



mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

DRAFT 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).

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File reference number SAMRAD: KZN 30/5/1/3/2/10745MP

List of Abbreviations

BID	Background Information Document
CRR	Comments and Response Report
DBAR	Draft Basic Assessment Report
DEA	Department of Environmental Affairs
DMR	Department of Mineral and Resources
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EIA Regulations	Environmental Impact Assessment Regulations, 2014 (as amended 2017)
EMPR	Environmental Management Programme
FBAR	Final Basic Assessment Report
GNR	Government Notice
I&AP's	Interested and Affected Parties
MHSA	Mine Health and Safety Act, 1996 (Act No. 29 of 1996)
MP	Mining Permit
MPRDA	Minerals and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002)
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NEM:AQA	National Environmental Management: Air Quality Control Act, 2004 (Act No. 39 of 2004)
NEM:BA	National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)
NEM:WA	National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)
NHRA	National Heritage Resources Act, 1999 (Act No 25 of 1999)
NWA	National Water Act, 1998 (Act No. 36 of 1998)
SAHRA	South African Heritage Resources Agency
WMA	Water Management Area
WULA	Water Use Licence Application
ZDM	Zululand District Municipality

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IMPORTANT NOTICE

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

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

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

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

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

interpreted information and that it unambiguously represents the interpretation of the applicant.

1. 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.

PART A

SCOPE OF ASSESSMENT AND BASIC ASSESSMENT REPORT

1. ENVIRONMENTAL ASSESSMENT PRACTITIONER INFORMATION

DETAILS OF THE EAP WHO PREPARED THE REPORT

The details and role of the Environmental Assessment Practitioner (EAP) that were involved in the preparation of this Basic Assessment Report (BAR) are provided in Table 1 below.

Neither Makarina Consultancy (Pty) Ltd nor any of the specialists involved in the environmental assessment process have any interest in the proposed project other than fair payment for consulting services rendered as part of the environmental assessment process.

Table 1: Details of the EAP

Name	Hulisani Helen Mushiane
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Fax	0864 108 102
Email	hulisanihelen@makarina.co.za

EXPERTISE OF THE EAP

The expertise of the EAP is provided below. Copies of the relevant CV, proof of registration with the South African Council for Natural Scientific Professions (SACNASP) is included in Appendix A.

Name	Hulisani Helen Mushiane
Responsibility on Project	Project leader
Degree	Bsc Environmental Science, Msc Environmental Management (<i>Current</i>)
Professional Registration	Cand.Sci.Nat
Experience in years	9 years
Experience	Hulisani has been involved in environmental consulting since 2012 and is currently a Lead Environmental Consultant of Makarina Consultancy (Pty) Ltd. She has expertise in a wide range of environmental disciplines, including mining applications, EIAs, EMPs, environmental planning and review, Environmental Control Officer (ECO) services, public consultation and facilitation.

2. DESCRIPTION OF THE PROPERTY

Zinoluju (Pty) Ltd is proposing to mine a quarry which is situated at the Dlamini Tribal Area 448 Hu, is located approximately 25 km east of Paulpietersburg town and 50 km north east of Vryheid in the Zululand magisterial district, Kwazulu Natal Province.

The proposed quarry mining would be approximately 5 ha in extent and the mining process together with rehabilitation will occur concurrently for five (5) years which is the duration of the mining permit. The intended use of the material is for utilization during construction projects.

As the extent of the quarry would be less than five (5) hectares (ha) and the duration of operation less than five (5) years, application is being made for a mining permit in terms of Section 27 of the Mineral and Petroleum Resources Development Act, 2002 (No. 28 of 2002; MPRDA).

Farm Name			
Corner of property point co-ordinates	1	-27.448219	31.065670
	2	-27.447854	31.066985
	3	-27.447077	31.068104
	4	-27.448978	31.067663
	5	-27.451306	31.066692
	6	-27.449364	31.066126
Application area (Ha)	Five (5)		
Magisterial district	Zululand District		
Distance and direction from nearest town	25 km east of Paulpietersburg town and 50 km north east of Vryheid		
21 digit Surveyor General Code for each farm portion	N0HU00000000044800000		

3. LOCALITY MAP

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

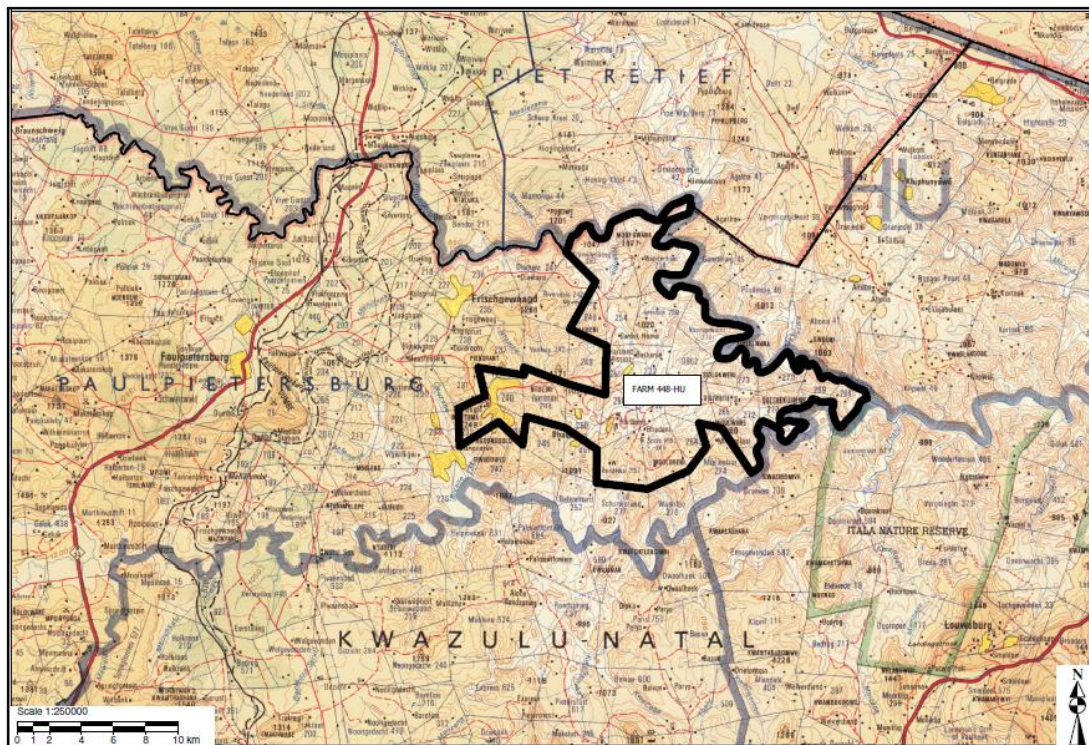


Figure 1: Locality Map

4. DESCRIPTION OF THE SCOPE OF THE PROPOSED OVERALL ACTIVITY

4.1 LISTED AND SPECIFIED ACTIVITIES

The EIA Regulations, 2017 promulgated in terms of Chapter 5 of National Environmental Management Act, 1998 (No. 107 of 1998) (NEMA), and published in Government Notice (GN) No. R326 controls certain listed activities. These activities are listed in GN No. R327 (Listing Notice 1), R 325 and R324 and are prohibited until Environmental Authorisation (EA) has been obtained from the competent authority. A Basic Assessment process must be applied to an application if the authorisation applied for is in respect of an activity or activities listed in Listing Notices 1 and / or 3 and a Scoping and EIA process must be applied to an application if the authorisation applied for is in respect of an activity or activities listed in Listing Notice 2.

Application for a mining permit triggers Listing 1, Activity 21, thus a Basic Assessment process must be undertaken in order for Department of Mineral Resources and Energy (DMRE) to consider the application in terms of NEMA and make a decision as to whether to grant environmental authorisation or not.

Table 2: List of activities/infrastructure associated with the proposed project

Name of activity	Approximate aerial extent of the activity (ha)	listed activity number and applicable listing notice
<p>For the mining of the quarry (and associated infrastructure):</p> <p><i>“An activity including the operation of that activity which requires a mining permit in terms of section 27 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource; or the primary processing of a mineral resource including winning, extraction, classifying, concentrating, crushing, screening or washing...”</i></p>	Five (5)	Listing 1, Activity 21 (GN.R 327)

4.2 DESCRIPTION OF THE ACTIVITIES TO BE UNDERTAKEN

4.2.1 Project Overview

The proposed project entails the mining of a quarry on the Dlamini Tribal area 448 HU, Paulpietersburg, Kwazulu Natal. The proposed quarry would be approximately 5 ha in extent, with aggregate being the target mineral for the planned construction activities.

4.2.2 Quarry Development and Access

The proposed excavation method would entail the use of a bulldozer to remove material to an average depth of 1.5 m. The maximum depth of the proposed borrow pit would be 2 m below the ground surface. All topsoil would be removed and stockpiled in a demarcated area outside of the borrow pit footprint.

In order to provide access to the proposed quarry site, it is also proposed that an access /haul road (approximately 100 m in length and 3 m wide) would be constructed perpendicular to an existing gravel road on the property. An access gate would be placed

along the existing fence line. The access gate would remain locked at all times and would only be opened when required during the operations. No vehicles would be allowed back on to the access / haul road upon completion of the mining process.

Excavation of the target material would commence at the eastern edge of the proposed borrow pit and continue in a western direction. The excavated material would then be loaded onto trucks and transported to an off-site location via the proposed access / haul road, existing access road and provincial road network.

Traffic generated at the site area would be low. On average, it is expected that during full operation two truckloads of material would be transported per hour from the quarry to various end locations.

4.2.3 Water Management

The water requirements for the proposed activities are expected to be minimal and would be limited to use for dust suppression within the site area. The proposed water source for dust suppression would be determined by the relevant operators appointed to undertake the proposed operations and preferably municipality water will be used.

4.2.4 Powerline Infrastructure

No power line infrastructure will be affected and no electricity from the National Grid will be required for the proposed prospecting project. Only diesel powered vehicles and machinery will be used for the proposed project.

4.2.5 Accommodation

Accommodation for staff and workers will be off-site. However, 24 hour security staff will be stationed on-site. No fires will be allowed on-site.

4.2.6 Ablution

Ablution facilities will be required on site. This may involve the installation of drum or tank type portable toilets. The toilets should be emptied twice every week through the services of a registered sewage waste service provider.

4.2.7 Waste Management

General waste to be generated from the proposed project area include domestic waste such as food (left-overs), polystyrene, paper, and discarded personal protective equipment (PPE). This waste will be collected in bins and disposed of at a registered landfill site closer to the proposed site.

4.2.8 Workshop and buildings

No workshops and office buildings will be required for this project, however, mobile offices will be erected. All machinery will be maintained at an offsite workshop. Should emergency repairs be required, the repairs will be conducted on site on areas covered with tarpaulins.

4.2.9 Site Rehabilitation

Rehabilitation will occur concurrently with mining and on completion of the site activities, the site would be rehabilitated again. This would include the removal of all equipment, plant and foreign materials from the site. The stockpiled topsoil would be deposited onto the quarry footprint and all slopes would be cut to the final design as per operator instruction. All surplus materials in and around the excavated area would be used as fill. The floor of the quarry would be smoothed out and rendered free-draining. Any erosion channels and wash away areas would be backfilled and consolidated. Brush packing of any erosion runnels and water outlets would be undertaken to reduce flow velocities to avoid future erosion of these areas.

5. POLICY AND LEGISLATIVE CONTEXT

5.1 MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2002 (NO. 28 OF 2002) (MPRDA)

In terms of the MPRDA, a mining permit may only be issued if: (a) the mineral in question can be mined optimally within a period of five years; and (b) the mining area in question does not exceed 5.0 ha in extent. A requirement for obtaining a mining permit is that an applicant must submit an application in terms of Section 27 (2) of the MPRDA to the Regional Manager, and in terms of Section 27 (3), the Regional Manager must accept the application within 14 days if, inter alia, no other person has a prospecting right, mining right, mining permit, or retention permit for the same mineral and land. If the application for a

Mining Permit is accepted, the Regional Manager must request that the applicant comply with Chapter 5 of NEMA with regard to consultation and reporting.

5.2 NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (NO. 107 OF 1998) (NEMA)

Section 2 of NEMA sets out a range of environmental principles that are to be applied by all organs of state when taking decisions that significantly affect the environment. Included amongst the key principles is that all development must be socially, economically and environmentally sustainable and that environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably. NEMA also provides for the participation of interested and affected parties (I&APs) and stipulates that decisions must take into account the interests, needs and values of all I&APs. Chapter 5 of NEMA outlines the general objectives and implementation of Integrated Environmental Management (IEM), which provides a framework for the integration of environmental issues into the planning, design, decision making and implementation of plans and development proposals. Section 24 provides a framework for granting of Environmental Authorisations. In order to give effect to the general objectives of IEM, the potential impacts on the environment of listed activities must be considered, investigated, assessed and reported on to the competent authority. Section 24 (4) provides the minimum requirements for procedures for the investigation, assessment and communication of the potential impact of activities.

5.3 EIA REGULATIONS, 2017

As noted in Section 4.1, the proposed project triggers Activities 21 contained in Listing Notice 1 (refer to Table 2), thus a Basic Assessment process must be undertaken in order for DMRE to consider the application in terms of NEMA and make a decision as to whether or not to grant EA.

5.4 NATIONAL WATER ACT, 1998 (NO. 36 OF 1998) (NWA) (AS AMENDED)

The National Water Act, 1998 (No. 36 of 1998) (NWA), as amended by the National Water Amendment Act (No. 27 of 2014) of 2 June 2014, provides a legal framework for the effective and sustainable management of water resources in South Africa. It serves to protect, use, develop, conserve, manage and control water resources as a whole, promoting the integrated

management of water resources with the participation of all stakeholders. This Act also provides national norms and standards, and the requirement for authorisation (either a Water Use Licence or General Authorisation) of certain water uses listed in Section 21, including 21(c) Impeding and diverting the flow of water in a watercourse and 21(i) Altering the bed, banks, course or characteristics of a watercourse.

5.5 NATIONAL HERITAGE RESOURCES ACT, 1999 (NO. 25 OF 1999) (NHRA)

The requirements stipulated in Section 38 of the NHRA were considered during the compilation of this BAR and Construction and Operation Environmental Management Programme (EMPr). A Notification of Intent to Develop (NID) was submitted to AMAFA on 04 March 2021.

