

MINING RIGHTS APPLICATION:

THE MINING RIGHT APPLICATION FOR THE PROPOSED MINING DEVELOPMENT FOR DIAMOND
KIMBERLITE (DK) AND DIAMOND GENERAL (DG) ON FARM VILJOENSHOF 1655 IN BOSHOF, FREE
STATE, SOUTH AFRICA

DMRE ref no:FS 30/5/1/2/2/10064MR

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Table 1: Project Information

PROJECT INFORMATION	
Document Name	Environmental Impact Assessment Report (EIAR)
Document Class	Public
Project Title	The mining right application is for a proposed mining development for Diamond kimberlite (DK) and Diamond General (DG) on Farm Viljoenhof 1655 in Boshof, Free State, South Africa.
Purpose of this Report	<p>This Environmental Impact Assessment Report forms part of a series of reports and information sources that are being provided during the Environmental Impact Assessment (EIA) and Environmental Management Program Report process for the proposed mining development for Diamond kimberlite (DK) and Diamond General (DG) on Farm Viljoenhof 1655 in Boshof, Free State, South Africa. In accordance with the EIA Regulations, the purpose of the EIA&EMP Report is to:</p> <ul style="list-style-type: none"> • Provide a description of the proposed project, including a sufficient level of detail to enable stakeholders to raise issues and concerns; • Describe the local planning context and environment within which the project is proposed, to assist further in identifying issues and concerns;

	<ul style="list-style-type: none"> • Provide an overview of the process being followed in the EIAR Phase, in particular the public participation process, as well as present the Plan of Study followed in the EIA phase; and • Present the issues and concerns identified to date from the stakeholder engagement process, together with an explanation of how these issues have been addressed through the phases.
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Table 2: Details of the EAP

Environmental Assessment Practitioner (EAP)			
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Website:	www.biomental.co.za		
Experience	The EAP, Mr. Macebele Tiyiselani has vast experience in environmental management field and have been involved in number of projects in the public and private sector such as renewable energy projects, mining and construction. Tiyiselani has experience in drafting EMPs, application for Basic assessment, permits & licensing, prospecting mining right and mining rights.		

Environmental Assessment Practitioner (EAP)			
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Website:	www.biomental.co.za		
Experience	<p>Mr Mahori Nhlawulo has completed his professional registration in terms of section 20(3) (b) of the Natural Scientific Professions Act, 2003 (Act 27 of 2003) in the field of practice Environmental Sciences (Registration number 125490).</p> <p>He is registered in accordance with the prescribed criteria of Regulation 15(1) of the section 24H Registration Authority Regulations (regulation No.849, Gazette No. 40154 of the National Environmental Management Act (NEMA) Act No. 107 of 1998) as amended) EAP (Registration No. 2019/1026)</p> <p>He obtained his Bachelor of Environmental Sciences in 2016 and Bachelor of Environmental Sciences Honours Degree in 2017 at the University of Venda.</p> <p>Mr Mahori Nhlawulo is an Environmental Assessment Practitioner and has been involved in the compilation, coordination and management of Basic Assessment Reports, Environmental Impact Assessments, Environmental Management Programmes, Waste Licence Applications, Water Use Licence Applications, Mining Permits Application and Baseline Biodiversity Surveys for numerous clients.</p>		
Environmental Assessment Practitioner (EAP)			
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Experience	Ms Fortunate Ngubani hold a BA Degree in Geography and BA degree in Environmental Management obtained from University of South Africa. Ms Fortunate Ngubane is well experienced in Environmental Management and has been involved in Environmental Impact Assessment in compiling and reviewing reports.
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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 as amended in April 2017, 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.

OBJECTIVE OF THE ENVIRONMENTAL IMPACT

ASSESSMENT PROCESS

The objective of the environmental impact assessment process is to, through a consultative process: -

- determine the policy and legislative context within which the activity is located and document how the proposed activity complies with and responds to the policy and legislative context;
- describe the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the preferred location;
- identify the location of the development footprint within the preferred site based on an impact and risk assessment process inclusive of cumulative impacts and a ranking process of all the identified development footprint alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects of the environment;
- determine the: - (i) nature, significance, consequence, extent, duration and probability of the impacts occurring to inform identified preferred alternatives; and degree to which these impacts: - can be reversed; may cause irreplaceable loss of resources, and can be avoided, managed or mitigated.
- identify the most ideal location for the activity within the preferred site based on the lowest level of environmental sensitivity identified during the assessment;
- identify, assess, and rank the impacts the activity will impose on the preferred location through the life of the activity;
- identify suitable measures to manage, avoid or mitigate identified impacts; and
- identify residual risks that need to be managed and monitor.

EXECUTIVE SUMMARY

A. Background

Invest In Property 126 (Pty)Ltd propose to apply for mining right in a small town Boshof in Free State, South Africa. The area cover is approximately 3,389 ha. The mining right application is for a proposed mining development for Diamond kimberlite (DK) and Diamond General (DG). The proposed development is located over Farm Viljoenshof 1655, located 27.9km km north east of Kimberly,120 km west of Bloemfontein and 13 km east of Boshof town. The applicant Mr Verdi Scholtermeyer is the permit holder for prospecting right permit granted by the Department of Mineral Resource and Energy (DMRE) in terms of Minerals and Petroleum Resource Development Act (Act 28 of 2002).

