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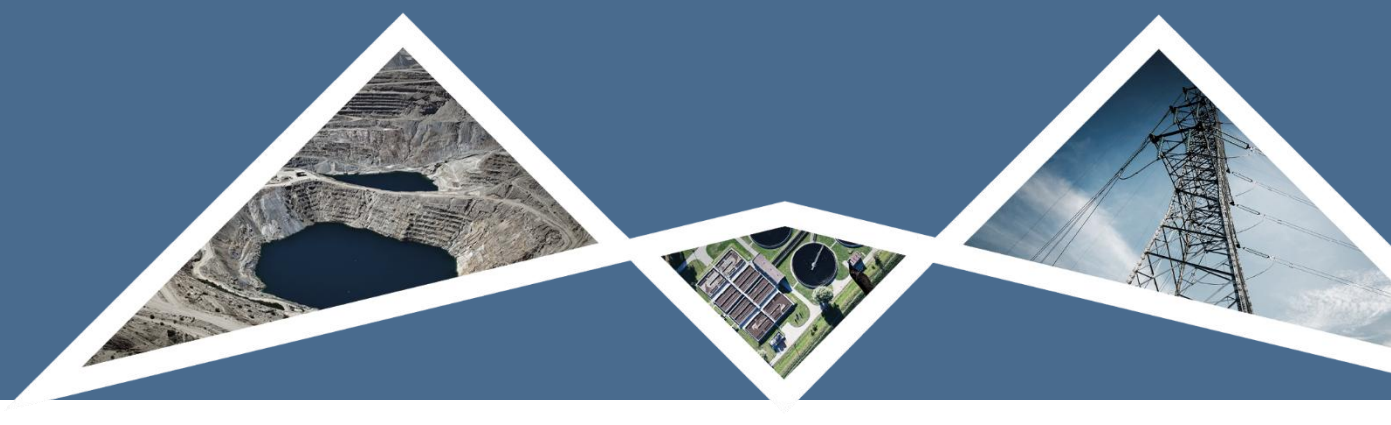
SITE SENSITIVITY AND VERIFICATION REPORT

RUSTENBURG CHROME MINE OPENCAST PIT EXPANSION PROJECT
NW 30/5/1/2/2/336MR



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1 SCOPE AND PURPOSE

Regulation 16(1)(b)(v) of the Environmental Impact Assessment Regulations (GNR 982 promulgated under the National Environmental Management Act (Act 107 of 1998-NEMA)), requires that a Screening Report generated by the national web-based environmental screening tool for the specific site and activity must accompany any application for Environmental Authorization.

The Screening Report identifies preliminary development incentives, restrictions, exclusions or prohibitions that apply to the proposed development site as well as the most environmentally sensitive features on the site based on the site sensitivity screening. On the basis of the sensitivities identified in the site sensitivity screening, a list of preliminary specialist studies required to be considered in the Impact Assessment process are provided.

Prior to commencing with a specialist assessment identified in the Screening Report, the current use of the land and the environmental sensitivity of the site, must be confirmed by undertaking a site sensitivity verification. The site sensitivity verification must be undertaken by an environmental assessment practitioner or a specialist. The site sensitivity verification must be undertaken through the use of:

a) a desk top analysis, using satellite imagery;

b) a preliminary on-site inspection; and

c) any other available and relevant information.

This Site Sensitivity and Verification Report (SSVR) is a record of the outcome of the site sensitivity verification in compliance with the requirements of the procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of Sections 24(5)(a) and (h) and 44 of the NEMA. The SSVR aims to:

a) confirm or disputes the current use of the land and the environmental sensitivity as identified by the screening tool, such as new developments or infrastructure, the change in vegetation cover or status etc.;

b) contain motivation and evidence (e.g. photographs) of either the verified or different use of the land and environmental sensitivity; and

c) be submitted together with the relevant assessment report prepared in accordance with the requirements of the Environmental Impact Assessment Regulations(EIA Regulations).