5.6 NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT, 2008 (ACT. NO. 59 OF 2008; NEM:WA)

The purpose of these Regulations is to prescribe general measures to aid in the protection of health, well-being and the environment by providing reasonable measures to, amongst others, minimise the consumption of natural resources, minimise the generation of waste and treatment and safely disposing of waste. These Regulations will be applicable to the construction and operation phase of the proposed project when waste generation is expected. The Regulations sets out the methods for the storage and the disposal of waste.

5.7 NATIONAL WATER ACT (ACT NO. 36 OF 1998) (NWA)

The National Water Act (Act No. 36 of 1998) (NWA) is the primary regulatory legislation, controlling and managing the use of water resources as well as the pollution thereof in South Africa. The NWA recognises that the ultimate aim of water resource management is to achieve sustainable use of water for the benefit of all users and that the protection of the quality of water resources is necessary to ensure sustainability of the nation's water resources in the interests of all water users.

The NWA presents strategies to facilitate sound management of water resources, provides for the protection of water resources, and regulates use of water by means of Catchment Management Agencies, Water User Associations, Advisory Committees and International Water Management. The National Government has overall responsibility for and authority

over water resource management, including the equitable allocation and beneficial use of water in the public interest. Further, an industry can only be entitled to use water if the use is permissible under the NWA. The enforcing authority on water users is the Department of Water and Sanitation (DWS).

Further, Regulation 704 of the NWA deals with the control and use of water for mining and related activities aimed at the protection of water resources. No water use licence application will be submitted to the Department of Water and Sanitation for their consideration. However, measures will be undertaken to ensure that requirements in terms of the NWA and the GN 704 are complied with where necessary.

5.8 THE NATIONAL ENVIRONMENTAL MANAGEMENT: PROTECTED AREAS ACT (ACT NO. 57 OF 2003)

The aim of the National Environmental Management: Protected Areas Act (No 57 of 2003) is to provide for the protection and conservation of ecologically viable areas representative of South Africa's biological diversity and natural seascapes. The purpose of a Protected Environment is amongst others to protect a specific ecosystem outside a special nature reserve world heritage site or nature reserve and also to ensure the use of the natural resources in the area is sustainable.

6. NEED AND DESIRABILITY OF THE PROPOSED ACTIVITIES

6.1 Background

The National Development Plan (NDP) 2030 provides the context for all growth in South Africa, with the overarching aim of eradicating poverty and inequality between people in South Africa through the promotion of development. Two of the objectives of the NDP are to increase the proportion of adults working in rural areas and reduce the unemployment rate. The proposed project is considered to be in line with the above-mentioned objectives, as outlined in the NDP, as it will facilitate economic activity / growth in rural areas and is conducive to job creation.

6.2 Motivation for the overall preferred development footprint

The identification of alternatives is a key aspect of the success of the Basic Assessment process. All reasonable and feasible alternatives must be identified and screened to determine the most suitable alternatives to consider in this application. There are, however, some constraints that have to be taken into account when identifying alternatives for a project depending on the scope. Such constraints include financial, social and environment related constraints. Alternatives can typically be identified according to:

- Activity alternatives.
- Location alternatives.
- Design or layout alternatives.
- Technology alternatives.
- Operational alternatives.
- No-Go alternative.

For any alternative to be considered feasible, such an alternative must meet the need and purpose of the development proposal without presenting significantly high associated impacts. Alternatives are typically distinguished into discrete or incremental alternatives. Discrete alternatives are overall development options, which are typically identified during the pre-feasibility, feasibility and/or Basic Assessment process. Incremental alternatives typically arise during the Basic Assessment process and are usually suggested as a means of addressing/mitigating identified impacts (drilling and trenching in low sensitivity areas).

These alternatives are intricately linked to the identification of mitigation measures and are therefore not specifically identified as distinct alternatives. For the purpose of this project, the need and justification for alternatives was specifically guided by the relatively low sensitivity of the receiving socio-economic and biophysical environment as well as the geology.

7. MOTIVATION FOR THE OVERALL PREFERRED SITE, ACTIVITIES AND TECHNOLOGY ALTERNATIVE

NEMA prescribes that every application for EA must include, *inter alia*, an investigation of the potential consequences or impacts of the alternatives to the activity on the environment and assessment of the significance of those potential consequences or impacts, including the option of not implementing the activity (i.e. No-Go Alternative).

No additional site alternatives for the borrow pit were considered by the applicant for the following reasons:

- The applicant intends to use the material for the construction and maintenance of internal roads in the area;
- No known heritage resources are located within or in the vicinity of the proposed borrow pit site; and
- The proposed site contains sufficient quantities of the target gravel material to feasibly establish a borrow pit.

Simple excavation with an excavator is proposed for use in developing the borrow pit. As this simple excavation methodology would be similar to the norm for similarly-sized operations, no other technology alternatives for the excavation of the proposed borrow pit have been identified at this stage.

The No-Go alternative assumes that the proposed project is not undertaken. The negative implications of not going ahead with the proposed project are as follows:

- Loss of economic opportunities; and
- Loss of the opportunity to explore the mining resource.

The implication of the no-go option is that there would be no effect on the quarry.

8. DETAILS OF THE PUBLIC PARTICIPATION PROCESS FOLLOWED

This section describes the specific site layout and the location of infrastructure and activities on site, having taken into consideration any issues raised by interested and affected parties (where applicable), and the consideration of alternatives to the initially proposed site layout.

8.1 DETAILS OF THE DEVELOPMENT FOOTPRINT ALTERNATIVE CONSIDERED

The position and layout of the borrow pit on the site itself has been largely determined by the location of the target gravel material and the fact that the target area has already been disturbed. Considering other site alternatives would require geological investigations to

identify other resources, which may require the disturbance of areas of natural vegetation. Thus no other property or site alternatives have been considered.

8.2 DETAILS OF THE PUBLIC PARTICIPATION PROCESS TO BE FOLLOWED

The public participation process was conducted to comply with the NEMA EIA Regulations, 2014 as amended. Steps undertaken to ensure adequate public participation included the following:

- An 'Application Form for Environmental Authorisation' form was submitted to DMRE on 26 January 2021. On 30 March 2021, DMRE accepted the application (See Appendix B);
- A project database was developed, including all potential I&APs. This list included the following: the landowner of the affected property; landowners and / or lawful occupiers of neighbouring properties; the district and local municipalities; ward councillors; other authorities / organs of state with jurisdiction in the area; and other key stakeholders. See appendix C for database, and to date, no I&APs have responded to be included in the database;
- Site notices were erected on site on 08,09 and 14 March 2021 respectively. Proof of the placement of the site notices is provided in Appendix D;
- The draft BAR and EMPr is released for a 30-day comment period from 05 July – 05 August 2021. Copies of the report will be made available at the following locations:
 - eDumbe library; eDumbe Post Office and eDumbe Municipality.
- An advertisement announcing the proposed borrow pit development and the availability of the BAR and EMPr for review and comment was placed in the local newspaper, "ILANGA" on 4-6 March 2021. Proof of the advertisement placed in the ILANGA is provided in Appendix E;
- An I&AP notification letter and BID (Background Information Document) announcing the project to stakeholders for them to register was sent out by email on the 4th of March 2021, and deliveries of same letters were also made to other stakeholders. Proof of the distribution of the notification letter and BID is provided in Appendix F;
- Copies of this DBAR and EMPr will be made available to the organs of state for review and comment.

8.3 SUMMARY OF ISSUES RAISED BY I&APS

Issues raised will be incorporated into the Final Basic Assessment Report under the Comments and Response Report (CRR).

9. THE ENVIRONMENTAL ATTRIBUTES ASSOCIATED WITH THE DEVELOPMENT FOOTPRINT ALTERNATIVES

This section provides a general description of the key biophysical, cultural / heritage and socio-economic characteristics of the study area.

9.1 Climate

The project area has moderate climate prevailing. There is a lot of rainfall in the summer, and in the winter it is quite dry again. The average annual temperature for Paulpietersburg is 25° degrees and there is about 353 mm of rain in a year. It is dry for 215 days a year with an average humidity of 52% and an UV-index of 5.

Rainfall in form of thunderstorms is the prevalent form of precipitation. Mist is generally an uncommon feature and hail is almost absent across the majority of the in the District. Summers are generally warm to hot, and winters are cool. Mean Annual Temperature ranges generally from approximately 4°C to 20°C, temperatures generally become cooler moving towards the west. Mean annual evaporation varies considerably in the area depending on the relationship of rainfall and temperature

