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BEYOND GREEN ENVIRONMENTAL SERVICES

FINAL BASIC ASSESSMENT REPORT AND ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

SUBMITTED FOR ENVIRONMENTAL AUTHORIZATIONS IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 AND THE NATIONAL ENVIRONMENTAL MANAGEMENT WASTE ACT, 2008 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)

PREPARED BY: *BEYOND GREEN ENVIRONMENTAL SERVICES (PTY) LTD*
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FILE REFERENCE NUMBER SAMRAD: NW30/5/1/1/2/13131PR

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.

2. 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 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.

EXECUTIVE SUMMARY

(Malumbazo Holdings (PTY) LTD, the applicant) is in a process of applying for Vanadium and Uranium Ore prospecting right in terms of section 16 of the Mineral and Petroleum Resources Development Act, (Act 28 of 2002) as amended by Section 12of the Mineral and Petroleum Resources Development Amendment Act, Act 49 of 2008. The proposed project is located on the remaining extent of the Farm Tuschenkomst 135 JP, the Bojanala Platinum District Municipality, Moses Kotane Local Municipality, Northwest.

Malumbazo Holdings proposed to undertake prospecting activities should the right/authorization is acquired. Beyond Greening Environmental Services Pty Ltd (referred to BGES here after) has been appointed by Malumbazo Holdingsto assist in preparing and submitting environmental reports, EIA process and undertaking a Landowner and Public Consultation Process, in support of a prospecting right and Environmental Authorization application.

BGES has applied for environmental authorization to the Department of Mineral Resources (DMR) for the proposed prospecting of Vanadium and Uranium Ore mining, at Tuschenkomst 135 Farm, in the . DMR has since accepted this application and instructed Malumbazo Holdingsto precede with the Basic Assessment Report process (this report) in terms of the National Environmental Management Act, Act of 107 of 1998 (NEMA) and its Environmental Impact Assessment Regulations, 2014. The following reference number has been assigned to this project: **30/5/1/1/2/13131PR** by DMR. The Basic Assessment Phase has since been conducted during which assessment of environmental impacts and programme for management of the impacts and public issues and concerns were identified and relevant issues were evaluated.

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Table of Acronyms

BA	Basic Assessment (process or report)
BID	Background Information Documents
CARA	Conservation of Agricultural Resources Act (Act 43 of 1983) as amended
CBA	Critical Biodiversity Area
DMR	Department of Mineral Resources
DWS	Department of Water Affairs and Sanitation
EA	Environmental Authorisation in terms of NEMA
EAP	Environmental Assessment Practitioner
ECA	Environmental Conservation Act (Act 73 of 1989) as amended
EIA	Environmental Impact Assessment (process or report)
EMPr	Environmental Management Programme report
GIS	Geographical Information Systems
GN	General Notice (issued under an Act, providing notice or information)
GNR	General Notice Regulation (issued under an Act, providing instruction)
I&AP	Interested and Affected Parties
NEM:BA	National Environmental Management: Biodiversity Act (Act 10 of 2004) as amended
NEM: PAA	National Environmental Management: Protected Areas Act (Act 57 of 2003) as amended
NEM: WA	National Environmental Management: Air Quality Act (act 59 of 2008) as amended
NEMA	National Environmental Management Act (Act 107 of 1998) as amended
NFEPA	National Freshwater Ecology Priority Areas
NHRA	National Heritage Resources Act (Act No. 25 of 1999) as amended
NWA	National Water Act (Act 35 of 1998) as amended
PPP	Public Participation Process
PRA	Prospecting Right Application in terms of the MPRDA
PR	Prospecting Right in terms of the MPRDA
PWP	Prospecting Work Programme

Keywords:
Ecosystems, Vegetation, Development, Conservation, Sustainability, Environment, Legislation, Prospecting, Biodiversity

1 PART A: Scope of assessment and Basic Assessment Report

1. 1 Contact Person and Correspondence Address

Table 1: Contact details of EAP and an applicant

	Environmental Assessment Practitioner (EAP)	**Holder**
Name	BGES Pty Ltd	Malumbazo Holdings(PTY) LTD
Contact person	Tshimange Maano	Nandi Malumbazo
Tel no.	067 985 7300	072 911 7492
Fax	0865156638	086 521 5257
Address	P O Box 68832 Highveld 0169	50 VIEIRA RD EAGLE FALLS ESTATE AMOROSA RUIMSIG 1732
Email	nonkululeko@beyondges.co.za	nandi.malumbazo15@gmail.com

Expertise of the EAP

BGES Pty Ltd was appointed by Malumbazo Holdings (as the landowner and developer) as an independent environmental consultant to undertake the Environmental Basic Assessment Process for the proposed project. BGES is not a subsidiary of or affiliated with the applicant. Furthermore, BGES does not have any interests in secondary developments that may arise out of the authorisation of the proposed project. The EAP from BGES who is responsible for this project is Maano Tshimange. Please refer to Appendix A for qualifications and Curriculum Vitae.

2. Location of the overall Activity

Table 2: Location of the prospecting area

Farm Name:	The remaining of the extent of the Farm of TUSCHENKOMST 135 JP
Application area (Ha)	1 371.429623 Ha
Magisterial district:	Bojanala Platinum District Municipality
Distance and direction from nearest town	It is about 63km Northwest of Rustenburg, Northwest Province
21-digit Surveyor General Code for each farm portion	T0JP00000000013500000
Locality map	Attach a locality map at a scale **not smaller than 1:250000**

3. Locality map

(Show nearest town, scale not smaller than 1:250000).

Figure 1:Locality Map

4. *Description of the scope of the proposed overall activity*.

Figure 2: Application area

3. Listed and specified activities

Table 3:Prospecting timeframes and activities

NAME OF ACTIVITY **(E.g., For prospecting -** drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route **etc…etc…etc**	**Aerial extent of the Activity Ha or m²**	**LISTED ACTIVITY** (Mark with an **X** where applicable or affected).	**APPLICABLE LISTING NOTICE**	**WASTE MANAGEMENT AUTHORISATION** **(Mark with an X)**
Prospecting activities	1 371.429623 ha	X	GNR 983, Listed activity 20	Not required
Drilling activities	0.3 Ha	X	GNR 983, Listed activity 20	Not required
Temporary Camp site	80 m^2	X	GNR 983, Listed activity	Not required
Ablution facilities	10 m^2	X	20	Not required
Accommodation	30 m^2	X	GNR 983, Listed activity	Not required
Equipment Storage	50 m^2	X	20	Not required
Sample storage	40 m^2	X	GNR 983, Listed activity	Not required
Temporal Site offices	40 m^2	X	20	Not required
Access roads	100 m^2	X	GNR 983, Listed activity	Not required

4. Description of the activities to be undertaken.

(Describe Methodology or technology to be employed, including the type of commodity to be prospected/ mined and for a linear activity, a description of the route of the activity)

The following section gives a comprehensive description of all the activities that are associated with proposed project. The activities will be executed in four phases as outlined in the Prospecting Work Programme; each phase will be dependent on the preceding phase.

Phase 1 – Desktop Study - Analysis of Existing Data

A desktop study of all available data for the area will be undertaken to accumulate as much regional and historical data around the area as possible. This includes published geological reports, infrastructure mapping, satellite imagery and existing geophysical information.

The exploration records of all previous work in the area will be re-examined, and the following studies will be carried out:

- Literature review
- Detailed aerial photograph and satellite image interpretation
- Regional airborne geophysics with main emphasis on magnetic and gravity
- Regional soil geochemistry interpretation
- Geological mapping will also be carried out.

Phase 2– Field Mapping

This method includes ground mapping of geological features including rock outcrops, lithological contact zones, any geological structural features, surface depressions and vegetation types.

Phase 3– Geophysical survey

Ground magnetic and probably electro-magnetic surveys will be undertaken to define the contacts of the layers with the host rocks. A consideration to conduct air-borne geophysical surveys will be made once preliminary investigations have been completed.

Phase 4 –Drilling and Resource Generation

If the outcome of the field evaluation and geophysical investigations is positive, the next step will be to drill the formation in order to demarcate the ore deposits as well as to provide information on the vertical extent of the formation and possible defects with depth, which has implication on the recovery. Generally, diamond drilling is preferable, as the core can be evaluated not only for colour consistency, but also for defects such as joints, veins and banding which may influence the recovery of marketable blocks.

In this area, it is envisaged that the drilling depths will vary from shallow to deep with the average depth of boreholes ranging between 70m and 120m for the deepest. This is able to be determined before any data can be collected during the desktop phase. Core drilling (NQ size) program will be conducted in two phases, as discussed below:

(a) The initial drilling phases

Core drilling program along the strike lengths of the reef will be conducted with the aim of establishing the lateral continuity of the mineralization, this will be in collaboration with previous results from

geophysical studies. This will assist us in locating areas which are to be drilled. This phase is dependent on the results from mapping as well as geophysics Samples collected from the drill core will be submitted to a Sanas accredited laboratory for assaying and determination of the averages mineral contents. A total of at least 12 holes are estimated to be drilled during this phase. The spacing of the drill holes will initially be done on a 1500m x 1500m interval and eventually be reduced to a shorter interval based on the geophysics results and drilling.

It would be feasible to extend drilling during this phase to include as much of the strike lengths of the identified mineralization as possible because of the necessity and importance to conduct at least critical amount of drilling before deciding on where the best mineralised sections along the strike could be located.

(b) Infill Drilling

Once the critical amount of drilling has been conducted, a decision will be made on selecting an area/block with the highest potential to delineate an open pit economic block containing chrome ore at an economically recoverable grade. Infill core holes will be drilled at closer spacing to allow the calculation of proven ore reserves. An estimated of 4 boreholes will be drilled in this phase, should more than 4 boreholes be drilled, section 102 will be lodged in order to update the PWP. The spacing interval will depend on

- the geological character of the ore mineralization, the size and frequency of occurrence of structural disturbances affecting the continuity of the mineralization,
- the internationally accepted methodology and resource estimations and classification in accordance with the SAMREC Code. All borehole data (numbering, surveyed co-ordinates, geological formations and mineralized intersections and assay results) will be used for preliminary geological modeling, resource estimation and classification.

Although drilling of infill boreholes cannot be properly until we get results from the actual drilling, we anticipate that the infill drilling holes will approximately 2. All drilled holes will be rehabilitated and plugged accordingly. Limited mineralogical studies and preliminary metallurgical tests will be conducted during this drilling phase.

Phase 5 – Resources drilling and Pre-feasibility Study

The final phase of the prospecting programme would involve preparation of a prefeasibility study. This would include:

Resource drilling
- Dimensional Modelling
- Preliminary studies on mineralogy
- Initial conceptual Mine Planning.
- Planning the infrastructure requirements
- Environmental management planning
- Financial modelling
- Market analysis
- Analysis of transport logistics to markets
- Assessment of personal and training requirements
- Assessment of socio-economic factors

If the results of the study prove that the project is economically viable, an application for a mining right will be lodged at the DMR. If the results are negative, an application for decommissioning or closure will be lodged at the DMR.

Table 4:Prospecting timeframes and activities

Phase	**Activity** (what are the activities that are planned to achieve optimal prospecting)	**Skill(s) required** (refers to the competent personnel that will be employed to achieve the required results)	**Timeframe** (in months) for the activity)	**Outcome** (What is the expected deliverable, e.g. Geological report, analytical	**Timeframe for outcome** (deadline for the expected outcome to be delivered)	**What technical expert will sign off on the outcome?** (e.g. geologist, mining engineer, surveyor, economist, etc)
1	Non-invasive Desktop study	Geologist	0-6month	Desktop study report	6 months	Geologist
	None Invasive Field mapping	Geologist	6-8 month	Geological Maps	Month 14	Geologist
2	None Invasive Geophysical survey	Geologist	8-10 Month	Anomaly Maps	Month 24	Geophysicist

3	Invasive prospecting Site Establishment, Preliminary Drilling and Assaying	Drillers Geologist	10-46 Month	Preliminary resource model	Month 38	Geologist, Surveyors
4	Invasive prospecting Detailed Drilling and assaying	Drillers Geologist	46-58 Month	Resource Model	Month 50	Resource geologist
5	Geological modelling and evaluation, Report Writing and Rehabilitation	Geologist	58-60 Month	CPR	Month 60	Resource Geologist

5. Policy and Legislative Context

Table 5: Policy and Legislative Context

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT (a description of the policy and legislative context within which the development is proposed including an identification of all legislation, policies, plans, guidelines, spatial tools)	**REFERENCE WHERE APPLIED**	**HOW DOES THIS DEVELOPMENT COMPLIY WITH AND RESPOND TO THE LEGISLATION AND POLICY CONTEXT**? (E.g., In terms of the National Water Act a Water Use License has/ has not been applied for)
National Environmental Management Act, 1998	S24(1) of NEMA S28(1) of NEMA	An application for Environmental Authorisation was submitted to the DMR. The application was accepted by the DMR on the 13th of July 2021 (NW 30/5/1/1/2/13131 PR). The Department of Mineral Resources requested the submission of the BAR within the period of 90 days of the acceptance letter.
National Environmental Management: Waste Amendment Act, 2014 (Act No. 26 of 2014) (NEM: WAA)	Schedule 3 of the NEMWAA	This Basic Assessment Report is the subject of this Act.

National Environmental Management: Biodiversity Act 2004	Vegetation clearing	The proposed prospecting will occur within a Critical Terrestrial Biodiversity area. The EMPr will regulate the applicant's implementation of biodiversity management measures to be implemented as part of the project- which are aimed at managing and conserving biological diversity, as well as to minimising the proliferation of alien invasive species
Mineral Petroleum Development Resources Act	Section 27 MPRDA	A Prospecting Right Application has been submitted to the Department of Mineral Resources by the Applicant. The application was accepted by the Department of Mineral Resources on the 13th of July 2021 (NW 30/5/1/1/2/13131 PR).
National Water Act	Water use	Will be applied for
National Heritage Resources Act, 25 of 1991	Structures	Should archaeological or palaeontological objects or material or a meteorite in the course of development or agricultural activity must immediately report the find to the responsible heritage resources authority, or to the nearest local authority offices or museum, which must immediately notify such heritage resources authority. As part of the consultation process, the North west Provincial Heritage Resources Agency (NW PHRA) will be consulted, and comments solicited from them regarding this application.

6. Need and desirability of the proposed activities

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

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. Thus, allowing a determination to be made to take the project to the next phase where a Mining Right application would be submitted, if the resource proves to be mineable.

Prospecting activities are therefore needed to:

- Confirm and obtain additional information concerning potential targets through non-invasive activities (e.g., desktop studies and ground geophysical surveys) and invasive (e.g., drilling) activities.
- Assess if the resource is of good quality and can be extracted through future mining in an environmental socially and economically viable manner. Should prospecting activities prove that there are feasible minerals to allow for mining, a new mine may be developed, which would generate new employment opportunities in an area where employment is needed.

7. Motivation for the overall preferred site, activities and technology alternative.

Malumbazo Holdings proposes to undertake prospecting to determine whether the project area consist of the Uranium Ore and Vanadium Ore. If the proposed prospecting development delivers a positive outcome, the economic viability of the mineral (size, quantity, grade, etc.), the proposed activity will include the drilling of exploration boreholes. The associated activities/infrastructure will include access to the drill and campsites set up at each drill site only for the duration of drilling operations.

8.1. Preferred site: Based on the initial geological assessment study, the likelihood of encountering Uranium and Vanadium ore reserves was identified. Therefore, No location alternatives were identified as the location of the proposed activities are determined on initial assessment of the geological data available which has determined that the area in question may have the proposed minerals.

The site falls under the Rustenburg Layered Suite of the Bushveld Igneous Complex which contains mainly mafic rocks and is divided into a number of different zones. The marginal zone is found around the edge of the intrusion, while from the base of the complex up is the Lower Zone, the Critical Zone, the Main Zone and lastly the Upper Zone.

8.2. Technology Alternatives: Geophysical surveys and drilling are the only major methods used in exploring for the proposed minerals 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.

8. Full description of the process followed to reach the proposed preferred alternatives within the site.

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

Due to the nature of the proposed activities, each phase of prospecting is dependent on the success of the previous phase. Thus, depending on the outcome of phase one which entail desktop studies, the location and extent of the proposed borehole will then be determined.

The location and the extent of the activities cannot be determined at this stage, thus a site map with coordinated borehole is not available yet.

9. Details of the development footprint alternatives considered.

Provide details of the alternatives considered with respect to:

10.1. Property on which or location where it is proposed to undertake the activity: Malumbazo Holdings (Pty) Ltd applied for Uranium and Vanadium ore resource prospecting on: the Remaining extent of the farm Tuschenkomst 135 JP, situated under the Magisterial District of Moses Kotane, North West province based on the existing knowledge of the geology of the area and knowledge of nature of occurrences of platinum group metal (uranium ore and vanadium ore) ore deposits in the area.

10.2. The type of activity to be undertaken: In terms of the technologies proposed, these have been chosen based on the long term success of the using these technologies to explore the proposed minerals. The prospecting activities proposed in the Prospecting Works Programme is dependent on the preceding phase as previously discussed, therefore no alternatives are indicated, but rather a phased approach of trusted prospecting techniques .

10.3. Design/Layout Alternatives: The location of activities will be determined based on the location of the prospecting activities, which will only be determined during Phase 1 of the Prospecting Works Programme. All infrastructure erected on site will be temporary.

10.4. The technology to be used in the activity: Invasive and Non-invasive method will be used. The techniques employed for the investigation of potential targets and deposits are suitable for the proposed prospecting activities. They have been selected based on based on the long term success of the using these technologies to explore the proposed minerals.

10.5. The operational aspects of the activity: Due to the nature of the prospecting activities, no permanent water supply, electricity, or sewerage facilities are required. The activities will commence with a desktop study, which will comprise a literature search. This approach will ensure that the client clearly delineates areas suitable for further investigation and prevent unnecessary surface disturbance. Based on the outcomes of the desktop study, drilling and sampling of the above mentioned minerals will be undertaken for target areas only. Samples collected from the drill core will be submitted to a Sanas accredited laboratory for assaying and determination of the averages mineral contents. No feasible alternative to the proposed exploratory drill methods currently exists. Impacts associated with the drilling operations will be managed through the implementation of a management plan, developed as part of the application for authorisation.

10.6. 11.7 The option of not implementing the activity

Drilling is required to investigate the potential and feasibility of the resources as well as being used to generate a DMR compliant mineral resource statement. There is no potential for any future investment in a mine without the confirmation of the mineral resources which can only be obtained from drilling activities. Should the prospecting right be refused, effectively a potential Uranium and Vanadium ore resource development will be sterilized. The socio-economic benefit and most notably the future employment potential of mine development will also be lost if the prospecting activities are not implemented to determine the feasibility of the above-mentioned deposit that occurs within the area.

11. Details of the Public Participation Process Followed

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

The Basic Assessment Report will be submitted for comment to the competent authority, commenting authorities, non-governmental organizations (NGOs), landowners, surrounding property owners and other identified stakeholders for review. The authorities for this project were identified from similar projects in the past. The authorities to be contacted with regards to this project include:

- the Department of Mineral Resources (DMR);
- The Department of Water Affairs (DWA);
- Department of Rural Development & Land Reform: Land Claims Commissioners Office.
- Moses Kotane Local Municipality;
- North-West Provincial Heritage Resources Authority (NWPHRA);
- Department of Economic Development, Environmental, Conversation and Tourism (DEDECT);
- South African Heritage Resources Agency (SAHRA);
- North West Parks Board;
- Bojanala Platinum District Municipality;
- Department of Economic Development & Tourism;
- Department of Environmental Affairs (DEA);
- Traditional Authorities
- Municipal Councillor

11.1.1. Methodology of notification

Public participation activities that will be undertaken to inform the public, stakeholders and Organs of State of the applications and availability of the Basic Assessment Report are listed below.

a) **Site Notices**

Erection of site notices, (size A3) advertising the proposed development and showing the contact details of the EAP will be prepared and displayed on the nearest areas to the site and along the access road to the proposed site. These posters will inform the public of the proposed activities, invite I&AP's to attend the public meeting and request people to register as I&AP's. Notices will also be posted at the nearest

school or shopping store. All comments received during this phase will be incorporated within the Final Basic Assessment Report.

b**)** **Adverts**

An advert will be published on a local newspaper informing the public of the application, registration as I&AP's and availability of the BAR.

c) **Public Meeting**

The public open day offer an opportunity for I&APs to register on the stakeholder database and to submit written comments to the consultant. Local communities will be invited through posters to attend a public meeting that will be held to explain more about the Environmental Authorisation and prospecting right Application Processes of the project, as well as to announce the availability of the Basic Assessment Report and the comment & registration form. Issues raised during the meeting and a copy of the agenda will be attached within the Final Basic Assessment Report.

d) **Document Review**

In addition, this Report will be subjected to a 30-day comment period, and all registered I&AP's will be informed of its availability through emails. All comments received during this phase will be incorporated within the Final Basic Assessment Report

11.1.2. Summary of issues raised by I&AP's

Table 6: Comments raised by I&APs

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**	**Issues raised**	**EAPs response to issues as mandated by the applicant**	**Section and paragraph reference in this report where the issues and or response were incorporated.**
I&APs					
Landowner/s	X				
Lawful occupier/s of the land	X				
Landowners or lawful occupiers on adjacent properties	X				
Communities including: Lesetlheng, Lekutung, Lekgraal/Bofule, Ramasedi, Ntswana-leMetsing, Motlhabe, Ngweding, Magalane and Magong;	X				
Ecotourism and conservation areas including the Pilanesberg National Park and Black Rhino Game Reserve;	X				
mines and industries in the area including Pilanesberg Platinum Mine	X				
non-government organisations and associations including the Federation for a Sustainable Environment (FSE);	X				
Regulatory authorities:					
Northwest Department of Rural, Environment and Agricultural Development (DREAD) (previously the Department of Economic Development, Environment, Conservation and Tourism);	X				
Department of Mineral Resources (DMR);	X				
Department of Agriculture, Fisheries and Forestry (DAFF)	X				

North West Parks and Tourism Board (NWPTB) (including the Heritage Park Committee)	X				
Department of Water and Sanitation (DWS)	X				
North West Parks Board					
Department of Economic Development, Environmental, Conversation and Tourism (DEDECT)					
Department of Rural Development and Land Reform (DRDLR) (previously the Department of Land Affairs);	X				
South African Heritage Resources Agency (SAHRA)					
Department of Public Works, Roads and Transport (DPWRT);	X				
Local authorities:					
Moses Kotane Local Municipality (MKLM);					
Bojanala Platinum District Municipality (BPDM); and					
relevant ward councillors.					
Parastatals:					
Eskom; and					
Magalies Water					
Other Competent Authorities affected					
OTHER AFFECTED PARTIES					

11.1.3. Concluding Remarks on Stakeholder Consultation

No comments have been received on the project to date. Comments received from I&APs during the public review of the Draft BAR will be included in a Comments and Responses Report that will be submitted with the Final BAR.