2 PROJECT BACKGROUND

2.1 PROJECT ASPECTS

Minelock Environmental Engineers, on behalf of their client, Rustenburg Chrome Mines (Pty) Ltd (hereafter referred to as RCM / "the applicant") has appointed Environmental Impact Management Services (Pty) Ltd (EIMS) as the Environmental Assessment Practitioner (EAP) to undertake the necessary environmental authorisation and associated consultation processes for proposed expansion of their existing opencast pit at their existing mining operations near Kroondal in the Rustenburg Local Municipality in the North West Province.

An application was submitted to the Department of Mineral and Petroleum Resources (DMPR), for the proposed activitiy. The following new infrastructure and activities are applied for:

Table 1: Project description

		Location (DD MM SS)	
Project Aspect	**Details**	**Latitude**	**Longitude**
1. Opencast mining (total new opencast = ~ 240 ha):	Expansion of the existing opencast pit - to the north (Area 3 - ~16 Hectares (Ha))	25°43'36.78"S	27°22'49.86"E

2.2 SITE LOCALITY AND LAYOUT

Table 2 below provides details on the properties that fall within the Environmental Authorisation (EA) Application Area. The proposed application area is located across two farm portions for which EA is required. Refer to Error! Reference source not found. **Error! Reference source not found.** for the locality map for the proposed activity.

Table 2: Locality and property description of the study area.

Property	**RCM is situated 7km east of Kroondal and 11km south-east of Rustenburg, within the Rustenburg Local Municipality. The RCM has been operational since 1958.**			
Property Name, 21-digit Surveyor General Code and Ownership	Farm Name	Portion	LPI Code	Ownership Type
	Rietfontein 338 JQ	1	T0JQ00000000033800001	Private Company
	Klipfontein 300 JQ	RE/2	T0JQ00000000030000002	Government
Application Area (Ha)	~ 16Ha			
Magisterial District	Bojanala Platinum District Municipality			
Distance and direction from nearest towns	~7 Km East of Kroondal			

Property	**RCM is situated 7km east of Kroondal and 11km south-east of Rustenburg, within the Rustenburg Local Municipality. The RCM has been operational since 1958.**
Surrounding land uses	Mining, Agriculture, National Road, Individual homesteads and other residential.