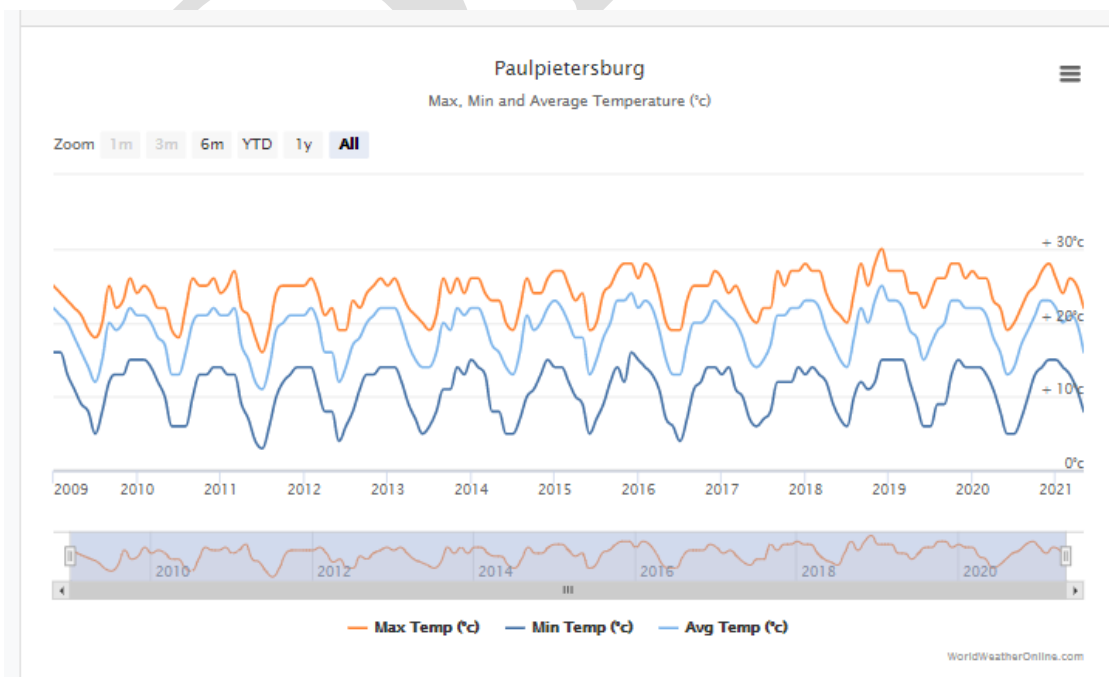


Figure 2: Max, Min and Average temperature

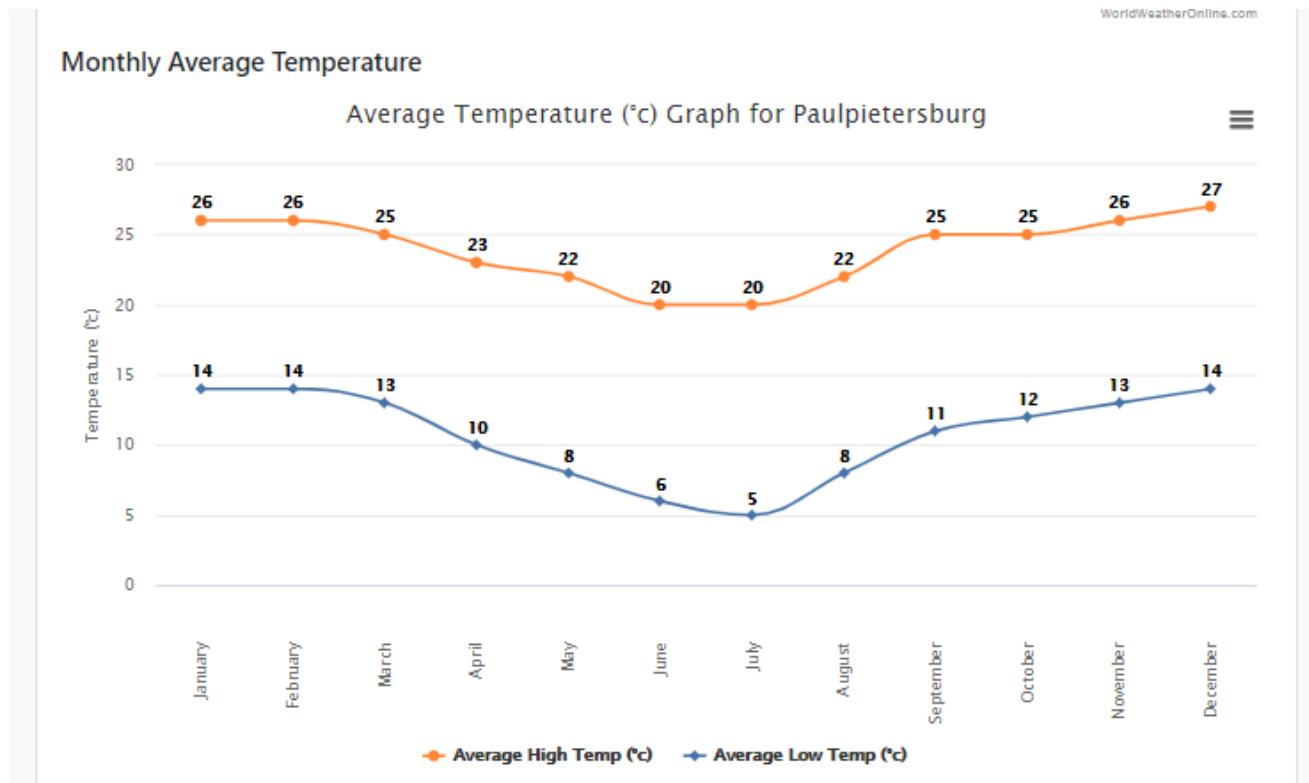


Figure 3: Monthly average temperature

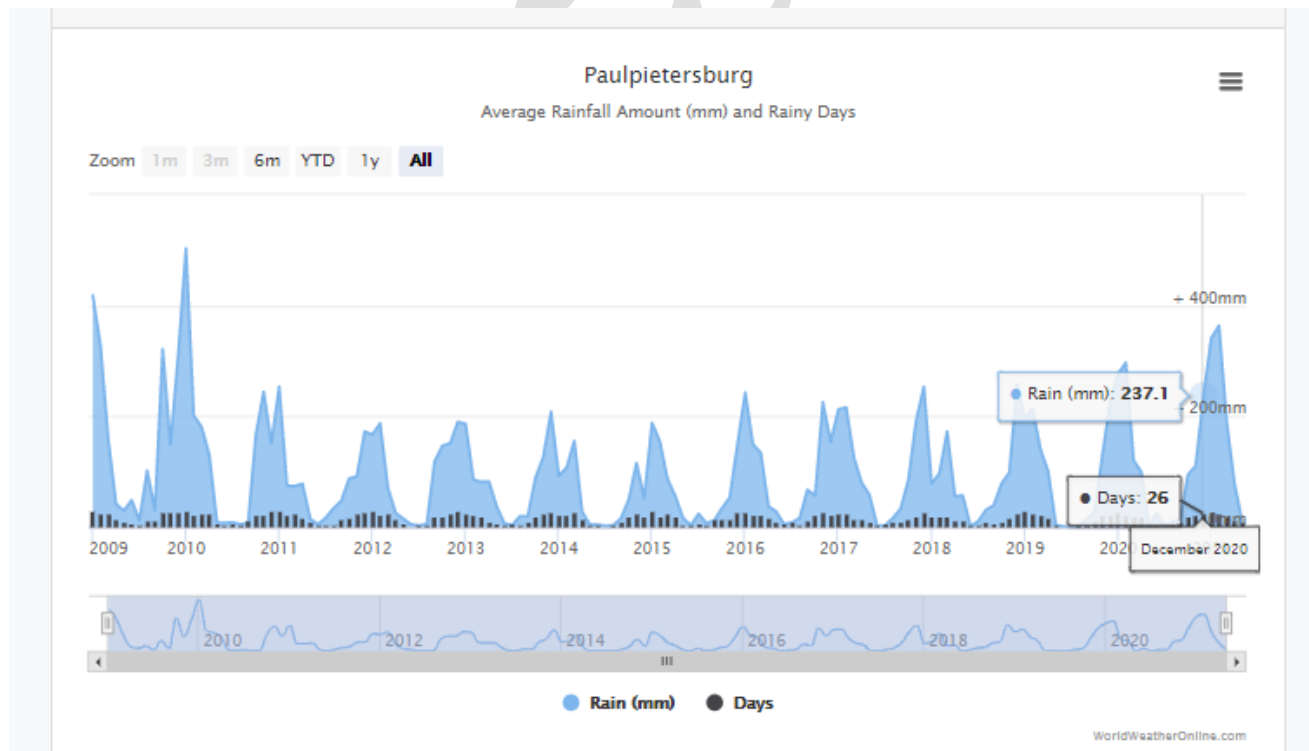


Figure 4: Monthly average rainfall

9.2 Topography and Land cover

Land cover on the site is largely natural with disturbed areas in the vicinity of the site limited to small areas of subsistence agriculture. According to the SA Vegetation Atlas (SANBI, 2012) natural vegetation of the site is classified as Paulpietersburg Moist Grassland (towards the north) and Wakkerstroom Montate Grassland (towards the south). Both the topography and land cover of the site are regarded as important considerations in the determination of runoff generated during design rainfall events.

Land use in the Zululand District Municipality (ZDM) is linked primarily to tenure and the land with the highest agricultural potential is in private ownership and is mostly used for commercial farming or conservation, with low settlement densities. Private farmlands constitute a large portion of the ZDM's land area. The land use potential varies throughout the district, but are predominantly varieties of grassveld and thornveld. Agricultural activities are mainly forestry (eDumbe, Abaqulusi and around Babanango), sugar cane (uPhongolo), livestock (throughout the district), maize, soya beans, wheat, groundnuts, sorghum, vegetables and sub-tropical fruit. These commercial farms mostly have well developed infrastructure and farming systems. The difficulties they experience relate more to broader economic factors than spatial factors and linkages in the ZDM. In recent years, a number of cattle farms throughout the ZDM have been converted into game farms. These may be linked to tourism and conservation in the district

9.3 Geology and soils

According to the WR2005 (WR2005, 2009) geology dataset, the site is part of the Vryheid formation and is predominantly underlain by a mix of arenite, shale and coal lithologies associated with the valley. Overlying these lithologies are soils defined as Sandy Loams. It is expected that soils in the valley will be deeper, while soils on the plateau will be less deep.



Figure 5: Geological Map

9.4 Catchment Water Use

In terms of water resource utilisation in the greater water management area, Section 3 (Water Resource Profile) of the document titled Zululand District Municipality Water Services Development Plan (DC26) (2013) has been reviewed (Zululand District Municipality, 2013). This document gives an indication of water resources use and availability for the main rivers namely the Mfolozi, Mkuze and Pongola. The proposed project located in the quaternary catchment which flows into the Pongola river system. According to the document “It is evident that apart from the Pongola catchments, water from these sub-areas is currently over-utilised and a deficit is created. However, according to Basson and Rossouw¹, this deficit is a result of the provision made for future implementation of the Reserve”. The document further refers to a “surplus “of water in the Pongola River with the Pongola catchment currently “under-utilised”. More detail on water resources and associated utilisation can be found in Table 3.1

or within the detailed document (Zululand District Municipality, 2013). It is recommended that the DWS, as part of their custodianship of water resources in South Africa, further investigate the deficit/surplus of water resources within the affected catchments. This investigation should consider current legal/illegal abstractions as well as the reserve (basic human needs as well as ecological considerations) so that a more informed decision can be made.

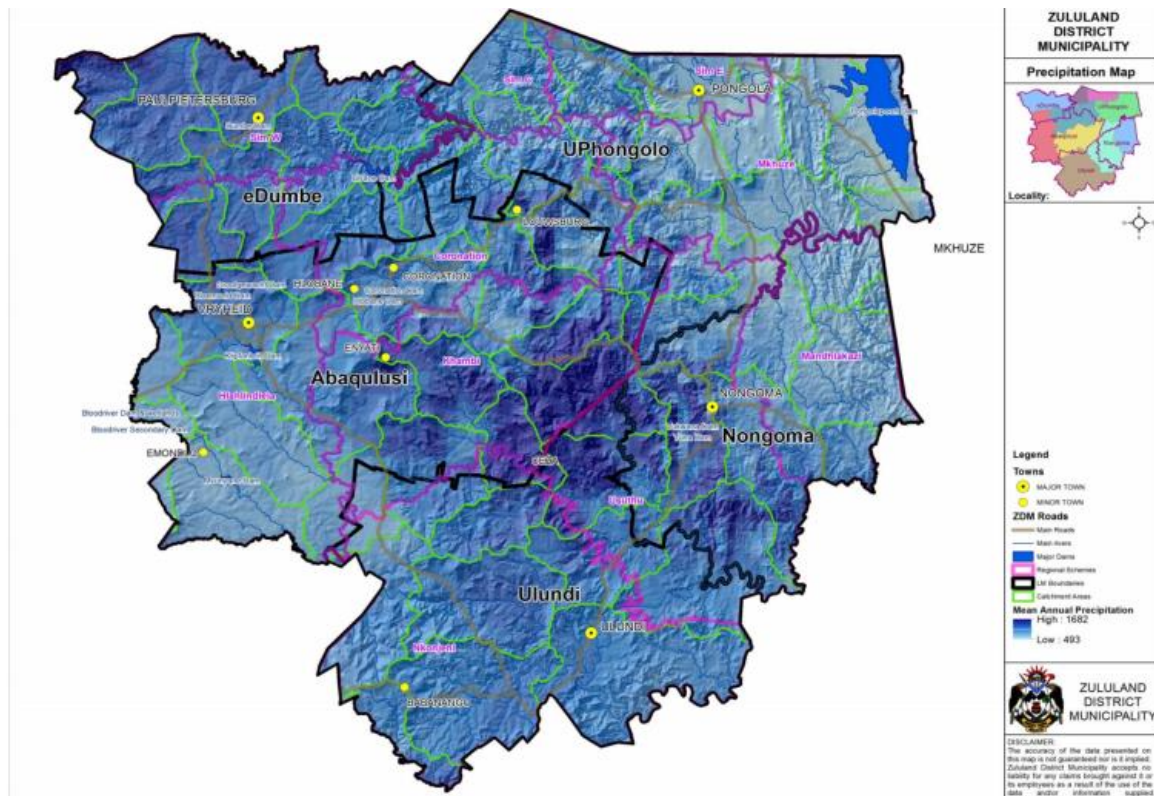


Figure 6: Precipitation and catchment areas within ZDM

9.4.1 The Pongola Catchments (W41, W42 and W44)

The Pongola catchments form part of an International River Basin shared with both Swaziland and Mozambique. Although neither of these countries currently have high demands on these water resources, it may be easier to supply Maputo's future requirements from the Pongola River where there is a surplus (sourced from the Pongolapoort Dam) than from the Inkomati River that is stressed. An amount of 87 million m³ /annum has been reserved for the future use of Mozambique in the agreement while current use is set at 6 million m³ /annum of high assurance use and 60 million m³ /annum of irrigation use. The Pongola catchments are characterised by large-scale afforestation estimated at 480 km² (or 6% of the land cover) in the upper Pongola and Bivane tributaries, and large-scale irrigation of approximately 200 km²

(or 2,5% of the land cover) in the W44 catchments upstream of the Pongolapoort Dam. The main irrigated crop is sugarcane. There is approximately 150 km² of alien vegetation (or 2% of the land cover). The significant towns in the area include, Pongola, Paulpietersburg and Frischgewaagd. The source of the Pongola River is on the eastern escarpment at the boarder of Mpumalanga and KwaZuluNatal near Wakkerstroom, from where it flows eastwards carving a gorge through the Lebombo Mountains before joining the Usuthu River just before the Mozambique border and flowing into the Maputo Basin. The catchments cover approximately 7,800 km² in the ZDM, with an estimated MAR of 1421 million m³ /annum at Pongolapoort Dam. The average MAP for the area is 800 mm, ranging from 580 mm in the rain shadow (caused by the Lebombo Mountains) to 1,060 mm on the eastern escarpment.

9.5 Vegetation

According to the Bioresearch Group classification of the vegetation of KZN by Camp (1996) as used by the Department of Agriculture, there are 5 main veld types in the area as follows:

- Moist Highland Sourveld (MHS) on the Elandsberg plateau and scarp.
- Moist Transitional Tall Grassveld (MTTG) on the Makateeskop and Ndondlolwane plateaus and the Upper Pongola and Pivane valleys. This is the prevalent veld type in the municipality and lends itself to agricultural practices.
- Moist Tall Grassveld (MTG) on the Piensrand plateau in the east.
- Dry Tall Grassveld (DTG) on the Mahlone plateau and the Hartland shelf.
- Dry Zululand Thornveld (DZT) on the lower, more incised parts of the Pongola and Bivane valleys. This veld type is not beneficial towards normal agricultural practices.

The Table below summarizes the main characteristics and management requirements of these various veld types.

Table 3: Veld Management characteristics and requirements of main veld types

	MHS	MTTG	MTG	DTG	DZT
Average Grazing Capacity (Ha per AU)	1,6	1,8-2,1	2,5	3,4-4,2	3,7-4,6
Permissible burning dates	1/8-30/9	1/8-30/9	1/8-30/9	15/8- 31/10	15/7-30/9
Recommended grazing cycle	30	30	42	63	63
Period of stay for 4 camp system	10	10	14	21	21
Period of absence for 4 camp system	20	20	28	42	42
Length of grazing season (days)	250	250	275	300	300
Recommended frequency of rest	1 in 4 years	1 in 4 years	1 in 4 years	1 in 4 years	Assess on site

Although the natural vegetation at the higher altitudes is, or was, mainly grassland much of it is now under plantations of wattles, gum and pine. That much of the area has been found to be suitable for forestry is not surprising as Acocks (1975) considers that most of this area was originally under forest or scrub forest. Where the veld remains it is dominated by *Hyparrhenia hirta* but with the associated species varying according to veld type (eDumbe SDF 2018/2019).

9.6 Cultural/heritage

An archaeological investigation of the proposed site did not produce any evidence of precolonial archaeological material within the footprint of the borrow pit

9.7 Groundwater

Groundwater is a useful water resource with potential quality and quantity being controlled by the geology of an area. The Zululand district is underlain predominantly by Karoo Sequence basalts, shales, siltstones, sandstones and conglomerates that have been intruded by dolerite dykes, sills and plugs of Jurassic age (i.e. post Karoo; see Figure 5 for geological maps). The formations making up the Karoo Supergroup sediments are often relatively massive such that primary storage and permeability is negligible.

Groundwater storage and movement is confined to joints and bedding planes within the rock mass that yield between 0.5 and 2 l/s. In the absence of faulting or dolerite intrusions, the groundwater potential of these sediments is marginal to poor (i.e. 0 to 0.5 l/s (0 to 1,800 l/h)). In addition, water quality is generally poor (Class 2) and some boreholes produce high concentrations of dissolved salts (Nyoka Formation), with high NaCl and SO₄ concentrations (Vryheid and Dwyka Formations) or high Iron and/or Manganese (Pietermaritzburg Formation). The indurated contact zones in the sediments adjacent to the intrusive Jurassic age dolerite intrusions are often highly fractured and these discrete zones enhance groundwater storage and rockmass permeability.

As a result, boreholes drilled to intersect these structures usually produce higher yields and superior quality groundwater than that of the surrounding host rock. These contact zones usually produce yields ranging from 0.1 – 10 l/s and groundwater quality range from Class 0 to Class 3 depending on the composition of the sedimentary host rock.

In general the overall groundwater quality in the ZDM is good in the northern parts with the water quality in eDumbe, uPhongola and Abaqulusi LMs falling within Class 0 and 1 (Kempster Classification).

9.8 Regional Socio-economic environment

éDumbe Municipality is situated in the north-western part of KwaZulu-Natal. It covers a geographical area of 1 947 km² and is home to a population of about 89 614. The municipal area of jurisdiction is demarcated into 8 wards which is predominantly rural in nature. The éDumbe Municipal area comprises of 52 settlements in total, which includes 48 dispersed rural settlements, 3 urban areas and one major town. The Entuleni quarry project is situated in ward 6 of eDumbe local Municipality within the Zululand District Municipality.. Below is a graph showing the employment status within the eDumbe local Municipality.

