BASIC ASSESSMENT REPORT & ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

Prospecting Right Application for Gemstone, Cobalt, Lead, Gold, Copper, Nickel, Silver, And Zinc Ore on Remaining Extent of the Lucknow 652, situated in the Magisterial District of Postmasburg (Kuruman), Northern Cape

DMRE REF.: NC 30/5/1/1/2/13203 PR

PREPARED ON BEHALF OF:

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Submitted for environmental authorizations in terms of the National Environmental Management Act, 1998 (NEMA) and the National Environmental Management Waste Act, 2008 (NEM: WA) in respect of listed activities that have been triggered by applications in terms of the Mineral and Petroleum Resources Development Act, 2002 (MPRDA) (as amended).

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File reference number SAMRAD: DMRE REF: NC 30/5/1/1/2/13203 PR

i. 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 a 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.

ii. Objective of the basic assessment process

The objective of the basic assessment process is to, through a consultative process:

a) determine the policy and legislative context within which the proposed activity is located and how the activity complies with and responds to the policy and legislative context;
b) identify the alternatives considered, including the activity, location, and technology alternatives;
c) describe the need and desirability of the proposed alternatives,
d) through the undertaking of an impact and risk assessment process inclusive of cumulative impacts which focused on determining the geographical, physical, biological, social, economic, heritage, and cultural sensitivity of the sites and locations within sites and the risk of impact of the proposed activity and technology alternatives on the these aspects to determine:
    i. the nature, significance, consequence, extent, duration, and probability of the impacts occurring to; and
    ii. the degree to which these impacts— (aa) can be reversed; (bb) may cause irreplaceable loss of resources; and (cc) can be managed, avoided or mitigated;
e) through a ranking of the site sensitivities and possible impacts the activity and technology alternatives will impose on the sites and location identified through the life of the activity to—
    i. identify and motivate a preferred site, activity and technology alternative;
    ii. identify suitable measures to manage, avoid or mitigate identified impacts; and
    iii. identify residual risks that need to be managed and monitored.

iii. Abbreviations

BAR	Basic Assessment Report
BID	Background Information Document
CBA	Critical Biodiversity Area
DWS	Department of Water and Sanitation
DMRE	Department of Mineral Resources and Energy
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
JTGMDM	John Taolo Gaetsew District Municipality
GDP	Gross Domestic Product
I&APs	Interested And Affected parties
IDP	Integrated Development Plan
NDP	National Development Plan
PPP	Public Participation Process
PWP	Prospecting Works Programme
SAHRA	South African Heritage Resource Agency
SANAS	South African National Accreditation System
SANS	South African National Standards
WMA	Water Management Area

iv. Document control

Document title	Basic Assessment Report and Environmental Management Programme Report for Prospecting Right and Environmental Authorization Application for Manganese Ore on the Remaining Extent of the Farm Lucknow 652 which is situated in the magisterial district of Postmasburg, Northern Cape Province with the DMRE REF: NC 30/5/1/1/2/ 13203 PR.		
Version	Version 1	Draft Basic Assessment Report and Environmental Management Programme report	
Quality control			
	Compiled by	**Reviewed by**	**Distribution**
Name	Ayanda Vilakazi	Dr NK Singo & Miss Rudzani Shonisani	Stakeholders Review
Designation	Environmental Technician Intern	Registered EAP's	

Disclaimer

The opinion expressed in this, and associated reports are based on the information provided by [Kabken Mining] to Singo Consulting (Pty) Ltd ("Singo Consulting") and is specific to the scope of work agreed with Kabken Mining.

Singo Consulting acts as an advisor to the Kabken Mining and exercises all reasonable skill and care in the provision of its professional services in a manner consistent with the level of care and expertise exercised by members of the environmental profession.

Where site inspections, testing or fieldwork have taken place, the report is based on the information made available by Singo Consulting during the visit, visual observations and any subsequent discussions with regulatory authorities. The data and information used in this report were provided to Singo Consulting by Kabken Mining (client) and also referred to other outside sources (includes historical site investigation information and third-party expert research).

Singo Consulting (Pty) Ltd ("Singo Consulting") takes reasonable care and diligence when providing services and preparing documents, but it has been assumed that the information provided to Singo Consulting (Pty) Ltd ("Singo Consulting") is accurate.

These views do not generally refer to circumstances and features that may occur after the date of this study, which were not previously known to Singo Consulting (Pty) Ltd or had the opportunity to assess.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

PART A

SCOPE OF ASSESSMENT AND BASIC ASSESSMENT REPORT

1 INTRODUCTION AND EXECUTIVE SUMMARY

Singo Consulting (Pty) Ltd (Singo Consulting), on behalf of Kabken Mining (Pty) Ltd (Kabken Mining), submitted an application for a Prospecting Right (PR) subject to Section 16 of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) (MPRDA), and an application for an Environmental Authorisation (EA) in terms to Chapter 6 of GNR 982 enacted under the National Environmental Management Act (Act 107 of 1998) (NEMA) as amended for prospecting of Gemstone, Cobalt, Lead, Gold, Copper, Nickel, Silver, And Zinc Ore.

The proposed project will ascertain if economically viable mineral deposits exist in the application area. To undertake the proposed prospecting activities, Kabken Mining (Pty) Ltd requires a PR in terms of the MPRDA. The applicant must also obtain an EA in terms of the NEMA, which involves the submission of a Basic Assessment Report (BAR) and Environmental Management Programme report (EMPr).

Kabken Mining appointed Singo Consulting (Pty) Ltd to manage the EA by conducting an Environmental Impact Assessment (EIA) and public participation process (PPP), and compiling a BAR and EMPr to support the PR application. These reports will be submitted to the Department of Mineral Resources and Energy (DMRE) for adjudication and will meet the NEMA's 2014 EIA Regulations (as amended in April 2017).

The proposed PR application covers Portion 2 of the farm East 270, situated in the Magisterial District of Postmasburg, Northern Cape Province. (See Figure 1). The application area is situated in the Kuruman district of the Northern Cape Province about 54.02km northwest of the town of Kuruman and about 57.02km north of the town of Kathu, this supports the geology of the applied area, with the evidence of a site assessment done the area is rich in manganese. During our site visit we observed that the project area is fully covered with natural vegetation, Powerlines, Livestock Farming and one farmhouse was observed at our point view as we couldn't have access to the project area.

The landowner of the farm was not found onsite through several attempts however landowner notification letter and laminated site notice were plugged by the entrance of

the farm where the landowner can easily access then, no correspondence has been received from the landowner ever since. All feedback received during the PPP will be included in the report before submission to the DMRE for adjudication.

Contact Person and Correspondence Address

a) Details of:

Table 1: Details of the Environmental Technician who prepared the report.

Practitioner name	**Ayanda Vilakazi**
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Table 2: Details of the EAP who reviewed the report.

1st Reviewer:

Practitioner name	**Miss Rudzani Shonisani**
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2nd Reviewer:

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Fax	+27 86 515 4103
Email	kenneth@singoconsulting.co.za

1.1 EAP expertise

Singo Consulting was established in 2008 as an independent consulting company focused on creating opportunities in the mining and environmental industry. Over time, Singo Consulting diversified its services, providing high-value geological, hydrological, environmental, cleaning and rehabilitation services to clients across a range of industries focused primarily on natural resources.

1.2 EAP's experience in carrying out Environmental Impact Assessments

Ndinannyi Kenneth Singo holds a PhD in Environmental Geology, an MSc in Environmental Management, and a BSc (Hons) Mining and Environmental Geology.

Dr Singo is a registered competent person with the South African Council of Natural Science Professions (SACNASP: Earth Science Reg. No: 400069/16), Geological Society of South Africa (GSSA), the Land Rehabilitation Society of Southern Africa (LaRSSA) and South African Affiliates of the International Association for Impact Assessment.

Dr Singo has knowledge of mine water and mine environmental management (acid mine drainage, heavy metal assessments and tailings management) in various commodities including coal, gold, magnesite, and base metals (Cu, Pb, Zn). He has extensive knowledge of defunct mining waste and wastewater impact assessments in communities in the vicinity of mines. Dr Singo has sound knowledge of risk assessment in terms of human and environmental health. He is experienced in the appraisal of potential constraints, and devising mitigation measures through remedial strategy development, feasibility, and validation.

During his PhD studies, Dr Singo learned how to operate in contaminated lands. His PhD largely focused on disused mines (gold, copper, and magnesite) ranging from Phase I and Phase II investigations to development of remedial strategies (i.e., Phase III). His PhD equipped him to understand waste classification, profiling and understanding of the implications associated with the management of waste, landfill disposal profiling and development of beneficiation strategies.

2 LOCATION OF THE OVERALL ACTIVITY

Farm name	Remaining Extent of the Lucknow 652
Application area (ha)	2 431.51
Magisterial district	Postmasburg
Distance and direction from nearest town	The project is located 20 km Southeast of Olifantshoek. Its accessible via the unnamed gravel road cutting through farm Thabaletsele 643. This project is in the Tsantsabane Local Municipality, of the ZF Mgcawu District Municipality, in Northern Cape Province, in the Republic of South Africa.
21-digit Surveyor General Code for each farm portion	C04100000000065200000

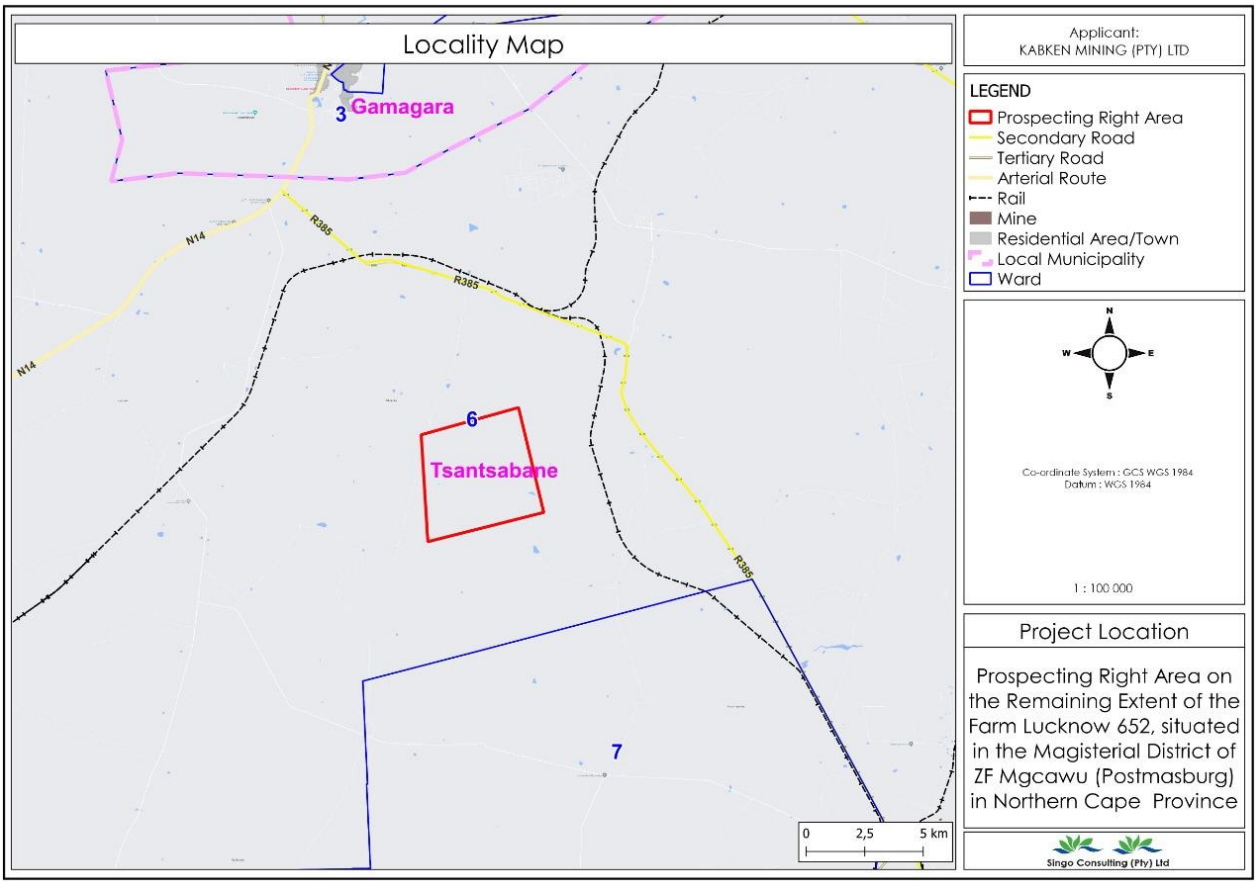

Figure 1: Locality of the project area.

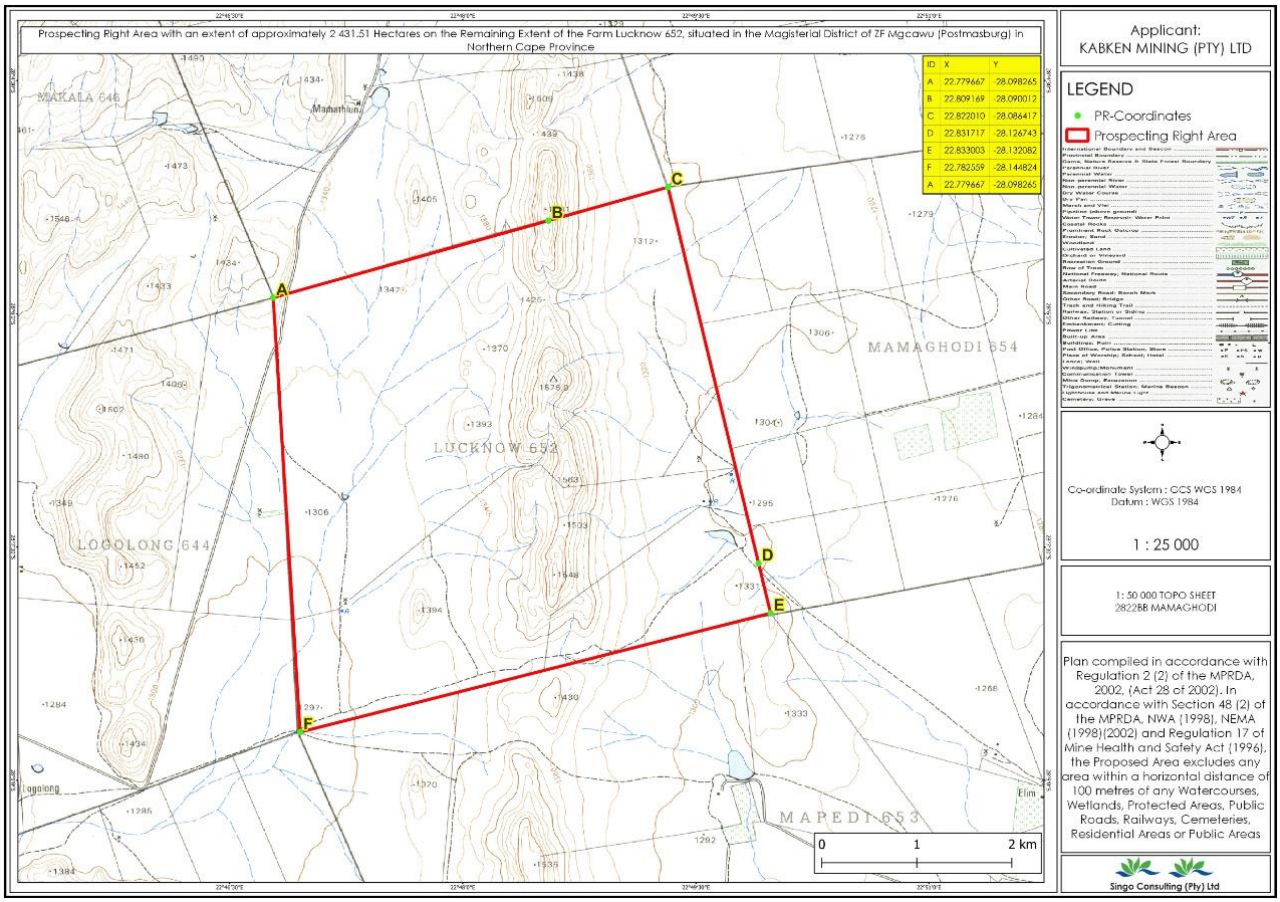

Figure 2: Regulation 2(2) map.

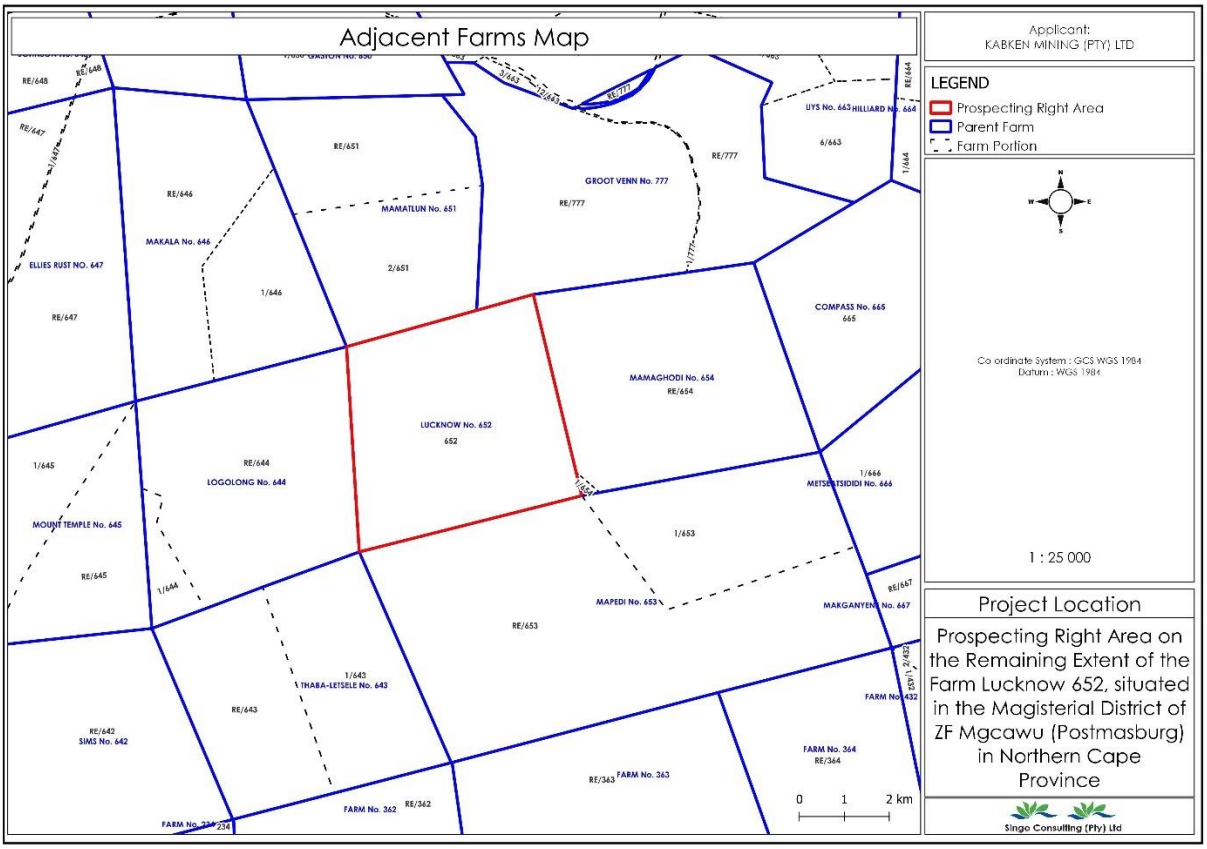

Figure 3: Adjacent farms.

3 SCOPE OF THE PROPOSED OVERALL ACTIVITY

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

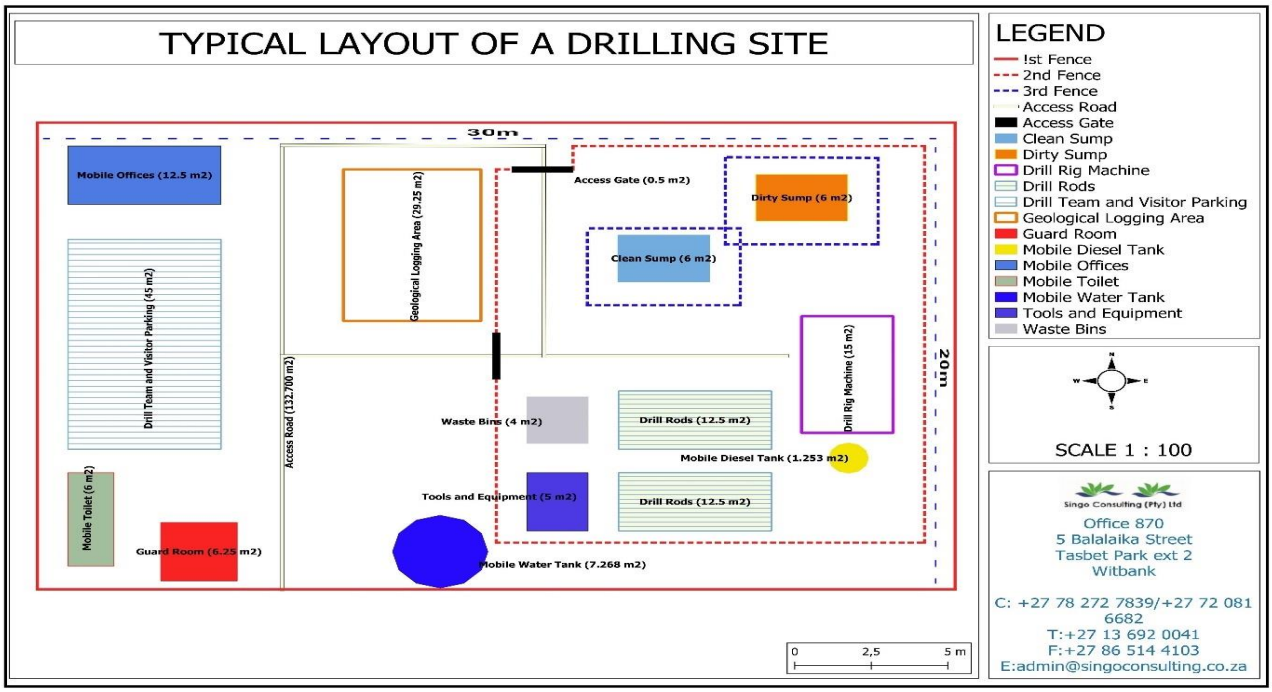

Figure 4: Regulation sketch plan for the proposed area.

3.1 Listed and specified activities

Section 16 of the MPRDA requires, upon request of the Minister, that an EMPr be submitted, and that the applicant must notify and consult with Interested and Affected Parties (I&APs). Section 24 of the NEMA requires that activities, which may impact the environment, be authorised by a relevant authority before commencement. These activities are listed under Regulations Listing Notice 1 Government Notice (GN) 517, Listing Notice 2 GN 517 and Listing Notice GN 517 (dated 11 June 2021) of the NEMA.

Name of activity E.g., for prospecting (drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route, etc.)	**Aerial extent of the activity** Ha or m^2	**Listed activity** Mark with an X where applicable/ affected	**Applicable listing notice** GN 517, 11 June 2021
Prospecting by means of diamond drilling 15 boreholes.	2 431.51 ha of the prospecting area (Disturbed area: 0.06 ha per hole x		GN 517, Listing Notice 1, Activity 20

Name of activity E.g., for prospecting (drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route, etc.)	**Aerial extent of the activity** Ha or m^2	**Listed activity** Mark with an X where applicable/ affected	**Applicable listing notice** GN 517, 11 June 2021
	15 boreholes = 0.9 ha)		
Vegetation clearance for drilling (includes drill site). Invasive prospecting by means of diamond drilling 15 boreholes. The holes will be drilled to an average depth 100 m. The demarcated working area (total area to be disturbed) per site is 30 m x 20 m = 600 m^2 (0.06 ha). Then 600 m^2 x 15 boreholes =9 000 m^2 The total area to be disturbed is 9 000 m^2 /10 000 = 0.9 ha	0.9 ha (total disturbed area) of 2 431.51 ha (extent of application area)		Not listed
Mobile office	12.5 m^2		Not Listed
Mobile toilet	6 m^2		Not listed
Drill team and visitor team parking	45 m^2		Not listed
Access road	132.7 m^2		Not listed
Guard room	6.25 m^2		Not listed
Geological logging area	25.29 m^2		Not listed
Waste bins and tools	9 m^2		Not Listed
Drill machine	15 m^2		Not listed
Drill rods	25 m^2		Not listed
Clean sump	6 m^2		Not listed
Dirty sump	6 m^2		Not listed
Mobile tank	1.253 m^2		Not listed
Water tank	7.268 m^2		Not listed

Drilling method	Diamond core drilling
Number of boreholes	15
Depth of boreholes	110 m
Duration of drilling	A borehole takes about 2 days to complete; 15 boreholes will take about 30 days.
Demarcated working area	600 m^2 (600 m^2 per drilling site based on a 20 m x 30 m grid) which is equal to 0.06 ha per site
Total area to be disturbed	0.9 ha (600 m^2 x 13 boreholes =9 000 m^2 (0.9Ha) of 2 431.51 Ha

Table 3:Proposed drilling programme with depth

3.2 Description of the activities to be undertaken

The following section presents a detailed description of all the activities associated with the proposed prospecting application. Due to the nature of the prospecting works programme (PWP) and the fact that the specific prospecting activities depend on the preceding phase, assumptions are presented where required. These assumptions are based on similar projects undertaken by the applicant.

3.2.1 Access roads

Access to the proposed prospecting area will be via accessible via the unnamed gravel road cutting through farm Thabaletsele 643, existing pathways in the project area will be used to access boreholes, no new roads will be constructed.

Figure 5: Proof of access roads.

3.2.2 Water supply

The prospecting activity will involve drilling of boreholes preferred by the applicant. This signifies that no water resource will be used for the purpose of drilling purpose however, water requirements relate to the potable water supply for employees and workers. A temporary 20 L on-site vertical water storage tank (for drinking water and general use by persons) will be provided at the drill site.

Figure 6: Example of a water storage tank.

3.2.3 Ablution

On-site ablution facilities will include the installation of drum/tank-type portable toilets (see Figure 7). Since the prospecting activity will be of limited duration, portable toilets are preferred.

Figure 7: Portable toilets to be installed.

3.2.4 Temporary office area

A temporary, shaded site office will be erected at the drill sites. No on-site electricity will be generated by generators. Meals will be provided to staff and workers as no heating and/or cold storage facilities will be available. A shaded eating area will be provided.

Figure 8: Temporary site office to be used.

3.2.5 Accommodation

Staff will be accommodated in nearby villages (not on site) and transported to and from the site daily. Night security staff will be employed once equipment has been established on site.

3.2.6 Blasting

There will be drilling for prospecting activities which is meant for core recovery. Due to the fact that prospecting does not involve mining activities no blasting is planned.

3.2.7 Storage of dangerous goods

During drilling, limited quantities of diesel fuel, oil and lubricants will be stored on site. A maximum amount of 60 m^3 diesel will be stored in above-ground diesel storage tanks.

Figure 9: Storage of dangerous goods.

3.3 Prospecting method(s) to be implemented

3.3.1 Planned non-invasive activities

3.3.1.1 Desktop study

Initial phase 1 work includes collecting and interpreting available data (extensive exploration was conducted in the proposed project area) and compiling a Geographic Information Systems (GIS) database. Data to be collected include aerial photos, orthophotos, aeromagnetic data, topo-cadastral maps, geological maps, historic exploration programmes and other published literature and maps. The study will aid in compiling a preliminary geological model of the area to be used in drillhole planning, geological mapping and sighting.

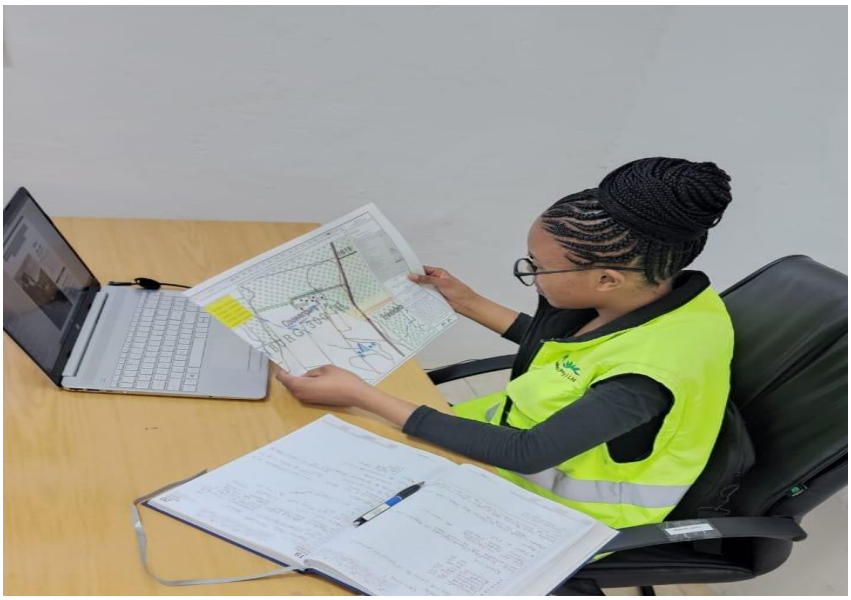

Figure 10: Desktop study example.

3.3.1.2 Geological mapping

Figure 11: Geological mapping example.

3.3.1.3 Sample analysis

Drill core will be sampled where a mineralised section is intersected. The core will be split into two halves, with one half of the core taken for assay purposes and the other half being retained. Each sample will be measured and weighed, and the sample lengths will be recorded before dispatch for assays at a South African National Accreditation System (SANAS) accredited laboratory.

3.3.1.4 Preliminary economic assessment

A preliminary economic assessment will be conducted to determine project viability. At this stage, the mineralisation, regardless of quantity and quality, is considered a mineral resource. This study is based on industry standards rather than detailed site-specific data.

4 PRE-FEASIBILITY STUDY

The pre-feasibility and feasibility studies will be more detailed. By the time a decision is made to proceed with a pre-feasibility study, a preliminary mineral resource report would have been finalised and an ore body model demonstrating its shape, tonnes, and grade will be available. A resource cannot be converted to a reserve unless backed by (at least)

a pre-feasibility study, since it will show with more certainty whether the project is viable. At this point, the mineral resource, or a portion thereof, becomes a mineral reserve.

4.1 Description of planned invasive activities

Diamond drilling will be used to prospect for mineralisation in the proposed project area. Geological, structural and geotechnical logging will be performed by experienced geologists to ensure appropriate and sufficient mineral resources estimation, mining and metallurgical studies. Twenty boreholes will be drilled during prospecting. The results of Phases 1 and 2 will assist in determining ideal borehole location. Only ten boreholes will be drilled during Phase 3. After Phase 3, results will be used to design a systematic drilling programme aimed at delineating the mineral resources. The final number of boreholes will depend on the results of Phase 3 drilling. A further ten boreholes are planned for Phase 5 drilling.

Figure 12: Example of drilling machinery.

4.2 Description of pre-feasibility studies

Pre-feasibility studies are detailed studies that use metrics and data specific to the project in question (not standard industry methods). These studies usually include a range of options for the technical and economic aspects of a project and are used to justify continued exploration, complete the required project or attracting a joint venture partner. The overriding aim of a pre-feasibility study is to select the preferred option (base case scenario) for project development. This base case scenario is then developed in enough

detail to underpin decisions to devote additional funds required to move the project through subsequent stages of development and to a final feasibility study

4.3 Prospecting phases to be implemented

Table 4: Proposed Prospecting Phases and Time Frames

Phase	Activity	Skill(s) required	Timeframe	Outcome	Timeframe for outcome	What technical expert will sign off on the outcome?
Phase1: Invasive Prospecting						
	Diamond drilling (5 boreholes) Sampling	Exploration Geologist Exploration Geologist	Month 1 (30 days)	Borehole core data, jasper (gemstone), gold ore, copper ore, zinc ore, and lead samples Rock core samples Core analyses Rock core analyses	Month 1 Month 2 – 3	Exploration Geologist Laboratory analyst
Phase 1: Non-invasive Prospecting						
	Consultations with landowners	Land Tenure Specialist	Month 1	Legal Access Agreement	Month 1	Land Tenure Specialist
	Data processing and validation	Exploration Geologist	Month 7-8	Stratigraphic correct borehole data Analytical correct borehole data	Month 8 – 10 Month 8 - 10	Exploration Geologist /Database administrator Exploration Geologist /Database administrator
	Lithofacies and, jasper (gemstone), gold ore, copper ore, zinc ore, and lead quality modelling	Exploration Geologist	Month 10-12	Contour maps Reserve breakdown	Month 10-12	Exploration Geologist /Modeller
	Inspection/Consultation with landowners	Land Tenure Specialist /Drilling contractor	Month 5-6	Rehabilitation clearance certificate	Month 5 - 6	Land Tenure Specialist / Environmental officer
Phase 2: Invasive Prospecting						
	Diamond drilling (5 borehole)	Exploration Geologist	Month 13	Borehole core data , jasper (gemstone), gold ore, copper ore, zinc ore, and lead core samples Rock core samples Core analyses Rock core analyses	Month 13 Month 13-14	Exploration Geologist Laboratory analyst
	Geophysical survey (Optional)	Geophysicist Exploration Geologist	Month 13-15	Lithology data Structural data	Month 13-14	Geophysicist
	Geohydrological survey (Optional)	Geohydrologist Exploration Geologist	Month 13-14	Borehole water yield Water samples	Month 17-20	Geohydrologist

Phase 2: Non-invasive Prospecting						
	Consultation with landowners	Mining Rights officer	Month 12	Legal Access Agreement	Month 12	Land Tenure Specialist
Phase	Activity	Skill(s) required	Timeframe	Outcome	Timeframe for outcome	What technical expert will sign off on the outcome?
	Data processing and validation	Exploration Geologist	Month 17-18	Stratigraphic correct borehole data Analytical correct borehole data	Month 20 – 22 Month 20 - 22	Exploration Geologist /Database administrator Exploration Geologist /Database administrator
	Lithofacies and, jasper (gemstone), gold ore, copper ore, zinc ore, and lead quality modelling	Exploration Geologist	Month 22-24	Contour maps Reserve breakdown	Month 22-24	Exploration Geologist /Modeler
	Inspection/Consultation with landowners	Mining Rights officer	Month 16-17	Rehabilitation clearance certificate	Month 16 - 17	Land Tenure Specialist / Environmental officer
Phase 3: Invasive Prospecting						
	Diamond drilling (5 borehole)	Exploration Geologist	Month 25	Borehole core data coal core samples Rock core samples, jasper (gemstone), gold ore, copper ore, zinc ore, and lead core analyses	Month 25 Month 25-36	Exploration Geologist Laboratory analyst
	Directional drilling (Optional)	Exploration Geologist	Month 24-30	Lithological data	Month 24-36	Exploration Geologist
	Geophysical survey (Optional)	Geophysicist Exploration Geologist	Month 25-27	Lithology data Structural data	Month 25-36	Geophysicist
	Geohydrological survey (Optional)	Geohydrologist Exploration Geologist	Month 25-26	Borehole water yield Water samples	Month 29-36	Geohydrologist
Phase 3: Non-invasive Prospecting						
	Consultation with landowners	Mining Rights officer	Month 24	Legal agreement	Month 24	Land Tenure Specialist
	Data processing and validation	Exploration Geologist	Month 29-30	Stratigraphic correct borehole data Analytical correct borehole data	Month 32 – 36 Month 32 - 36	Exploration Geologist /Database administrator Exploration Geologist /Database administrator
	Lithofacies and, jasper (gemstone), gold ore, copper ore, zinc ore, and lead	Exploration Geologist	Month 34-36	Contour maps Reserve breakdown	Month 34-36	Exploration Geologist /Modeler
	Inspection/consultation with landowners	Land Tenure Specialist	Month 28-29	Rehabilitation clearance certificate	Month 28 - 36	Land Tenure Specialist / Environmental officer

4.4 Policy and legislative context

Table 5: Policy and legislative context.

Applicable legislation and guidelines used to compile the report	Reference was applied	Development's compliance with and response to the policy and legislative context
Specific Environmental Management Acts (SEMAs)		
National legislation		
NEMA	This BAR and EMPr	An application for EA was submitted to the Northern Cape DMRE, and the application was accepted.
National Water Act (NWA), 1998	Groundwater abstraction as part of drilling activities	According to Government Notices Regulation 399, the applicant is permitted to extract 75 m3 of groundwater per ha per year from the D73C,D41J and D73A (Vaal) Quaternary Catchments. This use will be widely permitted. The proposed drilling method will be in accordance with the NWA.
MPRDA	Application for prospecting as per Section 16	The applicant submitted a PR application to the DMRE.
Municipal plans		
Commission on Restitution of Land Rights	Land claims	On the 18th of October 2022 an email of land claim enquiry was sent to the department of Rural Development and Land Rights, on the 20th of October 2022 we received an email with a confirmation that as at the date of this letter no land claims appear on the database in respect of the Properties including the database for claims lodged by 31 December 1998; and those lodged between 1 July 2014 and 27 July 2016 in terms of the Restitution of Land Rights Amendment Act, 2014 land enquiry started that there is no land claim on Remaining Extent of the farm Lucknow 652, kindly refer to figure 17.
Northern Cape strategic development framework	Alternatives	The applicant recognises the importance of maximising economic benefit from mining, industrial,

(SDF)		business, agricultural, and tourism development in the area, as well as promoting an economic development climate consistent with the Northern Cape SDF.
Municipality by-laws: Waste Management by-law Act 59 of 2008, Air Quality Management By-law Act 39 of 2004, Noise control by-law, Spatial Planning and Land Use Management act no 16 of 2013 (SPLUMA)	Environmental Management measures awareness plan	Best practice guidelines will be followed for any by-law's management and the development of the mine environmental and other legislative management.
Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983) (CARA)	Alternatives	The conservation of soil, water resources and vegetation are promoted. Management plans to eradicate weeds and invader plants must be established to benefit the integrity of indigenous life. The prospecting activity ensures that environmental disturbance is minimal, and rehabilitation is done.

4.5 Need for and desirability of the proposed activities

Prospecting activities do not offer many tangible benefits as it is the initial phase of mining. Prospecting precedes mining; however, it is during the prospecting phase that findings are established on whether the available reserves can be mined at an economic gain. It is understood that the mining plays a pivotal role in South African economy and boast a large labour force; hence a greater significance is placed on prospecting for realization of mining benefits.

