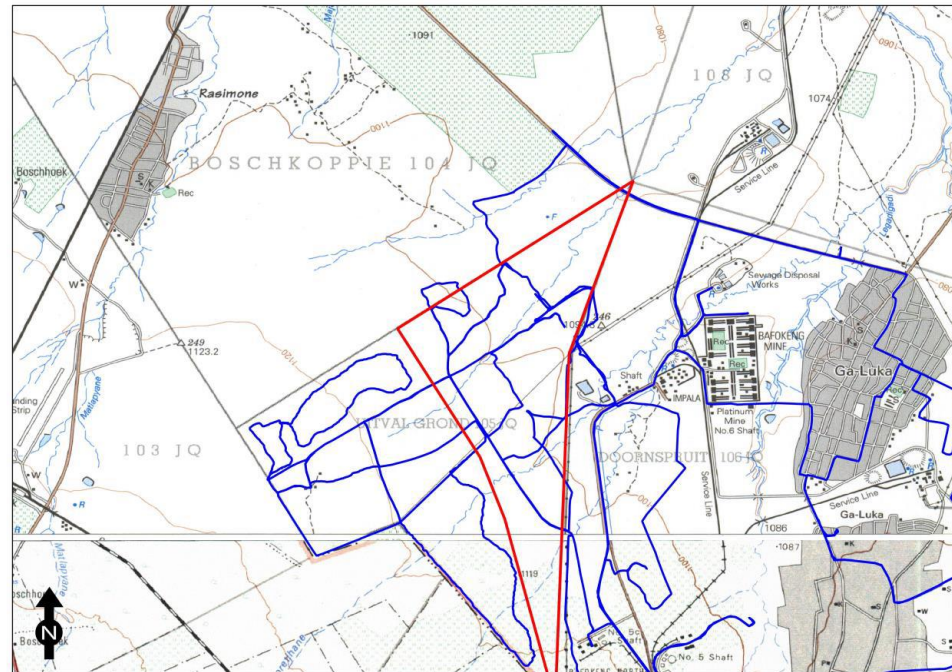
**K. SUMMARY OF THE FINDINGS AND RECOMMENDATIONS OF ANY SPECIALIST REPORT**

(where applicable, a summary of the findings and recommendations of any specialist report complying with Appendix 6 to these Regulations and an indication as to how these findings and recommendations have been included in the final assessment report):-

| LIST OF STUDIES UNDERTAKEN          | RECOMMENDATIONS OF SPECIALIST REPORTS  |
|-------------------------------------|--|
| Palaeontological Desktop Assessment | <p>Cultural Heritage in South Africa, includes all heritage resources, is protected by the National Heritage Resources Act (Act 25 of 1999) (NHRA). Heritage resources as defined in Section 3 of the Act include “<b>all objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens</b>”.</p> <p>Palaeontological heritage is unique and non-renewable and is protected by the NHRA. Palaeontological resources may not be unearthed, broken moved, or destroyed by any development without prior assessment and without a permit from the relevant heritage resources authority as per section 35 of the NHRA.</p> <p>This Palaeontological Impact Assessment was undertaken as part of this proposed amendment and adheres to the conditions of the Act. According to <b>Section 38 (1)</b> of the NHRA, a HIA is required to assess any potential impacts to palaeontological heritage within the development footprint where:</p> <ul style="list-style-type: none"> <li>▪ the construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;</li> <li>▪ the construction of a bridge or similar structure exceeding 50m in length;</li> <li>▪ any development or other activity which will change the character of a site—             <ul style="list-style-type: none"> <li>a. exceeding 5 000 m<sup>2</sup> in extent; or</li> <li>b. involving three or more existing erven or subdivisions thereof; or</li> <li>c. involving three or more erven or divisions thereof which have been consolidated within the past five years; or</li> <li>d. the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority</li> <li>e. the re-zoning of a site exceeding 10 000m<sup>2</sup> in extent.</li> </ul> </li> <li>▪ or any other category of development provided for in regulations by SAHRA or a Provincial heritage resources authority.</li> </ul> <p><b>Conclusion</b></p> <p>The proposed Mining development on a certain portion of the Remaining Extent, a certain portion of Portion 1 and a certain portion of Portion 2 of the Farm Uitvalgrond 105, Registration Division JQ, North West Province is underlain by sediments of the Rustenburg Layered Suite, Bushveld Complex. According to the PalaeoMap of the South African Heritage Resources Information System (SAHRIS) the Palaeontological Sensitivity of the Rustenburg Layered Suite, Bushveld Complex is Zero (Almond <i>et al</i>, 2013; SAHRIS website). This correlates with the fact that the sediments of the Bushveld Complex are igneous in origin and thus unfossiliferous. For this reason, an overall Zero Palaeontological Sensitivity is allocated to the development footprint. Thus, the construction of the development may be authorised in its whole extent, as the development footprint is not considered sensitive in terms of palaeontological resources.</p> |

**NB: No severe physical restrictions were encountered as the survey area was generally accessible. However please note that permission to access a certain portion of Portion 1 was not granted by the current landowner. However, aerial surveys confirmed that no structures are present in this section.**

The below findings were recorded on site by Mr FP Coetzee



Phase I Heritage Impact Assessment:

### The Cultural Heritage Sites

#### 7.1. Isolated occurrences

Isolated occurrences are artefacts or small features recorded on the surface with no contextual information. No other associated material culture (in the form of structures or deposits) was noted that might provide any further context. This can be the result of various impacts and environmental factors such as erosion and modern developments. By contrast archaeological sites are often complex sites with evidence of archaeological deposit and various interrelated features such as complex deposits, stone walls and middens. However, these isolated occurrences are seen as remains of erstwhile complex or larger sites and they therefore provide a broad indication of possible types of sites or structures that might be expected to occur or have occurred in the survey footprint. Throughout the survey footprint no isolated finds were recorded.

#### 7.2 Heritage sites

None were recorded during the survey.

#### **8. Locations and Evaluation of Sites**

None.

#### **9. Management Measures**

Heritage sites are fixed features in the environment, occurring within specific spatial confines. Any impact upon them is permanent and non-reversible. Those resources that cannot be avoided and that are directly impacted by the proposed development can be excavated/recorded and a management plan can be developed for future action. Those sites that are not impacted on can be written into the management plan, whence they can be avoided or cared for in the future.

##### **9.1 Objectives**

- ☐ Protection of archaeological, historical and any other site or land considered being of cultural value within the project boundary against vandalism, destruction and theft.
- ☐ The preservation and appropriate management of new discoveries in accordance with the NHRA, should these be discovered during construction activities

The following shall apply:

Known sites should be clearly marked in order that they can be avoided during construction activities.

- ☐ The contractors and workers should be notified that archaeological sites might be exposed during the construction activities.
- ☐ Should any heritage artefacts be exposed during excavation, work on the area where the artefacts were discovered, shall cease immediately and the Environmental Control Officer shall be notified as soon as possible;
- ☐ All discoveries shall be reported immediately to a heritage practitioner so that an investigation and evaluation of the finds can be made. Acting upon advice from these specialists, the Environmental Control Officer will advise the necessary actions to be taken;
- ☐ Under no circumstances shall any artefacts be removed, destroyed or interfered with by anyone on the site; and
- ☐ Contractors and workers shall be advised of the penalties associated with the unlawful removal of cultural, historical, archaeological or palaeontological artefacts, as set out in the NHRA (Act No. 25 of 1999), Section 51. (1).

##### **9.2 Control**

In order to achieve this, the following should be in place:

- ☐ A person or entity, e.g. the Environmental Control Officer, should be tasked to take responsibility for the heritage sites and should be held accountable for any damage.
- ☐ Known sites should be located and isolated, e.g. by fencing them off. All construction workers should be informed that these are no-go areas, unless accompanied by the individual or persons representing the Environmental Control Officer as identified above.
- ☐ In areas where the vegetation is threatening the heritage sites, e.g. growing trees pushing walls over, it should be removed, but only after permission for the methods proposed has been granted by SAHRA. A heritage official should be part of the team executing these measures.

|  |  |
|--|--|
|  | <p><b>10. Recommendations and Conclusions</b></p> <p>No archaeological (both Stone Age and Iron Age) or historical artefacts, assemblages, features, structures or settlements were recorded during the survey of the project footprint. It is well known that Late Iron Age stone-walled settlements do not usually occur in open low-lying grasslands. Especially black cottons soils high in clay content.</p> <p>It is therefore recommended, from a cultural heritage perspective that the proposed prospecting activities may proceed, taking into account the mitigation measures.</p> <p>Also, please note:<br/>         Archaeological deposits usually occur below ground level. Should archaeological artefacts or skeletal material be revealed in the area during development activities, such activities should be halted, and a university or museum notified in order for an investigation and evaluation of the find(s) to take place (<b>cf. NHRA (Act No. 25 of 1999), Section 36 (6)</b>).</p>   |
| <p>Terrestrial Biodiversity and<br/>         Watercourse Impact Assessment</p> | <p>According to the DFFE screening tool report in terms of National Environmental Management Act (NEMA), 1998 (Act No. 107 of 1998), the site has the following sensitivities:</p> <ul style="list-style-type: none"> <li>• Animal Species Theme: Medium Sensitivity.</li> <li>• Aquatic Biodiversity Theme: Very High Sensitivity.</li> <li>• Plant Species Theme: Low Sensitivity.</li> <li>• Terrestrial Biodiversity Theme: Low Sensitivity.</li> </ul> <p>A post-screening site visit was therefore conducted to determine the accuracy of the generated information, and if the studies recommended should be conducted. After the site visit the following was concluded:</p> <ul style="list-style-type: none"> <li>• The site presented a Low-Medium Sensitivity for the Animal Species Theme due to the moderate presence of fauna and faunal habitats. Species of conservation concern were not observed on site and have a moderately low probability of occurrence due to the existing disturbances caused by anthropogenic activities.</li> <li>• The site presented a Low Sensitivity for the Aquatic Species Theme due to the watercourses not being true wetlands. These drainage lines were also observed to be impacted by historic mining which altered their hydrological functionalities.</li> </ul> |



- The site presented a Medium Plant Species Sensitivity Theme. The Vegetation on site is disturbed with a few declared invader plant species, which mainly occur at the historically disturbed (mining activities) footprints. No plant species of conservation concern was recorded.
- The site has a Medium sensitivity from a terrestrial biodiversity perspective. A significant portion of the study site was observed to be in a degraded state due to historic mining activities. With that being noted, most of the study area was in a near natural state, with vast grassland and shrubland vegetation units which are essential for fossorial and cursorial existence. Evidence of organisms (Porcupine droppings and quills) re-establishing themselves within these old rehabilitated areas was observed.

The information below concludes the Desktop findings supported by field verifications.

- According to the National Threatened Ecosystem database (2011), no threatened ecosystems overlaps with the study site.
- According to the Northwest Biodiversity sector plan and map (2015), the study area was observed to overlap with other natural areas.
- According to the National Freshwater Ecosystem Priority Areas Database (NFEPA, 2011), three (3) wetland types were expected to occur around the study area. These are a Channelled Valley Bottom, an Unchannelled Valley Bottom and a Valleyhead seep. A site visit confirmed the presence of drainage lines.
- The study area is not found in a Strategic Water Source Area (SWSA).
- Based on the SAPAD (2022) Protected Areas Map and the Northwest Biodiversity sector plan and map (2015), the study site does not overlap any protected areas.
- Naturalized exotic weeds, Exotic and Invasive Vegetation Species were recorded on site .
- For Avifaunal species potentially occurring on site, and that enjoy conservation status in the Eskom Red Data Book, kindly refer to Section 4.3.1(**Table 9**) for a species list.
- Based on the Reptile Atlas of Africa and the Frog Atlas of South Africa (ADU, 2019) The Near threatened *Pyxicephalus adspersus* (Giant Bull frog) and Vulnerable *Kinixys lobatsiana* (Lobatse Hinged Tortoise) are expected to occur on site.

**NEMA Impact assessment**

Most of the impacts associated with the prospecting activities range from Medium-High to Medium-Low prior to mitigation taking place. With mitigation fully implemented, the significance of most impacts can be reduced to Medium-Low to Very-Low

**Mitigation Measures**

Refer to Section 6.5

It is imperative that an effective management plan is implemented to ensure that all mitigation measures discussed in the report are adhered to. Due to the watercourses not being wetlands, the PES, EIS, REC and buffer could not be determined. With that being said, drainage lines play important roles in storm water management,

|  |   |
|--|---|
|  | <p>therefore, It is also important for the operations to be conducted away from these systems. A Floodline assessment is recommended to provide the necessary buffer for these systems. Thereafter, can the proposed prospecting operations be considered from an ecological conservation point of view. During the construction, operational and decommissioning phases all recommendations made and concerns raised in this document should be taken into consideration. A good closure and rehabilitation plan should be in place to rehabilitate the habitat for faunal and floral species and active alien and invasive vegetation removal and monitoring should take place in accordance with an Alien Invasive Vegetation Management Plan.</p> |
|--|---|

See **Appendix 11** for the specialist report.

