

# FINAL SCOPING REPORT

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.

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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:	Scoping Report		
Prepared By:	Milnex CC		
Date:	July 2022		
	QUALITY CONTROL:		
Name:	<b>Report Author:</b> Christiaan Baron Masters in Environmental Management	Report Reviewer: N/A	
Signature:	Star		
	DISCLAIMER:		

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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 communique 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.

# 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.

# **OBJECTIVE OF THE SCOPING PROCESS**

- 1) The objective of the scoping process is to, through a consultative process-
- (a) identify the relevant policies and legislation relevant to the activity;
- (b) motivate 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 and confirm the preferred activity and technology alternative through an identification of impacts and risks and ranking process of such impacts and risks;
- (d) identify and confirm the preferred site, through a detailed site selection process, which includes an identification of impacts and risks [assessment process] inclusive of identification of cumulative impacts and a ranking process of all the identified alternatives focusing on the geographical, physical, biological, social, economic, and cultural aspects of the environment;
- (e) identify the key issues to be addressed in the assessment phase;
- (f) agree on the level of assessment to be undertaken, including the methodology to be applied, the expertise required as well as the extent of further consultation to be undertaken to determine the impacts and risks the activity will impose on the preferred site through the life of the activity, including the nature, significance, consequence, extent, duration and probability of the impacts to inform the location of the development footprint within the preferred site; and
- (g) identify suitable measures to avoid, manage, or mitigate identified impacts and to determine the extent of the residual risks that need to be managed and monitored.

# CONTENT OF THE SCOPING REPORT

- 2) Contact Person and correspondence address
- A) DETAILS OF THE EAP:
  - i) The EAP who prepared the report
  - ii) Expertise of the EAP

Name of Practitioner	Qualifications	Contact details		
	Master's Degree in Environmental	Tel No.: (018) 011 1925		
Christiaan Baron	Management (refer to <b>Appendix 1</b> )	Fax No. : (053) 963 2009		
	Management (refer to Appendix 1)	e-mail address: christiaan@milnex-sa.co.za		
	Honours Degree in Environmental Science	Tel No.: (018) 011 1925		
Lizanne Esterhuizen	(refer to Appendix 1)	Fax No. : (053) 963 2009		
		e-mail address: lizanne@milnex-sa.co.za		

# 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 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.

Christiaan Baron & Lizanne Esterhuizen 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) THE LOCATION OF THE ACTIVITY:

Farm Name:	<ol> <li>A certain portion of the remaining extent of the farm Uitvalgrond 105 Registration Division: JQ Title deed: T123395/2001 Province: North-West</li> <li>A certain portion of portion 1 of the farm Uitvalgrond 105 Registration Division: JQ Title Deed: T108393/2008 Province: North-West</li> <li>A certain portion of portion 2 of the farm Uitvalgrond 105 Registration Division: JQ Title Deed: T233/1984BP Province: North-West</li> </ol>		
Application area (Ha)	421.368661 hectares		
Magisterial district:	Bojanala District Municipality Rustenburg Local Municipality		
Registration division:	JQ		
Distance and direction from nearest town	The property is located approximately 18km North West of Rustenburg.		
21 digit Surveyor General Code for each farm portion	<ol> <li>TOJQ00000001050000</li> <li>TOJQ000000001050001</li> <li>TOJQ000000001050002</li> </ol>		
Minerals applied for	Chrome ore (Cr) LG & MG Seams Platinum Group Metals (PGM)		
Locality map	Attach a locality map at a scale not smaller than 1:250000 and attach as Appendix 2		
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)	<ol> <li>Listing Notice 1: GNR 327, Activity 19: 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;</li> <li>Listing Notice 1, GNR 327, Activity 20 (Amended GNR 517: 2021): "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"</li> <li>Listing Notice 1, GNR 327, Activity 24: "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"</li> <li>Listing Notice 1, GNR 327, Activity 27:" The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation."</li> <li>Listing Notice 2, GNR 325, Activity 19 (As Amended GNR 517: 2021): "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 promission.</li> </ol>		

<ul> <li>6) Listing Notice 3 GNR 324, Activity 12(h) (iv): 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.</li> <li>NEM:WA 59 of 2008:</li> </ul>
7) Residue stockpiles or residue deposits, Category A: (15) 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).
Prospecting right with bulk samples for the prospecting of <b>Chrome ore (Cr): LG &amp; MG</b> <b>Seams and Platinum Group Metals (PGM)</b> including associated infrastructure, structure and earthworks.

## iii. Farms Co-ordinates:

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

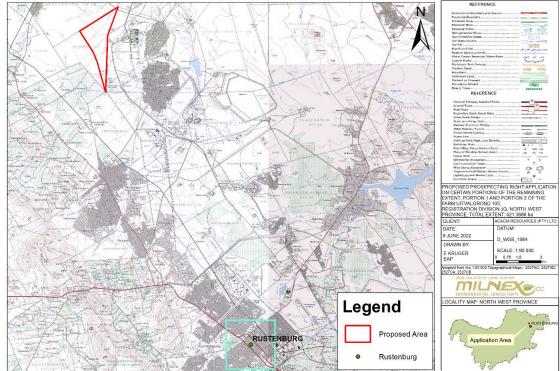
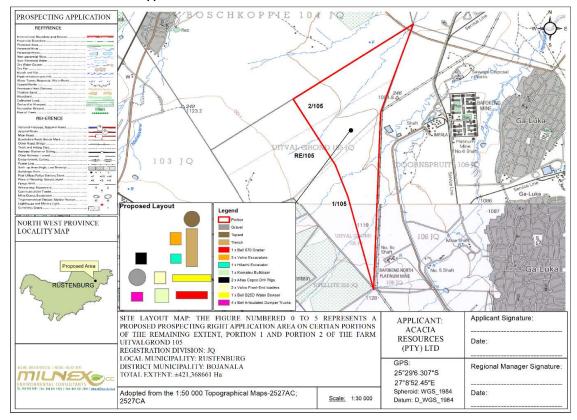


Figure 1: Locality Map



#### Refer to Site Plan included within Appendix 4.

Figure 2: Site Plan

# D) DESCRIPTION OF THE SCOPE OF THE PROPOSED OVERALL ACTIVITY.

# i) Listed and specified activities

Provide a plan drawn to a scale acceptable to the competent authority but not less than 1: 10 000 that shows the location, and area (hectares) of all the aforesaid main and listed activities, and infrastructure to be placed on site and attach as Appendix 4

# Listing Notices: 2017 Regulations as amended

Description of the overall activity.		
(Indicate Mining Right, Mining Permit, Prospecting right, Bulk Sampling, Production Right, Exploration Right, Reconnaissance	1.	Listing Notice 1: GNR 327, Activity 19: 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;
permit, Technical co-operation permit, Additional listed activity)	2.	Listing Notice 1, GNR 327, Activity 20 (Amended GNR 517: 2021): "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"
	3.	<b>Listing Notice 1, GNR 327, Activity 24:</b> "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"
	4.	<b>Listing Notice 1, GNR 327, Activity 27:</b> " The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation."
	5.	Listing Notice 2, GNR 325, Activity 19 (As Amended GNR 517: 2021): "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.
	6.	Listing Notice 3 GNR 324, Activity 12(h) (iv): 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.
	NE	M:WA 59 of 2008:
	7.	<b>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).
		Prospecting right with bulk samples for the prospecting of <b>Chrome ore (Cr): LG &amp; MG Seams and Platinum Group Metals (PGM)</b> including associated infrastructure, structure and earthworks.

<ul> <li>NAME OF ACTIVITY</li> <li>(E.g. For prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route etcetc</li> <li>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, etcetc.)</li> </ul>	Aerial extent of the Activity Ha or m <sup>2</sup>	LISTED ACTIVITY (Mark with an X where applicable or affected).	APPLICABLE LISTING NOTICE (GNR 324, GNR 325 or GNR 326)	WASTE MANAGEMENT AUTHORISATION (Indicate whether an authorisation is required in terms of the Waste Management Act) (Mark with an X)
<ul> <li>Prospecting Right:         <u>BULK SAMPLING:</u>         421,368661 Ha – 125 boreholes (maximum depth of 70m), 27 pits (10m x 4m x 2.5m), 13 trenches (40m x 20m x 5m).     </li> <li>Listing Notice 1: GNR 327, Activity 19: 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;</li> </ul>	Extent of the proposed portions is 421,368661 Ha Concurrent backfilling will take place in order to rehabilitate.	Х	Listing Notice 1: GNR 327, Activity 19	•
<ul> <li>Prospecting Right:         <ul> <li><u>BULK SAMPLING:</u></li> <li>421,368661 Ha – 125 boreholes (maximum depth of 70m), 27 pits (10m x 4m x 2.5m), 13 trenches (40m x 20m x 5m).</li> </ul> </li> <li>Bulk sample of 153 504 tons         <ul> <li>Listing Notice 1, GNR 327, Activity 20 (Amended GNR 517: 2021): "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"</li> </ul> </li> </ul>	Extent of the proposed portions are 421,368661 Ha Concurrent backfilling will take place in order to rehabilitate.	Х	Listing Notice 1, GNR 327, Activity 20	-

		1		
Clearance of indigenous vegetation: <u>BULK SAMPLING:</u> 421,368661 Ha – 125 boreholes (maximum depth of 70m), 27 pits (10m x 4m x 2.5m), 13 trenches (40m x 20m x 5m).         Listing Notice 1, GNR 327, Activity 24: "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"	Extent of the proposed portions are 421,368661 Ha Concurrent backfilling will take place in order to rehabilitate.	Х	Listing Notice 1, GNR 327, Activity 24	-
<ul> <li>Clearance of indigenous vegetation:</li> <li><u>BULK SAMPLING:</u></li> <li>421,368661 Ha – 125 boreholes (maximum depth of 70m), 27 pits (10m x 4m x 2.5m), 13 trenches (40m x 20m x 5m).</li> <li>Listing Notice 1, GNR 327, Activity 27:"The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation."</li> </ul>	Extent of the proposed portions are 421,368661 Ha Concurrent backfilling will take place in order to rehabilitate.	X	Listing Notice 1, GNR 327, Activity 27	-
<ul> <li>Prospecting:</li> <li><u>BULK SAMPLING:</u></li> <li>421,368661 Ha – 125 boreholes (maximum depth of 70m), 27 pits (10m x 4m x 2.5m), 13 trenches (40m x 20m x 5m).</li> <li>Listing Notice 2, GNR 325, Activity 19 (As Amended GNR 517: 2021):: "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.</li> </ul>	Extent of the proposed portions are 421,368661 Ha Concurrent backfilling will take place in order to rehabilitate.	Х	Listing Notice 2, GNR 325, Activity 19:	-
<ul> <li>Clearance of indigenous vegetation:</li> <li><u>BULK SAMPLING:</u></li> <li>421,368661 Ha – 125 boreholes (maximum depth of 70m), 27 pits (10m x 4m x 2.5m), 13 trenches (40m x 20m x 5m).</li> <li>Listing Notice 3 GNR 324, Activity 12(h) (iv): 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.</li> </ul>	Extent of the proposed portions are 421,368661 Ha Concurrent backfilling will take place in order to rehabilitate.	Х	Listing Notice 3 GNR 324, Activity 12(h)	-

<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).			NEM:WA 59 of 2008 Category A: (15)	
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#### ii) Description of the activities to be undertaken including associated structures and infrastructure;

(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 125 drill borehole are planned to evaluate the mining potential of the LG chromite seam. The drilling will consist of BQ core, comprising a minimum of 1890 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 (breath) x 4m (depth).