12. The Environmental attributes associated with the alternatives.

(The environmental attributed described must include socio-economic, social, heritage, cultural, geographical, physical and biological aspects)

Malumbazo Holdings (Pty) Ltd applied for Prospecting Right over the area of interest in the close vicinity Pilanesberg Platinum mine. Based on the outcomes of Pilanesberg Platinum mine, the possibility of encountering further Vanadium and Uranium Ore reserves was identified on the property portions and is subject to this Prospecting Right Application.

The company applied for prospecting on the property portions as discussed in this report to determine the presence of Vanadium and Uranium Ore, whether they are feasible and justify further studies towards a Mining Permit. No alternatives are available that will have an impact on a different setting than the environment discussion provided in the following.

12.1 Baseline Environment

12.1.1 Geology

Malumbazo prospecting area is situated in the Bushveld Complex. The Bushveld Complex is an intrusive igneous body, extending about 400 km from east to west and about 350 km from north to south. It comprises a series of ultramafic-mafic layers and a suite of associated granitoid rocks. There are four main limbs to the complex, namely the Northern Limb, the Eastern Limb, the Southern Limb and the Western Limb. The ultramafic-mafic rocks of the Bushveld Complex are known as the Rustenburg Layered Suite.

The orebodies within the complex include the UG2 (Upper Group 2) 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 Merensky and UG-2 reefs contain approximately 90% of the world's known PGM (PLATINUM GROUP METALS-Cobalt, Copper, Nickel, Vanadium and Uranium Ore) reserves.

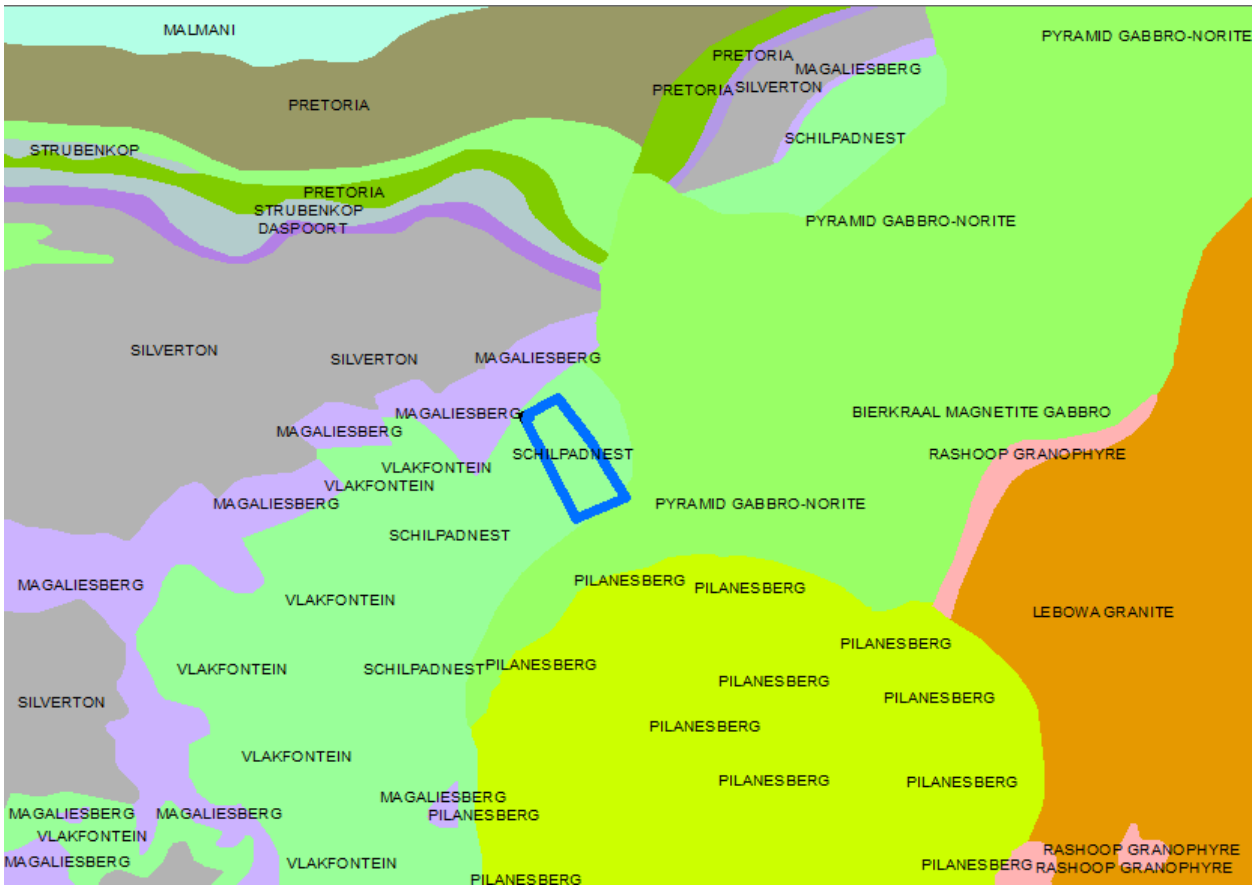


Figure 3: Geological map of the proposed application area

12.1.2. *Site of Archaeological, Cultural and Heritage Significance*

Archaeological or cultural interest are known to exist on the targeted property. If any heritage resources, including graves or human remains, are encountered, these will be reported to the North West Provincial Heritage Authority (HNW).

12.1.3. Geographical and topography environment

The topography of the proposed area is relatively gently sloping towards the northeast of the study area. Topographic elevation varies between 1060 to 1100 metres above mean sea level (mamsl). The study area is relatively flat at an average elevation of 1080 mamsl and there are various non-perennial drainage lines crossing the site. Isolated koppies are located approximately 1-2 km to the west of the project site and vary between 1 211 and 1 266 mamsl.

12.1.4. Soils and land capability

Soil forms found within the vicinity of the proposed area are predominately highly structured, relatively shallow soils with a high clay content (turf soils) which allows for high water retention. These soil forms are not highly erodible but are susceptible to compaction. Typically, the agricultural potential of these soils is limited by their high clay content. Soils

and the related land capability within the proposed area have been disturbed by the operation mines nearby.

12.1.5. Climate

I. Regional climate

Malumbazo falls within the Highveld Climatic Zone, where the weather is typically warm summers and cold winters. The summer months (from August to March) bring brief but refreshing afternoon thundershowers. The area has an above average rainfall of 300 to 700 mm annually.

The "mean daily maximum" (sold red line) (Figure 6 below) shows the maximum temperature of an average day for every month for Moses Kotane. Likewise, "mean daily minimum" (solid blue lie) shows the average minimum temperature. Hot days and cold night (dashed red and blue lines) show the average of the hottest day and coldest night of each month of the last 30 years.

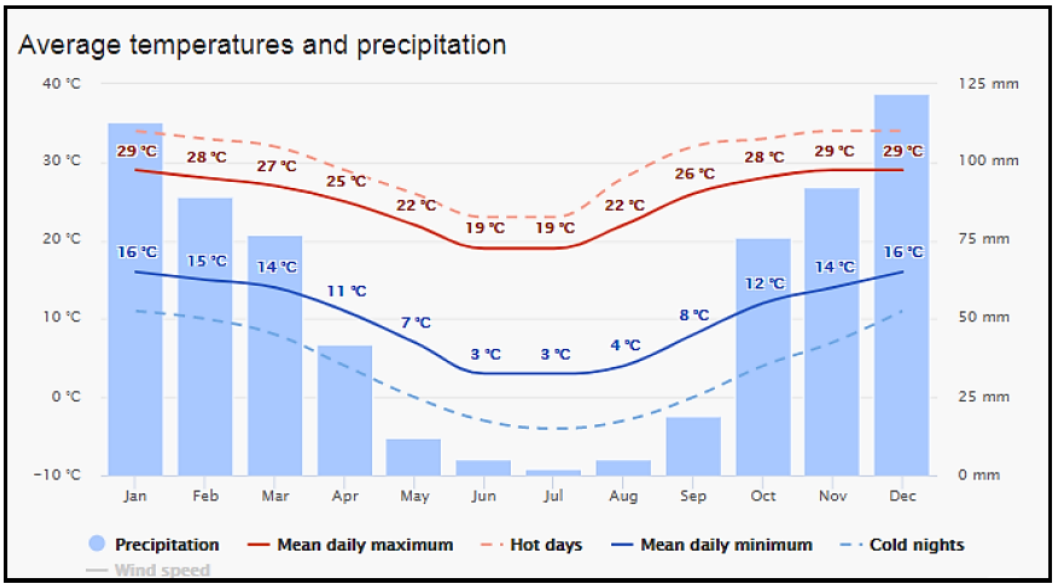


Figure 4:Average temperatures and precipitation of the proposed Malumbazo area

II. Rainfall

The area has an above average rainfall of 300 to 700 mm annually. It rains from October to April with the highest rainfall expected between November and February (401-600mm) and minimum of (201-400mm). Daytime temperatures are hot and humid with an average of 31°C. Winter starts from May to September and are normally dry and cold with evening temperatures as low as 2°C and only 22°C in the daytime.

III. Temperature

Temperatures in the region ranges from 2°C (in winter) to 34°C (in summer). Average temperatures were in the region of 19.5°C.

IV. Wind and atmospheric stability

The wind direction at the proposed area is from the eastern sector with very little airflow recorded from the west. Strong winds are experienced during the day from the east and north, with a decrease in the wind velocity during the night-time. No change in the wind direction is reflected during the night with the prevailing winds remaining to be from the east.

There is an increase in the number of calm conditions during the day; from 10.7% (night-time) to 13.5% during the day. During the summer months, stronger winds are recorded from east and east-northeast. The autumn and spring months show a similar pattern to summer months with prevailing winds from the eastern sector. A high percentage of calm conditions (wind speeds < 1 m/s) is reflected during the autumn months. During spring and winter months an increased frequency of strong winds are observed from the south-east and south-southeast.

Normally, wind speeds are below 5.2 m/s and are not able to lift dust particles from the ground, however this is dependent on the material type as fine dust and dust that is already airborne can be carried by wind speeds of less than 5.2 m/s.

Stable conditions are mostly associated with winds from the east and south-east. Unstable conditions occur most frequently when the wind blows from the west. Neutral conditions are mostly associated with winds from the south-southeast and south.

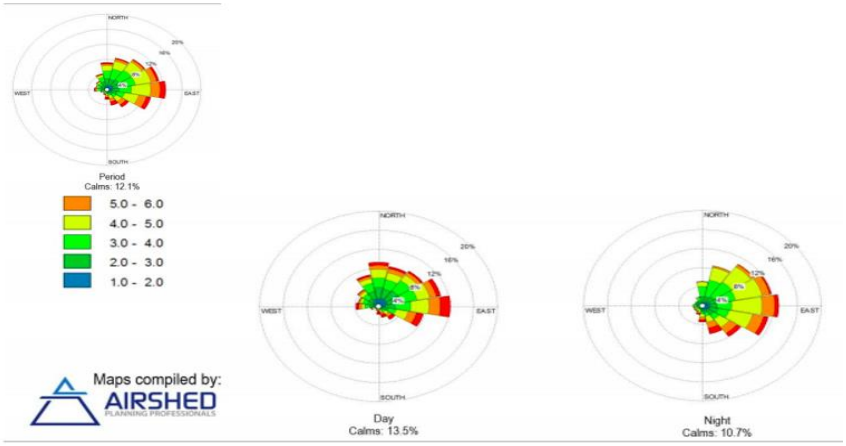


Figure 5:Period and Diurnal Windroses (from January 2013 to December 2015)

12.1.6. Vegetation (flora) and Animal (fauna) Biodiversity

Common floral species found within the proposed area include Open Acacia Savannah, ranging from ferns and succulents to grasses, sedges, forbs, shrubs and trees. This is typical of the savannah biome. In general, the area does contain a threat of further bush encroachment by species such as Dicrostachys cinerea (Sickle Bush), Acacia karroo (Sweet Thorn) and Acacia mellifera (Blackthorn Acacia).

Fauna

A wide range of faunal species have been recorded in the prospecting with a number of protected red data and conservation important faunal and floral species occuring within the area and these include mammal, bird, reptile and invertebrate species. The Near-Threatened Natal Long-fingered Bat and Giant Bullfrog have been identified in areas surrounding the mine.

Catchment Water

The Malumbazo project area is situated in the in the west of secondary catchment A2 (Crocodile), within quaternary catchment A24D (SLR, 2019b). It falls within the Limpopo Water Management Area (WMA) (formerly the Crocodile West and Marico WMA) with the major river catchment being the Crocodile River.

Groundwater

The geology of the area forms a number of hydraulic zones that are controlled by the lithological units, structural geology and surface water features. These zones include:

- the perennial river aquifer (alluvial and weathered aquifer adjacent to the river);
- weathering and fracturing of the topographical low-lying areas forming an important aquifer zone for the community water supply;
- fault and fracture zones forming major aquifers in the area;
- weathered norite/gabbro;
- fractured soil bedrock aquifer that underlies the weathered zone; and
- dolerites that act as flow impediments.

There are three possible types of aquifers within the proposed area as outlined below :

- Minor aquifer: The aquifers in the greater study area are classified as Minor Aquifers, which denotes aquifers with yields of less than 1l/s.
- Minor to Major aquifer: The fractured systems within the larger Minor Aquifers could form Minor to Major Aquifer zones.

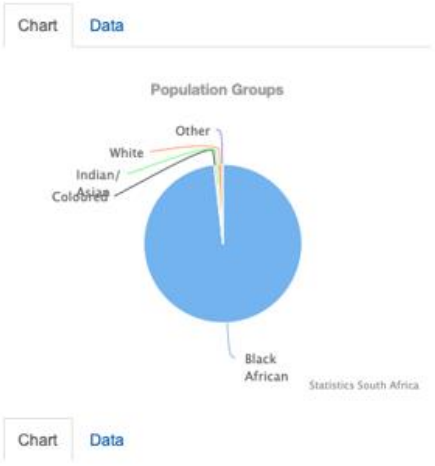
- Sole source aquifer: Some of the localised aquifers could be classified as sole source aquifers despite them being minor aquifers (even though some communities have or will have access to piped water from Magalies Water, some communities rely on groundwater alone for their basic water requirements).

12.1.7. Socio-economic and cultural environment

The proposed prospecting site is located within the North-West Province in the Bojanala District Municipality and Moses Kotane Local Municipality.

Moses Kotane Local Municipality

The proposed Malumbazo project falls within Moses Kotane Local Municipality which is a local municipality in Bojanala Platinum District Municipality, in North West Province, South Africa. Such municipality is classified as Category B4 Local Municipality which is mainly rural with communal tenure. The Municipality covers an area of approximately 5220km² and is mostly rural in nature, comprising of 107 villages and 2 two formal towns of Mogwase and Madikwe. According to the 2011 Census, Moses Kotane Local Municipality has a total population of 242 554 people, with a predominantly African population, fewer Indian, Coloured and White groups who are mostly residing in Sun City residence and Mogwase Unit 2. (Figure 8).



Group	Percentage
Black African	98,3%
Coloured	0,3%
Indian/Asian	0,5%
White	0,8%
Other	0,2%

Figure 6: Population Statistics for Moses Kotane (Census 2011)

The economy of Moses Kotane is characterized mainly by tourism, mining, agriculture owing to its location within the major tourism and mining belt of the province, Pilanesberg and Sun City. Industries and social services also form critical part of the local economy.

There are 74 744 people in the municipality who are economically active (employed or unemployed but looking for work), and of these 37,9% are unemployed. Almost half (47,4%) of the economically active youth (15 – 34 years) in the municipality are unemployed.

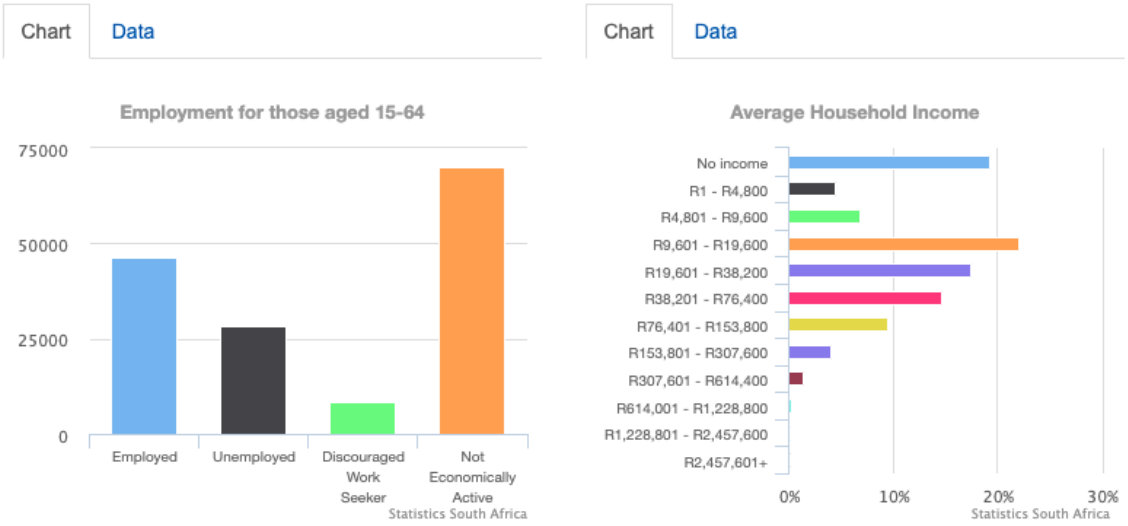


Figure 7:Economic statistics of Moses Kotane (Census 2011)

There are 75 193 households in the municipality, with an average household size of 3,2 persons per household. Nearly 81% of households (80,7%) have access to piped water either in their dwellings or in the yard. Only 7,2% of households do not have access to piped water. About 90% of households (89,9%) have access to electricity for lighting.

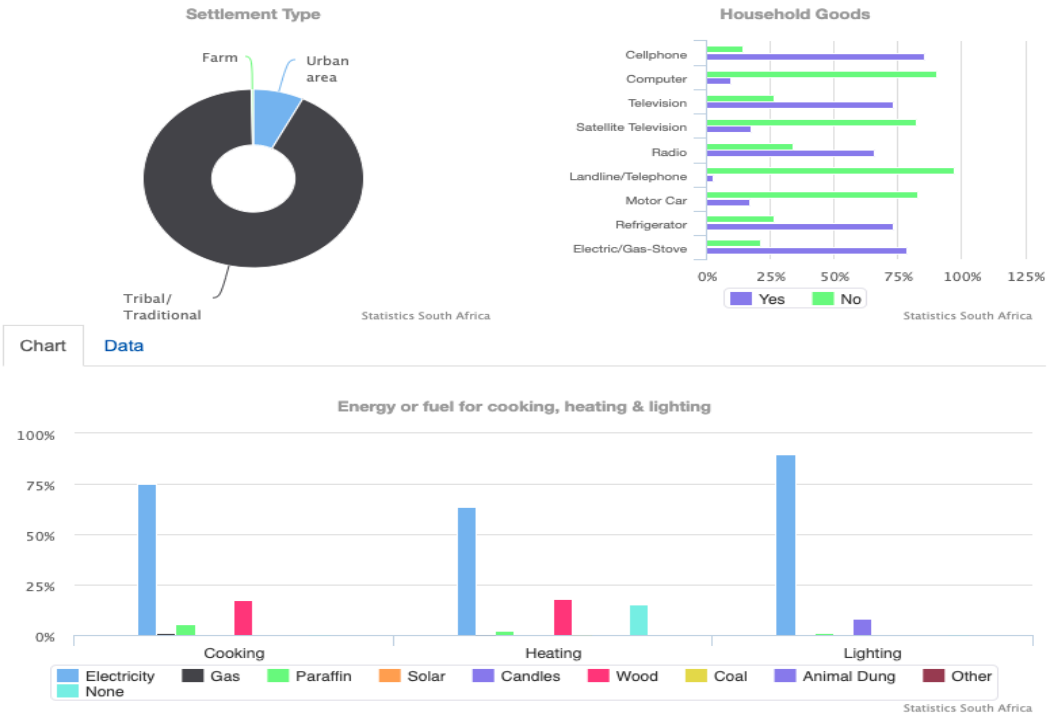


Figure 8:Chart depicting the Living Conditions within Moses Kotane Local Municipality

13. Description of the current land uses

The determination of the existing site-specific and surrounding land use provides input into the process of impact identification and the establishment of closure objectives. Surrounding land uses include subsistence farming (livestock grazing and crops); formal (villages) and informal (livestock herders and farmers) residential and conservation/eco-tourism activities. There are also number of large-scale mines projects operating such as Pilanesberg Platinum Mines which is mining platinum group metals.