According to the DEA Screening Report, nine (9) specialist assessments needs to be conducted, please see the table below for the list of these studies and also our response.

| Specialist assessments needed according to the DEA Screening Report: | Response  |
|--|---|
| Agricultural Impact Assessment                                       | According to the DEA screening report the agricultural sensitivity of the area is classified medium. According to google photos no cultural activities are happening on the said area, therefore we do not see the need of conducting an agricultural impact assessment |
| Archaeological and Cultural Heritage Impact Assessment               | Both a heritage and paleontological impact assessment have been conducted and included in appendix 11.  |
| Palaeontology Impact Assessment                                      |   |
| Terrestrial Biodiversity Impact Assessment                           | A Terrestrial Biodiversity Assessment and Watercourse Assessment study has been conducted and included in appendix 11.  |
| Aquatic Biodiversity Impact Assessment                               |   |
| Noise Impact Assessment  | We do not see the need for this study as noise is limited to working hours. Mitigation measures in Part B of the report will be sufficient in addressing excessive noise  |
| Radioactivity Impact Assessment                                      | This study is not necessary since the process of prospecting Chrome and PGM'S does not have any radioactive effects.  |
| Plant Species Assessment   | A Terrestrial Biodiversity Assessment and Watercourse Assessment study has been conducted and included in appendix 11.  |
| Animal Species Assessment  |   |

## **L. AN ENVIRONMENTAL IMPACT STATEMENT WHICH CONTAINS—**

### **(i) a summary of the key findings of the environmental impact assessment:**

This section provides a summary of the assessment and conclusions drawn from the proposed prospecting area. In doing so, it draws on the information gathered as part of the environmental impact assessment process and the knowledge gained by the environmental consultant during the course of the process and presents an informed opinion on the environmental impacts associated with the proposed project. The following conclusions can be drawn for the proposed prospecting activity:

- Potential impacts on biodiversity: Most of the impacts associated with the prospecting activities range from Medium-High to Medium-Low prior to mitigation taking place. With mitigation fully implemented, the significance of most impacts can be reduced to Medium-Low to Very-Low
- Potential social impacts: The presence of construction workers poses a potential risk to family structures and social networks.

While the presence of construction workers does not in itself constitute a social impact, the manner in which construction workers conduct themselves can impact on local communities.

The most significant negative impact is associated with the disruption of existing family structures and social networks.

- Potential negative impacts: (noise, dust, soil degradation, storm water, traffic, health and safety) associated with the operation of the facility are expected to be of low-medium impact, of medium terms and site specific. These can be mitigated or negated through the implementation of practical and appropriate mitigation measures.
- Positive impacts: The prospecting of Chrome LG & MG & PGM's will have socio-economic benefit to the area.

All possible negative impacts and risks that have been identified in this report can be effectively mitigated and managed by implementing the migratory measures as set out in the Environmental Management Programme (EMPr) attached in Part B. It is therefore recommended that the environmental authorisation for the prospecting right be granted.

### **(i) a map at an appropriate scale which superimposes the proposed activity and its associated structures and infrastructure on the environmental sensitivities of the preferred [site] development footprint on the approved site as contemplated in the accepted scoping report indicating any areas that should be avoided, including buffers; and**

Provide a map at an appropriate scale which superimposes the proposed overall activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers.

Refer to Site layout Map attached in **Appendix 4**.

### **(ii) a summary of the positive and negative impacts and risks of the proposed activity and identified alternatives;**

There are regional socio economic benefits due to the Chrome & PGM's being prospected in the North West Province and greater knowledge is gained on the mineralogy of South Africa. All possible negative impacts and risks that have been identified in this report can be effectively mitigated and managed by implementing the mitigation measures as set out in the Environmental Management Programme (EMPr) attached in Part B. Significant adverse social environmental impacts are not anticipated.

## **M. PROPOSED IMPACT MANAGEMENT OBJECTIVES AND THE IMPACT MANAGEMENT OUTCOMES FOR INCLUSION IN THE EMPR**

**Based on the assessment and where applicable the recommendations from specialist reports, the recording of proposed [impact management objectives, and the] impact management outcomes for the development for inclusion in the EMPr as well as for inclusion as conditions of authorisation.**

Management objectives include:

- Ensure that the prospecting activity does not cause pollution to the environment or harm to persons.

- Minimise production of waste.
- All prospecting activities must be conducted in a manner that minimises noise impact, litter, environmental degradation and health hazards i.e. injuries.
- The mine must be kept neat and tidy during waste handling to prevent unsightliness and accidents.

Expected outcomes include:

- Minimum impacts on the environment as a result of Chrome & PGM prospecting.
- Compliance with legislative requirements.
- Mine is neat and tidy and well managed.

#### **N. FINAL PROPOSED ALTERNATIVES.**

**(Provide an explanation for the final layout of the infrastructure and activities on the overall site as shown on the final site map together with the reasons why they are the final proposed alternatives which respond to the impact management measures, avoidance, and mitigation measures identified through the assessment)**

This alternative asks the question, if there is not, from an environmental perspective, a more suitable location for the proposed activity. As discussed in the previous section, based on outcomes of previous studies in the vicinity of the proposed site, the possibility to encounter high volumes of Chrome Ore (Cr), LG & MG Seams together with Platinum Group Metals (PGM), near Rustenburg on a certain portion of The Remaining Extent, a certain portion of Portion 1 & a certain portion of Portion 2 of the Farm Uitvalgrond 105, Registration Division JQ, in the North West Province. were identified.

#### **O. ASPECTS FOR INCLUSION AS CONDITIONS OF AUTHORISATION.**

**(Any aspects which were conditional to the findings of the assessment either by the EAP or specialist which are to be included as conditions of authorisation;)**

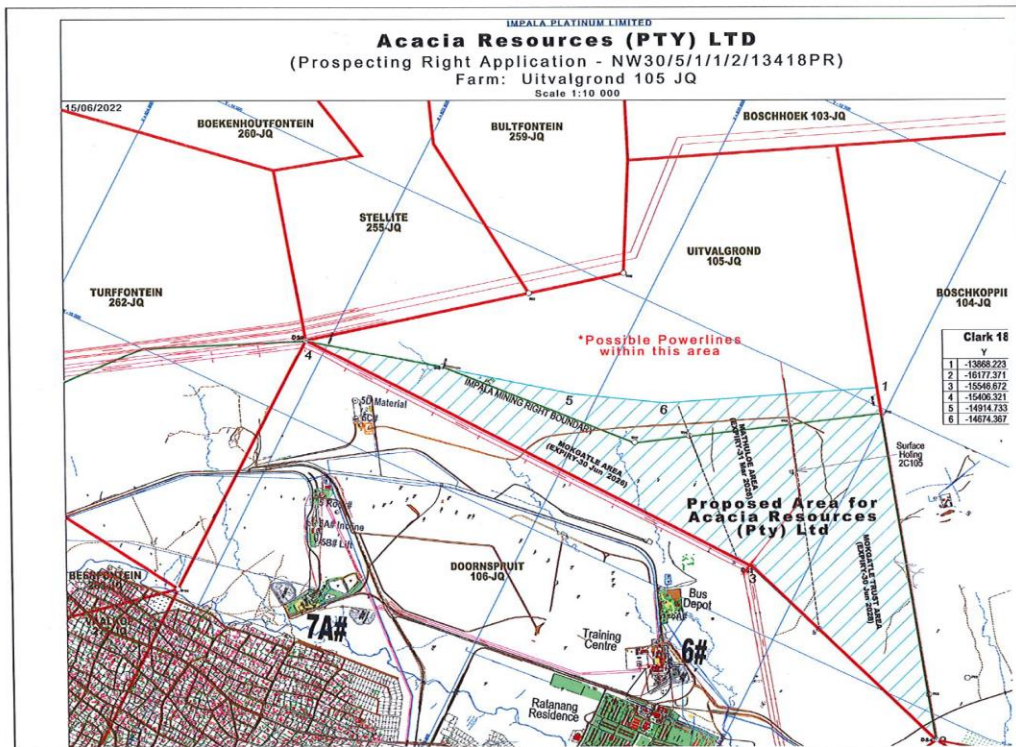
- The operational activities and relevant rehabilitation of disturbed areas should be monitored against the improved EMP and all other relevant environmental legislation.
- A copy of the EMP should be made available onsite at all times.
- Implementation of the proposed mitigation measures set out in the EMP.

#### **P. DESCRIPTION OF ANY ASSUMPTIONS, UNCERTAINTIES AND GAPS IN KNOWLEDGE.**

**(Which relate to the assessment and mitigation measures proposed)**

The uncertainties in results are mostly related to the availability of information, time available to gather the relevant information as well as the sometimes subjective nature of the assessment methodology. In terms of addressing the key issues the EAP is satisfied that there are no major gaps in knowledge and that the report provide sufficient information to conduct the significance rating and provide the environmental authority with sufficient information to make an informed decision.

During public participation it became known to Milnex CC that Impala Platinum Limited holds a registered Converted Mining Right on the Farm Uitvalgrond 105 JQ, with reference number 132 MR, which commenced on 12 December 2008. Impala Platinum Limited holds the right to mine for platinum group metals, nickel ore, gold ore, cobalt, copper ore, silver ore, sulphur, sand (manufactured from waste rocks), iron ore and chrome ore. See map below that was provided by Impala Platinum Limited, depicting their mining right area in relation to Acacia Resources (Pty) Ltd proposed prospecting right.



According to Impala Platinum Holding part of the Acacia Prospecting Right Application falls within Impala’s active surface holding (2C105), which is situated on the Mathuloe Area. Part of the application also falls within Impala’s inactive surface holdings that Impala has not yet received closure on.

According to the letter dated 05 July 2022, Impala stated that it “has a statutory obligation to rehabilitate its disturbance. Acacia’s planned prospecting activities fall within an area where Impala has multiple rehabilitated open cast pits, which have not yet reached sustainable rehabilitation status. Any prospecting activities will likely impact the rehabilitated areas, and this will negate the time, effort and money spent on rehabilitation thus far;

Impala stated that they are and will be mining underground and that surface impacts are finished.

Currently it is not known exactly the active and inactive areas, as stated by Impala Platinum Holding, are located and it is also unclear exactly where Acacia Resources intends to prospect exactly, but it must be noted that Acacia Resources will be responsible to rehabilitate the area that they disturb and vice versa.

**Q. REASONED OPINION AS TO WHETHER THE PROPOSED ACTIVITY SHOULD OR SHOULD NOT BE AUTHORISED**

(and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation;)

**Reasons why the activity should be authorized or not.**

Based on the outcomes of other Chrome & PGM mines in the area, the possibility to encounter further reserves were identified.

The proposed prospecting area is targeted as, historically, several Chrome & PGM mines are known in the area, and a number of these have been exploited in the past. There are also various Chrome & PGM operations within the vicinity of the exploration area.

No other properties have been secured by the applicant and the site is therefore regarded as the preferred site, and alternatives are not considered.

The option of not approving the activities will result in a significant loss to valuable Chrome & PGM deposits being exploited. And all economic benefits will be lost.

**Conditions that must be included in the authorisation**

- The operational activities and relevant rehabilitation of disturbed areas should be monitored against the improved EMPr and all other relevant environmental legislation.
- A copy of the EMP should be made available onsite at all times.
- Implementation of the proposed mitigation measures set out in the EMPr.

The EMPr should be binding on all managers and contractors operating/utilizing the site. The applicant shall familiarize himself with the content of this document and the attached specialist studies and the requirements/conditions thereof.

**R. PERIOD FOR WHICH THE ENVIRONMENTAL AUTHORISATION IS REQUIRED.**

For a minimum of 5 years.

**S. AN UNDERTAKING UNDER OATH OR AFFIRMATION BY THE EAP IN RELATION TO:**

The undertaking required to meet the requirements of this section is provided at the end of the EMPr and is applicable to both the Environmental Impact Assessment report and the Environmental Management Programme report.

I, Mr Christiaan Baron Reg EAP (EAPASA) herewith confirms

- A. the correctness of the information provided in the reports
- B. the inclusion of comments and inputs from stakeholders and I&APs ;
- C. the inclusion of inputs and recommendations from the specialist reports where relevant; and
- D. the acceptability of the project in relation to the finding of the assessment and level of mitigation proposed;

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Signature of the environmental assessment practitioner:

Milnex CC – Environmental Consultants

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Name of company:

18 – 01 - 2023

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Date:

**T. FINANCIAL PROVISION**

(where applicable, details of any financial provision[s] for the rehabilitation, closure, and ongoing post decommissioning management of negative environmental impacts;)

XXXXXXXXXX

Will be included in the Final EIR & EMPR that will be submitted to the DMRE

**A. Explain how the aforesaid amount was derived.**

The closure cost estimate provided above is aligned with the Guideline Document for the Evaluation of Quantum of Closure related Financial Provision Provided by a Mine, by the DMR (January, 2005). The amount will be calculated by Milnex CC.

**B. Confirm that this amount can be provided for from operating expenditure.** (Confirm that the amount, is anticipated to be an operating cost and is provided for as such in the Mining work programme, Financial and Technical Competence Report or Prospecting Work Programme as the case may be).

**Financial Guarantee**

The financial guarantee for the rehabilitation for land disturbed by **Acacia Resources (Pty) Ltd** will be submitted

**Rehabilitation Fund**

**Acacia Resources (Pty) Ltd** will also make provision for rehabilitation during closure by establishing a rehabilitation trust.

**U. DEVIATIONS FROM THE APPROVED SCOPING REPORT AND PLAN OF STUDY.**

(i) **Any deviation from the methodology used in determining the significance of potential environmental impacts and risks; and**

None of the methodologies approved for the scoping report were deviated

(ii) **Motivation for the deviation.**

Not applicable

**V. ANY SPECIFIC INFORMATION THAT MAY BE REQUIRED BY THE COMPETENT AUTHORITY; AND**

**W. COMPLIANCE WITH THE PROVISIONS OF SECTIONS 24(4)(A) AND (B) OF THE ACT**

Read with Section 24 (3) (A) and (7) of the National Environmental Management Act (Act 107 of 1998). The EIA Report must include the:

ii. **Impact on the socio-economic conditions of any directly affected person.** (Provide the results of Investigation, assessment, and evaluation of the impact of the mining, bulk sampling or Chrome & PGM prospecting on any directly affected person including the landowner, lawful occupier, or, where applicable, potential beneficiaries of any land restitution claim, attach the investigation report as **Appendix 2.19.1** and confirm that the applicable mitigation is reflected in 2.5.3; 2.11.6. and 2.12. herein).