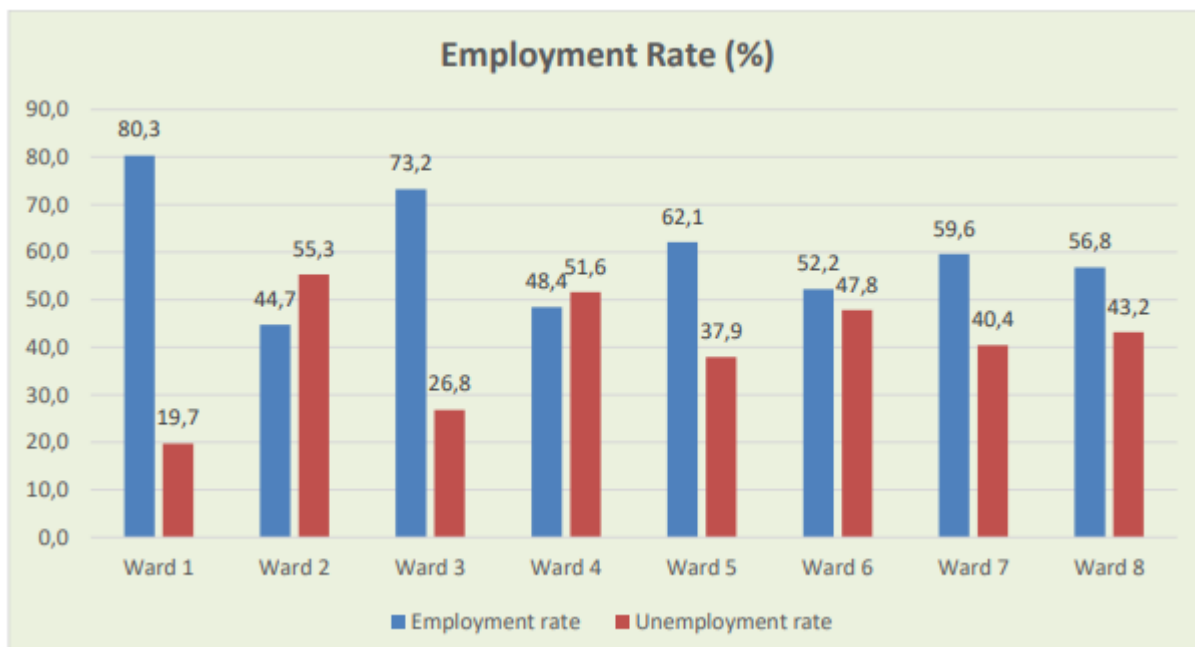


Figure 7: eDumbe employment rate

10. IMPACTS AND RISKS IDENTIFIED INCLUDING THE NATURE, SIGNIFICANCE, CONSEQUENCE, EXTENT, DURATION AND PROBABILITY OF THE IMPACTS, INCLUDING THE DEGREE TO WHICH THESE IMPACTS CAN BE MITIGATED

This section describes the potential impacts related to the proposed borrow pit development. All impacts are systematically assessed according to pre-defined rating scales, which are based on criteria set out in the EIA Regulations, 2014 in terms of their extent, duration, intensity and probability. The degree to which the impacts can be reversed and may cause irreplaceable loss of resources is also provided. Mitigation or optimisation measures are also proposed which could ameliorate the negative impacts or enhance potential benefits, respectively. The significance of impacts with and

without mitigation is also assessed. Mitigation measures are proposed that would ameliorate negative impacts or enhance potential benefits. The status of the impact, nature of cumulative impacts, the consequence of the impact and finally the degree of confidence of assessment is also provided. The impacts arising from the borrow pit development are presented in section 12.

10.1 IMPACT ASSESSMENT

The assessment of the potential impacts associated with the proposed borrow pit is provided in the table below.

Draft

Table 4: Summary of the significance of the potential impacts associated with the proposed borrow pit and no-go alternative

ENVIRONMENTAL ASPECT	EXTENT AND DURATION	INTENSITY	PROBABILITY	CONFIDENCE	CONSEQUENCE	SIGNIFICANCE (BEFORE MITIGATION)	PROPOSED MITIGATION	SIGNIFICANCE (AFTER MITIGATION)
Geology	Local Permanent	Low	Definite	High	Low	Low	None	Low
Topography	Local Permanent	Low	Definite	High	Low	Low	<ul style="list-style-type: none"> Finish off slope changes so that flowing curves that blend with the surrounding landscape are formed in preference to sharp angles. 	Very low
Soil	Local Short-term	Medium	Definite	High	Very low	Very low	<ul style="list-style-type: none"> Strip topsoil layer up to at least 200 mm where possible and store separately; Stockpile topsoil and utilise during rehabilitation; Shape and site stockpiles in such a way that they do not interfere with the flow of water to cause damming or erosion; 	Very low

							<ul style="list-style-type: none"> • Limit stockpile heights to 2 m; • Monitor stockpiles regularly for the identification and removal of all alien vegetation; and • Shape borrow pit side slopes in such a way so as to prevent rapid runoff of water that could cause soil erosion. 	
Vegetation	No impact. No natural vegetation is present on site.							
Fauna	No impact. No unique natural faunal habitats are present on the site.							
Land use	Local Short-term	Low	Definite	High	Low	Low	<ul style="list-style-type: none"> • Limit area required for borrow activities; • Demarcate borrow pit footprint; and • Rehabilitate disturbed land. 	Very low
Land capability	Low Short-term	Low	Possible	Medium	Very low	Very low		Very low

Surface water	Local Short-term	Low	Improbable	High	Very low	Insignificant	<ul style="list-style-type: none"> • Maintain all machinery and equipment so that leaks do not appear; • Use a drip tray during any refuelling of plant 	Insignificant
ENVIRONMENTAL ASPECT	EXTENT AND DURATION	INTENSITY	PROBABILITY	CONFIDENCE	CONSEQUENCE	SIGNIFICANCE (BEFORE MITIGATION)	PROPOSED MITIGATION	SIGNIFICANCE (AFTER MITIGATION)
							and equipment; and <ul style="list-style-type: none"> • Dispose of all oil, grease etc. correctly to prevent contamination of surface water. 	
Groundwater	Local Shortterm	Low	Improbable	High	Very low	Insignificant	<ul style="list-style-type: none"> • Maintain all machinery and equipment so that leaks do not appear; • Use a drip tray during any refuelling of plant and equipment; and • Dispose of all oil, grease etc. 	Insignificant

							correctly to prevent contamination of groundwater.	
Air quality	Local Shortterm	High	Definite	High	Very low	Low	<ul style="list-style-type: none"> • Haul vehicles should comply with speed limits; • Implement dust suppression methods; • Best practice measures must be employed to minimise noise or dust impacts that may occur during the various phases of the proposed development; and • The Operator must comply with the National Dust Control Regulations. 	Very low

Noise	Local Shortterm	Low	Possible	High	Very low	Insignificant	<ul style="list-style-type: none"> The operator is to be familiar with and adhere to any local by-laws and regulations regarding the generation of noise and hours of operation; Ensure that construction activities with excessive noise are only undertaken during the following hours: 06H00 – 18H00 Mon-Fri; 06H00-17H00 Sat; 	Insignificant
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ENVIRONMENTAL ASPECT	EXTENT AND DURATION	INTENSITY	PROBABILITY	CONFIDENCE	CONSEQUENCE	SIGNIFICANCE (BEFORE MITIGATION)	PROPOSED MITIGATION	SIGNIFICANCE (AFTER MITIGATION)
Archaeology	No impact. No evidence of archaeological material was found within the proposed borrow pit footprint.						Should any archaeological and paleontological material be uncovered during operations, works	-
Palaeontology	No impact. No evidence of paleontological material was found within the proposed borrow pit footprint.							-

							should stop immediately and SAPS/AMAFA be notified.	
Sensitive landscape	No impact.							
Visual aspects	Local Shortterm	Very low	Definite	High	Very low	Very low	Rehabilitate disturbed land when done mining	Very low
Regional socioeconomic: employment	Local Shortterm	Low	Probable	High	Low	Very low (positive)	Source local labour, as far as possible.	Very low (positive)
Regional socio-economic: safety	Local Short-term	High	Possible	High	Low	Low	<ul style="list-style-type: none"> Ensure that the access gate is kept secured after hours; Limit the movement of construction vehicles to daylight hours; Vehicles should comply with speed limits; Limit vehicle movement to defined tracks and areas that would be excavated; and The dangers associated with the movement of 	Very low

							large vehicles are to be clearly sign-posted in both directions leading up to the proposed borrow pit.	
No-Go alternative: Loss of economic opportunity and opportunity to explore a new mining resource	Local Permanent	Low	Definite	High	Low	Low	N/A	-
No-Go alternative:	Local	Very Low	Definite	High	Low	Low	N/A	-

10.2 METHODOLOGY

The identification and assessment of environmental impacts is a multi-faceted process, using a combination of quantitative and qualitative descriptions and evaluations. It involves applying scientific measurements and professional judgement to determine the significance of environmental impacts associated with the proposed project. The process involves consideration of, *inter alia*: the purpose and need for the project; views and concerns of I&APs; social and political norms, and general public interest.

10.2.1 IDENTIFICATION AND DESCRIPTION OF IMPACTS

Identified impacts are described in terms of the nature of the impact, compliance with legislation and accepted standards, receptor sensitivity and the significance of the predicted environmental change (before and after mitigation). Mitigation measures may be existing measures or additional measures that were identified through the impact assessment and associated specialist input. The impact rating system considers the confidence level that can be placed on the successful implementation of mitigation.

10.2.2 EVALUATION OF IMPACTS AND MITIGATION MEASURES

10.2.2.1 Introduction

Standard convention for assessing the significance of impacts was used, a summary of which is provided below. In assigning significance ratings to potential impacts before and after mitigation the approach presented below is to be followed.

1. **Determine the impact consequence rating:** This is a function of the “intensity”, “duration” and “extent” of the impact (see Section 10.2.2.2). The consequence ratings for combinations of these three criteria are given in Section 10.2.2.3
2. **Determine impact significance rating:** The significance of an impact is a function of the consequence of the impact occurring and the probability of occurrence (see Section 10.2.2.2 and 10.2.2.2.3). Significance is determined using the table in Section 10.2.2.4.
3. **Modify significance rating (if necessary):** Significance ratings are based on largely professional judgement and transparent defined criteria. In some instances, therefore, whilst the significance rating of potential impacts might be “low”, the importance of these impacts to local communities or individuals might be extremely high. The importance/value which interested and affected parties attach to impacts will be highlighted, and recommendations should be made as to ways of avoiding or minimising these perceived negative impacts through project design, selection of appropriate alternatives and / or management.
4. **Determine degree of confidence of the significance assessment:** Once the significance of the impact has been determined, the degree of confidence in the assessment will be qualified

(see Section 10.2.2.2) Confidence in the prediction is associated with any uncertainties, for example, where information is insufficient to assess the impact.

10.2.2.2 Criteria for Impact Assessment

The criteria for impact assessment are provided below.

Criteria	Rating	Description
Criteria for ranking of the INTENSITY (SEVERITY) of environmental impacts	ZERO TO VERY LOW	Negligible change, disturbance or nuisance. The impact affects the environment in such a way that natural functions and processes are not affected. People / communities are able to adapt with relative ease and maintain pre-impact livelihoods.
	LOW	Minor (Slight) change, disturbance or nuisance. The impact on the environment is not detectable or there is no perceptible change to people's livelihood.
	MEDIUM	Moderate change, disturbance or discomfort. Where the affected environment is altered, but natural functions and processes continue, albeit in a modified way. People/communities are able to adapt with some difficulty and maintain pre-impact livelihoods but only with a degree of support.
	HIGH	Prominent change, disturbance or degradation. Where natural functions or processes are altered to the extent that they will temporarily or permanently cease. Affected people/communities will not be able to adapt to changes or continue to maintain-pre impact livelihoods.
Criteria for ranking the DURATION of impacts	SHORT TERM	< 5 years.
	MEDIUM TERM	5 to < 15 years.
	LONG TERM	> 15 years, but where the impact will eventually cease either because of natural processes or by human intervention.
	PERMANENT	Where mitigation either by natural processes or by human intervention will not occur in such a way or in such time span that the impact can be considered transient.
Criteria for ranking the EXTENT / SPATIAL SCALE of impacts	LOCAL	Impact is confined to project or study area or part thereof, e.g. limited to the area of interest and its immediate surroundings.
	REGIONAL	Impact is confined to the region, e.g. coast, basin, catchment, municipal region, etc.
	NATIONAL	Impact is confined to the country as a whole, e.g. South Africa, etc.
	INTERNATIONAL	Impact extends beyond the national scale.
Criteria for determining the PROBABILITY of impacts	IMPROBABLE	Where the possibility of the impact to materialise is very low either because of design or historic experience, i.e. ≤ 30% chance of occurring.
	POSSIBLE	Where there is a distinct possibility that the impact would occur, i.e. > 30 to ≤ 60% chance of occurring.
	PROBABLE	Where it is most likely that the impact would occur, i.e. > 60 to ≤ 80% chance of occurring.

	DEFINITE	Where the impact would occur regardless of any prevention measures, i.e. > 80% chance of occurring.
Criteria for determining the DEGREE OF CONFIDENCE of the assessment	LOW	≤ 35% sure of impact prediction.
	MEDIUM	> 35% and ≤ 70% sure of impact prediction.
	HIGH	> 70% sure of impact prediction.
Criteria for the DEGREE TO WHICH IMPACT CAN BE MITIGATED - the degree to which an impact can be reduced / enhanced	NONE	No change in impact after mitigation.
	VERY LOW	Where the significance rating stays the same, but where mitigation will reduce the intensity of the impact.
	LOW	Where the significance rating drops by one level, after mitigation.
	MEDIUM	Where the significance rating drops by two to three levels, after mitigation.
Criteria	Rating	Description
	HIGH	Where the significance rating drops by more than three levels, after mitigation.
Criteria for LOSS OF RESOURCES - the degree to which a resource is permanently affected by the activity, i.e. the degree to which a resource is irreplaceable	LOW	Where the activity results in a loss of a particular resource but where the natural, cultural and social functions and processes are not affected.
	MEDIUM	Where the loss of a resource occurs, but natural, cultural and social functions and processes continue, albeit in a modified way.
	HIGH	Where the activity results in an irreplaceable loss of a resource.