14. Description of specific environmental features and infrastructure on the site that needs to be protected

A number of water courses have been identified within the boundaries of the proposed prospecting site and include Bofule river on the right and Kolebeng river on the left. These will be avoided and, where avoidance is not possible, impacts will be appropriately managed and remedied. The location of any on-site drilling will be determined and the impacts on the identified water courses will subsequently be determined.

Other key environmental features surrounding Malumbazo proposed project area include the Pilanesberg National Park south of the mine. Malumbazo proposed area is approximately 15km away from the Pilanesberg National Park which is a protected area in South Africa. The Pilanesberg National Park situated 50km north of Rustenburg in the North West Province, is managed by the North West Parks & Tourism Board. The area is defined by alternating ridges and valleys forming concentric rings, a geological formation that rises abruptly from the surrounding plains. The Pilanesberg is named for chief Pilane of the Kgafêla people, who ruled from Bogopane, Mmamodimokwana and eventually Mmasebudule during the 1800s. The 'Pilanesberg Alkaline Ring Complex' is the park's primary geological feature. This vast circular feature is geologically ancient, being the crater of a long-extinct volcano – the result of eruptions some 1,200 million years ago. It is one of the largest volcanic complexes of its type in the world, the rare rock types and formations make it a unique geological feature, and a number of rare minerals occur in the park. (Wesizwe, 2007).

15. Impacts and risks identified including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts.

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IMPACT ASSESSMENT

The following potential impacts were identified of each main activity in each phase.

The significance rating was determined using the methodology as explained under

vi) Methodology Used in Determining and Ranking the Significance. The impact rating listed below was determined for each impact prior to bringing the proposed mitigation measures into consideration. The degree of mitigation indicates the possibility of partial, full or no mitigation of the identified impact. Table 7 below provides a thorough assessment of the potential impacts associated with the proposed development. This impact assessment matrix includes the nature, significance, consequence, extent, duration, and probability of the impacts as well as the degree to which these impacts can be mitigated, and significance before and after mitigation.

Table 7:RISK ASSESSMENT TABLE FOR POTENTIAL IMPACTS RELATED TO INVASIVE PROSPECTING

	SIGNIFICANCE PRE-MITIGATION								SIGNIFICANCE POST MITIGATION						MITIGATION TYPE
Aspect, Activity & Potential Impact	**Status**	**Probability**	**Extent**	**Duration**	**Intensity**	**Significance Score**	**Rating**	**Status**	**Probability**	**Extent**	**Duration**	**Intensity**	**Significance Score**	**Rating**	**(Modify, Remedy, Control, Stop**
GEOLOGY															
Drilling, pitting / trenching Drill maintenance and refueling Core sample collection and storage	N	3	1	2	2	15	Moderate	N	1	1	2	2	5	Low	Control
Impact on soils															
Stockpiling of topsoil following site preparation may result in loss of topsoil resource	N	2	1	2	1	8	Low	N	1	1	2	1	4	Very Low	Control
Establishment of prospecting sites, site camp, vehicle traffic, material storage may result in soil erosion, compaction of soils by heavy machinery, contamination of soils due to hydrocarbon spillages	N	2	1	2	2	10	Low	N	2	1	2	1	8	Low	Remedy
Generation, storage, and disposal of waste can contaminate soil due to improper disposal	N	2	1	2	3	12	Low	N	1	1	2	2	5	Low	Control
Impact on Fauna and Flora (Ecological Impact)															
Clearing of vegetation and topsoil as site preparation for prospecting sites and site camp will result in loss of habitat	N	2	1	3	6	20	Moderate	N	1	1	2	4	7	Low	Control
Loss of sensitive species due to site establishment for site camp and prospecting activities	N	2	1	5	6	24	Moderate	N	1	1	5	2	8	Low	Control

Site clearance for drill, sampling and camp site will impact on Habitat Connectivity and Open space	N	2	2	4	6	24	Moderate	N	1	2	4	2	8	Low	Control
Establishment of access tracks and driving off existing tracks may cause destruction and damage to flora & fauna	N	3	1	2	4	21	Moderate	N	1	1	2	2	5	Low	Control
Noise from drilling equipment, machinery, vehicle movement, airplane flying over area may disturb fauna (wild animals, birds, large mammals, livestock) and result in it to vacate the area	N	2	2	2	6	20	Moderate	N	1	1	2	2	5	Low	Control
Faunal fatalities from direct contact with prospecting equipment, supplies (vehicle, chemicals, waste)	N	1	1	5	8	14	Moderate	N	1	1	2	2	5	Low	Control
Overall impact from prospecting on ecologically	N	2	1	2	6	18	Moderate	N	1	1	2	4	7	Low	Control
IMPACT ON AQUATIC ECOSYSTEMS															
During establishment of site camp, drilling pads, trenching and pitting may result in impact on aquatic ecosystems due to risk of contamination from to hydrocarbon spillages, oil and of fuel.	N	2	2	1	8	22	Moderate	N	1	2	1	8	11	Low	Remedy
Invasive prospecting within unique habitat (wetland, possible forests)	N	2	6	3	10	38	High	N	0	5	2	0	0	Very Low	Stop
Creation and clearing of target areas including vehicle movement may cause erosion and sediment deposition into aquatic ecosystems	N	2	1	2	6	18	Moderate	N	1	1	5	2	8	Low	Control
HERITAGE AND CULTURAL IMPACT															
Invasive prospecting will impact on heritage sites	N	2	1	2	6	18	Moderate	N	1	1	5	2	8	Low	Control

Potential impact on graves, graveyards, stone walled sites, historic homesteads, sacred pools and trees due site preparation and prospecting activities.	N	1	1	0	0	0	Very Low	Neutral	1	1	1	1	0	Very Low	Control
Damage to cultural and or heritage sites during prospecting activities may result in conflict with local community	N	1	1	1	1	0	Low	Neutral	0	1	1	0	0	Very Low	Control
Potential unearthing of heritage resources during prospecting	N	3	1	2	2	15	Moderate	N	3	1	2	1	12	Low	Control
NOISE IMPACT															
During drilling, trenching and geophysical exploration methods (flying airplane over area) noise will be generated from an airplane flying in the area, use of drilling and excavation machinery and vehicles travelling in the project site causing a nuisance to communities.	N	3	2	2	2	18	Moderate	N	2	2	2	1	10	Low	Control
AIR QUALITY & DUST															
Site establishment and prospecting activities will result in windblown dust from bare target area surfaces and entrained dust from vehicles/machinery travelling on gravel roads.	N	3	1	2	2	15	Moderate	N	3	1	2	1	12	Low	Control
VISUAL IMPACT															
Site clearance and prospecting activities may result in unsightly views due to exposed surfaces and presence of machinery on site	N	3	1	2	1	12	Low	N	2	1	2	1	8	Low	Remedy
LAND USE IMPACT															
Potential land disturbance	N	3	1	2	3	10	High	N	2	1	2	4	10	Low	Control
GROUNDWATER IMPACT															

Groundwater contamination from fuel and hydrocarbons spillages from vehicles and storages which infiltrate Groundwater	N	2	1	3	3	14	Moderate	N	2	1	1	2	8	Low	Remedy
SURFACE WATER															
Quality of surface water may be impacted by poor storage of chemicals, fuel spills, inappropriate waste disposal	N	2	2	2	3	14	Moderate	N	1	1	2	2	5	Low	Remedy
IMPACT ON TRAFFIC															
Increased traffic due to prospecting vehicles, machinery using local gravel roads. Prospecting crew will set up site camp at the old graphite mine which the focus for prospecting. This will restrict the need for excessive movement of vehicles and machinery in the study site	N	3	2	2	2	18	Moderate	Neutral	1	2	2	1	5	Low	Control
SAFETY AND CRIME															
Safety risk to prospecting crew when undertaking prospecting activity as people from nearby could strike for jobs.	N	2	1	2	2	5	Low	Neutral	1	1	2	2	5	Low	Control
Risk of increased crime due to presence of machinery, batteries, and fuel onsite which are resources that attract thieves.	N	1	1	2	3	6	Low	N	1	1	2	1	4	Very Low	Stop
External contractors may pose a risk for violent crimes against women	N	2	1	2	2	10	Low	Neutral	1	1	2	1	4	Very Low	Stop
SOCIO-ECONOMIC IMPACTS															

Increased traffic and prospecting activities in livestock grazing areas may increase the livestock mortalities including livestock falling into pit areas directly affecting community member livelihoods	N	1	1	5	4	10	Low	Neutral	0	1	2	0	0	Very Low	Control
RISK ASSESSMENT TABLE FOR POTENTIAL IMPACTS RELATED TO DECOMMISSION AND REHABILITATION ACTIVITIES															
IMPACT ON SOILS, SURFACE AND GROUNDWATER POLLUTION															
Potential soil and pollution from hydrocarbon spillages, waste disposal practice and open boreholes	N	2	1	2	4	14	Moderate	N	1	1	2	2	5	Low	Control & Remedy
Soil erosion from re-spreading of topsoil before vegetation has re-established	N	3	1	2	2	15	Moderate	N	1	1	2	2	5	Low	Control & Remedy
FAUNA AND FLORA IMPACT															
Destruction and or disturbance of onsite fauna and flora at disturbed areas to rehabilitate sites and decommission prospecting activities which include removal of drill pads, backfilling trenches or pits areas, capping of boreholes, respreading of stockpiled topsoil over denuded areas	N	2	1	2	6	18	Moderate	N	1	1	2	4	7	Low	Remedy
Poor vegetation re growth post decommissioning and rehabilitation of target areas could lead to degradation of the Ecology	N	2	1	3	6	20	Moderate	N	1	1	2	4	7	Low	Control & Remedy
Establishment of alien vegetation during re-vegetation of disturbed areas	N	2	1	3	6	20	Moderate	N	1	1	2	2	5	Low	Control & Remedy
NOISE IMPACT															

Decommissioning and rehabilitation of prospecting sites and the site camp will generate noise which would impact on the ambient noise level. This may cause a nuisance to communities	N	3	1	2	1	12	Low	N	2	1	2	1	8	Low	Control
AIR QUALITY & DUST															
Dust emissions from decommissioning and rehabilitation activities removal of drill pad, backfilling of trenches or pits sites, capping of boreholes, ripping of disturbed areas (vehicle entrained dust)	N	3	1	2	1	12	Low	N	2	1	2	1	8	Low	Control
IMPACT ON TRAFFIC															
Increased traffic along main gravel route during decommissioning and rehabilitation of prospecting sites and increased traffic on the road when equipment is removed and transported offsite.	N	2	3	1	1	10	Low	Neutral	1	3	1	1	5	Low	Control

16. 1.1 Methodology used in determining and ranking 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.)

Methodology for the assessment of the potential environmental, social and cultural Impacts

DEFINITIONS AND CONCEPTS:

Environmental significance:

The concept of significance is at the core of impact identification, evaluation and decision making. The concept remains largely undefined and there is no international consensus on a single definition.

The following common elements are recognised from the various interpretations:

• Environmental significance is a value judgement

• The degree of environmental significance depends on the nature of the impact

• The importance is rated in terms of both biophysical and socio-economic values

• Determining significance involves the amount of change to the environment perceived to be acceptable to affected communities.

Significance can be differentiated into impact magnitude and impact significance. Impact magnitude is the measurable change (i.e., intensity, duration and likelihood). Impact significance is the value placed on the change by different affected parties (i.e., level of acceptability) (DEAT (2002) Impact Significance, Integrated Environmental Management, Information Series 5).

Impact

The positive or negative effects on human well-being and / or the environment.

Consequence

The intermediate or final outcome of an event or situation OR it is the result, on the environment, of an event.

Likelihood

A qualitative term covering both probability and frequency.

Frequency

The number of occurrences of a defined event in a given time or rate.

Probability

The likelihood of a specific outcome measured by the ratio of a specific outcome to the total number of possible outcomes.

Environment

Surroundings in which an organisation operates, including air, water, land, natural resources, flora, fauna, humans and their interrelation (ISO 14004, 1996).

Methodology that will be used

The environmental significance assessment methodology is based on the following *determination:*

Environmental Significance = Overall Consequence x Overall Likelihood

Determination of Overall Consequence

Consequence analysis is a mixture of quantitative and qualitative information and the outcome can be positive or negative. Several factors can be used to determine consequence. For the purpose of determining the environmental significance in terms of consequence, the following factors were chosen:

Severity/Intensity, Duration and Extent/Spatial Scale. Each factor is assigned a rating of 1 to 5, as described in the tables below.

Determination of Severity / Intensity

Severity relates to the nature of the event, aspect or impact to the environment and describes how severe the aspects impact on the biophysical and socio-economic environment.

Table 8:Rating of Severity

Type of criteria	***RATING***				
	1	***2***	***3***	***4***	***5***
Quantitative	***0-20%***	***21-40%***	***41-60%***	***61-80%***	***81-100%***
Qualitative	Insignificant / No harmful	Small/ Potentially harmful	Significant/ Harmful	Great/ Very harmful	Disastrous Extremely harmful
Social/ Community response	Acceptable / I&AP satisfied	Slightly tolerable / Possible objections	Intolerable/ Sporadic complaints	Unacceptable / Widespread complaints	Totally unacceptable / Possible legal action
Irreversibility	Very low cost to mitigate/ High potential	Low cost to mitigate	Substantial cost to mitigate/	High cost to mitigate	Prohibitive cost to mitigate/ Little or no

	to mitigate impacts to level of insignificance/ Easily reversible		Potential to mitigate impacts / Potential to reverse impact		mechanism to mitigate impact Irreversible
Biophysical (Air quality, water quantity and quality, waste production, fauna and flora)	Insignificant change / deterioration or disturbance	Moderate change / deterioration or disturbance	Significant change / deterioration or disturbance	Very significant change / deterioration or disturbance	Disastrous change / deterioration or disturbance

Determination of Duration

Duration refers to the amount of time that the environment will be affected by the event, risk or impact, if no intervention e.g., remedial action takes place.

Table 9: Rating of Duration:

Rating	***Description***
1	up to one month
2	one month to three months (quarter)
3	three months to one year
4	one to ten years
5	beyond ten years

Determination of Extent/Spatial Scale

Extent or spatial scale is the area affected by the event, aspect or impact.

Table 10: Rating of Extent / Spatial Scale:

Rating	**Description**
1	Immediate, fully contained area
2	Surrounding area
3	Within Business Unit area of responsibility
4	Within the farm/neighbouring farm area
5	Regional, National, International

Determination of Overall Consequence

Overall consequence is determined by adding the factors determined above

and summarized below, and then dividing the sum by 3.

Table 11: Example of calculating Overall Consequence Determination of Likelihood

Consequence	**Rating**
Severity	Example 4
Duration	Example 2
Extent	Example 4
SUBTOTAL	**10**
TOTAL CONSEQUENCE: (Subtotal divided by 3)	3.3

The determination of likelihood is a combination of Frequency and Probability.

Each factor is assigned a rating of 1 to 5, as described below and in tables 6 and 7.

Determination of Frequency

Frequency refers to how often the specific activity, related to the event, aspect or impact, is undertaken.

Table 12: Rating of Frequency

Rating	**Description**
1	Once a year or once/more during operation
2	Once/more in 6 Months
3	Once/more a Month
4	Once/more a Week
5	Daily

Determination of Probability

Probability refers to how often the activity or aspect has an impact on the environment.

Table 13: Rating of Probability:

Rating	**Description**
1	Almost never / almost impossible
2	Very seldom / highly unlikely
3	Infrequent / unlikely / seldom
4	Often / regularly / likely / possible
5	Daily / highly likely / definitely

Overall Likelihood

Overall likelihood is calculated by adding the factors determined above and summarised below, and then dividing the sum by 2.

Table 14: Example of calculating Overall Likelihood

Consequence	**Rating**
Frequency	**Example 4**
Probability	**Example 2**
SUBTOTAL	**6**
TOTAL LIKELIHOOD (Subtotal divided by 2)	**3**

Determination of Overall Environmental Significance:

The multiplication of overall consequence with overall likelihood will provide the environmental significance, which is a number that will then fall into a range of **LOW, LOW-MEDIUM, MEDIUM, MEDIUM-HIGH or HIGH,** as shown in the table below.

Table 15: Determination of Overall Environmental Significance

Significance or Risk	**Low**	**LOW-MEDIUM**	**MEDIUM**	**MEDIUM-HIGH**	**HIGH**
Overall Consequence X Overall Likelihood	**1-4.9**	**5-9.9**	**10-14.9**	**15-19.9**	**20-25**

Table 16: Qualitative description or magnitude of Environmental Significance

Significance	**Low**	**LOW-MEDIUM**	**MEDIUM**	**MEDIUM-HIGH**	**HIGH**
Impact Magnitude	Impact is of very low order and therefore likely to have very little real effect. Acceptable.	Impact is of low order and therefore, likely to have little real effect. Acceptable.	Impact is real, and potentially substantial in relation to other impacts. Can pose a risk to company	Impact is real And substantial in relation to other impacts. Pose a risk to the company. Unacceptable	Impact is of the highest order possible. Unacceptable. Fatal flaw.
Action Required	Maintain current management measures. Where possible improve.	Maintain current management measures. Implement monitoring and evaluate to determine potential increase in risk. Where possible improve	Implement monitoring. Investigate mitigation measures and improve management measures to reduce risk, where possible.	Improve management measures to reduce risk	Implement Significant mitigation measures or implement alternatives.

This description is qualitative and is an indication of the nature or magnitude of the Environmental Significance. It also guides the prioritisations and decision-making process associated with this event, aspect or impact.

Description of Environmental Significance and related action required

Based on the above, the significance rating scale has been determined as follows:

Table 17: Significance rating scale

High	Of the highest order possible within the bounds of impacts which could occur. In the case of negative impacts, there would be no possible mitigation and / or remedial activity to offset the impact at the spatial or time scale for which it was predicted. In the case of positive impacts, there is no real alternative to achieving the benefit.
Medium-High	Impacts of a substantial order. In the case of negative impacts, mitigation and / or remedial activity would be feasible but difficult, expensive, time consuming or some combination of these. In the case

	of positive impacts, other means of achieving this benefit would be feasible, but these would be more difficult, expensive, time-consuming or some combination of these.
Medium	Impact would be real but not substantial within the bounds of those, which could occur. In the case of negative impacts, mitigation and / or remedial activity would be both feasible and fairly easily possible, in case of positive impacts; other means of achieving these benefits would be about equal in time, cost and effort.
Low-Medium	Impact would be of a low order and with little real effect. In the case of negative impacts, mitigation and / or remedial activity would be either easily achieved of little would be required, or both. In case of positive impacts alternative means for achieving this benefit would likely be easier, cheaper, more effective, less time-consuming, or some combination of these.
Low	Impact would be negligible. In the case of negative impacts, almost no mitigation and or remedial activity would be needed, and any minor steps, which might be needed, would be easy, cheap and simple. In the case of positive impacts, alternative means would almost all likely be better, in one or many ways, than this means of achieving the benefit
Insignificant	There would be a no impact at all – not even a very low impact on the system or any of its parts.

17. The positive and negative impacts that the proposed activity (in terms of the initial site layout) and alternatives will have on the environment and the community that may be affected.

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

Now there is no alternative layout. Should we receive comments that warrant changing site layout, Malumbazo Holdings will implement changes to ensure that no one is negatively affected. All of the identified impacts will occur for a limited time and the extent of the impacts will be localised. All of the identified impacts can be suitably mitigated with residual impact ratings of low. After drilling activities have been completed and the drill pads rehabilitated to pre-drilling status, the impacts will cease to exist.

The following impacts may emanate from the prospecting area during the operational phase and could have a negative impact on the surrounding community if the mitigation measures proposed in this document is not implemented and managed on-site:

- Dust and Noise due to the undertaking drilling machines
- Poor access control resulting in impacts on cattle movement, breeding and grazing practices

- Influx of persons (job seekers) to site as a result of increased activity and the possible resultant increase in opportunistic crime

The operation of the prospecting project will however also have many positive impacts such as job creation. The proposed prospecting will therefore contribute to the economy of the area**.**

18. The possible mitigation measures that could be applied and the level of risk.

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

1.1.1 Visual Mitigation:

The risk of the proposed prospecting activities having a negative impact on the aesthetic quality of the surrounding environment can be reduced to low-**medium** risk through the implementation of the mitigation measures listed below:

- The site needs to have a neat appearance and be kept in good condition all the time.
- Upon closure the site needs to be rehabilitated and sloped to ensure that the visual impact on the aesthetic value of the area is kept to a minimum.

1.1.2 Dust Handling:

The risk of dust, generated from the proposed prospecting activities, having a negative impact on the surrounding environment can be reduced to being **medium to low** through the implementation of the mitigation measures listed below:

• The liberation of dust into the surrounding environment must be effectively controlled using, inter alia, water spraying and/or other dust-allaying agents.

• Speed on the access roads must be limited to 40km/h to prevent the generation of excess dust.

• Roads must be sprayed with water or an environmentally friendly dust allaying agent that contains no PCB's (e.g., DAS products) if dust is generated above acceptable limits.

1.1.3 Noise Handling:

The risk of noise, generated from the proposed prospecting activities, having a negative impact on the surrounding environment can be reduced to being **low medium** through the implementation of the mitigation measures listed below:

• The applicant must ensure that employees and staff conduct themselves in an acceptable manner while on site, both during work hours and after hours.