The Chrome & PGM prospecting will not impact directly on any socio-economic aspects. Indirect socio-economic benefits are expected to be associated with the creation of employment.

iii. **Impact on any national estate referred to in section 3(2) of the National Heritage Resources Act.** (Provide the results of Investigation, assessment, and evaluation of the impact of the mining, bulk sampling or Chrome & PGM prospecting on any national estate referred to in section 3(2) of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) with the exception of the national estate contemplated in section 3(2)(j)(vi) and (vii) of that Act, attach the investigation report as **Appendix 2.19.2** and confirm that the applicable mitigation is reflected in 2.5.3; 2.11.6. and 2.12. herein).

- Refer to the Paleontological Study conducted
- Refer to the Phase 1 HIA conducted

**Other matters required in terms of sections 24(4)(a) and (b) of the Act.**



(the EAP managing the application must provide the competent authority with detailed, written proof of an investigation as required by section 24(4)(b)(i) of the Act and motivation if no reasonable or feasible alternatives, as contemplated in sub-regulation 22(2)(h), exist. The EAP must attach such motivation as **Appendix 4**).

The Remaining Extent, a certain portion of Portion 1 & a certain portion of Portion 2 of the Farm Uitvalgrond 105, Registration Division JQ, North West Province. is preferred due to the sites underlying geology and the high possibility to encounter Chrome and PGMS near the surface as well as site access (i.e. to facilitate the movement of machinery, equipment, infrastructure and people). The specific site has been chosen for its mineral resources thus making an alternative site selection null and void.

## PART B

### ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

An EMPr must comply with section 24N of the Act and include—

#### A. DETAILS OF—

- (i) the EAP who prepared the EMPr; and
- (ii) the expertise of that EAP to prepare an EMPr, including a curriculum vitae;

| Name of Practitioner     | Qualifications   | Contact details   |
|--------------------------|--|---|
| Mr. Christiaan Baron     | Master's Degree in Environmental Management (M.ENV.MAN)                | Tel No.: (018) 011 1925<br>Fax No.: (053) 963 2009<br>e-mail address: <a href="mailto:christiaan@milnex-sa.co.za">christiaan@milnex-sa.co.za</a>      |
| Ms. Lizanne Esterhuizen  | Honours Degree in Environmental Science (refer to <b>Appendix 1</b> )  | Tel No.: (018) 011 1925<br>Fax No. : (053) 963 2009<br>e-mail address: <a href="mailto:lizanne@milnex-sa.co.za">lizanne@milnex-sa.co.za</a>           |
| Mr. Andile Grant Nxumalo | Master's Degree in Environmental Science (refer to <b>Appendix 1</b> ) | Tel No.: (018) 011 1925<br>Fax No. : (053) 963 2009<br>e-mail address: <a href="mailto:andile.grant@milnex-sa.co.za">andile.grant@milnex-sa.co.za</a> |

It is hereby confirmed that the requirements for the provision of the details and expertise of the EAP are contained in Part A, section 1(a) as required. The Curriculum Vitae for the responsible EAP is contained in **Appendix 1 and 2**.

#### B. DESCRIPTION OF THE ASPECTS OF THE ACTIVITY

(a detailed description of the aspects of the activity that are covered by the EMPr as identified by the project description;)

It is hereby confirmed that the requirements to describe the aspects of the activity that are required by the EMP is already included in Part A, section 1(h).

#### C. COMPOSITE MAP

(a map at an appropriate scale which superimposes the proposed activity, its associated structures, and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that [any areas that] should be avoided, including buffers;)

Refer to Site Layout Map, attached as in **Appendix 4**.

#### D. A DESCRIPTION OF THE IMPACT MANAGEMENT [OBJECTIVES] OUTCOMES, INCLUDING MANAGEMENT STATEMENTS, IDENTIFYING THE IMPACTS AND RISKS THAT NEED TO BE AVOIDED, MANAGED AND MITIGATED AS IDENTIFIED THROUGH THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS FOR ALL PHASES OF THE DEVELOPMENT INCLUDING—

- i) **Determination of closure objectives.** (ensure that the closure objectives are informed by the type of environment described in 2.4 herein)

Closure objectives for the alluvial diamond mine will aim to ensure that the residual post-closure impacts be minimized and be acceptable to relevant parties. To achieve these closure objectives, the following will be implemented:

- All prospecting related infrastructure, foundations and concrete areas will be decommissioned, removed from the site and appropriately disposed of. Reclaimable structures such as metal, electrical installations or equipment will be sold for re-use or as scrap.
  - All disturbed areas within the site not already vegetated will be re-vegetated with appropriate indigenous, ecologically adapted species appropriate to the area and the final land use as soon as possible after operation ceases. Progress of vegetation growth/establishment, stability and drainage/erosion will be monitored and, in the event of adverse trends being identified, corrective measures will be implemented.
  - Vegetation monitoring will consider, inter alia, the establishment of perennial ground cover and infestation by alien invasive plant species. The encroachment of indigenous vegetation into the area will be used as an indication of a stable, self-sustaining vegetation cover with little risk of retrogressing to a situation where are and water pollution may occur.
- Final landforms must be resilient to perturbation and also be self-sustaining to obviate/limit further/ongoing interventions and maintenance by **Acacia Resources (Pty) Ltd**. The remaining impacts be of an acceptable nature with minimal deterioration over time.
  - The final outcome of the mine site rehabilitation would be productive systems, where required sustaining either cattle or wildlife.
  - Environmental and human quality of life, including health and safety requirements in general, would not be compromised; and
  - Closure is achieved in an efficient and cost-effective manner as possible and with minimum socio economic changes.

**Currently it is not known exactly the active and inactive areas, as stated by Impala Platinum Holding, are located and it is also unclear exactly where Acacia Resources intends to prospect exactly, but it must be noted that Acacia Resources will be responsible to rehabilitate the area that they disturb and vice versa.**

#### **E. A DESCRIPTION AND IDENTIFICATION OF IMPACT MANAGEMENT OUTCOMES REQUIRED FOR THE ASPECTS CONTEMPLATED IN PARAGRAPH (D);]**

The above goal is underpinned by more specific objectives listed below.

##### **1. Upfront planning/development**

To provide overall guidance and direction to closure planning and/or the implementation of progressive closure measures over the remaining over the prospecting life.

##### **2. Physical stability**

To ensure that surface infrastructure and prospecting residue and/or disturbances that are present at processing plant decommissioning will be removed and/or stabilised in a manner that these will not compromise post-closure land use and be sustainable long-term landforms.

- Closure, removal and disposal of all surface infrastructure that has no beneficial post-closure use.
- Shaping and vegetating the remaining earth embankments, trenches, etc. to stabilise slopes and integrate with surrounding topography.

##### **3. Environmental quality**

To ensure that local environmental quality is not adversely affected by possible physical effects arising from prospecting operations and the prospecting site after closure. This will be achieved by:

- Avoiding and/or limiting the following during prospecting operations which could result in adverse effects that could not be readily addressed and/or mitigated at mine closure.
  - Dust fall-out areas surrounding the prospecting site.
  - Wash-off and/or mobilisation of chemically contaminated soils and sediments from the prospecting site that could have long term adverse effects on local aquatic health and/or other water uses.
  - Possible shallow groundwater contamination adversely affecting the quality of the local water resource and its beneficial use.
- Limiting the potential for dust generation on the rehabilitated prospecting site that could cause nuisance and/or health effects to surrounding landowners;

- Limiting the possible adverse water quality and quantity effects arising from the rehabilitated prospecting site to ensure that long term beneficial use of local resources is not compromised;
- Conducting soil clean-up/remediation to ensure that the planned land use could be implemented and maintained;

#### 4. Health and safety

To limit the possible health and safety treats due to terrain hazards to humans and animals utilizing the rehabilitated prospecting site after closure by:

- Demonstrating through upfront soil testing that any resultant inorganic and organic pollution present on the site is acceptable;
- Removal of potential contaminants such as hydrocarbons and chemicals off site;
- Shaping of embankments and trenches to safe slopes and reintegrating of these into surrounding topography.
- Ensuring that the environmental quality as reflected above is achieved.

#### 5. Land capability / land use

To ensure that the required land capability to achieve and support the planned land use can be achieved over the prospecting site by:

- Clean-up and reclamation of contaminated soil areas in order not to compromise the above land use planning earmarked for implementation;
- To ensure that the overall rehabilitated prospecting site is free draining
- Transferring prospecting related surface infrastructure to third parties for beneficial use after closure.

**Currently it is not known exactly the active and inactive areas, as stated by Impala Platinum Holding, are located and it is also unclear exactly where Acacia Resources intends to prospect exactly, but it must be noted that Acacia Resources will be responsible to rehabilitate the area that they disturb and vice versa.**

#### 6. Aesthetic quality

To ensure that the rehabilitated prospecting site will display, at a minimum, an acceptable aesthetic appearance that would not compromise the planned land use by leaving behind:

- A prospecting area that is properly cleared-up with no fugitive/scattered waste piles
- Rehabilitated prospecting area that is free draining and disturbed areas that are suitably vegetated.
- Rehabilitated prospecting residues that are suitably landscaped, blending with the surrounding environment as far as possible.
- Shaped and rehabilitated terrace and hard stand areas, roughly emulating the local natural surface topography.

#### 7. Landscape viability

To create a landscape that is self-sustaining and over time will evolve/converge to the desired ecosystem structure, function and composition by:

- Conducting surface profiling, with associated material movement optimisation, to obtain a landscape resembling the natural landscapes to support the succession trajectory towards a climax ecological system.
- Establishing woody patches and create “rough and loose” areas for pioneer specie establishment around the respective patches.
- Establishing pioneer species as follows:
  - Collected and prepared seeds for broad casting;
  - Seedlings grown on on-site nursery;
  - Cuttings collected from surrounding veld areas;
  - Conducting rehabilitation monitoring and corrective action as required.

#### 8. Biodiversity

To encourage, where appropriate, the re-establishment of native vegetation on the rehabilitated mine site such the terrestrial biodiversity is largely re-instated over time, by:

- Stabilising disturbed areas to prevent erosion in the short- to medium term until a suitable vegetation cover has established; and
- Establishing viable self-sustaining vegetation communities of local fauna, as far as possible.

#### F. A DESCRIPTION OF PROPOSED IMPACT MANAGEMENT ACTIONS, IDENTIFYING THE MANNER IN WHICH THE IMPACT MANAGEMENT [OBJECTIVES AND] OUTCOMES CONTEMPLATED IN PARAGRAPH (D) [AND (E)] WILL BE ACHIEVED, AND MUST, WHERE APPLICABLE, INCLUDE ACTIONS TO —

**Provide a rehabilitation plan that describes and shows the scale and aerial extent of the main mining activities, including the anticipated mining area at the time of closure.**

The Rehabilitation & Closure Plan is attached as **Appendix 10**.

**Calculate and state the quantum of the financial provision required to manage and rehabilitate the environment in accordance with the applicable guideline.**

XXXXXXXXXX

Will be included in the Final EIR & EMPR that will be submitted to the DMRE

- a. **Confirm that the financial provision will be provided as determined.**

**Financial Guarantee**

The financial guarantee for the rehabilitation for land disturbed by **Acacia Resources (Pty) Ltd** will be submitted

**Rehabilitation Fund**

**Acacia Resources (Pty) Ltd** will also make provision for rehabilitation during closure by establishing a rehabilitation trust.

**IMPACTS TO BE MITIGATED IN THEIR RESPECTIVE PHASES**

**Measures to rehabilitate the environment affected by the undertaking of any listed activity**

| ACTIVITIES<br><br>(E.g. For prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route etc...etc...etc<br><br>E.g. For mining,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.) | PHASE<br><br>(of operation in which activity will take place.<br><br>State; Planning and design, Pre-Construction' Construction, Operational, Rehabilitation, Closure, Post closure). | SIZE AND SCALE of disturbance<br><br>(volumes, tonnages and hectares or m <sup>2</sup> ) | MITIGATION MEASURES<br><br>(describe how each of the recommendations in herein will remedy the cause of pollution or degradation and migration of pollutants)  | COMPLIANCE WITH STANDARDS<br><br>(A description of how each of the recommendations herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities) | TIME PERIOD FOR IMPLEMENTATION<br><br>Describe the time period when the measures in the environmental management programme must be implemented Measures must be implemented when required.<br>With regard to Rehabilitation specifically this must take place at the earliest opportunity. .With regard to Rehabilitation, therefore state either:-<br>Upon cessation of the individual activity Or.<br>Upon the cessation of mining, bulk sampling or prospecting of Chrome Ore (Cr), LG & MG Seams together with Platinum Group Metals (PGM) as the case may be. |
|--|---|--|--|---|--|
| Clearance of vegetation  | Pitting and trenching phase-(construction and operation phase)  | 421,368661 Ha – 40 boreholes<br>1 pit (10m x 4m x 2.5m), 1 trench (40m x 20m x 5m).      | <ol style="list-style-type: none"> <li>1. Site clearing must take place in a phased manner, as and when required.</li> <li>2. Areas which are not to be prospected on within two months must not be cleared to reduce erosion risks.</li> <li>3. The area to be cleared must be clearly demarcated and this footprint strictly maintained.</li> <li>4. Spoil that is removed from the site must be removed to an approved spoil site or a licensed landfill site.</li> <li>5. The necessary silt fences and erosion control measures must be implemented in areas where these risks are more prevalent.</li> </ol> | Compliance with Duty of Care as detailed within NEMA  | Duration of operations on the prospecting activities.  |
| Construction of roads  | Pitting and trenching phase-  | +- 500m  | <ol style="list-style-type: none"> <li>1. Planning of access routes to the site for construction/prospecting purposes shall be done in conjunction with the Contractor and the</li> </ol>  | Compliance with Duty of Care as detailed within NEMA  | Duration of operations on the prospecting activities.  |