Although prospecting activities are not labour intensive, few people will be hired to assist with general activities. The services required can also be sourced locally depending on their availability thus growing the economy of Tsantsabane Local municipality. Kabken Mining (Pty) Ltd intends to start with the prospecting activities after the prospecting right application has been granted.

Prospecting activities are needed to:

➢ Confirm and obtain additional information concerning potential targets through non-invasive (e.g. desktop studies) and minimally invasive (e.g. drilling) activities.

➢ Assess if the resource can be extracted in an environmentally, socially, and economically viable manner. Prospecting activities should prove that there are feasible minerals to allow mining, a new mine may be developed, which would generate extensive employment opportunities in an area where employment is required.

The Department of Forest, Fisheries, and the Environment (DFFE) has released an updated Need and Desirability Guideline Document dated 2017. Need and desirability is based on the principle of sustainability, set out in the Constitution and in NEMA, and provided for in various policies and plans, including the National Development Plan 2030 (NDP). Addressing the need and desirability of a development is a way of ensuring sustainable development – in other words, that a development is ecologically sustainable and socially and economically justifiable – and ensuring the simultaneous achievement of the triple bottom-line.

The concept of "need and desirability" relates to, amongst others, the nature, scale, and location of development being proposed, as well as the wise use of land. While essentially, the concept of "need and desirability" can be explained in terms of the general meaning of its two components in which need primarily refers to time and desirability to place (i.e. is this the right time and is it the right place for locating the type of land-use/activity being proposed?), "need and desirability" are interrelated and the two components collectively can be considered in an integrated and holistic manner.

Having regard to the above, the need for and desirability of an application must be dealt with separately and in detail, inter alia the following questions:

Table 6: Need for and desirability of the proposed activities.

Part 1: Need		
Questions (Notice 792, NEMA, 2012)		**Answers**
1	Is the land use associated with the activity being applied for considered within the timeframe intended by the existing approved SDF agreed to be the relevant environmental authority?	Yes. Mining is an integral part of its rationale for utilising the area's abundant natural resources to create a strong, resilient, and prosperous municipality.
2	Should the development, or if applicable, expansion of the town/area concerned in terms of this land use occurs here at this point in time?	PR is an initial phase of mining therefore there will be no town expansion or any sort of development.
3	Does the community/area need the activity and the associated land use concerned? This refers to the strategic as well as local level.	Tsantsabane Local Municipality has a high rate of unemployment. Mining requires a wide range of talents, and before considering nearby towns, local residents must be hired. Unfortunately, this application is only for prospecting; it provides no commercial gain, but it is a vital step in establishing the viability of a mine.
4	Are the necessary services with adequate capacity currently available (at the time of application) or must additional capacity be created to cater for the development?	Yes. For the existing and proposed PR, all infrastructure for services and capacity is adequate. The proposed project will make use of municipal water services. The road networks are completely intact, and the project will have no significant impact on traffic congestion. There is no need to create additional capacity for the development; existing infrastructure will be used for this proposed activity.
5	Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of the services and opportunity cost)?	The development is not provided for in the infrastructure planning of the municipality as it is a small development of local importance. The proposed project will not have any implications for the infrastructure planning, as no services and/or infrastructure needs to be upgraded or created to cater for this project. The proposed project will use mobile structures.

6	Is the project part of a national programme to address an issue of national concern or importance?	Mining output in South Africa increased 0.1% year on year in January 2022, following a downwardly revised 15% drop the previous months and falling short of market expectations of 3.45% growth. Higher levels of output from manganese ore (19.6%), gold (7%), and diamonds (16.3%) were offset by a drop in iron ore (-13.4%). Mining production increased 5.4% on a seasonally adjusted monthly basis, following an upwardly revised 5.5% decline the previous month (Source: Statistics South Africa). The current Russian-Ukrainian conflict has benefited South Africa's mining industry. Because operations in these countries are not running, there is a possibility of high profit.
Part 2: Desirability		
7	Is the development the best practicable environmental option for this land/site?	Yes, it is. The proposed prospecting project has little environmental impact and involves only 15 drill holes. Prospecting activities will not interfere with any activities that may take place on the proposed project site.
8	Would the approval of this application compromise the integrity of the existing approved and credible IDP, and SDF as agreed to by the relevant authorities?	Partly. The project will not compromise the plans of the municipality because the total area of prospecting is 0.9 ha, but the land use will be affected for a short period of time.
9	Would the approval of this application compromise the integrity of the existing environmental management priorities for the area (e.g. as defined in EMFs), and if so, can it be justified in terms of sustainability considerations?	No, the integrity of the existing environmental management priorities for the area will not be compromised by this development and rehabilitation plan will be in line with the local municipalities.
10	Do location factors favour this land use at this place? (This relates to the contextualization of the proposed land use on this site within its broader context).	Yes, the location for the proposed project is for farming, however this area is located far from the majority of the population. The prospecting activity will be at a small scale, therefore even the current land-use will not be affected much.

11	How will the activity of the land use have associated with the activity being applied for, impact on sensitive natural and cultural areas (built and rural/natural environment)?	An application was made on the SAHRA and on the NBKB in order to check for any heritage/cultural sensitivity of the area. The screening report was also conducted to check for any environmental sensitivity of the area.
12	How will the development impact on people's health and well-being? (E.g. In terms of noise, odours, visual character and sense of place, etc.)?	The proposed prospecting project will have very little impact on the people. The project area is far away from the communities, with very few houses. Borehole planning considered the location of these houses. Possible well-being and mitigation impacts: • Visual: Low • Dust: Low-Medium • Noise: Medium • Sense of place: Medium
13	Will the proposed activity or the land use associated with the activity being applied for, result in unacceptable opportunity costs?	No. The mining industry in South Africa has been a cornerstone of the economy for a long period of history. South Africa offers ongoing proof that mineral revenues can create sizeable benefits to the economy in countries where they are sourced.
14	Will the proposed land use result in unacceptable cumulative impacts?	No. The proposed project has only been identified to have minimal cumulative impacts that can be mitigated to an acceptable level.

4.6 Motivation for the overall preferred site, activities, and technology alternative

Geophysical surveys, and drilling are the only major methods used in exploring for deposits of this type and also for resource definition and evaluation. The technology to be used cannot be replaced by any other methods thus these are the preferred activities.

There is no site or layout alternative as the property provides the ideal geological formation for the presence of the minerals applied for. The positioning of the boreholes is determined by the expected location of the mineral reserve.

There are no technology alternatives considered and the proposed site was identified as the preferred alternative due to the following reasons:

- The site offers the mineral sought after,
- Very little natural vegetation needs to be disturbed in order to establish the prospecting area (0.9 ha).
- The prospecting area can be reached by using the gravel road cutting through adjacent farms.
- No residual waste as a result of the prospecting activities will be produced that needs to be treated on site. The general waste produced on-site will be contained in sealed refuse bins to be transported to the local municipal landfill site.
- As maintenance and servicing of the equipment will be done at an off-site workshop the amount of hazardous waste to be produced at the site will be minimal and will mainly be as a result of accidental oil or diesel spillages.
- Contaminated soil will be removed to the depth of the spillage and contained in sealed bins until removed from site by a hazardous waste handling contractor to be disposed of at a registered hazardous waste handling site, more information will be discussed after the granting of the prospecting right.

5 DETAILS OF THE DEVELOPMENT FOOTPRINT ALTERNATIVES CONSIDERED

5.1 Location alternatives

There is no preferred site alternative for the proposed prospecting project because the minerals the applicant proposes to prospect are located in the preferred site.

5.2 Design/layout alternatives

Since exploration is temporary, no permanent structures will be constructed. Negotiations and agreements will be made with the landowners to use any existing infrastructure like access roads for the explorers.

5.3 Technology alternatives

The diamond drilling technique is the only major method used in exploring for deposits of this type and also for resource definition and evaluation. The technology to be used cannot be replaced by any other methods thus these are the preferred activities such as Air Flush

5.4 Operational alternatives

The principal prospecting activity will be diamond core drilling. One drill rig will be used to drill, namely NQ – 60 mm diameter. Since this core size provides sufficient sample mass for laboratory analysis, no other methods have been considered.

5.5 The option of not implementing the activity (no-go alternative)

The no-go alternative is the option of not undertaking prospecting activities on the project site and leaving the site in its current state. Drilling is needed to investigate the potential and feasibility of minerals on site. There is no potential for future investment in a mine without confirming the mineral resource through drilling. Should the PR not be granted, the minerals being applied for will not benefit the local community through, e.g. job creation.

The mining sector is the backbone of South Africa's economy. John Taolo Getsewe District Municipality (JTGDM) is a main contributor to the provincial gross domestic product (GDP) and, as such, not carrying out the prospecting activities would prevent future mining prospects and reduce GDP contribution. The jobs that would have been created during

prospecting will also be missed, increasing the number of people dependant on social grants.

The state of the natural environment will remain the same, and there will be no:

- Geological and soil disturbance
- Waste generation
- Compaction of pathways affecting the growth pattern of grasses and movement of micro animals
- Disturbance of wildlife in the surrounding game farms

6 DETAILS OF THE PUBLIC PARTICIPATION PROCESS FOLLOWED

This section of the report provides an overview of the tasks to be undertaken for the PPP. The PPP was conducted in terms of Chapter 6 of the NEMA and included the following:

- Identification and recording of key I&APs and other stakeholders on the stakeholder database.
- Placement of site notices around the farm, and other accessible public areas.
- Publication of a newspaper advert, in the local newspaper.
- Formal notification of the application to key I&APs and other stakeholders via distribution of a notification letter and the background information document.
- Compilation of a consultation report with all responses from I&APs and the EAP.

6.1 Identification of key Interested and Affected Parties

Public participation is the involvement of all parties who are potentially interested and/or affected by the proposed development. The principal objective of public participation is to inform decision-making.

Landowners (affected and adjacent) were identified during the site visit. Additional relevant organisations were identified and notified of the application. This includes municipal and state departments with jurisdiction in the project area. I&APs representing the following sectors of society were identified and notified: Landowners, adjacent landowners, local municipalities, local municipalities, government departments and the community. We encourage inputs and sharing of contacts from the local s who will review this report so that we can accommodate everyone affected by this project and due to POPI Act the contact details of the landowner were not made available to us, which made very difficult to locate the landowner on site.

6.2 Formal notification of the application to key Interested and Affected Parties

The project was announced as follows:

Newspaper advertisement	The project was announced (in English) in the *Diamond Fields Advertiser* of 14th of October 2022. The newspaper notified all I&APs of the proposed project and invited them to register as project stakeholders.
Written notification	A Background Information Document (BID) notifying I&APs and other key stakeholders of the project was shared on 29th of September 2022
Site notice	To inform surroundings, locate landowners and adjacent landowners of the proposed development, site notices were erected on and close to site on the 29th of September 2022

Figure 13: Erection of site notices

Landowners and notification methodology

- The landowner of the farm Lucknow 652 was notified regarding this project via Background Information Document (BID), Landowner Notification letter and regulation map through the anonymous guy we found on site who couldn't disclose his name, he said that the landowner is currently in Cape Town, but he will share all the documents with him once he come back. On the same day we also consulted the landowner of the farm Thabaletsebe 643 who helped us to get the actual the landowner of the farm
- On the 12th of October 2022 we received correspondence from the landowner raising his issues and concerns through Landowner Notification Letter. All issues and concerns raised by the Landowner will be address in this Basic Assessment Report and Environmental Management Progress Report

Figure 14: Adjacent Landowner and Landowner Consultation

IN THE HIGH COURT OF SOUTH AFRICA
(NORTHERN CAPE DIVISION, KIMBERLEY)

CASE NO: 916/22

HELD AT KIMBERLEY 10 JUNE 2022
BEFORE THE HONOURABLE MR JUSTICE LEVER

In the matter between:
WACO AFRICA (PTY) LTD APPLICANT

And

ELLICIDOR 178 CC RESPONDENT

HAVING HEARD ADV VAN TONDER for the Applicant and having read the documents filed of record;
IT IS ORDERED THAT:

1. The Respondent be and is hereby placed under provisional liquidation in the Hands of the Master of the Northern Cape High Court, Kimberley;
2. All interested persons are called upon to show cause why this Court should not order the final liquidation of the Respondent on the 22nd of July 2022 at 09h30;
3. A copy of this order be and is hereby served on:
   3.1the Respondent's registered physical address;
   3.2the Respondent's employees, if any;
   3.3a trade union representing the Respondent's employees, if any;
   3.4the South African Revenue Services;
   3.5the Master of the High Court, Kimberley;
4. The order be published in the Government Gazette and in the Diamond Fields

Advertiser:
5.Costs to be costs in the liquidation.

BY THE COURT

MS T MOGONEDIWA
REGISTRAR

IN THE HIGH COURT OF SOUTH AFRICA
(NORTHERN CAPE DIVISION, KIMBERLEY)

CASE NO: 916/22

HELD AT KIMBERLEY 22ND DAY OF AUGUST 2022
BEFORE THE HONOURABLE MS JUSTICE MAMOSEBO

In the matter between:
WACO AFRICA (PTY) LTD APPLICANT

And

ELLICIDOR 178 CC RESPONDENT

HAVING HEARD MR PRETORIUS for the Applicant and having read the rule nisi issued out of this court on 10th day of June 2022 and the documents filed of record:

IT IS ORDERED THAT:

1. The abovementioned rule nisi be and is hereby extended and the matter postponed to 26 August 2022.
2. The costs to be costs in the liquidation.

BY THE COURT

MS T MOGONEDIWA
REGISTRAR

IN THE HIGH COURT OF SOUTH AFRICA
(NORTHERN CAPE DIVISION, KIMBERLEY)

CASE NO: 916/22

HELD AT KIMBERLEY 26TH DAY OF AUGUST 2022
BEFORE THE HONOURABLE MS JUSTICE MAMOSEBO

In the matter between:
WACO AFRICA (PTY) LTD APPLICANT

And

ELLICIDOR 178 CC RESPONDENT

HAVING HEARD MR KLINCK for the Applicant and having read the rule nisi issued out of this court on 10th day of June 2022 and the documents filed of record:

IT IS ORDERED THAT:

1. The abovementioned rule nisi be and is hereby extended and the matter postponed to 28 October 2022.
2. The costs to be costs in the Application.

BY THE COURT

MS T MOGONEDIWA
REGISTRAR

NOTICE OF PUBLIC PARTICIPATION FOR PROSPECTING RIGHT AND ENVIRONMENTAL AUTHORIZATION APPLICATION

AFRIKAANS

Kennisgewing van die Prospekteerreg Aansoek: Singo Consulting (Pty) Ltd namens Kabken Mining (Pty) Ltd het 'n aansoek by die Departement van Minerale Hulpbronne en Energie ingedien (DMRE Verw: NC 30/5/1/1/2/13208 PR) met die doel om Jasper (Edelsteen), Kobalt, Lood, Goud, Koper, Nikkel, Silwer en Sinkerts te prospekteer op Gedeelte van die Oorblywende Gedeelte van die plaas Luckinow 652 gelee in die Landdrosdistrik Postmasburg in Noord-Kaap Provinsie.

Kennisgewing word hiermee ingevolge die Wet op die Ontwikkeling van Minerale en Petroleumhulpbronne (MPRDA) (Wet 28 van 2002) en Omgewingsregulasies 2014, gepubliseer onder Staatskennisgewing No. 982 in Staatskoerant No. 3822 van 8 Desember 2014, gewysig op 7 April 2017, dat **Kabken Mining (Pty) Ltd** aansoek gedoen het om Prospekteerreg vir bogenoemde minerale.

UITNODIGING OM KOMMENTAAR

Registrasie as Belanghebbende & Geaffekteerde Party: As deel van die EIA-proses, meer spesifiek die Openbare Deelnameproses (PPP) vir hierdie voorgestelde projekt, word Belanghebbende en Geaffekteerde Partye (I&APs) genooi om te registreer en vriendelik enige kommentaar of bekommernisse in te dien om **Mnr. Ayanda Vilakazi** deur die kontakbesonderhede hieronder vermeld. Die publiek word ook uitgenooi om die Konsep Basiese Assesseringsverslag (BAR) en Omgewingsbestuurprogramverslag (EMPr) te hersien en daarop kommentaar te lewer. Die konsep BAR & EMPr sal beskikbaar wees vir hersiening vir 30 dae kalenderperiode vanaf die **2nd November 2022 tot die 6th December 2022**. Hierdie verslag sal beskikbaar wees by **Tsantsabane Plaaslike Munisipaliteit (10 Springbok Street, Postmasburg)**. Verder sal elektroniese kopieë beskikbaar gestel word (via e-pos; Dropbox-skakel; Google Drive; We Transfer, ens.) op versoek van Singo Consulting (Edms.) Bpk., deur die kontakbesonderhede van die Omgewingevalueringspraktisyn (EAP) Dit. Kenneth Singo en Omgewingstegnikus (Envir. Tech.) Mnr. Ayanda Vilakazi hieronder. Kommentaar aan die DBAR & EMPr moet nie later nie as **6th December 2022** ingedien word.

EAP and Envir. Tech. Contact Details

Singo Consulting (Pty) Ltd

Physical Address: Office 870, 5 Balalaika Street, Tasbet Park Ext 2, Witbank,1040
EAP: Dr Kenneth Singo
Email: kenneth@singoconsulting.co.za
Tel No: +27 13 692 0411
Fax No: +27 86 514 4103
Envir. Tech.: Mr. Ayanda Vilakazi
Cell No: +27 84 948 5790
Email: ayanda@singoconsulting.co.za

Applicant Details

Kabken Mining (Pty) Ltd

Postal Address: P O Box 70, Mothibistad,8474
Contact person: Reneé Bothelang
Cell No: +27 82 765 5682
Email: Renee.Bothelang@Wapeo-gold.co.za

AFRIKAANS

Kennisgewing van die Prospekteerreg Aansoek: Singo Consulting (Pty) Ltd namens Kabken Mining (Pty) Ltd het 'n aansoek by die Departement van Minerale Hulpbronne en Energie ingedien (DMRE Verw: NC 30/5/1/1/2/13208 PR) met die doel om Jasper (Edelsteen), Kobalt, Lood, Goud, Koper, Nikkel, Silwer en Sinkerts te prospekteer op Gedeelte van die Oorblywende Gedeelte van die plaas Luckinow 652 gelee in die Landdrosdistrik Postmasburg in Noord-Kaap Provinsie.

Kennisgewing word hiermee ingevolge die Wet op die Ontwikkeling van Minerale en Petroleumhulpbronne (MPRDA) (Wet 28 van 2002) en Omgewingsregulasies 2014, gepubliseer onder Staatskennisgewing No. 982 in Staatskoerant No. 3822 van 8 Desember 2014, gewysig op 7 April 2017, dat **Kabken Mining (Pty) Ltd** aansoek gedoen het om Prospekteerreg vir bogenoemde minerale.

UITNODIGING OM KOMMENTAAR

Registrasie as Belanghebbende & Geaffekteerde Party: As deel van die EIA-proses, meer spesifiek die Openbare Deelnameproses (PPP) vir hierdie voorgestelde projekt, word Belanghebbende en Geaffekteerde Partye (I&APs) genooi om te registreer en vriendelik enige kommentaar of bekommernisse in te dien om **Mnr. Ayanda Vilakazi** deur die kontakbesonderhede hieronder vermeld. Die publiek word ook uitgenooi om die Konsep Basiese Assesseringsverslag (BAR) en Omgewingsbestuurprogramverslag (EMPr) te hersien en daarop kommentaar te lewer. Die konsep BAR & EMPr sal beskikbaar wees vir hersiening vir 30 dae kalenderperiode vanaf die **2nd November 2022 tot die 6th December 2022**. Hierdie verslag sal beskikbaar wees by **Tsantsabane Plaaslike Munisipaliteit (10 Springbok Street, Postmasburg)**. Verder sal elektroniese kopieë beskikbaar gestel word (via e-pos; Dropbox-skakel; Google Drive; We Transfer, ens.) op versoek van Singo Consulting (Edms.) Bpk., deur die kontakbesonderhede van die Omgewingevalueringspraktisyn (EAP) Dit. Kenneth Singo en Omgewingstegnikus (Envir. Tech.) Mnr. Ayanda Vilakazi hieronder. Kommentaar aan die DBAR & EMPr moet nie later nie as **6th December 2022** ingedien word.

EAP and Envir. Tech. Contact Details

Singo Consulting (Pty) Ltd

Physical Address: Office 870, 5 Balalaika Street, Tasbet Park Ext 2, Witbank,1040
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Envir. Tech.: Mr. Ayanda Vilakazi
Cell No: +27 84 948 5790
Email: ayanda@singoconsulting.co.za

Applicant Details

Kabken Mining (Pty) Ltd

Postal Address: P O Box 70, Mothibistad,8474
Contact person: Reneé Bothelang
Cell No: +27 82 765 5682
Email: Renee.Bothelang@Wapeo-gold.co.za

Figure 15: Proof of newspaper advertisement (red boarder).

WinDeed Database D/O Property

KURUMAN RD, LUCKNOW, 652, 0, VRYBURG

Lexis® WinDeed

Any personal information obtained from this search will only be used as per the Terms and Conditions agreed to and in accordance with applicable data protection laws including the Protection of Personal Information Act, 2013 (POPI), and shall not be used for marketing purposes.

SEARCH CRITERIA	
Search Date	
Reference	
Report Print Date	
Farm Name	
Deeds Office	

PROPERTY INFORMATION	
Property Type	
Farm Name	
Farm Number	
Registration Division	
Portion Number	
Previous Description	

OWNER INFORMATION (1)	
COLNAGO CC	
Company Type	
Registration Number	
Name	
Multiple Owners	
Multiple Properties	
Share (%)	

ENDORSEMENTS
No endorsements to display

LexisNexis

0861 946 333
windeed.support@lexisnexis.co.za
search.windeed.co.za | www.windeed.co.za

Page 1 of 2

HISTORIC DOCUMENTS (4)				
#	Document	Institution	Amount (R)	Microfilm / Scanned Date
1	T811/1996			
2	B1605/1998			
3	B695/1996			
4	T403/1961			

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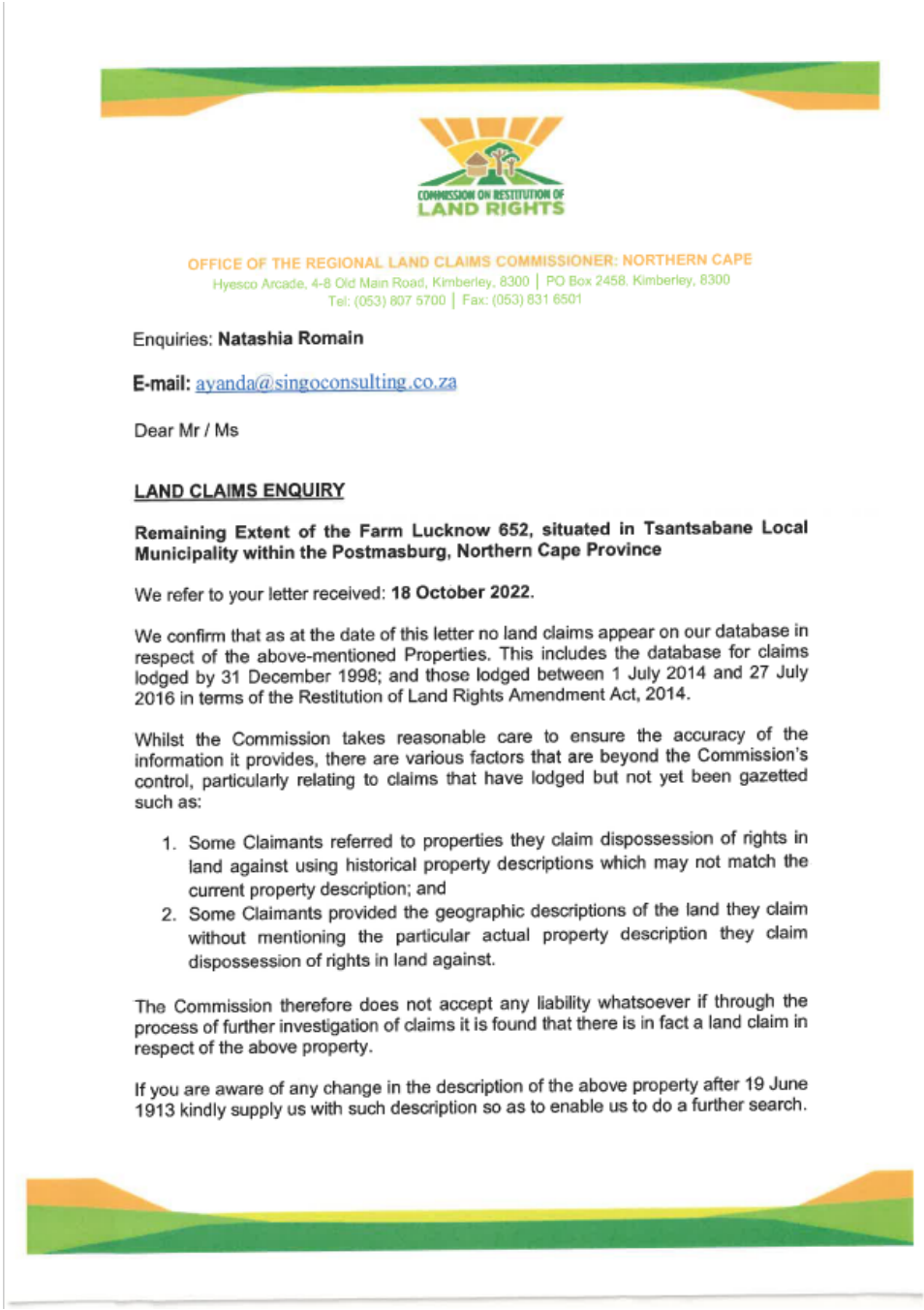
Page 2 of 2

Figure 16: Deed search

6.3 Land claim enquiry

On the 18th of October 2022 an email of land claim enquiry was sent to the department of Rural Development and Land Rights, on the 20th of October 2022 we received an email with a confirmation that as at the date of this letter no land claims appear on the database in respect of the Properties including the database for claims lodged by 31 December 1998; and those lodged between 1 July 2014 and 27 July 2016 in terms of the Restitution of Land Rights Amendment Act, 2014 land enquiry started that there is no land claim on EAST 270 (See figure 17).



COMMISSION ON RESTITUTION OF LAND RIGHTS

OFFICE OF THE REGIONAL LAND CLAIMS COMMISSIONER: NORTHERN CAPE
Hyesco Arcade, 4-8 Old Main Road, Kimberley, 8300 | PO Box 2458, Kimberley, 8300
Tel: (053) 807 5700 | Fax: (053) 831 6501

Enquiries: **Natashia Romain**

E-mail: ayanda@singoconsulting.co.za

Dear Mr / Ms

LAND CLAIMS ENQUIRY

Remaining Extent of the Farm Lucknow 652, situated in Tsantsabane Local Municipality within the Postmasburg, Northern Cape Province

We refer to your letter received: **18 October 2022.**

We confirm that as at the date of this letter no land claims appear on our database in respect of the above-mentioned Properties. This includes the database for claims lodged by 31 December 1998; and those lodged between 1 July 2014 and 27 July 2016 in terms of the Restitution of Land Rights Amendment Act, 2014.

Whilst the Commission takes reasonable care to ensure the accuracy of the information it provides, there are various factors that are beyond the Commission's control, particularly relating to claims that have lodged but not yet been gazetted such as:

1. Some Claimants referred to properties they claim dispossession of rights in land against using historical property descriptions which may not match the current property description; and
2. Some Claimants provided the geographic descriptions of the land they claim without mentioning the particular actual property description they claim dispossession of rights in land against.

The Commission therefore does not accept any liability whatsoever if through the process of further investigation of claims it is found that there is in fact a land claim in respect of the above property.

If you are aware of any change in the description of the above property after 19 June 1913 kindly supply us with such description so as to enable us to do a further search.

Figure 17: Proof of land claim search results.

6.4 Summary of issues raised by Interested and Affected Parties

Table 7: Issues raised by Interested and Affected Parties.

Interested and Affected Parties List the names of persons consulted in this column, and mark with an X where those who must be consulted were in fact consulted		**Date comments received**	**Issue(s) raised**	**EAPs response to issues as mandated by the applicant**	**Section and paragraph in this report where the issues and/or response were incorporated**
Affected parties					
Landowners					
			To be completed after 30 days review period		
Lawful occupiers of the land					

Interested and Affected Parties List the names of persons consulted in this column, and mark with an X where those who must be consulted were in fact consulted	**Date comments received**	**Issue(s) raised**	**EAPs response to issues as mandated by the applicant**	**Section and paragraph in this report where the issues and/or response were incorporated**
Landowners or lawful occupiers on adjacent properties				
Municipality				
TSANTSHABANE LOCAL MUNICIPALITY		**To be completed after 30 days review period**		
Organs of state (Responsible for infrastructure that may be affected Roads Department, Eskom, Telkom, DWA				
environment, forestry & fisheries Department: Environment, Forestry and Fisheries REPUBLIC OF SOUTH AFRICA				

Interested and Affected Parties List the names of persons consulted in this column, and mark with an X where those who must be consulted were in fact consulted		**Date comments received**	**Issue(s) raised**	**EAPs response to issues as mandated by the applicant**	**Section and paragraph in this report where the issues and/or response were incorporated**
public works Department: Public Works REPUBLIC OF SOUTH AFRICA			**To be completed after 30 days review period**		
water & sanitation Department: Water and Sanitation REPUBLIC OF SOUTH AFRICA					

Interested and Affected Parties List the names of persons consulted in this column, and mark with an X where those who must be consulted were in fact consulted		**Date comments received**	**Issue(s) raised**	**EAPs response to issues as mandated by the applicant**	**Section and paragraph in this report where the issues and/or response were incorporated**
			**To be completed after 30 days review period**		

To be completed after 30 days review period

Interested and Affected Parties List the names of persons consulted in this column, and mark with an X where those who must be consulted were in fact consulted		**Date comments received**	**Issue(s) raised**	**EAPs response to issues as mandated by the applicant**	**Section and paragraph in this report where the issues and/or response were incorporated**
TRANSNE					
Department of Rural Development and Land Reform (DRDLR)					
COMMISSION ON RESTITUTION OF LAND RIGHTS			**To be completed after 30 days review period**		

Interested and Affected Parties List the names of persons consulted in this column, and mark with an X where those who must be consulted were in fact consulted		**Date comments received**	**Issue(s) raised**	**EAPs response to issues as mandated by the applicant**	**Section and paragraph in this report where the issues and/or response were incorporated**
Traditional leaders					
Community					
			To be completed after 30 days review period		
Other affected parties					

7 GEOLOGY

Reginal Geology

- VOELWATER SUBGROUP

The Paleoproterozoic Voëlwater Subgroup in Griqualand West, South Africa, is an exceptionally well-preserved succession of banded iron formation, braunite lutite and shallow marine limestone/dolostone. A detailed chemostratigraphic study was carried out on this succession, resulting in a comprehensive set of whole rock geochemical data, including stable isotope (δ^{13}Ccarb, δ^{13}Corg, δ^{18}Ocarb) and $^{87}Sr/^{86}Sr$ isotope data. The results are in excellent agreement with previous investigations and reveal trends that correspond closely to mineralogical variations and reflect systematic changes in the depositional environment. Total inorganic carbonate contents (TIC) and δ^{13}Ccarb values increase systematically from manganiferous iron formation at the base of the succession to dolostones that mark the top of the Voëlwater Subgroup. These first order trends transgress across all lithologies and mirror the interplay of synsedimentary carbonate formation (utilizing dissolved marine bicarbonate), and Fe-Mn-rich carbonate formation during suboxic early diagenesis. First order trends are modulated by second order variations associated with lithological changes in the lower portion of the Voëlwater Subgroup, constituted by three symmetrical cycles of iron formation and braunite lutite deposition.

These second order trends, delineated by TIC and δ^{13}Ccarb, as well as δ^{18}Ocarb and major element concentrations (Mn, Fe, SiO2) can be attributed to repeated physicochemical changes in the MnF-BIF depositional environment. Variations in $^{87}Sr/^{86}Sr$ isotope composition do not relate to lithological changes. Instead, carbonate-rich and/or Sr-rich samples of MnF and BIF with well-preserved early diagenetic carbonate textures define a tight cluster with $^{87}Sr/^{86}Sr$ signatures of ~0.703 to ~0.706, in good agreement with Paleoproterozoic oceanic crust. Carbonate- and Sr-poor BIF samples with markedly more radiogenic $^{87}Sr/^{86}Sr$ signatures (~0.711 to ~0.722), in contrast, show evidence of extensive post-depositional recrystallization, apparent effects of dia- or epigenetic fluid flow. Chemostratigraphy and lithostratigraphy of the Voëlwater Subgroup are in good agreement with models that predict a layered Paleoproterozoic Ocean, with a hydrothermally-dominated Fe-Mn-rich deep water mass, overlain by a mass of oxygenated shallow marine water. A facies distribution model for the Voëlwater Subgroup is proposed, taking into consideration not only the presence of these two isotopically distinct water masses, but also abundance and transport of organic carbon and shallow marine carbonate muds, as well as the transformation of primary iron- and manganese oxihydroxide precipitates into carbonate minerals during early suboxic diagenesis.

- Bushveld Igneous Complex

The Bushveld Igneous Complex (or BIC) is a large layered igneous intrusion within the Earth's crust which has been tilted and eroded and now outcrops around what appears to be the

edge of a great geological basin. Located in South Africa, the BIC contains some of the richest ore deposits on Earth. The reserves of platinum group metals (PGMs), platinum, palladium, osmium, iridium, rhodium, and ruthenium are the world's largest, and there are vast quantities of iron, tin, chromium, titanium and vanadium. Gabbro or norite is also quarried from parts of the Complex.

The complex varies in thickness, sometimes reaching 9 km thick. Lithologies vary from largely ultramafic peridotite, chromitite, harzburgite, and bronzitite in the lower sections to mafic norite, anorthosite, and gabbro toward the top, and the mafic Rustenburg Layered Suite is followed by a felsic phase (the Lebowa Granite Suite). The orebodies within the complex include the UG2 reef containing up to 43.5% chromite, and the platinum-bearing horizons Merensky Reef and Plat Reef. The Merensky Reef varies from 30 to 90 cm in thickness. It is a norite with extensive chromitite and sulfide layers or zones containing the ore. The *Reef* contains an average of 10 ppm platinum group metals in pyrrhotite, pentlandite, and pyrite as well as in rare platinum group minerals and alloys.

The Project Area is located on the Northern Limb of the Bushveld Igneous Complex (BIC) under Rustenburg Layered Suite (RLS) in a structurally complex in the Northern Limb of the Bushveld Complex. With a strike length of 120km. The BIC is known for its platinum group metal (PG) / platinum group elements (PGE) content. The ore body of interest is the UG2 Chromitite Layer (UG2 CL), Cobalt, Copper, Gold, Phosphate, Iron Ore, Lead, Molybdenum, Nickel, Platinum Group Metals, Rare Earths, Silver, Vanadium and Zinc. The host rocks to the chromitite seams are mostly orthopyroxenite (LG1–3–5–6–7, MG2–4) or harzburgite in LG2 and LG4 (Teigler and Eales, 1996), but in the UCZ, the chromitite seams normally overlie anorthosite. Platinum-group elements tend to be concentrated at the margins, at least in the case of the well-studied UG1 and UG2 (von Gruenewaldt et al., 1986; Hiemstra 1986; Maier and Barnes, 2008). Cobalt, Nickel, Gold and Copper occurs as by-products of PGMs processing. Vanadium & Iron ore occur in the titaniferous magnetite seams in the upper portion of the Rustenburg Layered Suit. The Rustenburg layered siutes is subdivided into five number of zones namely: Marginal, Lower Zone (LZ), Critical (CZ) Main (MZ) and Upper Zones (UZ).

- Marginal Zone

This zone has a thickness ranging from zero to several hundreds of metres and consists largely of quenched to fine grained norites in contact with the Lower Zone (B-1 suite) or very fine grained to fine-grained gabbronorite in contact with Critical Zone (the B-2 suite) and Main Zone (B-3 suite) (Sharpe, 1981). Xenoliths of quartzite (e.g., on the Clapham farm) and dolomite (e.g. on Hendriksplaas) locally attest to interaction with the floor rocks. Less common are anorthosite xenoliths (Bristow et al., 1993). Quartzite is known to have approximately 99% of silicon dioxide (SiO2), hence it is considered as a host rock of silicon (Si).

- Lower Zone (LZ)

The LZ on the western limb of the complex consists predominantly of harzburgite and dunite (Teigler and Eales, 1996) as well as orthopyroxenite. Plagioclase is not present as a cumulate phase, with the exception of a ~90-cm norite layer midway up the sequence that has been delineated in both the western and eastern limbs of the complex (Teigler, 1990; Lee and Tredoux, 1986). Amongst other LZ rocks, the dunites are closest to monomineralic compositions, forming olivine adcumulates with only minor orthopyroxene oikocrysts. Plagioclase, clinopyroxene and other minor minerals comprise up to approximately 10 % of most other LZ samples, apart from the basal 50 m of the intrusion where these components reach approximately 30%. Chromite makes up <1 modal% in most LZ rocks, irrespective of lithology. Notably, the LZ shows more pronounced lateral variation in thickness and lithology than the overlying stratigraphic intervals. In some trough structures, it reaches a thickness of >1 km, for example, in the Olifants River trough at Cameron Section or near Burgersfort in the eastern lobe (Button, 1976; Wilson and Chunnett, 2010), but it is thinner or absent above swells between the troughs. Facies changes of the LZ across the swells indicate that compartmentalization was effective during crystallization (Scoon and Teigler, 1994). This is also expressed in the lithological and compositional variation of the LZ between limbs.

- Lower Critical Zone (LCZ)

This zone is approximately 700–800 m in thickness and consists predominantly of orthopyroxenite (Teigler and Eales, 1996). Harzburgitic rocks occur within two intervals, including the C1 unit of Cameron (1982) where harzburgite is finely interlayered with orthopyroxenite. There are nine major chromitite seams (Lower Group or LG seams 1–7 and Middle Group or MG seams 1–2), of which LG6 hosts the largest chromite reserve on Earth (Crowson 2001). The seams have been correlated, albeit at variable thickness, across much of the complex (Cousins and Feringa, 1964; Teigler et al., 1992; Teigler and Eales, 1996), highlighting that the LCZ shows less pronounced lateral variation than the LZ. The base of the LCZ has been defined as the level where there is a significant increase in intercumulus plagioclase (Cameron, 1978).