- Site activities will be conducted during daytime hours 07h00–17h00 to avoid night time noise disturbances and collisions with fauna

• No loud music may be permitted at the prospecting area.

• All prospecting vehicles must be equipped with silencers and maintained in a road worthy condition in terms of the Road Transport Act.

•The type, duration and timing of the drilling procedures must be planned with due cognizance of other land users and structures in the vicinity. The community / or any other affected party must be notified of the drilling times.

•Surrounding land owners must be notified in writing prior drilling occasions.

1.1.4 Management of weed or invader plants:

The risk of weeds or invader plants invading the disturbed area can be reduced to being low through the implementation of the mitigation measures listed below:

• A weed and invader plant control management plan must be implemented at the site to ensure eradication of all listed invader plants in terms of Conservation of Agricultural Act (Act No 43 1983).

•Management must take responsibility to control declared invader or exotic species on the rehabilitated areas. The following control methods can be used:

▪ "The plants can be uprooted, felled or cut off and can be destroyed completely."

▪ "The plants can be treated with an herbicide that is registered for use in connection therewith and in accordance with the directions for the use of such an herbicide."

• The temporary topsoil stockpiles must be kept free of weeds.

1.1.5 Storm water Handling:

The risk of contamination through dirty storm water escaping from work areas, or erosion or loss of material caused due to uncontrolled storm water flowing through the prospecting area can be reduced to being low through the implementation of the mitigation measures listed below:

• Storm water must be diverted around the topsoil heaps, stockpile areas and access roads to prevent erosion and loss of material.

• Runoff water must also be diverted around the stockpile areas with trenches and contour structures to prevent erosion of the work areas.

• Prospecting must be conducted only in accordance with the Best Practice Guideline for small scale prospecting that relates to storm water management, erosion and sediment control and waste management, developed by the Department of Water and Sanitation (DWS), and any other conditions which that Department may impose:

- Clean water (e.g., rainwater) must be kept clean and be routed to a natural watercourse by a system separate from the dirty water system. You must prevent clean water from running or spilling into dirty water systems.
- Dirty water must be collected and contained in a system separate from the clean water system.
- Dirty water must be prevented from spilling or seeping into clean water systems.
- The storm water management plan must apply for the entire life cycle of the project and over different hydrological cycles (rainfall patterns).
- The statutory requirements of various regulatory agencies and the interests of stakeholders must be considered and incorporated into the storm water management plan.

1.1.6 Management of Health and Safety Risks:

The health and safety risk, posed by the proposed prospecting activities can be reduced to being **low** through the implementation of the mitigation measures listed below:

- The type, duration and timing of the drilling procedures must be planned with due cognizance of other land users and structures in the vicinity,
- The surrounding landowners and communities must be informed in writing ahead of any drilling event,
- Measures to limit fly rock must be taken,
- All fly rock (of diameter 150 mm and larger) which falls beyond the working area, together with the rock spill must be collected and removed,
- Workers must have access to the correct personal protection equipment (PPE) as required by law.
- All operations must comply with the Occupational Health and Safety Act.

1.1.7 Waste Management:

The risk of waste generation having a negative impact on the surrounding environment can be reduced to being low through the implementation of the mitigation measures listed below:

- No processing area or waste pile may be established within 100 m of the edge of any river channel or other water bodies.
- Regular vehicle maintenance may only take place within the service bay area of the off-site workshop. If emergency repairs are needed on equipment not able to move to the workshop, drip trays must be present. All waste products must be disposed of in a 200-litre closed container/bin to be removed from the emergency service area to the workshop in order to ensure proper disposal.
- Any effluents containing oil, grease or other industrial substances must be collected in a suitable receptacle and removed from the site, either for resale or for appropriate disposal at a recognized facility.
- Spills must be cleaned up immediately to the satisfaction of the Regional Manager by removing the spillage together with the polluted soil and by disposing it at a recognized facility. Proof should be filed.
- Suitable covered receptacles should be available always and conveniently placed for the disposal of waste.
- Non-biodegradable refuse such as glass bottles, plastic bags, metal scrap, etc., should be stored in a container with a closable lid at a collecting point and collected on a regular basis and disposed of at a recognized landfill site. Specific precautions should be taken to prevent refuse from being dumped on or near the mine area.
- Biodegradable refuse generated should be handled as indicated above.

1.1.8 Management of Access Roads:

The risk on the condition of the roads, because of the proposed prospecting activities, can be reduced to being **low-medium** through the implementation of the mitigation measures listed below:

- Storm water should be diverted around the access roads to prevent erosion.
- Erosion of access road: Vehicular movement must be restricted to existing access routes to prevent crisscrossing of tracks through undisturbed areas. Rutting and erosion of the access road caused because of the prospecting activities should be repaired by the applicant.

1.1.9 Protection of fauna and flora:

The risk on the fauna and flora of the footprint area as well as the surrounding environment, because of the proposed prospecting activities, can be reduced to being **low** through the implementation of the mitigation measures listed below:

- The site manager should ensure that no fauna is caught, killed, harmed, sold or played with.
- Workers should be instructed to report any animals that may be trapped in the working area.
- No snares may be set, or nests raided for eggs or young.
- No plants or trees may be removed without the approval of the ECO.

1.2

19. Motivation where no alternative sites were considered.

The proposed prospecting area is targeted as, historically, several Platinum Group Metals (PMG) such as Vanadium Ore and Uranium Ore reserves are known in the area, and number of these have been exploited. The site is therefore regarded as the preferred site and alternative sites are not considered. Various project alternatives were considered during the planning phase of the project and the preferred alternatives proofed to be:

- The invasive methods of prospecting of the Vanadium Ore and Uranium Ore have been identified as the most effective method to identify the mineral reserves in the area.
    - The use of temporary infrastructure will highly reduce the impact on the environment and decreasing the closure objectives about decommissioning of infrastructure.

19. Statement motivating the alternative development location within the overall site.

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

The site was selected based on the underlying geology. The application area is situated on the Bushveld Complex which represents the world's largest PMG depository, Henceforth, the area is a preferred site because there is a high possibility of the occurrence of Vanadium Ore and Uranium Ore reserves in the area.

As no permanent infrastructure will be established on site the layout/position of the temporary infrastructure will be determined by the prospecting progress and available space within the prospecting area. As is clear from the information provided, each of the phases is

dependent on the results of the preceding phase. The location and extent of possible drilling will be determined based on information derived from the desktop study.

20. Full description of the process undertaken to identify, assess and rank the impacts and risks the activity will impose on the preferred site (In respect of the final site layout plan) through the life of the activity.

(Including (i) a description of all environmental issues and risks that were identified during the environmental impact assessment process and (ii) an assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures.)

During the impact assessment process, the following potential impacts were identified of each main activity in each phase. An initial significance rating (listed under v) *Impacts and Risks Identified*) was determined for each potential impact should the mitigation measures proposed in this document not be implemented on-site. The impact assessment process then continued in identifying mitigation measures to address the impact that the proposed mining activity may have on the surrounding environment.

The significance rating was again determined for each impact using the methodology as explained under vi) *Methodology Used in Determining and Ranking the Significance*. The impact ratings listed below was determined for each impact **after** bringing the proposed mitigation measures into consideration and therefore represents the final layout/activity proposal.

- **Assessment of each identified potentially significant impact and risk**

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

Table 18: Summary of identified significant impacts

NAME OF ACTIVITY E.g. for prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office and access route.	**POTENTIAL IMPACT** Including the potential impacts for cumulative impacts, e.g. dust, noise, drainage, surface disturbance, fly rock and surface water contamination.	**ASPECTS AFFECTED**	**PHASE** In which impact is anticipated, e.g. construction, commissioning, operational decommissioning, closure, post-closure.	**SIGNFICANCE without mitigation**	**MITIGATION TYPE** Modify, remedy, control, or stop) through, e.g. noise control measures, storm-water control, dust control, rehabilitation, design	**SIGNFICANCE with mitigation**
Geology	Loss of geology and soils	Removal of soil	Invasive Prospecting	Moderate	None	Moderate
Impact on Soils	Loss of topsoil resource	Stockpiling of topsoil following site preparation	Invasive Prospecting	Low	Control	Very Low
Impact on Soils	Result in soil erosion, compaction of soils by heavy machinery, contamination of soils due to hydrocarbon spillages	Establishment of prospecting sites, site camp, vehicle traffic, material storage	Invasive Prospecting Phase	Low	Control & Remedy	Low
Impact on soils	Contamination of soil due to improper disposal	Generation, storage, and disposal of waste	Invasive prospecting Phase	Low	Control	Low
Fauna & Flora	Loss of Habitat	Clearing of vegetation and topsoil as site preparation for prospecting sites, site camp will result in loss of habitat	Invasive prospecting Phase	Moderate	Control	Low
Fauna & Flora	Loss of sensitive species	site establishment for site camp and prospecting activities	Invasive prospecting Phase	Moderate	Control	Low
Fauna & Flora	Impact on Habitat Connectivity and Open Space	Site clearance for drill, sampling sites as well as camp site establishment	Invasive prospecting Phase	Moderate	Control	Low
Fauna & Flora	Destruction and damage to fauna & Flora	Establishment of access tracks and driving off existing tracks	Invasive prospecting Phase	Moderate	Control	Low

Fauna	Result in fauna fatalities	Direct contact with prospecting equipment, supplies (vehicle, dozers, chemicals, waste)	Invasive prospecting Phase	Moderate	Control	Low
Aquatic Ecosystem	Result in impact on aquatic ecosystems due to risk of contamination from hydrocarbon spillages, oil and of fuel.	Establishment of site camp and drilling pads	Invasive prospecting Phase	Moderate	Remedy	Low
Aquatic Ecosystem	Impact on wetland functions	Prospecting within unique habitat (wetland, possible forests)	Invasive prospecting Phase	High	Stop	Very Low risk
Aquatic Ecosystems	May cause soils erosion and sediment deposition into aquatic ecosystems	Creation and clearing of target areas including vehicle movement	Invasive prospecting Phase	Moderate	Control	Low
Heritage And Resources	Damage or destruction of heritage sites Potential damage to heritage resources	Site preparation, site camp establishment and prospecting activities at the site Site preparation, vegetation clearing and prospecting activities.	Invasive prospecting Phase	Moderate	Control	Low
Heritage Resources	Damage to cultural and or heritage sites during prospecting activities may result in conflict with local community	Site preparation, vegetation clearing and prospecting activities.	Invasive prospecting Phase	Low	Control	Very Low
Heritage Resources and	Potential unearthing of heritage resources resulting in damage to resources	Prospecting activities specifically site clearance.	Invasive prospecting Phase	Low	Remedy	Low

Noise	Generation of noise by machinery, drilling, vehicle movement may cause a nuisance to communities, and may result in fauna to vacate the area.	During geophysical survey, drilling, noise will be generated from use of drills and vehicles travelling in the project site	Invasive prospecting Phase Non-Invasive prospecting	Moderate	Control	Low
Air Quality	Result in windblown dust from bare target area surfaces and entrained dust from vehicles/machinery travelling on gravel roads	Site establishment through vegetation clearance, drilling, prospecting activities including entrained dust from vehicle movement on gravel roads	Invasive prospecting Phase	Moderate	Control	Low
Visual Impact	Result in unsightly views due to exposed soil surfaces and presence of machinery onsite	Site clearance, establishment of site camp and prospecting activities as well as presence of machinery	Invasive prospecting Phase	Low (due to remote nature of target sites to receptors)	Control & Remedy	Low
Impact on land use	Impact on biodiversity and status of land	Prospecting activities within bare land, degraded grassland	Invasive prospecting Phase	Low	Control and Remedy	Low
Groundwater	Contamination of groundwater due to infiltration into groundwater system	Use of fuel and hydrocarbons may result in spillages from vehicles and storages which infiltrate groundwater	Invasive prospecting Phase	Low	Remedy	Low
Surface water	Quality of surface water may be impacted by poor storage of chemicals, fuel spills inappropriate waste disposal.	Waste disposal, use of fuels, chemicals and hydrocarbons during prospecting activities and at site camp	Invasive prospecting Phase	Moderate	Remedy	Low

Surface and Groundwater	Depletion of nature resource	Abstraction of water for human consumption from existing boreholes and for drill operations.	Invasive prospecting Phase	Low	Control	Low
Traffic	Result in increased traffic on main gravel road at study area	Increased traffic due to prospecting vehicles, machinery using local gravel roads.	Invasive prospecting Phase	Low	Control	Low
Safety	Safety risk for prospecting	During pr ospecting Activities in a vacant area	Invasive prospecting Phase	Low	Control	Low

Crime	Increased crime on study site	Risk of increased crime due to presence of machinery, batteries, and fuel onsite which are resources that attract thieves.	Invasive prospecting Phase	Low	Stop	Very Low
Crime& Safety	Violent crimes against woman	Presence of external contractors at site and within local communities	Invasive prospecting	Low	Stop	Very Low
Socio-economic	Livestock mortalities due to livestock falling into pits, excavated areas may affect community member livelihoods	Increased traffic and prospecting activities in livestock grazing areas may increase the livestock mortalities including livestock falling into pit areas directly affecting community	Invasive prospecting Phase	Low	Stop	Very Low

		member livelihoods				
Impact on soil, groundwater, and surface water	Contamination of soil, groundwater and surface water including soil erosion	Use of fuel, chemicals, hydrocarbons, disposal practice and open boreholes as well as erosion from re- spreading of topsoil before vegetation has re- established	Decommission & Rehabilitation Phase	Moderate	Control & Remedy	Low
	Destruction and or disturbance of fauna and flora at disturbed target areas	Decommissioning and rehabilitation of prospecting target areas and infrastructure which include removal of drill pads, backfilling trenches or pits areas, capping of boreholes, re-spreading of	Decommission & Rehabilitation Phase			

		stockpiled topsoil over denuded areas				
Fauna & Flora	Degradation of the ecology	Poor vegetation re-growth post decommissioning and rehabilitation of target areas. Establishment of alien vegetation during re-vegetation of disturbed areas.	Decommission & Rehabilitation Phase	Moderate	Control & Remedy	Low
Noise	Impact on the ambient noise level and may cause a nuisance to communities	Decommissioning and rehabilitation of prospecting sites and the site camp will generate noise	Decommission & Rehabilitation Phase	Low	Control	Low

Air Quality & Dust	Dust emissions from decommissioning and rehabilitation activities (vehicle entrained dust)	Dust emissions from decommissioning and rehabilitation activities such as removal of capping of boreholes, ripping of disturbed areas.	Decommission & Rehabilitation Phase	Low	Control	Low
Traffic	Increase in traffic along main site	Increased traffic along main gravel route during decommissioning and rehabilitation of prospecting sites when equipment is removed and transported off site	Decommission & Rehabilitation Phase	Low	Control	Low

21. Cumulative impacts that may arise from the proposed project

Consideration must be given to the extent of any accumulative impact that may occur due to the proposed development. Such impacts are evaluated with an assessment of similar developments already in the environment. Such impacts will be either positive or negative, and will be graded as being of negligible, low, medium or high impact. Table below highlights an example of how cumulative impacts manifest in the environment due to the impacts resulting from numerous developments on given spatial scale.

Cumulative Impacts which could result from the proposed project in addition to other projects in the area are described below:

Table 19:CUMULATIVE IMPACTS: PROPOSED MALUMBAZO HOLDINGS PROSPECTING

IMPACT	SIGNIFICANCE BEFORE MITIGATION	PROPOSED MITIGATION	SIGNIFICANCE AFTER MITIGATION
Fauna and Flora – Clearance of vegetation for establishment of site camp.	Medium (negative)	The drill/site camp will be placed in a disturbed area that will limit impacts on vegetation. • No firewood harvesting will be allowed. • No fires will be made on site. Cooking will only be allowed on gas-stoves at designated areas. • No hunting will be allowed. • Should any protected tree or plant species be found on site, it will be avoided and a safe buffer (10-15 m) distance placed around it. If for any reason it cannot be avoided, the relevant permits will be applied for prior to removal. • All trenches should be fenced-off to prevent game or livestock from falling in.	Low (negative)
Noise pollution – vehicle movement, use of drill rigs and excavation machinery	Medium (negative)	The activities will comply with the provisions of the Mine Health and Safety Act, 1996 (Act 29 of 1996) and its regulations as well as other applicable legislations regarding noise control.	Low (negative)

		• Employees will be supplied with ear plugs. All prospecting vehicles will be maintained in a road worthy condition. • All work will be limited to daylight hours, i.e. between 6am and 6pm	
Air quality – dust creation due to vehicle movement, excavations and drilling.	Medium (negative)	Dust abatement by wetting down exposed areas at drill and/or camp sites will be required. • Vehicles will stay on the approved or available tracks as far as practically possible. • Low speed limits will be set to avoid the creation of dust (40 km/hr).	
Waste pollution – domestic waste produced by workers	Medium (negative)	Bins will be emptied on a regular basis. Domestic waste to be removed from site - no burying or burning of domestic waste will be allowed. Ablution facilities will be regularly serviced.	Low (negative)
Pressure on road network due to increase in vehicles	Medium (negative)	Improve roads if required. Implement traffic Management measure and keep trucking to daylight hours.	Low (negative)
Water pollution (Surface and groundwater, wetlands and water bodies) – due to possible spillages, leaks from vehicles or ablution facilities	Medium (negative)	Bofule River flows through the prospecting area. The relevant permits will be obtained from DWS prior to drilling taking place. Limited amounts of water will be used during drilling. Water will be trucked to site. • Ablution facilities will not be placed within 100 m of any water body. • No construction footprint will take place inside or within 100 meters of any water body or wetland. **Hazardous materials**	Low

		• All storage tanks containing hazardous materials will be placed in bunded containment areas with sealed surfaces. • The bund wall must be high enough to contain 110% of the total volume of the stored hazardous material with an additional allocation for potential high runoff storm water events. • Any hazardous substances will be stored at least 100 m from any of the water bodies on site.	
Soils – soil erosion and pollution due to exposed areas not being managed, leaks or spillages from ablution facilities	Medium (negative)	Dust abatement by wetting down exposed drill site and camp areas will be required. Stockpiles will be below the 1.5 m height restriction. The use of oil drip trays under drilling equipment to ensure no spillage of oils and fuels onto the ground. Where possible, no major vehicle repairs will be done on site. Oils and fuel will be stored on bounded areas to avoid spillages. Any spillages which may occur will be investigated and immediate action will be taken. In the event of significant spills (in excess of 35 litres) of any hazardous substance, this will be recorded and reported to the environmental personnel, Department of Water and Sanitation, DMR and any other relevant authorities. In such cases the contaminated soil will be excavated and disposed at a suitably licensed and registered landfill. An emergency plan for spillages will be available on site. Storm water runoff in and around drill holes and excavated areas will be controlled. Keep equipment and vehicles within the limits of the initially disturbed areas.	Low

Increase job opportunities and boosting of local economy	Medium (positive)	Support local government in skills development and training initiatives. Implement employment policy prioritizing local employment Explore opportunities for mineral markets. - Development of skills in mining for Small-Medium Micro Enterprises (SMMEs) as part of Municipal Local Economic Development initiatives. - Development of contractual agreements to supply local construction markets.	Medium (positive)
Loss of Agricultural Grazing Farmland	Medium (negative)	Create local employment opportunities. Ensure land is returned to natural state after closure and enforce proper rehabilitation measures. Keep operations within the 546.58 ha boundaries of the site only. Maintain surrounding grasslands and monitor off site pollution.	Low (negative)

22. Summary of specialist reports.

(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 20: Specialist Studies Undertaken

LIST OF STUDIES UNDERTAKEN	RECOMMENDATIONS OF SPECIALIST REPORTS	SPECIALIST RECOMMENDATIONS THAT HAVE BEEN INCLUDED IN THE EIA REPORT (Mark with an X Where applicable)	REFERENCE TO APPLICABLE SECTION OF REPORT WERE SPECIALIST RECOMMENDATIONS HAVE BEEN INCLUDED.
No studies were conducted for this application.	A number of known cultural heritage sites (archaeological and/or historical) exist in the larger geographical area within which the study area falls. Should any features or material be uncovered during any development actions then an expert should be contacted to investigate and provide recommendations on the way forward.	X	13.2. Site of Archaeological, Cultural and Heritage Significance

23. Environmental impact statement

This section summarises the findings of the EIA and provides a comparative assessment of the positive and negative implications of the proposed prospecting.

Key findings of the environmental impact assessment include:

- The project entails the prospect mining of Vanadium and Uranium ore in the farm of Tuschenkomst 135 JP.
- The majority of the prospecting activities are non-invasive and hence will have very low to negligible environmental or social impact. The invasive activities that entail the drilling will have a minimal environmental and social impact.
- The existing roads to the proposed project can be used to gain access to the site. Some of the areas have already grown vegetation, as such the applicant must be careful on the issues of access road.

- Due to the remote setting of the prospect project most of potential impacts can be contained within the boundaries, provided that the mitigation measures proposed in this document is implemented on-site.
- The prospecting operation will have a temporary visual impact on the surrounding environment. Upon closure of the proposed prospecting area the visual impact on the proposed prospecting area will be mitigated and addressed.
- After drilling activities have been completed and the drill pads rehabilitated to predrilling status, the impacts will cease to exist

24. Final Site Map

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

The Final Site map will be included in the final BAR.