- 125 boreholes / 2 years = 62.5 holes per year
- Total area to be disturbed per year = 62.5 holes x (2m x 2m) / 10 000 = 0.025 Ha disturbed per year
- Total area disturbed for 24 months = 125 pits x (2m x 2m) / 10 000 = 0.05 Ha disturbance for the whole drilling programme

## Pitting, Trenching and Bulk Sampling

Bulk sampling will include the excavation of 27 pits and 13 trenches. The dimensions of the pit will be 10 m x 4m m x 2.5 m deep. Dimensions of the trenches will be 40m x 20m x 5m deep to get a bulk sample of 153 504 tons. 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 27 pits will be dug (it may be less depending on the results) at an extent of 10m (length) x 4m (breath) x 5m (depth).

- 27 pits / 2 years = 13.5 pits dug per year
- Total area to be disturbed per year = 13.5 pits x (10m x 4m) / 10 000 = 0.0054 Ha disturbed per year
- Total area disturbed for 24 months = 27 pits x (10m x 4m) / 10 000 = 0.108 Ha disturbed for the whole pitting programme

# Trench calculations

It is planned that 13 trenches will be dug (it may be less depending on the results) at an extent of 40m (length) x 20m (breath) x 5m (depth).

- 13 trenches / 2 years = 6.5 pits dug per year
- Total area to be disturbed per year = 6.5 trenches x (40m x 20m) / 10 000 = 0.52 Ha disturbed per year
- Total area disturbed for 24 months = 13 trenches x (40m x 20m) / 10 000 = 1.04 Ha disturbed for the whole trenching programme

Total disturbance:

Invasive technique	Disturbance
Drilling	0.05 Hectares
Pitting	0.108 Hectares
Trenching	1.04 Hectares
Total	1.198 Hectares

## Prospecting activities and phases

Please find the Prospecting Work Programme attached as Appendix 9.

## Water Supply

Water uses under section 21 a-k of the NWA may be triggered, thus a Water Use Licence Application (WULA) will needed in cases there will be encroachment. When needed a WULA will be lodged with the department of Water & Sanitation (DWS).

## **Dust suppression**

Monitor 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.

According to dust levels set out by the National Dust Control Regulations 2013 (GNR. 827). The limits have the following threshold Section 3. Dustfall standard.

# Table 1. Acceptable dust fall rates

Restriction Areas	Dustfall rate (D) (mg/m2/day, 30- day average)	Permitted frequency of exceeding dust fall rate
Residential Area	D < 600	Two within a year, not sequential months
Non-residential Area	600 < D < 1200	Two within a year, not sequential months

# Ablution

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

# Storage of dangerous goods

During the prospecting 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.

# List of equipment's & infrastructure

List of equipment		
3 x Volvo Excavators		
1 x Hitachi Excavator		
4 x Bell Articulated Dumper Trucks		
2 x Volvo Front End Loaders		
1 x Bell 670 Grader		
1 x Komatsu Bull Dozer		
2 x Atlas Copco Drill Rigs		
1 x Bell B25D Water Bowser		

# E) POLICY AND LEGISLATIVE CONTEXT

Title of legislation, policy or guideline:	Administering authority:	Promulgation Date:
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
Mineral and Petroleum Resources Development Regulations, 2014.	Department of Mineral Resources & Energy (DMRE)	
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

National Environmental Management: Waste Act, 2008 (Act No. 59 Of 2008). Regulations regarding the Planning & Management of Residue Stockpiles & Residue Deposits from a Prospecting, Mining, Exploration or Production Operation		
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
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
National Environmental Management: Protected Areas Act 57 of 2003		
Hazardous Substances Act (No. 15 of 1979)		
Subdivision of Agricultural Land Act (No. 70 of 1970)		
Occupational Health and Safety Act (No. 85 of 1993)		
Mine Health and Safety Act (No. 29 of 1996)		
Government Notice Regulation 704 of 1999		
Bojanala District Municipality Integrated Development Plan (IDP)	Municipal	
Rustenburg Local Municipality Integrated Development Plan (IDP)	Municipal	

# POLICY AND LEGISLATIVE CONTEXT

Title of legislation, policy or guideline:	Reference where applied	How does this development comply with and respond to the legislation and policy context.
		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 of the Constitution of the Republic of South Africa (Act 108 of 1996) states the following:
Constitution of South Africa Act 108 of 1996	Section 24	<ul> <li>"Everyone has the right –</li> <li>(a) to an environment that is not harmful to their health or well-being; and</li> <li>(b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that – <ul> <li>i) prevent pollution and ecological degradation;</li> <li>ii) promote conservation; and</li> <li>iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development."</li> </ul> </li> </ul>
		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.
National Environmental Management Act No. 107 of 1998 as amended.	S24(1) of NEMA 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.
		The mandate for EIA lays with the National Environmental Management Act (107 of 1998) and the EIA Regulations No. 326, 327, 325, and 324 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.
EIA regulations as amended under NEMA	Listing notice 1 Listing notice 2 Listing Notice 3	The National Environmental Management Act107 of 1998 (NEMA), as amended, makes provision for the identification and assessment of activities that are potentially detrimental to the environment. These activities are detailed in Listing Notice 1 (as amended by GNR 327 of 7 April 2017), Listing Notice 2 (as amended by GNR325 of 7 April 2017) and Listing Notice 3 (as amended by GNR324 of 7 April 2017). Undertaking activities specified in the Listing Notices are only allowed once Environmental Authorisation has been obtained from the competent authority. Such Environmental Authorisation will only be considered once there has been compliance with the EIA Regulations, 2014. The Environmental Authorisation which may be granted subject to conditions.
Mineral and Petroleum Resources Development Act (Act No. 28 of 2002)	Section 10, 16, 22, 27 and 48	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. One of the objectives of the Act is to give effect to section 24 of the Constitution by ensuring that the nation's mineral and petroleum resources are developed in an orderly and ecologically sustainable manner while promoting justifiable social and economic development.

Mineral and Petroleum Resources Development Regulations, 2014.	Regulations 3, 5, 10 and 14	MPRDA Regulations prescribe how an application for a permit or right must be lodged.
The National Heritage Resources Act (Act No. 25 of 1999)	Section 35 Section 38	The National Heritage Resources Act (Act No 25 of 1999, Section 35) protects South Africa's unique and non-renewable archaeological and palaeontological heritage sites. These sites may not be disturbed without a permit from the relevant heritage resources authority. Section 38 of the NHRA provides guidelines for Cultural Resources Management and proposed developments:
National Environmental Management Waste Act, 2008 (Act No. 59 of 2008)	Category A Category B Category C	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. 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)). The National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (NEM:WA) regulates waste management in all aspects and created a list of waste management activities that have, or are likely to have, a detrimental effect on the environment, which requires an impact assessment and licensing process. Activities listed in Category A require a Basic Assessment process, activities listed in Category C must comply with the relevant requirements or standards, in order for competent authorities to consider an application in terms of NEMA.
National Environmental Management: Biodiversity Act No. 10 of 2004	Chapter 4 Chapter 5	The National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) (NEMBA) is part of a suite of legislation falling under NEMA. The Act provides for the management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act, 1998; the protection of species and ecosystems that warrant protection; the fair and equitable sharing of benefits arising from bioprospecting involving indigenous biological resources; the establishment and functions of a South African National Biodiversity Institute; and for matters connected therewith (SANBI). Chapter 4 of NEMBA deals with threatened and protected ecosystems and species to ensure the maintenance of their ecological integrity, their survival in the wild, the utilisation of biodiversity is managed in an ecologically sustainable way and to regulate international trade in specimens of endangered species. Chapter 5 of NEMA deals with species and organisms posing potential threats to biodiversity. The purpose of this chapter is to prevent the introduction and spread of alien species and invasive species, also to manage, control and eradicate alien species and invasive species

National Environmental Management Air Quality Act, 2004 (Act No. 39 of 2004).	Section 21	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. 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.
National Water Act, 1998 (Act No. 36 of 1998).	Section 21	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. 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.
National Forest Act (Act 84 of 1998) (NFA)	Regulation 7	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). Regulation 7 from the Act states the following: <b>Prohibition on destruction of trees in natural forests.</b> (1) No person may - (a) cut, disturb, damage or destroy any indigenous tree in a natural forest; or (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- (i) a licence issued under subsection (4) or section 23; or (ii) an exemption from the provisions of this subsection published by the Minister in the Gazette on the advice of the Council.
National Veld & Forest Fires Act (Act 101 of 1998)	Regulation 13 Chapter 5	The purpose of the Act is to prevent and combat veld, forest and mountain fires throughout the Republic and provides for a variety of institutions, methods and practices for achieving the purpose. Regulations 13 provides the requirement for firebreaks. Chapter 5 places a duty on all owners to acquire equipment and have available personnel to fight fires.

Conservation of Agricultural Resources Act (Act No. 85 of 1983)	The purpose 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. The objects of this Act are to provide for the conservation of the natural agricultural resources of the Republic by the maintenance of the production potential of land, by the combating and prevention of erosion and weakening or destruction of the water sources, and by the protection of the vegetation and the combating of weeds and invader plants.
National Infrastructure Plan	<ul> <li>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.</li> <li>Government will over the three years from 2013/14 invest R827 billion in building and upgrading existing infrastructure.</li> <li>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.</li> <li>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.</li> </ul>
District Municipality Integrated Development Plan (IDP)	The IDP and SDFs of the relevant municipalities was examined and relevant information was included in the EIA report.
Local Municipality Integrated Development Plan (IDP)	The IDP and SDFs of the relevant municipalities was examined and relevant information was included in the EIA report.
National Environmental Management: Protected Areas Act 57 of 2003	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.
National Environmental Management: Waste Act, 2008 (Act No. 59 Of 2008) Regulations regarding the Planning & Management of Residue Stockpiles & Residue Deposits from a Prospecting, Mining, Exploration or Production Operation	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.
Hazardous Substances Act (No. 15 of 1979)	The object of the Act is inter alia to 'provide for the control of substances which may cause injury or ill health to, or death of, human beings by reason of their toxic, corrosive, irritant, strongly sensitising or flammable nature or the generation of pressure thereby in certain circumstances; for the control of electronic products; for the division of such substances or products into groups in relation to the degree of danger; for the prohibition and control of such substances.'