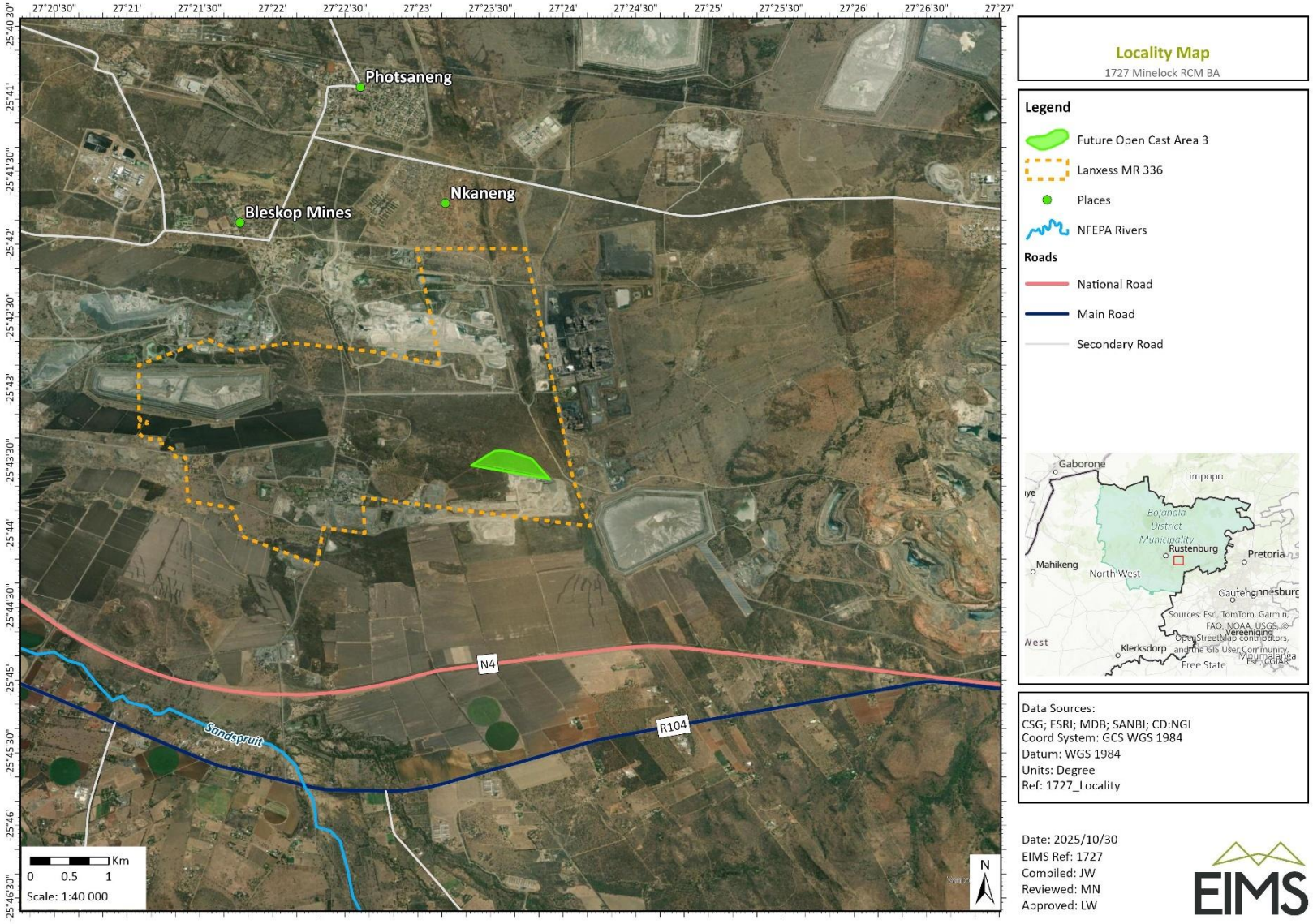


Figure 1: Site locality map.

2.3 DFFE SCREENING TOOL ASSESSMENT

Regulation 16(1)(b)(v) of the Environmental Impact Assessment Regulations (GNR 982 promulgated under the National Environmental Management Act (Act 107 of 1998-NEMA)), requires that a Screening Report generated by the national web-based environmental screening tool for the specific site and activity must accompany any application for Environmental Authorization.

The Screening Report identifies preliminary development incentives, restrictions, exclusions or prohibitions that apply to the proposed development site as well as the most environmentally sensitive features on the site based on the site sensitivity screening. On the basis of the sensitivities identified in the site sensitivity screening, a list of preliminary specialist studies required to be considered in the Impact Assessment process are provided. Table 3 provides the proposed development area environmental sensitivity as provided by the national web-based environmental screening tool.

Table 3: Screening Tool Report- Proposed development area environmental sensitivity.

Aspect	Very High	High	Medium	Low
Agriculture Theme	☒	☐	☐	☐
Animal species Theme	☐	☐	☒	☐
Aquatic Biodiversity Theme	☐	☐	☐	☒
Archaeological and Cultural Heritage	☐	☐	☐	☒
Civil Aviation Theme	☐	☒	☐	☐
Defence Theme	☐	☐	☐	☒
Palaeontology Theme	☐	☐	☒	☐
Plant Species Theme	☐	☐	☐	☒
Terrestrial Biodiversity Theme	☒	☐	☐	☐