|   |   |   |  |  |                                    |
|---|---|---|--|--|------------------------------------|
|   | (construction and operation phase)                              |   | <p>Landowner. All agreements reached should be documented and no verbal agreements should be made. The Contractor shall clearly mark all access roads. Roads not to be used shall be marked with a "NO ENTRY for prospecting vehicles" sign.</p> <ol style="list-style-type: none"> <li>2. Construction routes and required access roads must be clearly defined.</li> <li>3. Damping down of the un-surfaced roads must be implemented to reduce dust and nuisance.</li> <li>4. Soils compacted by construction/prospecting activities shall be deep ripped to loosen compacted layers and re-graded to even running levels.</li> <li>5. The contractor must ensure that damage caused by related traffic to the gravel access road off the N8 is repaired continuously. The costs associated with the repair must be borne by the contractor;</li> <li>6. Dust suppression measures must be implemented for heavy vehicles such as wetting of gravel roads on a regular basis and ensuring that vehicles used to transport the gravel are fitted with tarpaulins or covers;</li> <li>7. All vehicles must be road-worthy and drivers must be qualified and made aware of the potential road safety issues and need for strict speed limits.</li> </ol> |  |                                    |
| Prospecting of Chrome Ore (Cr), LG & MG Seams together with Platinum Group Metals (PGM) – Soils and geology | Pitting and trenching phase- (construction and operation phase) | 421,368661 Ha – 40 boreholes<br>1 pit (10m x 4m x 2.5m), 1 trench (40m x 20m x 5m). | <ol style="list-style-type: none"> <li>1. The Contractor should, prior to the commencement of earthworks determine the average depth of topsoil (if topsoil exists), and agree on this with the ECO. The full depth of topsoil should be stripped from areas affected by construction and related activities prior to the commencement of major earthworks. This should include the building footprints, working areas and storage areas. Topsoil must be reused where possible to rehabilitate disturbed areas.</li> </ol>  | Compliance with Duty of Care as detailed within NEMA | Duration of operations on the mine |

|  |   |   |   |  |  |
|--|---|---|---|--|--|
|  |   |   | <ol style="list-style-type: none"> <li>2. Care must be taken not to mix topsoil and subsoil during stripping.</li> <li>3. The topsoil must be conserved on site in and around the pit/trench area.</li> <li>4. Subsoil and overburden in the prospecting area should be stockpiled separately to be returned for backfilling in the correct soil horizon order.</li> <li>5. If stockpiles are exposed to windy conditions or heavy rain, they should be covered either by vegetation or geofabric, depending on the duration of the project. Stockpiles may further be protected by the construction of berms, trenches or low brick walls around their bases.</li> <li>6. Stockpiles should be kept clear of weeds and alien vegetation growth by regular weeding.</li> <li>7. Where contamination of soil is expected, analysis must be done prior to disposal of soil to determine the appropriate disposal route. Proof from an approved waste disposal site where contaminated soils are dumped if and when a spillage/leakage occurs should be attained and given to the project manager.</li> <li>8. The impact on the geology will be permanent. There is no mitigation measure.</li> </ol> |  |  |
| Prospecting Chrome Ore (Cr), LG & MG Seams together with Platinum Group Metals (PGM) – excavations | Pitting and trenching phase- (construction and operation phase) | 421,368661 Ha – 40 boreholes<br>1 pit (10m x 4m x 2.5m), 1 trench (40m x 20m x 5m). | <ol style="list-style-type: none"> <li>1. The prospecting activities must aim to adhere to the relevant noise regulations and limit noise to within standard working hours in order to reduce disturbance of dwellings in close proximity to the development.</li> <li>2. Mine, pans, workshops and other noisy fixed facilities should be located well away from noise sensitive areas. Once the proposed final layouts are made available by the Contractor(s), the sites must be evaluated in detail and specific measures designed in to the system.</li> <li>3. Truck traffic should be routed away from noise sensitive areas, where possible.</li> <li>4. Noise levels must be kept within acceptable limits.</li> <li>5. Noisy operations should be combined so that they occur where possible at the same time.</li> </ol>   | Compliance with Duty of Care as detailed within NEMA | Duration of operations on the prospecting area |



|  |  |  |  |  |  |
|--|--|--|--|--|--|
|  |  |  | <ol style="list-style-type: none"> <li>6. Mine workers to wear necessary ear protection gear.</li> <li>7. Noisy activities to take place during allocated hours.</li> <li>8. Noise from labourers must be controlled.</li> <li>9. Noise suppression measures must be applied to all equipment. Equipment must be kept in good working order and where appropriate fitted with silencers which are kept in good working order. Should the vehicles or equipment not be in good working order, the Contractor may be instructed to remove the offending vehicle or machinery from the site.</li> <li>10. The Contractor must take measures to discourage labourers from loitering in the area and causing noise disturbance. Where possible labour shall be transported to and from the site by the Contractor or his Sub-Contractors by the Contractors own transport.</li> <li>11. Implementation of enclosure and cladding of processing plants.</li> <li>12. Applying regular and thorough maintenance schedules to equipment and processes. An increase in noise emission levels very often is a sign of the imminent mechanical failure of a machine.</li> </ol> |  |  |
|--|--|--|--|--|--|

#### IMPACT MANAGEMENT OUTCOMES

(A description of impact management outcomes, identifying the standard of impact management required for the aspects contemplated in paragraph ());

| ACTIVITY<br>(whether listed or not listed).   | POTENTIAL IMPACT   | ASPECTS AFFECTED | PHASE<br>In which impact is anticipated  | MITIGATION TYPE  | STANDARD TO BE ACHIEVED   |
|---|--|------------------|--|--|---|
| (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and | (e.g. dust, noise, drainage surface disturbance, fly rock, surface water |                  | (e.g. Construction, commissioning, operational Decommissioning, closure, post-closure) | (modify, remedy, control, or stop) through<br>(e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc. etc)<br><br>E.g.<br>• Modify through alternative method. | (Impact avoided, noise levels, dust levels, rehabilitation standards, end |

| boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.). | contamination, groundwater contamination, air pollution etc....etc...) |  |   | <ul style="list-style-type: none"> <li>• Control through noise control</li> <li>• Control through management and monitoring</li> <li>• Remedy through rehabilitation..</li> </ul>  | use objectives) etc.                         |
|--|--|--|---|--|--|
| Ecological Impacts   | <b>Loss of terrestrial habitat</b>                                     | <p>Clearing of vegetation – vegetation loss</p> <p>Removal of substrate within watercourses</p> <p>Clearing of vegetation during prospecting operations</p> <p>Damage to vegetated areas</p> <p>Ineffective rehabilitation measures</p> <p>Vehicles driving in and through naturally vegetated areas</p> | Pitting and trenching phase-(construction, operation phase & Decommissioning Phase) | <p>Areas that are stripped during construction and operation should be re-vegetated with indigenous vegetation.</p> <p>It is recommended that areas to be developed be specifically demarcated so that during the construction phase, only the demarcated areas be impacted upon (including fencing off the defined project area) and preventing movement of workers into natural areas.</p> <p>The duration of the prospecting should be minimised to as short term as possible, in order to reduce the period of disturbance on fauna and flora.</p> <p>Areas of indigenous vegetation should under no circumstances be fragmented or disturbed or used as an area for dumping of waste.</p> <p>As far as possible the existing road network should be utilised, minimising the need to develop new access routes resulting in an increased impact on the local environment.</p> <p>All staff and visitors to the site must undergo an induction process and must be made aware of the sensitive nature of the environment and floral species which occur there.</p> <p>The area must be re-vegetated with plant and grass species which are endemic to the exact vegetation types.</p> <p>Rehabilitation measures that are implemented must be continually monitored to ensure that proper succession has occurred and that there is no erosion occurring.</p> <p>An alien invasive vegetation management plan should be developed and implemented.</p> <p>Alien and invasive vegetation control should take place throughout all phases to prevent loss of floral habitat.</p> | Minimisation of impacts to acceptable limits |

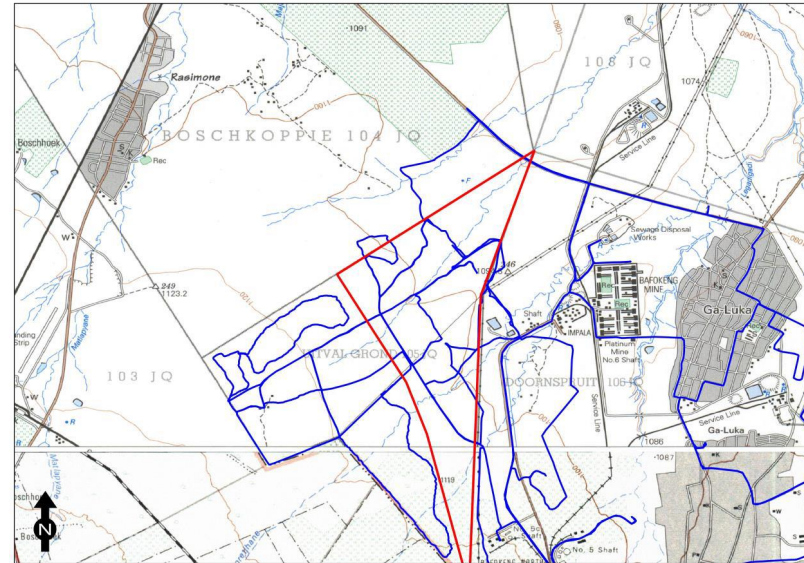
|  |   |   |   |  |  |
|--|---|---|---|--|--|
|  | <p><b>Loss of Terrestrial Fauna</b></p> | <p>Vegetation loss and disturbance – clearing of vegetation</p> <p>Excessive noise disturbances</p> <p>Illegal hunting</p> <p>Habitat fragmentation destruction</p> <p>Vehicles driving through naturally vegetated areas</p> | <p>Pitting and trenching phase-(construction and operation phase)</p> | <p>Site clearing to take place in a phased manner (where possible) to allow for any faunal species present to move away from the study site to the surrounding open space areas.</p> <p>Prior and during vegetation clearance any larger fauna species noted should be given the opportunity to move away from the construction machinery.</p> <p>Fauna species such as frogs and reptiles that have not moved away should be carefully and safely removed to a suitable location beyond the extent of the development footprint by a suitably qualified ECO trained in the handling and relocation of animals.</p> <p>Fencing should be erected around the project area to prevent workers and members of the public from entering the surrounding environments. This fence should have small openings to allow wildlife to pass through.</p> <p>Waste management must be a priority and all waste must be collected and stored adequately. It is recommended that all waste be removed from site on a weekly basis to prevent rodents and pests entering the site.</p> <p>Should any sensitive or Red Data animal or bird species be encountered during the construction, operation and decommissioning activities, these should be relocated to natural areas in the vicinity. Any sensitive fauna that are inadvertently killed during earthmoving operations should be preserved as museum voucher specimens.</p> <p>No hunting, trapping or killing of fauna are allowed.</p> <p>Any lizards, snakes or monitors encountered should be allowed to escape to a suitable habitat away from disturbance.</p> <p>General avoidance of snakes is the best policy if encountered. Snakes should not be intentionally harmed or killed and allowed free movement away from the area.</p> <p>Trenches and deep excavations should not be left open for extended periods of time as fauna and livestock may fall in and become trapped in them. Trenches which are exposed should contain soil ramps allowing fauna to escape the trench.</p> |  |
|  | <p><b>Loss of Terrestrial Flora</b></p> | <p>Vegetation clearance</p> <p>Vehicles driving through natural vegetated areas</p>   | <p>Pitting and trenching phase-(construction and operation phase)</p> | <p>Areas that are stripped during construction and operation should be re-vegetated with indigenous vegetation as soon as possible. This will also reduce the likelihood of encroachment by alien invasive plant species.</p>  |  |

|  |  |   |   |  |  |
|--|--|---|---|--|--|
|  |  | Habitat fragmentation and destruction   |   | Protected plants ( <i>Aloe claviflora</i> ) shall not be removed or damaged without prior approval, permits or licenses from the relevant authority.   |  |
|  | <b>Introduction and spread of alien vegetation</b> | <p>Clearing of vegetation</p> <p>Removal of substrate within watercourses</p> <p>Clearing of vegetation during prospecting operations</p> <p>Vehicles driving in and through naturally vegetated areas</p> <p>Damage to vegetated areas</p> <p>Ineffective rehabilitation measures</p> <p>Vehicles driving in and through naturally vegetated areas</p> | Pitting and trenching phase-(construction, operation phase & Decommissioning Phase) | <p>Proliferation of alien and invasive species is expected within any disturbed areas particularly as there are some alien and invasive species present within the study site. These species should be eradicated and controlled to prevent further spread beyond.</p> <p>An alien invasive vegetation management plan should be developed and implemented.</p> <p>Alien and invasive vegetation control should take place throughout all phases to prevent loss of floral habitat.</p> <p>Footprint areas should be kept as small as possible when removing alien plant species.</p> <p>No vehicles should be allowed to drive through designated sensitive drainage and wetlands areas during the eradication of alien and weed species.</p>   |  |
| Prospecting Chrome Ore (Cr), LG & MG Seams together with Platinum Group Metals (PGM) – excavations | Loss of topsoil                                    | Soil  | Pitting and trenching phase-(construction and operation phase)                      | <ol style="list-style-type: none"> <li>1. The Contractor should, prior to the commencement of earthworks determine the average depth of topsoil, and agree on this with the ECO. The full depth of topsoil should be stripped from areas affected by construction and related activities prior to the commencement of major earthworks. This should include the building footprints, working areas and storage areas. Topsoil must be reused where possible to rehabilitate disturbed areas.</li> <li>2. Care must be taken not to mix topsoil and subsoil during stripping.</li> <li>3. The topsoil must be conserved on site in and around the pit/trench area.</li> <li>4. Subsoil and overburden in the prospecting area should be stockpiled separately to be returned for backfilling in the correct soil horizon order.</li> <li>5. If stockpiles are exposed to windy conditions or heavy rain, they should be covered either by vegetation or geofabric, depending on the duration of the project. Stockpiles may further be protected by the construction of berms or low brick walls around their bases.</li> </ol> | Minimisation of impacts to acceptable limits |