10.2.2.3 Determining Consequence

Consequence attempts to evaluate the importance of a particular impact, and in doing so incorporates extent, duration and intensity. The ratings and description for determining consequence are provided below.

Rating	Description
VERY HIGH	Impacts could be EITHER: of high intensity at a regional level and endure in the long term ; OR of high intensity at a national level in the medium term ; OR of medium intensity at a national level in the long term .
HIGH	Impacts could be EITHER: c of high intensity at a regional level and endure in the medium term ; of high intensity at a national level in the short term ; of medium intensity at a national level in the medium term ; OR OR of low intensity at a national level in the long term ;

	<p>OR of high intensity at a local level in the long term;</p> <p>OR of medium intensity at a regional level in the long term.</p>
MEDIUM	<p>Impacts could be EITHER:</p> <p>c of high intensity at a local level and endure in the medium term; of medium intensity at a regional level in the medium term; of high intensity at a regional level in the short term; of medium intensity at a national level in the short term;</p> <p>OR of medium intensity at a local level in the long term;</p> <p>OR of low intensity at a national level in the medium term;</p> <p>OR of low intensity at a regional level in the long term.</p>
LOW	<p>Impacts could be EITHER</p> <p>c of low intensity at a regional level and endure in the medium term; of low intensity at a national level in the short term; of high intensity at a local level and endure in the short term;</p> <p>OR of medium intensity at a regional level in the short term;</p> <p>OR of low intensity at a local level in the long term;</p> <p>OR of medium intensity at a local level and endure in the medium term.</p>
VERY LOW	<p>Impacts could be EITHER</p> <p>c of low intensity at a local level and endure in the medium term; of low intensity at a regional level and endure in the short term;</p> <p>OR of low to medium intensity at a local level and endure in the short term.</p> <p>OR Zero to very low intensity with any combination of extent and duration.</p>

10.2.2.4 Determining Significance

The consequence rating is considered together with the probability of occurrence in order to determine the overall significance using the table below.

		PROBABILITY			
		IMPROBABLE	POSSIBLE	PROBABLE	DEFINITE
	VERY LOW	INSIGNIFICANT	INSIGNIFICANT	VERY LOW	VERY LOW
	LOW	VERY LOW	VERY LOW	LOW	LOW
	MEDIUM	LOW	LOW	MEDIUM	MEDIUM
	HIGH	MEDIUM	MEDIUM	HIGH	HIGH

C O N S E Q U E	VERY HIGH	HIGH	HIGH	VERY HIGH	VERY HIGH
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10.3 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

As mentioned in Section 7, no additional site layout and location alternatives were considered. The preferred site layout and location has been determined by Zinoluju (Pty) Ltd's application for a mining permit on the Dhlamini Tribal Area 448 farm, and the identification of the target resource deposits within the proposed footprint. A summary of the identified impacts associated with the proposed borrow pit together with their significance, is provided in Table 4 above.

10.4 THE POSSIBLE MITIGATION MEASURES THAT COULD BE APPLIED AND THE LEVEL OF RISK

Mitigation measures to avoid, reduce, remediate or compensate for potential impacts are provided in Table 4 above.

10.5 MOTIVATION WHERE NO ALTERNATIVE SITES WERE CONSIDERED

A discussion of why no additional alternative sites were considered for the proposed borrow pit activities is provided in Section 7.

10.6 STATEMENT MOTIVATING THE FINAL SITE LAYOUT LOCATION WITHIN THE OVERALL SITE

The motivation as to why no additional alternative site locations were considered is provided in Section 7.

11. FULL DESCRIPTION OF THE PROCESS UNDERTAKEN TO IDENTIFY, ASSESS AND RANK THE IMPACTS AND RISKS THE ACTIVITY WILL IMPOSE ON THE PREFERRED SITE

The identification and assessment of environmental impacts is a multi-faceted process, using a combination of quantitative and qualitative descriptions and evaluations. It involves applying scientific measurements and professional judgement to determine the significance of environmental impacts associated with the proposed project. The process involves consideration of, inter alia: the purpose and need for the project; views and concerns of I&APs; social and political norms, and general public interest.

As mentioned in Section 10.2.2.2 above, Makarina's standard convention of assigning significance ratings to impacts was used to identify, assess and rank the impacts and risks of the proposed project.

12. ASSESSMENT OF EACH IDENTIFIED POTENTIALLY SIGNIFICANT IMPACT AND RISK

Table 5 below provides an assessment of potential impacts related to the proposed borrow pit development.

Due to the nature of borrow activities, there are no defined construction and operational phases associated with the proposed project. For the purposes of this report, the "construction phase" would entail the initial site establishment activities for the project (e.g. demarcation of the borrow pit footprint, removal and stockpiling of topsoil, amongst other activities). This period would be of very short duration (i.e. weeks) and would be undertaken by the contractor. The "operation phase" refers to the undertaking of the proposed borrow activities for the remainder of the two-year mining permit duration. The operation phase will be undertaken by an appointed Operator.

Table 5: Assessment of the potential impacts related to the proposed borrow pit development

ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE IN WHICH IMPACT IS ANTICIPATED.	SIGNIFICANCE (without mitigation)	MITIGATION TYPE	SIGNIFICANCE (with mitigation)
Site preparation (includes site demarcation, site access)	Site establishment and demarcation	Loss of cultivated land	Construction	Low	<ul style="list-style-type: none"> • Demarcate borrow pit footprint; • Strip topsoil layer up to at least 200 mm where possible and store separately; • Retain topsoil for rehabilitation; and • Rehabilitate disturbed land in order for agricultural activities to continue after borrow pit closure. 	Very low
	Access control	Safety	Operation	Very low	Ensure that the access gate is kept secured after hours.	Very low
	Access road construction	Dust and noise nuisance to surrounding landowners / users, safety	Construction	Very low	<ul style="list-style-type: none"> • Haul vehicles are to be limited to the specific access route; • Vehicles should comply with speed limits; • Ensure that construction activities with excessive noise are only undertaken during the following hours: 06H00 – 18H00 Mon-Fri; 06H00-17H00 Sat; • The dangers associated with the movement of large haul vehicles are to be clearly sign-posted in both directions leading up to the proposed borrow pit; • Movement of construction vehicles should be limited to daylight hours; • The Operator must comply with the National Dust Control Regulations. 	Very low

	Ablution facilities	Surface water contamination, pollution from inappropriate waste	Construction and operation	Low	<ul style="list-style-type: none"> The appointed operator shall provide and maintain adequate portable ablution facilities; Toilets must be easily accessible and shall be secured in order to prevent them from blowing over; and A suitable operator shall be appointed to service 	Very low
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ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE IN WHICH IMPACT IS ANTICIPATED.	SIGNIFICANCE (without mitigation)	MITIGATION TYPE	SIGNIFICANCE (with mitigation)
		management			toilets on a regular basis.	
	Soil erosion	Soil erosion of topsoil	Operation	Very low	<ul style="list-style-type: none"> Protect all areas susceptible to erosion by installing temporary drainage channels where necessary and prevent storm water from concentrating in streams and scouring slopes; Limit stockpile heights to 2 m; and Shape borrow pit area in such a way as to prevent rapid runoff of water that could cause soil erosion and to prevent future inundation of the new excavated areas. 	Very low

Excavation	Surface and groundwater contamination	Contaminated runoff to drainage lines and soil	Construction and operation	Insignificant	<ul style="list-style-type: none"> To prevent contamination of surface and groundwater, store and contain all material on the site appropriately; Properly maintain all machinery and equipment so that leaks do not appear and ensure that during servicing all oil, grease etc. is disposed of correctly; Should any refuelling of plant be required, a drip tray shall be used; and. Ensure that there is always a supply of absorbent material readily available in order to treat any minor hydrocarbon leaks or spills. 	Insignificant
	Air quality	Dust nuisance to surrounding landowners / land users	Operation	Low	<ul style="list-style-type: none"> Suitably cover and secure material loads during transportation; Haul vehicles should comply with speed limits; Employ suitable dust suppression methods; Best practice measures must be employed to minimise noise or dust impacts that may occur during the various phases of the proposed development; and The Operator must comply with the National Dust 	Very low
ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE IN WHICH IMPACT IS ANTICIPATED.	SIGNIFICANCE (without mitigation)	MITIGATION TYPE	SIGNIFICANCE (with mitigation)

	Noise	Noise nuisance to surrounding landowners / land users	Operation	Insignificant	<ul style="list-style-type: none"> The operator is required to be familiar with and adhere to any local by-laws and regulations regarding the generation of noise and hours of operation; Ensure that construction activities with excessive noise are only undertaken during the following hours: 06H00 – 18H00 Mon-Fri; 06H00-17H00 Sat; and 	Insignificant
	Visual	Landscape changes due to excavation	Operation and closure	Very low	Rehabilitate disturbed areas.	Very low
	Archaeology and palaeontology	Loss of heritage resources / archaeological artefacts	Operation	No impact. No evidence of archaeological and paleontological materials found on site.	Should any human remains be uncovered, work should be stopped and the SAPS/AMAFA must be notified.	-
	Land capability	Loss of land use capability due to changes in soil characteristics and land cover	Operation and closure	Low	Rehabilitate disturbed areas to as close as possible to the pre-mining state.	Very low
	Disruption of services	Damage to water, sewerage, telephone and electrical infrastructure	Construction and operation	Medium	<ul style="list-style-type: none"> Ensure that any services are identified ahead of construction commencing; and Construction and operation must take the necessary steps to ensure that any such services are not damaged. 	Very low

ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE IN WHICH IMPACT IS ANTICIPATED.	SIGNIFICANCE (without mitigation)	MITIGATION TYPE	SIGNIFICANCE (with mitigation)
	Fire hazard	Damage to private property, crops and livestock due to potential runaway fires	Operation	Medium	<ul style="list-style-type: none"> No open fires shall be allowed on site for the purpose of cooking or warmth; The appointed operator shall take all reasonable steps to prevent the accidental occurrence or spread of fire and shall appoint a suitably qualified fire officer in this regard; Basic fire-fighting equipment shall be provided onsite; and The appointed operator shall pay the costs incurred by organisations called to put out fires started by staff or any sub- contractor as well as the costs of damage to private property. 	Very low

	Pollution	Pollution from inappropriate solid waste and wastewater management	Operation	Very low	<ul style="list-style-type: none"> Bins (with lids) of sufficient number and capacity shall be provided at the borrow pit site <u>in a designated area</u> to store solid waste produced on a daily basis; Bins shall be emptied on a weekly basis or more frequently as required; An integrated waste management approach shall be used, based on the principles of waste minimisation, reduction, re-use and recycling of materials; Waste receptacles shall be clearly marked for the separation of recyclables like cans, plastics, glass, etc. No waste material or litter shall be burnt or buried on site; All solid waste shall be disposed of off-site at an approved municipal landfill site; No wastewater shall be disposed of directly into watercourses; 	Very low
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ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE IN WHICH IMPACT IS ANTICIPATED.	SIGNIFICANCE (without mitigation)	MITIGATION TYPE	SIGNIFICANCE (with mitigation)
					<ul style="list-style-type: none"> Any litter generated outside of the temporary waste storage area must be dealt with immediately. 	
	Economic opportunity	Creation of job opportunities	Operation	Low (positive)	N/A	-

Storage of excavated material (stockpiling etc.)	Dust from stockpiles	Dust nuisance to surrounding landowners / land users and road users	Operation	Very low	<ul style="list-style-type: none"> • Stockpiles shall be positioned and sloped / contoured in such a way as to reduce dust generation; and • Employ suitable dust suppression methods; • Best practice must be employed to minimise dust impacts that may occur during the various phases of development. • The Operator must comply with the National Dust Control Regulations. 	Very low
	Loss or contamination of topsoil	Loss or contamination of topsoil due to inappropriate storage containment	Operation	Very low	<ul style="list-style-type: none"> • Topsoil shall be stored in stockpiles not exceeding 2 m in height. • Topsoil stockpiles shall be protected from erosion by wind and rain by providing suitable stormwater and cut off drains and / or by establishing suitable temporary vegetation; and • Topsoil stockpiles shall be monitored regularly in order to identify and remove any alien plants. 	Very low
Transportation of material (loading, hauling, roads etc.)	Traffic safety and access	Safety concerns due to heavy vehicle traffic and disruption of access	Operation	Low	<ul style="list-style-type: none"> • Vehicle movement shall be limited to the defined access route and to the areas that would be excavated; • Movement of construction vehicles shall be limited to daylight hours; • Dangers associated with the movement of large haul vehicles shall be clearly sign-posted in both directions leading up to the proposed borrow pit; and • Haul vehicles shall comply with speed limits; and 	Very low

	Loss of material from haul vehicles	Dust and material loss from	Operation	Medium	<ul style="list-style-type: none"> Suitably cover and secure material loads during transportation; and 	Very low
ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE IN WHICH IMPACT IS ANTICIPATED.	SIGNIFICANCE (without mitigation)	MITIGATION TYPE	SIGNIFICANCE (with mitigation)
		unsecured loads			<ul style="list-style-type: none"> Haul vehicles shall comply with speeds limits. 	
Rehabilitation and closure (removal of temporary infrastructure, spreading of topsoil, etc.)	Unsuccessful rehabilitation (e.g. not as close to preborrow pit activity state as possible)	Inappropriate shaping and spreading of topsoil and incomplete removal of construction infrastructure	Rehabilitation, closure and postclosure	Very low	<ul style="list-style-type: none"> The topography would be finished off so that the sides of the borrow pit are no steeper than 1:3; The slope changes would be finished off so that flowing curves that blend with the surrounding landscape are formed in preference to sharp angles; Borrow pit side slopes would be shaped in such a way as to prevent rapid runoff of water that could cause soil erosion; and Any alien growth shall be monitored on rehabilitated areas. 	Very low
No-Go Alternative	Loss of economic opportunities; and Loss of the opportunity to explore new mining resources.		N/A	Low	N/A	-
	No effect on the biophysical environment in the area proposed for the borrow activities (positive)		N/A	Neutral	N/A	-

13. SUMMARY OF SPECIALIST REPORTS

A summary of each of the specialist reports findings is provided in Table 6 below.