- Upper Critical Zone (UCZ)

UCZ is defined by a laterally continuous, 1–3 m thick anorthosite layer that overlies orthopyroxenite with a sharp but undulating contact marked by a 1–2-mm chromitite stringer and, in places, an overlying 1–2 cm selvage of anorthosite adcumulate. In the northern limb, fine-grained UCZ rocks overlie thick harzburgites which is believed to be the LZ, implying that the LCZ could be absent (Hulbert, 1983; Maier et al., 2008). In addition, the contact sequence between the LZ and the UCZ locally contains large xenoliths or rafts of quartzite and dolomite

(Hulbert 1983; Maier et al., 2008; Yudovskaya et al., 2012). These field relationships suggest that, along the northern limb, the LZ and UCZ may form distinct sill-like intrusive bodies. Chromite is a trace component in most UCZ rocks, but the mineral may be locally concentrated to form bedding-parallel schlieren. In addition to disseminated chromite, the UCZ contains four to five major chromitite seams, including Middle Group (MG) seams 3 to 4 and Upper Group (UG) seams 1 to 2 in the eastern lobe as well as dozens of minor seams and stringers, including those below the UG1 chromitite, above the UG2 and bracketing the Merensky Reef pegmatoid. The Bushveld chromitites contain variable gangue contents that progressively increase with height (de Waal, 1975; Maier and Barnes, 1999), with the UG seams having up to 40 % gangue component.

A feature that is particularly characteristic of the UCZ is the occurrence of cyclic units (Cameron, 1982; Eales et al., 1986; 1988; 1990). The base of the units typically consists of ultramafic rocks (i.e. chromitite and/or harzburgite and/or pyroxenite) that are overlain by progressively more feldspathic rocks (i.e. first norite and then anorthosite). The units have thicknesses between a few millimetres to several tens of metres, exceptionally reaching several hundreds of metres (in the cyclic unit overlying the MG4 chromitite; Eales et al., 1990). Platinum-group element mineralization tends to be concentrated in the basal ultramafic portions of the larger units, particularly in the case of the economically important Merensky Reef and UG2 chromitite, as well as the sub-economic Pseudo Reef harzburgite and Bastard Reef pyroxenite.

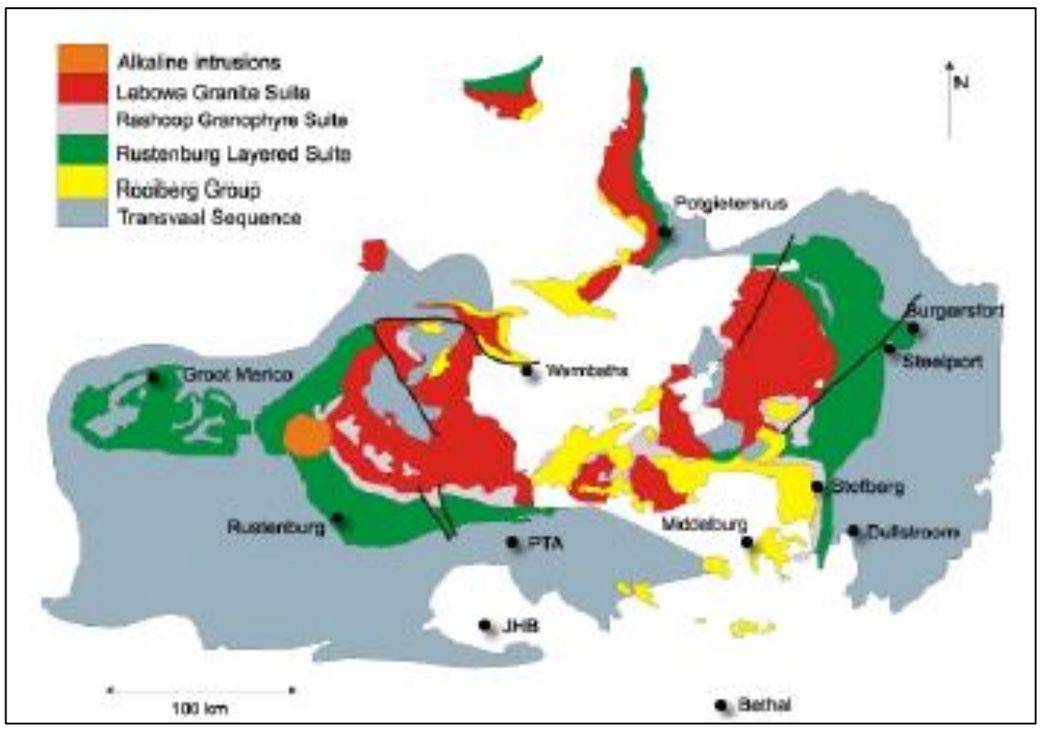


Figure 18: Simplified geological map of the Bushveld Large Igneous Province

Local Geology

Ongeluk Formation

The early Paleoproterozoic Ongeluk Formation occurs in the Griqualand West sub-basin of the Transvaal Supergroup, and outcrops in the Northern Cape Province of South Africa between Kuruman and Prieska (Fig. 2), with more isolated outcrops further north around Hotazel mostly obscured by the Quaternary Kalahari sands. The Ongeluk Formation conformably overlies the Makganyene Formation diamictites, and in turn it is overlain conformably by the banded iron and manganese formations of the Hotazel Formation.

The volcanic rocks of the Ongeluk Formation were first described by Stow (1874), who assigned them as feldspar-rich phenocrystic and amygdoidal lavas with a type locality on the Bovenongeluk Farm, about 30 km northwest of Griekwastad in the Northern Cape Province of South Africa. Another type locality was described by Grobler and Botha (1976) near Bosch Aar (Fig. 3). Further reports on the Ongeluk Formation can be found on various explanation sheets to geological maps and on technical reports, but Cornell et al. (1996) and Schütte (1992) studied the volcanic rocks of the Ongeluk Formation more extensively.

Cornell et al. (1996) and Schütte (1992) assigned two predominant types of volcanic rocks to the formation based mostly on color, as both share similar textural and mineralogical characteristics, such as being basaltic andesitic lavas interspersed with hyaloclastites, flow-top breccias and pillows. These two volcanic rock types of Cornell et al. (1996) and Schütte (1992) for the Ongeluk Formation lavas include the predominant regional grey-green lavas and the maroon colored more local Kalahari lavas, which only occur in the Kalahari manganese field near Black Rock and Hotazel, but which generally are poorly exposed. The Kalahari lavas occur only near the top of the regional lava pile of the Ongeluk Formation (Cornell et al., 1996; Schütte, 1992). This color difference is imparted by disseminated goethite probably around localized hydrothermal events, although its actual origin remains enigmatic. The same alteration is observed in the bostonite dykes which intrude into the Hotazel Formation, also in the Kalahari manganese field, above the Ongeluk Formation, and document post-Ongeluk magmatism. These bostonites were determined to be approximately 1350 Ma by Rb-Sr in whole rock by Dixon (1988).

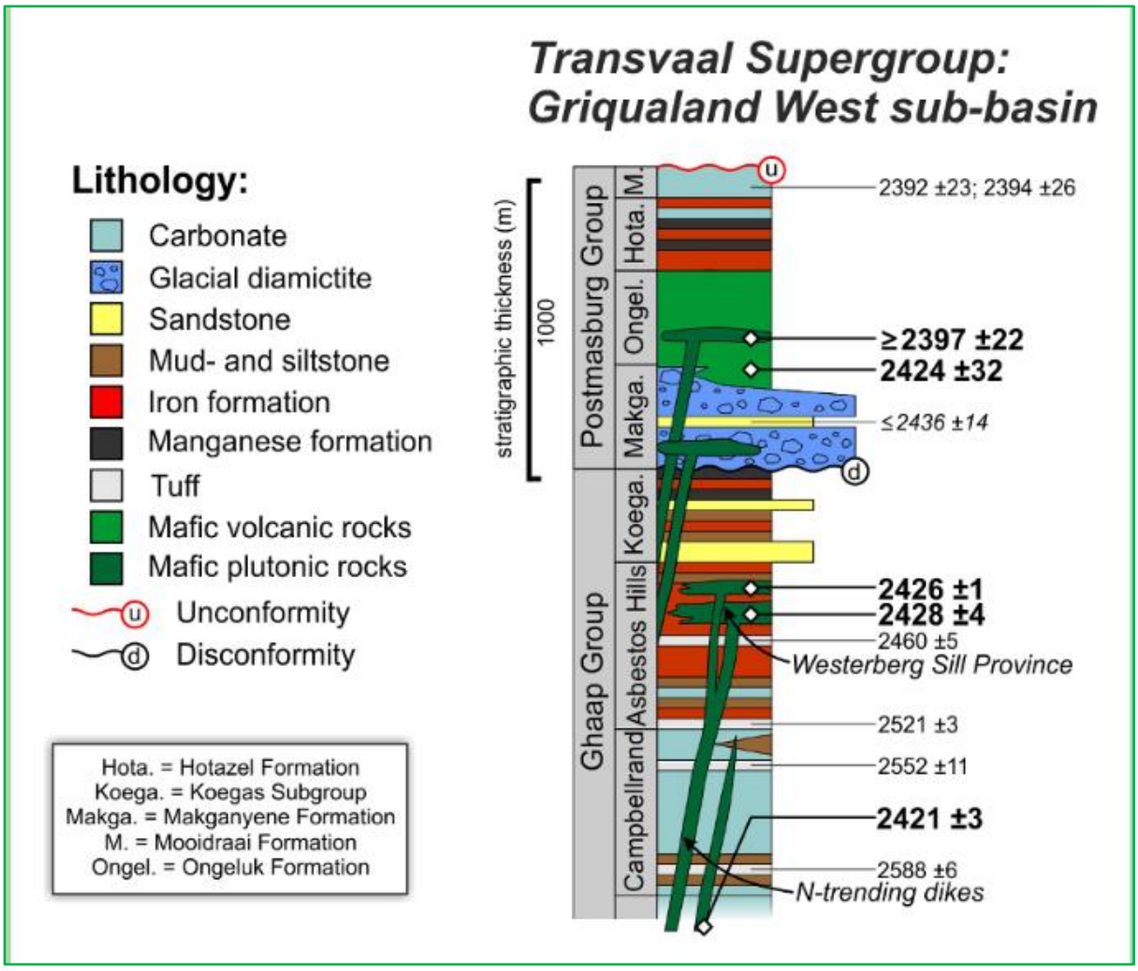


Figure 19: Stratigraphic column of the Transvaal Supergroup

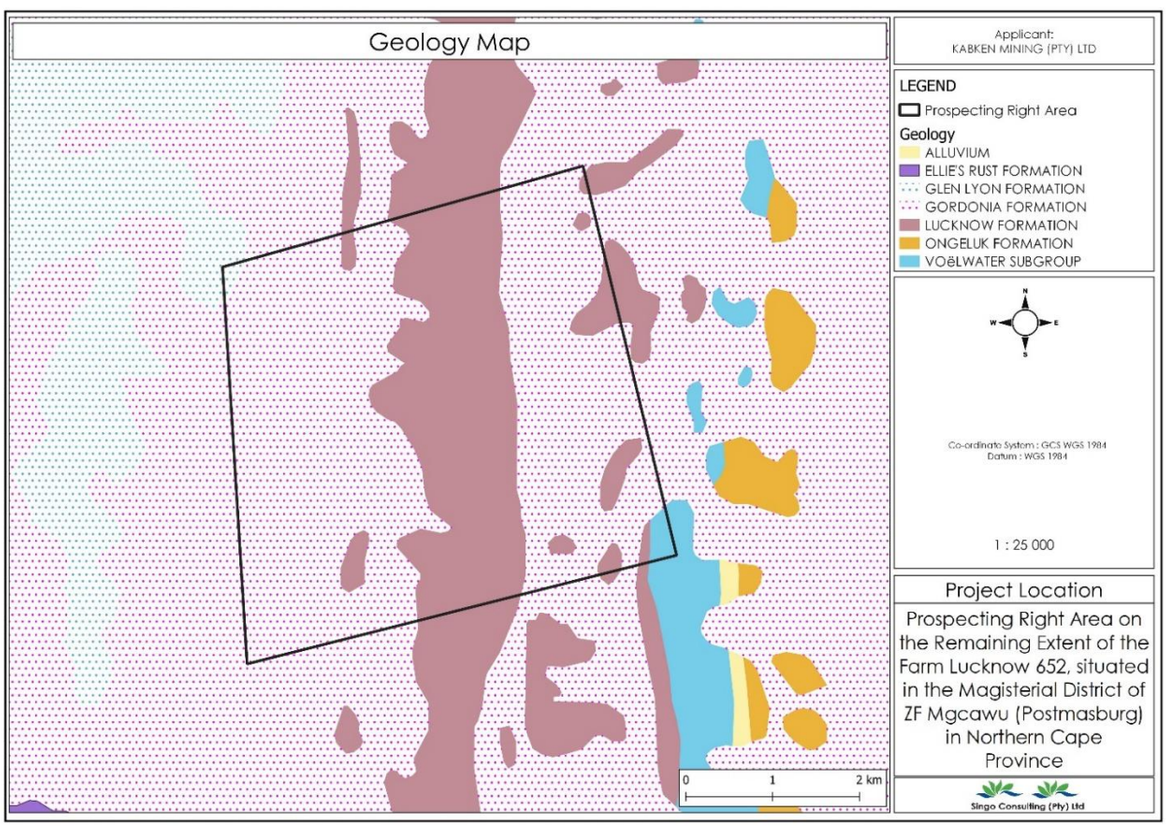


Figure 20: Geological of the proposed site.

8 REGIONAL CLIMATE

8.1 Climate

According to Basic Hydrology study climate is the state of the atmosphere over long time periods, such as over years, decades, centuries or greater and weather is defined as atmospheric conditions of an area over a short period of time (Naomi, 2004). Climate for the purpose of the study is chosen based on the fact that it does not change over a long period of time whereas weather conditions fluctuate more rapidly, and its data cannot be relied upon.

In general, South Africa experiences a dry season in June, July, August, and September, with December/January been the warmest. Furthermore, the area experiences mean minimum annual temperatures of 0,1 to 2 ˚ C.

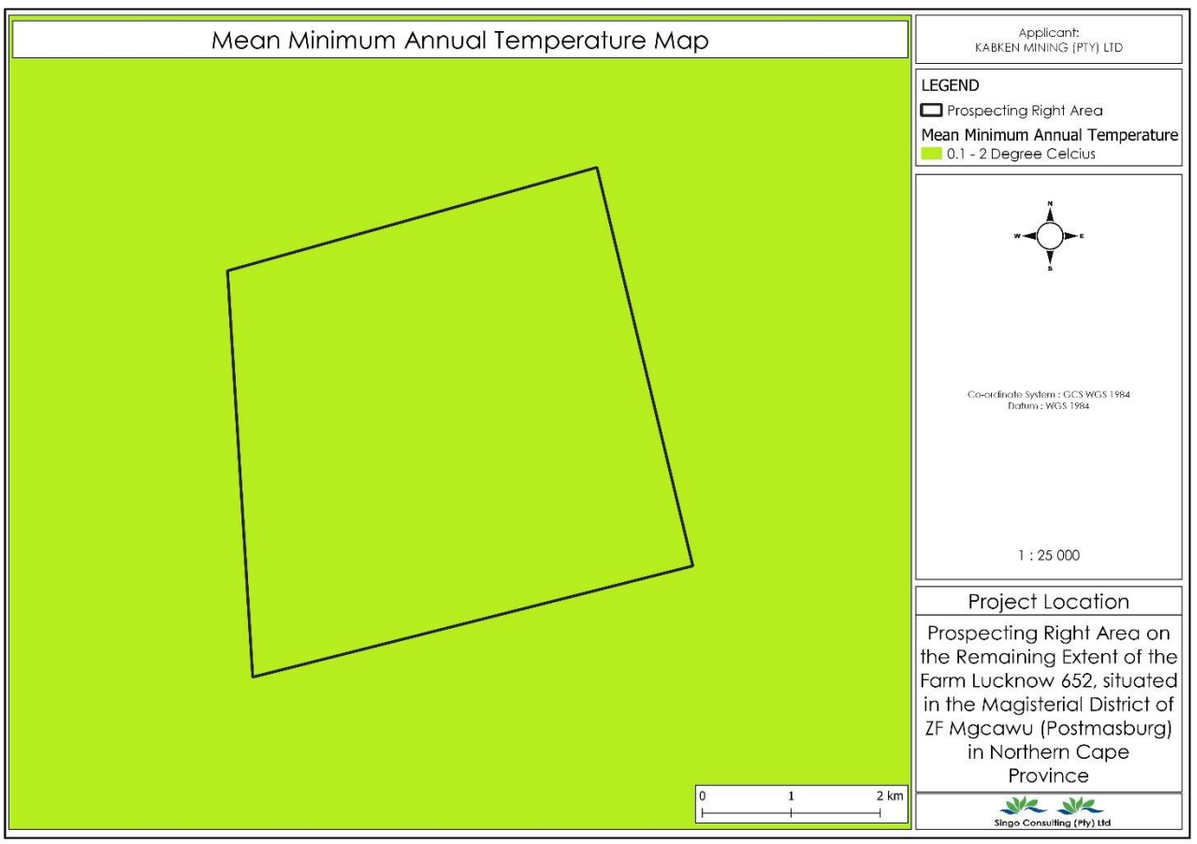


Figure 21:Mean Annual temperature map

8.2 Rainfall

The project area receives a low mean annual rainfall between 201 to 400 mm.

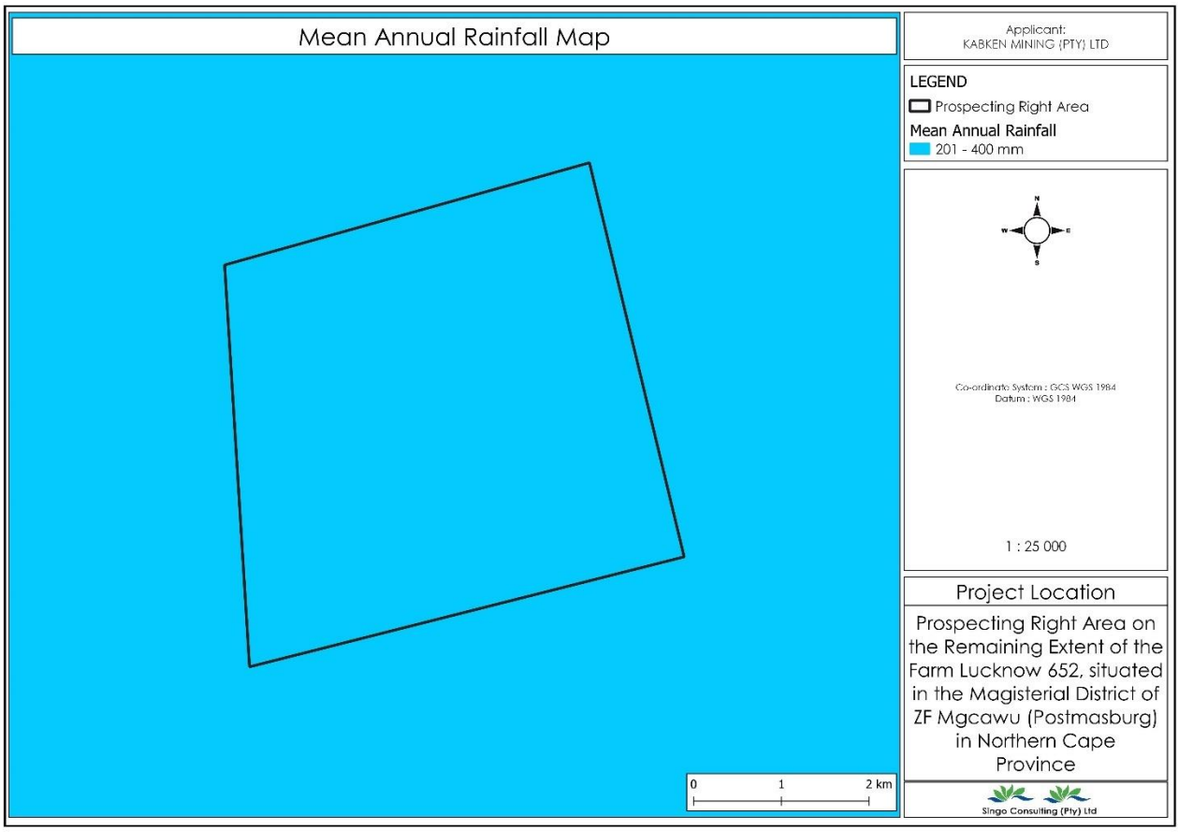


Figure 22: Mean Annual Rainfall Map of the study area.

8.3 Soil type

According to th e baseline soil study done be Singo consulting, the soil classes map in Figure 4 below, shows that the prospecting right area is largely covered with the **freely drained, structureless soils and Non soil land classes**.

Freely drained, structureless soils:

The freely drained, structureless soils can be defined based on their soil depth, Soil Drainage, erodibility, and natural fertility.

Soil depth

Depth of the soil profile is from the top to the parent material or bedrock. This type of soil can be classified as a restricted soil depth. A restricted soil depth is a nearly continuous layer that has one or more physical, chemical, or thermal properties.

Soil Drainage

Soil drainage is a natural process by which water moves across, though, and out of the soil because of the force of gravity. The soils in the proposed area have an excessive drainage due to the soils having very coarse texture. Their typical water table is less than 150.

Erodibility

Erodibility is the inherent yielding or non-resistance of soils and rocks to erosion. The freely drained structureless soils have high erodibility. A high erodibility implies that the same amount of work exerted by the erosion processes lead to a larger removal of material.

Natural Fertility

Soil fertility refers to the ability of soil to sustain agricultural plant growth, i.e., to provide plant habitat and result in sustained and consistent yields of high quality. The soil, as a nature of them, contains some nutrients which is known as 'inherent fertility'. Among the plant nutrients, nitrogen, phosphorus, and potassium is essential for the normal growth and yield of crop. The proposed area has a low natural fertility soil.

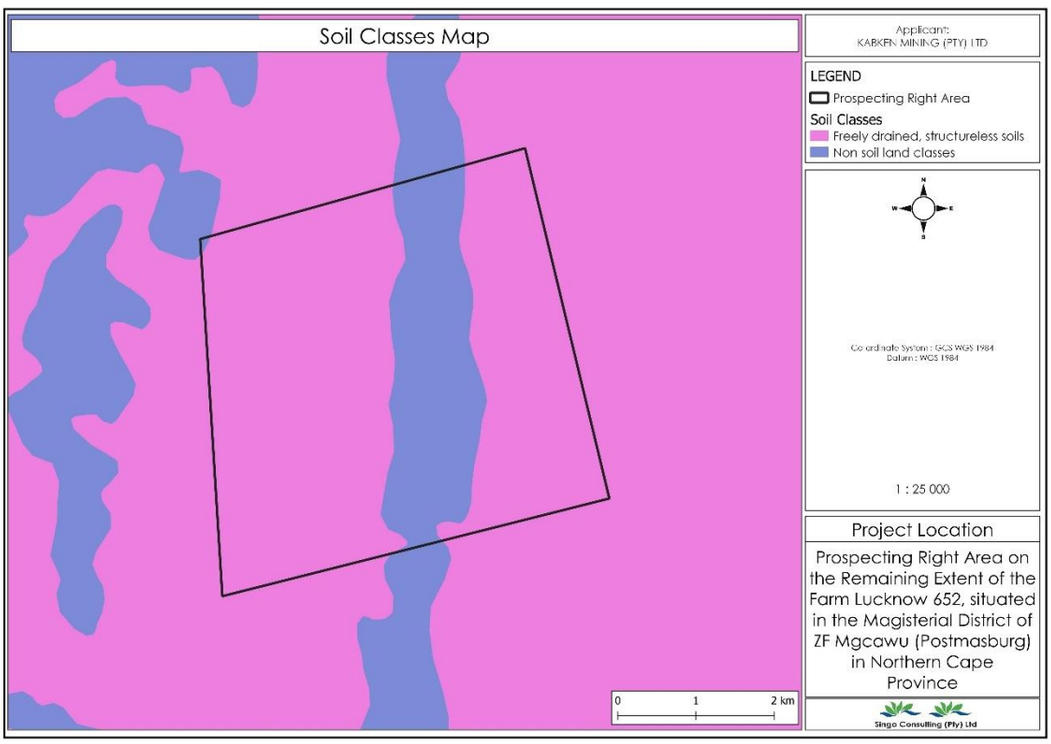


Figure 23: Soil classification.

Figure 24: Soil type observed on site

8.4 Topography

According to the Baseline Hydrogeological study done by Singo Consulting the topology of the area is illustrated below by Figure 22. A Topographic map is a map which indicates, to scale, the natural features of the Earth's surface, as well as human features, with features at the correct relationship to each other (Oxford Dictionary; 2020). The topography map other than showing landform features, rivers, and associated water resources, it also shows the height above sea level with the use of contour lines.

Contour lines are an Imaginary line on the ground surface joining the points of equal elevation. The topographical map used is of 20 meters contour interval and a scale of 1: 20 000. The scale is a representation of the real world and that of the map, which implies that 1 unit on the map equals 20 000 units on the ground. In this environmental project, topography is used to determine how surface water flows during rainy seasons or how it would flow during the existence of the project. The topography also influences groundwater vulnerability, as topography also influences run-off and infiltration.

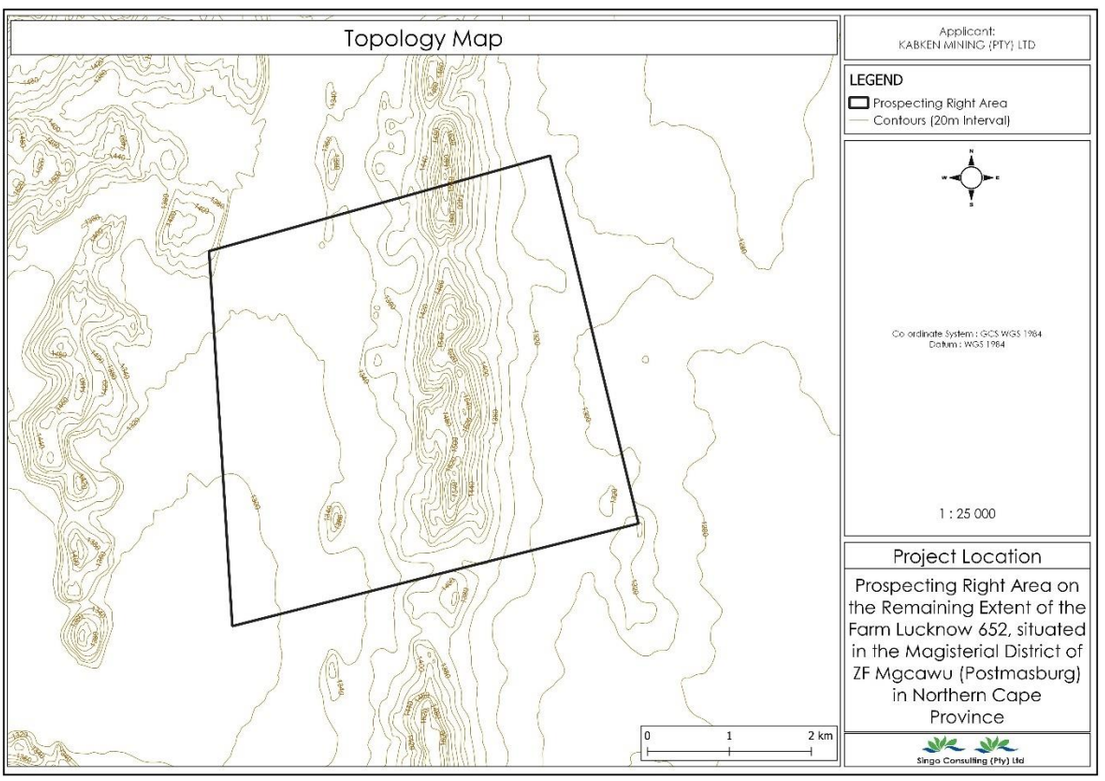


Figure 25: Topology Map

8.5 Hydrology

According to the Baseline Hydrogeological study conducted by Singo Consulting the hydrology surrounding the proposed area is of vital importance. In this context hydrology is all the surface waters appearing within and nearby the proposed project area, where a potential to be impacted upon by the project existence.

➢ **non-perennial river:** These are rivers that flow only during certain seasons. Non-perennial rivers are identified within and around the study area, flowing towards an area of low elevation situated in the southern and southeastern direction of the study area.

Drilling process is associated with a sump which is filled with dirty, or wastewater used during the drilling process**.** As such the sump should not be allowed to overflow since the placement of boreholes is closer to the waterbodies, as a recommendation, the sump should be on the side of the water body that is at a lower elevation

The waterbodies identified were found to be within 500 m from the boundaries of the study area. There will be procedures and guidelines put in place for this project to avoid the risk of water contamination through onsite and nearby water resources, such as ensuring strict management of waste material and buffering of 100 m. It will be advised on more mitigation measures to ensure the waterbodies as seen on the hydrology map are not contaminated. As shown in Figure 25, a 100m buffer will be applied around the water bodies present within the prospecting right area.

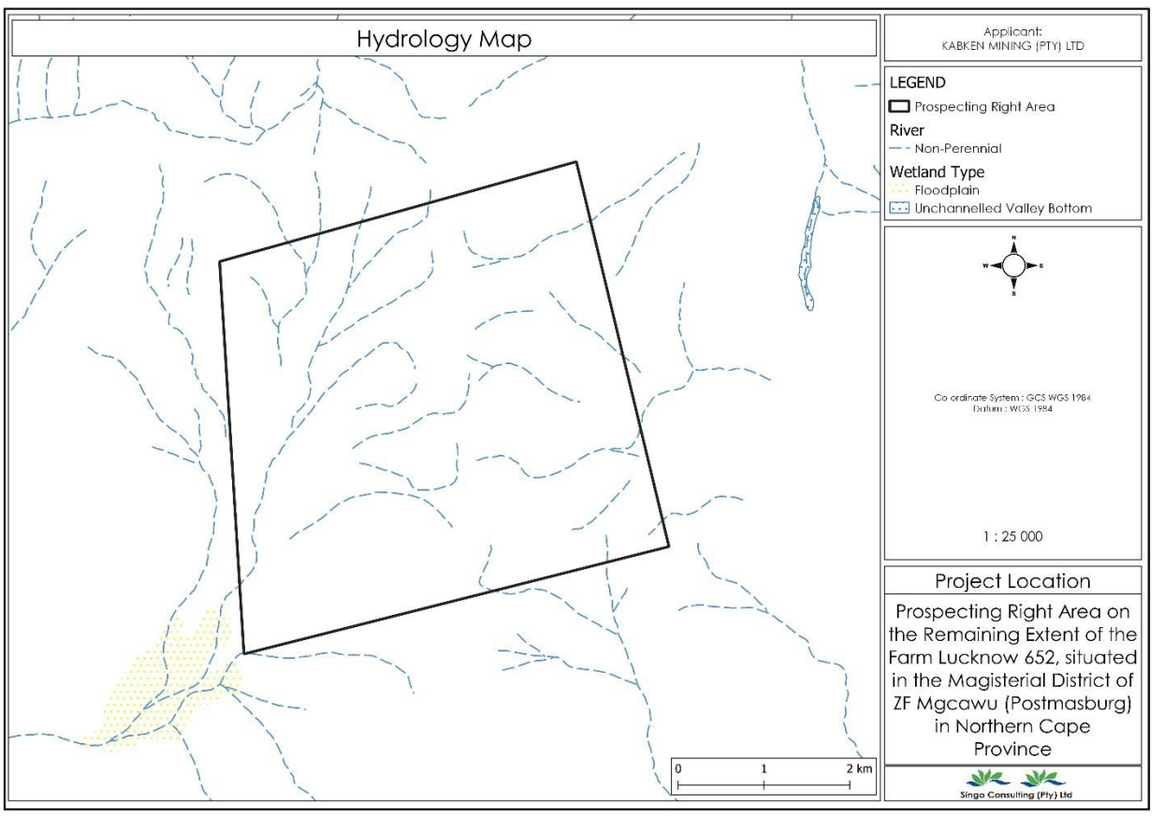


Figure 26: Hydrology of the area.

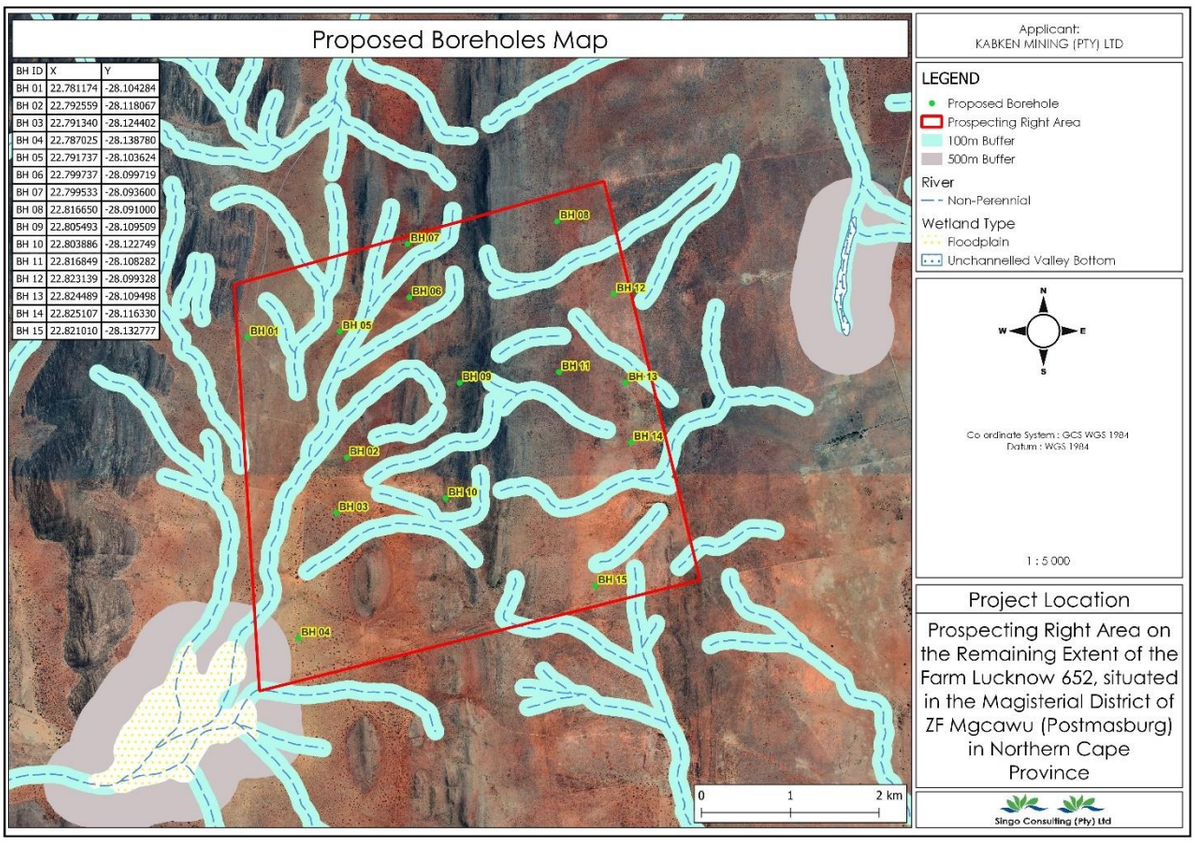


Figure 27: Proposed Borehole Ma

8.6 Vegetation cover

The proposed site is dominated by Kalahari Mountain Bushveld and according to screening tool report the area is characterized as low sensitive area mainly due to the type of plant species that area present in the area. During ground we observed that the area is covered with natural vegetation (mainly cotton grass).

MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY

Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their unique identifiers for which information is required. The name has been withheld as the species may be prone to illegal harvesting and must be protected. SANBI will release the actual species name after the details of the EAP or specialist have been documented.

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity

Figure 28: Map of Relative Plant Species Theme Sensitivity

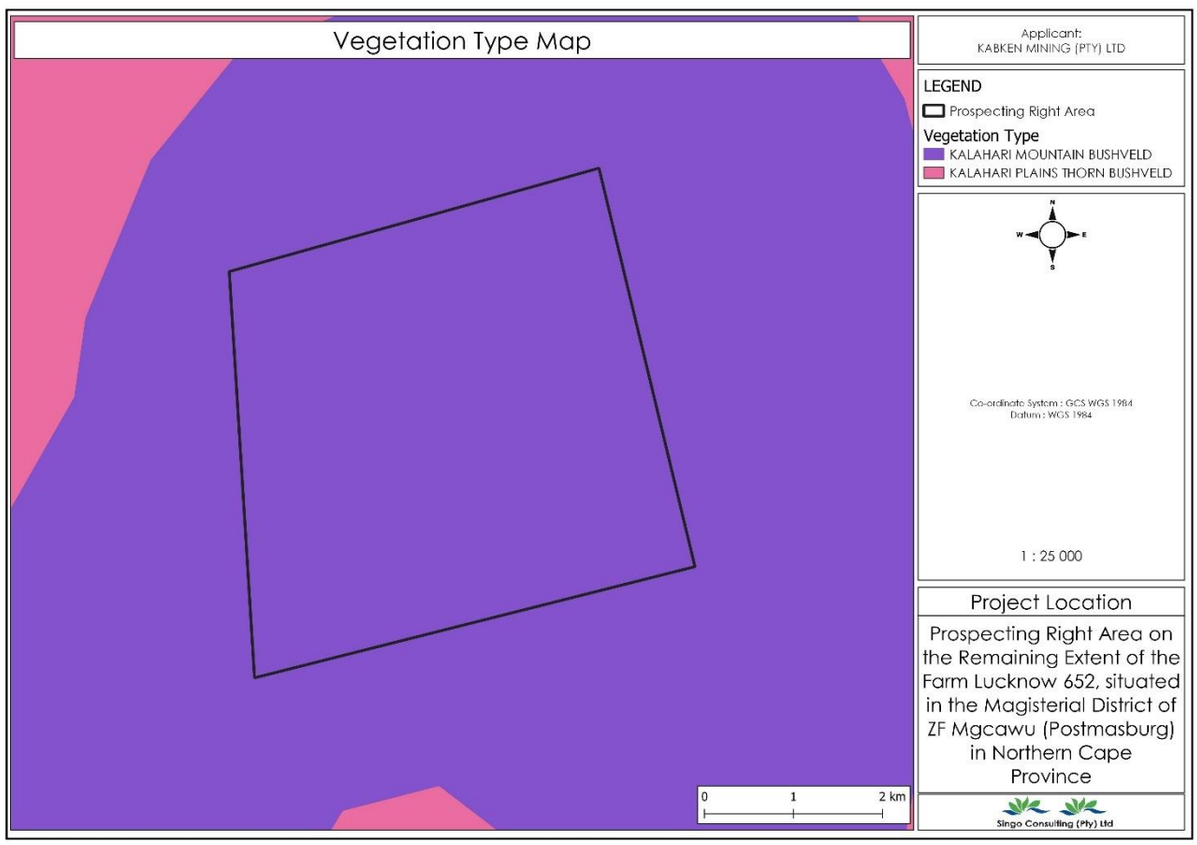


Figure 29: Vegetation in the area.