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|  |         |                      |  | <p>6. Stockpiles should be kept clear of weeds and alien vegetation growth by regular weeding.</p> <p>7. Where contamination of soil is expected, analysis must be done prior to disposal of soil to determine the appropriate disposal route. Proof from an approved waste disposal site where contaminated soils are dumped if and when a spillage/leakage occurs should be attained and given to the project manager.</p> <p>Establish an effective record keeping system for each area where soil is disturbed for prospecting purposes. These records should be included in environmental performance reports, and should include all the records below.</p> <ul style="list-style-type: none"> <li>• Record the GPS coordinates of each area.</li> <li>• Record the date of topsoil stripping.</li> <li>• Record the GPS coordinates of where the topsoil is stockpiled.</li> <li>• Record the date of cessation prospecting activities at the particular site.</li> <li>• Photograph the area on cessation of prospecting activities.</li> <li>• Record date and depth of re-spreading of topsoil.</li> <li>• Photograph the area on completion of rehabilitation and on an annual basis thereafter to show vegetation establishment and evaluate progress of restoration over time.</li> </ul>   |  |
|  | Erosion | Soil<br>Air<br>Water | Pitting and trenching phase-(construction and operation phase) | <ol style="list-style-type: none"> <li>1. An effective system of run-off control should be implemented, where it is required, that collects and safely disseminates run-off water from all hardened surfaces and prevents potential down slope erosion.</li> <li>2. Periodical site inspection should be included in environmental performance reporting that inspects the effectiveness of the run-off control system and specifically records the occurrence of any erosion on site or downstream.</li> <li>3. Wind screening and stormwater control should be undertaken to prevent soil loss from the site.</li> <li>4. The use of silt fences and sand bags must be implemented in areas that are susceptible to erosion.</li> <li>5. Other erosion control measures that can be implemented are as follows: <ul style="list-style-type: none"> <li>○ Brush packing with cleared vegetation</li> <li>○ Mulch or chip packing</li> <li>○ Planting of vegetation</li> <li>○ Hydroseeding/hand sowing</li> </ul> </li> <li>6. Sensitive areas need to be identified prior to construction/prospecting so that the necessary precautions can be implemented.</li> <li>7. All erosion control mechanisms need to be regularly maintained.</li> <li>8. Seeding of topsoil and subsoil stockpiles to prevent wind and water erosion of soil surfaces.</li> <li>9. Retention of vegetation where possible to avoid soil erosion.</li> </ol> | Minimisation of impacts to acceptable limits |

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|  |               |     |  | <ol style="list-style-type: none"> <li>10. Vegetation clearance should be phased to ensure that the minimum area of soil is exposed to potential erosion at any one time.</li> <li>11. Re-vegetation of disturbed surfaces should occur immediately after construction/prospecting activities are completed. This should be done through seeding with indigenous grasses.</li> <li>12. No impediment to the natural water flow other than approved erosion control works is permitted.</li> <li>13. To prevent stormwater damage, the increase in stormwater run-off resulting from construction/prospecting activities must be estimated and the drainage system assessed accordingly.</li> <li>14. Stockpiles not used in three (3) months after stripping must be seeded or backfilled to prevent dust and erosion.</li> </ol>  |  |
|  | Air Pollution | Air | Pitting and trenching phase-(construction and operation phase) | <p><b>Dust control</b></p> <ol style="list-style-type: none"> <li>1. Wheel washing and damping down of un-surfaced and un-vegetated areas.</li> <li>2. Retention of vegetation where possible will reduce dust travel.</li> <li>3. Clearing activities must only be done during agreed working times and permitting weather conditions to avoid drifting of sand and dust into neighbouring areas.</li> <li>4. Damping down of all exposed soil surfaces with a water bowser or sprinklers when necessary to reduce dust.</li> <li>5. The Contractor shall be responsible for dust control on site to ensure no nuisance is caused to the neighbouring communities.</li> <li>6. A speed limit of 30km/h must not be exceeded on site.</li> <li>7. Any complaints or claims emanating from the lack of dust control shall be attended to immediately by the Contractor.</li> <li>8. Any dirt roads that are utilised by the workers must be regularly maintained to ensure that dust levels are controlled.</li> </ol> <p><b>Odour control</b></p> <ol style="list-style-type: none"> <li>9. Regular servicing of vehicles in order to limit gaseous emissions.</li> <li>10. Regular servicing of onsite toilets to avoid potential odours.</li> </ol> <p><b>Rehabilitation</b></p> <ol style="list-style-type: none"> <li>11. The Contractor should commence rehabilitation of exposed soil surfaces as soon as practical after completion of earthworks.</li> </ol> <p><b>Fire prevention</b></p> <ol style="list-style-type: none"> <li>12. No open fires shall be allowed on site under any circumstance. All cooking shall be done in demarcated areas that are safe and cannot cause runaway fires.</li> <li>13. The Contractor shall have operational fire-fighting equipment available on site at all times. The level of firefighting equipment must be assessed and evaluated through a typical risk assessment process.</li> </ol> | Minimisation of impacts to acceptable limits |

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|  | Noise   |          | Pitting and trenching phase-(construction and operation phase) | <ol style="list-style-type: none"> <li>1. The prospecting activities must aim to adhere to the relevant noise regulations and limit noise to within standard working hours in order to reduce disturbance of dwellings in close proximity to the development.</li> <li>2. Mine, crushers, workshops and other noisy fixed facilities should be located well away from noise sensitive areas. Once the proposed final layouts are made available by the Contractor(s), the sites must be evaluated in detail and specific measures designed in to the system.</li> <li>3. Truck traffic should be routed away from noise sensitive areas, where possible.</li> <li>4. Noise levels must be kept within acceptable limits.</li> <li>5. Noisy operations should be combined so that they occur where possible at the same time.</li> <li>6. Mine workers to wear necessary ear protection gear.</li> <li>7. Noisy activities to take place during allocated hours.</li> <li>8. Noise from labourers must be controlled.</li> <li>9. Noise suppression measures must be applied to all equipment. Equipment must be kept in good working order and where appropriate fitted with silencers which are kept in good working order. Should the vehicles or equipment not be in good working order, the Contractor may be instructed to remove the offending vehicle or machinery from the site.</li> <li>10. The Contractor must take measures to discourage labourers from loitering in the area and causing noise disturbance. Where possible labour shall be transported to and from the site by the Contractor or his Sub-Contractors by the Contractors own transport.</li> <li>11. Implementation of enclosure and cladding of processing plants.</li> <li>12. Applying regular and thorough maintenance schedules to equipment and processes. An increase in noise emission levels very often is a sign of the imminent mechanical failure of a machine.</li> </ol> | Minimisation of impacts to acceptable limits |
|  | Impact on potential cultural and heritage artefacts | Heritage | Pitting and trenching phase-(construction and operation phase) | <p><b>NB: No severe physical restrictions were encountered as the survey area was generally accessible. However please note that permission to access a certain portion of Portion 1 was not granted by the current landowner. However, aerial surveys confirmed that no structures are present in this section.</b></p> <p>The below findings were recorded on site by Mr FP Coetzee</p>   | Minimisation of impacts to acceptable limits |



### The Cultural Heritage Sites

#### 7.1. Isolated occurrences

Isolated occurrences are artefacts or small features recorded on the surface with no contextual information. No other associated material culture (in the form of structures or deposits) was noted that might provide any further context. This can be the result of various impacts and environmental factors such as erosion and modern developments. By contrast archaeological sites are often complex sites with evidence of archaeological deposit and various interrelated features such as complex deposits, stone walls and middens. However, these isolated occurrences are seen as remains of erstwhile complex or larger sites and they therefore provide a broad indication of possible types of sites or structures that might be expected to occur or have occurred in the survey footprint. Throughout the survey footprint no isolated finds were recorded.

#### 7.2 Heritage sites

None were recorded during the survey.

#### 11. Locations and Evaluation of Sites

None.



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|  |  |  |  | <p><b>12. Management Measures</b></p> <p>Heritage sites are fixed features in the environment, occurring within specific spatial confines. Any impact upon them is permanent and non-reversible. Those resources that cannot be avoided and that are directly impacted by the proposed development can be excavated/recorded and a management plan can be developed for future action. Those sites that are not impacted on can be written into the management plan, whence they can be avoided or cared for in the future.</p> <p><b>9.1 Objectives</b></p> <ul style="list-style-type: none"> <li>□ Protection of archaeological, historical and any other site or land considered being of cultural value within the project boundary against vandalism, destruction and theft.</li> <li>□ The preservation and appropriate management of new discoveries in accordance with the NHRA, should these be discovered during construction activities</li> </ul> <p>The following shall apply:</p> <p>Known sites should be clearly marked in order that they can be avoided during construction activities.</p> <ul style="list-style-type: none"> <li>□ The contractors and workers should be notified that archaeological sites might be exposed during the construction activities.</li> <li>□ Should any heritage artefacts be exposed during excavation, work on the area where the artefacts were discovered, shall cease immediately and the Environmental Control Officer shall be notified as soon as possible;</li> <li>□ All discoveries shall be reported immediately to a heritage practitioner so that an investigation and evaluation of the finds can be made. Acting upon advice from these specialists, the Environmental Control Officer will advise the necessary actions to be taken;</li> <li>□ Under no circumstances shall any artefacts be removed, destroyed or interfered with by anyone on the site; and</li> <li>□ Contractors and workers shall be advised of the penalties associated with the unlawful removal of cultural, historical, archaeological or palaeontological artefacts, as set out in the NHRA (Act No. 25 of 1999), Section 51. (1).</li> </ul> <p><b>9.2 Control</b></p> <p>In order to achieve this, the following should be in place:</p> <ul style="list-style-type: none"> <li>□ A person or entity, e.g. the Environmental Control Officer, should be tasked to take responsibility for the heritage sites and should be held accountable for any damage.</li> </ul> |  |
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|                  |  |           |  | <p>Known sites should be located and isolated, e.g. by fencing them off. All construction workers should be informed that these are no-go areas, unless accompanied by the individual or persons representing the Environmental Control Officer as identified above.</p> <p>In areas where the vegetation is threatening the heritage sites, e.g. growing trees pushing walls over, it should be removed, but only after permission for the methods proposed has been granted by SAHRA. A heritage official should be part of the team executing these measures.</p> <p><b>13. Recommendations and Conclusions</b></p> <p>No archaeological (both Stone Age and Iron Age) or historical artefacts, assemblages, features, structures or settlements were recorded during the survey of the project footprint. It is well known that Late Iron Age stone-walled settlements do not usually occur in open low-lying grasslands. Especially black cottons soils high in clay content. It is therefore recommended, from a cultural heritage perspective that the proposed prospecting activities may proceed, taking into account the mitigation measures. Also, please note:<br/>Archaeological deposits usually occur below ground level. Should archaeological artefacts or skeletal material be revealed in the area during development activities, such activities should be halted, and a university or museum notified in order for an investigation and evaluation of the find(s) to take place (<i>cf. NHRA (Act No. 25 of 1999)</i>, Section 36 (6)).</p> |  |
| Waste management |  | Pollution | Pitting and trenching phase-(construction and operation phase) | <p><b>Litter management</b></p> <ol style="list-style-type: none"> <li>1. Refuse bins must be placed at strategic positions to ensure that litter does not accumulate within the construction site.</li> <li>2. The Contractor shall supply waste collection bins where such is not available and all solid waste collected shall be disposed of at registered/licensed landfill.</li> <li>3. Good housekeeping practices should be implemented to regularly maintain the litter and rubble situation on the construction site.</li> <li>4. If possible and feasible, all waste generated on site must be separated into glass, plastic, paper, metal and wood and recycled. An independent contractor can be appointed to conduct this recycling.</li> <li>5. Littering by the employees of the Contractor shall not be allowed under any circumstances. The ECO shall monitor the neatness of the work sites as well as the Contractor campsite.</li> <li>6. Skip waste containers should be maintained on site. These should be kept covered and arrangements made for them to be collected regularly.</li> <li>7. All waste must be removed from the site and transported to a landfill site promptly to ensure that it does not attract vermin or produce odours.</li> </ol>  | Minimisation of impacts to acceptable limits |