3 SITE ASSESSMENT

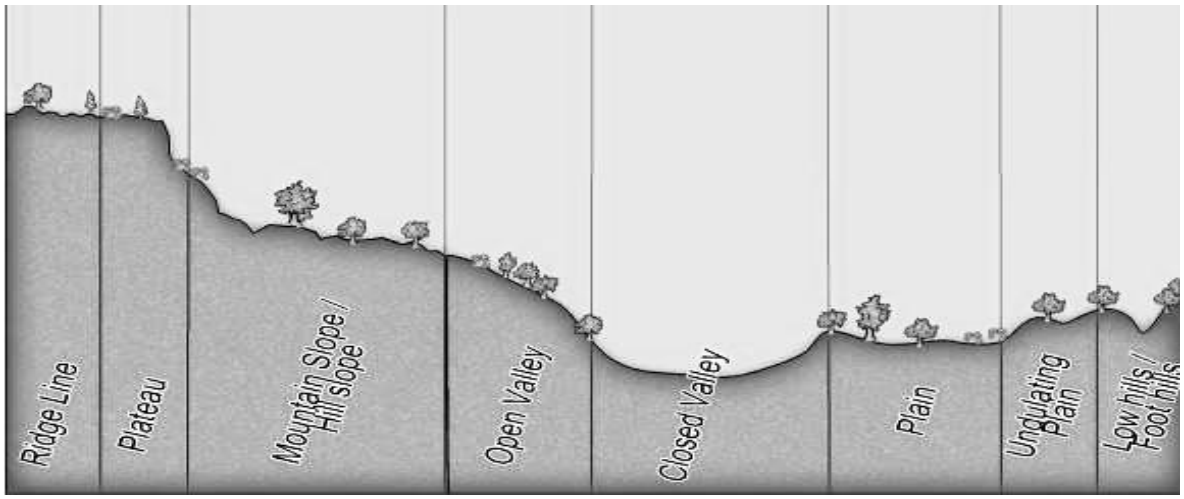
Prior to commencing with a specialist assessment identified in the Screening Report, the current use of the land and the environmental sensitivity of the site, must be confirmed by undertaking a site sensitivity verification. The site sensitivity verification must be undertaken by an environmental assessment practitioner or a specialist. The site sensitivity verification must be undertaken through the use of:

- a desk top analysis, using satellite imagery;
- a preliminary on-site inspection; and
- any other available and relevant information.

The sub-sections below aim to provide context of the existing site conditions to support the site sensitivity and verification.

3.1 GRADIENT

The general gradient characteristics of the site:



☐	☐	☐	☐	☐	☒	☒	☒

3.2 SENSITIVE AREAS

Is the site located in the immediate vicinity of the following:	**Yes**	**No**	**Comment**
Erosion Channels or areas of severe erosion/ destabilized soils	☐	☒	No severely eroded areas were observed on site.
Wetlands (within 32m)	☐	☒	None.
Unstable slopes or geological features (rocky outcrops)	☒	☐	Some rocky outcrops to the west of the study area was noted.
Bare areas	☒	☐	Bare areas (disturbed soil) were observed on site in disturbed areas.
Other Sensitive or risk areas?	☒	☐	Potential heritage features on site were observed.
Are any existing servitudes and structures directly or indirectly affected by the proposed sites and routes (e.g. Eskom, public road servitudes and restrictions- 60m from National Road, farmer's water/irrigation supplies, etc.)?	☒	☐	There is an existing pipeline servitude that is directly affected by the proposed site. There are existing powerline servitudes on and around the site.

3.3 VEGETATION

Which of the listed descriptions best describes the general groundcover on and around the site?				
☐ Natural veld - good condition	☒ Natural veld with scattered aliens	☒ Natural veld with heavy alien infestation	☐ Veld dominated by alien species	☐ Gardens

☐ Sport field	☒ Cultivated land	☐ Paved surface	☐ Building or other structure	☒ Bare soil
Comments on vegetation composition:		Some degraded natural vegetation, mostly thornveld and some outcrops. Indigenous species include *Solanum lichtensteinii, Aristida diffusa and Dichrostachys cinerea*. No species of Conservation Concern were recorded or are expected.		
Comments on weed species/type		Within the modified section in the south of the study area, historically a human settlement that has become overrun by alien and invasive plant species, such as *Ipomoea purpurea, Xanthium strumarium, Datura ferox* and *Datura stramonium* were observed.		