	In terms of the Act, substances are divided into schedules, based on their relative degree of toxicity, and the Act provides for the control of importation, manufacture, sale, use, operation, application, modification, disposal and dumping of substances in each schedule.
Subdivision of Agricultural Land Act (No. 70 of 1970)	This Act regulates the subdivision of agricultural land and its use for purposes other than agriculture. The Directorate of Resource Conservation is responsible for the enforcement thereof. Investigations are done by the Provincial Department in support of the execution of the Act. The Act also deals with aspects associated with rezoning land.
Occupational Health and Safety Act (No. 85 of 1993)	The Occupational Health and Safety Act (No. 85 of 1993) (OHSA) provides a legislative framework for the provision of reasonably healthy and safe conditions in the workplace. It also places extensive legal duties on employees and users of machinery and makes major inroads on employers' and employees' common law rights.
	The OHSA is applicable and states that any person involved with construction, upgrades or developments for use at work or on any premises shall ensure as far as reasonably practicable that nothing about the manner in which it is installed, erected or constructed makes it unsafe or creates a risk to health when properly used
Mine Health and Safety Act (No. 29 of 1996)	<ul> <li>The Mine Health and Safety Act (No. 29 of 1996) (MHSA) aims to protect and promote the health and safety of employees and persons that may be affected by the activities at a mine and outlines both the rights and responsibilities of an employer, as well as the obligations of employees working thereat.</li> <li>The following principles are considered applicable to the Proposed Project and are detailed below: <ul> <li>The primary responsibility for ensuring a health and safe working environment in the mining site is placed on the mine owner. The Act sets out in detail the steps that employers must take to identify, assess records and control health and safety hazards in the mine;</li> <li>The right of workers to participate in health and safety decisions, the right to receive health and safety information, the right to training and the right to withdraw from the workplace in face of danger;</li> <li>The Act requires the establishment of institutions to promote a culture of health and safety and develop policy, legislation and regulations; and</li> <li>The responsibility for enforcing MHSA lies with the Mine Health and Safety Inspectorate. The Inspectorate's powers are recast and include the power to impose administrative fines upon employers who contravene the MHSA.</li> </ul> </li> <li>The Act also contains innovative approaches to the investigation of accidents, diseases and other occurrences that threaten health and safety.</li> </ul>
Government Notice Regulation 704 of 1999	<ul> <li>GNR.704 of 1999 under the NWA provides regulations on the use of water for mining and related activities aimed at the protection of water resources (requirements for clean and dirty water separation). GNR.704 requires inter alia the following: <ul> <li>Separation of clean (unpolluted) water from dirty water;</li> <li>Collection and confinement of the water arising within any dirty area into a dirty water system;</li> <li>Design, construction, maintenance and operation of the clean water and dirty water systems so that it is not likely for either system to spill into the other more than once in 50 years;</li> <li>Design, construction, maintenance and operation of any dam that forms part of a dirty water system to have a minimum freeboard of 0.8m above full supply level, unless otherwise specified in terms of Chapter 12 of the Act; and</li> <li>Design, construction, and maintenance of all water systems in such a manner as to guarantee the serviceability of such conveyances for flows up to and including those arising as a result of the maximum flood with an average period of recurrence of once in 50 years.</li> </ul> </li> </ul>
	GNR.704 also stipulates that no person in control of a mine or activity may:

Locate or place any residue deposit, dam, reservoir, together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 m from any watercourse or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water-logged ground, or on ground likely to become water-logged, undermined, unstable or cracked;
Place or dispose of any residue or substance which causes or is likely to cause pollution of a water resource, in the workings of any underground or opencast mine excavation, prospecting diggings, pit or any other excavation; or
Use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any watercourse or estuary.

# F) NEED AND DESIRABILITY OF THE PROPOSED ACTIVITIES.

(Motivate the need and desirability of the proposed development including the need and desirability of the activity in the context of the preferred location).

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.

## PERIOD FOR WHICH THE ENVIRONMENTAL AUTHORISATION IS REQUIRED.

The environmental authorisation is required for a minimum of 5 years.

# G) DESCRIPTION OF THE PROCESS FOLLOWED TO REACH THE PROPOSED PREFERRED SITE.

NB!! – This section is not about the impact assessment itself; It is about the determination of the specific site layout having taken into consideration (1) the comparison of the originally proposed site plan, the comparison of that plan with the plan of environmental features and current land uses, the issues raised by interested and affected parties, and the consideration of alternatives to the initially proposed site layout as a result.

Each of the phases are dependent on the results of the preceding phase. The location and extent of soil sampling, and possible bulk sampling can therefore not be determined at this stage. Mapping of the prospecting activities could thus not be undertaken. For the purposes of this report, the overall prospecting area is presented in **Appendix 3**.

## iii) Details of all alternatives considered.

With reference to the site plan provided as Appendix 4 and the location of the individual activities on site, provide details of the alternatives considered with respect to:

- (a) the property on which or location where it is proposed to undertake the activity;
- (b) the type of activity to be undertaken;
- (c) the design or layout of the activity;
- (d) the technology to be used in the activity;
- (e) the operational aspects of the activity; and
- (f) the option of not implementing the activity.

## (a) The property on which or location where it is proposed to undertake the 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.

## (b) The type of activity to be undertaken

In terms of the technologies proposed, these have been chosen based on long term success in terms of their prospecting history. The prospecting activities proposed in the Prospecting Work Programme is dependent on the preceding phase, therefore no alternatives are indicated, but rather a phased approach of trusted prospecting techniques.

# (c) The design or layout of the activity

The location of the activities will be determined based on the location of the prospecting activities, which will only be determined during phase 1 and 2 of the Prospecting Work Programme (see **Appendix 9** for the Programme).

According to the map below (Figure 21 and Figure 22) the proposed area is largely natural, with schrubland being the most dominant feature. Pervious 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.

# (d) The technology to be used in the activity

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. 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.

## (e) The operational aspects of the activity

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

Pits will be dug by an excavator for the purpose of soil sampling. If gravel is found, the applicant will determine the composition and quality of the gravel.

The applicant will proceed with this way of prospecting by means of the open cast/trenching method, simultaneously or after pitting depending on the information obtained from the earlier work done. The trenches will be dug to remove and process the gravel. Gravel will be removed by excavators and will be loaded directly into dump trucks.

All data will be consolidated and processed to determine the chrome, LG & MG seams & Platinum Group metals (PGM) bearing resources on the property. This will be a continuous process throughout the prospecting work programme.

No feasible alternatives to the 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.

## (f) The option of not implementing the activity

The option of not approving the activities will result in a significant loss of valuable information regarding the mineral status (in terms of Chrome ore, PGM, & LG & MG Seams) present on these properties. In addition to this, should economical reserves be present, and the applicant does not have the opportunity to prospect, the opportunity to utilize these reserves for future phases will be lost.

## iv) 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.

## Disclaimer:

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 communique 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.

## **Public Participation Plan**

Below is a plan Milnex CC used and anticipate using for this application in order to ensure that reasonable opportunity is provided for public participation and that all administrative actions are reasonable for the Scoping (draft SR) & Environmental Impact Assessment Report (draft EIA & EMPr).

CONSULTATION METHOD	DESCRIPTION	
Written Notice	<ul> <li>Registered letters will be sent to Stakeholders, Landowner, Surrounding Landowners and registered I&amp;Aps.</li> <li>Postal services will be used and hands will be sanitised while touching each letters</li> </ul>	

#### Public Participation Plan for the application is as follows:

	Where applicable and email addresses are available, notification     letter will be sent via emails			
Availability of the documents	<ul> <li>Draft Scoping (Draft SR) &amp; Environmental Impact Assessment Report (Draft EIA &amp; EMPr) can be accessed using the following manner:</li> <li>A dropbox link which will be made available during circulation</li> <li>Sent via emails</li> </ul>			
	<ul> <li>Pick-up at the Milnex office in Schweizer-Reneke, 4 Botha Street, Schweizer-Reneke, between 7:30AM and 5PM, Monday to Thursdays and between 7:30AM and 4PM on Fridays will be made available. Prior arrangement should be made so that the documents may be packaged and sanitised for pick up</li> </ul>			
Landowner consultation	Consultation with the landowner for their input on the application			
Fixing of Notice Boards	<ul> <li>Notice boards will be fixed at a place conspicuous to and accessible by the public at the boundary.</li> <li>Notices will be sanitised after placement</li> </ul>			
Placing of an advertisement	Advertisement will be placed in one local newspaper			
Meetings	<ul> <li>A preferred method of a meeting is online to avoid contact and any spread of the Covid-19 virus.</li> <li>Online/virtually methods used include Zoom or Microsoft Teams. This Meetings will be conducted upon request. This will be conducted virtually via Zoom or Microsoft Teams</li> <li>If there is a need, the meetings can be arranged for people less than 50 people on site (Covid regulations to be observed and no one will be allowed without a mask)</li> </ul>			

# 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.

# Site notices

Site notices were placed (as anticipated on the coordinates below) on 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 is available under **Appendix 6**. Below are the coordinates where the site notices were placed.



Figure 3: Site notice co-ordinates

# Direct notification and circulation of Scoping Report to identified I&APs (stakeholder, landowners, 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:

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

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
Emmah Kgamphe
Mokgatle Trust
Surrounding landowners
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 Other
WESSA
Bafokeng North Mines
Impala Platinum Holdings Limited

#### **Public meeting**

Please note that the Stakeholders & Interested and Affected Parties (I&APs) were informed about the proposed project with the use of press advertisement, registered letters and site notices. It was mentioned that due to COVID-19, any meetings will be conducted virtually via Zoom or Microsoft Teams upon request by the I&APs.

No meeting was requested by stakeholders and/or I&Aps as of yet.

#### Issues Raised by Interested and Affected Parties

Comments received during this period are attached as comment & response report as well as populated in the table of summary of issues raised.

Joseph Mosime Ntubi Felitsa Mokgatle Mosole Mary Kgamphe

# v) Summary of issues raised by I&APs

(and an indication of the manner in which the issues were incorporated, or the reasons for not including them)

Interested and Affected Parties				Section and paragraph
List the names of persons consulted in this column, and Mark with an X where those who must be consulted were in fact consulted.		Issues raised	EAPs response to issues as mandated by the applicant	reference in this report where the issue and or
Organisation	Contact person			response where incorporated
	<b>Phore Trust</b> A B Huma M E Matlou H Von Zwietring	No comments received		
	Aaron Tampo Mokgoko Trust Dieter Werner Wenhold	No comments received		
	Madute Trust A B Huma C P Mokgoko S L Molotsane	No comments received		
	Bethuel Molotsane Trust P M N Molotsane	No info available No Comments received		
	TSB Mokgoko Props (Pty) Ltd N S Koosaletse D G Mokgoko M E Mokgoko M A Mokgoko J K Motlhamme	No comments received		
	Nkgadimeng Trust A B Huma C Mokgoko S L Molotsane D W Wenhold	No comments received		
Portion 1 of the Farm Uitvalgrond 105		No info available No Comments received		
	Joseph Mosime	No info available No Comments received		

Ntubi Felitsa Mokgatle	No info available
	No Comments received
Mosole Mary Kgamphe	No info available
	No Comments received
Ruben Mokgatle	No info available
	No Comments received
Christopher Serutle Kgamphe	No info available
	No Comments received
Maseate Lillian Mokgatle	No info available
	No Comments received
Boy Mokwena	No info available
	No Comments received
Nancy Kgamphe	No info available
	No Comments received
Mmanchala Lizzie Mahlangu	No info available
	No Comments received
Maggie Nqatjelwa	No info available
	No Comments received
Sekopi Mokgatle	No info available
	No Comments received
Sonny Victor Mngadi	No info available
	No Comments received
Justinus Kgamphe	No info available
	No Comments received
Alfred Mokgatle	No info available
	No Comments received
Salome Kgamphe	No info available
	No Comments received
Dina Kgamphe	No info available
	No Comments received
Sheila Kgamphe	No info available
	No Comments received
Philemon Kgamphe	No info available
	No Comments received
Leah Damaria Mathube	No info available
	No Comments received
Herstia Kelebogile Mathuloe	No Comments received
Elnorah Kgamphe	No info available
	No Comments received
R A Mokgatle Prop CC S M Makoe	No Comments received