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|  |  |  |  | <p>8. Where a registered waste site is not available close to the construction site, the Contractor shall provide a method statement with regard to waste management.</p> <p>9. A certificate of disposal shall be obtained by the Contractor and kept on file, if relevant.</p> <p>10. Under no circumstances may solid waste be burnt on site.</p> <p>11. All waste must be removed promptly to ensure that it does not attract vermin or produce odours.</p> <p><b>Hazardous waste</b></p> <p>12. All waste hazardous materials must be carefully stored as advised by the ECO, and then disposed of offsite at a licensed landfill site, where practical. Incineration may be used where relevant.</p> <p>13. Contaminants to be stored safely to avoid spillage.</p> <p>14. Machinery must be properly maintained to keep oil leaks in check.</p> <p>15. All necessary precaution measures shall be taken to prevent soil or surface water pollution from hazardous materials used during construction and any spills shall immediately be cleaned up and all affected areas rehabilitated.</p> <p><b>Sanitation</b></p> <p>16. The Contractor shall install mobile chemical toilets on the site.</p> <p>17. Staff shall be sensitised to the fact that they should use these facilities at all times. No indiscriminate sanitary activities on site shall be allowed.</p> <p>18. Toilets shall be serviced regularly and the ECO shall inspect toilets regularly.</p> <p>19. Toilets should be no closer than 50m or above the 1:100 year flood line from any natural or manmade water bodies or drainage lines or alternatively located in a place approved of by the Engineer.</p> <p>20. Under no circumstances may open areas, neighbours fences or the surrounding bush be used as a toilet facility.</p> <p>21. The construction of “Long Drop” toilets is forbidden, but rather toilets connected to the sewage treatment plant.</p> <p>22. Potable water must be provided for all construction staff.</p> <p><b>Remedial actions</b></p> <p>23. Depending on the nature and extent of the spill, contaminated soil must be either excavated or treated on-site.</p> <p>24. Excavation of contaminated soil must involve careful removal of soil using appropriate tools/machinery to storage containers until treated or disposed of at a licensed hazardous landfill site.</p> <p>25. The ECO must determine the precise method of treatment for polluted soil. This could involve the application of soil absorbent materials as well as oil-digestive powders to the contaminated soil.</p> |  |
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|                       |                 |       |  | <p>26. If a spill occurs on an impermeable surface such as cement or concrete, the surface spill must be contained using oil absorbent material.</p> <p>27. If necessary, oil absorbent sheets or pads must be attached to leaky machinery or infrastructure.</p> <p>28. Materials used for the remediation of petrochemical spills must be used according to product specifications and guidance for use.</p> <p>29. Contaminated remediation materials must be carefully removed from the area of the spill so as to prevent further release of petrochemicals to the environment, and stored in adequate containers until appropriate disposal.</p>   |  |
| Water Use and Quality | Water pollution | Water | Pitting and trenching phase-(construction and operation phase) | <p><b>Water Use</b></p> <ol style="list-style-type: none"> <li>1. Develop a sustainable water supply management plan to minimise the impact to natural systems by managing water use, avoiding depletion of aquifers and minimising impacts to water users.</li> <li>2. Water must be reused, recycled or treated where possible.</li> </ol> <p><b>Water Quality</b></p> <ol style="list-style-type: none"> <li>3. The quality and quantity of effluent streams discharged to the environment including stormwater should be managed and treated to meet applicable effluent discharge guidelines.</li> <li>4. Discharge to surface water should not result in contaminant concentrations in excess of local ambient water quality criteria outside a scientifically established mixing zone.</li> <li>5. Efficient oil and grease traps or sumps should be installed and maintained at refueling facilities, workshops, fuel storage depots, and containment areas and spill kits should be available with emergency response plans.</li> </ol> <p><b>Stormwater</b></p> <ol style="list-style-type: none"> <li>6. The site must be managed in order to prevent pollution of drains, downstream watercourses or groundwater, due to suspended solids and silt or chemical pollutants.</li> <li>7. Silt fences should be used to prevent any soil entering the stormwater drains.</li> <li>8. Temporary cut off drains and berms may be required to capture stormwater and promote infiltration.</li> <li>9. Promote a water saving mind set with construction/prospecting workers in order to Contractor ensure less water wastage.</li> <li>10. Hazardous substances must be stored at least 40m from any water bodies on site to avoid pollution.</li> <li>11. The installation of the stormwater system must take place as soon as possible to attenuate stormwater from the construction phase as well as the operation phase.</li> </ol> |  |

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|  |  |  |  | <p>12. Earth, stone and rubble is to be properly disposed of, or utilized on site so as not to obstruct natural water path ways over the site. i.e. these materials must not be placed in stormwater channels, drainage lines or rivers.</p> <p>13. There should be a periodic checking of the site's drainage system to ensure that the water flow is unobstructed.</p> <p>14. If a batching plant is necessary, run-off should be managed effectively to avoid contamination of other areas of the site. Untreated runoff from the batch plant must not be allowed to get into the storm water system or nearby streams, rivers or erosion channels or dongas.</p> <p>The cut-off trenches and silt fences will be installed where necessary as to control runoff storm water by attenuating it and control the movement of sediment on the premises.</p> <p>These structures will be monitored on a regular basis. It is suggested that it be monitored on a weekly basis during the rainy season, and after possible rain events during the dry season.</p> <p>If these practices is found to be insufficient for the control of storm water and sedimentation, other alternatives should immediately be investigated and implemented.</p> <p><b>Groundwater resource protection</b></p> <p>15. Process solution storage ponds and other impoundments designed to hold non fresh water or non-treated process effluents should be lined and be equipped with sufficient wells to enable monitoring of water levels and quality.</p> <p>16. Prevent dirty water runoff from leaving the general mining area;</p> <p>17. Compact the base of dirty areas, like the workshops and oil and diesel storage areas to minimise infiltration of poor-quality water to the underlying aquifers;</p> <p>18. Enough supply of absorbent fibre should be kept at the site to contain accidental spills;</p> <p>19. Contain dirty water in return water dams and re-use dirty water for dust suppression and make up water in the plant;</p> <p>20. Proper storm water management should be implemented. Berms should also be constructed to ensure separation of clean water and dirty water areas;</p> <p>21. A detailed mine closure plan should be prepared during the operational phase, including a risk assessment, water resource impact prediction etc. as stipulated in the DWS Best Practice Guidelines. The implementation of the mine closure plan, and the application for the closure certificate can be conducted during the decommissioned phase.</p> <p><b>Sanitation</b></p> |  |
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|  |  |  |  | <p>22. Adequate sanitary facilities and ablutions must be provided for construction workers (1 toilet per every 15 workers).</p> <p>23. The facilities must be regularly serviced to reduce the risk of surface or groundwater pollution.</p> <p><b>Concrete mixing</b></p> <p>24. Concrete contaminated water must not enter soil or any natural drainage system as this disturbs the natural acidity of the soil and affects plant growth.</p> <p><b>Public areas</b></p> <p>25. Food preparation areas should be provided with adequate washing facilities and food refuse should be stored in sealed refuse bins which should be removed from site on a regular basis.</p> <p>26. The Contractor should take steps to ensure that littering by construction/prospecting workers does not occur and persons should be employed on site to collect litter from the site and immediate surroundings, including litter accumulating at fence lines.</p> <p>27. No washing or servicing of vehicles on site.</p> <p><b>Infrastructure</b></p> <p>28. Infrastructure should adhere to the GN704 of the South African National Water Act (36 of 1998) and not be located within the 1:100- year Return Period flood line. This is essential for the safety of human life as well as for the protection of infrastructure from flood inundation and destruction.</p> |  |
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**IMPACT MANAGEMENT ACTIONS**

(A description of impact management actions, identifying the manner in which the impact management objectives and outcomes contemplated in paragraphs (c) and (d) will be achieved).

| ACTIVITY<br>Whether listed or not listed.   | POTENTIAL IMPACT   | MITIGATION TYPE  | TIME PERIOD FOR IMPLEMENTATION  | COMPLIANCE WITH STANDARDS   |
|---|--|--|---|---|
| <p>(E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.).</p> | <p>(e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc....etc...)</p> | <p>(modify, remedy, control, or stop) through<br/>(e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc. etc)</p> <p>E.g.</p> <ul style="list-style-type: none"> <li>• Modify through alternative method.</li> <li>• Control through noise control</li> <li>• Control through management and monitoring</li> </ul> <p style="text-align: center;">Remedy through rehabilitation..</p> | <p>Describe the time period when the measures in the environmental management programme must be implemented Measures must be implemented when required.</p> <p>With regard to Rehabilitation specifically this must take place at the earliest opportunity. .With regard to Rehabilitation, therefore state either:-</p> <p>..</p> <p>Upon cessation of the individual activity</p> <p>or.</p> <p>Upon the cessation of mining, bulk sampling or Prospecting Chrome Ore (Cr), LG &amp; MG Seams together with Platinum Group Metals (PGM) prospecting as the case may be.</p> | <p>(A description of how each of the recommendations in 2.11.6 read with 2.12 and 2.15.2 herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)</p> |
| <p>Ecological Aspects</p>   | <p>Loss of terrestrial habitat</p>   | <p>Areas that are stripped during construction and operation should be re-vegetated with indigenous vegetation.</p> <p>It is recommended that areas to be developed be specifically demarcated so that during the construction phase, only the demarcated areas be impacted upon (including fencing off the defined project area) and preventing movement of workers into natural areas.</p>   | <p>Duration of operation</p>  | <p>The implementation of the recommended mitigation measures will result in the minimisation of impacts to acceptable standards, thereby ensuring compliance with</p>   |

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|  |                                  | <p>The duration of the prospecting should be minimised to as short term as possible, in order to reduce the period of disturbance on fauna and flora.</p> <p>Areas of indigenous vegetation should under no circumstances be fragmented or disturbed or used as an area for dumping of waste.</p> <p>As far as possible the existing road network should be utilised, minimising the need to develop new access routes resulting in an increased impact on the local environment.</p> <p>All staff and visitors to the site must undergo an induction process and must be made aware of the sensitive nature of the environment and floral species which occur there.</p> <p>The area must be re-vegetated with plant and grass species which are endemic to the exact vegetation types.</p> <p>Rehabilitation measures that are implemented must be continually monitored to ensure that proper succession has occurred and that there is no erosion occurring.</p> <p>An alien invasive vegetation management plan should be developed and implemented.</p> <p>Alien and invasive vegetation control should take place throughout all phases to prevent loss of floral habitat.</p> |                              | <p>NEMA and Duty of Care as prescribed by NEMA.</p>  |
|  | <p>Loss of Terrestrial Fauna</p> | <p>Site clearing to take place in a phased manner (where possible) to allow for any faunal species present to move away from the study site to the surrounding open space areas.</p> <p>Prior and during vegetation clearance any larger fauna species noted should be given the opportunity to move away from the construction machinery.</p> <p>Fauna species such as frogs and reptiles that have not moved away should be carefully and safely removed to a suitable location beyond the extent of the development footprint by a suitably qualified ECO trained in the handling and relocation of animals.</p> <p>Fencing should be erected around the project area to prevent workers and members of the public from entering the surrounding environments. This fence should have small openings to allow wildlife to pass through.</p> <p>Waste management must be a priority and all waste must be collected and stored adequately. It is recommended that all waste be removed from site on a weekly basis to prevent rodents and pests entering the site.</p>  | <p>Duration of operation</p> | <p>The implementation of the recommended mitigation measures will result in the minimisation of impacts to acceptable standards, thereby ensuring compliance with NEMA and Duty of Care as prescribed by NEMA.</p> |



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|  |   | <p>Should any sensitive or Red Data animal or bird species be encountered during the construction, operation and decommissioning activities, these should be relocated to natural areas in the vicinity. Any sensitive fauna that are inadvertently killed during earthmoving operations should be preserved as museum voucher specimens.</p> <p>No hunting, trapping or killing of fauna are allowed.</p> <p>Any lizards, snakes or monitors encountered should be allowed to escape to a suitable habitat away from disturbance.</p> <p>General avoidance of snakes is the best policy if encountered. Snakes should not be intentionally harmed or killed and allowed free movement away from the area.</p> <p>Trenches and deep excavations should not be left open for extended periods of time as fauna and livestock may fall in and become trapped in them. Trenches which are exposed should contain soil ramps allowing fauna to escape the trench.</p> |                       |   |
|  | Loss of Terrestrial Flora                   | <p>Areas that are stripped during construction and operation should be re-vegetated with indigenous vegetation as soon as possible. This will also reduce the likelihood of encroachment by alien invasive plant species.</p> <p>Protected plants (<i>Aloe claviflora</i>) shall not be removed or damaged without prior approval, permits or licenses from the relevant authority.</p>   | Duration of operation | The implementation of the recommended mitigation measures will result in the minimisation of impacts to acceptable standards, thereby ensuring compliance with NEMA and Duty of Care as prescribed by NEMA. |
|  | Introduction and spread of alien vegetation | <p>Proliferation of alien and invasive species is expected within any disturbed areas particularly as there are some alien and invasive species present within the study site. These species should be eradicated and controlled to prevent further spread beyond.</p> <p>An alien invasive vegetation management plan should be developed and implemented.</p> <p>Alien and invasive vegetation control should take place throughout all phases to prevent loss of floral habitat.</p> <p>Footprint areas should be kept as small as possible when removing alien plant species.</p> <p>No vehicles should be allowed to drive through designated sensitive drainage and wetlands areas during the eradication of alien and weed species.</p>  | Duration of operation | The implementation of the recommended mitigation measures will result in the minimisation of impacts to acceptable standards, thereby ensuring compliance with NEMA and Duty of Care as prescribed by NEMA. |