3.4 LAND COVER/ USE DESCRIPTION

The SSVR aims to:

- confirm or dispute the current use of the land and the environmental sensitivity as identified by the screening tool, such as new developments or infrastructure, the change in vegetation cover or status etc.; and
- contain motivation and evidence (e.g. photographs) of either the verified or different use of the land and environmental sensitivity.

The land cover surrounding RCM is characterized by a mix of mining-disturbed areas, natural vegetation, and agricultural land. Historically, the region has undergone significant land-use changes due to mining expansion:

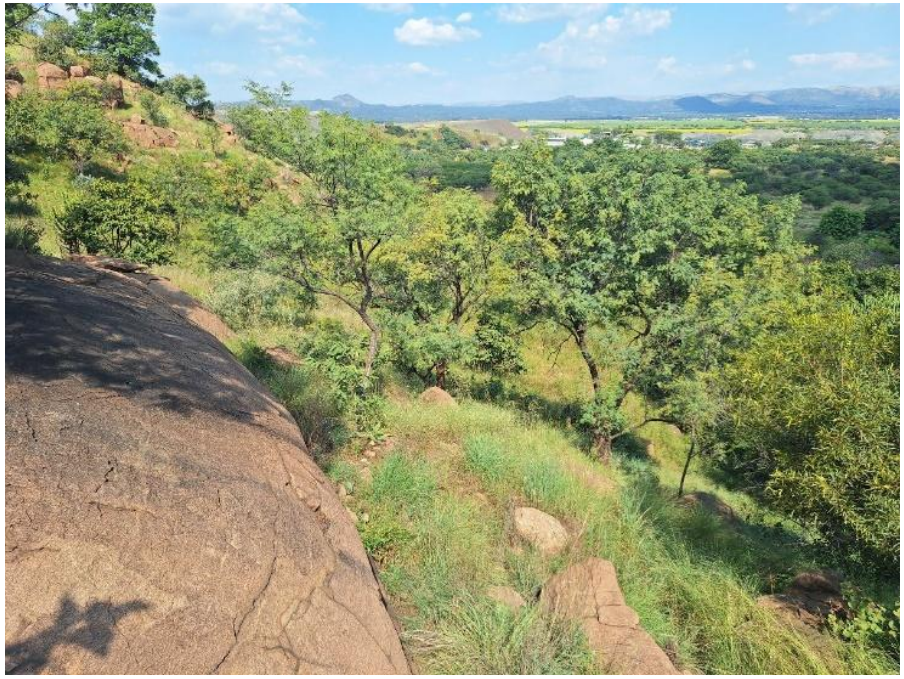
- Mining Footprint: Large portions of the adjacent area are occupied by open-cast and underground chrome mining operations, tailings storage facilities, and associated infrastructure such as haul roads and processing plants.
- Natural Vegetation: The mine lies within the Savanna Biome, specifically the Marikana Thornveld vegetation type. This consists mainly of *Acacia (Vachellia)* species, mixed bushveld, and grassland patches.
- Agricultural Use: Surrounding farms are used for subsistence and commercial agriculture, including grazing and some crop cultivation. These are not located directly adjacent to the study area, but more to the south.
- Water resources: No surface water features were observed.

Over the recent past woodland and grassland have decreased, with much of it converted to cultivated land or cleared for mining activities. Open mining areas have expanded significantly in the Rustenburg region due to chrome and platinum mining.

RCM is bounded to the north, east and west by mining operations, and to the south by cultivated land and the N4 freeway. The closes residential uses are located in the villages of Nkageng and Photsaneng (~3,5km to the north of the existing mine).