25. Summary of the positive and negative impacts and risks of the proposed activity and identified alternatives;

A summary of the positive and negative potential impacts associated with the project has been outlined below:

The positive impacts associated with the project include:

- Job creation for approximately eleven - fifteen employees indirectly contributing to the socio-economic status of the Utrecht area,

The negative impacts associated with the project that was deemed to have a Low-Medium and include:

- Increased ambient noise levels and increased traffic movement during all prospecting phases as well as drilling activities.
- Potential water and soil pollution impacts resulting from hydrocarbon spills and soil erosion which may impact on environmental resources utilized by communities, landowners and other stakeholders.
- Potential water and soil pollution impacts result from hydrocarbon spills and soil erosion which may impact on ecosystem functioning.
- Increased vehicle activity within the area resulting in the possible destruction and disturbance of fauna and flora.
- Poor access control to farms which may impact on cattle movement, breeding and grazing practices.

- Influx of persons (job seekers) to site as a result of increased activity and the possible resultant increase in opportunistic crime.
- Potential visual impacts caused by drilling activities.

26. Proposed impact management objectives and the impact management outcomes for inclusion in the EMPr;

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

The EMPr addresses the environmental impacts associated with the project during Construction, Operation, Decommissioning and Post Closure Phases of the proposed project. This Environmental Management Programme (EMPr) is prepared as part of the requirements of the National Environmental Management Act.

(NEMA) EIA Regulations published in GNR 983, 984 and 985 on the 4 December 2014 Government Gazette Number 38282, and NEM: WA Regulations published in GNR 921 on the 29 November 2013 Government Gazette No 3708. The EMPr is to be submitted to DMR as part of the Application for Environmental Authorisation for the proposed Malumbazo Prospecting Project. The objectives of the EMPr will be to provide detailed information that will advise the planning design Malumbazo Prospecting Project in order to avoid and/or reduce impacts that may be detrimental to the environment.

The objectives of the EMPr will be to:

- Provide sufficient information to strategically plan the prospecting activities as to avoid unnecessary social and environmental impacts.
- Provide sufficient information and guidance to plan prospecting activities in a manner that would reduce impacts (both social and environmental) as far as practically possible.
- Ensure an approach that will provide the necessary confidence in terms of environmental compliance.
- Provide a management plan that is effective and practical for implementation.

Through the implementation of the proposed mitigation measures, it is anticipated that the identified social & environmental Impacts can be managed and mitigated effectively. Through the implementation of the mitigation and management measures it is expected that:

- Noise impacts can be managed through consultation and through the restriction of operating hours.

- The pollution of soil and water resources can be effectively managed through containment.
- Ecological impact can be managed through the implementation of pollution prevention measures, minimizing land clearing, restricting working hours (faunal disturbance) and rehabilitation.
- Concerns regarding access control to farms can be managed through the development and ensuring compliance to an appropriate access control procedure.
- Risks associated with crime can be mitigated through avoiding recruitment activities on site, as well as monitoring and reporting.
- Visual impact can be minimized through considering drill site infrastructure placement and materials used.

27. Aspects for inclusion as conditions of Authorisation.

Any aspects which must be made conditions of the Environmental Authorisation

Aspects for inclusion as conditions of the Environmental Authorisation:

- Dust fall monitoring should commence during the construction phase and continue throughout the life of the project.
- Noise measurements to test and verify any noise complaints as and when the need arises otherwise.
- Implementation of an erosion monitoring programme throughout all phases of the Project.
- If any archaeological or palaeontological material or human burials are uncovered during development, then work in the immediate area should be halted. Relocation of burial grounds and graves must be in accordance with the National Heritage Resources Act (Act 25 of 1999). The find would need to be reported to the heritage authorities and may require inspection by an archaeologist or palaeontologist as appropriate. Such heritage is the property of the state and may require excavation and curation in an approved institution. On-going consultation with the public to monitor and verify any noise complaints.
- No discharge of contaminated water is permitted into the environment.
- Concurrent rehabilitation is facilitated and not jeopardised

- Rehabilitation must ensure that surfaces are smooth and free- draining, and that no forms remain.
- Only approved access routes are to be used.
- Chemical toilet must be erected; the facilities must not cause any water pollution or health hazard.
- No domestic or any other solid waste must be disposed of on site. All waste removed from the site must be disposed of at a permitted landfill site.
- Vehicles must as far as possibly stick to established access routes so as to minimize the effects to surrounding vegetation.
- The Duty of Care and remediation of environmental damage contained in Section 28 of the National Environmental Act (Act No.107 of 1998) must be complied with.
- All requirements of the Local Authority must be complied with.
- All requirements of the Mine Health and Safety Act (no. 29 of 1996) must be complied with.
- Staff operating heavy machinery must wear proper PPE and the applicant must ensure that the requirements of the OHSA Act are met.
- No landowner or authority may request the holder to carry out any activity that is not authorised in terms, conflict therewith.

28. Description of any assumptions, uncertainties and gaps in knowledge.

(Which relate to the assessment and mitigation measures proposed)

The following assumptions, uncertainties and gaps are applicable to this project:

- It is assumed that the description of the proposed project, provided by the applicant is sufficient for providing the authorities with the right information for understanding the proposed project.
- Due to significant time constraints allowed for the assessment of the impacts, and at the time of compiling the draft Basic Assessment Report and EMP.
- The Stakeholder Consultation is not yet complete.
- Details from the DWS regarding Water Use Licensing requirements is not yet available.
- Details regarding the presence and status of land claims are not available.

29. Reasoned opinion as to whether the proposed activity should or should not be authorised

Based on the detailed environmental impact assessment undertaken and the proposed management measures proposed, the EAP is of the opinion that the proposed Malumbazo Holdings activities can be granted Environmental Authorisation (EA) provided Malumbazo Holdings adheres to the management and mitigation measures proposed. Environmental Authorisation should include those conditions listed in Section (18). Without implementation of prospecting activities, the knowledge concerning the potential mineral resource within the prospecting right area will not be confirmed.

30. Period for which the Environmental Authorisation is required.

The Prospecting Right has been applied for a period of five years. The Environmental Authorisation should therefore allow for the five years of prospecting and one year for decommissioning and rehabilitation.

31. Undertaking

(Confirm that the undertaking required to meet the requirements of this section is provided at the end of the EMPr and is applicable to both the Basic assessment report and the Environmental Management Programme report.)

Confirm that the undertaking required to meet the requirements of this section is provided at the end of the EMPr and is applicable to both the Basic assessment report and the Environmental Management Programme report.

32. Financial Provision

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

A financial provision of approximately, **R56342** which includes rehabilitation activities has been made by Malumbazo Holdings (Pty) Ltd. A breakdown of these costs is presented in the table below. The applicant undertakes to provide financial provision through funding from the personal account.

1.2.1 Explain how the aforesaid amount was derived.

The estimate takes into consideration the following items which have been included in the costing:

- Access road maintenance and repair;
- Drilling equipment
- Truck rental

- General surface rehabilitation and vegetation;
- Waste disposal at a registered waste disposal site; and
- Three (3) years of maintenance and aftercare

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

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

The financial provision will be made available to the DMR on the date on which the Prospecting Right is issued.

34. 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 National Environmental Management Act (Act 107 of 1998). The EIA report must include the: -

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

(Provide the results of Investigation, assessment, and evaluation of the impact of the mining, bulk sampling or alluvial diamond prospecting on any directly affected person including the landowner, lawful occupier, or, where applicable, potential beneficiaries of any land restitution claim, attach the investigation report as an **Appendix.**

The socio-economic impact of the area will be discussed during public consultation, issues and responses will be forwarded to DMR with the Final BAR. Persons directly affected by the development were identified as:

- Residents of homesteads and settlements along the roads towards the site, this is due to the dust to be caused by the trucks coming in and out of the site;

The potential socio-economic impacts of the prospecting activities on these directly affected persons include:

- Creation of Employment Opportunities;
- Impact on Community Health and Safety;
- Increased pressure on social infrastructure i.e., road
- Indirect employment: The coal extracted from the proposed prospecting site will be used on electricity Power Station and sold to measure mining companies in the surroundings market thus increasing the economic upliftment of the region and the province as a whole

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

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

Prospecting will be undertaken in phases; the first phase being a desktop assessment, followed drilling. Based on the outcome of these activities, the desktop study and potential drill sites will be determined. Potential heritage impact will only occur once the desktop study has been used to identify sites for drilling.

Should any artefacts or objects be unearthed during the prospecting process, the relevant procedure will be followed in addressing the finds. Furthermore. Furthermore, and in compliance with heritage legislation, a Notification of Intent to Develop (NID) will be submitted to Heritage North West (HNW). The NID will be submitted when the draft BAR is released for public comment and proof of submission will be included in the Final BAR.

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

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

Note: Information on the preferred proposed alternative, as well the motivation for exclusion of other alternatives has been included in Section g) and h), kindly refer to these sections above. The proposed prospecting activities requested as part of this authorisation is the only current viable manner in which a mineral deposit can be identified and used to generate a SAMREC compliant resource which is a minimum requirement to determine whether it is viable to invest in a future mine. The National Environmental Management Act 107 of 1998, Environmental Impact Assessment Regulations, 2014 requires the applicant to identify alternatives for projects applied for. In terms of the above-mentioned regulations an alternative in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to the: (a) the property on which or location where it is proposed to undertake the activity; (b) the type of activity to be undertaken.

PART B

ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

For

MALUMBAZO HOLDINGS

NW30/5/1/1/2/13131PR

Environmental management programme.

1. Details of the 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).

The requirement for the provision of the details and expertise of the EAP are included in PART A, section 1(a). Confirmed, CV and expertise of EAP Appendix A.

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).

Confirmed, the requirement to describe the aspects of the activity that are covered by the environmental management programme is included in detail in Part A of this Report.

3. Composite Map

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

Provided, Reg. 2.2, no buffers to be included, the area has no structures which requires buffer zone.

4. Description of Impact management objectives including management statements

Ensure that the closure objectives are informed by the type of environment described. Each phase of the prospecting activities depends on the success of the previous. Depending on the outcome of the Phase 1 assessment, a drilling programme will be initiated. The location and extent of drill sites can thus not be determined at this stage.

The rehabilitation plan is developed on the basis that the rehabilitated areas are safe, stable, non-polluting and able to support a self-sustaining ecosystem similar to surrounding natural environment. To ensure that the rehabilitation plan is aligned with the closure objective, a high level risk assessment of the prospecting components has been undertaken to establish the potential risks associated therewith.

The closure objectives include:

- Eliminating any safety risk associated with drill holes and sumps though adequate drill hole capping and backfilling.
- Remove and/or rehabilitate all pollution and pollution sources, such as waste materials and spills.
- Establishing the rehabilitated area, which is not subject to soil erosion and may result in the loss of soil, degradation of the environment and pollution of surface water resources.
- Restore disturbed area and re-vegetate these areas with grass species naturally occurring in the area to restore the ecological function of such areas as far as is practicable.

5. Volumes and rate of water use required for the operation.

Water will only be required during phase two which entails drilling.

A water use licence has not been applied for because the proposed activities require a small volume of water. Water would be required for domestic use and during phase two, the drilling phase. It is estimated that less than 8 people will be on the drill rig at any given point of operation. Water would be obtained from a water service provider or from a legal site, during that phase where an SLA will be signed between Malumbazo Holding the Service Provider. An estimate of one water tank per day is required for the drilling operations.

6. Has a water use licence has been applied for?

The use of abstracting groundwater will be generally authorised in terms of the NWA. Based on the outcomes of discussions with the DWA, the potential abstraction of water due to drilling activities will be clarified. Should it be deemed necessary, on instruction by the department, to submit a water use license application, this will be undertaken.

7. Impacts to be mitigated in their respective phases

Table 21:Measures to rehabilitate the environment affected by the undertaking of any listed activity

ACTIVITIES (E.g., For prospecting - drill site, site camp, ablution	**PHASE** (Of operation in which activity will take place.	**SIZE AND SCALE** of disturbance (volumes, tonnages and hectares or m²)	**MITIGATION MEASURES** (describe how each of the recommendations in herein will remedy the cause of pollution or degradation and migration of pollutants)	**COMPLIANCE WITH STANDARDS** (A description of how each of the recommendations herein will comply with any prescribed environmental management standards or practices that	**TIME PERIOD FOR IMPLEMENTATION** Describe the time period when the measures in the environmental management programme must be implemented Measures must be implemented when required.
Soil Resources	Stockpiling of topsoil following site preparation and excavations for drilling and trenching	Site Preparation and Invasive Prospecting	- Topsoil is to be handled twice only- once to strip and stockpile, and once to replace and level. - Topsoil needs to be protected and returned for rehabilitation as soon as possible. - Implement good stockpiling practice and storm water control to avoid soil erosion - Ensure that topsoil is at no time buried, mixed with spoil or subjected to compaction by vehicles or machinery. - Eradicate alien vegetation which colonize on topsoil stockpiles	Rehabilitation of study site in terms of NEMA and MPRDA. Biodiversity and alien invasive management in accordance with the NEM: Biodiversity Act of 2004. Mine Water management in line with Mine Water Regulations- Regulation 7 of GNR 704 of 1999	Site Preparation and Invasive Prospecting
Soil Resources	Establishment of prospecting sites, site camp, vehicle traffic, material storage	Invasive Prospecting Phase	- Use existing access roads - Restrict vehicle access to designated areas	Rehabilitation of study site in terms of NEMA and MPRDA.	Invasive Prospecting Phase (implement c,montinuously)

(soil erosion, compaction by heavy machinery			- Provide drip trays for standing equipment - Clean up hydrocarbon spillages, contaminants must be properly disposed of using correct solid/hazardous waste facilities. - Contaminated soil must be removed, and the affected area rehabilitated. - Do not place the site camp infrastructure where it can cause pollution to sensitive areas (drainage lines, steep slopes)		
Fauna & Flora (Habitat)	Clearing of vegetation and topsoil as site preparation for prospecting sites, site camp and trenching will result in loss of habitat	Invasive prospecting Phase	- Areas with existence of unique habitat mut be avoided. Non-invasive prospecting methods must be applied. prospecting as they correspond to unique habitat and the Thukela Water Management area. Non-invasive prospecting methods are to be applied. - Exotic and invasive plant species must not establish onsite; - Footprints at prospecting target areas need to be confined to a narrow strip to have the least possible edge effects on the ecosystem; - A 50 metres buffer zone must be upheld from wetland and riparian zones and regarded as no-go areas for any invasive prospecting; also needs to be fenced off with appropriate material;	An Ecologist / qualified specialist must be appointed before any site preparation or removal of vegetation. Comply with restrictions to sensitive areas (for invasive prospecting). Adherence to the Closure and Rehabilitation Plan. Biodiversity and alien invasive management in accordance with the NEM: Biodiversity Act of 2004, GN 78 of 2014 and GN 37886 of 2014, GNR 598 of 2014.	Invasive Prospecting Phase
Fauna & Flora (Loss of Sensitive	Site establishment for site camp and prospecting activities	Invasive prospecting Phase	- Appoint a qualified specialist prior to removal of any fauna or flora, protected tree species. - Footprints need to be kept to a minimum	Appoint a qualified specialist prior to removal of any fauna or flora, protected tree species. Adherence to the Closure and	Invasive prospecting Phase

Species)			so larger mammals can roam freely; Necessary caution must be adhered to due to presence of reptiles onsite to avoid conflict Each target area to be pursued need to be inspected for nests in trees of raptors and vultures which are threatened and could be resident/visitors such as the White Backed Vulture (nationally critically endangered), Hooded Vulture (critically endangered) and Bateleur (vulnerable); - Removal of nests, if possible or particles, in case of any removal of nests, should be done by qualified bird specialist. -	Rehabilitation Plan. Section 15 (1) National Forest Act, (Act 84 of 1998) Biodiversity management in terms of NEMBA of 2004- Section 56 LEMA Act 7 of 2003 –Section 8,11 & 12	
Fauna & Flora (habitat connectivity & Open Space)	Site clearance for drill, trench, sampling sites as well as camp site establishment	Invasive prospecting Phase	- Exotic and invasive species of plants must not establish, so that quality and functionality of conservation corridors are enhanced. - Rubble and waste must be removed during and after prospecting. - Confine footprint to narrow strip to have the least possible edge effects on ecosystems - A 50 metres buffer zone must be upheld from wetland and riparian zones and regarded as no-go areas for invasive prospecting; also needs to be fenced off with appropriate material; - Prospecting at rocky ridges should be avoided. If it cannot be avoided, footprints must be limited to a minimum on rocky ridges;	Adherence to the Closure and Rehabilitation Plan. Biodiversity management in terms of NEMBA of 2004- Section 56	Invasive prospecting Phase
Fauna & Flora (Destruction & Damage to fauna & flora)	Establishment of access tracks and driving off existing tracks	Invasive prospecting Phase	- Use existing access roads - Restrict vehicle access to designated areas	Adherence to the Closure and Rehabilitation Plan. Rehabilitation in terms of MPRDA and NEMA.	Invasive prospecting Phase
Fauna (noise	Direct contact with prospecting	Invasive	- A 50 meters buffer zone must be upheld from wetland and riparian zones and	Adherence to Closure and Rehabilitation Plan.	Invasive prospecting

result in animals to vacate area, possible faunal fatalities	equipment, supplies (vehicle, dozers, chemicals, waste)	prospecting Phase	regarded as no-go areas for invasive prospecting methods; also needs to be fenced off with appropriate material. - Implement concurrent rehabilitation - No mammal's species are to be disturbed, trapped, hunted or killed during prospecting. - Confine footprint areas - Avoid spills and infiltration of petroleum fuels, chemical pollutants into soils during prospecting.	Water management requirements with NW GN 704 of 1999. Biodiversity management in terms of NEMBA of 2004	Phase
Aquatic Ecosystems (risk of contamination)	Establishment of site camp, drilling pads, excavations sites as well as operation thereof.	Invasive prospecting Phase	- Proper storage and handling of hydrocarbons and chemicals need to be ensured. Fuel, oil and chemicals must be stored in designated areas outside wetland and riparian buffer zones - Storage containers for hydrocarbons and chemicals must be regularly inspected as to prevent leaks - Uphold a 50m buffer zone from riparian zones and wetlands; also needs to be fenced off with appropriate material. - Portable toilets must be placed on impervious level surfaces that are lipped to prevent spillages	Section 19 of NWA 36 of 1998 Water management in terms of GNR 704 of 1999 under NWA 36 of 1998. Operational Control Procedures Regular Environmental Inspection, Incident reporting and handling.	Invasive prospecting Phase
Aquatic Ecosystems	Prospecting within unique habitat (wetland, possible forests)	Invasive prospecting Phase	- Sensitive areas to be mapped through non- invasive prospecting methods.	Comply with no-go areas for invasive prospecting methods	Invasive prospecting Phase
Aquatic Ecosystem (soil erosion, sediment deposition)	Creation and clearing of target areas including vehicle movement	Invasive prospecting Phase	- Implement erosion, sediment and stormwater control, waste management from, site camps, drill pads and trenching site (sandbags) - Concurrent rehabilitation of disturbed	Adherence to Closure and Rehabilitation Plan. Water management as per	Invasive prospecting Phase

			areas must be undertaken - Uphold a 50m buffer zone from riparian zones and wetlands; also needs to be fenced off with appropriate material;	requirements of GN 704 of 1999. NEM: WA 59 of 2008-Chapter 4, Section 16, Section 27.	
Heritage & Cultural Resources	Site preparation, site camp establishment and prospecting activities	Invasive prospecting Phase	- Permits must be obtained from the Provincial Heritage Authority if heritage sites established are affected. - Planning of all other prospecting target sites, site camp including design and siting of access roads must avoid heritage sites	A Heritage Specialist must be appointed to map and document heritage sites if they are to be affected by invasive prospecting. Compliance with NHRA 25 of 1998.	Invasive prospecting Phase
Heritage & Cultural Resources	Site preparation, vegetation clearing and prospecting activities	Invasive prospecting Phase	- Planning of prospecting target sites including design and siting of access roads must avoid heritage sites.	Comply with Composite Map in terms of buffer zones applied to heritage sites (at 50m). Comply with Section 35 and 36 of NHRA 25 of 1998.	Invasive prospecting Phase
Heritage & Cultural Sites	Site preparation, vegetation clearing and prospecting activities within eastern section of study site (inaccessible during April 2018 survey) (damage to heritage sites in unexplored areas may result in conflict with local community)	Invasive prospecting Phase	- Planning of invasive prospecting target sites including design and siting of access roads must avoid heritage sites. Uphold a 50m buffer zone from heritage sites	Comply with Composite Map in terms of buffer zones applied to heritage sites (at 50m buffer area). Comply with Section 35 and 36 of NHRA 25 of 1998.	