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| <p>Prospecting Chrome Ore (Cr), LG &amp; MG Seams together with Platinum Group Metals (PGM) – excavations</p> | <p>Loss of topsoil</p> | <ol style="list-style-type: none"> <li>1. The Contractor should, prior to the commencement of earthworks determine the average depth of topsoil, and agree on this with the ECO. The full depth of topsoil should be stripped from areas affected by construction/prospecting and related activities prior to the commencement of major earthworks. This should include the building footprints, working areas and storage areas. Topsoil must be reused where possible to rehabilitate disturbed areas.</li> <li>2. Care must be taken not to mix topsoil and subsoil during stripping.</li> <li>3. The topsoil must be conserved on site in and around the pit/trench area.</li> <li>4. Subsoil and overburden in the prospecting area should be stockpiled separately to be returned for backfilling in the correct soil horizon order.</li> <li>5. If stockpiles are exposed to windy conditions or heavy rain, they should be covered either by vegetation or geofabric, depending on the duration of the project. Stockpiles may further be protected by the construction of berms or low brick walls around their bases.</li> <li>6. Stockpiles should be kept clear of weeds and alien vegetation growth by regular weeding.</li> <li>7. Where contamination of soil is expected, analysis must be done prior to disposal of soil to determine the appropriate disposal route. Proof from an approved waste disposal site where contaminated soils are dumped if and when a spillage/leakage occurs should be attained and given to the project manager.</li> </ol> <p>Establish an effective record keeping system for each area where soil is disturbed for prospecting purposes. These records should be included in environmental performance reports, and should include all the records below.</p> <ul style="list-style-type: none"> <li>• Record the GPS coordinates of each area.             <ul style="list-style-type: none"> <li>• Record the date of topsoil stripping.</li> <li>• Record the GPS coordinates of where the topsoil is stockpiled.</li> <li>• Record the date of cessation prospecting activities at the particular site.</li> <li>• Photograph the area on cessation of prospecting activities.</li> <li>• Record date and depth of re-spreading of topsoil.</li> <li>• Photograph the area on completion of rehabilitation and on an annual basis thereafter to show vegetation establishment and evaluate progress of restoration over time.</li> </ul> </li> </ul> | <p>Duration of operation</p> | <p>The implementation of the recommended mitigation measures will result in the minimisation of impacts to acceptable standards, thereby ensuring compliance with NEMA and Duty of Care as prescribed by NEMA.</p> |
|   | <p>Erosion</p>         | <ol style="list-style-type: none"> <li>1. An effective system of run-off control should be implemented, where it is required, that collects and safely disseminates run-off water from all hardened surfaces and prevents potential down slope erosion.</li> <li>2. Periodical site inspection should be included in environmental performance reporting that inspects the effectiveness of the run-off control system and specifically records the occurrence of any erosion on site or downstream.</li> <li>3. Wind screening and stormwater control should be undertaken to prevent soil loss from the site.</li> </ol>  | <p>Duration of operation</p> | <p>The implementation of the recommended mitigation measures will result in the minimisation of impacts to acceptable standards, thereby ensuring compliance with NEMA and Duty of Care as prescribed by NEMA.</p> |

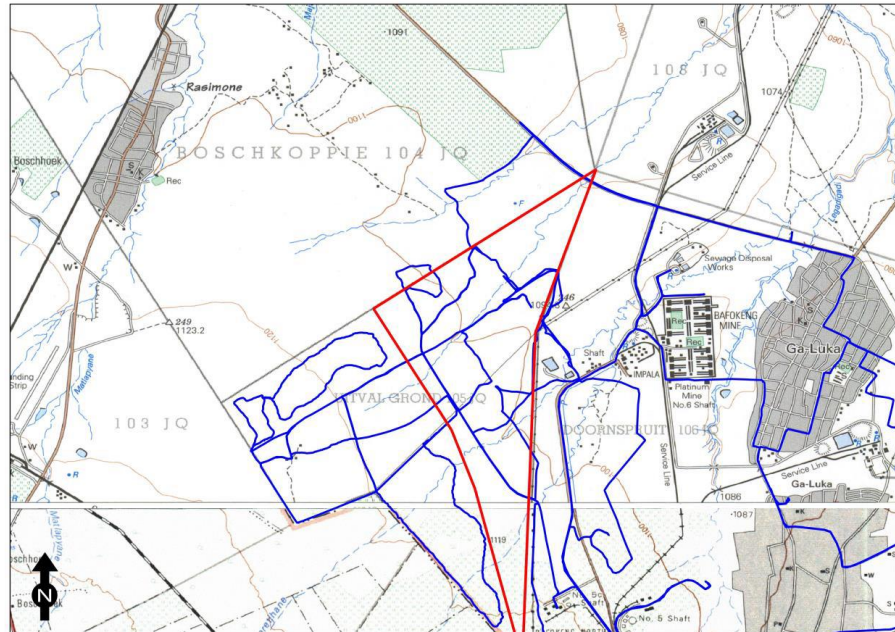
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|  |               | <ol style="list-style-type: none"> <li>4. The use of silt fences and sand bags must be implemented in areas that are susceptible to erosion.</li> <li>5. Other erosion control measures that can be implemented are as follows:             <ul style="list-style-type: none"> <li>○ Brush packing with cleared vegetation</li> <li>○ Mulch or chip packing</li> <li>○ Planting of vegetation</li> <li>○ Hydroseeding/hand sowing</li> </ul> </li> <li>6. Sensitive areas need to be identified prior to construction/prospecting so that the necessary precautions can be implemented.</li> <li>7. All erosion control mechanisms need to be regularly maintained.</li> <li>8. Seeding of topsoil and subsoil stockpiles to prevent wind and water erosion of soil surfaces.</li> <li>9. Retention of vegetation where possible to avoid soil erosion.</li> <li>10. Vegetation clearance should be phased to ensure that the minimum area of soil is exposed to potential erosion at any one time.</li> <li>11. Re-vegetation of disturbed surfaces should occur immediately after construction/prospecting activities are completed. This should be done through seeding with indigenous grasses.</li> <li>12. No impediment to the natural water flow other than approved erosion control works is permitted.</li> <li>13. To prevent stormwater damage, the increase in stormwater run-off resulting from construction/prospecting activities must be estimated and the drainage system assessed accordingly. A drainage plan must be submitted to the Engineer for approval and must include the location and design criteria of any temporary stream crossings.</li> <li>14. Stockpiles not used in three (3) months after stripping must be seeded/backfilled to prevent dust and erosion.</li> </ol> |                       |   |
|  | Air Pollution | <p><b>Dust control</b></p> <ol style="list-style-type: none"> <li>14. Wheel washing and damping down of un-surfaced and un-vegetated areas.</li> <li>15. Retention of vegetation where possible will reduce dust travel.</li> <li>16. Clearing activities must only be done during agreed working times and permitting weather conditions to avoid drifting of sand and dust into neighbouring areas.</li> <li>17. Damping down of all exposed soil surfaces with a water bowser or sprinklers when necessary to reduce dust.</li> <li>18. The Contractor shall be responsible for dust control on site to ensure no nuisance is caused to the neighbouring communities.</li> <li>19. A speed limit of 30km/h must not be exceeded on site.</li> <li>20. Any complaints or claims emanating from the lack of dust control shall be attended to immediately by the Contractor.</li> <li>21. Any dirt roads that are utilised by the workers must be regularly maintained to ensure that dust levels are controlled.</li> </ol>  | Duration of operation | The implementation of the recommended mitigation measures will result in the minimisation of impacts to acceptable standards, thereby ensuring compliance with NEMA and Duty of Care as prescribed by NEMA. |

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|  |       | <p><b>Odour control</b></p> <p>22. Regular servicing of vehicles in order to limit gaseous emissions.</p> <p>23. Regular servicing of onsite toilets to avoid potential odours.</p> <p><b>Rehabilitation</b></p> <p>24. The Contractor should commence rehabilitation of exposed soil surfaces as soon as practical after completion of earthworks.</p> <p><b>Fire prevention</b></p> <p>25. No open fires shall be allowed on site under any circumstance. All cooking shall be done in demarcated areas that are safe and cannot cause runaway fires.</p> <p>26. The Contractor shall have operational fire-fighting equipment available on site at all times. The level of firefighting equipment must be assessed and evaluated through a typical risk assessment process.</p>  |                       |   |
|  | Noise | <ol style="list-style-type: none"> <li>1. The prospecting activities must aim to adhere to the relevant noise regulations and limit noise to within standard working hours in order to reduce disturbance of dwellings in close proximity to the development.</li> <li>2. Pans, power plants, crushers, workshops and other noisy fixed facilities should be located well away from noise sensitive areas. Once the proposed final layouts are made available by the Contractor(s), the sites must be evaluated in detail and specific measures designed in to the system.</li> <li>3. Truck traffic should be routed away from noise sensitive areas, where possible.</li> <li>4. Noise levels must be kept within acceptable limits.</li> <li>5. Noisy operations should be combined so that they occur where possible at the same time.</li> <li>6. Mine workers to wear necessary ear protection gear.</li> <li>7. Noisy activities to take place during allocated hours.</li> <li>8. Noise from labourers must be controlled.</li> <li>9. Noise suppression measures must be applied to all equipment. Equipment must be kept in good working order and where appropriate fitted with silencers which are kept in good working order. Should the vehicles or equipment not be in good working order, the Contractor may be instructed to remove the offending vehicle or machinery from the site.</li> <li>10. The Contractor must take measures to discourage labourers from loitering in the area and causing noise disturbance. Where possible labour shall be transported to and from the site by the Contractor or his Sub-Contractors by the Contractors own transport.</li> <li>11. Implementation of enclosure and cladding of processing plants.</li> <li>12. Applying regular and thorough maintenance schedules to equipment and processes. An increase in noise emission levels very often is a sign of the imminent mechanical failure of a machine.</li> </ol> | Duration of operation | The implementation of the recommended mitigation measures will result in the minimisation of impacts to acceptable standards, thereby ensuring compliance with NEMA and Duty of Care as prescribed by NEMA. |

Impact on potential cultural and heritage artefacts

**NB: No severe physical restrictions were encountered as the survey area was generally accessible. However please note that permission to access a certain portion of Portion 1 was not granted by the current landowner. However, aerial surveys confirmed that no structures are present in this section.**

The below findings were recorded on site by Mr FP Coetzee



**The Cultural Heritage Sites**

**7.1. Isolated occurrences**

Isolated occurrences are artefacts or small features recorded on the surface with no contextual information. No other associated material culture (in the form of structures or deposits) was noted that might provide any further context. This can be the result of various impacts and environmental factors such as erosion and modern developments. By contrast archaeological sites are often complex sites with evidence of archaeological deposit and various interrelated features such as complex deposits, stone walls and middens. However, these isolated occurrences are seen as remains of erstwhile complex or larger sites and they therefore provide

Duration of operation

The implementation of the recommended mitigation measures will result in the minimisation of impacts to acceptable standards, thereby ensuring compliance with NEMA and Duty of Care as prescribed by NEMA.

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|  |  | <p>a broad indication of possible types of sites or structures that might be expected to occur or have occurred in the survey footprint.<br/>Throughout the survey footprint no isolated finds were recorded.</p> <p><b>7.2 Heritage sites</b></p> <p>None were recorded during the survey.</p> <p><b>14. Locations and Evaluation of Sites</b></p> <p>None.</p> <p><b>15. Management Measures</b></p> <p>Heritage sites are fixed features in the environment, occurring within specific spatial confines. Any impact upon them is permanent and non-reversible. Those resources that cannot be avoided and that are directly impacted by the proposed development can be excavated/recorded and a management plan can be developed for future action. Those sites that are not impacted on can be written into the management plan, whence they can be avoided or cared for in the future.</p> <p><b>9.1 Objectives</b></p> <ul style="list-style-type: none"> <li>□ Protection of archaeological, historical and any other site or land considered being of cultural value within the project boundary against vandalism, destruction and theft.</li> <li>□ The preservation and appropriate management of new discoveries in accordance with the NHRA, should these be discovered during construction activities</li> </ul> <p>The following shall apply:</p> <p>Known sites should be clearly marked in order that they can be avoided during construction activities.</p> <ul style="list-style-type: none"> <li>□ The contractors and workers should be notified that archaeological sites might be exposed during the construction activities.</li> <li>□ Should any heritage artefacts be exposed during excavation, work on the area where the artefacts were discovered, shall cease immediately and the Environmental Control Officer shall be notified as soon as possible;</li> <li>□ All discoveries shall be reported immediately to a heritage practitioner so that an investigation and evaluation of the finds can be made. Acting upon advice from these specialists, the Environmental Control Officer will advise the necessary actions to be taken;</li> </ul> |  |  |
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|                  |  | <p>□ Under no circumstances shall any artefacts be removed, destroyed or interfered with by anyone on the site; and</p> <p>□ Contractors and workers shall be advised of the penalties associated with the unlawful removal of cultural, historical, archaeological or palaeontological artefacts, as set out in the NHRA (Act No. 25 of 1999), Section 51. (1).</p> <p><b>9.2 Control</b></p> <p>In order to achieve this, the following should be in place:</p> <p>□ A person or entity, e.g. the Environmental Control Officer, should be tasked to take responsibility for the heritage sites and should be held accountable for any damage.</p> <p>□ Known sites should be located and isolated, e.g. by fencing them off. All construction workers should be informed that these are no-go areas, unless accompanied by the individual or persons representing the Environmental Control Officer as identified above.</p> <p>□ In areas where the vegetation is threatening the heritage sites, e.g. growing trees pushing walls over, it should be removed, but only after permission for the methods proposed has been granted by SAHRA. A heritage official should be part of the team executing these measures.</p> <p><b>16. Recommendations and Conclusions</b></p> <p>No archaeological (both Stone Age and Iron Age) or historical artefacts, assemblages, features, structures or settlements were recorded during the survey of the project footprint. It is well known that Late Iron Age stone-walled settlements do not usually occur in open low-lying grasslands. Especially black cottons soils high in clay content.</p> <p>It is therefore recommended, from a cultural heritage perspective that the proposed prospecting activities may proceed, taking into account the mitigation measures.</p> <p>Also, please note:</p> <p>Archaeological deposits usually occur below ground level. Should archaeological artefacts or skeletal material be revealed in the area during development activities, such activities should be halted, and a university or museum notified in order for an investigation and evaluation of the find(s) to take place (<i>cf. NHRA (Act No. 25 of 1999)</i>, Section 36 (6)).</p> |                       |  |
| Waste Management |  | <p><b>Litter management</b></p> <ol style="list-style-type: none"> <li>1. Refuse bins must be placed at strategic positions to ensure that litter does not accumulate within the construction/prospecting site.</li> <li>2. The Contractor shall supply waste collection bins where such is not available and all solid waste collected shall be disposed of at registered/licensed landfill.</li> <li>3. Good housekeeping practices should be implemented to regularly maintain the litter and rubble situation on the construction/prospecting site.</li> </ol>   | Duration of operation | The implementation of the recommended mitigation measures will result in the minimisation of impacts to acceptable standards, thereby ensuring compliance with |