Table 4: Site photographs.

View towards Future Area 3

	
View of degraded Thornveld vegetation close and on the area where new open cast areas are planned. (Area 2 and 3)	**View of the Koppies in the north of the study area and some degraded vegetation.**

	
Degraded Thornveld at the Area 3 extension of the open cast area.	**Active Opencast Mining Pit on site**

4 VERIFICATION FINDINGS AND MOTIVATION

The Screening Report identifies preliminary development incentives, restrictions, exclusions or prohibitions that apply to the proposed development site as well as the most environmentally sensitive features on the site based on the site sensitivity screening (Section 2.3). On the basis of the sensitivities identified in the site sensitivity screening, a list of preliminary specialist studies required to be considered in the Impact Assessment process are provided. Table 5 below lists the screening tool identified specialist studies and associated screening tool sensitivity. Based on the findings of the site verification process (Section 3) a verified, or suggested revised sensitivity is provided together with an associated motivation.

Table 5: Assessment for specialist studies and motivation.

Screening Tool identified specialist	Level of sensitivity	Suggested Sensitivity	Required level of assessment	Motivation
Agricultural Impact Assessment	Very High	Low-Medium	Compliance Assessment	Based on Google Earth aerial imagery, a small portion of the study area was previously used for agricultural activities until 2021 when the agricultural activities stopped and mining activities subsequently commenced. The study area is located within a mining area and will not have a direct impact on agricultural activities. Based on the Protocol for The Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Agricultural Resources (GN 320, 2020, as amended), an Agricultural Compliance Statement is required for the application.
Landscape/Visual Impact Assessment	N/A	Low	None	The proposed expansion of the mine is located within a mining area and is almost surrounded by other mining activities. There are also not many sensitive receptors in the area. The project and its locality do not trigger the need for this specialist study based on the triggers as identified by Oberholzer (2005). Visual sensitivities would arise from receptors living in and visiting the study area and observing changes to the aesthetic baseline, currently rated low within the context of the sub-region. Therefore, a Landscape/Visual Impact Assessment is not required.
Archaeological and Cultural Heritage Impact Assessment	Low	Medium	Full Impact Assessment	The National Web-Based Screening Tool Report found that the Relative Archaeological and Cultural Heritage Theme Sensitivity is *Low-Sensitive*. The protocols required that a Compliance Statement as a minimum be undertaken to verify the archaeological heritage sensitivity of the area. There are known heritage features including cemeteries and graves with potential HIGH local heritage significance based on the Relative Archaeological and Cultural Heritage sensitivity of the area and previous heritage studies in the region. In addition, the proposed activity triggers Section 38 of the National Heritage Resources Act, therefore, a Heritage Impact Assessment is required in terms of the Minimum Standards for Heritage Specialist Studies in terms of Section 38 of the National Heritage Resources Act (No. 25 of 1999).
Palaeontology Impact Assessment	Medium	Low	None	According to the DFFE Guidance on the Preparation of a Palaeontological Impact Assessment, Palaeontology resources are widely dispersed and can occur on any development site in South Africa. Therefore, Palaeontological Impact Assessments (PIAs) must be undertaken for all developments as per the PalaeoSensitivity Map provided on SAHRIS