	-			
	B Mohapi	1	1	1
	B Mokgatle	1	1	1
	B T Mokgatle	1	1	1
I	K H Mokgatle	1	1	1
	H Semoko	1	1	1
	Emmah Kgamphe	No Comments received	I I	1
Surrounding Landowners				
Portion 1 of the Farm Boschkoppie			· · · · · · · · · · · · · · · · · · ·	
104	1	1	1	1
104		1	1	1
Portion 0 of the Farm Doornspruit 106	Republic of	1	1	1
	Bophuthatswana	1	1	1
Portion 0 (RE) of the Farm		1	I I	1
		No comments received	1	1
Goedgedacht 110	Letlhogonolo Masilo	1	I I	1
	Ogodiseng Letlape	1	I I	1
Portion 0 of the Farm	Reotshepile Tlhapane	1	1	1
Kleindoornspruit 108		1	1	1
,		1	I I	1
Portion 0 of the Farm Turffontein 262	<u> </u>	I	]	L
,	The Royal Bafokeng Nation		1	1
		1	1	1
D. M. OT (E Desetheoly 102	Modisaotsile Mokate		1	1
Portion 67 of Farm Boschhoek 103	Letlhogonolo Masilo	No comments received	1	1
,	Ogodiseng Letlape	1	I I	1
	Reotshepile Tlhapane	1	1	1
· · · · · · · · · · · · · · · · · · ·	Department of Rural	· · · · · · · · · · · · · · · · · · ·	+	
,		No comments received	I I	1
Portion 0 (RE) of Farm Boschkoppie	Mr Moduku Kween		1	1
104		+'	١	+
	Ms Nomfundo Ntloko-Gobodo	No comments received	1	1
,			I I	1
Portion 2 of the Farm Boschkoppie	Rakgokong Edbaal	,	1	
104		No comments received	I I	1
	·ا	4'	Į]	4
	Merafe Ferrochrome and	1	1	1
	Mining (Pty) Ltd	1	1	1
	1	1	1	1
Portion 13 & Portion 2 (RE) of the	Z J Matlala	No comments received	1	1
Farm Bultfontein 259	M A Mngomezulu		1	1
	M J Vuso	1	1	1
	S D Chocho	1	1	1
	J P Mclaughlan	1	1	1
· · · · · · · · · · · · · · · · · · ·	01 11010102	<u>با</u>	<u> </u>	<u>ا</u> ـــــــ

	K Tlale N Mabusela-Aikhuere D A Mc Gluwa D Green		
Portion 10(RE) of the Farm Bultfontein 259	Struthio (Pty) Ltd B L Makgale	No comments received	
	Kenneth Modisaotsile Mokate		
	llitha Mining (Pty) Ltd		
Portion 0 of the Farm Stellite 255	D Koncar G Konsbruck	No comments received	
The Municipality in which jurisdiction	n the development is located		
Rustenburg Local Municipality	The Municipal Manager: Victor Makona	No comments received	
Municipal councilor of the ward in w	hich the site is located		
Rustenburg (Ward 3 Councillor)	To whom it may concern	No comments received	
Organs of state having jurisdiction			
	<b>Reginal Manager:</b> Mr Phumudzo Nethwadzi	No comments received	
		Email received on 02/06/2022 with the following attachment:	
Department: Mineral Resources and Energy (DMRE)	T. Nkwe	<ul> <li>I hereby confirm that your application for a prospecting right and permission to remove and dispose of Chrome Ore and Platinum Group Metals (on Lower Group (LG) and Middle Group (MG) only) in terms of sections 16 and 20 (2) of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) (as amended) has been accepted.</li> </ul>	
		<ul> <li>In terms of Section 12(d) read with regulation 52(1) of the said Act, you are therefore required to consult in the prescribed manner with the landowner, lawful occupier and any interested and affected party and include the result of the consultation in the relevant environmental reports.</li> </ul>	

<ul> <li>In light if the minimum requirements as stipulated on Regulation 16(1) and 16(2) of the EIA Regulations, your application for an Environmental Authorization was incomplete as it was not accompanied by this acceptance letter as per sub regulation 16(1)(ix) and considering that it is now completed by this acceptance letter, you are hereby required to submit the documents as stipulated on Regulation 19(1) to 19(8) of the EIA Regulations (Only in cases where Basic Assessment Report is applicable) or Regulation 21 (Scoping Report) and Regulation 23 (EIR &amp; EMPR) (In case of Scoping and Environmental Impact Report). Please ignore the submission of this report in case you have already submitted. All timeframes are effective from date of this letter.</li> <li>Kindly note that you are required to consult with the Department of Land Affairs if the land is state owned and in the event that the land is subject to land restitution, to consult the office of the Commission on Restitution of Land Rights and submit online and hard copy to the Regional Office the Results of such consultation on or before the 18<sup>th</sup> of July 2022 (30 days),</li> </ul>	
<ul> <li>You are further requested in terms of section 17 (4) of the act to give effect to the objects referred to in section 2 (d) of the Act (BEE). In this regard you are required to submit online and hard copy to this Regional office by not later than the 30<sup>th</sup> of August 2022 (60 days), the following documents:</li> <li>A) Duly signed shareholder agreements;</li> <li>B) Share certificates and shareholder's registers</li> <li>C) Article and memorandum of association of the company</li> <li>D) Details relating to funding (all relevant agreements); and</li> <li>E) Any other agreement or documents relating to the agreement</li> </ul>	

	<ul> <li>Acceptance of your application does not grant you the right to commence with prospecting operations. Your application will be evaluated/processed and a recommendation of the granting/refusal of the right will be forwarded to the Minister or her delegate. Any person operating without a prospecting/mining right or permit will be in contravention of Section 5(4) of the MPRDA and would be guilty of an offence in terms of the relevant Act.</li> <li>Take note further that failure to submit the documents as requested and failure to adhere to the timeframes as stipulated above amounts to non compliance with the provision of the Act and will therefore lead to your application being recommended for refusal without further notification to you.</li> </ul>	
Cynthia Mokgobi	<ul> <li>Email received on 20/06/2022 with the following attachment:</li> <li>1. The above-mentioned matter refers</li> <li>2. This letter serves to inform you that your application for Environmental Authorization lodged on the 6 May 2022 is hereby acknowledged.</li> <li>3. Acknowledgement of your application for Environmental Authorization does not grant you the right to commence with the prospecting related activities.</li> <li>4. Kindly also note this office has noted your application is listed under Listing Notice 2 of the NEMWA: EIA Regulations, 2014, therefore your application will follow an S&amp;EIR process. Please note that only activities listed on the application will be considered when issuing the environmental authorization and the onus is on the EAP/applicant to ensure that all activities related to the proposed activities are included in the application</li> <li>5. Your attention is therefore brought to Regulation 21 of the said Regulations which states that "where scoping EIR must be applied to an application, the applicant must within</li> </ul>	

		<ul> <li>44 days of receipt of the application by the competent authority, submit to the competent authority- a scoping EIAR which has been subjected to a public participation process of at least 30 days which reflect the incorporation of comments received, including any comments of the competent authority. You are also reminded that scoping EIAR must contain the information set out in Appendix 1 as prescribed on Regulation 21 of the NEMA: EIA Regulations, 2014 as amended.</li> <li>6. Kindly note that your timeframe for submission of the scoping shall be considered applicable in case your prospecting right application is lodged in terms of section 20 of the MPRDA, 2002 (Act No. 28 of 2002) as amended is accepted.</li> <li>7. Consult with every organ of state that administers a law in relation to a matter affecting the environment relevant to this application as required in terms of Regulation 7 (2) of the EIA Regulations, 2014 as amended. Organs include but not limited to are: <ul> <li>DAFF</li> <li>DEDECT</li> <li>DWS</li> <li>SAHRA and/or PHRA</li> </ul> </li> <li>8. In case if the land in question is owned by the community you are required to consult with such community and submit a resolution to this office.</li> <li>9. Your application has been assigned to Cynthia Mokgobi who could be reached at the following contact details: Tel: (018) 487 4312.</li> </ul>	
Department: Agriculture and Rural Development (DARD)	Head of Department: Mr Dipepeneneng Serage (Acting)	No comments received	
Department: Community Safety and Transport Management (DCSTM)	Head of Department Ms B Mofokeng	No comments received	

	1	1	
Department: Cooperative Governance and Traditional Affairs (DCGTA)	Head of Department Mr JK Mashego	No comments received	
Department: Economic Development, Environment, Conservation and Tourism (DEDECT)	Ouma Skosana	No comments received	
Department: Public Works and Roads (DPWR)	Director: Mr Sfiso Diko (Roads Project Implementation)	No comments received	
Department: Human Settlements	Head of Department Mr K.J Mashigo	No comments received	
Provincial Heritage Resources Authority (PHRA)	Mr Mosiane Mothlabane	No comments received	
Department: Water and Sanitation (DWS)	To whom it may concern	No comments received	
Office of the Regional Land Claims Commissioner: North West	Agnes Montwedi Sydney Masiga Florence Bahurutshe Kgomotso Majova		Email sent on 09/06/2022 Good Day to you all I trust all is well. Would your office please be so kind to assist with the following Land Claims of the properties attached. <b>Response letter:</b> Local Municipality: Rustenburg Regards Lana Laufs
Other– Bojanala Platinum District	Municipal Manager:		
Municipality	Mr P Shikwane	No comments received	
WESSA	Mr John Wesson	No comments received	
· · · · · · · · · · · · · · · · · · ·			

Bafokeng North Mines		No comments received		
Impala Platinum Holdings Limited	Mining Rights Advisor: Dumisani Qina	Email was sent on 05/07/2022 to Mr Nethwadzi & Mr Mandlazi and Milnex was cc'd into the email. See below the attachment for ease of reference: The above matter refers. Impala Platinum Limited ( <b>Impala</b> ) holds a registered Converted Mining Right on the Farm Uitvalgrond 105 JQ, with reference number 132MR, commencing on 12 December 2008 for the following minerals: platinum group metals, nickel ore, gold ore, cobalt, copper ore, silver ore, sulphur, sand (manufactured) from waste rocks, iron ore and chrome ore ( <b>Impala's Converted Mining Right</b> ). We have noted that Acacia Resources (Pty) Ltd (Acacia) has applied for a prospecting right and water use license (NW30/1/1/2/13418PR) on the above-mentioned property to prospect for the following minerals: chrome ore, LG and MG seams and platinum group metals (Acacia Prospecting Right). The Acacia Prospecting Right was accepted by the Department of Mineral Resources and Energy on 2 June 2022. The Acacia Prospecting Right is in conflict with Impala's Converted Mining Right for the following reasons: The majority of the Acacia Prospecting Right falls within Impala's active surface holding (2C105), which is situated on the Mathuloe Area; Part of the Acacia Prospecting Right falls within Impala's inactive surface holding that Impala has not yet received closure on; Impala 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 rehabilitated open cast pits, which have not yet reached sustainable rehabilitated areas, and this will negate the time, effort and money spent on rehabilitation thus far; and	Email sent on 12/07/2022 Dear Nqabakazi & Dumisani, I trust you are well. Your email below to the Department of Mineral Resources Development & Energy has been noted. We will include the comments, contained in your letter, in our reports for the Departments consideration. Kindest regards	