8.7 Fauna

According to the screening tool report the area is characterised as the medium sensitive area however the area on the screening is located within the low sensitive area and surrounded by medium sensitive area. During site assessment there was no sign of fauna with the project area however several wild and domestic animals were observed on the adjacent farms.

MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY

Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their unique identifiers for which information is required. The name has been withheld as the species may be prone to illegal harvesting and must be protected. SANBI will release the actual species name after the details of the EAP or specialist have been documented.

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		x	

Sensitivity Features:

Sensitivity	Feature(s)
Low	Subject to confirmation
Medium	Aves-Aquila verreauxii

Figure 30: Map of Relative Animal Species Theme Sensitivity

Figure 31: Fauna Observed on Site

8.8 Land Capability

The Land capability classification is one of several interpretation groups that was made for agricultural purposes. As with all the interpretation groups, the land capability classification starts with one soil-mapping unit, which is the building block of the system.

The land capability is classified as grazing, grazing lands have the potential to provide food for people, secure clean water and wildlife habitat, and store carbon in the soil, which helps to mitigate climate change. Furthermore, grazing lands help to cycle nutrients and build

healthy soil through vigorous vegetation growth. In this classification the arable soils are grouped according to their potentialities and limitations for sustained production of the common cultivated crops that do not require specialized site conditioning or site treatment. Nonarable soils (soils unsuitable for long time sustained use for cultivated crops) are grouped according to their potentialities and limitations to produce permanent vegetation and according to their risks of soil damage if mismanaged. The land capability of the proposed area is classified as an arable land and grazing. Arable land is any land capable of being ploughed and used to grow crops.

The prospecting area is classified grazing, and the other portion of the study area is classified as wilderness land, as seen on Figure 6.

The capability grouping of soils is designed:

0. To help landowners and others use and interpret the soil maps,
1. To introduce users to the detail of the soil map itself, and
2. To make possible broad generalizations based on soil potentialities, limitations in use, and management problems.

The capability classification provides three major categories of soil groupings:

0. Capability unit,
1. Capability subclass, and
2. Capability class.

The first category, capability unit, is a grouping of soils that have about the same responses to systems of management of common cultivated crops and pasture plants. Soils in any one capability unit are adapted to the same kinds of common cultivated and pasture plants and require similar alternative systems of management for these crops. Long-time estimated yields of adapted crops for individual soils within the unit under comparable management do not vary more than about 25 percent.

The second category, the subclass, is a grouping of capability units having similar kinds of limitations and hazards. Four general kinds of limitations or hazards are recognized: (1) Erosion hazard, (2) wetness, (3) rooting zone limitations, and (4) climate.

The third and broadest category in the capability classification places all the soils in eight capability classes. The risks of soil damage or limitations in use become progressively greater from class I to class VIII. Soils in the first four classes under good management can produce adapted plants, such as forest trees or range plants, and the common cultivated field crops ^ and pasture plants. Soils in classes V, VI, and VII are suited to the use of adapted native plants. Some soils in classes V and VI are also capable of producing specialized crops, such as certain fruits and ornamentals, and even field and vegetable crops under highly intensive management involving elaborate practices for soil and water conservation. Soils in class VIII do not return on-site benefits for inputs of management for crops, grasses, or trees without major reclamation.

The grouping of soils into capability units, subclasses, and classes is done primarily based on their capability to produce common cultivated crops and pasture plants without deterioration over a long period of time. To express suitability of the soils for range and woodland use, the soil mapping units are grouped into range sites and woodland-suitability group.

Table 8: Relationship of soil-mapping unit to capability classification (Source: Kellogo, 1961)

Soil-mapping unit	**Capability unit**	**Capability subclass**	**Capability class**
A soil mapping unit is the part of the landscape' that has the same qualities and characteristics and whose limits are static by accurate definitions. Within the cartographic limitations and considering the purpose for which the map is made, the soil mapping unit is the unit at which the highest number of accurate statements and predictions can be done. The soil mapping units gives more information about the details of soils. The basis for all the interpretation is the basic mapping	A group of one or more individual soil mapping units having similar potentials and continuing limitations or hazards is termed as capability unit. The soils in a capability unit are sufficiently uniform to (1) produce similar kinds of cultivated crops and pasture plants with similar management practices, (2) require similar conservation treatment and management under the same kind and condition of vegetative cover, (3) have comparable potential productivity. The capability unit condenses and simplifies soils information for planning individual tracts of land, field by	are the groupings of capability units that have the same major conservation problem are called Subclasses. The problems include— 1.E>Erosion and runoff. 2. W>Excess water. 3.S>Root-zone limitations. 4.C>Climatic limitations. The information about the involved limitations and the kind of problems related to conservation are provided by capability Subclass. The information about the map user relating to the limitation degree and the kind of	Capability classes are groups of capability subclasses or capability units that have the same relative degree of hazard or limitation. The limitation and risks of soil damage in use become more from class I to class VIII. The capability classes are useful as a means of introducing the map user to the more detailed information on the soil map. The classes show the location, amount, and general suitability of the soils for agricultural use. Only information concerning general agricultural limitations in soil use are obtained at the capability class level.

units. They provide the information required for the development of capability units, forest site groups, crop suitability groups, range site groups, engineering groups, and other interpretation groups. The most specific management ways and estimated yields relates to the individual mapping unit.	field. Capability units with the class and subclass furnish information about the degree of limitation, kind of conservation problems and the management practices needed.	problems involved in broad program planning, conservation need studies, and similar purposes are provided by the class and sub class.	

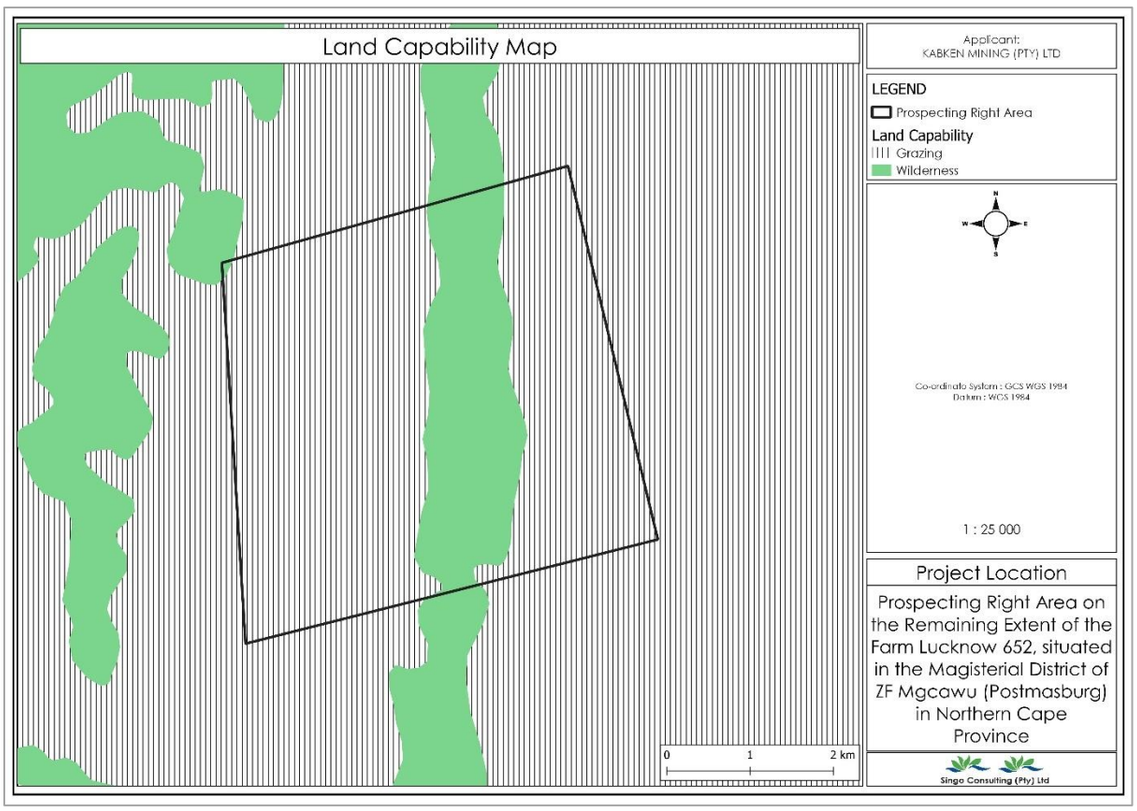


Figure 32: Land Capability Map

8.9 Biodiversity

The proposed project area is located within the Ecological Support Area, Unclassified areas and Other Natural Areas, according to the biodiversity map below. The Ecological Support Areas are critical to the ecological functioning of the Critical Biodiversity. This biodiversity category must be preserved in its natural state, with no habitat loss. The activities imposed on the land must have a low impact in order to prevent further biodiversity loss. According to the screening tool report the area is characterised as very high sensitive as the area is dominated by variety of life forms.

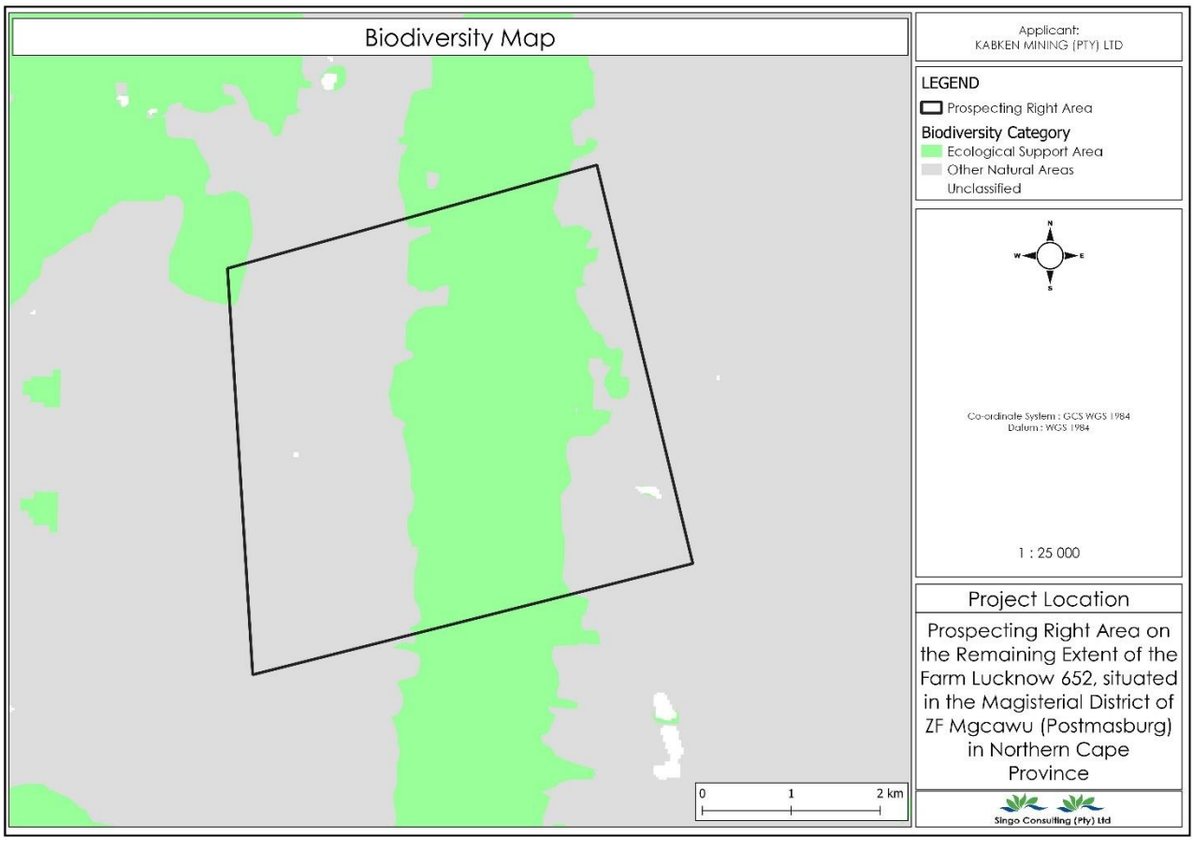


Figure 33: Biodiversity of the area.

MAP OF RELATIVE TERRESTRIAL BIODIVERSITY THEME SENSITIVITY

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity
Very High	Ecological support area
Very High	FEPA Subcatchments

Figure 34: Map of the Terrestrial Biodiversity Theme sensitivity

➢ Biome

The prospective prospecting area is in the Savanna Biome. The Savanna Biome is the largest in southern Africa, accounting for approximately 46% of its total area and more than one-third of South Africa. It is well developed in South Africa's lowveld and Kalahari regions. It has a grassy ground layer with a distinct upper layer of woody plants. Where this upper layer is close to the ground, the vegetation is called Shrubveld, where it is dense, Woodland, and the intermediate stages are called Bushveld.

The majority of savanna vegetation types are grazed, primarily by cattle or game. Goats are the main stock in the southernmost savanna types. Crops and subtropical fruit are grown in some areas. These primarily consist of Clay Thorn Bushveld, Mixed Bushveld, and Sweet Lowveld Bushveld. During ground truthing we also observed sheep's, goats and other game reserves animals grassing on the adjacent farms.

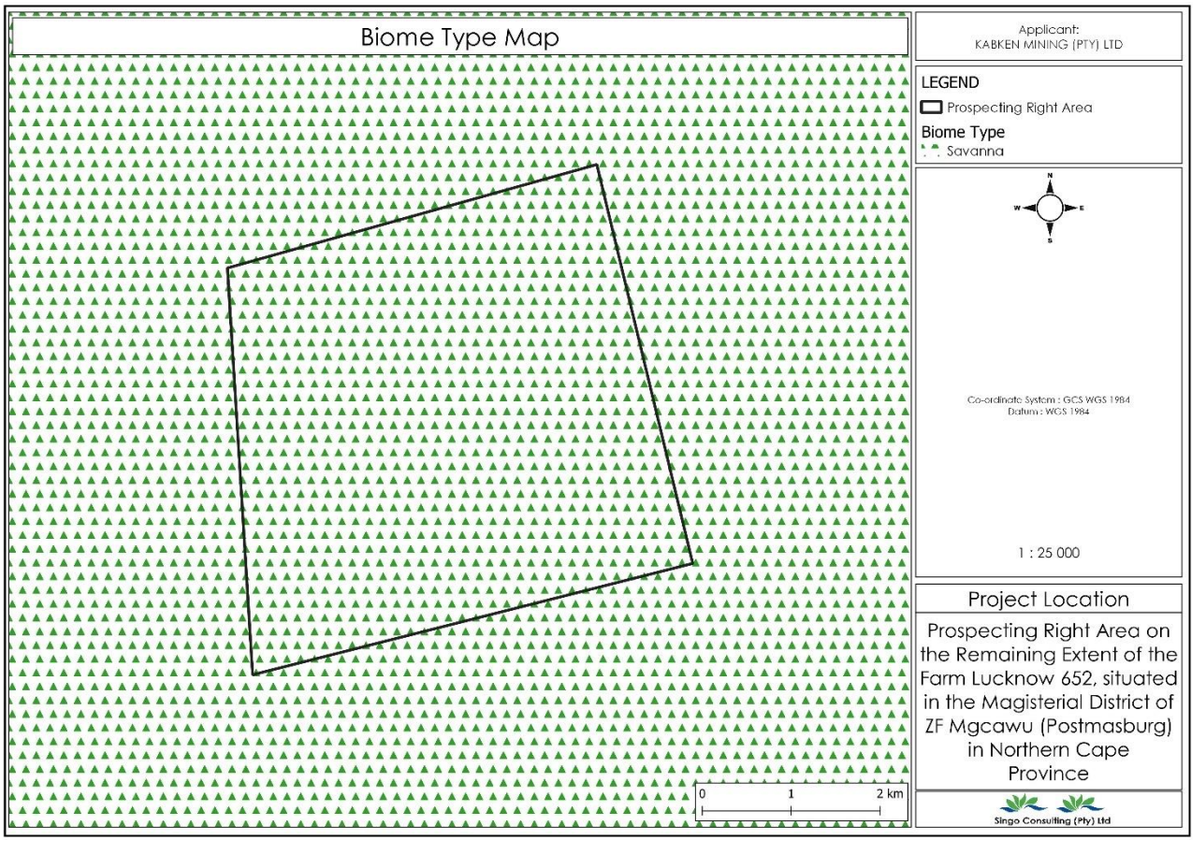
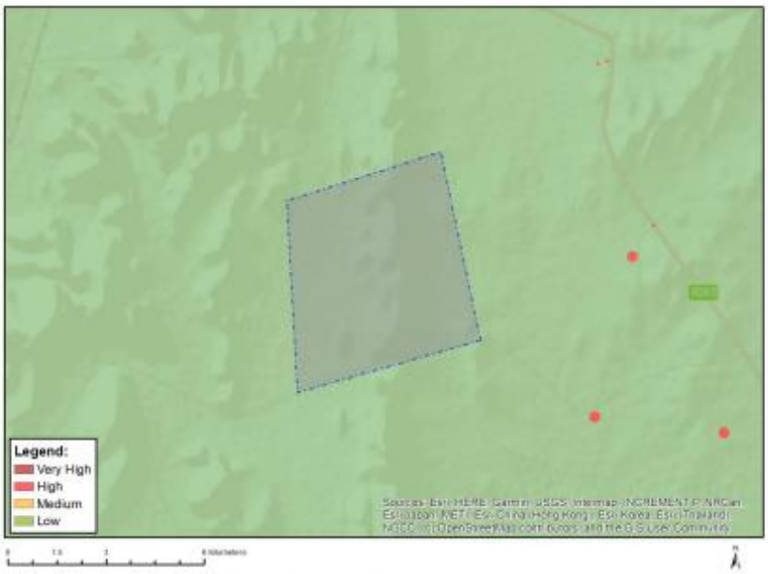


Figure 35: Biomes Map

8.10 Cultural Activities

During ground truthing no graves were observed on site and as deduced by screening tool report the area is characterized as low sensitive area in terms of Archaeological and Cultural Heritage Theme (see figure 36 below). In case graves or any other heritage structures arises during the operational phase, a buffer of 100m will implemented and borehole will be relocated to less sensitive area.

MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY

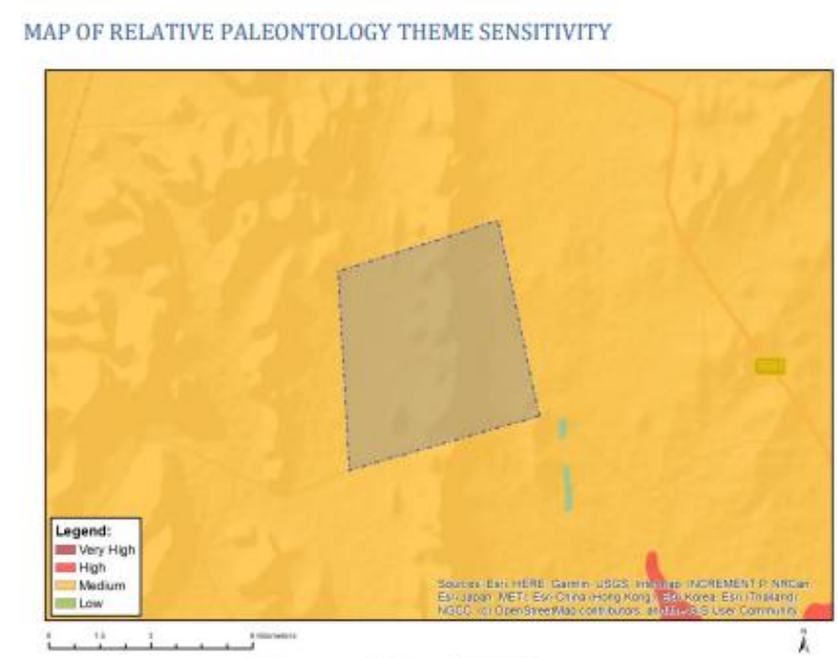


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

Figure 36: Map of Relative Archaeological and Cultural Heritage Theme Sensitivity



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		X	

Sensitivity Features:

Sensitivity	Feature(s)
Medium	Features with a Medium paleontological sensitivity

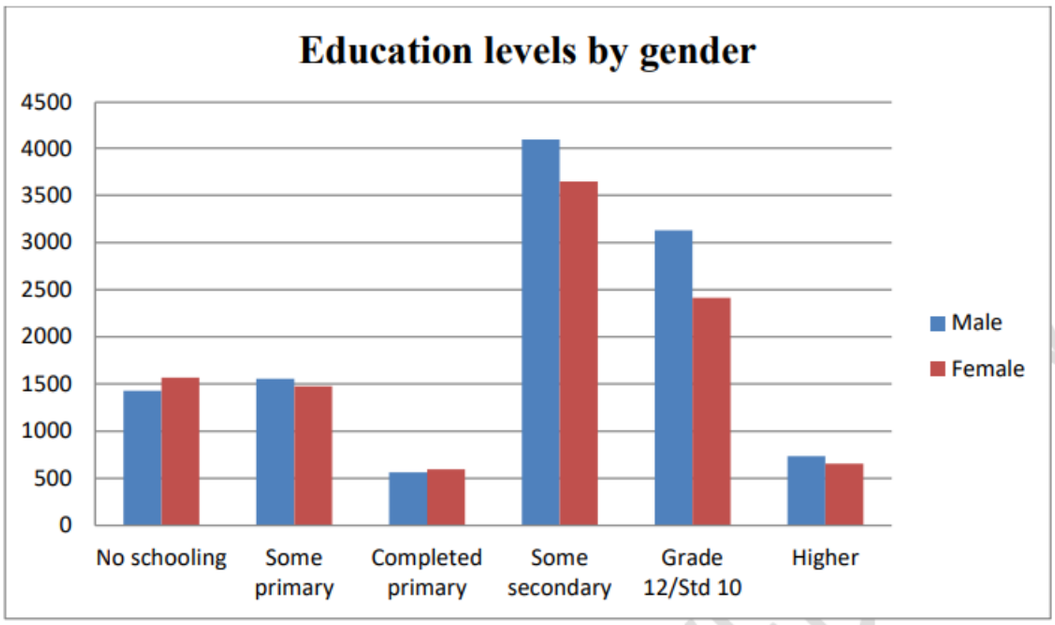
Figure 37: Map of Relative Palaeontology Theme Sensitivity

8.11 Socio-economic status

Education levels

It is important to understand the level of education of people in a particular area, as one is then able to have a clear understanding on how many have the potential to enter the labour market. From a statistical analysis it is clear that there has been an increase of people obtaining Matric since 2001. There has also been an increase in the number of people with higher education. The statistics indicate that although a high number of students enrolling for primary school a very low number of students complete grade 12.

This has resulted in a very low probability for employment. Only 5% of those who enrolled for grade 1 make it into tertiary. Less than 15% of the population has a tertiary qualification or have completed Grade 12. It must, however, be mentioned that the education level is affected negatively by the urbanization process, in the past since it mostly involves matriculates and those with a better qualification, due to the local lack of job opportunities. This can also be attributed to the fact that the nearest University of Technology (Central University of Technology, in Bloemfontein) is almost 400km away and the Sol Plaatjie University has recently started a limited offering of some courses. Males seems to be doing much better when it comes to education levels, as more men have some secondary education, grade 12 and higher education than their female counterparts

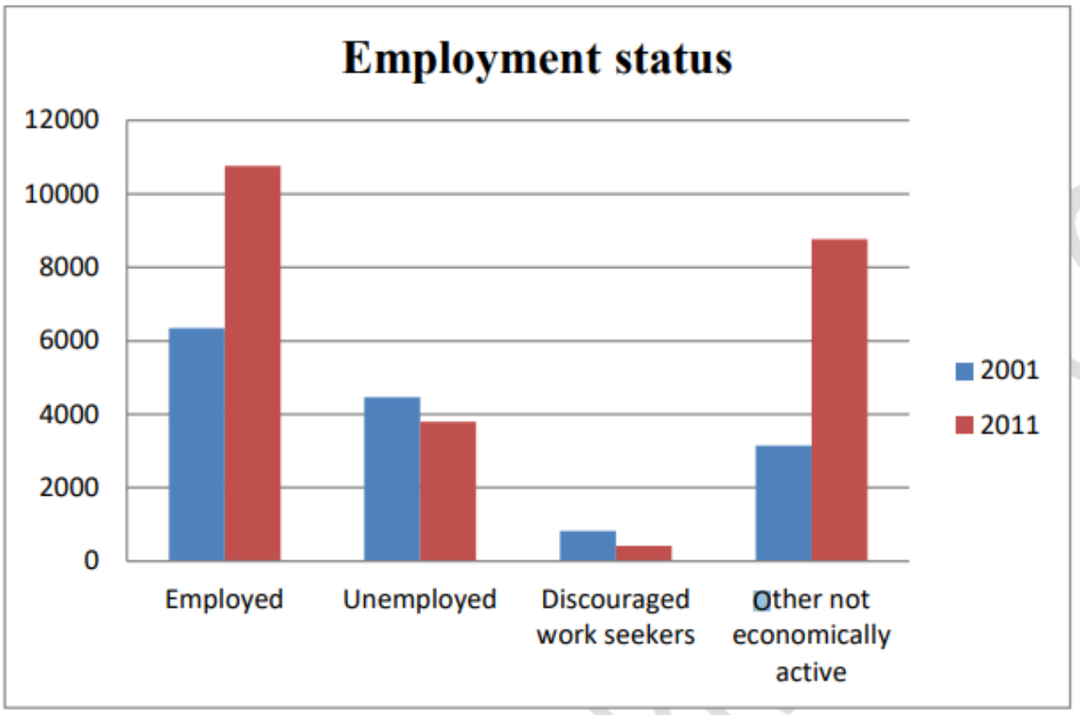


Labour Force

According to the STATSA unemployment figure has drastically reduced from 4 466 in 2001 to 3 795 in 2011 this shows a decrease of 15%. Employment has increased by 69% in 2011, this clearly indicates that there are more people working in 2011 than in 2001.

The Municipality is not developing its IDP in isolation. A range of national and provincial policy documents informed the IDP created an important context for the municipality's pans and strategies. Achieving a developmental state is not a responsibility of national government alone – let alone local municipalities. In the spirit of the 2003 Agreement at the National Growth and Development Summit, stronger social partnerships between government, organized labour, organized business and the community constituency are needed to address the investment, employment and poverty challenges that are confronting our faces. There is more employed people in 2011 than in 2001, however there is a very high level of

economically inactive members in 2011 than it was in 2001. The high number of economically inactive could indicate a high level of dependency on those who are employed.



8.12 Description of the current land uses

According to the Basic Soil Study that was done during desktop study it shows that the entire prospecting right area is covered with natural vegetation, waterbody and built-up land.

Natural vegetations are the endowments of nature, growing naturally by following the climatic variables. The types of natural vegetation differ according to precipitation, soil, climate, and topography. Therefore, the natural vegetations are expected to vary from one location to the other. Water body is a body of water forming a physiographical feature, for example a sea or a reservoir.

During site assessment it was confirmed that the area fully covered with natural vegetation with flat and mountainous landscape, one house that belong to the landowner. Wild animals were observed at the close perimeter of the project area. No powerlines were observed within the projects however solar panels were observed with the project area and on the road approaching the project area.

Figure 38: Proof of land use observed on site

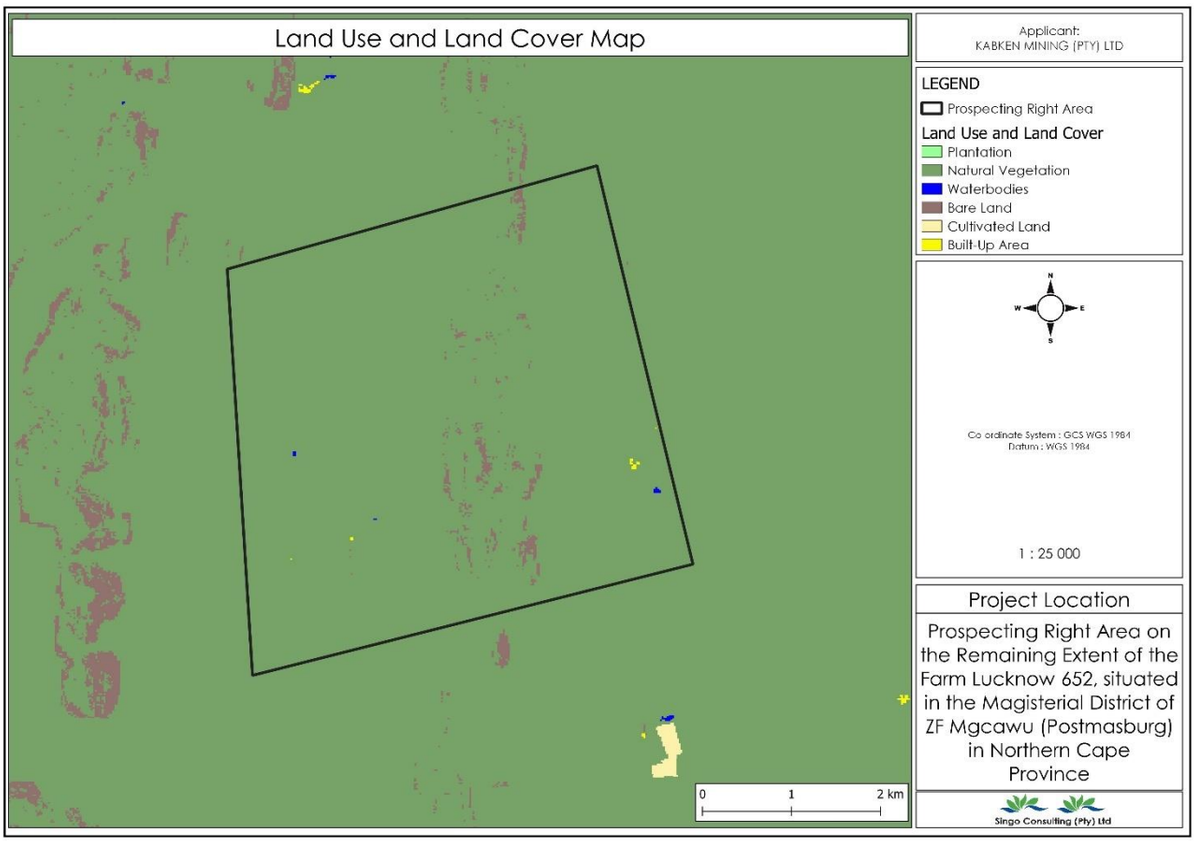


Figure 39: Current land use on the area

9 IMPACTS AND RISKS IDENTIFIED INCLUDING NATURE, SIGNIFICANCE, CONSEQUENCE, EXTENT, DURATION, AND PROBABILITY OF THE IMPACTS, INCLUDING THE DEGREE TO WHICH THESE IMPACTS.

(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. Please indicate the extent to which they can be reversed, the extent to which they may cause irreplaceable loss of resources, and can be avoided, managed, or mitigated).

Table 9: Impacts identified.

Unite Number	Activity	Aspect	Impact	Significance Rating Before Mitigation Measures									Mitigation Measures	Significance Rating after Mitigation Measures								
				I	F	D	E	P	S	C	IS	SIGNIFICANCE		I	F	D	E	P	S	C	IS	SIGNIFICANCE
1, 0	Employment of workers and procurement of materials	Social	Creation of employment. The nature of the project is one where a contractor is outsourced therefore the project is minuscule and only general workers may be employed	1	1	1	1	0, 4	1, 0	1, 0	0, 4	(P) Very Low	Procumbent opportunities will be maximised as much as possible. Services may be sourced from the local community.	2	1	1	1	0, 6	1, 3	1, 2	0,7	(P) Very low

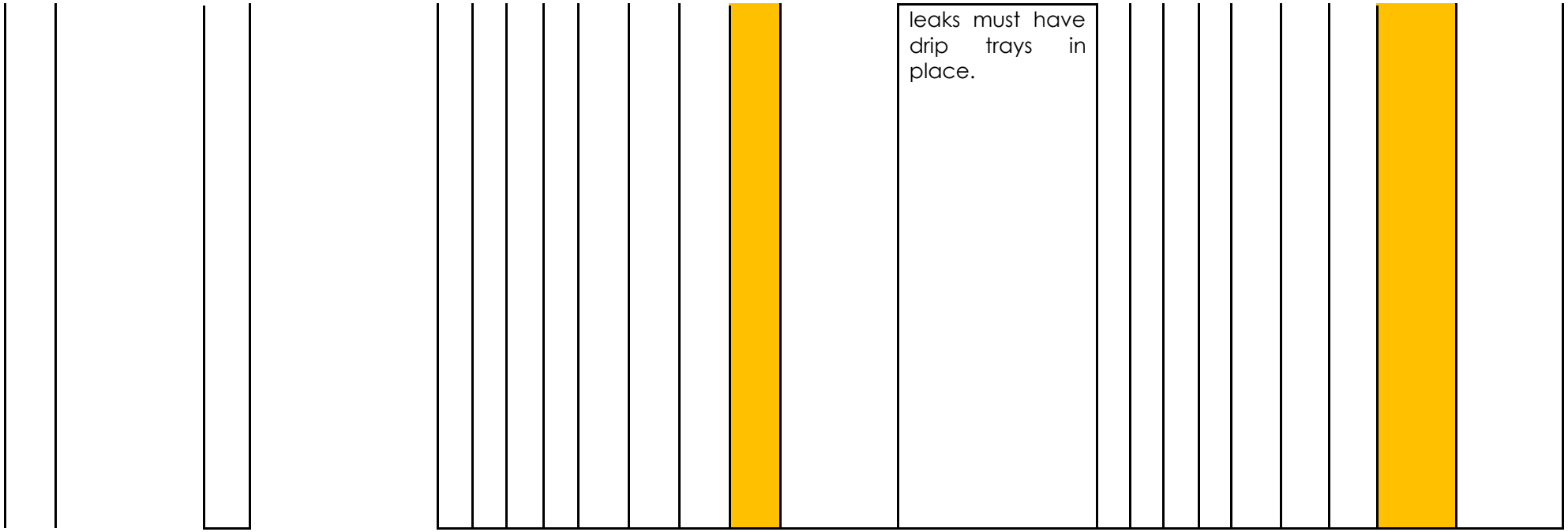
2,0	Transportation of equipment and material to site	Air Quality	Dust generation emanating from the movement of the drill rig onto the site.	3	1	1	1	1,0	1,7	1,3	1,3	Low	Ensure that dust suppressants are applied to gravel or unpaved roads that are in use; Vehicles will obey speed limits.	2	1	1	1	0,8	1,3	1,2	0,9	Very low
		Topography and Visual Environment.	Topographical change Negative visual impact caused by driling	2	1	1	1	0,8	1,3	1,2	0,9	Very low	Ensure liaison with the local authorities for the maintenance and upkeep of roads; Ensure that dust suppressants are applied to gravel or unpaved roads that are in use; and Vehicles will obey speed limits.	2	1	1	1	0,6	1,3	3,0	1,8	Very low

		Surface and ground water		2	5	4	1	0,8	3,7	2,3	1,9	Low	All potential hydrocarbon spillages and leaks must be cleaned up immediately and the soils remediated; Spillage control kits will be readily available on site to contain the mobilisation of contaminants and clean up spills; All vehicles and machinery to be serviced in a hard park area or at an off-site location; Storage of hydrocarbons and explosives must be managed according to the Hazardous Substances Act, 1973 (Act No. 15 of 1973);	2	5	5	2	0,6	4,0	3,0	1,8	Low

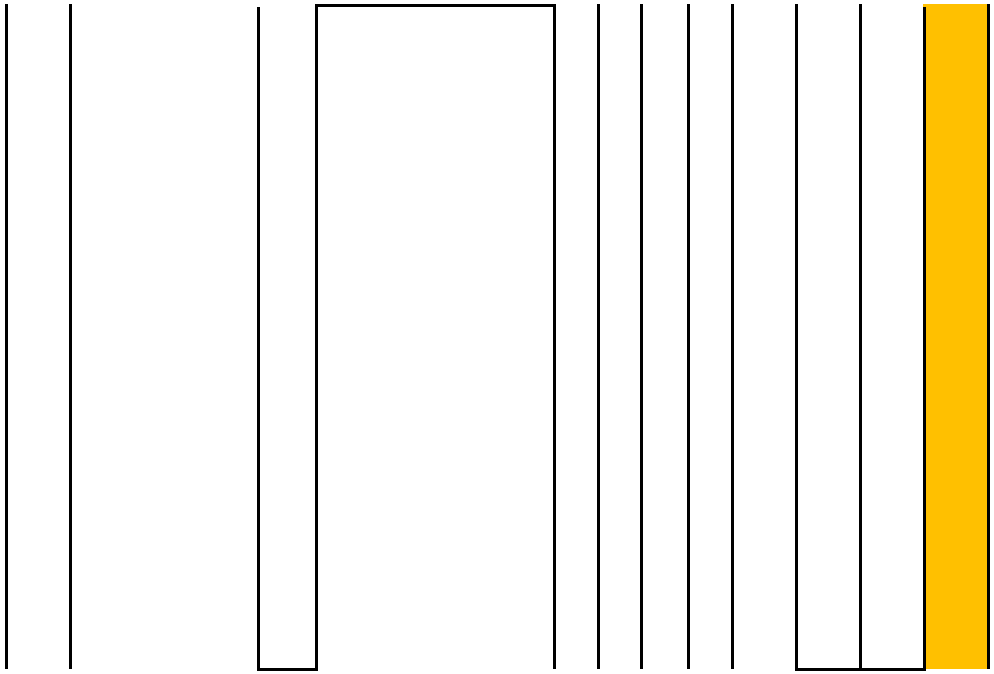
												Hydrocarbons and explosives storage facilities must be in a hard park bunded facility; and Vehicles with leaks must have drip trays in place.											
		Maize Crop	Cleareance of maize where borehole is to be drillied	3	1	1	1	1,0	1,7	1,3	1,3	Low	Drilling will only occur after harvest. No crops will be removed. Drilling will occur during the dry seasons. Area will be rehabilitated immediately to prepare for planting of seeds	2	1	1	1	1,0	1,3	0,8	0,8	Very low

		Soil	Soil compaction.	3	1	1	1	0,8	1,7	1,3	1,1	Low	If possible, vegetation clearance can be scheduled to coincide with low rainfall conditions when soil moisture is anticipated to be relatively low such that the soils are less prone to compaction (during dry seasons) The movement of heavy vehicle (drill rig) should be limited to existing roads.	2	1	1	1	0,8	1,3	1,2	0,9	Very low

3.	Use and storage of fuel and lubricants.	Soil	Soil contamination and degradation.	3	1	1	1	0,8	1,7	1,3	1,1	Low	All potential hydrocarbon spillages and leaks must be cleaned up immediately and the soils remediated; Spillage control kits will be readily available on site to contain the mobilisation of contaminants and clean up spills; All vehicles and machinery to be serviced in a hard park area or at an off-site location; Storage of hydrocarbons must be managed according to the Hazardous Substances Act, 1973 (Act No. 15 of 1973); and Vehicles with	2	5	5	2	0,6	4,0	3,0	1,8	Low


leaks must have drip trays in place.