Screening Tool identified specialist	Level of sensitivity	Suggested Sensitivity	Required level of assessment	Motivation
				(https://sahris.org.za/map/palaeo), irrespective of the sensitivity shown on the palaeontology theme layer. However, based on the SAHRA PalaeoSensitivity Map, the study area is located within insignificant/zero sensitivity (no palaeontological studies are required). In addition, a desktop baseline assessment of the specialist undertaken for the extensive area indicated that the sensitivity of the study area in terms of Palaeontological Resources is low. Therefore, a Palaeontological Impact Assessment is not required.
Terrestrial Biodiversity Impact Assessment	Very High	Low	Compliance Statement	The National Web-Based Screening Tool Report found that the Relative Terrestrial Biodiversity Impact Assessment Theme Sensitivity is *Very High-Sensitive*. Based on desktop datasets and site sensitivity verification, the study area consists of largely intact pristine vegetation. The area is considered to fall within Critical Biodiversity Areas (CBA), Ecological Support Area (ESA) and National Protected Area Expansion Strategy (NPAES) and Endangered Marikana Thornveld Ecosystem. However, the EAP, as well as the specialists visited the site prior to this application and confirmed that the sensitivity is disputed to be low. Therefore, a Terrestrial Biodiversity Compliance Statement is required in line with the Protocol for The Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Terrestrial Biodiversity (GN 320, 2020 as amended) to confirm presence of Flora or Fauna, Avifauna, SCC, or protected species within the development site, verify site terrestrial biodiversity sensitivity and provide necessary mitigation measures.
Aquatic Biodiversity Impact Assessment	Low	Low	None	Based on the DFFE Screening Tool Report, there are no known watercourses within the study area. Based on the site sensitivity verification, there were no natural and artificial watercourses, wetlands and drainage lines noted within proximity of the site. Subsequently, only an Aquatic Biodiversity Compliance Statement is required for the project.
Hydrology Assessment	N/A	Low	None	Based on the DFFE Screening Tool Report, there are no known surface watercourses or hydrological features within the study area. Based on the site sensitivity verification, there were no natural and artificial watercourses, wetlands and drainage lines noted within proximity of the site. Subsequently, a Hydrology Assessment is not required for the project.
Noise Impact Assessment	N/A	Low	None	The nature of the activities involves elevated sound levels and may have a significant acoustic output, thereby impacting nearby sensitive receptors such as fauna and homesteads or residential areas. However, as previously indicated, there are no sensitive receptors in the

Screening Tool identified specialist	Level of sensitivity	Suggested Sensitivity	Required level of assessment	Motivation
				area. The area is predominantly mining with no residential or sensitive fauna identified. The activity will also not contribute to added noise, since it is merely continuing of existing activities and the expansion is to the north, even further away from sensitive receptors such as homesteads in the south. Therefore, a Noise Impact Assessment is not required.
Radioactivity Impact Assessment	N/A	Low	None	A radioactivity impact assessment is required for any activity involving radioactive materials, including planned exposures, to evaluate potential effects on the public and environment. This is necessary for regulatory compliance, such as obtaining permits or licenses, and for managing risks associated with specific projects like mining, nuclear facilities, waste disposal, and geothermal energy production. Specific to this project, the nature of the project is not such that it contains significant amounts of radioactivity. Therefore, a Radioactive Impact Assessment is not required.
Traffic Impact Assessment	N/A	Very Low	None	A traffic impact study or traffic impact assessment is a study which assesses the effect that a particular development has on the transportation network. New developments are one of the major causes of traffic congestion in many of the major cities of developing countries, due to the absence of adequate mitigation measures. Developments usually increases and/or contributes to the traffic in the area during the construction phase as a result of construction vehicles going to and from the development site and traffic control measure such as 'Stop and Go'. It is anticipated that the proposed development will not increase the traffic congestion as minimal construction vehicles will be used during the construction and operation phases and is a continuation of existing activities. Based on the EAPs assessment during the site sensitivity verification, the existing road network was noted to be currently sufficient for the anticipated minimal additional traffic load mainly during construction and no major congestions were noted. Therefore, a Traffic Impact Assessment is not required for the project.
Geotechnical Assessment	N/A	N/A	Geotechnical Investigations	An assessment will be undertaken as part of the engineering works, where required for the expansion activities. The engineering works falls outside of the scope of this Basic Assessment Process.
Climate Impact Assessment	N/A	N/A	None	Climate change impact assessments seek to characterize, diagnose, and project risks or impacts of environmental change on people, communities, economic activities,