		Acacia's planned prospecting activities will likely impact the ground water quality within the area and if significant, this could hamper Impala's ability to apply for closure or return the land to its respective owners. Accordingly, Impala has to object to this application, as it hereby does. We trust you find the above in order. Should you require any clarification or further information on the above, please do not hesitate to contact Ms Nqabakazi Beja or Mr Dumisani Qina at the following email addresses: Nqabakazi.Beja@Implats.co.za	
		and <u>Dumisani.Qina@Implats.co.za</u> . Yours faithfully Dumisani Qina	
		Mining Rights Advisor Email received on 22/06/2022	
Royal Bafokeng Platinum Ltd	Chrisna von Alleman	Good afternoon With reference to the advert below as advertised in the Rustenburg Herald of 10 June 2022. Royal Bafokeng Resources (Pty) Ltd, a wholly owned subsidiary of Royal Bafokeng Platinum Ltd (RBPlat), is the holder of a mining right (Bafokeng Rasimone Platinum Mine) adjacent to the proposed prospecting right application. Please register RBPlat as interested and affected party and also forward all the relevant information i.e. copy of the DMRE acceptance letter and Regulation 2.2 plan as well as copies of the of the environmental applications and reports (scoping report, assessment report and waste licence details/report) to the following representatives: Malebabo Tsolo Environmental Manager	
		Contact: 014 573 1528 <u>MalebaboT@bafokengplatinum.co.za</u> Rethabile Bogatsu Environmental Officer	

		1	
	Contact: 014 573 1589		
	RethabileB@bafokengplatinum.co.za		
	Chrisna von Allemann		
	Mineral Rights Coordinator		
	Contact: 014 573 1664		
	chrisnava@bafokengplatinum.co.za		
		Email sent on 23/06/2022	
		Good Morning Chrisna, I hope you are well.	
		Thank you for your email.	
		Royal Bafokeng Platinum Ltd (RBPlat), is hereby	
		registered as an Interested and affected party (I&AP).	
		You will receive all relevant Environmental documents	
		once drafted.	
		We are currently in the Draft Scoping phase, see all	
		relevant documents within the link below:	
		https://www.dropbox.com/sh/j73y7yjw6cqn3e3/AAB8_bS	
		8YHqC7Cnv8XAY4-Hca?dl=0	
		Kindly note that the Draft scoping has been	
		circulated to Identified I&AP's on the 13th of June	
		2022 and that the 30 day deadline for comments are	
		on or before the 14 <sup>th</sup> of July 2022	
		I have also attached the Regulation 2.2 Map as well as	
		the DMRE acceptance letter for ease of reference.	
		Kindest regards	
	Email received on 12/07/2022		
	Cood day Christian		
	Good day Christiaan		
	If possible, could you please forward a digital or electronic		
	version of the application area.		
	version of the application area.		

	Many thanks Chrisna	
		Email sent on 12/07/2022
		Dear Chrisna, I hope you are well.
		Thank you for your email.
		I have attached an interactive kmz google file for your convenience as well as the regulation 2.2 map which indicates the boundary coordinates.
		I hope this will suffice.
		Should you have any further queries please feel free to contact me.
		Kind regards Christiaan
	Email received on 12/07/2022	
	Thank you very much for the quick response.	
	Regards Chrisna	

#### i) The Environmental attributes associated with the sites

### (1) 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.

### 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	
Page 6 of 17				Disclaimer applie 22/04/202
				22/04/202
Aquatic Biodiversity Theme	1 x	Ť	1	
Aquatic Biodiversity Theme Archaeological and Cultural Heritage Theme	X			x
	X		x	X
Archaeological and Cultural Heritage Theme	x		X	x
Archaeological and Cultural Heritage Theme Civil Aviation Theme	X		x	1995) 20
Archaeological and Cultural Heritage Theme Civil Aviation Theme Defence Theme	X			1995) 27

## 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 Nothern 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 platiniferous.

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 Dwarsberg-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, Mystroxylon 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 builtup. 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.

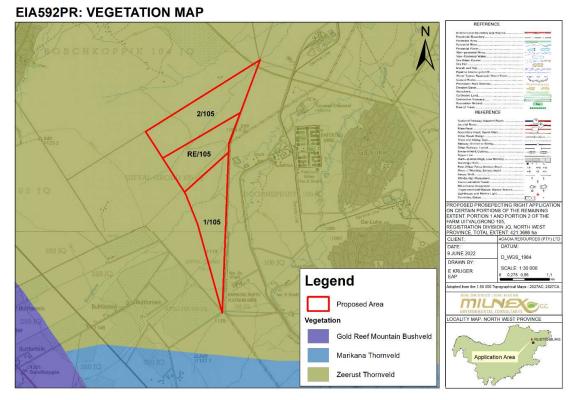


Figure 4: Vegetation Unit Map

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.

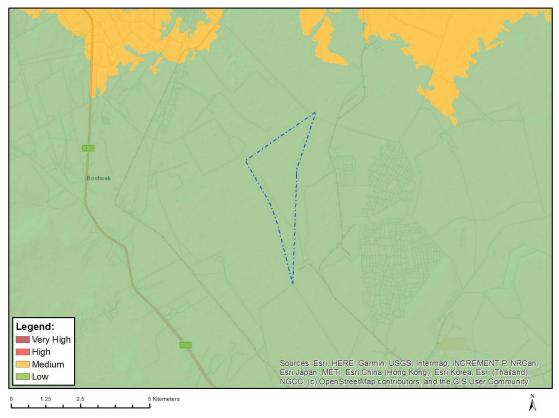


Figure 5: Plant Species Combined Sensitivity

## 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).

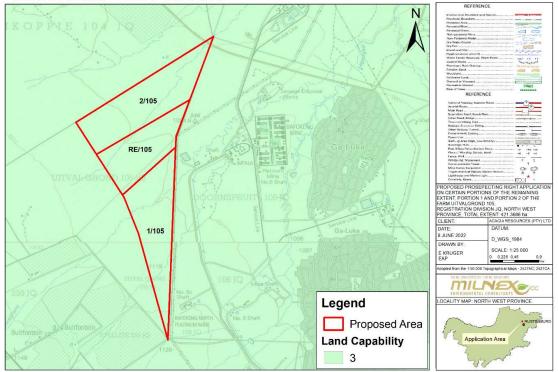
The concept of land capability combines the three natural resource elements or factors listed above (soil, climate and terrain) and uses set parameters to determine a specific class for a given area. The basis of the land capability assessment in South Africa is the well-known Land Type Survey, which 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-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 6 and attached as Appendix 5).

Refer to Land capability map attached as Appendix 5 & figure 6 below.	Refer	to	Land	capability	map	attached	as	Appendix	5	&	figure	6	below.
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#### Figure 6: 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.

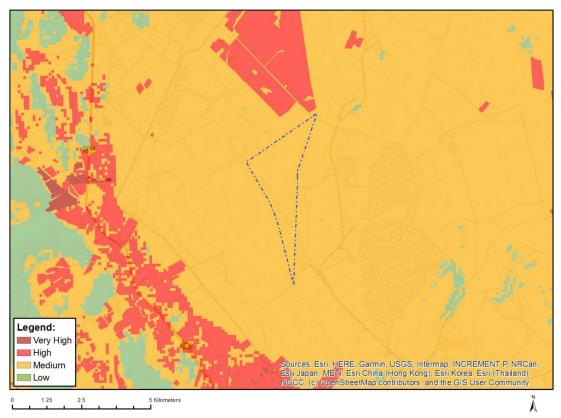


Figure 7: Agriculture Combined Sensitivity

## 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 8.

## Protected Areas

According to the data for protected areas (Figure 8), the proposed area does not fall within a formally protected area.

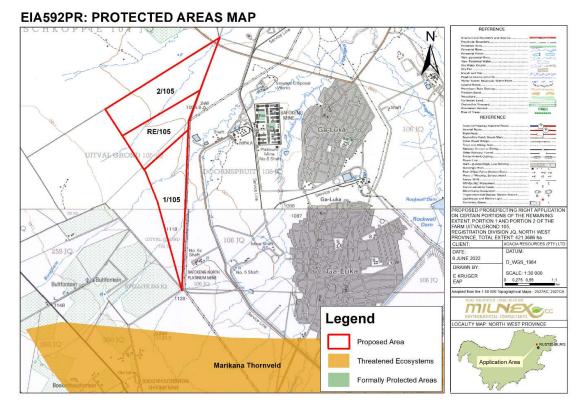


Figure 8: Threatened and Protected Areas Map

## 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 9), the proposed area does not fall on any ESA1, ESA2 nor CBA2 or CBA1 areas.

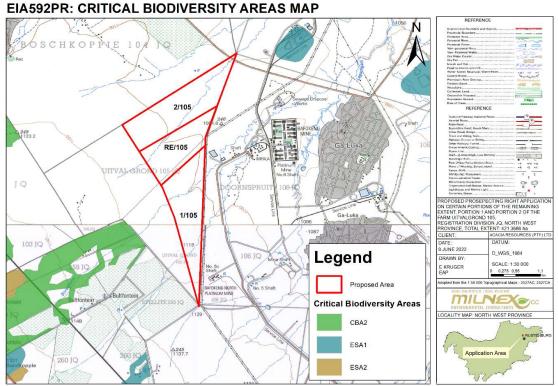


Figure 9: Critical Biodiversity Areas Map.

According to the DEA Screening Report most of the proposed area falls mostly within Very High and Low Aquatic Biodiversity sensitivity. Please see **figure 10** below & **Appendix 7** for the colour map.

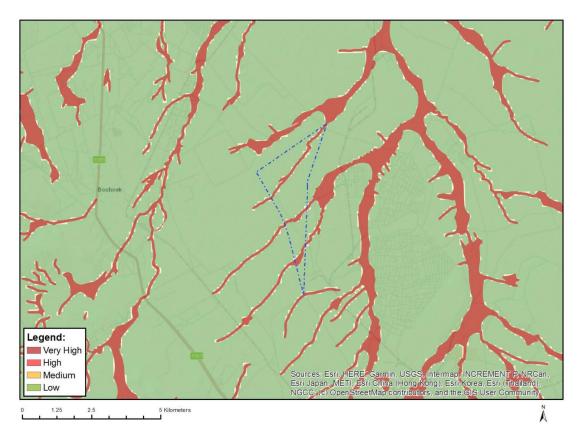


Figure 10: Aquatic Biodiversity Combined Sensitivity

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 11: Terrestrial Biodiversity Combined Sensitivity

According to the DEA Screening Report the proposed portions fall within a medium Animal Species theme sensitivity. Please see Figure 12 below & **Appendix 7** for the colour map.