		Surface Water	Impacts on surface water resources as a result of hydrocarbon spills.	3	3	1	2	0,6	2,3	2,2	1,3	Low	In case whereby contractors bring on site mobile bowsers and lubricants, these are to be stored in a bunded area when parked at the construction areas; All potential hydrocarbon spillages and leaks must be cleaned up immediately and the soils remediated; Spillage control kits will be readily available on site to contain the mobilisation of contaminants and clean up spills; All vehicles and machinery to be serviced in a hard park area or at an off-site location;	2	3	1	1	0,4	2,0	1,5	0,6	Very low



	Storage of hydrocarbons must be managed according to the Hazardous Substances Act, 1973 (Act No. 15 of 1973); and Vehicles with leaks must have drip trays in place.

		Groundwater	Groundwater contamination	4	3	1	2	0,6	2,7	2,3	1,4	Low	In case whereby contractors bring on site mobile bowsers and lubricants, these are to be stored in a bunded area when parked at the construction areas; All potential hydrocarbon spillages and leaks must be cleaned up immediately and the soils remediated; Spillage control kits will be readily available on site to contain the mobilisation of contaminants and clean up spills; All vehicles and machinery to be serviced in a hard park area or at an off-site location;	2	2	1	1	0,4	1,7	1,3	0,5	Very low

													Storage of hydrocarbons must be managed according to the Hazardous Substances Act, 1973 (Act No. 15 of 1973); and Vehicles with leaks must have drip trays in place.										
4,0	4. Site clearance as a result of the preparations for temporary surface infrastructure.	Air Quality	Dust generation emanating from the activities associated with prospecting	4	4	1	3	1,0	3,0	3,0	3,0	Moderate	The area of disturbance must be restricted to the required footprint size; Ensure that only vegetation within the designated areas is removed; Gravel roads to be wetted by a water browser	3	3	1	2	0,8	2,3	2,2	1,7	Low

												and/or any applicable dust suppressant so as to reduce dust plumes.									
		Topography and Visual Environment	Disturbance of scenery due to site and machinery	3	1	1	1	1,0	1,7	1,3	1,3	Low	Machinery and site set up will only be present during the specified, communicated and agreed upon timeframe.	2	1	1	1	1,0	1,3	1,2	1,2	Low

		Soil erosion and generation of dust.	3	3	1	2	0,8	2,3	2,2	1,7	Low	Dust can be mitigated by suppressants so that the construction phase does not produce bursts of dusts	3	2	1	2	0,6	2,0	2,0	1,2	Low
		Soil compaction.	3	3	1	1	0,8	2,3	1,7	1,3	Low	If possible, vegetation clearance and commencement of related activities (construction of haul road), can be scheduled to coincide with low rainfall conditions when soil moisture is anticipated to be relatively low such that the soils are less prone to compaction; The movement	2	2	1	1	0,8	1,7	1,3	1,1	Low

											of heavy vehicle should be limited to existing roads									
		Loss of land capability and land use potential	2	1	1	1	0,8	1,3	1,2	0,9	Very low	• Any compacted soils must be ripped to alleviate compaction; • The footprint should be re-vegetated with the relevant seed mixture as soon as possible	2	1	1	1	0,6	1,3	1,2	0,7	Very low
		Loss of vegetation communities.	2	1	1	1	0,6	1,3	1,2	0,7	Very low	• Ensure site clearing is restricted to the footprint of the designated areas to limit the degradation and destruction of the cultivated land • All activities are to occur after harvest so as to not disturb production of maize	2	1	1	1	0,4	1,3	1,2	0,5	Very low

		The destruction or degradation of watercourse vegetation.	2	5	5	2	0,6	4,0	3,0	1,8	Low	• Ensure the flow of water through the moist grassland areas remain unchanged. • Monitor the presence of hydrophytes and species with an affinity for moist soils within the moist grasslands. Should such species decrease of be replaced by terrestrial species, then it is likely that the hydrological regime on the site has changed. • If moist grasslands are found to become drier, the Crinum species must be relocated to suitable habitat. • Input of sediment due to any related mining activities should be	2	4	4	1	0,6	3,3	2,2	1,3	Low

											prevented at all cost. • Pollution of the surface and groundwater. Mitigation for this potential impact includes: o In the case of pollution of any surface or groundwater, the Regional Representative of the Department of Water Affairs must be informed immediately; o Store all litter carefully so it cannot be washed or blown into the water course; o Storage of potentially hazardous materials should be above any 100-year flood line or the functional wetland boundary (and its associated									

													buffer zone). These materials include fuel, oil, cement, bitumen etc.; o Surface water draining off contaminated areas containing oil and petrol would need to be channelled towards a sump which will separate these chemicals and oils; o No uncontrolled discharges of water from the mine to any surface water resources shall be permitted. Any discharge points need to be approved by the relevant authority.									

		Destruction of Maize filed.	3	2	1	1	1,0	2,0	1,5	1,5	Low	The contractors setting up should use the EMPR to oversee construction activities and ensure the following: • Keep the development footprint in Medium categories as small as possible. • A temporary fence or demarcation must be erected around the construction area (include the actual footprint, as well as areas where material is stored) to prevent access to adjacent sensitive vegetation. • Maintain site demarcations in position until the cessation of construction work. • Only remove	2	4	4	1	0,6	3,3	2,2	1,3	Low

													vegetation where necessary and retain vegetation in place for as long as possible prior to removal. • Prohibit vehicular or pedestrian access into natural areas beyond the demarcated boundary of the construction area. • Formalise access roads and make use of existing roads and tracks where feasible, rather than creating new routes through naturally vegetated areas. • Implement a vegetation rehabilitation plan to ensure areas that can be rehabilitated post construction are adequately									

												vegetated with indigenous grass species. • After construction, the land must be cleared of rubbish, surplus materials, and equipment, and all parts of the land must be left in a condition as close as possible to that prior to construction.								

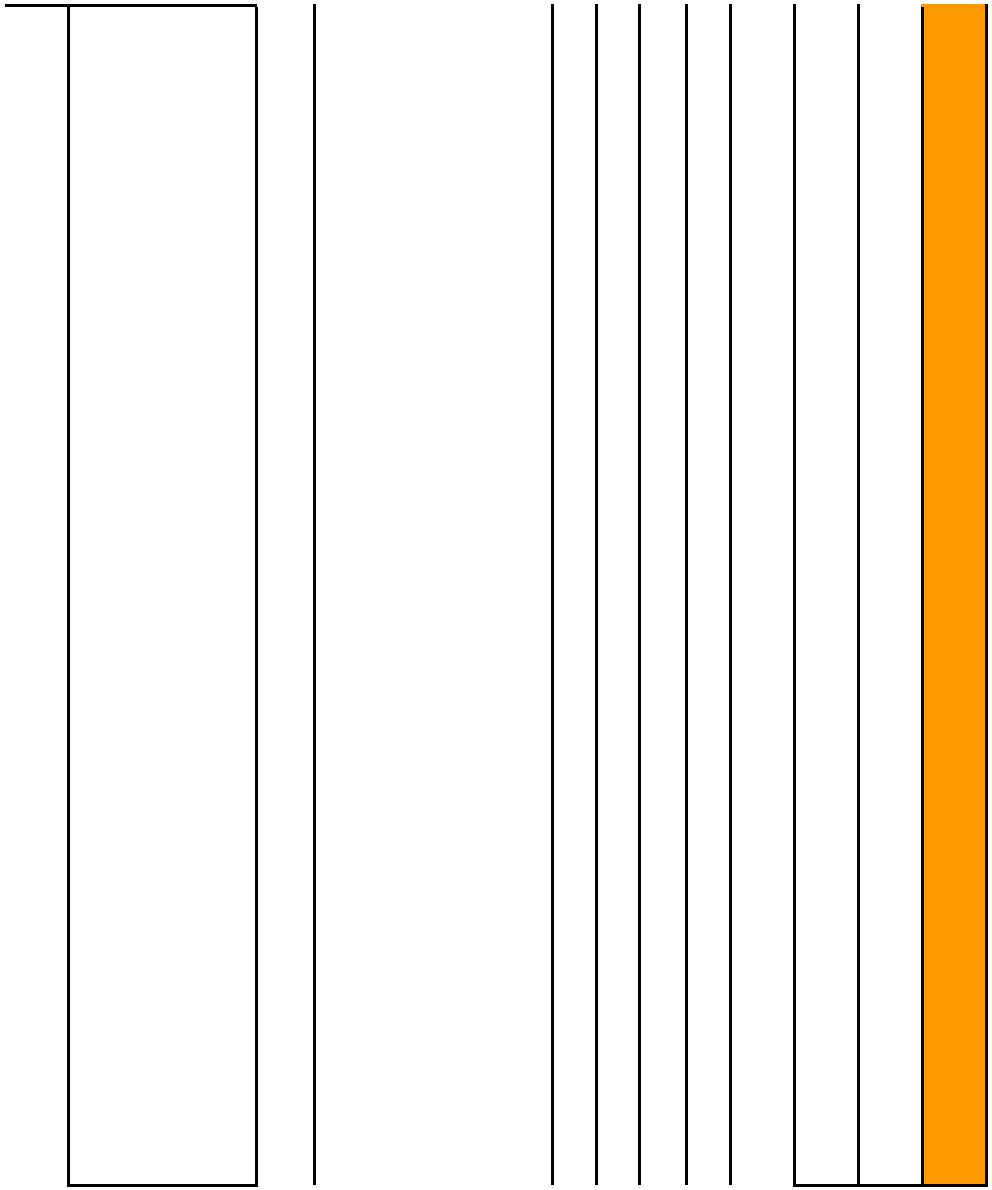
		Erosion and subsequent sedimentation or pollution of proximate moist grassland (watercourse).	3	3	1	1	0,8	2,3	1,7	1,3	Low	• Make use of existing roads and tracks where feasible, rather than creating new routes through cultivated areas.. • Do not remove any vegetation unnecessarily and only remove as per the specified extent. • Runoff from access roads must be managed to avoid erosion and pollution problems. • Protect all areas susceptible to erosion and ensure that there is no undue soil erosion resultant from activities within and adjacent to the construction camp and work areas. • Prevent spillage of	3	2	1	1	0,6	2,0	1,5	0,9	Very low

													construction material, oils or other chemicals, strictly prohibit other pollution. Ensure there is a method statement in place to remedy any accidental spillages immediately. • After construction clear any temporarily impacted areas of all foreign materials, re-apply and/or loosen topsoil's and landscape to surrounding level.									

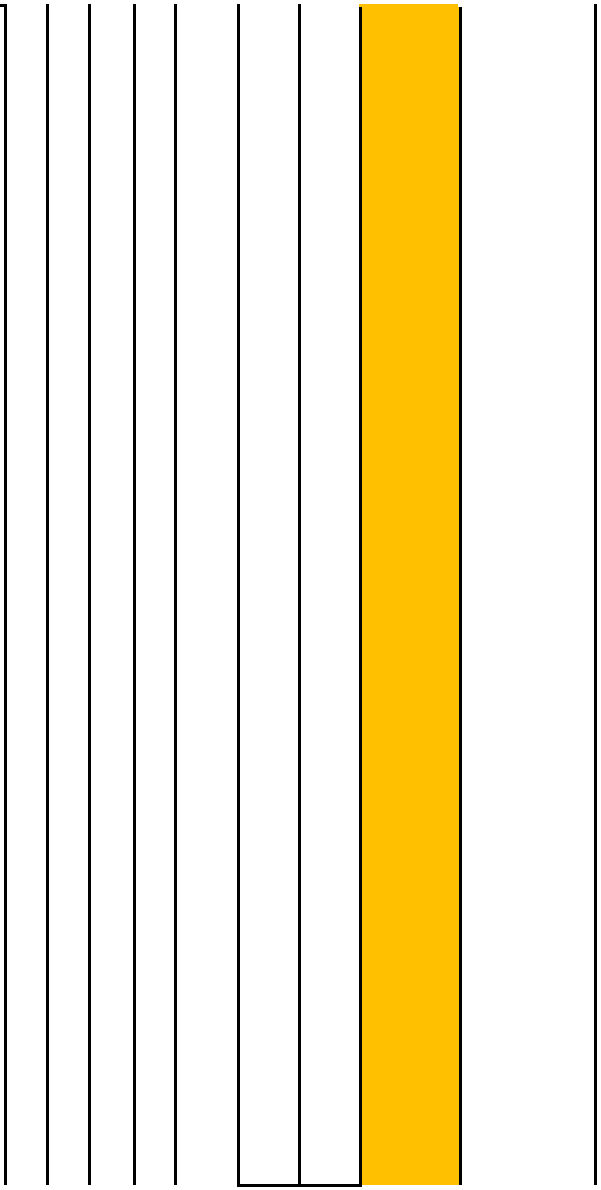
			Siltation of surface water resources.	3	2	1	2	0,8	2,0	2,0	1,6	Low	• Ensure site clearing is limited to the designated areas	2	1	1	1	0,6	1,3	1,2	0,7	Very low
		Surface and ground water	Contamination of water resources	3	2	1	2	0,8	2,0	2,0	1,6	Low	• Ensure that no infrastructure, containers, or machinery is leaking during the construction phase. • Groundwater monitoring of the water quality and levels must take place. A tray or cover must be in place for objects with hazardous substances to avoid any possible leaks/spillage.	2	1	1	1	0,8	1,3	1,2	0,9	Very low
		Noise	Noise emanating from the construction of the site and vehicles impacting on surrounding sensitive receptors.	3	2	1	2	0,6	2,0	2,0	1,2	Low	• Ensure site clearing activities are only undertaken during daylight hours; • Ensure equipment and machinery is switched off	2	2	1	2	0,6	1,7	1,8	1,1	Low

												when not in use.										
5,0	Storage, use and control of fuel and lubricants to be used for the drilling activities.	Soil	Soil contamination and degradation	4	4	1	1	0,8	3,0	2,0	1,6	Low	• All potential hydrocarbon spillages and leaks must be cleaned up immediately and the soils remediated; • Spillage control kits will be readily available on site to contain the mobilisation of contaminants and clean up spills; • All vehicles and machinery to be serviced in a hard park area or at an off-site location; • Storage of hydrocarbons must be managed according to the Hazardous Substances Act, 1973 (Act No. 15	2	4	1	1	0,6	2,3	1,7	1,0	Low

												of 1973); • Hydrocarbons storage facilities must be in a hard park bunded facility; and • Vehicles with leaks must have drip trays in place.										
		Groundwater	Groundwater contamination	5	3	1	2	1,0	3,0	2,5	2,5	Moderate	• All potential hydrocarbon leaks must be repaired immediately and spillages be cleaned up immediately and the soils remediated; • Spillage control kits will be readily available on site to contain the mobilisation of contaminants and clean up spills; • All vehicles and machinery to be serviced in a hard park area or at an off-site	4	2	1	1	0,8	2,3	1,7	1,3	Low



location;
- Storage of hydrocarbons and explosives must be managed according to the Hazardous Substances Act, 1973 (Act No. 15 of 1973);
- Hydrocarbons and explosives storage facilities must be in a hard park bunded facility; and
- Vehicles with leaks must have drip trays in place; and
- Groundwater monitoring of the water quality and levels must take place quarterly especially for the water supply boreholes to ensure a sustainable resource and identify impacts on local users.



6,0	Vehicular activity.	Air Quality	Fugitive dust generation emanating.	3	3	1	2	0,8	2,3	2,2	1,7	Low	• Ensure the area of disturbance during the prospecting activities is restricted to the extent of the drilling area • Ensure that dust suppressants are applied to gravel or unpaved roads that are in use; • Vehicles will obey speed limits. Maintenance equipment and heavy vehicle speeds should be reduced, where possible, to prevent dust emissions.	2	3	1	2	0,6	2,0	2,0	1,2	Low
		Topography and Visual Environment	Topography change and disruption of surface water flow	3	2	1	2	0,8	2,0	2,0	1,6	Low	• Ensure that existing access roads are used as much as possible. • Ensure that dust suppressants are applied to gravel or unpaved	2	2	1	1	0,6	1,7	1,3	0,8	Vey low

											roads that are in use; and • Vehicles will obey speed limits.									
	Soil	Soil contamination and degradation.	3	3	1	2	1,0	2,3	2,2	2,2	Moderate	• All potential hydrocarbon spillages and leaks must be cleaned up immediately and the soils remediated; • Spillage control kits will be readily available on site to contain the mobilisation of contaminants and clean up spills; • All vehicles and machinery to be serviced in a hard park area or at an off-site location; • Storage of hydrocarbons and explosives must be managed according to the	2	3	1	2	0,8	2,0	2,0	1,6	Low

											Hazardous Substances Act, 1973 (Act No. 15 of 1973); • Hydrocarbons and explosives storage facilities must be in a hard park bunded facility; and • Vehicles with leaks must have drip trays in place.									
	Fauna and Flora	Loss of biodiversity and minimise impacts on floral species	3	2	1	2	0,8	2,0	2,0	1,6	Low	• Ensure that dust suppressants are applied to gravel or unpaved roads that are in use; • Vehicles will obey speed limits.	2	2	1	2	0,6	1,7	1,8	1,1	Low
	Wetlands and Aquatic Ecology	Contamination and sedimentation of the wetland systems and aquatic ecosystems	2	2	1	2	1,0	1,7	1,8	1,8	Low	• Ensure a Storm Water Management Plan is implemented; • Ensure that dust suppressants are applied to gravel or unpaved roads that are in use and exposed	2	1	1	2	0,6	1,3	1,7	1,0	Low

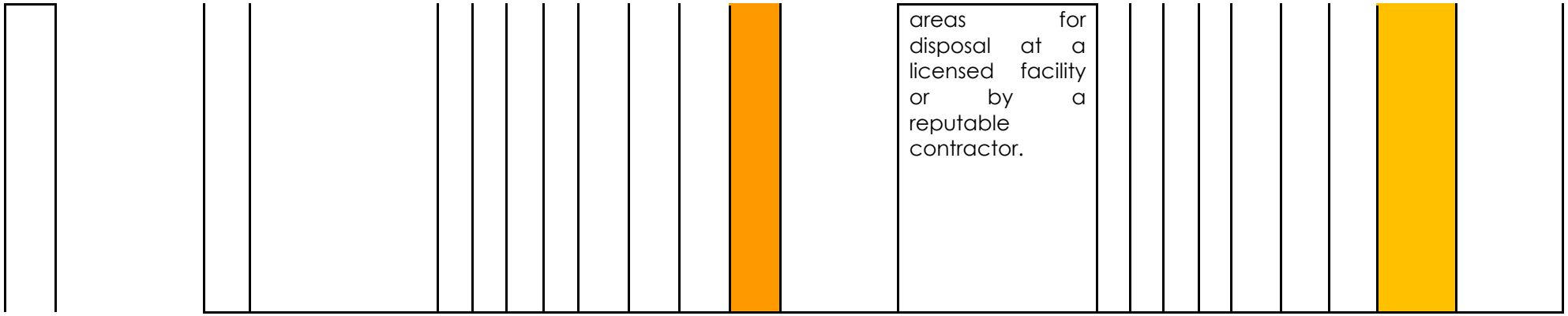
											surfaces; • Cover the road going trucks from the tip to KPS with a tarpaulin to prevent coal dust generation; • Vehicles will obey speed limits; and • Implement a biannual Aquatic Monitoring Programme to monitor potential impacts and implement corrective actions, should it be required.									
	Surface Water	Contamination and sedimentation of clean water resources.	3	2	1	2	0,8	2,0	2,0	1,6	Low	• Ensure that dust suppressants are applied to gravel or unpaved roads that are in use and exposed surfaces; • Vehicles will obey speed limits; and • Monitor surface water resources around project area to identify	2	1	1	1	0,6	1,3	1,2	0,7	Very low

												potential contamination.									
	Noise	noise emanating from mining and vehicular activities impacting on surrounding sensitive receptors.	4	4	1	2	1,0	3,0	2,5	2,5	Moderate	• Prospecting related machines and vehicles should be serviced prior to commencement of activities and should there be an issue the equipment must be serviced immediately to avoid further generation of noise outside that of the drilling • Ensure equipment and machinery is switched off when not in use. • Adhere to the set speed limit in accordance with the Management	2	4	4	1	0,8	3,3	2,2	1,7	Low

												Plan.										
		Traffic	Degradation of the road structures resulting in potential health and safety risks and soil erosion.	3	2	1	2	0,8	2,0	2,0	1,6	Low	• existing roads must be used as much as possible. Road use should remain in the working hours stipulated in the management programme. • Adhere to the set speed limit in accordance with the Management Plan.	2	2	1	2	0,4	1,7	1,8	0,7	Very low

7,0	Waste and sewage generation and disposal.	Topography and Visual Environment	Topography change	2	3	1	2	0,8	2,0	2,0	1,6	Low	• Waste must be stored away from surface water and drainage lines; and • General and hazardous waste must be removed and disposed of frequently at a registered disposal site.	2	2	1	1	0,6	1,7	1,3	0,8	Very low
		soil	Degradation and contamination of soil	4	3	1	2	0,8	2,7	2,3	1,9	Low	• Burying of any waste including domestic waste, empty containers on the site must be strictly prohibited; • Proper waste storage facilities should be available and used for the correct separation and storage of waste prior to collection and disposal; and • Generated waste must be removed to an approved	3	2	1	1	0,4	2,0	1,5	0,6	Very low

											disposal facility.										
	Surface Water	Contamination of clean water resources.	4	3	1	2	1,0	2,7	2,3	2,3	Moderate	• The sewer waster collected from the workings must be disposed of at a licensed sewage treatment facility; • Monitor surface water resources up and downstream of the Project area to identify potential contamination; • Remove core log after analysis • Waste must be separated at source and stored in appropriately designated	3	2	1	2	0,6	2,0	2,0	1,2	Low


areas for disposal at a licensed facility or by a reputable contractor.

10 METHODOLOGY USED TO DETERMINE AND RANK THE NATURE, SIGNIFICANCE, CONSEQUENCES, EXTENT, DURATION AND PROBABILITY OF POTENTIAL ENVIRONMENTAL IMPACTS AND RISKS

(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).

Table 10: Severity Criteria

INTENSITY = MAGNITUDE OF IMPACT	***RATING***
Insignificant: impact is of a very low magnitude	*1*
Low: impact is of low magnitude	*2*
Medium: impact is of medium magnitude	*3*
High: impact is of high magnitude	*4*
Very high: impact is of highest order possible	*5*

FREQUENCY = HOW OFTEN THE IMPACT OCCURS	***RATING***
Seldom: impact occurs once or twice	*1*
Occasional: impact occurs every now and then	*2*
Regular: impact is intermittent but does not occur often	*3*
Often: impact is intermittent but occurs often	*4*
Continuous: the impact occurs all the time	*5*

DURATION = HOW LONG THE IMPACT LASTS	***RATING***
Very short-term: impact lasts for a very short time (less than a month)	*1*
Short-term: impact lasts for a short time (months but less than a year)	*2*
Medium-term: impact lasts for the for more than a year but less than the life of operation.	*3*
Long-term: impact occurs over the operational life of the proposed extension.	*4*
Residual: impact is permanent (remains after mine closure)	*5*

PROBABILITY = LIKELIHOOD THAT THE IMPACT WILL	***RATING***

OCCUR	
Highly unlikely: the impact is highly unlikely to occur	*0.2*
Unlikely: the impact is unlikely to occur	*0.4*
Possible: the impact could possibly occur	*0.6*
Probable: the impact will probably occur	*0.8*
Definite: the impact will occur	*1*

EXTENT = SPATIAL SCOPE OF IMPACT/ FOOTPRINT AREA / NUMBER OF RECEPTORS	***RATING***
Limited: impact affects the prospecting area	*1*
Small: impact extends to the neighbouring farmers	*2*
Medium: impact extends to surrounding farmers beyond the immediate neighbours	*3*
Large: impact affects the area covered by the municipal area	*4*
Very Large: The impact affects an area larger than the municipal area	*5*

≤1	*Very low*	*Impact is negligible. No mitigation required.*
>1≤2	*Low*	*Impact is of a low order. Mitigation could be considered to reduce impacts. But does not affect environmental acceptability.*
>2≤3	*Moderate*	*Impact is real but not substantial in relation to other impacts. Mitigation should be implemented to reduce impacts.*
>3≤4	*High*	*Impact is substantial. Mitigation is required to lower impacts to acceptable levels.*
>4≤5	*Very High*	*Impact is of the highest order possible. Mitigation is required to lower impacts to acceptable levels. Potential Fatal Flaw.*

Negative impacts:
Positive impacts:

≤1	*Very low*	*Impact is negligible.*
>1≤2	*Low*	*Impact is of a low order.*
>2≤3	*Moderate*	*Impact is real but not substantial in relation to other impacts.*
>3≤4	*High*	*Impact is substantial.*
>4≤5	*Very High*	*Impact is of the highest order possible.*

11 POSITIVE AND NEGATIVE IMPACTS OF THE PROPOSED ACTIVITY (IN TERMS OF INITIAL SITE LAYOUT) AND ALTERNATIVES ON THE ENVIRONMENT AND COMMUNITY

There is no alternative project layout. Should comments be received that warrant changing site layout, Kabken Mining will implement the necessary changes to ensure that no one is negatively affected. The drilling of (at least) five exploration holes will have a minimal environmental and social impact as the drill site will cover only about 0.78 ha (600m^2) of the property. The identified impacts will only occur for a limited time and be localised. These impacts can be suitably mitigated; residual impact ratings are of low significance. After drilling has been completed and drill pads rehabilitated to pre-drilling status, the impacts will cease.

Table 11: Positive and negative impacts.

Impacted environment	Impact	Impact status
Planning phase		
Legislative	Non-compliance with legislative requirements resulting in non-/delayed commencement of proposed project.	Negative
Economic	Project expenditure (incl. direct capital investment).	Negative/positive
Site establishment		
Fauna and flora	Destruction/loss of indigenous vegetation and plants of ecological importance due to site establishment activities.	Negative
	Disturbance of animal and bird species at the proposed site.	Negative
	Disturbance of wildlife on neighbouring game farms.	Negative
	Potential spread of alien invader plants/seeds.	Negative
Groundwater	Potential groundwater contamination due to fuel, lubricant and chemical spills.	Negative
Air quality	Nuisance stemming from vehicle emissions.	Negative
Noise and dust generation	Nuisance to surrounding landowners caused by moving vehicles and drill rigs.	Negative

Impacted environment	Impact	Impact status
	Disturbance of wildlife on neighbouring game farms.	Negative
Soils	Potential soil erosion during site establishment.	Negative
	Potential soil contamination due to spillages.	Negative
Socio-economic	Potential employment and skills development opportunities.	Positive
Visual aspect	Visual disturbance due to machinery, vehicles, signs and drill rigs.	Negative
Cultural/heritage-historical resources	Potential impact on heritage and archaeological resources.	Positive/negative
Waste generation	Generation of solid and other waste from ablution facilities.	Negative
Traffic	Increase of traffic in the area as vehicles access the sites.	Negative
Socio-economic	Potential increase of theft and poaching in the area.	Negative
	Potential friction with I&APs and landowners due to disturbance of local businesses.	Negative
Health and safety	Potential risk to the health and safety of employees and neighbouring occupants.	Negative
Drilling phase		
Fauna and flora	Destruction/loss of indigenous vegetation and plants of ecological importance due to site establishment activities.	Negative
	Disturbance of animal and bird species at the proposed site.	Negative
	Disturbance of wildlife on neighbouring game farms.	Negative
	Potential spread of alien invader plants/seeds.	Negative
Soils	Potential soil erosion during drilling.	Negative
	Potential soil contamination due to spillages.	Negative
Socio-economic	Potential friction with I&Aps and landowners due to disturbance of local businesses.	Negative
	Potential increase of theft and poaching in the area.	Negative
	Potential employment and skills development opportunities.	Positive

Impacted environment	Impact	Impact status
Groundwater	Potential groundwater contamination due to fuel, lubricant and chemical spills.	Negative
	Potential occurrence of drawdown due to borehole drilling.	Negative
Geology	Removal of rock material for logging and sampling during drilling.	Negative
Noise and dust generation	Nuisance to surrounding landowners caused by moving vehicles and drill rigs.	Negative
	Disturbance of wildlife on neighbouring game farms.	Negative
Cultural-historical resources	Potential impact on heritage and archaeological resources.	Positive/negative
Air quality	Nuisance from vehicle and machine emissions.	Negative
Socio-economic	Potential increase of theft and poaching in the area.	Negative
Health and safety	Potential risk to the health and safety of employees and neighbouring occupants.	Negative
Decommissioning		
Air quality	Nuisance from vehicle and machine emissions.	Negative
Noise and dust generation	Nuisance to surrounding landowners caused by moving vehicles and drill rigs.	Negative
	Disturbance of wildlife on neighbouring game farms.	Negative
Traffic	Increased traffic in the area as vehicles exit the site.	Negative
Socio-economic	Potential friction with I&APs and landowners due to disturbance of local businesses.	Negative
	Potential increase of theft and poaching in the area.	Negative
Health and safety	Potential risk to the health and safety of employees and neighbouring occupants.	Negative

12 POSSIBLE MITIGATION MEASURES AND RISK LEVEL

See Table 12 for possible mitigation measures to address issues related to the proposed project and raised by I&APs.

12.1 Motivation where no alternative sites were considered

The nature of the proposed activity dictates the proposed site location. The applicant conducted preliminary studies that indicate that the minerals to be prospected can only be found in the proposed area. Since exploration is temporary in nature, no permanent structures will be constructed, negotiations and agreements will be made with the farm owners to use any existing infrastructure like accommodation for the explorers, access roads and other things, like workshops. In addition to the information provided, each of the phases depend on the results and success of the preceding phase. The location and extent of soil sampling and possible drilling will be determined based on information derived from the geophysics surveys. Sampling and drill sites will be selected to avoid water courses where practicable.

12.2 Impact significance

The impact magnitude and significance rating are used to rate each identified impact in terms of its overall magnitude and significance.

Table 12: Impact magnitude and significance rating.

Unit	Activity	Aspect	Impact	Significance rating before mitigation measures									Mitigation measures
				I	F	D	E	P	S	C	IS	Significance	
		Topography and visual environment	• Topography changes and disruption of surface water flow. • Soil erosion and topsoil loss. • Visual impact caused by vegetation and topsoil removal.	3	3	4	1	0,8	3,3	2,2	1,7	Low	• Only clear vegetation and topsoil when necessary and in demarcated areas. • Vegetate topsoil stockpiles as soon as possible. • Contour topsoil stockpiles to a steepness of less than 18° to prevent slope failure and erosion, and aid in vegetation establishment. • Vegetate topsoil stockpiles kept for more than a year to sustain ecological components and prevent dust emissions and alien vegetation.
		Soil	• Soil contamination and degradation during soil stripping and management. • Soil erosion and dust generation.	3	4	4	1	0,8	3,7	2,3	1,9	Low	• Limit excavation and long-term soil stockpiling in demarcated areas. • Clearly and permanently demarcate and locate stockpiles (especially topsoil) in no-go areas. • Restrict mechanical handling; each handling increases compaction and soil

Unit	Activity	Aspect	Impact	Significance rating before mitigation measures									Mitigation measures
				I	F	D	E	P	S	C	IS	Significance	
													structure changes. • Conduct soil stripping in line with a topsoil stripping plan. • Stockpile different soils separately (if possible) to obtain highest post-mining land capability. • Revegetate stockpiles to establish vegetation cover as an erosion control measure. Keep these stockpiles free of alien vegetation to prevent loss of soil quality. • Construct temporary berms around stockpile areas where vegetation cover is not yet established, to avoid soil loss through erosion.
			Soil compaction	4	5	4	1	1,0	4,3	2,7	2,7	Moderate	• If possible, schedule vegetation clearance and commencement of mining activities (haul road construction) to coincide with low rainfall conditions when soil moisture is anticipated to be relatively low, to

Unit	Activity	Aspect	Impact	Significance rating before mitigation measures									Mitigation measures
				I	F	D	E	P	S	C	IS	Significance	
													reduce soil compaction. • Limit heavy vehicle movement to existing roads and areas where haul roads are constructed.
			Loss of land capability and land use potential	2	1	4	1	0,8	2,3	1,7	1,3	Low	• Rip compacted soils to alleviate compaction. • Replace stored topsoil (if any) and grade the footprint to a smooth surface. • Backfill and reprofile landscape to mimic the natural topography for potential agricultural activities and grazing opportunities post-mining. If possible, ensure continuation of the pre-mining surface drainage pattern. • Slopes of the backfilled surface should change gradually since abrupt changes in slope gradient increase susceptibility to erosion. • Determine soil fertility status through soil chemical analysis after levelling (before seeding/re-vegetation).

Unit	Activity	Aspect	Impact	Significance rating before mitigation measures									Mitigation measures
				I	F	D	E	P	S	C	IS	Significance	
													• Complete soil amelioration, if needed, according to soil specialist recommendations, to correct pH and nutrition status before revegetation.
			Loss of vegetation communities	4	1	5	1	0,8	3,3	2,2	1,7	Low	• Restrict site clearing to the footprint of the designated areas to limit degradation and destruction of natural habitats. • Vegetate open and exposed areas to prevent soil erosion and establishment of alien invasive vegetation. • Restrict access and avoid identified faunal and floral SSC, adjacent to mining activities. • No deforestation in a CBA: Irreplaceable area (southern section of the permit). • Rescue and relocate important plant species. • Restrict access and avoid sensitive

Unit	Activity	Aspect	Impact	Significance rating before mitigation measures									Mitigation measures
				I	F	D	E	P	S	C	IS	Significance	
													landscapes, like wetlands and ridges, adjacent to mining operations. • Stockpile topsoil to be used for rehabilitation according to the rehabilitation plan. Compaction of stockpiled topsoil must be avoided to ensure seed bank viability.
			Influx and establishment of alien invasive vegetation.	3	3	4	2	0,8	3,3	2,7	2,1	Moderate	• Identify and remove alien invasive vegetation to throughout the project.
		Wetlands and equatic ecology	Sedimentation of wetland areas downstream of the stockpiles.	3	3	4	1	0,8	3,3	2,2	1,7	Low	• Implement and maintain soil management programme to minimise erosion and sedimentation. • Actively rehabilitate, re-slope, and re-vegetate disturbed areas immediately after construction. • Implement and maintain alien vegetation management programme. • Provide appropriate sanitary facilities for the duration of construction activities and move all waste to an appropriate

Unit	Activity	Aspect	Impact	Significance rating before mitigation measures									Mitigation measures
				I	F	D	E	P	S	C	IS	Significance	
													waste facility.
			Contamination of soils as a result of the ingress of hydrocarbons	3	5	4	1	1,0	4,0	2,5	2,5	Moderate	• Implement and maintain soil management programme to minimise erosion and sedimentation. • Actively rehabilitate, re-slope, and re-vegetate disturbed areas immediately after construction. • Implement and maintain alien vegetation management programme. • Limit construction activity footprint to what is essential to minimise impacts as a result of vegetation clearing and compaction of soils. • Remedy erosion in the construction footprint immediately, as part of ongoing rehabilitation. • All delineated watercourses and their associated 100 m zones of regulation in terms of GN704 should be designated as "No-Go" areas and be off-limits to all unauthorised vehicles and personnel,

Unit	Activity	Aspect	Impact	Significance rating before mitigation measures									Mitigation measures
				I	F	D	E	P	S	C	IS	Significance	
													with the exception of approved construction and operational areas unless authorised as part of the IWUL. • No unnecessary crossing of watercourses. Use existing infrastructure if possible. • Install suitable culverts under road crossings where watercourses may be crossed. • The number of culverts installed should be suitable for the gradient, width and flow profiles of the watercourses being crossed to avoid upstream inundation, erosion and incision, and alterations to the natural channel. • Crossings should use existing roads where possible and use/be constructed downgradient of barriers associated with impoundments on affected systems. • No material may be dumped or

Unit	Activity	Aspect	Impact	Significance rating before mitigation measures									Mitigation measures
				I	F	D	E	P	S	C	IS	Significance	
													stockpiled in delineated watercourses. • No vehicles or heavy machinery may drive indiscriminately in delineated watercourses. All vehicles must remain on demarcated roads and in the construction footprint. • All vehicles must be regularly inspected for leaks. • Re-fuel on a sealed surface away from wetlands to prevent ingress of hydrocarbons into topsoil. • Immediately treat and clean all spills.
			Loss of catchment yields and surface water recharge, potential loss of biodiversity, impaired water quality, potential loss of instream integrity, potential impacts to freshwater resources further downstream of this	3	5	4	3	0,6	4,0	3,5	2,1	Moderate	• Place all infrastructure outside delineated watercourse and their associated zones of regulation (as far as possible). • Ensure that sound environmental management is in place during planning. • Design infrastructure to be environmentally and structurally sound

Unit	Activity	Aspect	Impact	Significance rating before mitigation measures									Mitigation measures
				I	F	D	E	P	S	C	IS	Significance	
			point.										and take all possible precautions to prevent spillage and/or seepage to the surface and groundwater. • Ensure that the design and construction of all infrastructure prevents failure.

13 ASSESSMENT OF EACH IDENTIFIED POTENTIALLY SIGNIFICANT IMPACT AND RISK

Table 13: Potential impacts and risk.