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|  |  | <ol style="list-style-type: none"> <li>4. If possible and feasible, all waste generated on site must be separated into glass, plastic, paper, metal and wood and recycled. An independent contractor can be appointed to conduct this recycling.</li> <li>5. Littering by the employees of the Contractor shall not be allowed under any circumstances. The ECO shall monitor the neatness of the work sites as well as the Contractor campsite.</li> <li>6. Skip waste containers should be maintained on site. These should be kept covered and arrangements made for them to be collected regularly.</li> <li>7. All waste must be removed from the site and transported to a landfill site promptly to ensure that it does not attract vermin or produce odours.</li> <li>8. Where a registered waste site is not available close to the construction/prospecting site, the Contractor shall provide a method statement with regard to waste management.</li> <li>9. A certificate of disposal shall be obtained by the Contractor and kept on file, if relevant.</li> <li>10. Under no circumstances may solid waste be burnt on site.</li> <li>11. All waste must be removed promptly to ensure that it does not attract vermin or produce odours.</li> </ol> <p><b>Hazardous waste</b></p> <ol style="list-style-type: none"> <li>12. All waste hazardous materials must be carefully stored as advised by the ECO, and then disposed of offsite at a licensed landfill site, where practical. Incineration may be used where relevant.</li> <li>13. Contaminants to be stored safely to avoid spillage.</li> <li>14. Machinery must be properly maintained to keep oil leaks in check.</li> <li>15. All necessary precaution measures shall be taken to prevent soil or surface water pollution from hazardous materials used during construction/prospecting and any spills shall immediately be cleaned up and all affected areas rehabilitated.</li> </ol> <p><b>Sanitation</b></p> <ol style="list-style-type: none"> <li>16. The Contractor shall install mobile chemical toilets on the site.</li> <li>17. Staff shall be sensitised to the fact that they should use these facilities at all times. No indiscriminate sanitary activities on site shall be allowed.</li> <li>18. Toilets shall be serviced regularly and the ECO shall inspect toilets regularly.</li> <li>19. Toilets should be no closer than 50m or above the 1:100 year flood line from any natural or manmade water bodies or drainage lines or alternatively located in a place approved of by the Engineer.</li> <li>20. Under no circumstances may open areas, neighbours fences or the surrounding bush be used as a toilet facility.</li> <li>21. The construction of “Long Drop” toilets is forbidden, but rather toilets connected to the sewage treatment plant.</li> <li>22. Potable water must be provided for all construction staff.</li> </ol> |  | <p>NEMA and Duty of Care as prescribed by NEMA.</p> |
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|                       |                 | <p><b>Remedial actions</b></p> <ol style="list-style-type: none"> <li>23. Depending on the nature and extent of the spill, contaminated soil must be either excavated or treated on-site.</li> <li>24. Excavation of contaminated soil must involve careful removal of soil using appropriate tools/machinery to storage containers until treated or disposed of at a licensed hazardous landfill site.</li> <li>25. The ECO must determine the precise method of treatment for polluted soil. This could involve the application of soil absorbent materials as well as oil-digestive powders to the contaminated soil.</li> <li>26. If a spill occurs on an impermeable surface such as cement or concrete, the surface spill must be contained using oil absorbent material.</li> <li>27. If necessary, oil absorbent sheets or pads must be attached to leaky machinery or infrastructure.</li> <li>28. Materials used for the remediation of petrochemical spills must be used according to product specifications and guidance for use.</li> <li>29. Contaminated remediation materials must be carefully removed from the area of the spill so as to prevent further release of petrochemicals to the environment and stored in adequate containers until appropriate disposal.</li> </ol>   |  |  |
| Water Use and Quality | Water pollution | <p><b>Water Use</b></p> <ol style="list-style-type: none"> <li>1. Develop a sustainable water supply management plan to minimise the impact to natural systems by managing water use, avoiding depletion of aquifers and minimising impacts to water users.</li> <li>2. Water must be reused, recycled or treated where possible.</li> </ol> <p><b>Water Quality</b></p> <ol style="list-style-type: none"> <li>3. The quality and quantity of effluent streams discharged to the environment including stormwater should be managed and treated to meet applicable effluent discharge guidelines.</li> <li>4. Discharge to surface water should not result in contaminant concentrations in excess of local ambient water quality criteria outside a scientifically established mixing zone.</li> <li>5. Efficient oil and grease traps or sumps should be installed and maintained at refueling facilities, workshops, fuel storage depots, and containment areas and spill kits should be available with emergency response plans.</li> </ol> <p><b>Stormwater</b></p> <ol style="list-style-type: none"> <li>6. The site must be managed in order to prevent pollution of drains, downstream watercourses or groundwater, due to suspended solids and silt or chemical pollutants.</li> <li>7. Silt fences should be used to prevent any soil entering the stormwater drains.</li> <li>8. Temporary cut off drains and berms may be required to capture stormwater and promote infiltration.</li> </ol> |  |  |

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|  |  | <p>9. Promote a water saving mind set with construction/prospecting workers in order to Contractor ensure less water wastage.</p> <p>10. New stormwater construction must be developed strictly according to specifications from engineers in order to ensure efficiency.</p> <p>11. Hazardous substances must be stored at least 20m from any water bodies on site to avoid pollution.</p> <p>12. The installation of the stormwater system must take place as soon as possible to attenuate stormwater from the construction phase as well as the operation phase.</p> <p>13. Earth, stone and rubble is to be properly disposed of, or utilized on site so as not to obstruct natural water path ways over the site. i.e. these materials must not be placed in stormwater channels, drainage lines or rivers.</p> <p>14. There should be a periodic checking of the site's drainage system to ensure that the water flow is unobstructed.</p> <p>15. If a batching plant is necessary, run-off should be managed effectively to avoid contamination of other areas of the site. Untreated runoff from the batch plant must not be allowed to get into the storm water system or nearby streams, rivers or erosion channels or dongas.</p> <p><b>Groundwater resource protection</b></p> <p>16. Process solution storage ponds and other impoundments designed to hold non fresh water or un-treated process effluents should be lined and be equipped with sufficient wells to enable monitoring of water levels and quality.</p> <p>17. Prevent dirty water runoff from leaving the general mining area;</p> <p>18. Compact the base of dirty areas, like the workshops and oil and diesel storage areas to minimise infiltration of poor-quality water to the underlying aquifers;</p> <p>19. Enough supply of absorbent fibre should be kept at the site to contain accidental spills;</p> <p>20. Contain dirty water in return water dams and re-use dirty water for dust suppression and make up water in the plant;</p> <p>21. Proper storm water management should be implemented. Berms should also be constructed to ensure separation of clean water and dirty water areas;</p> <p>22. A detailed mine closure plan should be prepared during the operational phase, including a risk assessment, water resource impact prediction etc. as stipulated in the DWS Best Practice Guidelines. The implementation of the mine closure plan, and the application for the closure certificate can be conducted during the decommissioned phase</p> <p><b>Sanitation</b></p> <p>23. Adequate sanitary facilities and ablutions must be provided for construction workers (1 toilet per every 15 workers).</p> <p>24. The facilities must be regularly serviced to reduce the risk of surface or groundwater pollution.</p> |  |  |
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|  |  | <p><b>Concrete mixing</b></p> <p>25. Concrete contaminated water must not enter soil or any natural drainage system as this disturbs the natural acidity of the soil and affects plant growth.</p> <p><b>Public areas</b></p> <p>26. Food preparation areas should be provided with adequate washing facilities and food refuse should be stored in sealed refuse bins which should be removed from site on a regular basis.</p> <p>27. The Contractor should take steps to ensure that littering by construction workers does not occur and persons should be employed on site to collect litter from the site and immediate surroundings, including litter accumulating at fence lines.</p> <p>28. No washing or servicing of vehicles on site.</p> <p><b>Infrastructure</b></p> <p>29. Infrastructure should adhere to the GN704 of the South African National Water Act (36 of 1998) and not be located within the 1:100- year Return Period flood line. This is essential for the safety of human life as well as for the protection of infrastructure from flood inundation and destruction.</p> |  |  |
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**Mechanisms for monitoring compliance with and performance assessment against the environmental management programme and reporting thereon, including**

**G. MONITORING OF IMPACT MANAGEMENT ACTIONS**

**H. MONITORING AND REPORTING FREQUENCY**

**I. RESPONSIBLE PERSONS**

**J. TIME PERIOD FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS**

**K. MECHANISM FOR MONITORING COMPLIANCE**

| SOURCE ACTIVITY   | IMPACTS REQUIRING MONITORING PROGRAMMES  | FUNCTIONAL REQUIREMENTS FOR MONITORING   | ROLES AND RESPONSIBILITIES (FOR THE EXECUTION OF THE MONITORING PROGRAMMES)   | MONITORING AND REPORTING FREQUENCY and TIME PERIODS FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS  |
|---|--|--|---|---|
| Ecological  | Loss of terrestrial habitat<br>Loss of Terrestrial Fauna<br>Loss of Terrestrial Flora<br>Introduction and spread of alien vegetation | <ul style="list-style-type: none"> <li>Conduct regular internal audits</li> <li>Conduct regular external audits</li> </ul> | <ul style="list-style-type: none"> <li>Environmental Manager</li> <li>Suitable qualified environmental auditor</li> </ul> | Monitoring should be undertaken for duration of operations. Internal audits should be undertaken at least every 6 months. External audits should be undertaken by a suitably qualified auditor on an annual basis. Reports should be made available to the competent authority if required. |
| Prospecting of Chrome Ore (LG & MG Seams) & PGM's – excavations | Loss of topsoil<br>Erosion<br>Air Pollution<br>Noise<br>Impact on potential cultural and heritage artefacts                          | <ul style="list-style-type: none"> <li>Conduct regular internal audits</li> <li>Conduct regular external audits</li> </ul> | <ul style="list-style-type: none"> <li>Environmental Manager</li> <li>Suitable qualified environmental auditor</li> </ul> | Monitoring should be undertaken for duration of operations. Internal audits should be undertaken at least every 6 months. External audits should be undertaken by a suitably qualified auditor on an annual basis. Reports should be made available to the competent authority if required. |
| Waste management  | Pollution  | <ul style="list-style-type: none"> <li>Conduct regular internal audits</li> <li>Conduct regular external audits</li> </ul> | <ul style="list-style-type: none"> <li>Environmental Manager</li> <li>Suitable qualified environmental auditor</li> </ul> | Monitoring should be undertaken for duration of operations. Internal audits should be undertaken at least every 6 months. External audits should be undertaken by a suitably qualified auditor on an annual basis. Reports should be made available to the competent authority if required. |

Milnex CC: EIA592 –EIR & EMP: The Prospecting Right combined with a Waste Licence application to prospect for Chrome Ore (Cr), LG & MG Seams together with Platinum Group Metals (PGM), near Rustenburg on a certain portion of The Remaining Extent, a certain portion of Portion 1 & a certain portion of Portion 2 of the Farm Uitvalgrond 105, Registration Division JQ, North West Province. The property is located approximately 18km North West of Rustenburg.

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| Water Use and Quality | Water pollution | <ul style="list-style-type: none"> <li>• Conduct regular internal audits</li> <li>• Conduct regular external audits</li> </ul> | <ul style="list-style-type: none"> <li>• Environmental Manager</li> <li>• Suitable qualified environmental auditor</li> </ul> | Monitoring should be undertaken for duration of operations. Internal audits should be undertaken at least every 6 months. External audits should be undertaken by a suitably qualified auditor on an annual basis. Reports should be made available to the competent authority if required. |
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**L. A PROGRAM FOR REPORTING ON COMPLIANCE, TAKING INTO ACCOUNT THE REQUIREMENTS AS BY THE REGULATIONS;**

External audits should be undertaken by a suitably qualified auditor on an annual basis. Reports should be made available to the Competent Authority if required.

**M. AN ENVIRONMENTAL AWARENESS PLAN DESCRIBING THE MANNER IN WHICH—**

- (i) **Manner in which the applicant intends to inform his or her employees of any environmental risk which may result from their work.**

**Acacia Resources (Pty) Ltd** will implement an Environmental Awareness Plan which will include various mechanisms for informing employees of environmental risks resulting from their work, including:

- Induction training for full –time staff and contractors;
- In-house training sessions to be held with relevant employees;
- On the job training regarding environmental issues
- Training and skills development

The above measures will be implemented through an Environmental Communication Strategy to be implemented.

See the attached **Appendix 12** for the Awareness plan

- (ii) **Manner in which risks will be dealt with in order to avoid pollution or the degradation of the environment.**

**Acacia Resources (Pty) Ltd** will implement an incident reporting and reporting procedure in order to identify risks timeously and implement actions to avoid or minimise environmental impacts.

**N. SPECIFIC INFORMATION REQUIRED BY THE COMPETENT AUTHORITY  
(Among others, Confirm that the financial provision will be reviewed annually).**

No specific information requirements have been detailed by the Competent Authority.

\*\*\*\*\*END OF THE REPORT\*\*\*\*\*