Table 6: Summary of the specialist reports

STUDY UNDERTAKEN	RECOMMENDATIONS OF SPECIALIST REPORTS	RECOMMENDATIONS INCLUDED IN THE REPORT
Botanical Assessment	The site has no botanical sensitivity, given that the original vegetation at the site has been completely lost through conversion to cultivation. As such, it is unlikely that the site would ever be successfully rehabilitated to a natural habitat that would resemble the original vegetation type. The specialist has not made any recommendations.	N/A
Heritage Assessment	There is no evidence of archaeological or paleontological materials within the proposed borrow pit footprint. The specialist has not made any recommendations.	N/A

14. ENVIRONMENTAL IMPACT STATEMENT

14.1 SUMMARY OF THE KEY FINDINGS OF THE BASIC ASSESSMENT

The majority of the impacts associated with the proposed borrow pit would be of a short-term duration and of a local extent. As a result, the majority of the impacts associated with the proposed borrow pit are considered of an **INSIGNIFICANT** to **VERY LOW** significance after mitigation.

The potential impacts on aquatic features would be of a short-term duration and of a local extent.. There are **NO IMPACTS** associated with the proposed borrow pit on archaeological and paleontological resources.

The implications of not going ahead with the proposed borrow pit relate to the loss of economic activities and the loss of the opportunity to explore new mining resources. The potential impact of the No-Go Alternative is considered to be of **LOW** significance. The positive implications of the No-Go Alternative are that there would be no effects on the biophysical environment in the area proposed for the borrow pit.

A summary of the assessment of potential environmental impacts associated with the proposed borrow pit activities is presented in Table 7 below.

Table 7: A summary of the significance of the potential impacts associated with the proposed borrow pit activities

POTENTIAL IMPACT	SIGNIFICANCE	
	WITHOUT MITIGATION	WITH MITIGATION
Site preparation		
Site establishment and demarcation	Low	Very low
Access control	Very low	Very low
Access road construction	Very low	Very low
Ablution facilities	Low	Very low
Soil erosion	Very low	Very low
Excavation		
Surface and groundwater contamination	Low	Very Low
Air quality	Low	Very low
Noise	Low	Very Low
Visual	Very low	Very low
Archaeology and palaeontology	No impact	N/A
Land capability	Low	Very low
Disruption of services	Medium	Very low
Fire hazard	Medium	Very low
Pollution	Very low	Very low
Economic opportunity	Low (positive)	N/A
Storage of excavated material		
Dust from stockpiles	Very low	Very low
Loss or contamination of topsoil	Very low	Very low
Transportation of materials		
Traffic safety and access	Low	Very low
Loss of materials from haul vehicles	Medium	Very low
Rehabilitation and closure		
Unsuccessful rehabilitation	Very low	Very low
No-Go Alternative		
Loss of economic opportunity and opportunity to explore a new mining resource	Low	N/A
No impact on biophysical environment	Neutral	N/A

14.2 FINAL SITE MAP

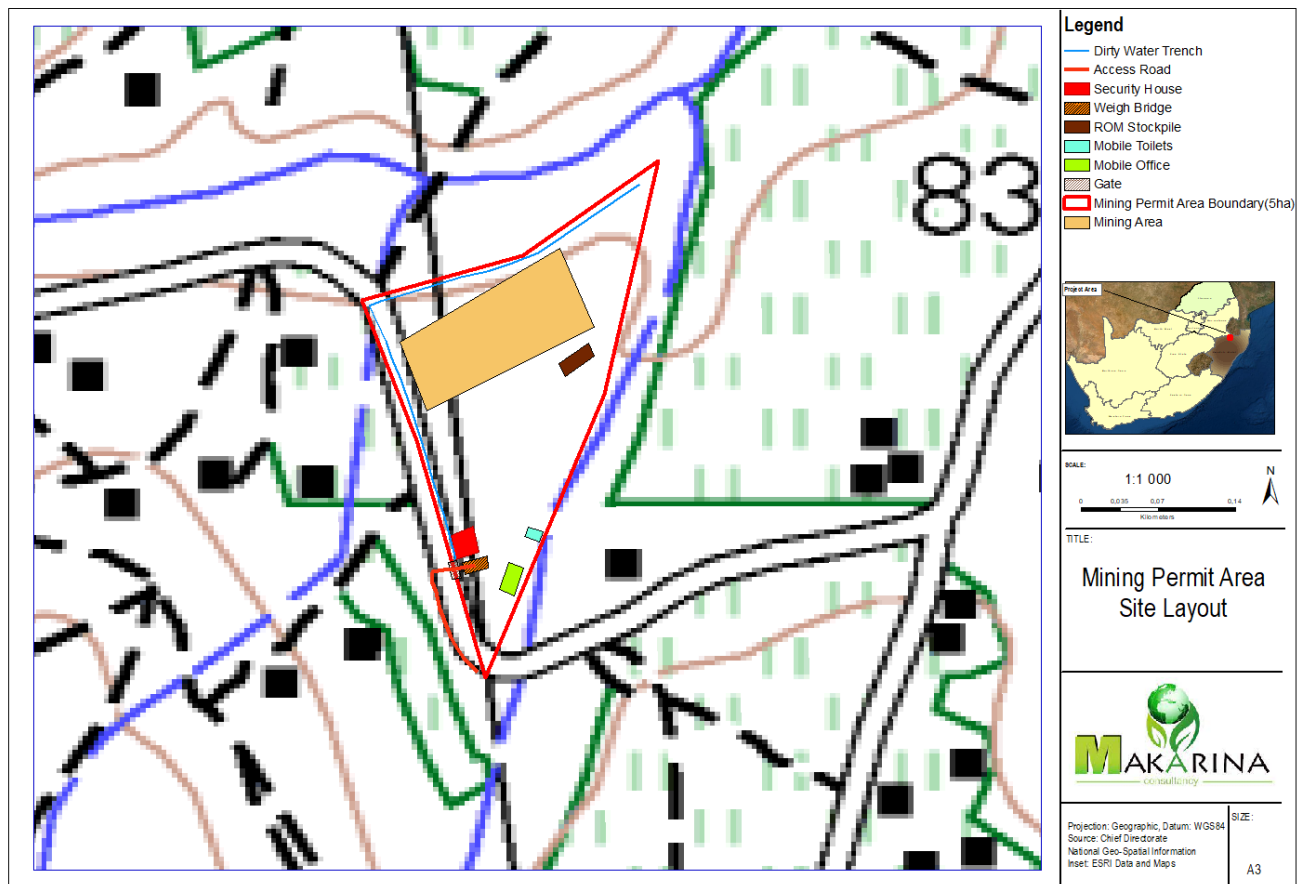


Figure 8: Site layout

14.3 SUMMARY OF THE POSITIVE AND NEGATIVE IMPLICATIONS AND RISKS OF THE PROPOSED ACTIVITY AND IDENTIFIED ALTERNATIVES

As mentioned in Section 7, no additional site layout and location alternatives were considered. The preferred site layout and location have been determined by Zinoluju (Pty) Ltd's application for a Mining Permit on the Dhlamini Tribal Area 448 and the identification of the target resource deposits within the proposed footprint. The site selection was based on the presence of the target resource. A summary of the identified positive and negative impacts for the site, together with their significance, is provided in Table 5 above.

15. PROPOSED IMPACT MANAGEMENT OBJECTIVES AND THE IMPACT MANAGEMENT OUTCOMES FOR INCLUSION IN THE EMPr

Impact management objectives:

- Ensure that impacts and risks associated with the proposed project are prevented and, where they cannot be prevented, are minimised;

- Mitigate risks and potential impacts to surrounding landowners and road users on the surrounding road networks;
- Set environmental targets for the appointed operator;
- Set reasonable standards against which the appointed operator's performance can be measured; and
- Restore the borrow pit site, as close as possible, to the original pre-mining state.

Impact management outcomes:

The key impact management outcome would be the efficient and environmentally responsible utilisation of material from the borrow pit for the improvement and ongoing maintenance of the landowner's internal roads and for the successful marketing of the material to external sources. With the implementation of the recommended mitigation measures and rehabilitation of the borrow pit, it is anticipated that the borrow pit could be formally closed and transformed back to its former or similar agricultural use.

16. ASPECTS FOR INCLUSION AS CONDITIONS OF AUTHORISATION

The following list is recommended to form part of the EA:

- An EMPr must be implemented for the duration of the construction and operation activities (see Part B);
- Borrow pit activities must be limited to the extent of the layout plan (refer to Figure 8);
- A suitably qualified ECO must be appointed to monitor compliance with EA conditions and specifications of the EMPr during the construction phase of the project i.e. during site establishment and initial operation of the proposed borrow pit;
- A suitably qualified Environmental Officer must be appointed to ensure that the requirements of the EMPr are complied with throughout the duration of operation phase;
- The South African Police Service (SAPS) and AMAFA must be notified in the event that any human remains are uncovered during mining activities;
- Disturbed areas are to be rehabilitated, as close as possible, to the original state in terms of shaping, stabilisation and spreading of topsoil; and
- Ensure that the majority of the new temporary employment opportunities are sourced from the local community.

- The holder of the EA must submit a final audit report on completion of the operation phase. The final audit report must be prepared in compliance with Regulation 34 of the EIA Regulations, 2014 (as amended).

17. DESCRIPTION OF ANY ASSUMPTIONS, UNCERTAINTIES AND GAPS IN KNOWLEDGE

The assumptions and limitations associated with the Basic Assessment process are listed below:

- It is assumed that Makarina has been provided with all relevant project information and that it was correct and valid at the time it was provided; and
- There will be no significant changes to the project description or surrounding environment between the completion of the Basic Assessment and implementation of the proposed project that could substantially influence findings and recommendations with respect to mitigation and management, etc.

These assumptions and limitations, however, are not considered to have any negative implications in terms of the credibility of the results of the Basic Assessment process.

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

18.1 REASONS WHY THE ACTIVITY SHOULD BE AUTHORIZED OR NOT

With the implementation of the proposed mitigation measures the proposed development of the borrow pit is anticipated to have **VERY LOW** significance. All recommended mitigation measures are deemed feasible for implementation and the proposed project is deemed to be socially, environmentally and economically acceptable. Given this, as well as the findings of the specialist studies, it is the opinion of Makarina that a positive decision could be made by the Minister of Mineral Resources and Energy (or delegated authority) regarding the approval of the proposed project.

18.2 CONDITIONS THAT MUST BE INCLUDED IN THE AUTHORISATION

Recommendations for any aspect that must be included in the EA are presented in Section 16 above.

19. PERIOD FOR WHICH THE ENVIRONMENTAL AUTHORISATION IS REQUIRED

With regard to the validity period of the EA (should it be granted), the Application is for a validity period of five years.

20. UNDERTAKING

The undertaking required to meet the requirements of this section is provided in Section 13 and is applicable to both the BAR and the EMPr. The EAP undertaking affirms the following:

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

Any information provided by the EAP to I&APs and any responses by the EAP to comments and inputs made by I&APs

21. FINANCIAL PROVISION

A financial provision of approximately, R 59 467.00 which includes concurrent and post-operation rehabilitation activities has been made by Zinoluju (Pty) Ltd . Please refer to Appendix G for more details on the financial provision for the proposed activity.

22. OTHER INFORMATION REQUIRED BY THE COMPETENT AUTHORITY

22.1 IMPACT ON THE SOCIO-ECONOMIC CONDITIONS OF ANY DIRECTLY AFFECTED PERSON

The potential negative socio-economic impacts would relate to noise, dust and safety impacts. These impacts would be mitigated by the implementation of standard construction environmental management measures as set out in the EMPr in Part B. As such, these impacts should not prevent the granting of an EA.

Additionally, there would be a potential low positive socio-economic impact that would relate to the creation of temporary employment opportunities that would be offered to local community members.

22.2 IMPACT ON ANY NATIONAL ESTATE REFERRED TO IN SECTION 3 (2) OF THE NATIONAL HERITAGE RESOURCES ACT.

As noted in Section 7 no heritage sites or resources were recorded within the proposed borrow pit footprint.

23. OTHER MATTERS REQUIRED IN TERMS OF SECTIONS 24 (4) (A) AND (B) OF THE ACT

No other matters are required in terms of Section 24(4)(A) and (B) of the act.

PART B: ENVIRONMENTAL MANAGEMENT PROGRAMME

1. DETAILS OF THE EAP

The details of the EAP are included in Section 1 and in Table 1 of Part A.

2. DESCRIPTION OF THE ASPECTS OF THE ACTIVITY

The description of the activities to be undertaken as part of the proposed borrow pit development is included in Section 4 of Part A.

3. COMPOSITE MAP

Locality and layout maps are provided in Figure 1 and Figure 8, respectively, in part A.

4. DESCRIPTION OF IMPACT MANAGEMENT OBJECTIVES

4.1 DETERMINATION OF CLOSURE OBJECTIVES

The closure objectives for the proposed borrow pit development are as follows:

- Restore the area, as close as possible, to the pre-mining state in terms of shaping and spreading of topsoil in order to allow for the continuation of cultivation activities;
- Ensure that rehabilitation activities are undertaken after completion of borrow pit activities;
- Ensure the area is safe for humans and animals;
- Minimise the erosion potential of the site;
- Ensure that the borrow pit is free draining;
- Minimise the establishment of alien vegetation;
- Ensure that no temporary infrastructure is left on-site during long periods of cessation or closure; and
- Ensure that environmental risks are minimised.

Final rehabilitation of the surface area shall entail landscaping, levelling, maintenance, and clearing of invasive plant species. All equipment, plant and other items used during the mining period will be removed from site (section 44 of the MPRDA, 2002). Waste material of

any description will be removed entirely from the mining area and disposed of at a recognized landfill facility. It will not be permitted to be buried or burned on the site.

The management of invasive plant species should it be available will be done in a sporadic manner during the life of the mining activities. Species regarded as Category 1a and 1b invasive species in terms of NEM:BA (National Environmental Management: Biodiversity Act 10 of 2004 and regulations applicable thereto) will be eradicated from the site. Final rehabilitation shall be completed within a period specified by the Regional Manager.

4.2 VOLUMES AND RATE OF WATER USE REQUIRED FOR THE OPERATION

The proposed borrow pit development would not require water. Minimal volumes of water may be required for dust suppression should it become a nuisance. Water would need to be sourced by the appointed operator. Any extraction of water would need to comply with Section 21 of the National Water Act, 1998 (No. 36 of 1998) and would need to be applied for or registered by the appointed operator.