Heritage & Cultural Resources (chance finds)	Prospecting activities specifically excavations,	Invasive prospecting Phase	- Cease work in the vicinity of the heritage feature find; - Demarcate the area with barrier tape/other visible means; - Report the find to the South African Heritage Resources Agency (SAHRA) - Accredited archaeologist (ASAPA registered) must be commissioned to assess the find and determine the mitigation measures.	Accredited archaeologist (ASAPA registered) must be commissioned to assess the find and determine the mitigation measures. Compliance with NHRA 25 of 1999.	Invasive prospecting Phase
Noise	During geophysical survey noise will be generated from use of drilling and vehicles travelling in the project site	Invasive prospecting Phase	- Limit invasive and non-invasive site activities to daytime from 07h00 to 17h30; - Ensure all machinery, drilling equipment are well maintained. - Comply with noise limits as set out in SANS 10103 of 2008 which set out noise level limits for rural districts at 45dBL (daytime) and 35dBL (night- time); - Provide employees with earplugs to protect their ears (PPE); - Notify affected communities where they can lodge a noise compliant prior to commencement of prospecting activities; - Notify the communities prior to conducting geophysical surveys. - Generators must be switched off when not in use; - Regular maintenance of vehicles and equipment is required. Repair and attend to worn and broken equipment.	Maintain a Complaints Register Comply with Section 34 of NEM: AQ 39 of 2004. Comply with Environmental Health and Safety Regulations (noise level guidelines) SANS 10103 of 2008 (noise levels).	Invasive prospecting Phase

Air Quality & Dust	Site establishment through vegetation clearance, drilling, prospecting activities including entrained dust from vehicle movement on gravel roads	Invasive prospecting Phase	- Do not undertake drilling, trenching activities during high winds which can carry dust far offsite; - Ensure that drill equipment is equipped with appropriate dust suppression system; - Apply wet dust suppression were necessary to manage dust emissions from vehicle movement (avoid excessive wetting which can result in erosion) - Control vehicle speeds along unpaved roads 40km/hour. - Comply with National Dust Control Regulations of 2013 (acceptable dust fall rate for rural area of < 1200mg/m2/day).	Main Complaints Register Comply with Section 32 of NEM: AQ 39 of 2004. Comply National Dust Control Regulations of 2013.	Invasive prospecting Phase
Visual Impact (exposed soils, presence of machinery)	Site clearance, establishment of site camp and prospecting activities as well as presence of machinery	Invasive prospecting Phase	- Implement concurrent rehabilitation of drill sites - Implement good house keep rules at each drill and sampling site - Limit target site footprints to a narrow strip to minimize vegetation clearance and exposed areas	Adherence to Closure and Rehabilitation Plan.	
Land use impact (declared nature reserve)	Prospecting activities within protected area	Invasive prospecting Phase	- Minimize removal of vegetation, where possible work on barren parts of site; - Rehabilitate and re-vegetate denuded areas as soon as possible - no-go zone for invasive prospecting methods/activities due to its unique habitat; Implement non-invasive methods. Implement all mitigation measures proposed for Aquatic Ecosystems and Ecological identified impacts to minimize the impact on biodiversity onsite	Compliance with NEMPA 57 of 2003.Consent from the MEC of Department of Economic Development, Adherence to Closure and Rehabilitation Plan Comply with biodiversity management requirements	Site Planning & Invasive Prospecting Phase

Groundwater	Use of fuel and hydrocarbons during prospecting activities may result in spillages from vehicles and storages which infiltrate groundwater	Invasive prospecting Phase	- Storage fuel, oil and chemicals safely in designated areas - Provide drip trays for standing equipment - Clean up hydrocarbon spillages - Inspect vehicles and machinery on a daily basis for fuel and oil leakages.	Implement water management measures as per GNR 704 of 1999. Section 19, 20 of NWA 36 of 1998. Environmental Inspection	Invasive Prospecting Phase

Surface Water	Waste disposal, use of fuels, chemicals and hydrocarbons during prospecting activities and at site camp	Invasive prospecting Phase	- Restrict trenching to designated areas - Uphold the 50m buffer zone from wetland and riparian zones as no go zones for invasive prospecting - invasive prospecting target areas; - Location ablution facilities outside buffer zones - Control run off and erosion from prospecting target areas - Collect and treat dirty water from prospecting operations - Storage fuel, oil and chemicals safely in designated areas - Provide drip trays for standing equipment Clean up hydrocarbon spillages - Implement proper waste disposal - Implement concurrent rehabilitation and landscape rehabilitated target areas to mimic pre-prospecting contours.	Compliance of invasive prospecting footprint areas. Implement water management measures as per GNR 704 of 1999. Section 19, 20 of NWA 36 of 1998. Environmental Inspection Adherence to Closure and Rehabilitation Plan	Invasive prospecting Phase

Surface & Groundwater	Abstraction of water for human consumption and drilling operations from existing boreholes	Invasive prospecting Phase	- No water may be abstracted from any surface water body unless permitted. - Monitor water consumption and ensure that all possible use is accounted for; - Ensure water abstraction points do not degrade or erode	Implement water management measures as per GNR 704 of 1999.	Site Planning Invasive Prospecting Phase

Traffic	Increased traffic due to prospecting vehicles, machinery using local gravel roads. Prospecting crew will set up site camp which the main focus is prospecting. This will restrict the need for excessive movement of vehicles and machinery in the study site.	Invasive prospecting Phase	- Limit unnecessary vehicle movement - Reduce vehicle speeds in highly vegetated areas, 40km/hr. speed limit. - Relocation of prospecting machinery must not be undertaken during peak traffic times along main gravel roads	Compliance with provincial road regulations, bylaws.	Invasive Prospecting Phase Decommissioning Phase
Crime	Risk of increased crime due to presence of machinery, batteries, and fuel onsite which are resources that attract thieves.	Invasive prospecting Phase	- Establish a fenced off-site camp at the prospecting site and establish temporary camps at trenching, drilling and sampling sites - Security lights can be installed at site camp and temporary camp sites with the addition of security guards.	Compliance with Mine Health and Safety Act 29 of 1996	Invasive prospecting Phase
Crime & Safety	Presence of external contractors at site and within local communities	Invasive prospecting Phase	- Contractors would be not be allowed near villages and would be accommodated within the prospecting crew site camp - Ensure that employment criterion for the prospecting crew be made public in advance to deter unqualified job seekers from moving into the area; - Employ as far as possible, local Labour during the prospecting phase		Invasive prospecting Phase
Socio-economic	Increased traffic and prospecting activities in livestock grazing areas may increase the livestock mortalities including livestock falling into pit areas directly affecting community member	Invasive prospecting Phase	- Communicate with respective communities regarding grazing of livestock in prospecting target areas and request that these areas are avoided during invasive activities. - Fence off sampling sites/ demarcate sampling sites to restrict access by public and livestock. - Implement concurrent rehabilitation	Adherence to Closure and Rehabilitation Plan. Continuous engagement with community/ stakeholders; Comply with Mine Health and Safety Act 26 of 1996.	Invasive prospecting Phase

	livelihoods				
Soil, Groundwater and Surface Water (contamination of soil and erosion)	Use of fuel, chemicals, hydrocarbons, disposal practice and open boreholes as well as erosion from respreading of topsoil before vegetation has re-established	Decommission & Rehabilitation Phase	- All fuel storage tanks will be emptied prior to removal. - Drill holes must be permanently capped as soon as possible to eliminate risk of groundwater contamination. - Wastes will be removed and disposed of at a licensed landfill site and recyclables will be taken to a licensed recycling facility. - No activities are to be undertaken within 50m buffer zones upheld to wetland and riparian zones. These areas are regarded as no go zones for prospecting activities. - If erosion has occurred, usable soil should be sourced and replaced and shaped to reduce the recurrence of erosion; - Keep grazers out of rehabilitated areas, if possible, until suitable vegetation cover has established. - Progressive monitoring must take place rehabilitated areas must take place	Adherence to Closure and Rehabilitation Plan. Comply with water management measures as per GNR 704 of 1999 under NWA 36 of 1998.	Decommissioning, Rehabilitation and Closure Phase
Fauna & Flora	Decommissioning and rehabilitation of prospecting target areas and infrastructure which include removal of drill pads, sampling areas, capping of boreholes, respreading of stockpiled topsoil over denuded areas	Decommission & Rehabilitation Phase	- Limit bush clearing and conduct concurrent rehabilitation with follow- up inspections to decide effectiveness of rehabilitation steps undertaken - Use existing tracks and roads as far as possible; - Avoid damage to indigenous vegetation and species of conservation concern (large protected trees) whilst removing prospecting infrastructure; - Close drill holes, ` or pits as soon as possible after drilling and sampling activities have completed to avoid risk of fauna or livestock falling into open drill holes, trenches or pits; - Drill holes must be permanently capped and trenches or pits backfilled as soon as possible after sampling and testing is completed at prospecting sites.	Compliance with NEMPA 57 of 2003	Decommissioning, Rehabilitation and Closure Phase

Flora	Poor vegetation re growth post decommissioning and re habilitation of target areas. Establishment of alien vegetation during re-vegetation of disturbed areas.	Decommission & Rehabilitation Phase	- Rehabilitate pits, sites immediately after sampling, concurrent rehabilitation, do not wait until the end to rehabilitate; - Revegetation of disturbed areas will be undertaken immediately after prospecting activities; - Keep topsoil for rehabilitation to promote effective re vegetation - Keep topsoil separate from other materials (overburden or waste materials). Monitor re vegetated areas - Remove all alien vegetation from the site which has established on newly exposed soils; - Eradicate alien vegetation during the lifecycle of the project and monitor post-rehabilitation;	Adherence to Closure and Rehabilitation Plan.	Decommissioning, Rehabilitation and Closure Phase

8. Impact Management Outcomes

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

Table 22: Impact Management Outcomes

ACTIVITY (Whether listed or not listed).	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE In which impact is anticipated	MITIGATION TYPE	STANDARD TO BE ACHIEVED
Stockpiling of topsoil following site preparation and excavations for drilling, trenching	Loss of topsoil resource	Soil	Site Preparation and Invasive Prospecting	Control	Prevent loss of topsoil Enough soil, of adequate quality is available for rehabilitation to support vegetation growth to ensure successful rehabilitation.
Establishment of prospecting sites, site camp, vehicle traffic, material storage	Soil erosion and soil compaction by heavy vehicles, contamination with oil, fuel and hydrocarbon spillages	Soil	Invasive Prospecting Phase	Remedy	Remedy impact on soils by remedying soil erosion and compaction. Indigenous vegetation will be re-instated on disturbed areas to curb erosion of soil and maintain biodiversity
Generation, storage and disposal of waste	Contaminate soil due to improper disposal	Soil Resources (contamination of soil due to improper waste disposal	Invasive prospecting Phase	Control	Control and minimise impact on soil resources
Clearing of vegetation and topsoil as site preparation for prospecting sites, site camp	Loss of Habitat	Fauna & Flora	Invasive prospecting Phase	Control	Minimise and control impact on fauna & Flora
Site establishment for site camp and prospecting activities	Loss of sensitive species	Fauna & Flora	Invasive prospecting Phase	Control	Minimise the impact on conservation important species of fauna & flora
Site clearance for drill, trench, sampling sites as well as camp site establishment	Impact on habitat connectivity and Open Space	Fauna & Flora	Invasive prospecting Phase	Control	Minimise the impact on habitat connectivity and open space and ecological important corridors
Establishment of access tracks and driving off existing tracks	Destruction & Damage to fauna & flora	Fauna & Flora	Invasive prospecting Phase	Control	Minimise destruction and damage on fauna and flora
Direct contact with prospecting equipment, supplies (vehicle, dozers, chemicals, waste)	noise result in animals to vacate	Fauna	Invasive prospecting Phase	Control	Minimise disturbance of fauna

	area, possible faunal fatalities				
Establishment of site camp, drilling pads, excavations sites as well as operation thereof.	Risk of contamination of aquatic ecosystems from hydrocarbon spillages, oil and fuel.	Aquatic Ecosystems	Invasive prospecting Phase	Remedy	Avoid, prevent/reduce, clean-up of spillages from fuel, fuel and chemicals. Minimise the impact on aquatic ecosystems. Protect water sources/ aquatic ecosystems in line with National Water Act of 1998 and Mine Water Regulations of GN 704.
Prospecting activities within unique habitat (wetland, possible forests)	Impact on wetland function	Aquatic Ecosystems	Invasive prospecting Phase	Stop/Avoidance	Protect water sources /aquatic ecosystems in line with National Water Act of 1998 and Mine Water Regulations of GN 704.
Creation and clearing of target areas including vehicle movement	Soil erosion and sediment deposition into aquatic ecosystems	Aquatic Ecosystem	Invasive prospecting Phase	Control	Control erosion and sedimentation into aquatic ecosystems and minimise impact on function of ecosystem
Site preparation, site camp establishment and prospecting activities	Impact on heritage sites	Heritage & Cultural Resources	Invasive prospecting Phase	Control	Prevent damage and loss of heritage resources
Site preparation, vegetation clearing and prospecting activities.	Potential damage to graves, stonewalls, historic homesteads, sacred pools and cultural ritual sites,	Heritage & Cultural Resources	Invasive prospecting Phase	Control	Prevent damage and loss of heritage resources
Site preparation, vegetation clearing and prospecting activities	damage to heritage sites in unexplored areas may result in conflict with local community	Heritage & Cultural Sites	Invasive prospecting Phase	Control	Prevent damage and loss of heritage resources and avoid conflict with local community
Prospecting activities specifically excavations, trenching	Damage to cultural and heritage features	Heritage & Cultural Resources	Invasive prospecting Phase	Remedy	Prevent any damage or loss to heritage resources, rectify removal/damage caused

	due to unearthing chance finds				
During drilling, trenching noise will be generated from use of drilling and excavation machinery and vehicles travelling in the project site	Increased noise levels may cause nuisance to communities,	Noise	Invasive prospecting Phase	Control	Minimise noise levels from invasive prospecting and non-invasive activities on receptors.
Site establishment through vegetation clearance, drilling, prospecting activities including entrained dust from vehicle movement on gravel roads	Windblown dust from bare areas, vehicle entrained dust may cause nuisance to community	Air Quality & Dust	Invasive prospecting Phase	Control	Control and minimise dust emissions from prospecting activities including vehicle entrained dust on receptors
Site clearance, establishment of site camp and prospecting activities as well as presence of machinery	Unsightly views due to exposed soils and presence of machinery onsite	Visual Impact (exposed soils, presence of machinery)	Invasive prospecting Phase	Remedy	Reinstate the pre-prospecting land use and integrity of target areas to natural/conservation
Prospecting activities within protected area	Impact on biodiversity	Land use impact	Invasive prospecting Phase	Remedy	Minimise the impact on the nature reserve and its biodiversity
Use of fuel and hydrocarbons during prospecting activities	Groundwater contamination from fuel and hydrocarbons	Groundwater	Invasive prospecting Phase	Control and Remedy	Prevent, avoid, minimise impact on groundwater
Waste disposal, use of fuels, chemicals and hydrocarbons during prospecting activities	Impact on surface water quality by poor storage of chemicals, fuel spills, inappropriate waste	Surface Water	Invasive prospecting Phase	Remedy	Minimise the impact on surface water

9. Impact Management Actions

Table 23:Management Actions

ACTIVITY Whether listed or not listed.	POTENTIAL IMPACT	MITIGATION TYPE	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
Desktop study	None	No mitigation proposed	N/A	Comply with the approved PWP and EMP
Geological mapping	None	No mitigation proposed	N/A	Comply with the approved PWP and EMP
Drilling	Soil contamination through fuel spills	• Large volumes of potential contaminants will not be kept on site; with storage of daily requirements in suitable containers (specially designed diesel storage trailer) with the drill rig. • Control through proper vehicle maintenance and ensure the use of drip trays to prevent spills to the soil.	During the prospecting activities	Comply with the approved PWP and EMP
Topsoil stockpile	Impact on the soil viability during digging of the water sump includes potential fires).	• Topsoil and subsoil will be stored separately. • Keep water sumps as small as possible to reduce disturbance	During the prospecting activities	Comply with the approved PWP & EMP
Core logging and sampling Rehabilitation		• On-going steps / procedures to prevent veld fires will be implemented. • The drilling area will be cordoned off to prevent any disturbance or refuse from spreading on and from the site.	Concurrently with the completion of the prospecting activities	Comply with the approved PWP and EMP

10.Financial Provision

Determination of the amount of Financial Provision.

a. Describe the closure objectives and the extent to which they have been aligned to the baseline environment described under the Regulation.

The rehabilitation plan has been developed to ensure that the ecological functions of the rehabilitated areas are restored. The closure objectives are:

- Removing all infrastructures, including the drill rig, the temporary office, the mobile diesel tank, the mobile water tank and the chemical toilet.
- The whole drill site will be inspected for any signs of hydrocarbon pollution. Any identified soil which has been polluted as a result of the drilling activities will be removed and disposed of in a registered landfill site.
- Ensure that no material (plastics, papers, pipes, etc) is left behind on the drill site.
- Any area compacted as a result of the drill rig will be ripped and any furrows created by accessing or leaving the site for the drilling activity will be filled in to ensure that no future erosion shall occur on site.
- Borehole capping -Drill holes will be capped as soon as practicable to avoid cross contamination from saline aquifers and risk to animal from being trapped. A concrete plug of at least 30cm long will be set at the top of the competent rock layer.
- Sump refilling -Refilling the sump required for the drilling activities. Initially the plastic lining will be removed and disposed of in a registered landfill site and the soil returned to in order to rehabilitate the area.
- Re- vegetation- It is recommended that a standard commercial fertilizer high in the standard elements is added to the soil before re vegetation, at a rate of 10 -20k g/ha. The fertilizer should be added to the soil in a slow-release granular form. A suitably qualified ecologist will be appointed to determine the appropriate veld grass mix for hand seeding. 101 Emergence score will form part of the monitoring about 21 days after seeding, to be able to do timeous corrections to poor vegetation establishment. A basal cover of 60% will be aimed for. Once 60% basal cover has been achieved the site can be considered to have reached acceptable cover. Applicable landowner will be requested to inspect the rehabilitated area.

b. Confirm specifically that the environmental objectives in relation to closure have been consulted with landowner and interested and affected parties.

Environmental objectives in relation to closure have been consulted with the landowner and interested and affected parties. The copy of this EMP was given to the landowners and affected parties for them to suggest or comment on this document which include environmental objectives in relation to closure of the site.

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

Due to the nature of the proposed activities, each phase of prospecting is dependent on the success of the previous. Thus, depending on the outcome of phase one which entails desktop studies, the location and extent of the proposed borehole will then be determined. The location and the extent of the activities cannot be determined at this stage.

d. Explain why it can be confirmed that the rehabilitation plan is compatible with the closure objectives.

The objective of both during prospecting and on closure is to allow the existing land use activities to function normally. Decommissioning and rehabilitation include:

- Removal of the drilling rig, fencing and equipment, and cleaning up the site.
- Backfilling, compacting and topdressing the water sumps.
- Filling the cored borehole with concrete to approximately 300 mm from surface and top-dress to provide a level surface.
- Restore disturbed areas and re- vegetate these areas with grass naturally occurring in the area.

Rehabilitation would therefore allow the current land use practices to continue.

e. Confirm specifically that the environmental objectives in relation to closure have been consulted with landowner and interested and affected parties.

This EMPr highlights the rehabilitation and management objectives with regards to mitigating negative environmental impacts associated with the proposed prospecting

operation. These environmental objectives related to the closure of the prospecting operation contained in this EMPr and DBAR have been subjected to a 30-day review period by Interested and Affected Parties (currently).

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

The aim of such rehabilitation is to:

Ensure safety to humans and animals

Ensure that final rehabilitation of the site blends into surrounding natural vegetation and topography as much as possible.

A more detailed closure/rehabilitation plan will be developed during the life of mine, prior to the cessation of mining activities; adapted to the developed information and environmental impact status of the project in order to achieve a site-specific closure plan. The final profile achieved should be acceptable in terms of the surface water drainage requirements and the end land use objectives. The topography that is achieved during rehabilitation should be monitored and compared to the planned topography. The final profile achieved should be acceptable in terms of the surface water drainage requirements and the end land use objectives. In terms of the areal extent of the rehabilitation, Appendix B shows the site layout and aerial extent of the proposed prospecting activities, depicting the anticipated mining permit area at the time of closure. The entire 1 371.429623ha portion of the proposed area will be rehabilitated post closure.

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

This amount was calculated according to the guideline for the Calculation of the Quantum for rehabilitation as provided by DMR. The cost incorporates, removal of the drilling rig, fencing and equipment; backfilling, compacting and topdressing the water sumps and cleaning up the site is part of the drilling contractor's responsibility - the costs of which are incorporated into the drilling costs for de- establishment. Malumbazo Projects has allocated R56342 overall Rehabilitation; however, this figure will be more closely assessed when the prospecting site is ready to be rehabilitated.

Refer to the table below for the Calculated Quantum Rehabilitation Financial Provision.

Notes with regards to the calculation of the quantum below:

Due to the fact that this proposed project will be using mobile and temporary structures, the cost of rehabilitating structures does not apply. This ensures that the rehabilitation costs will be kept relatively low compared to other mining endeavours.

Rehabilitation Cost
Describe how the rehabilitation cost will be determined and provide a preliminary estimate thereof

CALCULATION OF THE QUANTUM

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	13,77	1	1	0
2 (A)	Demolition of steel buildings and structures	m2	0	181,45	1	1	0
2(B)	Demolition of reinforced concrete buildings and structures	m2	0	267,39	1	1	0
3	**Rehabilitation of access roads**	**m2**	**100**	**32,46**	**1**	**1**	**3246**
4 (A)	Demolition and rehabilitation of electrified railway lines	m	0	315,14	1	1	0
4 (A)	Demolition and rehabilitation of non-electrified railway lines	m	0	172	1	1	0
5	Demolition of housing and/or administration facilities	m2	0	363	1	1	0
6	Opencast rehabilitation including final voids and ramps	ha		184 693	1	1	0
7	Sealing of shafts adits and inclines	m3	0	97,5	1	1	0
8 (A)	Rehabilitation of overburden and spoils	ha	0	126 822	1	1	0
8 (B)	Rehabilitation of processing waste deposits and evaporation ponds (non-polluting potential)	ha	0	157 954	1	1	0
8 (C)	Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)	ha	0	458 771	1	1	0
9	Rehabilitation of subsided areas	ha	0	106 194	1	1	0
10	**General surface rehabilitation**	**ha**	**0,331**	**100 464**	**1**	**1**	**33253,584**
11	River diversions	ha	0	100 464	1	1	0
12	Fencing	m	0	115	1	1	0
13	Water management	ha	0	381 99	1	1	0
14	2 to 3 years of maintenance and aftercare	ha	0,3	133 70	1	1	4011
15 (A)	Specialist study	Sum	0	100 000	1	1	0
15 (B)	Specialist study	Sum	0	100 000	1	1	0
					Sub Total 1		40510,584
1	Preliminary and General		4861,27008		weighting factor 2 1		4861,27008
2	Contingencies			4051,0584			4051,0584
					Subtotal 2		49422,91
					VAT (14%)		6919,21
					Grand Total		**56342**

Figure 9: Calculation of Quantum

h. Confirm that the financial provision will be provided as determined.