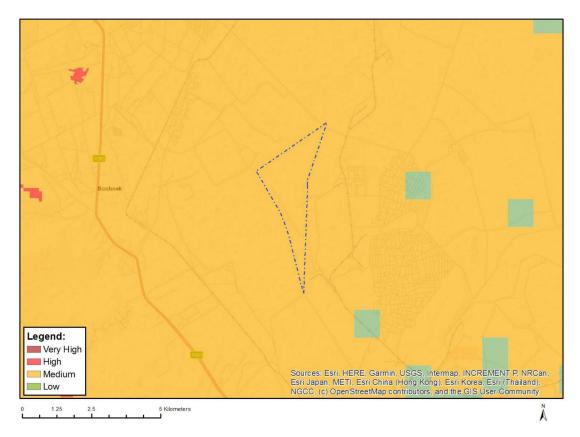


Figure 12: Animal Species theme sensitivity

## **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 (**Table 2**).

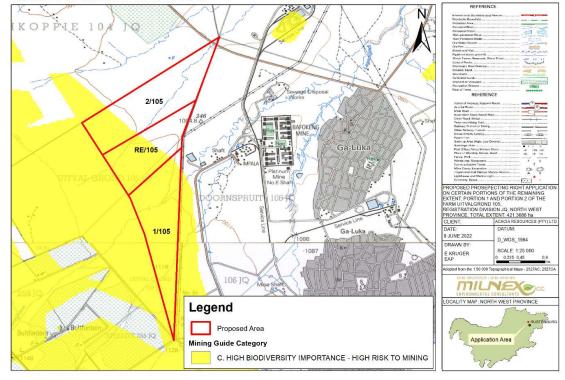
Category	Biodiversity Priority Areas	Risks for Mining	Implications for Mining
A. Legally Protected	<ul> <li>Protected areas (including National Parks, Nature Reserves, World Heritage Sites, Protected Environments, Nature Reserves)</li> <li>Areas declared under Section 49 of the Mineral and Petroleum Resources Development Act (No. 28 of 2002)</li> </ul>	Mining Prohibited	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. 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 activities to continue, subject to

Table 2: Four categories of biodiversity priority areas in relation to their biodiversity importance and implications for mining.

			prescribed conditions that reduce environmental impacts.
			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.
B. Highest Biodiversity	<ul> <li>Critically endangered and endangered ecosystems</li> <li>Critical Biodiversity Areas (or equivalent areas) from provincial spatial biodiversity plans</li> <li>River and wetland</li> </ul>	Highest Risk for	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.
Importance		Mining	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.
			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.
			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.
	<ul> <li>Protected area buffers (including buffers around National Parks, World Heritage Sites* and Nature Reserves)</li> <li>Transfrontier Conservation Areas (remaining areas</li> </ul>		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.
C. High Biodiversity Importance	outside of formally proclaimed protected areas) • Other identified priorities from provincial spatial	High Risk for Mining	An EIA should include an assessment of optimum, sustainable land use for an area and will determine the significance of the impact on biodiversity. Mining options may be limited in these areas, and
	<ul><li>biodiversity plans</li><li>High water yield areas</li><li>Coastal Protection Zone</li><li>Estuarine functional zone</li></ul>		limitations for mining projects are possible. Authorisations may set limits and specify biodiversity offsets that would be written into licence agreements and/or authorisations.
	*Note that the status of buffer areas of World Heritage Sites is		

	subject to a current intra- governmental process		
D. Moderate Biodiversity Importance	<ul> <li>Ecological support areas</li> <li>Vulnerable ecosystems</li> <li>Focus areas for protected area expansion (land-based and offshore protection)</li> </ul>	Moderate Risk for Mining	These areas are of moderate biodiversity value. 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. Authorisations may set limits and specify biodiversity offsets that would be written into licence agreements and/or authorisations.

Based on Figure 13, the area overlaps with category C



## EIA592PR: MINING GUIDE MAP

Figure 13: 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 14 illustrates all wetland types associated with the study area. According to the map there are no wetland on the properties

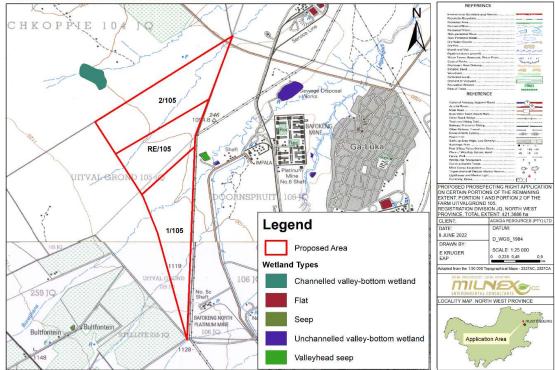




Figure 14: Wetland types located within or near the study site.

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

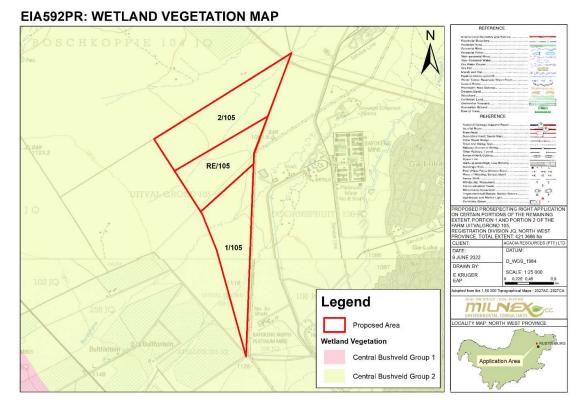


Figure 15: Wetland vegetation type

## 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 16).

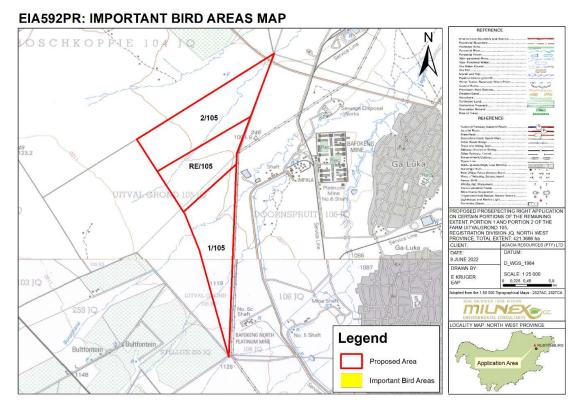
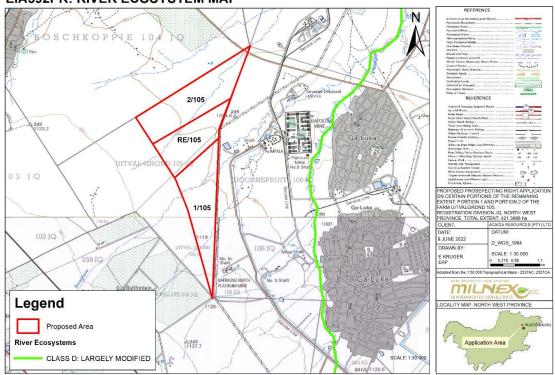


Figure 16: Important Bird and Biodiversity Areas associated with the study site.

### River Ecosystem Status

According to Figure 17, 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 17: 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).

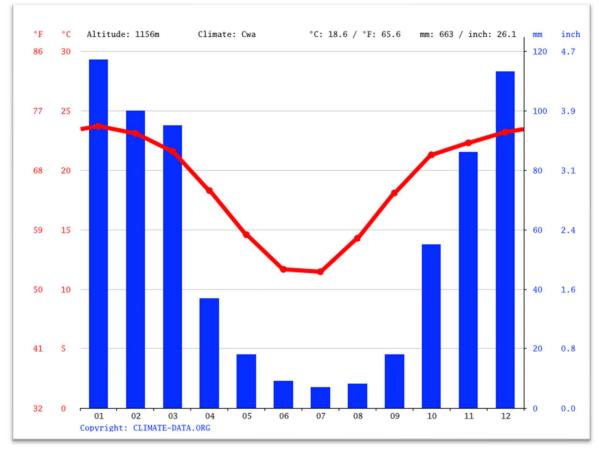


Figure 18: Climate chart for the Rustenburg local municipality

## 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 northwest 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 (± 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 Dorpies (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.

	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
Total	263,000	317,000	26,600	27,100	2,780	3,070	3.040	2,620

### 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 19 below & colour map under **Appendix 7**.

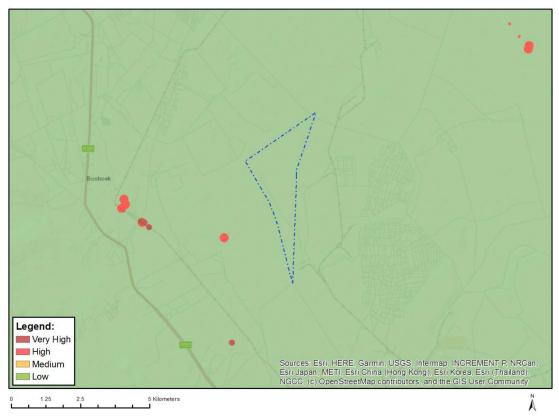


Figure 19: Archaeological and Cultural Heritage Combined Sensitivity

According to the DEA Screening Report the proposed area falls mostly within medium to high Palaeontology Theme Sensitivity Please see figure 10 below & colour map under **Appendix 7**.

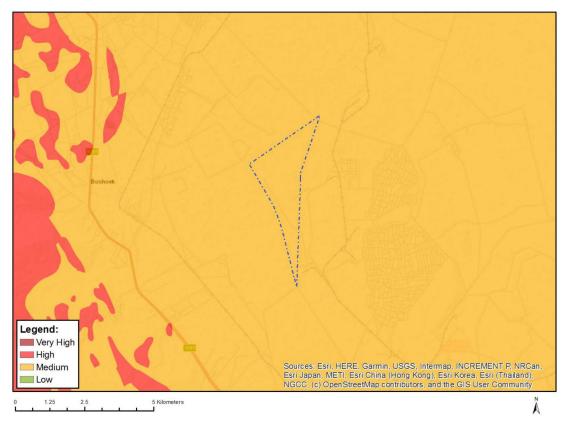


Figure 20: Relative Palaeontology Theme Sensitivity

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.

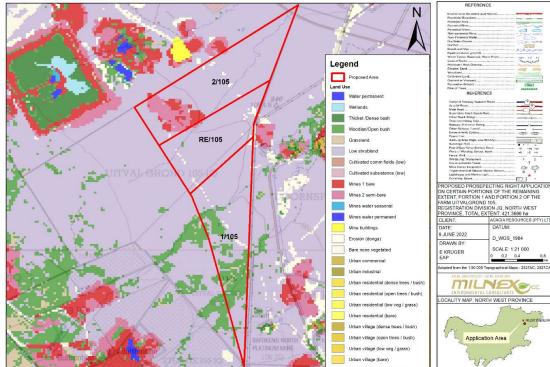
- The site must be secured to protect it from any further damage. No attempt should be made to remove material from their environment. The exposed finds must be stabilized and covered by a plastic sheet or sand bags. The Heritage agency will also be able to advise on the most suitable method of protection 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.

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

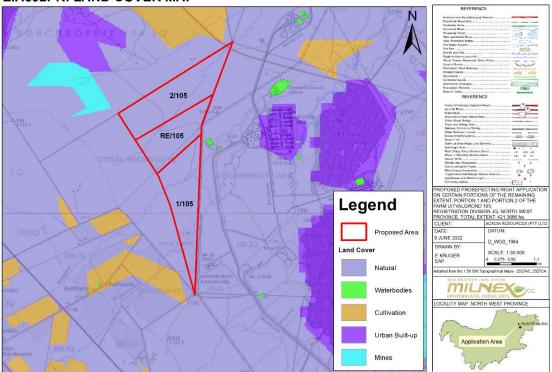
If applicable a Water Use License Application will be launched for conducting prospecting operations.

All infrastructure will be temporary and/or mobile.



EIA592PR: LAND USE MAP

Figure 21: Land use map associated with study site and surrounding areas.



EIA592PR: LAND COVER MAP

Figure 22: Landcover map associated with study site and surrounding areas.

## (c) Description of specific environmental features and infrastructure on the site.

According to the map below (Figure 20 and Figure 21) the proposed area is largely natural, with schrubland being the most dominant feature. Pervious 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.