Screening Tool identified specialist	Level of sensitivity	Suggested Sensitivity	Required level of assessment	Motivation
				infrastructure, ecosystems, or valued natural resource. The nature of the activity is not such that it will have a significant additional impact on climate. It is anticipated that there will be minimal additional impact on climate change largely limited to 'gaseous emissions' from vehicles and equipment/machinery. Therefore, Climate Change Impact Assessment is not required for this project.
Health Impact Assessment	N/A	N/A	None	A Health Risk Assessment is the process to estimate the nature and probability of adverse health effects in humans who may be exposed to harmful environmental conditions emanating from a specific source. The additional impacts, specifically health impacts are not significant in terms of the existing operations and the EAP is of the opinion that these impacts (such as air quality and noise levels) can be mitigated to acceptable levels. In terms of noise and air quality impacts, there will not be a significant increase. Therefore, a Health Impact Assessment is not required for this project.
Socio-Economic Assessment	N/A	N/A	None	The overarching aim of undertaking a Socio-Economic Assessment of a projects is to develop an understanding of the current social and economic environment and aims to assess or assesses the potential impact of the project on the socio-economic environment. Socio-Economic Assessment are usually undertaken for projects which have an impact and/or affect the social and/or economic structures such as low-cost housing projects, mixed-use developments, upgrading of informal settlements, linear projects transecting different communities, etc. Based on the project information and the purpose of the development largely relating to the nature of the project being the same activity already undertaken on the site, minimal socio-economic influence / change is anticipated. Therefore, a Socio-Economic Assessment is not required for the project due to the minimal anticipated changes / impacts on the surrounding social structures and potential cumulative socio-economic impacts which may emerge from the project. However, as part of the dynamic Social and Labour Plan socio-economic assessments, it is recommended that the SLP be updated to include the new activities. However, it is not required as part of the BA process.
Ambient Air Quality Impact Assessment	N/A	N/A	None	Air Quality Impact Assessment (AQIA) is an evaluation, using approved computer models, of the ambient air quality impacts that the public may be expected to be exposed to due to air pollution emissions from one or more facilities. AQIA is an important technique for determining the relative contribution to ground level pollutant concentrations of specific

Screening Tool identified specialist	Level of sensitivity	Suggested Sensitivity	Required level of assessment	Motivation
				current or future source emissions at receptor sites. AIQA is usually undertaken is for projects which will potentially emit and/or increase pollutant concentrations during construction and/or operational phases. The nature of the expansion activities involves minimal elevated fugitive emissions such as dust and particulate matter as well as gaseous emissions largely during the construction phase. It is anticipated that the expansion activities will not result in significant changes to the existing ambient air quality on site. Therefore, an Ambient Air Quality Impact Assessment is not required for the project.
Seismicity Assessment	N/A	N/A	None	A seismicity assessment is required for projects that have seismic risk and could be affected by an earthquake, such as the construction of buildings, infrastructure like bridges or pipelines, nuclear power plants, and large dams It is the EAPs understanding that there is sufficient data of the area available to the applicant from previous studies to determine whether activities will have significant impacts. In addition, it is understood that this will be closely assessed in the engineering scope of work such as the geotechnical assessment which will be undertaken outside of this Basic Assessment process. Therefore, Seismicity Assessment is not required for this application.
Plant Species Assessment	Low	Low	Compliance Statement	Similarly, to the rationale above on Terrestrial Biodiversity, a Terrestrial Biodiversity Assessment is required to confirm if there are no Flora or Fauna SCC, or protected species within the development site. The Plant Species Assessment will be covered by the Terrestrial Biodiversity Compliance Statement.
Animal Species Assessment	Medium	Low	Compliance Statement	Similarly, to the rationale above on Terrestrial Biodiversity, a Terrestrial Biodiversity Assessment is required to confirm if there are no Flora or Fauna SCC, or protected species within the development site. The Animal Species Assessment will be covered by the Terrestrial Biodiversity Compliance Statement.

Appendix 1: DFFE Screening Tool Report