Herewith I, Mrs Nandi Malumbazo, who's the shareholder of Malumbazo Holdings confirm that the company will provide the amount that will be determined by the Regional Manager in accordance with the prescribed guidelines.

1.3 11. Mechanisms for monitoring compliance with and performance assessment against the environmental management programme and reporting thereon.

Table 24: Compliance monitoring mechanisms

SOURCE ACTIVITY	IMPACTS REQUIRING MONITORING PROGRAMMES	FUNCTIONAL REQUIREMENTS FOR MONITORING	ROLES AND RESPONSIBILITIES (FOR THE EXECUTION OF THE MONITORING PROGRAMMES)	MONITORING AND REPORTING FREQUENCY and TIME PERIODS FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS
Phase 1: Desktop study, geological mapping and planning of the drilling programme	The activities during phase one will not impact on the environment.	None	N/A	N/A
Phase 2: Drilling, logging and sampling, analysis and rehabilitation	**Soil** • Fuel spills from the drilling rig and vehicles may impact on the natural environment through soil contamination. • Digging of temporary water sumps for drilling operations may impact soil viability. **Water** • Drilling of boreholes may temporarily impact on water quantity and quality, through the use of water for operations. • Silting of surface water resource from erosion of exposed surfaces. **Air quality** • Diesel machinery may contribute to air pollution in the area, through dust and diesel fumes.	• Inspection of all vehicles on site for any leaks. • All fuel spills incidents will be identified and a proper response according to the approved response procedure will be applied. • Proper storage of fuel. All soil stockpiles should be monitored for erosion. Ensure that no borehole will be planned and drilled less than 100m from any open water system. • Maintain vehicles to reduce emissions. • Sprinkle water to reduce dust. •The level of noise will be monitored. Inspection of clearing activities and	Project Manager and operators Project Manager Project Manager	Daily Weekly after rain events

	Noise Drilling activity may impact on the noise levels and the environment. **Biodiversity** • Clearing the drilling site may impact on the natural vegetation of the area. However, prospecting is localised, with a very small sphere of influence. **Land use and security** • Drilling as an activity may impact on the natural and socio-economic environments through temporary land use changes, waste generation, and security of the landowner / occupier and their assets (this includes potential fires).	impact on the biodiversity will be conducted. • Approval of the landowner will be sought prior to accessing the land – this included continual updating and liaising with the landowner in terms of the processes being followed and the status of the prospecting work programme. • Drill rig and crew camp operational health and safety procedures include: - Mandatory fire extinguishers at the drill rig. - No open flames / fires will be allowed. - On-going steps / procedures to prevent veld fires will be implemented. • The drilling area will be cordoned off to prevent any disturbance or refuse from spreading on and from the site. • All domestic waste material generated on site shall be collected in drums, removed and disposed of regularly at a registered local waste disposal site or municipal receptacle.	Project Manager and operators Project Manager Project Manager Project Manager Project Manager	Daily Daily Daily Daily Daily
Phase 3: Rehabilitation	Rehabilitation	Inspection of all rehabilitated areas.	Project Manager and environmentalist	During the rehabilitation and monthly after rehabilitation has been conducted

1.4 12. Indicate the frequency of the submission of the performance assessment/ environmental audit report.

The Environmental Control Officer will undertake audits in compliance with the provided EMP contents and guidelines and will compile audit reports, which will ultimately be submitted to the DMR annually.

Environmental Awareness Plan

1.4.1 Manner in which the applicant intends to inform his or her employees of any environmental risk which may result from their work.

An environmental awareness plan will be developed in order to ensure that employees are trained about the environmental risks which may result from their work. The following procedures will be done to inform the employees:

1.4.2 Induction

All the employees on site will be given an induction. To ensure that proper understanding of the environmental issues is obtained, the induction will be conducted according to the skill and education level of the employees. The induction session will entail the following:

- Clarify the content of the EMP.
- Environmental impacts associated with the prospecting activities and their mitigation measures.
- Response to any environmental problem.
- Actions for the implementation of the EMP.
- Incident reporting procedure.

1.4.3 Daily pre-shift environmental safety meetings

A 20 minutes pre-shift talk will be done on site in order to ensure that the principles are continuously re-enforced.

1.4.4 Posters

Environmental awareness will be generated through the provision of posters on site, describing very briefly the environmental considerations applicable to them. The posters should contain the following information:

- Statement of the applicant's commitment to environmental principles.
- List of the "rules" to which people on site must abide by. This will include:
  - No littering. Dispose of all waste in the bins provided.
  - No fires.
  - Stay on demarcated roadways and paths only.
  - Kindly report any environmental infringements that may be noticed.

- Check your vehicle/equipment for diesel/oil leaks.

1.4.5 Manner in which risks will be dealt with in order to avoid pollution or the degradation of the environment.

All employees will be provided with environmental awareness training to inform them of any environmental risks which may result from their work and the manner in which the risks must be dealt with in order to avoid pollution or the degradation of the environment. This will be in conjunction with the implementation of the EMPr.

Environmental Awareness Training Content – _Induction Training

The following environmental awareness training will be provided to all staff and workers who will be involved in prospecting activities.

- Description of the approved prospecting activities and content of the prospecting right
- Overview of the applicable legislation and regulations as it relates to environmental, health, safety and community including (but not limited to):
- General Environmental Legal Principles and Requirements
  - Air Quality Management
  - Water and Wastewater Management
  - Hazardous Substances
  - Non-Mining-Related Waste Management
  - The Appropriate Remediation Strategies & Deteriorated Water Resources
  - Biodiversity
  - Weeds and Invader Plants
  - Rehabilitation
  - Contractors and Tenants
  - Energy & Conservation
  - Heritage Resources
  - General Health and Safety Matters
  - Basic Conditions of Employment
  - Compensation for Occupational Injuries and Diseases
  - General Mine Health and Safety Matters
  - Smoking in the Workplace

  - Noise & Hearing Conservation

- Handling, Storage and use of Hazardous Substances
- Weapons and Firearms

- Content and implementation of the approved Environmental Management Plan
  - Allocated responsibilities and functions
  - Management and mitigation measures
  - Identification of risks and requirements adaptation
- Sensitive environments and features
  - Description of environmentally sensitive areas and features
  - Prohibitions as it relates to activities in or in proximity to such areas
- Emergency situations and remediation
  - Methodology for the identify areas where accidents and emergency situations may occur, communities and individuals that may be impacted
  - An overview of the response procedures,
  - Equipment and resources
  - Designate of responsibilities
  - Communication, including communication with potentially Affected Communities
  - Training schedule to ensure effective response.

Development of procedures and checklists

The following procedures will be developed, and all staff and workers will be adequately trained on the content and implementation thereof.

Emergency preparedness and response

The procedure will be developed to specifically include risk identification, preparedness, response measures and reporting. The procedure will specifically include spill and fire risk, preparedness and response measures. The appropriate emergency control centres (fire department, hospitals) will be identified and the contact numbers obtained and made available on site. The procedure must be developed in consultation with all potentially affected landowners. In the event that risks are identified which may affected adjacent landowners (or other persons), the procedure will include the appropriate communication strategy to inform such persons and provide response measures to minimise the impact.

Incident reporting procedure

Incident reporting will be undertaken in accordance with an established incident reporting procedure to (including but not limited to):

- Provide details of the responsible person including any person who: (i) is responsible for the incident; (ii) owns any hazardous substance involved in the incident; or (iii) was in control when the incident occurred
- Provide details of the incident (time, date, location)
- The details of the cause of the incident
- Identify the aspects of the environment impacted
- The details corrective action taken
- The identification of any potential residual or secondary risks that must be monitored and corrected or managed

The most common environmental risk from the drilling of boreholes is spills of oil, grease, diesel, acid or hydraulic fluid. This risk will be dealt with as follows:

- Large volumes of the above fluids will not be kept on site.
- Storage of the above fluids will be in suitable portable containers with the drill rig, such as specially designed diesel storage trailer and portable fireproof cage for drill fluids.
- A groundsheet is placed in the water circulation sump to prevent any discharge of drill fluids into the soil.
- A metal drip tray is placed below the drill to catch any oil spills from the rig.
- All drilling fluids must be biodegradable.
- All drill outings, sludge and oil spills are removed from site and disposed at an approved facility upon completion of the borehole.
- In plantation / forestry areas, risks associated with fires need to be dealt with as follows:
- Drilling sites will be kept in a clean state, with appropriate waste management measures in place.
- Flammable fluids, e.g., drill fluids, will be stored in appropriate portable containers with fireproof cage.
- No open flames / fires will be allowed.
- Drill rig and crew camp operational health and safety procedures will be in place, with implementation of on-going steps / procedures to prevent fires.
- Mandatory fire extinguishers at the drill rig.

1.5 13. Specific information required by the Competent Authority

1.6 <u>(Among others, confirm that the financial provision will be reviewed annually).</u>

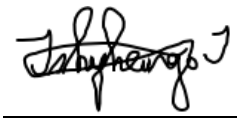
N/A

Please note that a request for comments on the Draft Basic Assessment Report will be sent to the Competent Authority prior to the close of the comment period to receive comments.

13. UNDERTAKING

The EAP herewith confirms

- the correctness of the information provided in the reports X
- the inclusion of comments and inputs from stakeholders and I&APs; X
- the inclusion of inputs and recommendations from the specialist reports where relevant; X and
- 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. X



Signature of the environmental assessment practitioner:

Beyond Green Environmental Services Pty ltd

Name of company:

03/11/2021

Date:

1.7 REFERENCES

- Wesizwe Platinum Heritage Impact Assessment: Proposed platinum mining on portions of the farms Ledig 909JQ, Frischgewaagd 96JQ, & Mimosa 81 JQ, NW Province" (PDF). *sahris.sahra.org.za*. Matakoma-ARM Heritage Contracts Unit was contracted by TWP Environmental Services. Retrieved 13 February 2020.

Appendices

TSHIMANGE MAANO

PERSONAL SUMMARY

A motivated, adaptable and reliable person with two (2) years in the conducting of environmental legal compliance audits, Waste Management License applications, Water Use Licenses and Environmental Management Plans), and compilation of IWWMPs and RSIPs on the online eWULAAS system. I possess MSc degree in Environmental Science and have a good knowledge and understanding of NEMA, NWA, EIA, MPDRA and other environmental legislations.

CONTACT DETAILS

: 301 Acacia flat, 725 Francis Baard street, Arcadia, 0083
: +27 67 836 4883/ +27 67 985 7300
: tshimangemaano@gmail.com
Nationality: South African
Driver's license: Code 08 (B)
Race: Black
Gender: Female

EDUCATION

2016 MSc Degree in Environmental Science | University of Southampton

Major Subjects:

Environmental, Management system, EIA, Waste Management and Environmental law.

2014 BTech in Biotechnology | Vaal University of Technology

Major Subjects:

Microbiology, Environmental Biotechnology, Sanitation, Safety and Hygiene.

2009 Matric (Grade 12) | Mbilwi Secondary School

Major Subjects:

Mathematics, Physical Science, Geography, Biology.

EXPERIENCE

July 2021-Present
Environmental Assistant| BGES consulting

- Conduct site inspection for proposed development.
- Assist with EIA and BA.
- Apply for WUL on eWULAAS.
- Undertaking stakeholder management/ engagement and public participation process
- Lodge EA applications.
- Conduct EWUL, EA and EMP audit and writing the audit reports.

Jan 2019-Dec 2020
Environmental Facilitator| Centre for environmental Management (North-West University)

Key Responsibilities:

- Assist with internal compliance audits.
- Develop and teach various environmental management courses.
- Invigilating, moderating and marking exam papers.
- Coordinate Environmental Awareness and training initiatives.

July 2017-June 2018
Environmental Intern| Golder Associates

Key Responsibilities:

- Assist in compiling Basic Assessments, IWWMP's, Environmental Management Programmes,
- Assist in WULAs, WMLAs, GA and BA.
- Assist in carrying out environmental audits and writing reports.
- Partake in Hazard Identification, Risk Assessment.
- Partake in SHE inspections.

Key projects include:

Project description	Client	Role	Completion Date
Basic Assessment Process for the proposed sand mining operation at Umtentweni	Corner Sands (Pty) Ltd	Project assistant	In progress
Basic Assessment Process for the proposed sand mining operation at Osizweni	Hlenta Trading	Project assistant	In progress
Basic Assessment Process for the proposed sand mining operation at Jozini	Phakamile Pty Ltd	Project lead	In progress
Basic Assessment Process for the proposed Coal mining operation at Vryheid	Bhekazi Syndicates Pty Ltd	Project lead	In progress

Vaal University of Technology

National Diploma

BIOTECHNOLOGY

Awarded to

TSHIMANGE MAANO

at a Congregation of the University
16-04-2013

in accordance with the statute and regulations
of the Vaal University of Technology

Vice-Chancellor & Principal

Registrar

Executive Dean

ND 17520

VUT

Vaal University of Technology

Baccalaureus Technologiae

BIOTECHNOLOGY
CUM LAUDE
Awarded to

TSHIMANGE MAANO

at a Congregation of the University

07-04-2014

in accordance with the statute and regulations
of the Vaal University of Technology

Vice-Chancellor & Principal

Registrar

Executive Dean

BT 08629

University of Southampton

This is to certify that on
12 December 2016

MAANO TSHIMANGE

was awarded the degree of

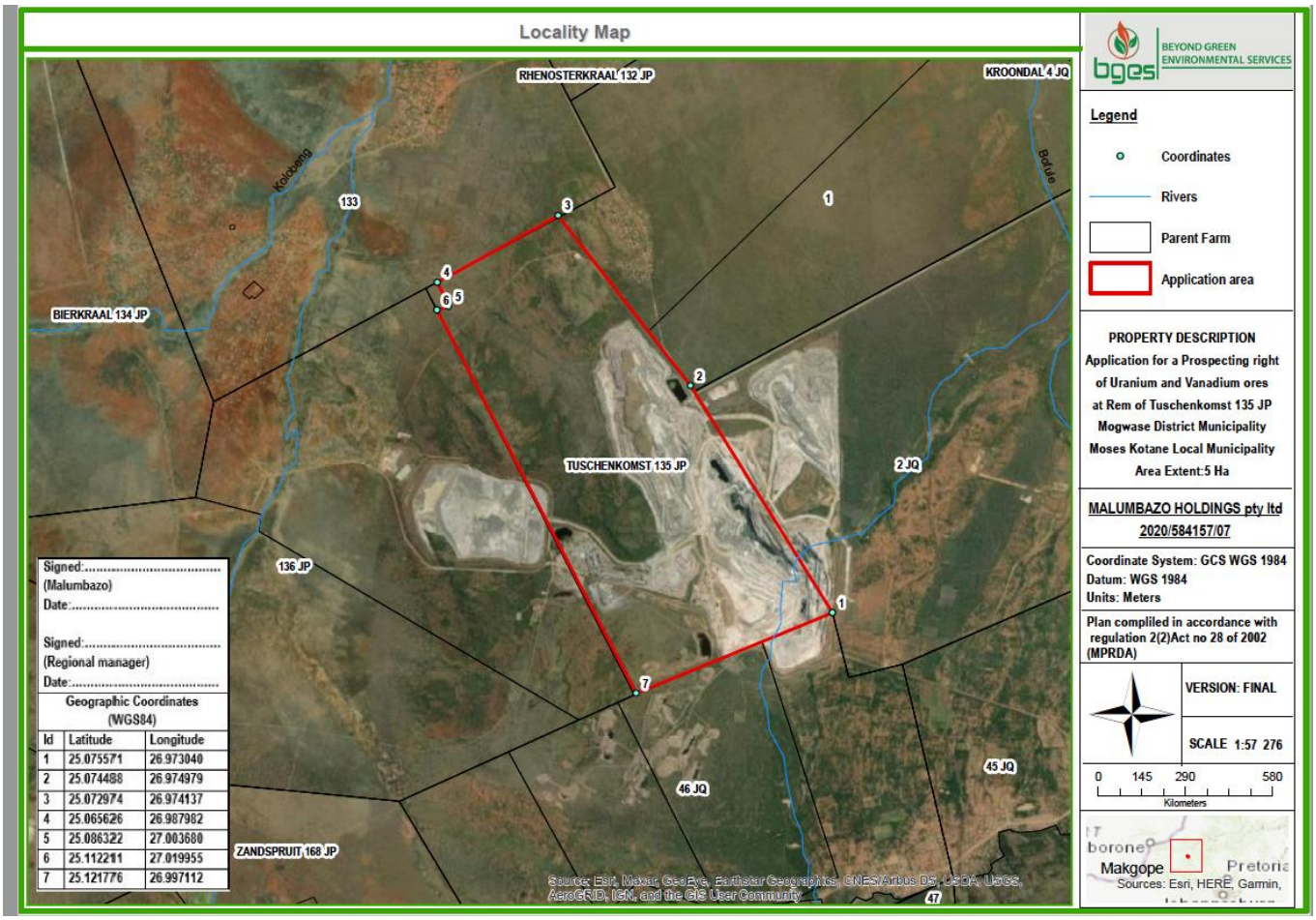
MASTER OF SCIENCE

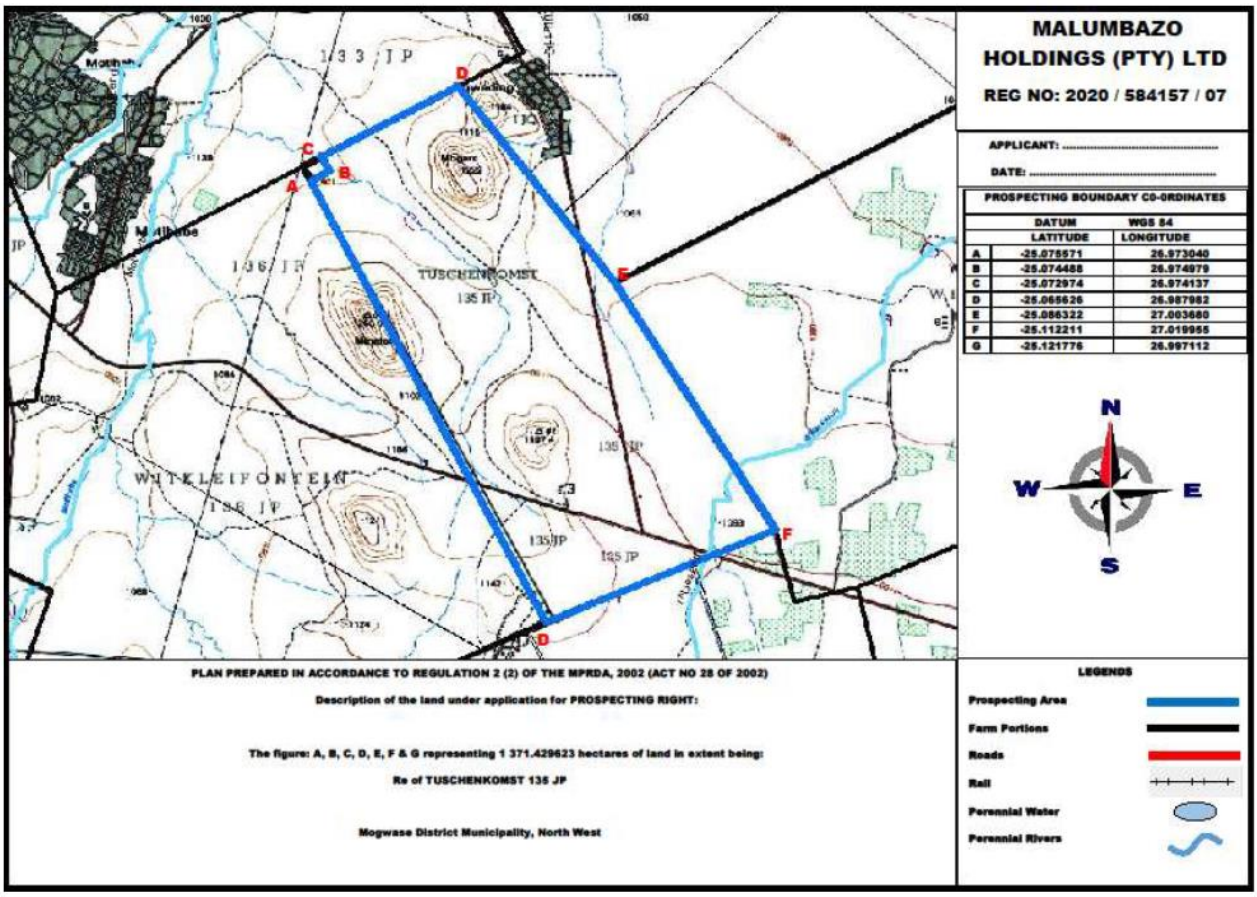
with Merit
in Environmental Monitoring & Assessment

Vice-Chancellor

Director of Legal Services

Appendix B: LOCALITY MAP




MALUMBAZO
HOLDINGS (PTY) LTD
REG NO: 2020 / 584157 / 07
APPLICANT: .....
DATE: .....
PROSPECTING BOUNDARY CO-ORDINATES
DATUM WGS 84
LATITUDE LONGITUDE
A -25.075571 26.973040
B -25.074488 26.974079
C -25.072974 26.974137
D -25.065626 26.987982
E -25.086322 27.003680
F -25.112211 27.019955
G -25.121776 26.997112
N
W
E
S
TUSCHENKOMST
135 JP
WITKLEIFONTEIN
136 JP
PLAN PREPARED IN ACCORDANCE TO REGULATION 2 (2) OF THE MPRDA, 2002 (ACT NO 28 OF 2002)
Description of the land under application for PROSPECTING RIGHT:
The figure: A, B, C, D, E, F & G representing 1 371.429623 hectares of land in extent being:
Re of TUSCHENKOMST 135 JP
Mogwase District Municipality, North West
LEGENDS
Prospecting Area
Farm Portions
Roads
Rail
Perennial Water
Perennial Rivers

Appendix C: Public Participation report

APPLICANT: MALUMBAZO HOLDINGSPTY LTD

REF NO.: NW30/5/1/1/2/13131PR

TO BE COMPLETED AT A LATER STAGE

INCLUDED IN THE REPORT:

1. **Identifying regulatory authorities**
2. **Database for I&AP**
3. **Written notices- bid & draft bar**
4. **Proof of site notice**
5. **Proof of newspaper advertisement**
6. **Landowner consultation**
7. **Minutes of meetings**
8. **Attendance registers**
9. **Comments and responses report**

The PPP for the proposed project has been undertaken in accordance with the requirements of NEMA (ACT 59 OF 1998) and in line with the principles of Integrated Environmental Management (IEM). IEM implies an open and transparent participatory process, whereby stakeholders and other I&AP's are afforded an opportunity to comment on the project. A PPP has been implemented to engage with I&AP's and meet the requirements for Public Participation as stipulated by the relevant legislation. The PPP provides stakeholders with information about the proposed project, and several opportunities to comment throughout the EIA/EMP process. This will ensure public involvement at each key step in the process and allow for comments, concerns, suggestions, and objections to the proposed project to be included in each of the submissions to the relevant Government Authorities.