### (d) Environmental and current land use map.

(Show all environmental, and current land use features)

A Locality map is attached in Appendix 3.

#### ii) The impacts and risks identified

(Provide a list of the potential impacts identified of the activities described in the initial site layout that will be undertaken, as informed by both the typical known impacts of such activities, and as informed by the consultations with affected parties together with the significance, probability and duration of the impacts

- Impacts during construction phase:
  - Impacts on the fauna and flora
  - Impacts on the soil
  - Impacts associated with the geology of the site
  - Impacts on existing services infrastructure
  - Impacts on surface water (wetlands/pans)
  - Temporary employment and other economic benefits
  - Impacts on heritage resources
  - Impacts during the operational phase:
    - Impacts on the soil
    - Impacts associated with the geology of the site
    - Impacts on surface water (wetlands/pans)
    - Increase in employment and other economic benefits
    - Visual impacts
    - Generation of income to the Local Community
    - Pressure on existing services infrastructure and water sources.
- Impacts during the decommissioning / mine closure phase:
  - Loss of permanent employment & the creation of temporary employment

## i. Methodology used in determining the significance of environmental impacts

(Describe how the significance, probability, and duration of the aforesaid identified impacts that were identified through the consultation process was determined in order to decide the extent to which the initial site layout needs revision).

## iii) Scoping methodology

(The methodology used in [determining] identifying and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives;)

The contents and methodology of the scoping report aims to provide, as far as possible, a user-friendly analysis of information to allow for easy interpretation.

- <u>Checklist</u>: 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.
- <u>Matrix</u>: 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 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.

QUESTION	YES	NO	Un- sure	Description
1. Are any of the following located on the	site ear	marked	for the	e 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> ).

#### Table: Environmental checklist

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 p	otential	?		1
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.
3. Is the proposed project located near	the follo	owing?	1	
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		×	The Mogono & Ga Luka residential establishments are located on the neighbouring farm (Doornspruit 106). The Rasimone & Boschoek residential establishments are located to the north-east of the proposed site with Phokeng located to the south. See figure below

## 5.1 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, and the significance and magnitude of the potential impacts. The matrix also highlights areas of particular concern for more in depth assessment during the EIA process. 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.

MATRIX ANALYSIS LISTED ACTIVITY ASPECTS OF THE DEVELOPMENT			POTENTIAL IMPACTS			NCE AND M TENTIAL IM		MITIGATION OF POTENTIAL IMPACTS	SPECIALIST STUDIES /	
(The Stressor)	ACTIVITY		Receptors	Impact description	Minor	Major	Duration	Possible Mitigation	INFORMATION	
				CONSTRUCTION PHASE						
Listing Notice 1, (GNR 327), Activity 19: 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,	Site clearing and preparation Areas earmarked for prospecting will need to be		Fauna & Flora	<ul> <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	-	
shell grit, pebbles or rock of more than 10 cubic metres from a watercourse;	cleared, topsoil will be stockpiled separately.		Air	<ul><li>Air pollution due to the increase of traffic.</li><li>Dust from mining/prospecting activities</li></ul>	-		М	Yes	-	
Listing Notice 1, GNR 327, Activity 24: "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"		ONMENT	Soil	<ul> <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	-	
Listing Notice 1 (GNR 327), Activity 27: "The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation"		MENT BIOPHYSICAL ENVIRONMENT	Geology	It is not foreseen that the removal of indigenous vegetation will impact on the geology or vice versa.	-		S	Yes	-	
<b>Listing Notice 3 (GNR 324), Activity 12:</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			Existing services infrastructure	<ul> <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	Pollution due to construction vehicles.	-		S	Yes	-	
			Surface water	<ul> <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	-	
	MENT		Local unemployment rate	<ul><li>Job creation.</li><li>Business opportunities.</li><li>Skills development.</li></ul>		÷	s	Yes	-	
			Visual landscape	Potential visual impact on residents of farmsteads and motorists in close proximity to proposed facility.	-		L	Yes	-	
		VIRO	Traffic volumes	Increase in construction vehicles.	-		S	Yes	-	
		DNOMIC	NOMIC EN	Health & Safety	<ul> <li>Air/dust pollution.</li> <li>Road safety.</li> <li>Increased risk of veld fires.</li> </ul>		-	S	Yes	-
			Noise levels	• 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.	-		L	Yes	-	
			Tourism industry	• 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.	N/A	N/A	N/A	N/A	-	

			Heritage resources	<ul> <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	-		
				OPERATIONAL PHASE	ſ						
Listing Notice 1 (GNR 327), Activity 20 (Amended GNR 517: 2021): "Any activity including the operation of that activity which requires a prospecting right in terms of section 16 of the Mineral	The key components of the proposed project are described below:		Fauna & Flora	<ul> <li>Fragmentation of habitats.</li> <li>Establishment and spread of declared weeds and alien invader plants (operations).</li> </ul>		-	L	Yes	-		
and Petroleum Resources Development Act, as well as any other applicable activity as contained in this Listing Notice or in Listing	- Currenting Infrastructure		Air quality	Air pollution due to the mining / prospecting activity and transport of the gravel to the designated areas.	-		S	Yes	-		
Notice 3 of 2014, required to exercise the prospecting right" Listing Notice 2 (GNR 325), Activity 19 (Amended GNR 517: 2021): "The removal and disposal of minerals which requires permission contemplated in terms of section 20 of the Mineral and	Supporting Infrastructure     A control facility with     basic services such as     water and electricity will     be constructed on the site		Soil	<ul> <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	-		
<ul> <li>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.</li> <li>NEM:WA 59 of 2008: Residue stockpiles or residue deposits, Category A: (15) 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).</li> </ul>		BIOHHYSICAL ENVIRONMENT Existing intrastru	Geology	<ul> <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	-		
2002).			Existing services infrastructure	<ul> <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	• Leakage of hazardous materials. The machinery on site require oils and fuel to function. Leakage of these oils and fuels can contaminate water supplies.	-		L	Yes	-		
			Surface water	<ul> <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	-		
	MIC ENVIRONMENT		MENT	MENT	Local unemployment rate	<ul> <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> <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	-		
		Ň	Traffic volumes	Increase in vehicles collecting gravel for distribution.	-		S	Yes	-		
		SOCIAL/ECONOMIC	Health & Safety	<ul><li>Air/dust pollution.</li><li>Road safety.</li></ul>	-		S	Yes	-		
		SO	Noise levels	<ul> <li>The proposed development will result in noise pollution during the operational phase.</li> </ul>	-		М	Yes	-		

		Tourism industry Heritage resources	Since there are tourism facilities in close proximity to the site, the decommissioning activities may have an impact on tourism in the area.	N/A	N/A	N/A	N/A	-			
			<ul> <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	-			
			DECOMMISSIONING PHASE		-	_					
- <u>Mine closure</u> During the mine closure the		Fauna & Flora	<ul> <li>Re-vegetation of exposed soil surfaces to ensure no erosion in these areas.</li> </ul>		+	L	Yes	-			
Mine and its associated infrastructure will be		Air quality	Air pollution due to the increase of traffic of construction vehicles.	-		S	Yes	-			
dismantled.	MENT	Soil	<ul><li>Backfilling of all voids</li><li>Placing of topsoil on backfill</li></ul>		+	L	Yes	-			
Rehabilitation of biophysical environment The biophysical	IVIRON	Geology	<ul> <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	-			
environment will be rehabilitated.	BIOPHYSICAL ENVIRONMENT	Existing services infrastructure	<ul> <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	Pollution due to construction vehicles.	-		S	Yes	-			
					Surface water	<ul> <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	Loss of employment.	-		L	Yes	-			
		Visual landscape	<ul> <li>Potential visual impact on visual receptors in close proximity to proposed facility.</li> </ul>	-		S	Yes	-			
	MEN	Traffic volumes	Increase in construction vehicles.	-		S	Yes	-			
	IAL/ECONOMIC ENVIE	NOMIC ENVIRON	NOMIC ENVIRON	Health & Safety	<ul> <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	• The generation of noise as a result of construction vehicles, the use of machinery and people working on the site.	-		S	Yes	-			
		Tourism industry	<ul> <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	-			
		Heritage resources	<ul> <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

### iv) The positive and negative impacts

(The proposed activity (in terms of the initial site layout) and alternatives will have on the environment and the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;)

(Provide a discussion in terms of advantages and disadvantages of the initial site layout compared to alternative layout options to accommodate concerns raised by affected parties)

- Increased ambient noise levels resulting from geophysics surveys site fly-overs 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 livestock movement, breeding and grazing practices.
- Access control to portion which may impact on livestock/wildlife 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.
- Long-term loss of indigenous vegetation.

#### v) The possible mitigation measures that could be applied and the level of 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).

#### vi) The outcome of the site selection Matrix.

#### **Final Site Layout Plan**

(Provide a final site layout plan as informed by the process of consultation with interested and affected parties)

Refer to superimposed map attached as Appendix 4.

#### vii) Motivation where no alternative sites were considered.

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. (PWP, **Appendix 9**)

#### viii) Statement motivating the preferred site.

(Provide a statement motivation the final site layout that is proposed)

The site is preferred due to its possibility of having high volumes of Chrome Ore (Cr), LG & MG Seams together with Platinum Group Metals (PGM)

## H) PLAN OF STUDY FOR THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

## i) Description of alternatives to be considered including the option of not going ahead with the activity.

The option of not approving the activities will result in a significant loss of valuable information regarding the mineral status (in terms of Chrome Ore (Cr), LG & MG Seams together with Platinum Group Metals (PGM) present on this property. In addition to this, should economical reserves be present and the applicant does not have the opportunity to prospect, the opportunity to utilize these reserves for future phases will be lost.

### ii) Description of the aspects to be assessed as part of the environmental impact assessment process

(The EAP <u>must</u> undertake to assess the aspects affected by each individual mining activity whether listed or not, including activities such as blasting, Loading, hauling and transport, and mining activities such as Excavations, stockpiles, discard dumps or dams, water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc..).

Aspects / potential impacts	Description of the aspect	Specialist studies / technical information
Biophysical Environment		
Impacts on the fauna and flora	Refer to Matrix table	EAP assessment (using desktop studies, GIS, site visits and the book written by Mucina and Rutherford (The Vegetation of South Africa, Lesotho and Swaziland)
Impacts on the air quality	Refer to Matrix table	EAP assessment (using desktop studies, GIS using BGIS data, site visits)
Impacts on the soil	Refer to Matrix table	EAP assessment (using desktop studies, GIS using BGIS data, site visits)
Impacts associated with the geology of the site	Refer to Matrix table	EAP assessment (using desktop studies, GIS using BGIS data, site visits)
Impacts on existing services infrastructure	Refer to Matrix table	EAP assessment (using desktop studies, GIS using BGIS data, site visits)
Impacts on ground and surface water	Refer to Matrix table	EAP assessment (using desktop studies, GIS using BGIS data, site visits)
Socio / Economic Environment		
Impacts on local employment rate	Refer to Matrix table	EAP assessment (using desktop studies, IDP's and SDF's)
Impacts on visual landscape	Refer to Matrix table	EAP assessment (using desktop studies, GIS using BGIS data, site visits)
Impacts on traffic volumes	Refer to Matrix table	EAP assessment (using desktop studies, GIS using BGIS data, site visits)
Impacts on health & safety	Refer to Matrix table	EAP assessment (desktop studies, site visits)

#### Table: Aspects to be assessed

#### iii) Description of aspects to be assessed by specialists

If the authority feels that specialists' studies need to be conducted, such will be corresponded to the applicant.