Activity	Potential impact	Aspects affected	Phase	Significance	Mitigation type	Significance
Desktop study	None Identified	N/A	Planning	N/A	No mitigation proposed	N/A
Identification and adherence to legislative requirements	Non-compliance with legislation resulting in the non-/delayed commencement of proposed project	Policy and legal Requirements	Planning	High (-ve)	The applicant must ensure that all relevant legislation and regulations have been adhered to before project commencement.	Low (-ve)
Site establishment and drilling equipment set-up	Clearing of vegetation	Flora and fauna	Site establishment	Low (-ve)	Already cleared areas should be preferred over heavily dense areas.	Low (-ve)
Set-up of drilling equipment	Theft	Socio-economic	Site establishment	Low (-ve)	Secured site camp and control access to site.	Low (-ve)
Preparation of drilling sites and access roads	Loss of indigenous vegetation	Flora and fauna	Site establishment	High (-ve)	Use exiting access roads leading to the proposed site.	Medium (-ve)

Activity	Potential impact	Aspects affected	Phase	Significance	Mitigation type	Significance
Drilling activities	Ground and surface water contamination	Hydrology	Drilling	Medium (-ve)	• Maintain drill bits in good condition to prevent oil leaks when underground. • Apply aquifer detection methods before drilling.	Low (-ve)
	Mortality and displacement of fauna	Fauna	Drilling	Medium(-ve)	Undertake a search and rescue mission for species on drilling site	Low(-ve)
	Waste generation	Waste	Drilling	High (-ve)	Mud generated from drilling must be contained, and contaminated mud must be handled separately, treated or disposed of at an appropriate landfill. Skips and marked bins must be provided at the site for waste separation.	Medium (-ve)
Drilling activities		Soil and geology	Drilling	Medium (-ve)	All substances required for vehicle maintenance and repair must be stored in sealed containers.	Low (-ve)
	Spillages of hazardous chemicals	Hydrology		Medium (-ve)	Can be disposed of/removed from site. All drill holes must be capped and closed off with cement.	Low (-ve)
				Medium (-	Transport hazardous substances/materials	Low (-ve)

Activity	Potential impact	Aspects affected	Phase	Significance	Mitigation type	Significance
				ve)	in sealed containers or bags.	
				Medium (-ve)	Attend to spills as soon as they occur. Depending on the nature and extent of the spill, contaminated soil must be excavated or treated on-site.	Low (-ve)
	Destruction of heritage resources	Cultural and heritage social	Drilling	Medium (-ve)	Should any paleontological or cultural artefacts be discovered, work at the point of discovery must stop, the location clearly demarcated and SAHRA contacted. Work at the discovery site may only restart on instruction from SAHRA.	Low (-ve)
Decommissioning of site camp	Waste generation	Waste management	Decommissioning	Medium (-ve)	Use uncontaminated stockpiled materials for backfilling.	Low (-ve)
Decommissioning of site camp	Contamination of the soil and water	Soil and hydrology	Decommissioning	Medium (-ve)	• Store hazardous substances onsite in marked containers. • Ship all equipment off site. • Loosen compacted soils and spread topsoil above it. Spread seeds of indigenous species to ensure regrowth.	Low (-ve)

14 SUMMARY OF STUDIES

(This summary must be completed if any specialist reports informed the impact assessment and final site layout process and must be in the following tabular form):

Table 14: Summary of studies.

Studies undertaken	Specialist report recommendations	Specialist recommendations included in the EIA report Mark with an X where applicable	Section of report where specialist recommendations have been included
Baseline hydrogeological study	➢On site there will be regular maintenance of the mobile toilets. ➢ Once drilling, the team will rehabilitate the area and ensure the core is out of site. ➢ Drilling within 100 meters of water resources will be avoided ➢ The drilling machine used will be of minimum vibrations to avoid creating fissures in underlying rocks which could influence groundwater migration and leads to water contamination ➢ Clearing of vast amount of vegetation will be avoided, this is to preserve infiltration. ➢ Constant availability of waste bins; Compliance of National Environmental Management: Waste Management Act 59 of 2008. ➢ Compliance of GN 704 4(b) and 7(a) and National Water Act 36 of 1998 (Chapter 3 – Part 4, Section 1 (a)(b). ➢ No onsite vehicle or machinery repairs such as changing oil. ➢ No onsite storage of oil, diesel, or petrol. ➢ Cores will be logged on an impervious surface and will be cleared from the site immediately after logging. ➢ No washing of vehicles on site. ➢ The sump will not be allowed to overflow and will be lined with impervious layer.	X	Part B (Appendix 5)
Baseline hydrological study	➢On site there will be regular maintenance of the mobile toilets. ➢ Once drilling, the team will rehabilitate the area and ensure the core is out of site.	X	Part B (Appendix 5)

Studies undertaken	Specialist report recommendations	Specialist recommendations included in the EIA report Mark with an X where applicable	Section of report where specialist recommendations have been included
	➢ Drilling within 500 meters of water resources will be avoided ➢ Stormwater will be prioritised, and the management to prevent surface water contamination. ➢ Clearing of vast amount of vegetation will be avoided, this is to preserve infiltration. ➢ Stormwater measures which include the identified rivers, Dams and wetlands, will not be disrupted as they manage surface run off in an area, Buffer zone will be adhered to. ➢ The drilling activity will also take into consideration the fractured aquifers in the region. ➢ No washing of vehicles on site should be allowed ➢ The identified locations for sampling will be made available to the prospecting team. ➢ During raining periods, drilling process will be paused, to avoid possible contamination of water leading to surface water bodies.		
Baseline soil study	➢Pathways will be stripped when the soil is dry (as far as practical possible), as to reduce compaction; and ➢The pathways will be stripped according to the stripping guideline and management plan, and further recommendations contained within the rehabilitation plan. ➢The period of exposure of soil disturbances will be minimized through a planning schedule. ➢Absorbent kits will be made available near the drill rigs during drilling activities to prevent oil spills from contaminating the surrounding soil.	X	Part B (Appendix 5)

Studies undertaken	Specialist report recommendations	Specialist recommendations included in the EIA report Mark with an X where applicable	Section of report where specialist recommendations have been included
	➢Drilling on steep slopes will be avoided, to prevent soil erosion. ➢The exploration geologist will be advised to drill and sample more than 100m away from the waterbody on site. ➢The proposed prospecting land should be returned to its origin as before prospecting activities and the rehabilitation performance assessment in the proposed land must be done progressively (annually) during the operational phase by a soil specialist. ➢Dust suppression should be conducted regularly.		
Baseline Rehabilitation Study	• The following recommendations regarding rehabilitation of the proposed mine site are applicable: ➢It is recommended that the financial provision for closure and rehabilitation be annually updated as per the requirements of the MPRDA ➢Surface water monitoring of the pans and associated wetlands surrounding the project area is to be undertaken to determine the impacts associated with operations of the proposed prospecting project. ➢Regular audits should be undertaken to monitor the progress of areas that have been rehabilitated ➢Long term management of the rehabilitated areas will be required via contractual agreements with landowners in the area and rehabilitation should also be undertaken to best practice ➢An independent Environmental	X	Part B (Appendix 5)

Studies undertaken	Specialist report recommendations	Specialist recommendations included in the EIA report Mark with an X where applicable	Section of report where specialist recommendations have been included
	Assessment Practitioner (Singo Consulting Pty Ltd) shall be appointed to ensure compliance with requirements of the Final Rehabilitation, decommissioning and Closure Plan ➢All the affected department must be invited during and after rehabilitation for their input.		

15 ENVIRONMENTAL IMPACT STATEMENT

Prospecting will have very low environmental and social impacts. Usually, such impacts can be reversed or rehabilitated. The expected invasive impacts are the drilling of the 15 exploration holes that amount to 0.9 ha, which makes up less than 1% of the area being applied for.

The proposed prospecting operation may affect existing alternative land uses on adjacent and non-adjacent properties, as the area predominantly breeds wildlife and is surrounded by game farms. The following actions are subject to the proposed mitigation measures and require monitoring:

- Vegetation clearing
- Hydrocarbon-based material storage on site
- On-site waste management
- Road/track construction
- Soil and groundwater contamination
- Traffic in the area
- Vehicles and equipment used for drilling
- Noise generation
- Species which are of ecological importance
- Fire outbreaks

The site geologist must monitor the required on-site mitigation measures daily. An independent EAP must conduct annual monitoring audits.

16 FINAL SITE MAP

17 POSITIVE AND NEGATIVE IMPACTS AND RISKS OF THE PROPOSED ACTIVITY AND IDENTIFIED ALTERNATIVES

Positive and negative impacts associated with the proposed prospecting activities include:

Positive

- The area will be rehabilitated
- Direct employment and skills development

Negative

- Destruction/loss of indigenous natural vegetation and plants of ecological importance due to site establishment
- Disturbance of animal species in and around the proposed site
- Potential spread of declared weeds and alien invader plants
- Potential groundwater contamination due to fuel, lubricant and chemical spills
- Nuisance stemming from vehicle emissions
- Nuisance to surrounding landowners caused by moving vehicles and drill rigs
- Disturbance of wildlife in surrounding game farms
- Potential soil erosion during site clearance and drilling. Potential soil contamination due to spills.
- Visual disturbance (vegetation clearance and temporary infrastructures including equipment on site)
- Potential impact on heritage and archaeological resources
- Generation of solid and other waste from ablution facilities
- Increase of traffic in the area as vehicles access sites
- Potential friction with I&Aps and landowners due to disturbance of local businesses
- Physical removal of rock material for logging and sampling purposes during drilling

The proposed activities have low significance impacts since these are short-term activities. Socio-economic impacts like employment have medium significance, due to impacts on the surrounding community. Generally, prospecting activities have low impact on the environment. Since the planned activities' negative impacts can be controlled, avoided,

or reduced, the layout does not require revision. Mitigation measures will be used to control, avoid and/or minimise all identified potential impacts.

18 PROPOSED IMPACT MANAGEMENT OBJECTIVES AND OUTCOMES FOR INCLUSION IN THE EMPR

The EMPr seeks to achieve a required end state and describe how activities that could adversely impact the environment will be mitigated, controlled, and monitored. The EMPr will address the environmental impacts during site establishment, drilling, and decommissioning of the proposed project. Due regard will be given to environmental protection during the entire project. A number of environmental recommendations will be made to protect the environment. The environmental and social objectives will be set to allow prospecting in an environmentally and socially responsible manner while ensuring that sustainable closure can be achieved. To achieve closure, the correct decisions need to be taken during project planning.

The overall goal for environmental management for the proposed project is to prepare the site and operate the project in a manner that:

- Minimises the ecological footprint of the project on the local environment.
- Facilitates harmonious co-existence between the project and other land uses in the area.
- Contributes to the environmental baseline and understanding of environmental impacts of prospecting in a South African context.

The following environmental management objectives are recommended for the proposed mineral prospecting development and associated infrastructure:

- Monitor soils to avoid unnecessary erosion and implement erosion control measures to preserve the quality of the topsoil for rehabilitation.
- Restrict the area of impact to designated areas only.
- Monitor and prevent contamination and undertake appropriate remedial actions.
- Limit the visual and noise impact on receptors.
- Avoid impact on possible heritage and archaeological resources.
- Promote health and safety of workers.
- Limit dust and other emissions to allowable limits

19 ASPECTS FOR INCLUSION AS CONDITIONS OF AUTHORISATION

Kabken Mining must comply with all environmental legislation. Specific environmental legislation to be adhered to include the NEMA and the MPRDA. The following conditions of authorisation apply to the proposed project:

- Notice must be given to landowners and surrounding landowners one month prior to prospecting activities commencing.
- Landowners and land occupiers should be engaged (re-consulted) at least one month prior to any site activities being undertaken once drill sites are known.
- A map detailing the drilling locations should be provided to the landowners and the DMRE prior to prospecting commencement.
- A record must be kept of the implementation of the EMPr measures and monitoring of the efficiency of the implemented measures.
- A buffer of 100 m from any water course should be established during site establishment and drilling.

20 DESCRIPTION OF ANY ASSUMPTIONS, UNCERTAINTIES AND GAPS IN KNOWLEDGE

- The EAP does not accept any responsibility in the event that additional information comes to light at a later stage of the process.
- All information provided by the EAP was correct at the time provided.
- The scope of this investigation is limited to accessing the potential environmental impacts associated with the proposed project.

21 REASONED OPINION AS TO WHETHER THE PROPOSED ACTIVITY SHOULD OR SHOULD NOT BE AUTHORISED

Based on the site investigations and analysis of the EAP, it is suggested that the proposed activity be authorised, since the following applies:

- The site geologist will monitor implementation of the required mitigation measures on site daily.
- An independent EAP will conduct annual monitoring audits and compile the required annual environmental compliance report required by the DMRE.
- The environmental impacts associated with the limited drilling activities are minimal, provided that the proposed mitigation measures are implemented.
- The desktop studies prove that the site is located on a mineralized zone. Prospecting activities must be undertaken to confirm ore reserves.
- The no-go option will result in a significant loss of valuable information regarding the status of the ore bodies present on the properties in question.
- Should economical reserves be present, and the applicant does not have the opportunity to prospect, the opportunity to use these reserves for future phases will be lost as well.
- The spatial extent of the physical impact is 0.2562 ha and 500 m^2 of an access road to be constructed. The actual area to be permanently disturbed is minimal in comparison to the total site area, thus only 0.008% of the total farm area will be impacted.
- With appropriate care and consideration, the impacts resulting from drilling can be avoided, minimised or mitigated.
- The mining sector is the pillar of the South African economy and employs many.
- A buffer of 100 m from any water courses should be established during the operational phase.

22 CONDITIONS THAT MUST BE INCLUDED IN THE AUTHORISATION

- Maintain a minimum 100 m buffer from any infrastructure or dwelling (schools, churches, homes).
- Engage with landowners and land occupiers (re-consult) at least one month prior to any site activities being undertaken once drill sites are known.
- A map detailing the drilling locations should be provided to landowners and the DMRE prior to commencement of prospecting.
- Record the implementation of EMPr measures and monitor the efficiency thereof.
- Establish a buffer of 100 m from wetlands and water courses during planning.
- Submit a suitable closure plan to show sufficient providence for the avoidance, management and mitigation of environmental impacts associated with the decommissioning of the proposed activities.

23 PERIOD FOR WHICH THE ENVIRONMENTAL AUTHORISATION IS REQUIRED

The PR has been applied for a period of five years. The EA should therefore allow for five years of prospecting and one year for decommissioning and rehabilitation.

24 FINANCIAL PROVISION

CALCULATION OF THE QUANTUM

Applicant: **Kabken Mining (Pty) Ltd**
Evaluator: **Singo Consulting (Pty) Ltd**

DMRE REF.: NC 30/5/1/1/2/13203 PR
DATE: 31/10/2022

No.	Description	Unit	A Quantity	B Master Rate	C Multiplication factor	D Weighting factor 1	E=A*B*C*D Amount (Rands)
1	Dismantling of processing plant and related structures (including overland conveyors and powerlines)	m3	0	19	1	1	0
2 (A)	Demolition of steel buildings and structures	m2	0	271	1	1	0
2(B)	Demolition of reinforced concrete buildings and structures	m2	0	400	1	1	0
3	Rehabilitation of access roads	m2	1604,55	49	0,36	1	28304,262
4 (A)	Demolition and rehabilitation of electrified railway lines	m	0	471	1	1	0
4 (A)	Demolition and rehabilitation of non-electrified railway lines	m	0	257	1	1	0
5	Demolition of housing and/or administration facilities	m2	0	542	1	1	0
6	Opencast rehabilitation including final voids and ramps	ha		284292	1	1	0
7	Sealing of shafts adits and inclines	m3	0	146	1	1	0
8 (A)	Rehabilitation of overburden and spoils	ha		189528	1	1	0
8 (B)	Rehabilitation of processing waste deposits and evaporation ponds (non-polluting potential)	ha	0	236054	1	1	0
8 (C)	Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)	ha		685612	1	1	0
9	Rehabilitation of subsided areas	ha	0	158701	1	1	0
10	General surface rehabilitation	ha		150138	1	1	0
11	River diversions	ha	0	150138	1	1	0
12	Fencing	m	0	171	1	1	0
13	Water management	ha		57087	1	1	0
14	2 to 3 years of maintenance and aftercare	ha	0	19980	1	1	0
15 (A)	Specialist study	Sum	0			1	0
15 (B)	Specialist study	Sum				1	0
					Sub Total 1		28304,262

1	Preliminary and General	3396,51144	weighting factor 2 1	3396,51144
2	Contingencies		2830,4262	2830,4262
			Subtotal 2	34531,20
			VAT (15%)	5179,68
			Grand Total	**39711**

Figure 40: Financial provision.

24.1 Amount required to manage and rehabilitate the environment

Overall amount budgeted for this prospecting activities is approximately R 1 742 146.50. In addition financial provision of R39 711.00 will be made available by Kabken Mining for rehabilitation.

24.2 Explain how the aforesaid amount was derived

This information has been provided in the Prospecting Work Programme that was submitted to the DMRE. The drilling contractor will be responsible for rehabilitating the drill pad once the drilling activities have been completed at each exploration hole. The financial guarantee was calculated using the DMRE official financial quantum calculator. In relation to the Government Notice 24 in Government Gazette 42956 dated 17 January 2020

24.3 Confirm that this amount can be provided for from operating expenditure

Should an EA be granted to Kabken Mining, provision will be made for the estimated closure cost by means of a Bank Guarantee or any other means available and accepted by the Competent Authority.

24.4 Specific information required by the competent authority

Compliance with the provisions of sections 24(4) (a) and (b) read with section 24 (3) (a) and (7) of the NEMA. The EIA report must include the following.

24.4.1 Impact on the socio-economic conditions of any directly affected person

The surrounding area of the proposed site is used for game farming and accommodation. The proposed project may directly affect the surrounding businesses if prospecting does not follow best practices.

24.4.2 Impact on any national estate referred to in section 3(2) of the National Heritage Resources Act

Mitigation measures proposed in this report include that no drill site will be located within 100 m of any identified heritage site (which may occur during the prospecting programme) based on the desktop work undertaken. Should any paleontological or cultural artefacts be discovered work at the point of discovery must stop, the location be

clearly demarcated and SAHRA contacted immediately. Work at the discovery site may only be recommenced on instruction from SAHRA.

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

This BAR and EMPr were compiled in accordance with the NEMA, EIA Regulations (2014, amended April 2017) and MPRDA. The EAP managing the application confirms that the BAR and EMPr is being submitted for EA in terms of the NEMA in respect of listed activities that have been triggered by application in terms of MPRDA. Should the DMRE require any additional information, it will be provided upon request. No reasonable or feasible alternatives exist for this Prospecting Right application and as such, motivation for no alternatives has been provided in the relevant sections above.

PART B

ENVIRONMENTAL MANAGEMENT REPORT

1 ENVIRONMENTAL MANAGEMENT PROGRAMME

1.1 Details of EAP

(Confirm that the requirement for the provision of the details and expertise of the EAP are already included in PART A, section 1(a) herein as required).

Herewith, it is confirmed that the requirement for the provision of the details and expertise of the EAP are already included in PART A, Section 1(a) of this report.

1.2 Description of the aspects of the activity

(Confirm that the requirement to describe the aspects of the activity that are covered by the draft environmental management programme is already included in PART A, section (1) (h) herein as required).

Herewith, it is confirmed that the requirement to describe the aspects of the activity that are covered by the draft environmental management programme is already included in PART A, section (2) herein as required.

1.3 Description of impact management objectives including management statements

Determination of closure objectives:

- Rehabilitation of areas disturbed as a consequence of prospecting to a land capability that will support and sustain a predetermined post-closure land use.
- Removal of all infrastructure/equipment that cannot be beneficially re-used, as per agreements established, and returning the associated disturbed land to the planned final land use.
- Removal of existing contaminated material from affected areas.
- Establishment of final landforms that are stable and safe in the long run.
- Establishment and implementation of measures that meet specific closure performance objectives.

Environmental management must be integrated, acknowledging that all elements of the environment are linked and interrelated, and it must consider the effects of decisions on

all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option.

1.4 Volumes and rate of water use required for the operation

After careful consideration of the scale of operation it has been deduced that approximately 500 L will be used as potable water. It is anticipated that water will be purchased from a private water filter dealer, like Oasis, and brought to the site.

1.4.1 Has a water use licence has been applied for?

No This application does not require a water use permit. Water for drilling operations will be obtained from a legal source in the area or transported in via a mobile water tanker. Appropriate dust extraction/suppression equipment will be imposed on the drill contractor for drill rigs as a condition.

2 IMPACTS TO BE MITIGATED IN THEIR RESPECTIVE PHASES, IMPACT MANAGEMENT OUTCOMES AND ACTIONS

Table 15: Impacts to be mitigated.

Potential impact	Aspects affected	Mitigation measures	Compliance with standards	Mitigation type	Standard to be achieved
Site-establishment phase					
Site-establishment: Access roads to prospecting sites, establishment of the campsite, physical surveying of the site and pegging of drilling boreholes (0,9 ha)					
Potential soil erosion during site clearance and potential soil contamination due to spillages (oil, fuel and other chemicals)	Soil	• Site establishment on areas with sensitive soils, steep slopes, etc. must be avoided as far as possible. • Topsoil must be stockpiled immediately after clearing vegetation to prevent erosion of soil through surface runoff and wind. • Where applicable, construct berms to prevent erosion and donga formation. • Monitor all cleared areas daily for erosion and remediate with immediate effect where necessary. • Service vehicles and machinery used on site before entering the site. Site manager to monitor potential leaks daily. Spill kits must be available on site and used immediately after any spills. If spills are excessive, the site manager must compile an incident report and report the incident.	• Rehabilitation in terms of MPRDA and NEMA principles. • Applicable guidelines from NEM:BA, DAFF and CARA regarding species removal • Mining and biodiversity guidelines	Avoid and control	Avoid soil erosion and contamination, and control potential occurrences

Potential impact	Aspects affected	Mitigation measures	Compliance with standards	Mitigation type	Standard to be achieved
		• No topsoil or fertile soil (dark soil) may be stored within 32 m of a drainage line, watercourse or wetland.			
Destruction/loss of indigenous vegetation and plants of ecological importance Potential spread alien of invader plants/seeds	Flora	• Prior to project commencement, a qualified person should identify, demarcate and keep a register of plants that are of ecological importance, so they remain protected. The site manager should monitor vegetation clearance and potential spread of alien plant species. • Alien plants and areas with sparse vegetation should be prioritised when clearing vegetation. • Avoid damage to large protected tree species on site. • Avoid unnecessary driving on site and use designated routes at all times. • Site manager responsibilities should include, but not be limited to, ensuring adherence to EMPr guidelines, guiding activities, planning, and reporting to authorities. • An annual activity and site audit must be completed by an external environmental practitioner and the report submitted to the DMRE. • Areas that have been extensively cleared and are not required for	• Rehabilitation in terms of MPRDA and NEMA principles. • Adherence to CARA for removal of species in terms of NEM:BA mining and biodiversity guidelines. • Identification of potentially threatened and or endangered species in terms of NEM:BA.	Avoid and control	To protect plant species of ecological importance in the area and prevent the spread of alien species/seeds

Potential impact	Aspects affected	Mitigation measures	Compliance with standards	Mitigation type	Standard to be achieved
		prospecting activities should be re-seeded with locally-sourced seed of suitable species. Bare areas can be packed with brush removed from other parts of the site to encourage natural vegetation regeneration and limit erosion.			
Disturbance of animal and bird species in the proposed site	Fauna	• Carry out establishment activities during the day, (07h00–17h00) and prospecting project must be carried in phases to avoid bombarding the area with activity. • To avoid habitat loss, alien plants and areas with minimal vegetation should be prioritised when clearing vegetation.	General implementation of activities taking Biodiversity Act and its guidelines into account.	Avoid and control	Avoid and control impact on fauna
Disturbance of wildlife on neighbouring game farms		• No animal or bird, on the site and surrounding farms, may be hunted, trapped, snared or captured for any purpose. • The establishment site should be searched for raptor nests and avoided as far as possible. • Establishment activities should follow the operational plan and be kept to a minimum so that mammals can roam undisturbed in the farm area and around the areas being used for prospecting.			

Potential impact	Aspects affected	Mitigation measures	Compliance with standards	Mitigation type	Standard to be achieved
Potential groundwater contamination due to spillages of fuels, lubricants and other chemicals	Groundwater	• Groundwater monitoring network (quality and quantity) should be established. • Vehicles and machinery used on site must be serviced before entering the site. The site manager must monitor potential leaks daily. • Spill kits must be available on site and used immediately after any spills. If spills are excessive, the site manager must compile an incident report and report it to the relevant authority.	Water management measures in compliance with NWA, 1998 and DWS guidelines.	Avoid and minimise	Avoid groundwater contamination and minimise the waste of water
Nuisance stemming from vehicle and machine emissions	Air quality	All equipment and vehicles must be serviced and kept in good condition to reduce emissions.	Standards set out in the NEM:AQA	Minimise impact	Minimize smoke emissions in and around the site
Noise generated from prospecting operations activities may add to the current noise levels. This may have impacts on surrounding property owners and wildlife.	Noise and dust nuisance	• Limit the maximum speed to 30 km/h or less on unpaved roads. • Equip vehicles and machinery with engine silencers and keep equipment in good working condition to avoid excessive noise generation. • To avoid excessive dust generation, prospecting activities must be carried out in phases.	National Noise Control Regulations, SANS10103:200 guidelines.	Minimise impacts	To minimise excessive dust and noise generation.
Visual disturbances due to all the machinery vehicles, signs and drilling rigs.	Visual	• Due to undulating topography, visibility (for the most part) will probably be restricted to short distances. The prospecting area will	Measures will be undertaken to ensure that the visual aspects from the site comply with	Minimise impact	Minimise visual impact to surrounding landowners

Potential impact	Aspects affected	Mitigation measures	Compliance with standards	Mitigation type	Standard to be achieved
		be enclosed to minimise visual disruption if necessary. • Inform surrounding land owners of the type of machinery and equipment to be used at the prospecting site, and activities that will occur during each phase. • To minimise visual impact to the surrounding landowners, the activity should be carried out in phases.	the relevant visual standards and objectives including municipal by laws.		
Potential friction with local business individuals who are running tourist attractions Temporary employment opportunities Potential decline in local business due to prospecting activities. Potential increase in theft and poaching	Socio-economic	• Extensive public consultations must be conducted to increase public awareness and to reduce potential friction. • Record and address comments, concerns, and questions prior to commencement of the activity. Farm labourers will not be employed unless agreed to with farm owners. • Ensure that all labourers are trained and adhere to all health and safety standards. • Prior to project commencement, Kabken Mining must notify the adjacent landowners of the employees that will be working on site to avoid conflict. • Prospecting should be conducted following best practice to minimise negative economic impacts on local	• Measures taken will be in line with the company's recruitment policies. • Follow public participation legislation according to NEMA. • Follow anti- poaching legislation NEMBA and CARA	Control and avoid	Control relations between stakeholder and avoid poaching and theft.

Potential impact	Aspects affected	Mitigation measures	Compliance with standards	Mitigation type	Standard to be achieved
		business. • Prospecting should be conducted in the time frame provided in the plans to avoid prolonged disturbances to surrounding businesses. • Prior to activity commencement, environmental awareness training must be provided to all employees to avoid poaching. • All employees must be registered as labourers and access to the site must be monitored. • A daily register of people visiting and working on the farm during prospecting must be kept on site.			
Generation of solid waste and waste from ablution facilities that can have an impact on environmental aspects.	Waste	• Minimise littering on site and ensure that labourers are trained in environmental awareness. • Bins (sufficient number and capacity) to store general and hazardous waste produced daily will be provided at each drilling site. • Waste bins must be sealed to prevent leakage of leachate material and be waterproof so that rain water cannot enter. • Bins will be emptied weekly. • An integrated waste management approach will be used, based on the principles of waste minimisation,	Align all operations with the NEM:WA	Avoid	Avoid the excessive generation of general waste.

Potential impact	Aspects affected	Mitigation measures	Compliance with standards	Mitigation type	Standard to be achieved
		reduction, re-use and recycling. • Temporary ablution facilities on site will be emptied regularly.			
Increase of traffic in the area as vehicles access and exit the site	Traffic	• Vehicles and machinery must move in and out of the site during off peak hours, to avoid congestion. • Vehicles accessing and exiting the site must use designated routes, and only during off peak hours. The speed limit must be 30 km/h on unpaved roads. • Only authorised vehicles should be allowed to access the site.	• National Traffic Act 93 of 1996 • EMPr guidelines in relation to traffic and speed limit	Minimise	Minimise impact of traffic
Health and safety of all employees and neighbouring occupants	Health and safety	• Neighbouring occupants should be warned about any disruptions prior to commencement of prospecting, and the potential impacts it may have on their health. • Ensure that health and safety measures are implemented to protect employees and neighbouring occupants • Environmental awareness training must be provided to all employees to avoid injuries by natural factors (e.g. snake bites). • A first aid kit and administrator must be present on site throughout the project. • Provide employees with adequate	Occupational Health and Safety Act	Avoid	Avoid health risks and injury incidents

Potential impact	Aspects affected	Mitigation measures	Compliance with standards	Mitigation type	Standard to be achieved
		personal protective Equipment (PPE).			
Potential impact on heritage resources and archaeological resources	Cultural/Heritage, historical resources	Should any paleontological or cultural artefacts be discovered, work at the point of discovery must stop, the location clearly demarcated and LIHRA contacted. Work at the discovery site may only be recommenced on instruction from LIHRA	Adherence to the National Heritage Resource Act, and its accompanying regulations Limpopo Heritage Resource Agency	Avoid	Avoid disturbance and destruction of Heritage, Cultural and or historical resources
Potential fire outbreaks during the winter fire season	Veld Fires	Measures will be implemented during prospecting to avoid and mitigate potential fire outbreaks. These measures include: • Prohibition of starting fires on site • Compulsory fire fighting training for all employees on site • Ensuring that all fire extinguishers are present, maintained and strategically placed on site and prospecting machinery • The National Veld and Fire Act (no 11 of 1998) must be adhered, to avoid the potential spread of veld fires to neighbouring farms. • Liaise with the landowner in terms of creating a fire break before prospecting commences.	National Veld and Fire act (No 11 of 1998	Avoid	Avoid man caused fires in the farm
Drilling phase					
The drilling of prospecting boreholes on the proposed site (0.2 ha)					

Potential impact	Aspects affected	Mitigation measures	Compliance with standards	Mitigation type	Standard to be achieved
Potential soil erosion during drilling phases	Soil	• Avoid drilling in areas with sensitive soils, steep slopes, etc. • Stockpile topsoil immediately after clearing vegetation to prevent erosion through surface runoff and wind. • Where applicable, construct berms to prevent erosion and donga formation.	Rehabilitation in terms of MPRDA and NEMA principles.	Control and avoid	Control soil erosion and avoid contamination
Potential soil contamination due to spills		• Monitor cleared areas for erosion daily; remediate erosion with immediate effect. • Vehicles and machinery used on site must be serviced before entering the site and potential leaks must be monitored daily by the site manager. Spill kits must be available on site and used immediately after spills occur. If spills are excessive, the site manager must compile an incident report and report it to the relevant authority.	• Operational control procedures (e.g. spill/leak handling) • Incident Reporting System • Environmental Inspections • Planned Maintenance System • Water quantity (abstraction) monitoring • Constant communication with surrounding landowners		
Destruction/loss of indigenous vegetation and plants of ecological importance Potential spread alien of invader	Flora	• Avoid and register demarcated plants of ecological importance, so they remain protected. The site manager must monitor vegetation clearance and potential spread of alien plant species. • Prioritise alien plants and areas with	• Rehabilitation in terms of MPRDA and NEMA principles. • Applicable guidelines from NEM:BA, the DAFF and CARA regarding removal of species	Avoid and control	Avoid soil erosion and contamination, and control potential occurrences

Potential impact	Aspects affected	Mitigation measures	Compliance with standards	Mitigation type	Standard to be achieved
plants/seeds		sparse vegetation when drilling areas are selected. • Avoid damage to large, protected tree species on site. • Avoid unnecessary driving on site and use designated routes at all times. • Site manager's responsibilities will include, but not be limited to, ensuring adherence to EMPr guidelines, guiding activities, planning, and reporting to authorities. • An external EAP must compile an annual audit of the site and activities, and submit it to the DMRE. • Areas that have been extensively cleared and are not required for prospecting should be re-seeded with locally-sourced, suitable species. Bare areas can be packed with brush removed from other parts of the site to encourage natural vegetation regeneration and prevent erosion.	• Mining and biodiversity guidelines		
Disturbance of animal and bird species on the proposed site Disturbance of wildlife on neighbouring game	Fauna	• Drilling must be carried out during the day (07h00–17h00) and the prospecting project must be completed in phases to avoid bombarding the area with activity. • Prioritise alien plants and areas with minimal vegetation when allocating a drill site to avoid habitat loss.	General implementation of activities taking mining and biodiversity guidelines into account		Control through visual monitoring and inspection

Potential impact	Aspects affected	Mitigation measures	Compliance with standards	Mitigation type	Standard to be achieved
farms		• No animal or bird, on site and on surrounding farms may be hunted, trapped, snared or captured. • The drilling site must be searched for raptor nests, which must be avoided as far as possible. • Drilling must follow the operational plan and be kept to a minimum so that mammals can roam undisturbed in the farm area and areas used for prospecting.			
Nuisance stemming from vehicle and machine emissions	Air quality	Service vehicles and equipment before they enter the site, to avoid excessive atmospheric emissions.	National Environmental Management Air Quality Act	Control and minimise	Maintain air quality
Potential groundwater contamination due to fuel, lubricant and other chemical spills Potential occurrence of drawdown due to borehole drilling	Groundwater	• Establish a groundwater monitoring network (quality and quantity). • Service vehicles and machines used on site before they enter the site. • Site manager must monitor potential leaks daily. • Provide spill kits on site and use it immediately after any spills. If spills are excessive, the site manager must compile an incident report and report it to the relevant authority. • Observe the land owners' borehole yield during drilling. Should it be found that the operation affects groundwater quantity and quality, the	Water management measures in compliance with the NWA and DWS guidelines	Avoid	Avoid groundwater contamination as far as possible.

Potential impact	Aspects affected	Mitigation measures	Compliance with standards	Mitigation type	Standard to be achieved
		affected parties must be compensated.			
Dust from drilling may cause nuisance to surrounding game farms	Dust and noise	• Limit the maximum speed to 30 km/h or less, subject to risk assessment. • Equip vehicles and machinery with engine silencers and keep them in good working condition to limit noise generation. • Carry out prospecting activities in phases to avoid excessive dust generation.	National Noise Control Regulations, SANS10103:2008 guidelines.	Minimise	Minimal noise levels
Possible visual disturbance to surrounding game farms from vehicles and drill rigs	Visual	• Due to the undulating topography, visibility will mostly be restricted to short distances, however the prospecting area will be enclosed to minimise visual disruption from machinery and equipment if necessary. • Inform surrounding land owners of the machinery and equipment to be used at the prospecting site, as well as the activities planned for each phase. • To minimise visual impact to surrounding landowners, carry activities out in phases.	Measures will be undertaken to ensure that the visual aspects from the site comply with the relevant visual standards and objectives including Municipal By Laws.	Minimise	Minimise visual impacts to surrounding landowners
Potential impact on heritage resources and archaeological	Cultural/heritage, historical resources	• Should any paleontological or cultural artefacts be discovered, drilling at the point of discovery must stop, the location clearly demarcated and the	Adherence to the NHRA, and its accompanying regulations, as well as	Avoid	Avoid disturbance and destruction of heritage, cultural and/or historical

Potential impact	Aspects affected	Mitigation measures	Compliance with standards	Mitigation type	Standard to be achieved
resources		Northern Cape Heritage Resource Agency (NCHRA) contacted immediately. Drilling at the discovery site may only continue once approved by the NCHRA.	the NCHRA		resources
Health and safety of all employees and neighbouring occupants	Health and safety	• Warn neighbouring occupants of any disruptions prior to prospecting commencement, as well as the potential impact thereof on their health. • Employees to keep a safe distance from drilling machinery and vehicles to prevent injury. • Implement health and safety measures to protect employees and neighbouring occupants. • Present environmental awareness training to all employees to prevent injuries by natural factors (e.g. snake bites). • A first aid kit and administrator must be present on site for the duration of the project. • Provide employees with adequate PPE.	Occupational Health and Safety Act	Avoid	Avoid health risks and injury incidents
Increase of traffic in the area as vehicles access and exit the site	Traffic	• Vehicles and machinery to move on and off site during off peak hours, to avoid congestion. • Vehicles accessing and exiting the site	• National Traffic Act 93 of 1996 • EMPr guidelines in relation to traffic and	Minimise	Minimise impact of traffic

Potential impact	Aspects affected	Mitigation measures	Compliance with standards	Mitigation type	Standard to be achieved
		must use designated routes, and only during off peak hours. The speed limit must be 30 km/h on unpaved roads. • Only grant authorised vehicles access to the site.	speed limit		
Generation of solid and other waste from ablution facilities that can impact the environment	Waste	• Minimise littering on site and train all labourers in environmental awareness. • A sufficient number of bins (with enough capacity) must be provided at each drill site to store general and hazardous waste. • Waste bins must be sealed to prevent leakage of leachate material and be waterproof to prevent rain from entering. • Empty bins weekly. • Use an integrated waste management approach, based on the principles of waste minimisation, reduction, re-use and recycling. • Empty temporary on-site ablution facilities regularly.	Align all operations with the NEM:WA	Avoid	Avoid the excessive generation of general waste.
Potential friction with local businesses who run tourist attractions and breed game Temporary employment	Socio-economic	• Conduct extensive public consultations to increase public awareness and reduce potential friction. • Record and address comments, concerns, and questions prior to commencement of the activity. Farm	• Measures taken will be in line with the company's recruitment policies. • Follow public participation legislation according to NEMA.	Control and avoid	Control relations between stakeholder and avoid poaching and theft.