In terms of the MPRDA and the NEMA, I&AP's must be given the opportunity to comment on the proposed project. The Basic Assessment Report aims to describe the proposed project, the environment in which the project is located, and the potential impacts that may result if the project goes ahead. The Draft Basic Assessment Report will be made available for public/stakeholders' comment from 03/11/2021 t0 03//2021 (a period of 30 days). The comments received from I&AP's will be captured in Issues and Responses Report (IRR) accompanying this Report or the Final BAR.

A Final Basic Assessment Report, including an EMPR, will be compiled and will be presented to the Competent Authority.

1.8 Assessment Phase

During the EIA phase for this particular project, the following steps were initiated, and all relevant documents are attached.

1. Identifying Regulatory Authorities:

The authorities for this project were identified from similar projects in the past. The authorities contacted with regards to this project include:

- the Department of Mineral Resources (DMRE);
- Department: Rural Environment and Agricultural Development
- The Department of Water Affairs and Sanitation (DWS);
- National Dept of Agriculture
- Department: Land Restitution Commissioner
- Dept of Rural Development & Land Reform
- Land Claims Commissioners Office; Office of Regional Land Claim commissioner
- Moses Kotane Local Municipality

- Transnet
- Pilanesberg Platinum Mines
- Bojanala District Municipality
- NW Provincial Government
- Northwest Parks Board
- Department of Social Development

2. Database & register for I&AP'S

Name of Organization/Person	**Name**	**Contact**
DMRE	Phumudzo Nethwadzi	Phumudzo.Nethwadzi@dmre.gov.za
BGES EAP	Tshimange Maano	Maano@beyondges.co.za
Transnet	Junior Selwaudi	Junior.selwaudi@transnet.net
Department: Land Restitution Commissioner	Keabetswe W Mothupi	018 388 7220
BGES EAP	Nonkululeko Mbasane	nonku.mbasane@beyondges.co.za
Department: Rural Environment and Agricultural Development	Mr Marlize	marlize@agrinw.co.za
Department of Social Development	Mr Petrus Siko	psiko@nwpg.gov.za
Department: Water & Sanitation	Ramashal L	RamashalaL@dws.gov.za
Department: Water & Sanitation	Nemutandani	Nemutandani@dws.gov.za
Department: Water & Sanitation	Theunisse C	TheunisseC@dws.gov.za

Department: Water & Sanitation	Ackerman Pieter	AckermanP@dws.gov.za
Department: Environmental Affairs	Mtladi	mtladi@environment.gov.za
Bojanala Platinum District Municipality	Tshepo Lenake	tshepol@bojanala.gov.za gtlenake@gmail.com
Department of Agriculture, Forestry and Fisheries	Thoko Buthelezi	thoko@daff.gov.za
DMRE	Ms I Wesi	Ipeleng.Wesi@dmre.gov.za
Office of Regional Land Claim commissioner	Ms Keabestwe Moremi	mkeabetswe@nwpb.gov.za
Northwest Parks Board	Ms Keabetswe Moremi	mkeabetswe@nwpb.gov.za
South African heritage Resource Agency	Diakanye Esmy **Madumo**	asalomon@sahra.org.za
	Phillip Hine	phine@sahra.org.za
Madikwe Nature reserve	Mr Thomas Manda	tmanda@nwpb.gov.za madikweadmin@nwpb.gov.za
NW Provincial Government	Mosiane	mosianem@nwpg.gov.za
NW Provincial Government	Molefile	molefile@nwpg.gov.za
NW Provincial Government	Setswambung	BSetswambung@nwpg.gov.za
NW Provincial Government	Tlegoete	tlegoete@nwpg.gov.za
NW Eskom	Mbengeni Tshidzumba	TshidzDM@eskom.co.za
Ngaka Modiri Molemo Municipality	Mrs M K Mahlobo	mahlobom@nmmdm.gov.za
Ngaka Modiri Molemo Municipality	Michelle van Rooyen	vanrooyenm@nmmdm.gov.za
Ramotshere Moiloa Local	Mr Ditshaba Makhate	ditshaba.makhate@ramotshere.gov.za

Ramotshere Moiloa Local	Kgaugelo Mokhonoana	sec.admin@ramotshere.gov.za

3. Written notices for bid, draft bar & specialist reports

From: Maano Tshimange <Maano@beyondges.co.za>
Sent: Thursday, 23 September 2021 18:06
To: ignatiusk@bojanala.gov.za; tebogoma@bojanala.gov.za; tsholofelod@bojanala.gov.za; mapulamsomi@bojanala.gov.za; municipalmanager@moseskotane.gov.za; SLetsholo@moseskotane.gov.za; municipalmanager@moseskotane.gov.za; info@ppmsa.co.za; PLentsoane@sedibeplatinum.com; mosianem@nwpg.gov.za; drangaka@nwpb.org.za; nhiggitt@sahra.org.za; mmohlalisi@nwpg.gov.za; tboshoff@nwpg.gov.za; rsello@nwpg.gov.za; emahlangu@nwpg.gov.za; qimasiku@nwpg.gov.za; pmokaila@nwpg.gov.za; pmatlapeng@nwpg.gov.za; tshegolekgari@nwpg.gov.za; smabula@nwpg.gov.za; bdiole@nwpg.gov.za; tboshoff@nwpg.gov.za; lengane.bogatsu@drdlr.gov.za; Agnes.Montwedi@drdlr.gov.za; keabetswe.mothupi@drdlr.gov.za; tonakgolo.setlhabi@drdlr.gov.za; pdmanzini@nwpg.gov.za; Vanwykj@nwpg.gov.za; bmofokeng@nwpg.gov.za; lobakengc@dws.gov.za; ramafokom@dws.gov.za; ferries@dws.gov.za; matshekas@dws.gov.za; RalekoaW@dws.gov.za; malulekej@dws.gov.za; mosianem@nwpg.gov.za; SMbense@environment.gov.za; sdlomo@environment.gov.za; nnkosi@environment.gov.za; SLekota@environment.gov.za; EMaradwa@environment.gov.za; StanleyT@environment.gov.za; tzungu@environment.gov.za; Phumudzo.Nethwadzi@dmr.gov.za; Ipeleng.Wesi@dmre.gov.za; desmond.makamu@dmr.gov.za; Chris.tshisevhe@dmr.gov.za; asalomon@sahra.org.za; Lorraine.Nobela@dmr.gov.za
Cc: Nonkululeko Mbasane <nonkululeko@beyondges.co.za>; Tshisevhe Tshifhango <info@beyondges.co.za>
Subject: Notification of the release of BID for Basic Assessment Report/EMPR for the Mining Permit for the proposed Vanadium and Uranium Ore mining project at portion of Rem of Tuschenkomst no135 JP

Good day,

You are hereby notified about the release of the Background Information Document (BID) regarding the Basic Assessment Report/EMP for : **Malumbazo Holdings (Pty) Ltd** proposed Vanadium and Uranium mining project situated at portion of Rem of Tuschenkomst no 135 JP, situated in the magisterial District of Rustenburg, North-West Province.

Please find attached the BID, which released for review, and the registration/Comment sheet. Please do notify any person you may know of who may be affected by this project.

Should you wish to be registered and be notified going further during the application process, kindly complete the registration form attached and return to us or contact Maano Tshimange as per the contact details from the attached BID.

Kind Regards,

Maano
Tel: (012) 003 6593/067 985 7300

Reply Reply All Forward IM

TT

Wed 2021/11/03 15:18

Tshisevhe Tshifhango

Notification of the release of Basic Assessment Report FOR THE PROPOSED PROSPECTING RIGHT for Vanadium and Uranium Ore, NW

To: Maano Tshimange; ignatiusk@bojanala.gov.za; tebogoma@bojanala.gov.za; tsholofelod@bojanala.gov.za; mapulamsomi@bojanala.gov.za; municipalmanager@moseskotane.gov.za; SLetsholo@moseskotane.gov.za; municipalmanager@moseskotane.gov.za; info@ppmsa.co.za; PLentsoane@sedibeplatinum.com; mosianem@nwpg.gov.za; drangaka@nwpb.org.za; nhiggitt@sahra.org.za; mmohlalisi@nwpg.gov.za; tboshoff@nwpg.gov.za; rsello@nwpg.gov.za; emahlangu@nwpg.gov.za; qimasiku@nwpg.gov.za; pmokaila@nwpg.gov.za; pmatlapeng@nwpg.gov.za; tshegolekgari@nwpg.gov.za; smabula@nwpg.gov.za; bdiole@nwpg.gov.za; tboshoff@nwpg.gov.za; lengane.bogatsu@drdlr.gov.za; Agnes.Montwedi@drdlr.gov.za; keabetswe.mothupi@drdlr.gov.za; tonakgolo.setlhabi@drdlr.gov.za; pdmanzini@nwpg.gov.za; Vanwykj@nwpg.gov.za; bmofokeng@nwpg.gov.za; lobakengc@dws.gov.za;

Cc: Nonkululeko Mbasane; Zama Mbhele

Good day All

You are hereby notified about the release of a Basic Assessment Report (BAR) for a proposed Vanadium and Uranium Ore Prospecting project application on the following property: at portion of Rem of Tuschenkomst no 135 JP, situated in the magisterial District of Rustenburg, North-West Province.

Please follow the Link Below for the Draft BAR detailing our client's objective(s) as well as the processes to be undertake to meet them. Should you have any questions or comments you're welcome to forward them to us within 30days from the release of this report.

Draft Basic Assessment Report_Mining Permit

Kind Regards,
0659108128

BEYOND GREEN ENVIRONMENTAL SERVICES
bges
Reg.no. (2015/238102/07)
VAT. no.4580290619

Tshisevhe Tshifhango
Geologist/Environmentalist
+27 721728374 / +27 12 003 6593
www.beyondges.co.za
info@beyondges.co.za
C/r of Olievenhoutbosch & Jean Avenue
Centurion, 0157
11 Walnut Road, Durba, 4001

4. Fixing of Notices

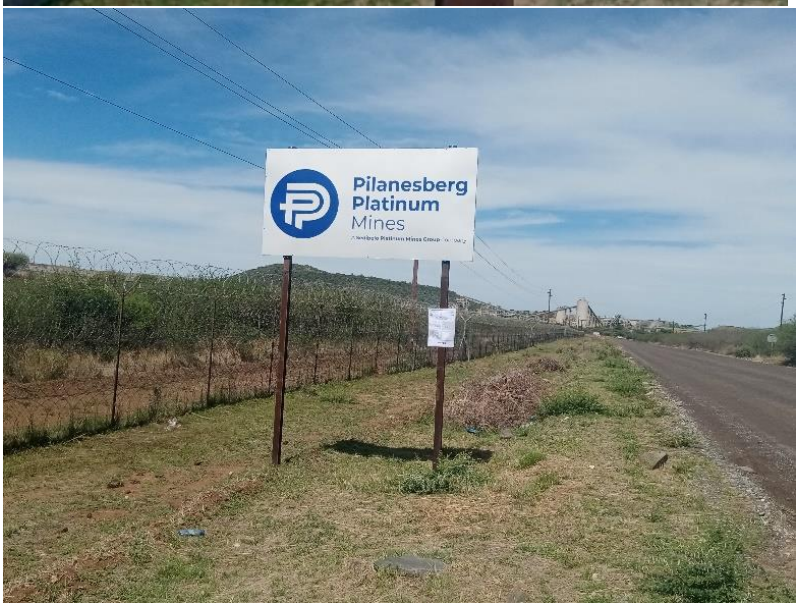
Fixing of site notices

Site notices written in English were erected and displayed on the nearest areas to the site (Pilanesburg platinum mine access gate) of the proposed site. These site notice informed the public of the proposed activities, invited (I&AP's) to comment or object on the project.

First site notice ; Site 1 coordinates: 25°06'23"S 27°00'31"E

Second site notice were fixed on the access road to Pilanesberg platinum mines

Site 2 coordinates 25°06'26"S 26°58'5"E



5. Proof of newspaper advertisement

Advert was published on the local newspaper (Northwest insider) on the 15th to 30 September 2021 edition informing the public of the application and registration as I&AP's.

NORTH WEST INSIDER

Advertise 0732962969

We tell it like it is!!! 15th - 30th September 2021 Edition FREE COPY

ASSOCIATION OF INDEPENDENT PUBLISHERS

Tsogo Sun Hotels Casinos and Resorts Chief Executive Officer Nigel Atherton addressing the media at the Mmabatho Palms: *Picture by Ofentse Letlape/North West Insider*

FREE COPY

Are you vaccinated don't worry wait no more ... Page 6

NW health committee happy with quick response to Christiana hospital fire... Page 4

Mmabatho Palms Fire under Investigation ...Page 3

NWU Eagles and UFS share the spoils in a goalless draw... Page 8

NOTICE
APPLICATION FOR MINING PERMIT

Notice is hereby given in terms of NEMA EIA 2014 Regulations for an application for a Mining Permit.

Nature of Activity

Malumbazo Holdings (Pty) Ltd Mining Permit application has been accepted on the following property: Certain portion of the remaining extent of the farm Tuschenkomst 135 JP, covering land of approximately 5 Hectors, situated in the Magisterial District of Moses Kotane, North-West, in terms of section 27 of the MPRDA.

As part of the application process, any person who is interested or affected by the proposed operation, are hereby invited to register as I&AP's and comment in writing and submit their comments within (30 days for prospecting right) from the date of this notice.

AVAILABILITY OF THE DRAFT BAR/EMP FOR PUBLIC REVIEW AND COMMENT

The DRAFT BAR/EMP is available for public review and comment for a period of 30 days from the 16th September 2021. I&AP are encouraged to request an electronic copy of the reports from BGES Pty Ltd or visit our website as per details below.
For more details on prospecting application contact: Ms. Maano Tshimange, BGES Pty Ltd, Cell: 067 985 7300.
maano@beyondges.co.za www.beyondges.co.za

NOTICE
APPLICATION FOR PROSPECTING RIGHT

Notice is hereby given in terms of NEMA EIA 2014 Regulations for an application for a Prospecting Right.

Nature of Activity

Malumbazo Holdings (Pty) Ltd Mining Prospecting Right application has been accepted on the following property: Certain portion of the remaining extent of the farm Tuschenkomst 135 JP, situated in the Magisterial District of Moses Kotane, North-West, in extent of 1 371.429623 Hectors, in terms of section 16 of the MPRDA.

As part of the application process, any person who is interested or affected by the proposed operation, are hereby invited to register as I&AP's and comment in writing and submit their comments within (30 days for prospecting right) from the date of this notice.

AVAILABILITY OF THE DRAFT BAR/EMP FOR PUBLIC REVIEW AND COMMENT

The DRAFT BAR/EMP is available for public review and comment for a period of 30 days from the 16th of September 2021. I&AP are encouraged to request an electronic copy of the reports from BGES Pty Ltd or visit our website as per details below.
For more details on prospecting application contact: Ms. Maano Tshimange, BGES Pty Ltd, Cell: 067 985 7300.
maano@beyondges.co.za www.beyondges.co.za

6. Landowner's consultation

BEYOND GREEN ENVIRONMENTAL SERVICES
+27 31 003 2900 / +27 12 003 6593
www.beyondges.co.za
info@beyondges.co.za

DMR REF: NW30/5/1/1/2/13131MP

Attention to: **BAKGATLA BA KGAFELA TRIBAL AUTHORITIES**

KGOSI PILANE

Dear Sir **KGOSI PILANE**

LANDOWNER NOTIFICATION – PROPOSED APPLICATION FOR MALUMBAZO (Pty) Ltd MINING PERMIT OF URANIUM AND VANADIUM ORE MINERALS IN CERTAIN PORTION OF THE REMAINING EXTENT OF THE FARM TUSCHENKOMST 135 JP, SITUATED IN THE MAGISTERIAL DISTRICT OF MOSES KOTANE, NORTH-WEST

Would like to bring to your kind notice that Malumbazo Mining Pty Ltd intends to undertake mining activities for uranium and Vanadium ore minerals in the remaining extent of the farm Tuschenkomst 135 JP covering an extent of 1.51HA. The proposed project is situated in the magisterial district of Moses Kotane, North-West (see figure 1 below), The MP application was lodged in terms of section 27 of the MPRDA, the Minerals and Petroleum Resources Development Act with the North-west Department of Mineral Resources.

Beyond Green Environmental Services (Pty) Ltd has been appointed as an independent Environmental Assessment Practitioner (EAP) to conduct the Basic Assessment process and the associated Landowner & Public Participation Process (PPP) for the proposed prospecting project.

PROJECT DESCRIPTION

Malumbazo will mine the vanadium and uranium through open pit mining the proposed activity will consist of drilling, crushing, grinding and transportation to the area of interest. This will include setting up the camp, temporal offices on site and creating access roads

LEGISLATIVE FRAMEWORK

In terms of the EIA regulations promulgated in December 2014, the applicant for an authorization must give written notice of the proposed activity to the owner or person in control of the land on which the activity is to be undertaken. The owner of the land must be informed that he/she may participate in the Public Participation Process (PPP) as contemplated in the EIA regulations. The required PPP for the project has commenced and you are automatically added to the list of Interested and Affected Parties (I&APs). During the PPP you are, and will continue to be informed, of how the process is progressing and will be invited to provide input and comment on documents such as the Basic Assessment Report/EMP.

We request, on behalf of Malumbazo that you acknowledge this letter as proof that you have been notified of the proposed process and return it to Beyond Green Environmental Services (Pty) Ltd= either via fax: (086) 6756316 or email to Mercia@beyondges.co.za by 6 December 2021.

You are welcome to contact the undersigned, at the details listed above, for further information.

Sincerely,

Mundalamo Merciah

Environmentalist for

Bges Pty Ltd

Appendix: A: layout Map

COMMISSION ON RESTITUTION OF LAND RIGHTS

OFFICE OF THE REGIONAL LAND CLAIMS COMMISSIONER: NORTH WEST
Cnr James Moroka and Sekame drive, West gallery, Megacity, MMABATHO
Tel: (018) 388 7000

Reference: R/7/049/09/2021
Enquiries: Keabetswe Mothupi
Tel: (018) 388-7220 / E-mail: KMothupi@dalrrd.gov.za

By E-Mail: Maano@beyondges.co.za

Dear M Tshimange

LAND CLAIM ENQUIRY: R/E OF FARM TUSCHENKOMST 135 JP

I acknowledge receipt of your letter dated the 23rd of September 2021 regarding the above-mentioned matter.

Kindly note that a formal response could be expected from our office within the next 10 (Ten) working days.

Should you however require any additional information, you can contact **Ms K Mothupi** at the above-mentioned contact details.

Yours faithfully

MR L.J BOGATSU
CHIEF DIRECTOR
OFFICE OF THE REGIONAL LAND CLAIMS COMMISSIONER
NORTH WEST PROVINCE
DATE: 28/09/2021

7. Minutes of meetings held

8. Attendance register

9. Written comments

10. Comments and responses report

1.8.1.1 Summary of issues raised by I&AP's

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

Interested and Affected Parties	**Date Comments Received**	**Issues raised**	**Response given by BGES (EAP) unless otherwise stated**
AFFECTED PARTIES			
Landowner/s			
Lawful occupier/s of the land			
Landowners or lawful occupiers on adjacent properties			
Municipal councillor			
(Moses Kotane Local Municipality)			
Communities			
Traditional Authorities			
Dept. of Economic Development & Tourism			
Dept. of Environmental Affairs			
North West Parks Board			
(DAFF)			
Dept. of Water Affairs (DWS)			
Land Claims Commissioners Office			
Dept. of Mineral Resources (DMR)			
OTHER AFFECTED PARTIES			
INTERESTED PARTIES			

THE END

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