# iv) Proposed method of assessing the environmental aspects [including a description of the proposed method of assessing the environmental aspects] including the proposed method of assessing alternatives

The environmental assessment aims to identify the various possible environmental impacts that could results from the proposed activity. 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.

### v) The proposed method of assessing duration significance

#### 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 project phases:

- planning
- 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

	TURE						
		vironmental parameter being assessed in the context of the project. This criterion					
		onmental aspect being impacted upon by a particular action or activity.					
	OGRAPHICAL EXTENT						
Th	is is defined as the area over which the imp	pact 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.					
PR	OBABILITY						
Th	is describes the chance of occurrence of a	n impact.					
4	L Indicato	The chance of the impact occurring is extremely low (Less than a 25% chance					
1	Unlikely 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).					
DL	JRATION						
Th	is describes the duration of the impacts. D	uration 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 $(0 - 1 \text{ years})$ , 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 $(0 - 2 \text{ years})$ .					
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 $(10 - 30 \text{ years})$ .				
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.				
	TENSITY/ MAGNI						
De	escribes the severi	ty of an impact.	I have a ffe at the small to me and interview of the state of the stat				
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.				
R	EVERSIBILITY						
		egree to which an impac	t can be successfully reversed upon completion of the proposed activity.				
1	Completely reve	rsible	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	9	The impact is unlikely to be reversed even with intense mitigation measures.				
4	Irreversible		The impact is irreversible, and no mitigation measures exist.				
		LOSS OF RESOURCES					
Th			s will be irreplaceably lost as a result of a proposed activity.				
1	No loss of resou		The impact will not result in the loss of any resources.				
2	Marginal loss of		The impact will result in marginal loss of resources.				
3	Significant loss of		The impact will result in significant loss of resources.				
4	Complete loss o		The impact is result in a complete loss of all resources.				
Th ma	ay become signific sult of the project a	umulative effect of the in cant if added to other exi activity in question.	npacts. A cumulative impact is an effect which in itself may not be significant but isting or potential impacts emanating from other similar or diverse activities as a				
1	Negligible cumu		The impact would result in negligible to no cumulative effects.				
2	Low cumulative	•	The impact would result in insignificant cumulative effects.				
3	Medium cumulat		The impact would result in minor cumulative effects.				
4	High cumulative	Impact	The impact would result in significant cumulative effects				
	GNIFICANCE unificance is deter	mined through a synthes	is of impact characteristics. Significance is an indication of the importance of the				
im of	pact in terms of bo the significance o	oth physical extent and ti	me scale, and therefore indicates the level of mitigation required. The calculation lowing formula: (Extent + probability + reversibility + irreplaceability + duration +				
			duce a non-weighted value. By multiplying this value with the magnitude/intensity, acteristic which can be measured and assigned a significance rating.				
Th		cauires a weighted chore	איזיטניטער איזוטר עמד על חופטטובע מווע מסטעוופע מ טערווועמוועל ומנווע.				
Th the		Impact significance	Description				
Th the <b>Po</b>	e resultant value a		Description The anticipated impact will have negligible negative effects and will require little				
Th the <b>Po</b> 6 t	e resultant value a <b>iints</b>	Impact significance rating	Description				

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.

## vi) The stages at which the competent authority will be consulted

Consultation with the competent and commenting authorities will continue throughout the duration of impact assessment phase. The authorities will also comment on whether they deem it necessary to conduct any specialist studies. On-going consultation will include:

- Submission of the Scoping following a 30-day public review period (and consideration of comments received).
- Submission of the EIR following a 30-day public review period (and consideration of comments received).
- Arrangements will be made to discuss the report with the Environmental Officer responsible for the project during the review period.
- An opportunity to visit and inspect the site.

## vii) Particulars of the public participation process that will be conducted during the environmental impact assessment process;

#### 1. Steps to be taken to notify interested and affected parties.

(These steps must include the steps that will be taken to ensure consultation with the affected parties identified in (h) (ii) herein).

All registered I&APs and relevant State Departments have been given the opportunity to review the Scoping, EIR and EMP in accordance with Regulation R326. A minimum of 30 days commenting period was allowed and all stakeholders and I&APs were given an opportunity to forward their written comments within that period. All issues identified during this public review period will be documented and compiled into a Comments and Response Report to be included as part of the Final EIR to be submitted to the North West Department of Mineral Resources and Energy.

#### 2. Details of the engagement process to be followed.

(Describe the process to be 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 and records of such consultation will be required in the EIA at a later stage).

The public participation process will be conducted strictly in accordance with Regulations 39-44. The following three categories of variables will take into account when deciding the required level of public participation:

- The scale of anticipated impacts.
- The sensitivity of the affected environment and the degree of controversy of the project.
- The characteristics of the potentially affected parties.

the following public participation mechanisms will be used:

- Newspaper advertisement in local newspaper
- Site notices
- Direct notification of surrounding landowners and occupiers
- · Circulation of scoping report

- Circulation of EIR
- Public participation meeting if required
- · Direct notification to all stakeholders of the Environmental Authorisation given

#### 3. Description of the information to be provided to Interested and Affected Parties.

(Information to be provided must include the initial site plan and sufficient detail of the intended operation and the typical impacts of each activity, to enable them to assess what impact the activities will have on them or on the use of their land).

The letter provided to I&APs comprises of an activity, extent and location description, including a locality map of the proposed activity and a Dropbox link to the full Scoping report and Appendices. It also indicates where a hard copy of the report can be viewed or if the need arises for a copy of the report a request can be sent to the relevant EAP who will forward a CD containing all the relevant information.

#### viii) Description of the tasks that will be undertaken during the environmental impact assessment process

#### Tasks to be undertaken

The following sections describe the tasks that will be undertaken as part of the EIA process.

#### Project Description

Further technical and supporting information will be gathered to provide a more detailed project description. This will include a detailed site layout plan that will be compiled once the low – medium areas of sensitivity have been indicated.

#### • Location alternatives

This alternative asks the question, if there is not, from an environmental perspective, a more suitable location for the proposed activity. It is expected that high volumes of Chrome Ore (Cr), LG & MG Seams together with Platinum Group Metals (PGM) have been deposited on this farm and therefore the applicant would like to commence with their prospecting activities.

#### <u>Activity alternatives</u>

The scoping 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.

According to the map below (Figure 20 and Figure 21) the proposed area is largely natural, with schrubland being the most dominant feature. Pervious 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.

#### • Design and layout alternatives

Design alternatives were considered throughout the planning and design phase (i.e. where is the Chrome Ore is located?).

The layout follows the limitations of the site and aspects such as, roads, site offices and workshop area as well as fencing– refer **Appendix 4**.

#### Operational alternatives

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

Pits will be dug by an excavator for the purpose of soil sampling. If gravel is found, the applicant will determine the composition and quality of the gravel.

The applicant will proceed with this way of prospecting by means of the open cast/trenching method, simultaneously or after pitting depending on the information obtained from the earlier work done. The trenches will be dug to remove and process the gravel. Gravel will be removed by excavators and will be loaded directly into dump trucks. Ore will be hauled to the screening plant. The material will be screened where after the screened material will be moved to the processing plant where the gravel will be processed. Concentrate will be moved to the sorting plant where the concentrate will be sorted.

All data will be consolidated and processed to determine the Chrome Ore, LG & MG and PGM resources on the property. This will be a continuous process throughout the prospecting work programme.

No feasible alternatives to the 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. Should the proposed activity not proceed, the site will remain unchanged and will continue to be used for the purpose for which it is used now

#### • Compilation of Environmental Impact Report

An EIR will be compiled to meet the content requirements as per Appendix 3 of GNR326 of the EIA Regulations (4 December 2014) and will also include a draft Environmental Management Programme containing the aspects contemplated in Appendix 4 of GNR326.

## ix) Measures to avoid, reverse, mitigate, or manage identified impacts and to determine the extent of the residual risks that need to be managed and monitored.

ACTIVITY whether listed or not listed. (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, etcetcetc.).	POTENTIAL IMPACT (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etcetc)	MITIGATION TYPE (modify, remedy, control, or stop) through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc. etc) E.g. Modify through alternative method. Control through noise control, Control through management and monitoring through rehabilitation	POTENTIAL FOR RESIDUAL RISK
Impacts on the fauna and flora	Surface disturbance	Monitor through rehabilitation	Low
Impacts on the air quality	dust	Dust Control	Low
Impacts on the soil	Erosion	Storm water control	Medium
Impacts associated with the geology of the site	Fly rock	Blasting controls	N/A
Impacts on ground and surface water	Ground and surface water contamination	Storm water control, avoidance	Medium
Impacts on visual landscape	dust	Dust control measures	Low
Impacts on traffic volumes	dust	Dust control measures	Low

## I) AN UNDERTAKING UNDER OATH OR AFFIRMATION BY THE EAP

- I, Christiaan Baron (EAP) herewith confirms
- A. the correctness of the information provided in the reports  $\square$
- 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; X and
- D. the acceptability of the project in relation to the finding of the assessment and level of mitigation proposed;



Signature of the environmental assessment practitioner:

#### Milnex CC

Name of company:

#### 15/07/2022

Date:

#### J) UNDERTAKING REGARDING LEVEL OF AGREEMENT

I, **Christiaan Baron**, herewith undertake that the information provided in the foregoing report is correct, and that the level of agreement with interested and Affected Parties and stakeholders has been correctly recorded and reported herein.

-H

Signature of the EAP DATE: 15/07/2022

## K) OTHER INFORMATION REQUIRED BY THE COMPETENT AUTHORITY

i) Compliance with the provisions of sections 24(4)(a) and (b) read with section 24 (3) (a) and (7) of the National Environmental Management Act (Act 107 of 1998). the EIA report must include the:-

1) 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 of Chrome Ore, LG & MG Semes & 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 prospecting will not impact directly on any socio-economic aspects. Indirect socio-economic benefits are expected to be associated with the creation of employment in the North West province.

2) 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 of Chrome Ore, LG & MG Semes & PGM prospecting 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)(*i*)(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).

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

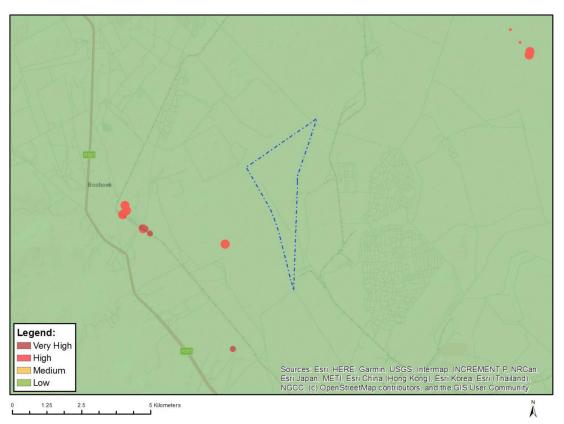


Figure 19: Archaeological and Cultural Heritage Combined Sensitivity

According to the DEA Screening Report the proposed area falls mostly within a medium Paleontology Theme Sensitivity and a. Please see map colour map under **Appendix 7**.



Figure 20: Relative Palaeontology Theme Sensitivity

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.

## L) 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.

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.

-END-