4.3 HAS A WATER USE LICENCE BEEN APPLIED FOR?

No. A water use licence is not required and should it be required, the same will be applied for.

4.4 IMPACTS TO BE MITIGATED IN THEIR RESPECTIVE PHASES

Table 8: Measures to rehabilitate the environment affected by the undertaking of the proposed borrow pit development.

ACTIVITIES	PHASE	SIZE AND SCALE OF DISTURBANCE	MITIGATION MEASURES	COMPLIANCE WITH STANDARDS	TIME PERIOD FOR IMPLEMENTATION
Site selection and final layout area	Planning and design	30 000 m ²	N/A	N/A	N/A
Site demarcation	Construction	30 000m ²	Demarcate borrow pit footprint.	EMPr	During site establishment
Site clearance	Construction	30 000 m ²	<ul style="list-style-type: none"> Strip topsoil layer up to at least 200 mm where possible and store separately; and Retain topsoil for rehabilitation. 	EMPr	During site establishment
Stockpiling	Operation	Approximately 3 000 m ²	<ul style="list-style-type: none"> Limit stockpile heights to 2 m; Temporary stockpiling of excavated material shall take place in demarcated areas; and Stockpiles shall be positioned and sloped to create the least visual impact. 	EMPr	During operation phase
Topsoil	Operation and rehabilitation	Up to 200 mm depth across the borrow pit footprint	<ul style="list-style-type: none"> Protect topsoil from erosion by installing temporary drainage channels where necessary and prevent storm water from concentrating in runnels and scouring slopes; Topsoil shall be stored separately and in stockpiles not exceeding 2 m in height; and Topsoil stockpiles shall be monitored regularly in order to identify and remove any alien plants. 	EMPr	During site establishment and operation phase

Transport	Operation	300 m ²	<ul style="list-style-type: none"> Vehicle movement shall be limited to defined tracks and areas that would be excavated; Movement of construction vehicles shall be limited to daylight hours; Ensure that construction activities with excessive noise are only undertaken during the following hours: 06H00 – 18H00 Mon-Fri; 06H00-17H00 Sat; <p>Dangers associated with the movement of large haul vehicles shall be clearly sign-posted in both directions leading up to the proposed borrow pit;</p> <ul style="list-style-type: none"> Haul vehicles shall comply with speed limits; Material loads shall be suitably covered and secured during transportation; and Haul vehicles are to be limited to a specific haul route on site. 	EMPr	During operation phase
Ablution facilities	Operation	< 6 m ²	<ul style="list-style-type: none"> The appointed operator shall provide and maintain adequate portable ablution facilities; Toilets must be easily accessible and shall be secured in order to prevent them from blowing over; and A suitable operator shall be appointed to service toilets on a regular basis. 	EMPr	During operation phase

Refuelling and maintenance	Operation	Within borrow footprint	<ul style="list-style-type: none"> Should any refuelling of plant be required at the borrow pit site, a drip tray shall be used; Ensure that there is always a supply of absorbent material readily available in order to treat any minor hydrocarbon leaks or spills; Properly maintain all machinery and equipment so that leaks do not appear and ensure that during servicing all oil, grease, etc. is disposed of correctly; Only minor repairs and maintenance of vehicles and equipment shall be allowed within the site; and No refuelling, handling of hydrocarbon products or maintenance shall be undertaken within the borrow pit areas and it shall only be undertaken within a designated area. 	EMPr	During operation phase
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Stormwater and erosion	soil	Operation and rehabilitation	Within and downslope of borrow pit footprint	<ul style="list-style-type: none"> Protect all areas susceptible to erosion by installing temporary drainage channels where necessary and prevent stormwater from concentrating in streams and scouring slopes; Shape borrow areas in such a way as to prevent 	EMPr	During operation phase and rehabilitation
ACTIVITIES		PHASE	SIZE AND SCALE OF DISTURBANCE	MITIGATION MEASURES	COMPLIANCE WITH STANDARDS	TIME PERIOD FOR IMPLEMENTATION

			<p>rapid runoff of water that could cause soil erosion and to prevent future inundation of the new excavated area; and</p> <ul style="list-style-type: none"> • Limit stockpile heights to 2 m. 		
Air quality	Operation	Within the borrow pit footprint, proposed access road and provincial road network	<ul style="list-style-type: none"> • Retain cultivation cover as long as possible to reduce the size of areas where wind could generate dust; • Suitably cover and secure material loads during transportation; • Haul vehicles should comply with speed limits; • Best practice measures must be employed to minimise noise or dust impacts that may occur during the various phases of the proposed development; and • The Operator must comply with the National Dust Control Regulations. 	EMPr	During operation phase
Noise	Construction, operation and rehabilitation phase	Within borrow pit footprint	<ul style="list-style-type: none"> • The operator is required to be familiar with and adhere to any local by-laws and regulations regarding the generation of noise and hours of operation; and • Ensure that construction activities with excessive noise are only undertaken during the following hours: 06H00 – 18H00 Mon-Fri; 06H00-17H00 Sat. 	EMPr	During the operation phase

5. IMPACT MANAGEMENT OUTCOMES

Table 9:A description of the impact management outcomes, identifying the standard of impact management required.

ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE IN WHICH IMPACT IS ANTICIPATED	MITIGATION TYPE	STANDARD TO BE ACHIEVED
Site preparation (includes site demarcation, site access)	Change in land use	Commencement without authorisation	Planning	Approval shall be obtained from eDumbe Municipality for the change in land use	All relevant planning approvals to be in place prior to construction.
	Site establishment and demarcation	Loss of cultivated land	Construction	Refer to Part A.	No disturbance of land outside of the proposed borrow pit footprint.
	Access control	Safety	Construction and operation		No breach of the site by personnel other than site staff etc.
	Access road construction	Dust and noise nuisance to surrounding landowners / users, safety	Construction		No traffic incidents from road users and surrounding landowners / land users.
	Ablution facilities	Surface water contamination, pollution from inappropriate waste management	Construction and operation		No impact to drainage channels and groundwater and no waste materials outside of designated areas.
	Soil erosion	Soil erosion of topsoil	Construction and operation		No erosion of topsoil.

Excavation	Surface and groundwater contamination	Contaminated runoff to drainage lines and soil	Construction and operation	No impact on drainage channels and groundwater.
	Air quality	Dust nuisance to surrounding landowners / land users and road users	Construction and operation	No dust nuisance complaints from surrounding landowners / land users and road users.
	Noise	Noise nuisance to surrounding landowners / land users and road users	Construction and operation	Adherence to noise-related by-laws and regulations in order to avoid any complaints from surrounding landowners / land users and road users.
	Visual	Landscape changes due to excavation	Operation and closure	Restoration of the borrow pit site as close as possible to the pre-borrow pit activity state with no permanent scarring of the landscape.
	Archaeology and palaeontology	Loss of heritage resources / archaeological artefacts	Construction and operation	Timeous notification to SAPS and AMAFA in the event that human remains are uncovered.
	Land capability	Loss of land use capability due to changes in soil characteristics and land	Operation and closure	Restoration of the borrow pit site as close as possible to the pre-mining state in order for agricultural activities to continue.

ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE IN WHICH IMPACT IS ANTICIPATED	MITIGATION TYPE	STANDARD TO BE ACHIEVED
		cover			
	Disruption of services	Damage to water, sewerage, telephone	Construction and operation		N/A

		and electrical infrastructure		
	Fire hazard	Damage to private property, crops and livestock due to potential runaway fires	Construction and operation	No fires on site and the supply of appropriate fire-fighting equipment.
	Pollution	Pollution from inappropriate solid waste and wastewater management	Operation	No litter or other waste materials outside of designated temporary waste storage areas or bins.
	Economic opportunity	Creation of job opportunities	Operation	Majority of employment opportunities provided to locals.
Storage of excavated material (stockpiling etc.)	Dust from stockpiles	Nuisance to surrounding landowners / land users and road users	Operation	No dust nuisance complaints from surrounding landowners / land users and road users.
	Loss or contamination of topsoil	Loss or contamination of topsoil due to inappropriate storage containment	Operation	Stripping and retention of as much topsoil as possible for use in later rehabilitation.
Transport of resource (loading, hauling, roads etc.)	Traffic safety and access	Safety concerns due to heavy vehicle traffic and disruption of access	Operation	No traffic incidents or safety concerns from road users and surrounding landowners / land users.
	Loss of material from haul vehicles	Dust and material loss from unsecured loads	Operation	No spillage of material from haul vehicles.

Rehabilitation and closure (removal of temporary infrastructure, spreading of topsoil, etc.)	Unsuccessful rehabilitation (e.g. not as close to pre-borrow pit activity state as possible)	Inappropriate shaping, spreading of topsoil	Rehabilitation, closure and postclosure	Restoration of the borrow pit site as close as possible to the pre-borrow pit activity state in order for agricultural activities to continue.
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6. IMPACT MANAGEMENT ACTIONS

Table 10: A description of the impact management actions, identifying the manner in which the impact management objectives and outcomes will be achieved

ACTIVITY	POTENTIAL IMPACT	MITIGATION TYPE	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
Site preparation (includes site demarcation, site access)	Site establishment and demarcation	Refer to Part A.	At commencement of construction and throughout operation phase.	Part A and Part B
	Access control			
	Access road construction			
	Ablution facilities			
	Soil erosion			
Excavation	Surface and groundwater contamination		For the duration of operation phase.	Part A and Part B
	Air quality			
	Noise			
	Visual			
	Heritage / archaeologist			
	Land capability			
	Disruption of services			

	Fire hazard		
	Waste management		
Storage of excavated material (stockpiling etc.)	Dust from stockpiles	For the duration of operation phase.	Part A and Part B
	Loss or contamination of topsoil		
Transport of resource (loading, hauling, roads etc.)	Traffic safety and access	For the duration of operation phase.	Part A and Part B
	Loss of material from haul vehicles		
Rehabilitation and closure (removal of temporary infrastructure, spreading of topsoil, etc.)	Unsuccessful rehabilitation (e.g. not as close to pre-mining state as possible)	During closure phase.	Part A and Part B

7. DETERMINATION OF FINANCIAL PROVISION

7.1 CLOSURE OBJECTIVES

The main closure objective is to ensure that the site is left as close as possible to the pre-borrow pit activity state after the completion of the borrow pit activities. This means the shaping of the borrow pit to allow for continued cultivation or related agricultural activities. The following rehabilitation measures have been developed in line with this objective:

- During rehabilitation, the topography would be finished off with side slopes of 1:3;
- The slope changes would be finished off so that slopes that blend with the surrounding landscape in preference to sharp angles; and
- Where applicable, shaping would be undertaken in such a way as to prevent future inundation of the excavated areas and allow for free draining of the excavations.

7.2 CONFIRM SPECIFICALLY THAT THE ENVIRONMENTAL OBJECTIVES IN RELATION TO CLOSURE HAVE BEEN CONSULTED WITH LANDOWNER AND INTERESTED AND AFFECTED PARTIES

This report, the draft Basic Assessment Report, includes all the environmental objectives in relation to closure and is available for perusal by the landowner, registered I&AP's and stakeholders over a 30-days commenting period. The comments received on the draft report will be incorporated into the Final BAR.

7.3 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

During rehabilitation, the topography would be finished off so that the sides of the borrow pit are no steeper than 1:3. The slope changes would be finished off so that flowing curves that blend with the surrounding landscape are formed in preference to sharp angles. Shaping would be undertaken in such a way so as to prevent inundation of the new excavated area. The site would be contoured to prevent rapid run-off of water that could cause soil erosion.

Topsoil stripped during site clearance would be spread evenly across the borrow pit footprint. Compacted ground (i.e. haul access road) shall be rehabilitated by ripping to a minimum depth of 600 mm. Ripping will increase the soil's water storage capacity, stop erosion, alleviate re-compaction and allow deep root growth and water infiltration.

7.4 EXPLAIN WHY IT CAN BE CONFIRMED THAT THE REHABILITATION PLAN IS COMPATIBLE WITH THE CLOSURE OBJECTIVES

The main closure objective is to ensure that the area is restored as close as possible to the pre-borrow pit activity state in order to allow for the continuation of cultivation. The rehabilitation measures are deemed to be compatible with the main closure objective in terms of shaping and the spreading of topsoil.

7.5 CALCULATE AND STATE THE QUANTUM OF THE FINANCIAL PROVISION REQUIRED TO MANAGE AND REHABILITATE THE ENVIRONMENT IN ACCORDANCE WITH THE APPLICABLE GUIDELINE

The quantum of the financial provision required is R 59 467.00. Zinoluju (Pty) Ltd is required to update and review the quantum of the financial provision on an annual basis (as per Regulation 54 (2) of the MPRDA). This amount has been provided for by Zinoluju (Pty) Ltd, and Appendix G illustrates the breakdown. The amount is inclusive of concurrent and post-closure rehabilitation.

7.6 CONFIRM THAT THE FINANCIAL PROVISION WILL BE PROVIDED AS DETERMINED

Zinoluju (Pty) Ltd would arrange to provide the financial guarantee for the rehabilitation costs to DMRE when mutual agreement has been reached regarding the total amount required for the proposed borrow pit.

8. COMPLIANCE MONITORING MECHANISMS

8.1 ROLES AND RESPONSIBILITIES

The implementation of this EMPr requires the involvement of several stakeholders, each fulfilling a different but vital role to ensure sound environmental management during the implementation of the proposed project.

8.1.1 Department of Mineral Resources and Energy (DMRE)

DMRE is the designated authority responsible for authorising this EMPr. DMRE has the authority to enforce legal action if Zinoluju does not comply with the relevant legislation, conditions of the EA and this EMPr. DMRE will need to approve any amendments that may

be required to the EMPr, and may also perform inspections to assess compliance with the relevant legislation, the EA and the EMPr.

8.1.2 Zinoluju

Zinoluju, as the Applicant and Employer, has overall environmental responsibility to ensure compliance with the relevant legislation, the EA and this EMPr. Zinoluju is also ultimately responsible for the financial cost of all environmental management measures. Zinoluju must ensure that any person acting on their behalf complies with the relevant legislation, the EA and this EMPr. Zinoluju is also responsible for the appointment of the Client Agent, Operator and ECO. Zinoluju shall address any issues pertaining to the environment at the request of the Client Agent and / or the ECO.