Potential impact	Aspects affected	Mitigation measures	Compliance with standards	Mitigation type	Standard to be achieved
opportunities Potential decline in local business due to prospecting Potential increase in theft and poaching		labourers will not employed unless agreed with employers. • Ensure that all labourers are trained and adhere to all health and safety standards. • Prior to commencement of activities, Kabken Mining must notify adjacent landowners of the employees that will be working on site to avoid conflict. • Drilling should be conducted following best practice to minimise negative economic impacts on local business. • Conduct drilling in the time frame provided to avoid prolonged disturbances to surrounding businesses. • Prior to commencement of the activity, conduct environmental awareness training for employees to avoid poaching. • Register all employees as labourers and restrict site access. • Keep a daily register of people visiting and working on the farm during prospecting.	• Follow anti-poaching legislation • NEMBA and CARA		
Potential fire outbreaks during the winter fire season	Veld fires	Measures will be put in place during prospecting to mitigate potential fires, including: • Prohibition of starting fires on site • Compulsory fire fighting training for all	National Veld and Fire Act (No 11 of 1998	Avoid	Avoid man caused fires in the farm

Potential impact	Aspects affected	Mitigation measures	Compliance with standards	Mitigation type	Standard to be achieved
		employees on site • Providing well-maintained, strategically placed fire extinguishers on the site and prospecting machinery. Monitor sparks and flares that may occur due to friction between the drill rig and rocks to avoid accidental fires. Adhere to the National Veld and Fire Act (No 11 of 1998) to prevent veld fires spreading to neighbouring farms.			
Removal of rocks, debris and altering geological features and formations.	Geology	• Limit drilling to designated areas. • Where there is a geological fault, move the borehole position. • Rocky ridges are part of wildlife corridor links; avoid prospecting here. • Cap off and cement drill holes after mineral core removal. Only drill in areas that form part of the operational plan and drill no more than twenty boreholes.	EMPr guidelines	Minimise and avoid	Avoid unnecessary drilling on geological feature
Decommissioning phase					
Removal of temporary vehicles and machinery on site, rehabilitation of cleared areas (0.2562 ha)					
Rehabilitation of the prospecting site	Soil, fauna and flora, geology	• Remove temporary facilities, vehicles and machinery from site when prospecting ends. • Drill site rehabilitation will be undertaken in line with closure	• Rehabilitation in terms of MPRDA and NEMA principles. • General implementation of	Control	Ensure that adequate measures are being undertaken to rehabilitate the site

Potential impact	Aspects affected	Mitigation measures	Compliance with standards	Mitigation type	Standard to be achieved
		objectives and in consultation with landowners. • Keep all vehicles and machinery used at the rehabilitation in good working order. • Only emergency vehicle and machinery repairs may be conducted on-site, on protected ground. • Limit vehicle and machine movement to demarcated routes, which will be rehabilitated when no longer in use. • Ensure that the soil in the vicinity of the rehabilitation site is not detrimentally impacted. All waste from drilling activities must be collected for disposal. • Monitor areas that have not had topsoil stripped for alien plant growth and vegetation recovery. If after a year the vegetation has not recovered, hand-seed the area with indigenous grass. • Refill all drill holes with rocks and/or cement to avoid potential injury to fauna, employees and potential occupants. • Prohibit trapping and killing of fauna on-site.	activities taking the Biodiversity Act and its guidelines into account		
Nuisance stemming from vehicle and	Air quality	Service all equipment and vehicles and keep it in good condition to reduce	Standards set out in the NEM:AQA	Minimise impact	Minimise smoke emissions in and

Potential impact	Aspects affected	Mitigation measures	Compliance with standards	Mitigation type	Standard to be achieved
machine emissions		emissions.			around the site
Increase of traffic in the area as vehicles access and exit the site	Traffic	• Vehicles and machinery must move on and off-site during off-peak hours to avoid congestion. Vehicles accessing the site must use designated routes. • Implement a 30 km/h speed limit on unpaved roads. • Only grant authorised vehicles access to the site.	National Traffic Act 93 of 1996. EMPr guidelines in relation to traffic and speed limit	Minimise	Minimise impact of traffic
Health and safety of all employees and neighbouring occupants	Health and safety	• Warn neighbouring occupants of any disruptions prior to decommissioning and the potential impacts on personal health. • Implement health and safety measures to protect employees and neighbouring occupants. • Provide environmental awareness training to all employees to avoid injuries caused by natural factors (e.g. snake bites). • A first aid kit and administrator must be present on site for the project duration.	Occupational Health and Safety Act	Avoid	Avoid health risks and injury incidents
Possible visual disturbance to surrounding game farms from vehicles	Visual	• Remove all temporary facilities, vehicles and machinery off-site once prospecting has ended. • Inform surrounding land owners of project decommissioning and related	Undertake measures to ensure that visual site aspects comply with relevant visual standards and objectives, including	Minimise	Minimise visual impacts to the surrounding landowners

Potential impact	Aspects affected	Mitigation measures	Compliance with standards	Mitigation type	Standard to be achieved
and drill rigs		activities.	municipal by laws.		
Dust resulting from drilling will cause nuisance to the surrounding game farms	Dust and noise	• Limit speed to 30 km/h or less, subject to risk assessment. • Equip vehicles and machines with engine silencers and keep them well-maintained to avoid excessive noise generation.	National Noise Control Regulations, SANS10103:200 guidelines	Minimise	Ensure that rehabilitation activities minimise detrimental impacts on people

3 FINANCIAL PROVISION

3.1 Determination of the amount of financial provision

A total of R 1 742 146.50 is required to manage and rehabilitate the environment. Kabken Mining must update and review the quantum of the financial provision annually.

3.2 Closure objectives and the extent to which they align to the baseline environment described under the regulation

For a prospecting operation like this, the primary closure and environmental objectives are to:

- Minimise the area to be disturbed and ensure that the areas disturbed during prospecting are rehabilitated and stable, as per the commitments made in this EMPr.
- Sustain pre-prospecting land use.
- Record and communicate the results of the monitoring programme during decommissioning to participating stakeholders.

3.3 Confirm that environmental objectives in relation to closure have been consulted with landowner and Interested and Affected Parties

The environmental objectives in relation to closure will be consulted with the farmers and I&APs. It will be explained that, should prospecting yield negative results, the end use for the area will revert to its pre-prospecting land use (minutes to be incorporated in the final report). The end-use of the area will not be changed by prospecting.

3.3.1 Rehabilitation plan that describes the scale and aerial extent of the main mining activities, including the anticipated mining area at the time of closure

Table 16: Rehabilitation plan.

Aspect/impact	Rehabilitation measure	Monitoring frequency and responsibility
Removal of temporary structures	• Clear and completely remove from site all prospecting equipment, storage containers, signage, temporary ablution facilities, fixtures and any other temporary works. • Ensure that all access roads used during site establishment (which are not earmarked for closure and rehabilitation) are returned (as far as possible) to their pre-prospecting state.	Once-off Kabken Mining
Vegetation clearing/replanting	• Remove any emerging alien and invasive vegetation to prevent further establishment. • Suitable qualified personnel must undertake all planting work using appropriate equipment. • Transplant during the winter (between April and September). • Plant indigenous plants to minimise the spread of alien and invasive vegetation.	When re-vegetation is done and in blooming season Kabken Mining or sub-contractor appointed
Topsoil replacement	• Replace and redistribute stockpiled topsoil with herbaceous vegetation, overlying grass and other fine organic matter in all disturbed areas of the prospecting site, including temporary access routes and roads. Replace topsoil to the original depth. • Prohibit the use of topsoil suspected to be contaminated with alien vegetation seed or spray the soil with specified herbicides. • Where local soil has poor drainage, broken rock (about 75 mm in diameter) must be placed to a depth of 150 mm at the bottom of the planting hole prior to planting and backfilling with approved plant medium mixture.	Once-off Kabken Mining

Aspect/impact	Rehabilitation measure	Monitoring frequency and responsibility
Waste and rubble removal	Remove from site all domestic waste and dispose of it in the approved manner at a registered waste disposal site.	Once-off Kabken Mining
Solid and hazardous waste	• Dispose of all hazardous waste not earmarked for reuse, recycling or resale at a registered hazardous waste disposal site. • Remove from site all temporary fuel stores, hazardous substance stores, hazardous waste stores and pollution control sumps. • Do not hose oil or fuel spills into a storm water drain or sewer, or into the surrounding natural environment. • Dispose of all visible remains of excess cores that were drilled after the completion of tasks.	Once-off Kabken Mining
Erosion protection	• Protect all areas susceptible to erosion and ensure that there is no undue soil erosion resultant from activities in and around the proposed site. • Retain shrubbery and grass species where possible. • Regularly monitor and maintain erosion control measures.	After rainfall, Kabken Mining or sub-contractor appointed

3.3.2 Confirm rehabilitation plan compatibility with closure objectives

Kabken Mining is required to make the prescribed financial provision for the rehabilitation or management of negative environmental impacts. If Kabken Mining fails to rehabilitate or manage any negative impact on the environment, the DMRE may, upon written notice to the company, use all or part of the financial provision to rehabilitate or manage the negative environmental impact in question. Kabken Mining will specify that the appointed contractor is required to comply with all the environmental measures specified in the EMPr. This will include avoiding unnecessary disturbance of natural vegetation and the rehabilitation of each drill site, immediately after drilling has been completed. All tracks to the drill sites must be rehabilitated at the end of the prospecting programme. The financial provision provides for the final checking of all sites before site clearance.

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

CALCULATION OF THE QUANTUM

Applicant: **Kabken Mining (Pty) Ltd** — **DMRE REF.: NC 30/5/1/1/2/13203 PR**
Evaluator: **Singo Consulting (Pty) Ltd** — **DATE: 31/10/2022**

No.	Description	Unit	A Quantity	B Master Rate	C Multiplication factor	D Weighting factor 1	E=A*B*C*D Amount (Rands)
1	Dismantling of processing plant and related structures (including overland conveyors and powerlines)	m3	0	19	1	1	0
2 (A)	Demolition of steel buildings and structures	m2	0	271	1	1	0
2(B)	Demolition of reinforced concrete buildings and structures	m2	0	400	1	1	0
3	Rehabilitation of access roads	m2	1604,55	49	0,36	1	28304,262
4 (A)	Demolition and rehabilitation of electrified railway lines	m	0	471	1	1	0
4 (A)	Demolition and rehabilitation of non-electrified railway lines	m	0	257	1	1	0
5	Demolition of housing and/or administration facilities	m2	0	542	1	1	0
6	Opencast rehabilitation including final voids and ramps	ha		284292	1	1	0
7	Sealing of shafts adits and inclines	m3	0	146	1	1	0
8 (A)	Rehabilitation of overburden and spoils	ha		189528	1	1	0
8 (B)	Rehabilitation of processing waste deposits and evaporation ponds (non-polluting potential)	ha	0	236054	1	1	0
8 (C)	Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)	ha		685612	1	1	0
9	Rehabilitation of subsided areas	ha	0	158701	1	1	0
10	General surface rehabilitation	ha		150138	1	1	0
11	River diversions	ha	0	150138	1	1	0
12	Fencing	m	0	171	1	1	0
13	Water management	ha		57087	1	1	0
14	2 to 3 years of maintenance and aftercare	ha	0	19980	1	1	0
15 (A)	Specialist study	Sum	0			1	0
15 (B)	Specialist study	Sum				1	0
					Sub Total 1		28304,262

1	Preliminary and General	3396,51144	weighting factor 2 1	3396,51144
2	Contingencies		2830,4262	2830,4262
			Subtotal 2	34531,20
			VAT (15%)	5179,68
			Grand Total	**39711**

Figure 41: Quantum of financial provision.

3.3.4 Confirm that the financial provision will be provided as determined

Kabken Mining undertakes to ensure financial provision for rehabilitation plan implementation.

4 MECHANISMS FOR MONITORING COMPLIANCE WITH AND PERFORMANCE ASSESSMENT AGAINST THE ENVIRONMENTAL MANAGEMENT PROGRAMME AND REPORTING THEREON

Table 17: Mechanism for monitoring compliance.

Source activity monitoring and reporting	Impacts requiring monitoring programmes	Functional requirements for monitoring	Roles and responsibilities	Frequency and time periods for implementing impact management actions
Site establishment	• Dust • Noise • Vegetation removal • Disruption of animal life • Habitat destruction • Loss of geology	• Daily dust and noise monitoring • Daily monitoring of plant species of ecological Importance	Geologist and project manager	Daily and monthly
Traffic management	• Animal life disruption • Traffic congestion • Disruption of surrounding businesses	Monitor traffic frequency and access to the site, and notify surrounding business owners	Geologist and project manager	Monthly and when necessary
Ablution facility	• Land contamination • Water contamination • Health hazard	• Service the toilet facility • Monitor water quality	Geologist and project manager	Monthly and when necessary
Existing/access routes	• Animal life disruption • Disruption of surrounding businesses • Traffic control	• Monitor traffic frequency and access to the site, and notify surrounding business owners • Monitor speed	Geologist and project manager	Monthly and when necessary

		limits on the road		

4.1 Frequency of the submission of the performance assessment/ environmental audit report

Regular monitoring of all the environmental management procedures and mitigation measures will be carried out by Kabken Mining (to ensure that the provisions of this EMPr are adhered to. Formal monitoring and performance assessments of the EMPr will be conducted monthly.

5 ENVIRONMENTAL AWARENESS PLAN

5.1 How the applicant intends to inform employees of any environmental risk which may result from their work

Environmental Awareness Training will be presented by Kabken Mining to inform employees and contractors of the environmental risk their work or interaction with the sensitive environment may pose. Training will be conducted as part of the induction process for all employees (including contractors) who will perform work in terms of the proposed activities. Proof of all training provided will be kept on-site. Environmental Awareness Training will, at a minimum, cover the topics listed in Table 18.

Table 18: Environmental awareness plan.

Air quality	• Activities that impact air quality; speeding on roads, dust suppression requirements, etc. • Negative impacts on the receiving environment if mitigation measures are not implemented.
Surface and groundwater	• Risks posed to groundwater by fuel and chemical handling, and damage to riparian vegetation. • Incident report and emergency requirements. • Importance of reusing water and preventing spillages.
Cultural heritage	• Respect all cultures and beliefs. • How to report sites of heritage importance (e.g. fossil finds) identified during operations.
Fauna	• Overview of the fauna found on/around site and the uniqueness thereof. • Mitigation measures that all contractors and employees need to abide by. • No contractor or personnel allowed to catch or kill any species. • How sightings should be reported if further actions are required (e.g. catch and release).
Flora	• Overview of on-site flora diversity and determining whether it is endangered. • Measures taken by the company to protect species. • No contractor or personnel allowed to remove, harvest or destroy any flora species unless clearly instructed based on the site establishment and operational plans.
Waste management	• Measures to avoid waste generation and minimise/reduce waste.
Traffic strategies	• Stay on designated roads; do not build new roads in areas not earmarked for prospecting.

	• Be aware of the fauna species and avoid collisions.
Emergency preparedness and response	• Incident and emergency reporting requirements.
General rules and conduct	• Respect the sensitive environment. • Do not litter. • Respect each other and different cultures. • Adhere to safety and health requirements.

5.2 How risks will be dealt with to avoid pollution and environmental degradation

All employees must attend environmental awareness training (before prospecting) to inform them of any environmental risks which may result from their work, and it must be dealt with to avoid pollution and environmental degradation. Induction courses will be provided by a reputable trainer.

6 SPECIFIC INFORMATION REQUIRED BY THE COMPETENT AUTHORITY

No risks have been identified other than those noted in this document. These risks will be communicated to all contractors, who will also be provided with a copy of the approved EMPr. Environmental training needs for each section must be identified and addressed to ensure environmental management is part of daily operations. The environmental risk responsibilities guide the training requirements of each individual, Environmental training recommended for the different levels of management guide the training needs identification process. This is a minimum guideline, and any additional training can be added where section-specific issues or high-risk items require training and awareness. It is the responsibility of the line manager to ensure environmental training needs for individual staff members are identified, agreed to, facilitated and tracked.

7 UNDERTAKING

The EAP herewith confirms:

i. the correctness of the information provided in the reports
ii. the inclusion of comments and inputs from stakeholders and I&APs;
iii. the inclusion of inputs and recommendations from the specialist reports where relevant; and
iv. that the information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected. parties are correctly reflected herein.

Signature of the Environmental Assessment Practitioner

Singo Consulting (Pty) Ltd

Name of company

November 2022

Date

-END-

Appendix 1: Project maps.

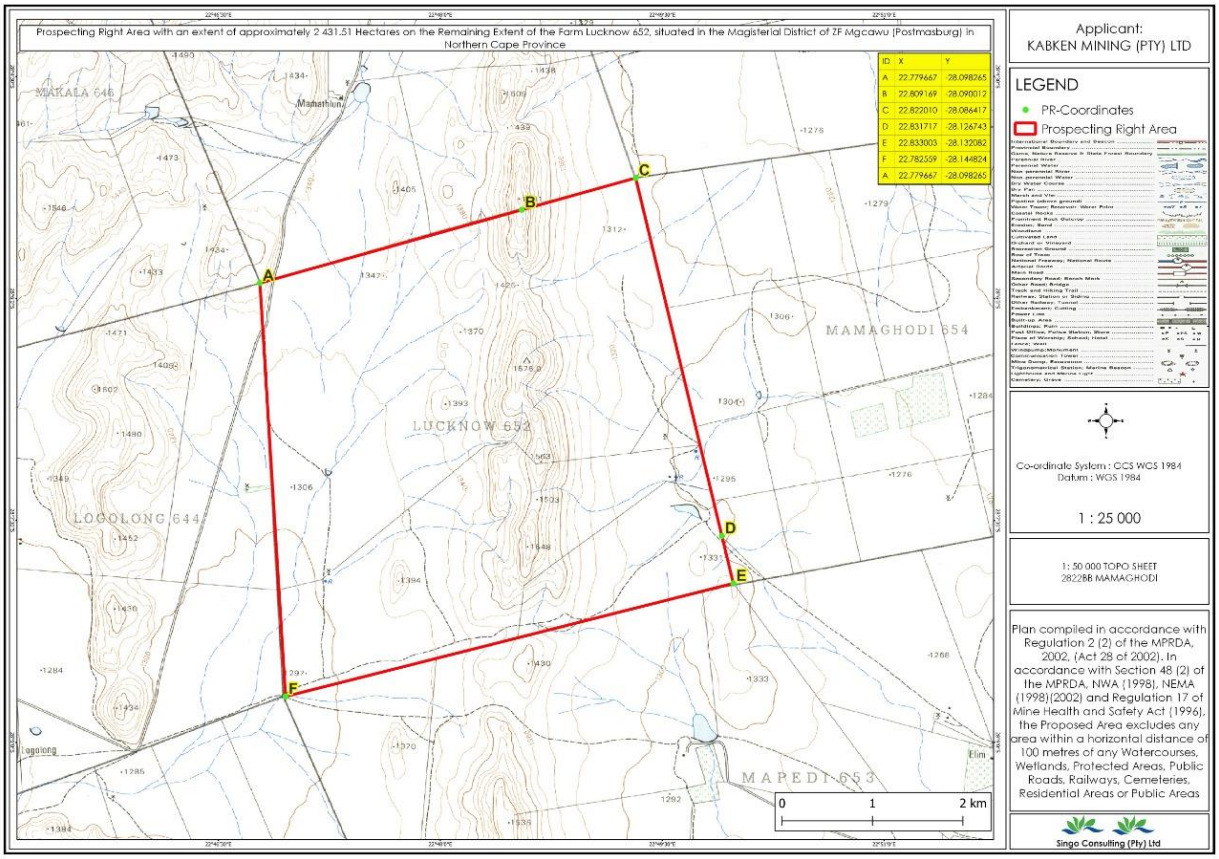


Figure 42: Regulation 2(2) map.

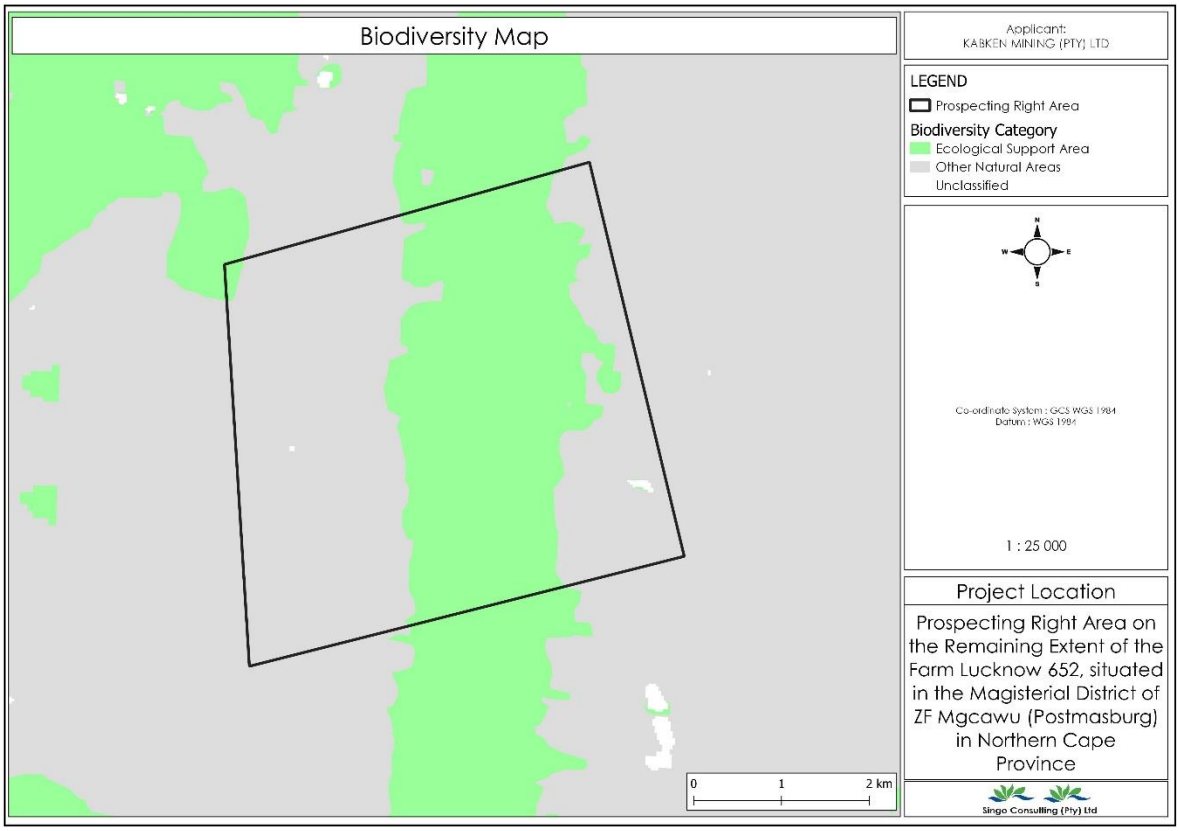


Figure 43: Biodiversity in the proposed project area.

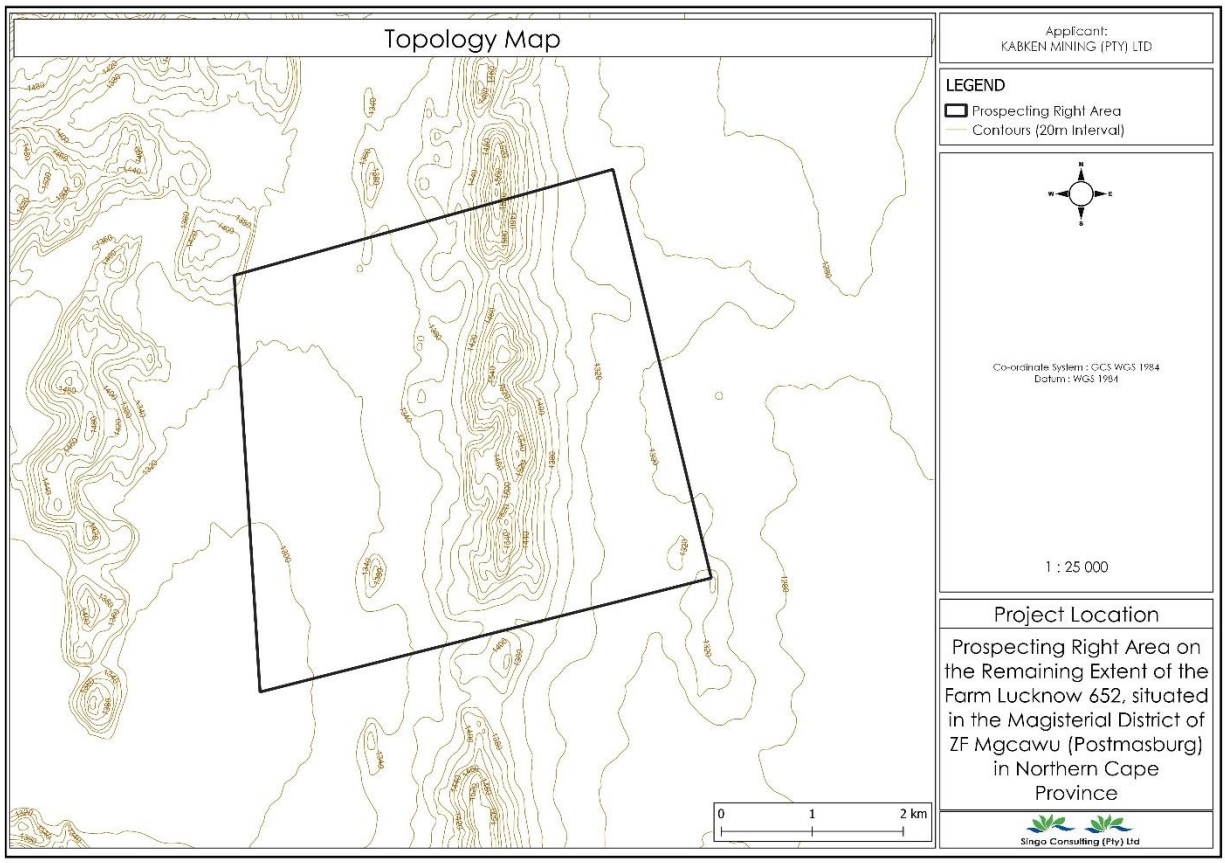


Figure 44: Topology of the proposed project area.

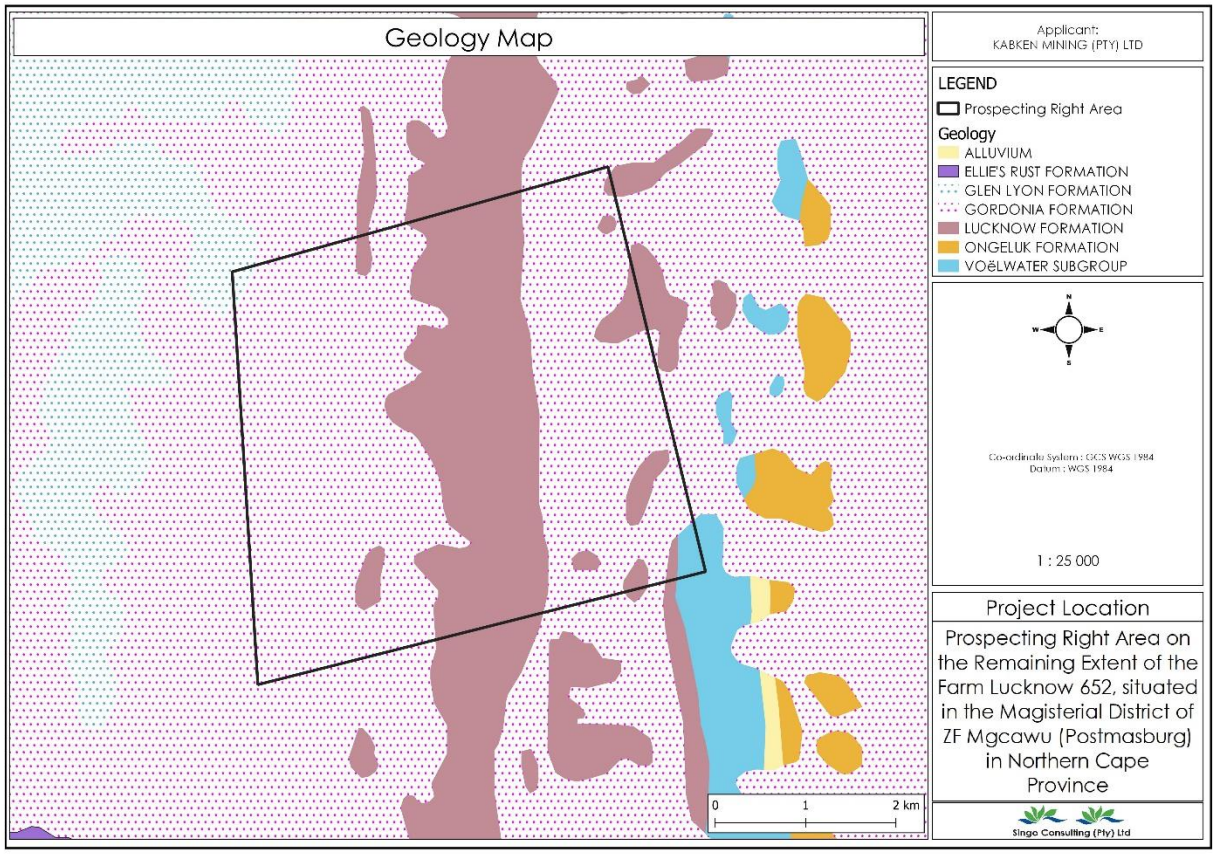


Figure 45: Geology of the proposed area.

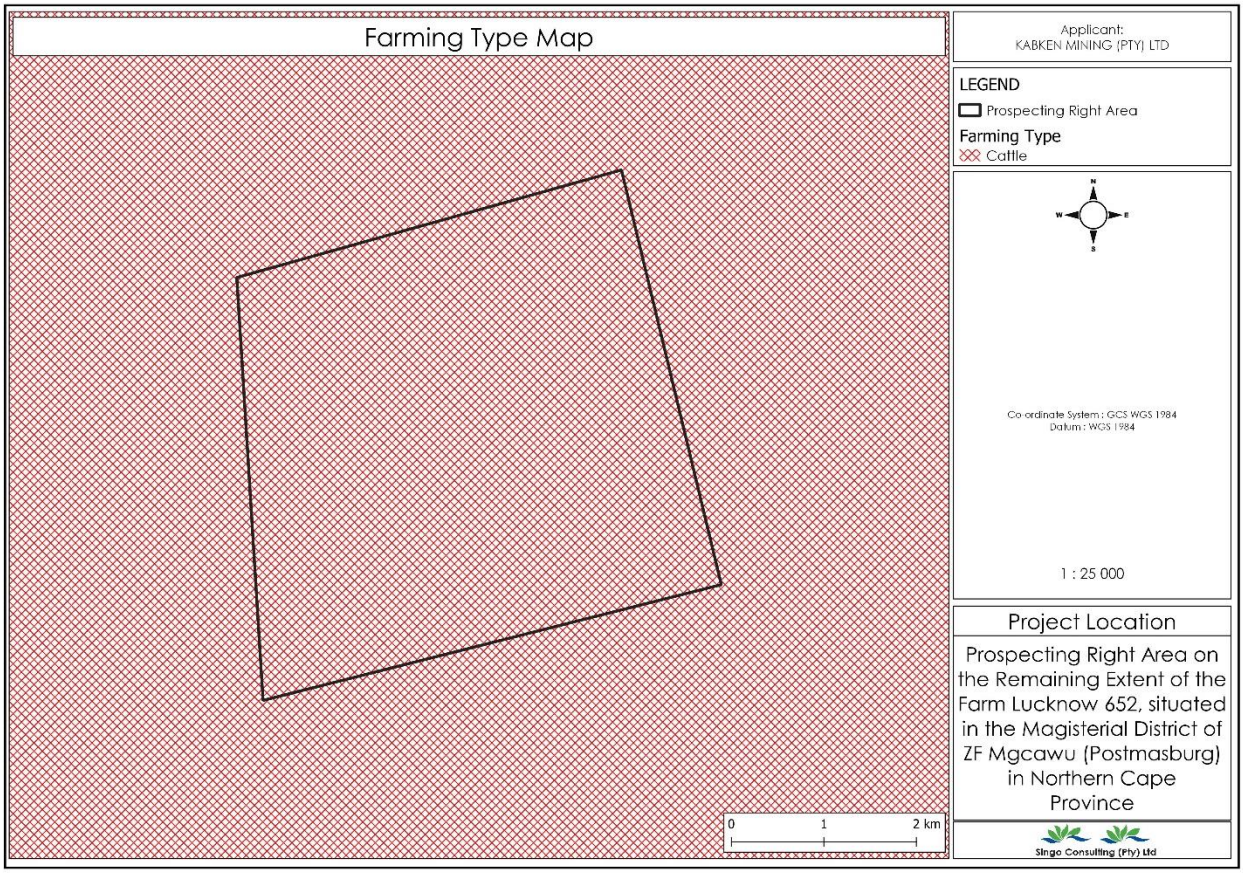


Figure 46: Types of farming in the proposed project area.

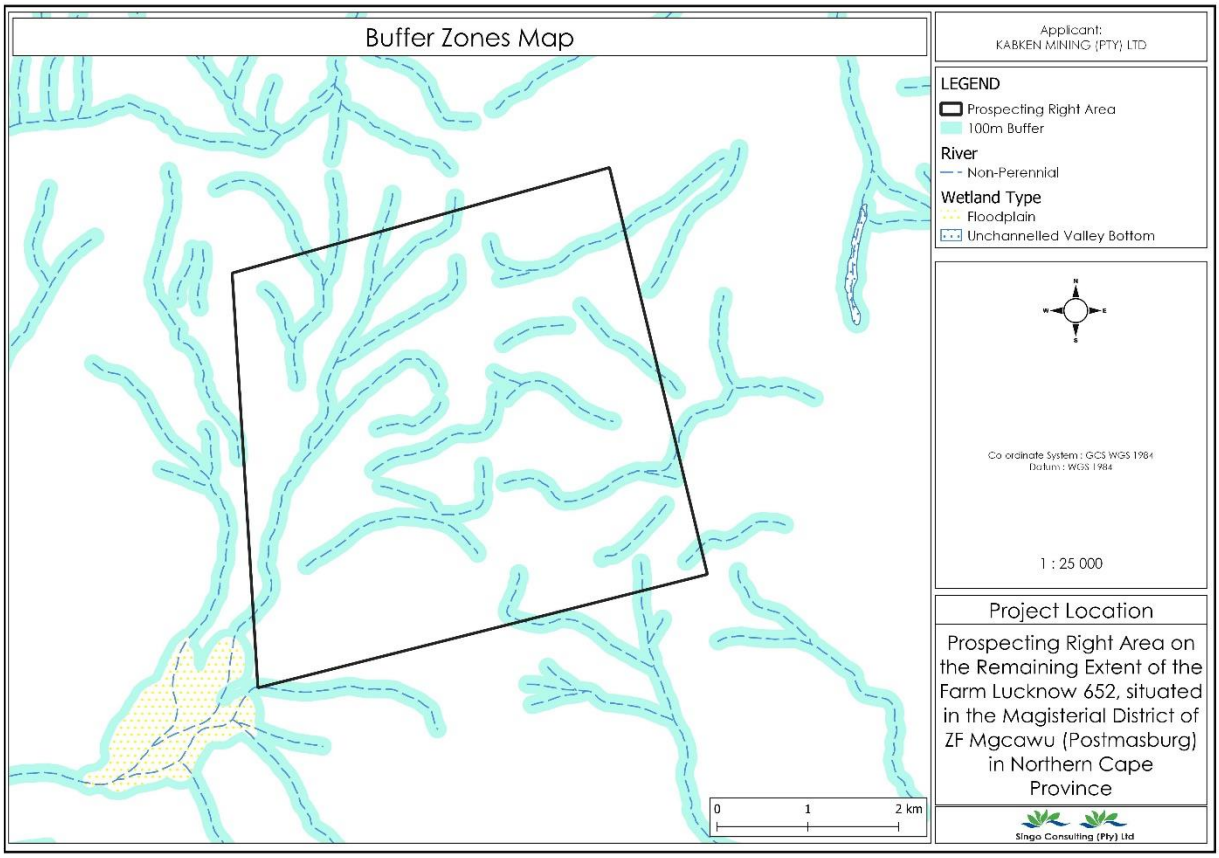


Figure 47: Buffers in the proposed project area.

Appendix 2:Background Information Document

BACKGROUND INFORMATION DOCUMENT

PROSPECTING RIGHT APPLICATION FOR GEMSTONE, COBALT, LEAD, GOLD, COPPER, NICKEL, SILVER, AND ZINC ORE ON THE REMAINING EXTENT OF THE LUCKNOW 652

APPLICANT:

KABKEN

MINING (PTY) LTD

CONSULTANT:

DMRE REF: NC 30/5/1/1/2/13203 PR.

INTRODUCTION AND THE PURPOSE OF THIS DOCUMENT

Singo Consulting (Pty) Ltd has been appointed as an independent Environmental Consultant by **KABKEN MINING (PTY) LTD** to conduct Environmental Impact Assessment (EIA), Compile an Environmental Management Programme report (EMPr) and undertake Public Participation Process (PPP). This is done for processes of acquiring Environmental Authorization for the proposed Prospecting Right Application within **Remaining Extent** of the Farm **Lucknow 652** situated in the Magisterial District of **Postmasburg** in **Northern Cape Province.** The Department of Mineral Resources and Energy (DMRE) reference for this project is: **NC 30/5/1/1/2/13203 PR.**

The Purpose of this Background Information Document (BID) is to provide a perfunctory description of the project and outline EIA processes to be followed and contributions from Interested and Affected Parties (I&APs) on the issues related to the project in question, allowing comments and concerns to be raised. Results of the EIA through a BAR & EMPr, both negative and positive will be submitted and made available to the relevant Departments such as the Department of Mineral Resources and Energy and if requested, Environmental Affairs, Water and Sanitation, Landowners and other interested stakeholders.

This Background Information Document therefore requests and invite I&APs to comment on the environmental, physical, social and economic impacts associated with the proposed Prospecting Right activities. Be assured that your comments are of great value as they ensure that relevant issues are taken into consideration. Attached at the end of this document is a registration from, kindly complete it and send it back to **Ms Sithokozile Gcabashe** through given means of communication also attached there.

PROJECT DESCRIPTION

Prospecting Right Application has been submitted for the exploration of Gemstone, Cobalt, Lead, Gold, Copper, Nickel, Silver, and Zinc Ore resource on the properties mentioned above. The project area is located in Tsantasabane Local Municipality, under Postmasburg District in the Northern Cape Province. The project is located approximately 20 km Southeast of Olifantshoek The proposed project area covers 2431 hectares.

Prospecting activities will be undertaken over a period of five (5) years and are designed in phases, each phase conditional on the success of the previous phase. Both invasive and non-invasive methods will be implemented. Desktop study of the area has commenced, and this incorporates desktop geographical and geological mapping. This will be followed by detailed geochemical and geotechnical surveys. In turn, this is followed by detailed geophysical studies and later, a detailed drilling, sampling, assaying and mineralogical study. Diamond core drilling methods will be utilised to prospect in situ ore deposits. To ensure or minimise impacts on the receiving environment, All the activities will be guided by the project's EMPr.

REGULATORY FRAMEWORK

The EIA process through BAR & EMPR to be undertaken will be conducted in accordance with the National Environmental Management Act (Act 107 of 1998) and Environmental Impact Assessment regulations as amended (April 2017).

The activity is to extract the existence and occurrence of the applied mineral; therefore, this will be conducted in accordance with Mineral and Petroleum Resources Development Act, (Act 28 of 2002). Other regulatory guidelines to be followed include: National Water Act, 1998 (Act 36 of 1998), National Air Quality Standards (GN 1210: 2009) and National Dust Control Regulations (GN No. 827 of 2013).

These all will accurately be followed to ensure that identified impacts are assessed and mitigated according to their significance so that the protection of the receiving environment and populations is met.

PROJECT LOCATION

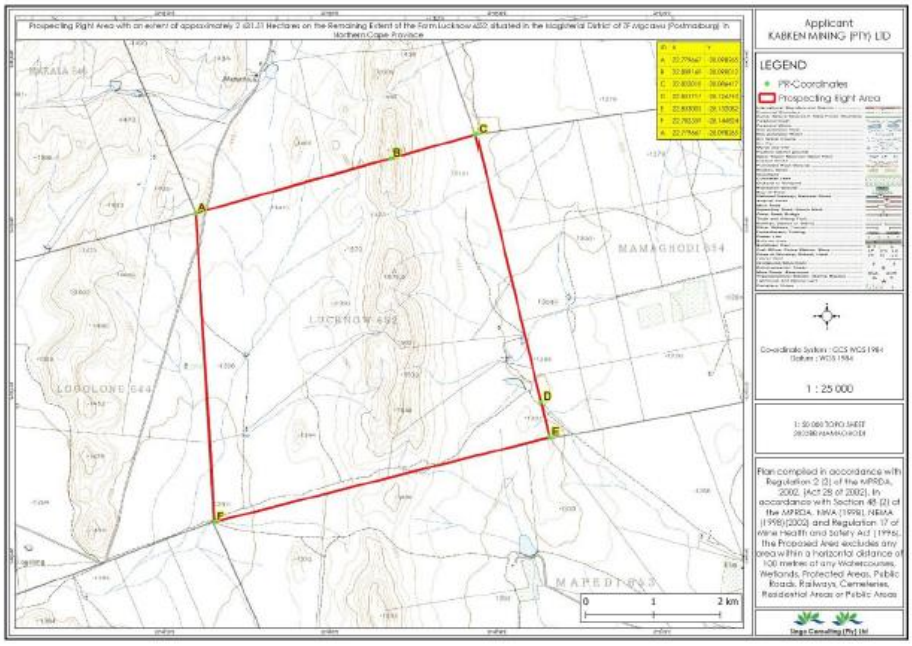


Figure 1: Regulation 2.2 map with coordinates

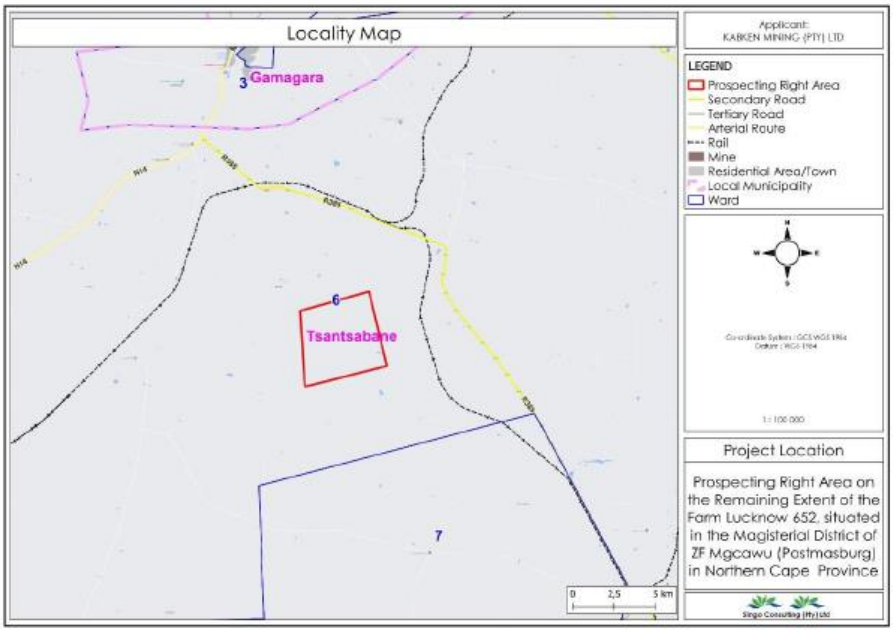


Figure 2: Locality Map

BASIC AND ENVIRONMENTAL IMPACT ASSESSMENT & PUBLIC PARTICIPATION PROCESS

These are planning and decision-making tools used in identifying potential environmental, economic, and social consequences of a proposed activity prior the commencement of the activity. These together with the public issues and concerns are to be identified sufficiently early so that they can be assessed and incorporated into the final reports when/if necessary.

These tools are regarded crucial because they are utilized in order to demonstrate to the relevant stakeholders about the potential impacts, which in turn leads to the Prospecting Right application process being a success or declined.

Public Participation remains a cornerstone of the Environmental Impact Assessment process. It ensures provision of relevant and enough information with openness and transparency. Public Participation Process presents to I&APs, an opportunity to understand what the project is about, and affords them an opportunity to make valuable contributions towards the EIA process.

I&AP can be any person, group of persons or organization interested in or affected by the proposed activity, and any organ of state that may have jurisdiction over any aspect of the activity.

Kindly keep the following dates:

- Announcement of the project: **6th of September 2022**
- Review period of the draft BAR & EMPR: **7th of November 2022 – 6th of December 2022**

The BAR & EMPr will be available at **Postdene Public Library (13 springbok street, Postmasburg, Northern Cape)** and a soft copy(via emails; Dropbox link; Google drive; WeTransfer, etc) upon request from Singo Consulting (Pty) Ltd using the detailed Environmental Technician's contacts.

Singo Consulting (Pty) Ltd

Address: Office 870, 5 Balalaika Street,
Tasbet Park Ext 2, eMalahleni
Cell: 084 948 5793
Email: ayanda@singoconsulting.co.za/
admin@singoconsulting.co.za

REGISTRATION & COMMENT SHEET (PROSPECTING RIGHT DMRE REF: NC 30/5/1/1/2/13203 PR).

Title		Name		Surname	
Company					
Designation					
Address					
Tel No.			Fax No.		
E-mail			Cell No.		
I would like to receive my notifications be (mark with "X"):			Post		E-mail:
					Fax:
	Please indicate why you would have an interest in the above-mentioned project.				
	Please provide your comments and questions here:				
	Please feel free to attach a separate document				
	Please add any person you think may be interested and affected parties:				
Full name			Company		
Address					
E-mail			Contact No.		

Appendix 3: Site Pictures


Thabaletsele

Appendix 4: Mitigation measures.

Activity Whether listed or not, e.g. excavations, blasting stockpiles, discard dumps/dams, loading, hauling, transport, water supply dams/boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control berms, roads, pipelines, power lines and conveyors.	**Potential impact** Including potential for cumulative impacts, e.g. dust, noise, drainage surface disturbance, fly rock, surface and ground water contamination and pollution.	**Aspects affected**	**Phase** In which impact is anticipated e.g. construction, commissioning, operational, decommissioning, closure, post-closure.	**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. E.g. modify through alternative method. Control through noise control. Control through management and monitoring through rehabilitation.	**Standard to be achieved** Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives) etc.
Planning and project management	EMPr	Project management	Planning	The final EMPr must address all authorisation conditions stipulated by the DEA (and other commenting authorities). EMPr must encompass all environmental impact mitigation measures identified in the final BAR.	MPRDA & NEMA
	Appointment of Environmental Officer	Project management	Planning	The Kabken Mining environmental geologist will serve as the environmental officer during construction and will be responsible for monitoring employee compliance with the EMPr.	MPRDA & NEMA
	Permits and permissions		Planning	Tsantsabane Local Municipality must ensure that all licensing, permits or certificates required for the project are obtained and in place before	MPRDA & NEMA

Activity Whether listed or not, e.g. excavations, blasting stockpiles, discard dumps/dams, loading, hauling, transport, water supply dams/boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control berms, roads, pipelines, power lines and conveyors.	**Potential impact** Including potential for cumulative impacts, e.g. dust, noise, drainage surface disturbance, fly rock, surface and ground water contamination and pollution.	**Aspects affected**	**Phase** In which impact is anticipated e.g. construction, commissioning, operational, decommissioning, closure, post-closure.	**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. E.g. modify through alternative method. Control through noise control. Control through management and monitoring through rehabilitation.	**Standard to be achieved** Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives) etc.
				construction commences.	
	Emergency response planning	Safety and health personnel on site	Planning	Plan all emergency responses, including: • Response procedures to fires, explosions, or any accidents that will require rapid medical responses. • Responses to community and stakeholder concerns and communication procedures with potential I&APs.	MPRDA & NEMA
	Project schedule	Undertaking the project timeously	Planning	Plan and develop a construction sequence to alleviate noise generation during construction.	N/A
	Method statement	Project management	Planning	Ensure that a method statement has been compiled and submitted to the site/construction manager.	N/A
	Grievances	Project management	Planning	Develop grievance mechanisms for the recording and management of	N/A

Activity Whether listed or not, e.g. excavations, blasting stockpiles, discard dumps/dams, loading, hauling, transport, water supply dams/boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control berms, roads, pipelines, power lines and conveyors.	**Potential impact** Including potential for cumulative impacts, e.g. dust, noise, drainage surface disturbance, fly rock, surface and ground water contamination and pollution.	**Aspects affected**	**Phase** In which impact is anticipated e.g. construction, commissioning, operational, decommissioning, closure, post-closure.	**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. E.g. modify through alternative method. Control through noise control. Control through management and monitoring through rehabilitation.	**Standard to be achieved** Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives) etc.
				complaints and grievances specifically including (but not limited to) grievances from those living in the area.	
	Records and administration	Project management	Planning	Ensure the following are up to date and available on site: • A complaint registers • An approved method statements • Copies of the EMPr • Environmental permits and authorisations • Copies of weekly checklists, and compliance, incidence and corrective action reports • Photographs of areas of concern (photos of non-compliance, and corrective action) • Attendance registers of environmental awareness training	

Activity Whether listed or not, e.g. excavations, blasting stockpiles, discard dumps/dams, loading, hauling, transport, water supply dams/boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control berms, roads, pipelines, power lines and conveyors.	**Potential impact** Including potential for cumulative impacts, e.g. dust, noise, drainage surface disturbance, fly rock, surface and ground water contamination and pollution.	**Aspects affected**	**Phase** In which impact is anticipated e.g. construction, commissioning, operational, decommissioning, closure, post-closure.	**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. E.g. modify through alternative method. Control through noise control. Control through management and monitoring through rehabilitation.	**Standard to be achieved** Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives) etc.
	Recruitment of labour	Project management	Planning	• Where possible, the contractor must use local labour in support of the local economy. • Advertise employment opportunities adequately, so as not to limit application opportunities. • Implement a transparent process of recruiting construction staff, following pre-established and accepted criteria.	Basic Conditions of Employment Act, No. 75 of 1997 (as amended)
Pre-drilling and exploration					
	Site establishment	Project management	Planning	• The contractor must, in agreement with the construction manager, decide on the construction camp location. The construction camp should be properly demarcated and fenced, and be adequately sized, with enough space for site offices, construction vehicles, equipment, material and waste storage	

Activity Whether listed or not, e.g. excavations, blasting stockpiles, discard dumps/dams, loading, hauling, transport, water supply dams/boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control berms, roads, pipelines, power lines and conveyors.	**Potential impact** Including potential for cumulative impacts, e.g. dust, noise, drainage surface disturbance, fly rock, surface and ground water contamination and pollution.	**Aspects affected**	**Phase** In which impact is anticipated e.g. construction, commissioning, operational, decommissioning, closure, post-closure.	**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. E.g. modify through alternative method. Control through noise control. Control through management and monitoring through rehabilitation.	**Standard to be achieved** Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives) etc.
				areas. • The construction camp must be located in an area where it will cause minimal environmental damage or disturbance. • Establish no-go areas where no construction personnel, equipment, machinery or vehicles are permitted. Any identified Environmentally Sensitive or important areas should be designated no-go areas.	
	Site housekeeping	Project management	Planning	The construction camp should always be kept clean and orderly.	
	Ablution facilities	Project management	Planning	• Enough ablution facilities should be provided near the construction camp. They must be properly covered and ventilated and contain hand washing facilities. • Properly secure portable toilets to the	

Activity Whether listed or not, e.g. excavations, blasting stockpiles, discard dumps/dams, loading, hauling, transport, water supply dams/boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control berms, roads, pipelines, power lines and conveyors.	**Potential impact** Including potential for cumulative impacts, e.g. dust, noise, drainage surface disturbance, fly rock, surface and ground water contamination and pollution.	**Aspects affected**	**Phase** In which impact is anticipated e.g. construction, commissioning, operational, decommissioning, closure, post-closure.	**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. E.g. modify through alternative method. Control through noise control. Control through management and monitoring through rehabilitation.	**Standard to be achieved** Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives) etc.
				grounds to avoid toppling in the event of a wind or storm. • Ensure that toilets function properly and are hygienic. Clean and empty toilets regularly. • Ensure that there are no spills when toilets are cleaned and emptied. • Prohibit urination on site.	
Site establishment activities (-ve): • Vegetation clearance • Topsoil stripping and stockpiling • Drill pad compaction • Erection of office, toilets, fuel storage (if not by road tanker), water tanker, core storage	Cultural and heritage	Destruction/loss of cultural and heritage resources (cultural/heritage artefacts have been identified on site)	Construction/set-up	• Environmental permits and authorisations. • Copies of weekly checklists, compliance, incidence and corrective action reports.	Heritage Act
	Noise	Noise generation	Construction/set-up	Photographs of areas of concern (photos of non-compliance areas as well	SANS 10103

Activity Whether listed or not, e.g. excavations, blasting stockpiles, discard dumps/dams, loading, hauling, transport, water supply dams/boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control berms, roads, pipelines, power lines and conveyors.	**Potential impact** Including potential for cumulative impacts, e.g. dust, noise, drainage surface disturbance, fly rock, surface and ground water contamination and pollution.	**Aspects affected**	**Phase** In which impact is anticipated e.g. construction, commissioning, operational, decommissioning, closure, post-closure.	**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. E.g. modify through alternative method. Control through noise control. Control through management and monitoring through rehabilitation.	**Standard to be achieved** Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives) etc.
• Vehicle movements • Waste management				corrective action).	
	Visual	Visual intrusion	Construction/set-up	Attendance registers of environmental awareness training.	N/A
	Traffic	Increase in traffic volumes near the drilling site	Construction/set-up	• Traffic signs to be erected around the site to notify motorist of the activities. • Construction vehicles to make trips on/off site only when necessary. • Construction vehicles to adhere to local speed limits when driving in and around site.	National Traffic Act Regulations
	Signage	Traffic volumes, safety	Construction/set-up	• Construction management must communicate commencement and duration of construction activities to the community. • Erect clear signage to make community aware of construction activities to prevent hazardous occurrences. • Provide adequate safety warnings on	National Traffic Act Regulations

Activity Whether listed or not, e.g. excavations, blasting stockpiles, discard dumps/dams, loading, hauling, transport, water supply dams/boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control berms, roads, pipelines, power lines and conveyors.	**Potential impact** Including potential for cumulative impacts, e.g. dust, noise, drainage surface disturbance, fly rock, surface and ground water contamination and pollution.	**Aspects affected**	**Phase** In which impact is anticipated e.g. construction, commissioning, operational, decommissioning, closure, post-closure.	**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. E.g. modify through alternative method. Control through noise control. Control through management and monitoring through rehabilitation.	**Standard to be achieved** Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives) etc.
				roads.	
	Dust fall	Dust fall and nuisance from activities	Construction/set-up	• Apply wet suppression to prevent visible dust is raised by prospecting operations. • Separation of at least 500 m to be maintained between drill sites and dwellings. • Low vehicle speeds to be enforced on unpaved roads.	GN R. 827 (NEM:AQA
	Soil and vegetation	Potential impact of proposed prospecting on vegetation will occur at proposed drill sites and the access routes used to get to these sites.	Construction/set-up	• Soil disturbance and vegetation clearance at drill pads will be limited as far as possible. • No clear scraping (dozing) to be carried out unless necessary to establish a level drill pad. • Clear surface vegetation to make way for the drill rig, leaving the roots intact so that vegetation can coppice and regrow.	NEMBA

Activity Whether listed or not, e.g. excavations, blasting stockpiles, discard dumps/dams, loading, hauling, transport, water supply dams/boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control berms, roads, pipelines, power lines and conveyors.	**Potential impact** Including potential for cumulative impacts, e.g. dust, noise, drainage surface disturbance, fly rock, surface and ground water contamination and pollution.	**Aspects affected**	**Phase** In which impact is anticipated e.g. construction, commissioning, operational, decommissioning, closure, post-closure.	**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. E.g. modify through alternative method. Control through noise control. Control through management and monitoring through rehabilitation.	**Standard to be achieved** Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives) etc.
				• Disturbed areas will be re-vegetated with indigenous species as soon as possible.	
	Animal life	Animal life will be affected in the immediate vicinity of the drill rig. It is anticipated that the noise and activity will keep animal life away from the site during prospecting.	Construction/set-up	• Environmental awareness training sessions should be part of worker induction and site workshops. • If any animals are encountered they must not be killed or injured, but removed or chased away from the site with the assistance of an animal specialist.	NEMBA
	Social	Friction between local residents/land	Construction/set-up	• All operations will be carried out under the guidance of a strong, experienced manager with proven skills in public	NEMA

Activity Whether listed or not, e.g. excavations, blasting stockpiles, discard dumps/dams, loading, hauling, transport, water supply dams/boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control berms, roads, pipelines, power lines and conveyors.	**Potential impact** Including potential for cumulative impacts, e.g. dust, noise, drainage surface disturbance, fly rock, surface and ground water contamination and pollution.	**Aspects affected**	**Phase** In which impact is anticipated e.g. construction, commissioning, operational, decommissioning, closure, post-closure.	**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. E.g. modify through alternative method. Control through noise control. Control through management and monitoring through rehabilitation.	**Standard to be achieved** Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives) etc.
		owners and construction personnel		consultation and conflict resolution. • All prospecting personnel will be made aware of conditions and sensitivities in the prospecting area and the fact that some residents may not welcome prospecting. • There will always be a strict requirement to treat residents with respect and courtesy.	
	Job creation	Employment will be created for land clearing and establishing the drill site	Construction/set-up	No mitigation measures required.	NEMA
	Waste storage and disposal	Safety and aesthetic/visual aspects of the property, as well	Construction/set-up	• Waste generated by construction workers must be collected in clearly-labelled containers and disposed of weekly at registered disposal sites.	National Waste Act

Activity Whether listed or not, e.g. excavations, blasting stockpiles, discard dumps/dams, loading, hauling, transport, water supply dams/boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control berms, roads, pipelines, power lines and conveyors.	**Potential impact** Including potential for cumulative impacts, e.g. dust, noise, drainage surface disturbance, fly rock, surface and ground water contamination and pollution.	**Aspects affected**	**Phase** In which impact is anticipated e.g. construction, commissioning, operational, decommissioning, closure, post-closure.	**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. E.g. modify through alternative method. Control through noise control. Control through management and monitoring through rehabilitation.	**Standard to be achieved** Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives) etc.
		as waste disposal practices		• Enough weather and vermin-proof bins should be placed on site for solid waste disposal. Prohibit littering and on-site waste burning. • All waste generated from construction activities (building rubble, solid and liquid waste, etc.), should be disposed of frequently at an appropriately-licensed refuse facility. • Minimise waste generation, e.g. by providing re-usable items and refillable containers (e.g. for drinking water) and adopt a cradle-to-grave approach to waste. • Comply with legal requirements for waste management and pollution control. • Implement good housekeeping and monitoring practices.	

Activity Whether listed or not, e.g. excavations, blasting stockpiles, discard dumps/dams, loading, hauling, transport, water supply dams/boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control berms, roads, pipelines, power lines and conveyors.	**Potential impact** Including potential for cumulative impacts, e.g. dust, noise, drainage surface disturbance, fly rock, surface and ground water contamination and pollution.	**Aspects affected**	**Phase** In which impact is anticipated e.g. construction, commissioning, operational, decommissioning, closure, post-closure.	**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. E.g. modify through alternative method. Control through noise control. Control through management and monitoring through rehabilitation.	**Standard to be achieved** Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives) etc.
	Hazardous waste	Safety and aesthetic/visual aspects of the property, as well as waste disposal practices.	Construction/set-up	• Any hazardous waste that may be generated should be separated from general waste and stored in clearly marked and properly sealed secondary containers. • Any hazardous waste generated should be disposed of in accordance with the Hazardous Chemical Substances Regulations, 1995 (Regulation 15).	National Waste Act
	Spills and leaks	Safety and aesthetic/visual aspects of the property, as well as waste disposal practices.	Construction/set-up and operation	• Any leaking equipment should be temporarily decommissioned and removed from the construction site to a surface with an impermeable surface and waste water collection system. • Spill response kits must be readily available and accessible to all personnel on site.	National Waste Act
	PPE			Ensure that all persons on site use PPE,	Employment Act

Activity Whether listed or not, e.g. excavations, blasting stockpiles, discard dumps/dams, loading, hauling, transport, water supply dams/boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control berms, roads, pipelines, power lines and conveyors.	**Potential impact** Including potential for cumulative impacts, e.g. dust, noise, drainage surface disturbance, fly rock, surface and ground water contamination and pollution.	**Aspects affected**	**Phase** In which impact is anticipated e.g. construction, commissioning, operational, decommissioning, closure, post-closure.	**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. E.g. modify through alternative method. Control through noise control. Control through management and monitoring through rehabilitation.	**Standard to be achieved** Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives) etc.
				including safety boots, safety vests and protective masks.	
	Illegal fires			Ensure that no fires are ignited on site unless for construction purposes, in which case the EC should designate areas for it. Designated areas should be as far as possible from vegetation.	NEMA
	Erosion	The properties of the receiving environment and ensuring that the ground is not susceptible to erosion beyond that which can be rehabilitated.	Construction/set-up and operation	• Ensure that erosion management and sediment controls are strictly implemented from the beginning of site clearing activities. • All topsoil stockpiles (if any) must be protected against wind, erosion and seeds, i.e. by use of shade cloth or netting. • Topsoil stockpiles should not exceed 2 m in height.	NEMA
Exploration drilling	Noise	Noise generation	Operations	• Construction/setup, operational and	Heritage Act

Activity Whether listed or not, e.g. excavations, blasting stockpiles, discard dumps/dams, loading, hauling, transport, water supply dams/boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control berms, roads, pipelines, power lines and conveyors.	**Potential impact** Including potential for cumulative impacts, e.g. dust, noise, drainage surface disturbance, fly rock, surface and ground water contamination and pollution.	**Aspects affected**	**Phase** In which impact is anticipated e.g. construction, commissioning, operational, decommissioning, closure, post-closure.	**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. E.g. modify through alternative method. Control through noise control. Control through management and monitoring through rehabilitation.	**Standard to be achieved** Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives) etc.
• Drilling • Drill maintenance and refuelling • Core sample collection and storage • Vehicle movements • Waste generation and management				decommissioning activities will be limited to daylight hours, Mondays-Saturdays, from 08h00–17h00. No activities on Sundays and public holidays. • Maintain a minimum distance of 500 m (preferably 1 000 m) between drill sites and dwellings. • Noise abatement equipment, like mufflers on diesel engines, will be maintained and kept in good condition. • If intrusive noise levels are experienced by any person at any point, the noise source will be moved if practical, or placed in an acoustic enclosure, or an acoustic barrier will be erected between the source and the recipient.	
	Visual	Visual intrusions	Operations	• The drill rig and other visually prominent items on site will be erected in	SANS 10103

Activity Whether listed or not, e.g. excavations, blasting stockpiles, discard dumps/dams, loading, hauling, transport, water supply dams/boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control berms, roads, pipelines, power lines and conveyors.	**Potential impact** Including potential for cumulative impacts, e.g. dust, noise, drainage surface disturbance, fly rock, surface and ground water contamination and pollution.	**Aspects affected**	**Phase** In which impact is anticipated e.g. construction, commissioning, operational, decommissioning, closure, post-closure.	**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. E.g. modify through alternative method. Control through noise control. Control through management and monitoring through rehabilitation.	**Standard to be achieved** Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives) etc.
				consultation with the landowner. • Use existing vegetation as far as possible to screen the prospecting operations from view. • If necessary, operations can be screened from view by erecting a shade cloth barrier.	
	Traffic	Increase in traffic volumes near the drilling site	Operations	• Erect traffic signs around the site to notify motorists of activities. • Construction vehicles to make trips on/off site only when necessary. • Construction vehicles to adhere to local speed limits when driving in and around site.	N/A
	Dust fall	Dust fall and nuisance from activities	Operations	• Apply wet suppression to ensure that no visible dust is raised by prospecting operations. • Maintain a minimum distance of 500 m	National Traffic Act Regulations

Activity Whether listed or not, e.g. excavations, blasting stockpiles, discard dumps/dams, loading, hauling, transport, water supply dams/boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control berms, roads, pipelines, power lines and conveyors.	**Potential impact** Including potential for cumulative impacts, e.g. dust, noise, drainage surface disturbance, fly rock, surface and ground water contamination and pollution.	**Aspects affected**	**Phase** In which impact is anticipated e.g. construction, commissioning, operational, decommissioning, closure, post-closure.	**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. E.g. modify through alternative method. Control through noise control. Control through management and monitoring through rehabilitation.	**Standard to be achieved** Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives) etc.
				(preferably 1 000 m) between drill sites and dwellings. • Enforce low vehicle speeds on unpaved roads.	
	Soil and vegetation	Soil and vegetation disturbance from drill pad preparation	Operations	• Soil disturbance and vegetation clearance at drill pad areas will be limited to the minimum. • No clear scraping (dozing) be carried out unless necessary to establish a level drill pad. • Clear surface vegetation to make way for the drill rig, leaving the roots intact so that vegetation can coppice and regrow. • Disturbed areas will be re vegetated with locally indigenous species as soon as possible.	GNR 517 (NEM:AQA)
	Animal life	Animal life will be	Operations	Measures implemented during site	NEMBA

Activity Whether listed or not, e.g. excavations, blasting stockpiles, discard dumps/dams, loading, hauling, transport, water supply dams/boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control berms, roads, pipelines, power lines and conveyors.	**Potential impact** Including potential for cumulative impacts, e.g. dust, noise, drainage surface disturbance, fly rock, surface and ground water contamination and pollution.	**Aspects affected**	**Phase** In which impact is anticipated e.g. construction, commissioning, operational, decommissioning, closure, post-closure.	**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. E.g. modify through alternative method. Control through noise control. Control through management and monitoring through rehabilitation.	**Standard to be achieved** Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives) etc.
		affected in the immediate vicinity of the drill rig. It is anticipated that the noise and activity will keep animal life away from the site during prospecting.		establishment should apply in this phase as well.	
	Social	Friction between residents/land owners and construction personnel	Operations	• All operations will be carried out under the guidance of a strong, experienced manager with proven skills in public consultation and conflict resolution. • All prospecting personnel will be made aware of local conditions and sensitivities in the prospecting area and the fact that some residents may not	NEMBA

Activity Whether listed or not, e.g. excavations, blasting stockpiles, discard dumps/dams, loading, hauling, transport, water supply dams/boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control berms, roads, pipelines, power lines and conveyors.	**Potential impact** Including potential for cumulative impacts, e.g. dust, noise, drainage surface disturbance, fly rock, surface and ground water contamination and pollution.	**Aspects affected**	**Phase** In which impact is anticipated e.g. construction, commissioning, operational, decommissioning, closure, post-closure.	**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. E.g. modify through alternative method. Control through noise control. Control through management and monitoring through rehabilitation.	**Standard to be achieved** Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives) etc.
				welcome prospecting. • There will always be a strict requirement to treat residents with respect and courtesy.	
	Job creation	Employment will be created for land clearing and establishing the drill site.	Operations	No mitigation measures required.	Basic Conditions of Employment Act, No. 75 of 1997 (as amended)
Decommissioning and rehabilitation					
Rehabilitation of the drill sites and surroundings	Removal of construction structures	Ensure the receiving environment is not impacted further, by dismantling machinery and equipment	Rehabilitation	• Clear and remove from site all construction plant equipment, storage containers, signage, temporary fencing, temporary services, fixtures and any other temporary works. • Ensure that all access roads used during construction (which are not earmarked for closure and rehabilitation) are	NEMA

Activity Whether listed or not, e.g. excavations, blasting stockpiles, discard dumps/dams, loading, hauling, transport, water supply dams/boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control berms, roads, pipelines, power lines and conveyors.	**Potential impact** Including potential for cumulative impacts, e.g. dust, noise, drainage surface disturbance, fly rock, surface and ground water contamination and pollution.	**Aspects affected**	**Phase** In which impact is anticipated e.g. construction, commissioning, operational, decommissioning, closure, post-closure.	**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. E.g. modify through alternative method. Control through noise control. Control through management and monitoring through rehabilitation.	**Standard to be achieved** Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives) etc.
		appropriately.		returned (as far as possible) to their pre-construction state.	
	Waste and rubble removal	Visual aspects by preventing any further pollution.	Rehabilitation	• Clear the site of all inert waste and rubble, including surplus rock, foundations and batching plant aggregates. • Load and haul excess spoil and inert rubble to fill in borrow pits/dongas or to dump sites indicated/approved by an environmental control specialist. • Remove from site all domestic waste and dispose of it in the approved manner at a registered waste disposal site.	National Waste Act
	Solid and hazardous waste			• Store hazardous waste as indicated in the approved EMPr. • Dispose of all hazardous waste not earmarked for reuse, recycling or resale	National Waste Act

Activity Whether listed or not, e.g. excavations, blasting stockpiles, discard dumps/dams, loading, hauling, transport, water supply dams/boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control berms, roads, pipelines, power lines and conveyors.	**Potential impact** Including potential for cumulative impacts, e.g. dust, noise, drainage surface disturbance, fly rock, surface and ground water contamination and pollution.	**Aspects affected**	**Phase** In which impact is anticipated e.g. construction, commissioning, operational, decommissioning, closure, post-closure.	**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. E.g. modify through alternative method. Control through noise control. Control through management and monitoring through rehabilitation.	**Standard to be achieved** Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives) etc.
				at a registered hazardous waste disposal site. • Remove from site all temporary fuel stores, hazardous substance stores, hazardous waste stores and pollution control sumps. • Do not hose oil/fuel spills into a storm water drain, sewer, or the natural environment. • Dispose of all visible remains of excess material when exiting the site.	
	Erosion protection		Rehabilitation	• Protect areas susceptible to erosion and ensure that there is no undue soil erosion due to activities in/around the construction site. • Retain shrubbery and grass species where possible. • Regularly monitor and maintain erosion	NEMA

Activity Whether listed or not, e.g. excavations, blasting stockpiles, discard dumps/dams, loading, hauling, transport, water supply dams/boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control berms, roads, pipelines, power lines and conveyors.	**Potential impact** Including potential for cumulative impacts, e.g. dust, noise, drainage surface disturbance, fly rock, surface and ground water contamination and pollution.	**Aspects affected**	**Phase** In which impact is anticipated e.g. construction, commissioning, operational, decommissioning, closure, post-closure.	**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. E.g. modify through alternative method. Control through noise control. Control through management and monitoring through rehabilitation.	**Standard to be achieved** Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives) etc.
				control measures.	

Appendix 5:Baseline Studies

- STUDIES FOR THIS PROJECT ARE AVAILABLE UPON REQUEST

Curriculum Vitae of the EAP

Due to the POPIA ACT the Curriculum Vitae will be made available to DMRE only.

Appendix 6: Financial Provision

CALCULATION OF THE QUANTUM

Applicant: **Kabken Mining (Pty) Ltd**
Evaluator: **Singo Consulting (Pty) Ltd**

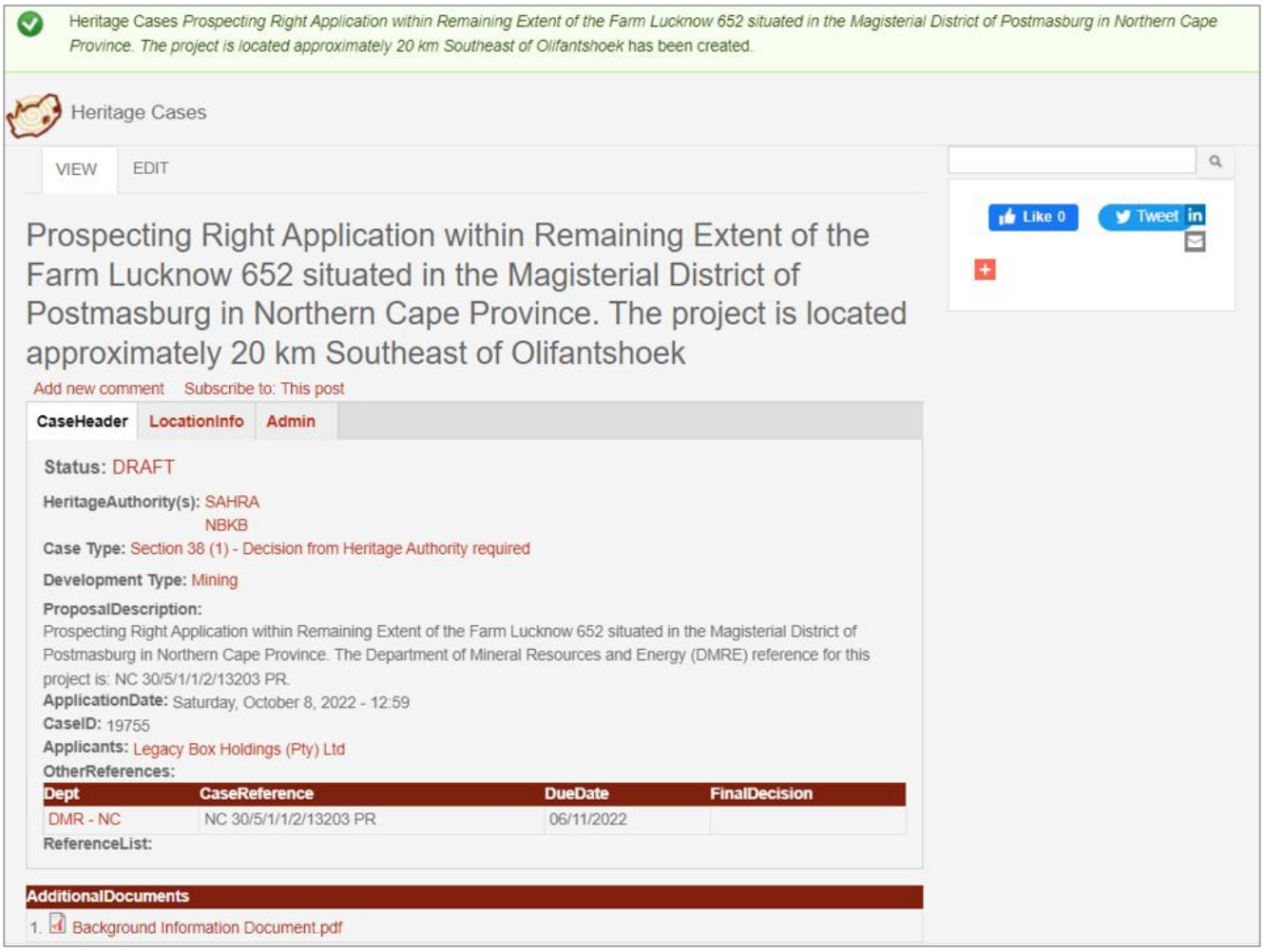
DMRE REF.: NC 30/5/1/1/2/13203 PR
DATE: 31/10/2022

No.	Description	Unit	A Quantity	B Master Rate	C Multiplication factor	D Weighting factor 1	E=A*B*C*D Amount (Rands)
1	Dismantling of processing plant and related structures (including overland conveyors and powerlines)	m3	0	19	1	1	0
2 (A)	Demolition of steel buildings and structures	m2	0	271	1	1	0
2(B)	Demolition of reinforced concrete buildings and structures	m2	0	400	1	1	0
3	Rehabilitation of access roads	m2	1604,55	49	0,36	1	28304,262
4 (A)	Demolition and rehabilitation of electrified railway lines	m	0	471	1	1	0
4 (A)	Demolition and rehabilitation of non-electrified railway lines	m	0	257	1	1	0
5	Demolition of housing and/or administration facilities	m2	0	542	1	1	0
6	Opencast rehabilitation including final voids and ramps	ha		284292	1	1	0
7	Sealing of shafts adits and inclines	m3	0	146	1	1	0
8 (A)	Rehabilitation of overburden and spoils	ha		189528	1	1	0
8 (B)	Rehabilitation of processing waste deposits and evaporation ponds (non-polluting potential)	ha	0	236054	1	1	0
8 (C)	Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)	ha		685612	1	1	0
9	Rehabilitation of subsided areas	ha	0	158701	1	1	0
10	General surface rehabilitation	ha		150138	1	1	0
11	River diversions	ha	0	150138	1	1	0
12	Fencing	m	0	171	1	1	0
13	Water management	ha		57087	1	1	0
14	2 to 3 years of maintenance and aftercare	ha	0	19980	1	1	0
15 (A)	Specialist study	Sum	0			1	0
15 (B)	Specialist study	Sum				1	0
					Sub Total 1		28304,262

1	Preliminary and General	3396,51144	weighting factor 2 1	3396,51144
2	Contingencies		2830,4262	2830,4262
			Subtotal 2	34531,20
			VAT (15%)	5179,68
			Grand Total	**39711**

Appendix 7: Screening Report

Appendix 8: SARHA Consultation



Heritage Cases *Prospecting Right Application within Remaining Extent of the Farm Lucknow 652 situated in the Magisterial District of Postmasburg in Northern Cape Province. The project is located approximately 20 km Southeast of Olifantshoek* has been created.

Heritage Cases

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Prospecting Right Application within Remaining Extent of the Farm Lucknow 652 situated in the Magisterial District of Postmasburg in Northern Cape Province. The project is located approximately 20 km Southeast of Olifantshoek

Add new comment Subscribe to: This post

CaseHeader LocationInfo Admin

Status: DRAFT

HeritageAuthority(s): SAHRA
NBKB

Case Type: Section 38 (1) - Decision from Heritage Authority required

Development Type: Mining

ProposalDescription:
Prospecting Right Application within Remaining Extent of the Farm Lucknow 652 situated in the Magisterial District of Postmasburg in Northern Cape Province. The Department of Mineral Resources and Energy (DMRE) reference for this project is: NC 30/5/1/1/2/13203 PR.

ApplicationDate: Saturday, October 8, 2022 - 12:59

CaseID: 19755

Applicants: Legacy Box Holdings (Pty) Ltd

OtherReferences:

Dept	CaseReference	DueDate	FinalDecision
DMR - NC	NC 30/5/1/1/2/13203 PR	06/11/2022	

ReferenceList:

AdditionalDocuments

1. Background Information Document.pdf