8.1.3 Client Agent

The Client Agent shall oversee the planning, design, construction and operation phases of the project. The Client Agent shall address any site problems pertaining to the environment at the request of the ECO, and shall also be responsible for issuing penalties / fines for contraventions of the EA and EMPr. Any on-site decisions regarding environmental management are the responsibility of the Client Agent in accordance with their delegated responsibilities. The Client Agent shall assist the ECO where necessary, and shall have the following responsibilities in terms of the implementation of this EMPr:

- Conducting regular site inspections;
- Reviewing and approving the Operator's MSs (with input from the ECO and / or EO where necessary);
- Monitoring and verifying that the EMPr and MSs are adhered to at all times and taking action if specifications are not followed;
- Keeping a photographic record of construction activities on site;
- Assisting the Operator in finding environmentally responsible solutions to problems with input from the ECO and / or EO where necessary;
- Recommending to Zinoluju the removal of person(s) and / or equipment not complying with the EMPr specifications;
- Recommending to Zinoluju the issuing of fines for transgressions of the EMPr;

- Recommending to Zinoluju delaying any construction activity if he / she believes the integrity of the environment has been or is likely to be seriously jeopardised; • Providing input into the EO's ongoing review of the EMPr; and
- Communicating environmental issues to the ECO and / or EO.

8.1.4 Operator

The Operator shall have the following responsibilities:

- To appoint a suitably qualified Environmental Officer (EO) for the full duration of the contract.
- To implement all provisions of the EMPr and EA (if the Operator encounters difficulties with specifications, she / he must discuss alternative approaches with the Client Agent and the ECO prior to proceeding);
- To ensure that all staff are familiar with the EMPr and EA requirements;
- To monitor and verify that negative environmental impacts are avoided or kept to a minimum;
- To make personnel aware of environmental issues and ensure they show adequate consideration of the environmental aspects of the project;
- To prepare the required Method Statements;
- To report any incidents of non-compliance with the EMPr and EA to the Client Agent and the ECO; and
- To rehabilitate any environmental damaged caused by the Operator's negligence (this shall be done in accordance with the Client Agent's and ECO's specifications).
- Failure to comply with the EMPr and EA may result in fines and reported non-compliances may also result in the Client Agent suspending the operation causing the non-compliance.

8.1.5 Environmental Officer (EO)

The Operator shall, before commencement of construction, appoint a suitably qualified person to fulfil the function of the EO. The EO must be conversant with all legislation pertaining to the environment applicable to the contract and must be appropriately trained in environmental management and possess the skills necessary to impart environmental management awareness training to all personnel involved in the contract. The EO shall be responsible for the on-site implementation of the requirements of the EMPr and shall be appointed for the full

duration of the operations, EA and any additional environmental licences or permits, as appropriate. The EO's duties in this regard shall include, *inter alia*, the following:

- Monitoring and verifying that the EA, EMPr and MSs are adhered to at all times and reporting immediately to the Client Agent and ECO if specifications are not followed;
- Daily site inspections;
- Keeping accurate and detailed records of these inspections on a weekly basis;
- Monitoring and verifying that environmental impacts are avoided or kept to a minimum;
- Assisting the Client Agent and ECO in finding environmentally responsible solutions to problems;
- Reporting any environmental incidents and / or non-compliance with the EA and EMPr requirements to the Client Agent and / or the ECO; and
- Keeping a register of complaints on site and recording community comments and issues, and the actions taken in response to these complaints.

8.1.6 Environmental Control Officer (ECO)

The ECO will be an independent environmental consultant appointed by the Zinoluju to objectively and monitor / audit the Operator's compliance with the conditions of the EA and any additional environmental licences or permits issued for the project, and the requirement of the approved EMPr during the construction phase. The ECO must be appointed before commencement of construction. The ECO's duties shall include, *inter alia*, the following:

- Implementing the ECO responsibilities as stipulated in the EA;
- Verifying that all the required environmental licences and permits have been obtained, as appropriate;
- Advising the Operator and / or the client Agent on environmental issues within defined construction areas;
- Conducting an environmental awareness training session with the site management staff;
- Reviewing MSs;
- Undertaking site visits to assess compliance with the EMPr, EA and any additional environmental licences or permits;
- Keeping a photographic record of progress on site from an environmental perspective;
- Keeping a record / log all environmental incidents and non-compliances;

- Assisting the Operator and / or the Client Agent in finding environmentally acceptable solutions to construction problems;
- Recommending additional environmental protection measures should this be necessary; and
- Compiling a monthly environmental audit reports (for the duration of the construction phase) on compliance with the relevant conditions of the EA and any additional environmental licenses or permits, and the requirements of the EMPr. The ECO shall submit the monthly reports to DMRE.

8.2 FUNCTIONAL REQUIREMENTS FOR MONITORING

Mechanisms for monitoring compliance with and performance assessment against the environmental management programme and reporting thereon, include:

- Monitoring of Impact Management Actions;
- Monitoring and reporting frequency;
- Responsible persons;
- Time period for implementing impact management actions; and
- Mechanism for monitoring compliance.

These functional requirements for monitoring have been listed in Table 11 below.

Table 11: Functional requirements for monitoring

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
Authorisation and administration	Relevant authorisations, registrations and permits are in place	<ul style="list-style-type: none"> Ensure that all relevant authorisations and permits have been obtained (e.g. mining permit); and Ensure that a copy of the BAR and EMPr are provided to all relevant project personnel and kept on-site. 	Applicant	Prior to site establishment
Site preparation	Site establishment, demarcation, soil erosion	<ul style="list-style-type: none"> Borrow pit demarcation; Provision of appropriate ablution facilities; Topsoil clearing; and Soil erosion due to vegetation clearing 	ECO	During construction phase.
Excavation	Surface and groundwater contamination	<ul style="list-style-type: none"> Prevent contaminated run-off from entering offsite drainage lines; and Maintenance of machinery and equipment, refuelling, supply of absorbent material, leaks and spills. 	EO, Client Agent, Operator	During construction and operation phases. Daily monitoring by the Operator's designated EO.
	Air quality	<ul style="list-style-type: none"> Dust suppression measures; and Securing of material loads during transportation and compliance with speed limits. 		
	Noise	Compliance with local by-laws and regulations regarding the generation of noise and hours of operation.		
	Visual	Retain vegetation cover for as long as possible and		

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
		rehabilitate disturbed areas.		
	Archaeology and palaeontology	Notify the SAPS and AMAFA should human remains be uncovered.		
	Land capability	Borrow pit site to be rehabilitated in line with closure objectives.		During operation and closure phase. Daily monitoring by the Operator's designated EO. Performance Assessment Report during closure phase.
	Disruption of services	Ensure that borrow activities do not disrupt services or agricultural activities.		During construction and operation phase.
	Fire hazard	Avoid damage to surrounding private property and infrastructure due to runaway fires by ensuring that the necessary fire prevention measures are in place.		Daily monitoring by the Operator's designated EO.
	Waste management	Avoid pollution from inappropriate solid waste and wastewater management.		During construction, operation and closure phase. Daily monitoring by the Operator's designated EO, filing of necessary waste receipts.

Storage of excavated material (stockpiling etc.)	Dust from stockpiles	<ul style="list-style-type: none"> Appropriate storage of excavated material stockpiles and dust suppression measures. 	EO, Client Agent, Operator	During operation and closure phase.
	Loss or contamination of topsoil	<ul style="list-style-type: none"> Appropriate management and monitoring of topsoil stockpiles. 		Daily monitoring by the Operator's designated EO.
Transport of resource (loading, hauling, roads etc.)	Traffic safety and access	<ul style="list-style-type: none"> Traffic safety measures. 	EO, Client Agent, Operator, Traffic Safety Officer	During operation and closure phase.
	Loss of material from haul vehicles	<ul style="list-style-type: none"> Appropriately secure material loads to ensure safe passage between destinations. 		Daily monitoring by the Operator's designated EO and Traffic Safety Officer
Rehabilitation and closure	Rehabilitation success	<ul style="list-style-type: none"> Rehabilitation of borrow pit sites are to be undertaken in line with the rehabilitation plans and recommended rehabilitation measures. 	EO, Client Agent, Operator	During operation and closure phase. Daily monitoring by the Operator's designated EO. Performance Assessment Report during the closure phase.
		<ul style="list-style-type: none"> A final audit report, prepared in compliance with Regulation 34 of the EIA Regulations, 2014 (as amended) must be submitted to the DMRE during the closure phase. 	Client	Final audit report.

8.3 CONTROL OF INCIDENTS AND EMERGENCY SITUATIONS

Should an unexpected, sudden or uncontrolled release of hazardous substance, including from major emissions, fire or explosions occur, the requirements of Section 30 of NEMA should be implemented. In the event of a hydrocarbon spillage or leakage onto land, it must be reported to the Department of Environmental Affairs (DEA): Pollution and Chemicals Management immediately. Information provided to the Department must include reporting, containment and clean-up procedures of such events.

If an emergency situation arises that poses an imminent and serious threat to the environment, human life or property, the requirements of Section 30A of NEMA should be implemented.

9. INDICATE THE FREQUENCY OF THE SUBMISSION OF THE PERFORMANCE ASSESSMENT REPORT

Performance Assessment Reports, as required by the NEMA EIA Regulations, 2014 would be prepared and submitted on closure, or as often as requested, to DMRE. In addition, the appointed ECO would undertake monthly site inspections for the duration of the construction phase. Copies of the audit reports would be submitted to DMRE.

10. ENVIRONMENTAL AWARENESS PLAN

10.1 MANNER IN WHICH THE APPLICANT INTENDS TO INFORM HIS OR HER EMPLOYEES OF ANY ENVIRONMENTAL RISK WHICH MAY RESULT FROM THEIR WORK.

Before the commencement of any activities at the borrow pit site, the appointed Operator's site management staff will attend an environmental awareness-training course. Environmental awareness training should, at a minimum, consist of the following:

- Explanation of the importance of complying with the EMPr;
- Discussion of the potential environmental impacts of construction and operation activities;

- Explanation of the management structure of individuals responsible for matters pertaining to the EMPr.
- Employees' roles and responsibilities, including emergency preparedness;
- Explanation of the mitigation measures that must be implemented when carrying out their activities;
- Explanation of the specifics of the EMPr and its specification; and
- Waste minimisation practices and the correct disposal of general waste.

10.2 MANNER IN WHICH RISKS WILL BE DEALT WITH IN ORDER TO AVOID POLLUTION OR THE DEGRADATION OF THE ENVIRONMENT.

Risks would be managed and environmental impacts prevented or minimised by the implementation of the recommended mitigation measures and conditions specified in the EMPr. Zinoluju would be responsible for the implementation of the required mitigation measures in order to avoid pollution or degradation of the environment. Appropriate implementation of the recommended mitigation measures and EMPr would be monitored through regular site audits by the appointed Site Agent.

11. SPECIFIC INFORMATION REQUIRED BY THE COMPETENT AUTHORITY

The financial provision as set out in Part B: Section 7.5 will be reviewed on an annual basis or as requested by DMRE.

12. LIST OF FINES

<u>SCHEDULE OF FINES FOR ENVIRONMENTAL DAMAGE OR EMPr TRANSGRESSIONS</u>	
<u>Note: The maximum fine for any environmental damage will never be less than the cost of applicable environmental rehabilitation.</u>	
<u>EMPr TRANSGRESSION OR RESULTANT ENVIRONMENTAL DAMAGE</u>	<u>PROPOSED FINE AMOUNT*</u>
<u>Failure to report environmental damage or EMPr transgressions to the EO.</u>	<u>R5000</u>
<u>Failure to carry out instructions of the EO regarding the environment or the EMPr.</u>	<u>R5000</u>
<u>Failure to comply with prescriptions for supervision for loading and offloading of delivery vehicles.</u>	<u>R2500</u>
<u>Failure to comply with prescriptions for securing of loads to ensure safe passage of delivery vehicles.</u>	<u>R2500</u>
<u>Failure to comply with prescriptions for the use of ablution facilities.</u>	<u>R1500</u>

<u>Failure to comply with prescriptions for the use of designated eating areas, heating source for cooking or presence of fire extinguishers</u>	<u>R1500</u>
<u>Failure to comply with prescriptions regarding water provision</u>	<u>R5000</u>
<u>Failure to comply with prescriptions for solid waste management (incl. paint chips, cement and concrete)</u>	<u>R5000</u>
<u>Failure to comply with prescriptions to prevent water pollution</u>	<u>R5000</u>
<u>Failure to comply with prescriptions regarding workshop equipment maintenance and storage</u>	<u>R10000</u>
<u>Failure to comply with prescriptions regarding noise levels of construction activities</u>	<u>R1500</u>
<u>Failure to comply with prescriptions regarding working hours</u>	<u>R2500</u>
<u>Failure to comply with prescriptions regarding lighting and aesthetics</u>	<u>R1500</u>
<u>Failure to comply with prescriptions regarding the protection of heritage and cultural features</u>	<u>R10000</u>
<u>Failure to comply with prescriptions regarding site demarcation and erection of fences</u>	<u>R5000</u>
<u>Failure to comply with prescriptions regarding demarcation and enforcement of 'no go' areas</u>	<u>R20000</u>
<u>Failure to comply with prescriptions regarding site and vegetation clearing</u>	<u>R15000</u>
<u>Failure to comply with prescriptions regarding control of vehicles and plant on access routes</u>	<u>R10000</u>
<u>Failure to comply with prescriptions regarding information boards or a complaints register</u>	<u>R2500</u>
<u>Failure to comply with prescriptions regarding protection of natural features</u>	<u>R25000</u>
<u>Failure to comply with prescriptions regarding erosion and sedimentation control</u>	<u>R15000</u>

13.UNDER TAKING

The EAP herewith confirms

- a. the correctness of the information provided in the reports ☒
- b. the inclusion of comments and inputs from stakeholders and I&APs ; ☒
- c. the inclusion of inputs and recommendations from the specialist reports where relevant; ☒and
- d. 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. ☒

Mushiane HH

Signature of the environmental assessment practitioner:

Makarina Consultancy (Pty) Ltd
Name of company:

05 July 2021

Date:

-END-

Appendices

Appendix A: EAP Qualifications

Appendix B: DMRE Acceptance Letter

Appendix C: I&Aps Database

Appendix D: Site Notices

Appendix E: Newspaper Advert

Appendix F: Stakeholder Notification

Appendix G: Financial Provision

Draft