Biomental Services has been appointed by Invest in Property 126 (Pty)Ltd as an independent Environmental Assessment Practitioner (EAP) to provide professional environmental management services for the proposed project. Biomental Services will conduct and compile the Environmental Impact Assessment Report (EIAR) in terms of Environmental Impact Assessment Regulations 2017 as amended of National Environmental Management Act, 1998 (Act No. 107 of 1998) for the proposed project.

Invest In Property 126 (Pty)Ltd is currently following the necessary processes to obtain environmental authorisation in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) for associated listed activities as stipulated in the NEMA Regulations. In conjunction with the NEMA application, Biomental Services on behalf of Invest in Property 126 (Pty)Ltd has submitted a Mining Right Application (MRA) in terms of the Minerals and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) (MPRDA).

B. Policy and Legislative Context

Applications for various environmental approvals are either in progress or will be applied for prior to undertaking the relevant activities for the proposed project. These approvals include:

- Mining Right and an Environmental Management Programmes (EMP) in terms of the MPRDA (as amended) to be approved by the Department of Mineral Resources and Resources (DMRE);
- Environmental authorisation in terms of NEMA and the EIA Regulations, 2014 to be granted by the DMRE;

- Waste License in terms of the National Environmental Management Act, 2008 (Act No. 59 of 2008); and
- Water Use Licence in terms of the National Water Act, 1998 (Act No. 36 of 1998) to be lodged with the Department of Water and Sanitation (DWS).

The EIAR is being conducted as per Appendix 3 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) Environmental Impact Assessment Regulations, 2017 as amended and will contain following: -

- (i) an assessment of the nature, extent, duration and significance of the consequences for or impacts on the environment of the activity, including the cumulative effects;
- (ii) a description of mitigation measures undertaken or to be undertaken in respect of the consequences for or impacts on the environment of the activity;
- (iii) a description of the public participation process followed during the course of compiling the report, including all comments received from interested and affected parties and an indication of how issues raised have been addressed;
- (iv) An environmental management programme.

An application for an Integrated Environmental Authorisation was lodged with the Department of Mineral Resources (DMRE) and an acceptance of application was received on 19/02/2021 whereby the project was assigned **REF:FS 30/5/1/2/2/10084MR**. The Scoping Environmental Impact Report was submitted to the Department of Mineral Resources and Energy for comment and the DMRE acknowledged receipt of the Scoping Report, which was made available to Interested and Affected Parties (I&APs) and stakeholders for a 30-day comment period. The comments received from stakeholders during the 30-day review were incorporated into the Scoping Report the DMRE accepted the finalised Scoping Report and Plan of Study for EIA on 21 May 2021, which enabled the commencement of the Environmental impact assessment and Environmental Management Programme phase.

The EIA Report is due to be circulated to various stakeholders for a 30-day period to make submissions, comments and review for public participation purposes as stipulated on condition 4 of the Acceptance of Scoping Report received from the Competent Authority (DMRE) on 08 June 2021. All comments will be included in the finalised EIA Report, which will be submitted to DMRE for decision-making. Written notifications, hard copies and/or containing the document will be distributed to key stakeholders, including authorities. The results of the specialist studies and other relevant project information are

summarised and integrated into this EIA Report. DEIA Report includes an Environmental Management Programme (EMP). The EMP is based on the EMP and recommendations made by specialists for design, construction, operation and decommissioning of the proposed project.

C. Project Description and Location

The proposed overall activity will begin and be implemented through a pilot phase for a duration period of one (1) year. A contractor with readily available plants and earthmoving equipment will be responsible for the implementation of pilot phase. This phase is necessary given that the prospecting work program was only limited to non-invasive approach. Additionally, invasive approach such as trenching/pitting and drilling was not conducted as a result of farm property owner restriction to access the property and proscription use of earthmoving plants, machinery and construction vehicles for related prospecting activities. The pilot stage will encapsulate further study of the diamond ore. The primary objective of the pilot mining phase is:

- Open complete area of the kimberlite body(ies) and cut first two benches into kimberlite;
- Process different kimberlite type separately and determine the grades and diamond quality variation;
- Carry out metallurgical studies of the ore for final design of the plant;
- During this stage geophysical survey and diamond core drilling will be implemented to study ore bodies morphology with depth;
- The outcome of geophysical survey and diamond core drilling will be implemented to study ore bodies morphology to be used for long term underground mining method to be used.

The open cast method for mining have been considered as a preferred method for minerals extraction. The open cast method will entail the trenching to the depth of two (2) benches (i.e.12 to 20 m) however, this is dependent on the hosting rock competence and stability. The pilot phase is envisaged to be disassociated with excessive blasting given that the hosting rock is black and grey Ecca shale, which is quite brittle. However, soft blasting will be applied where necessary in particular for cutting into kimberlites. The proposed mine property is characterised by game farming, livestock farming and related agricultural crop farming at a small scale. This necessitates the use of soft blasting to avoid and reduce impact on game farm with noise and flying rocks fragments.

Geographical Location of the Project

The project area is situated in Free State Province in a small town Boshof. It falls within the Tokologo Local Municipality of the Lejweleputswa District Municipality; and is situated approximately 27,9km north-east of the Kimberly and 120km west of Bloemfontein.

DRAFT EIAR&EMP

Locality Plan

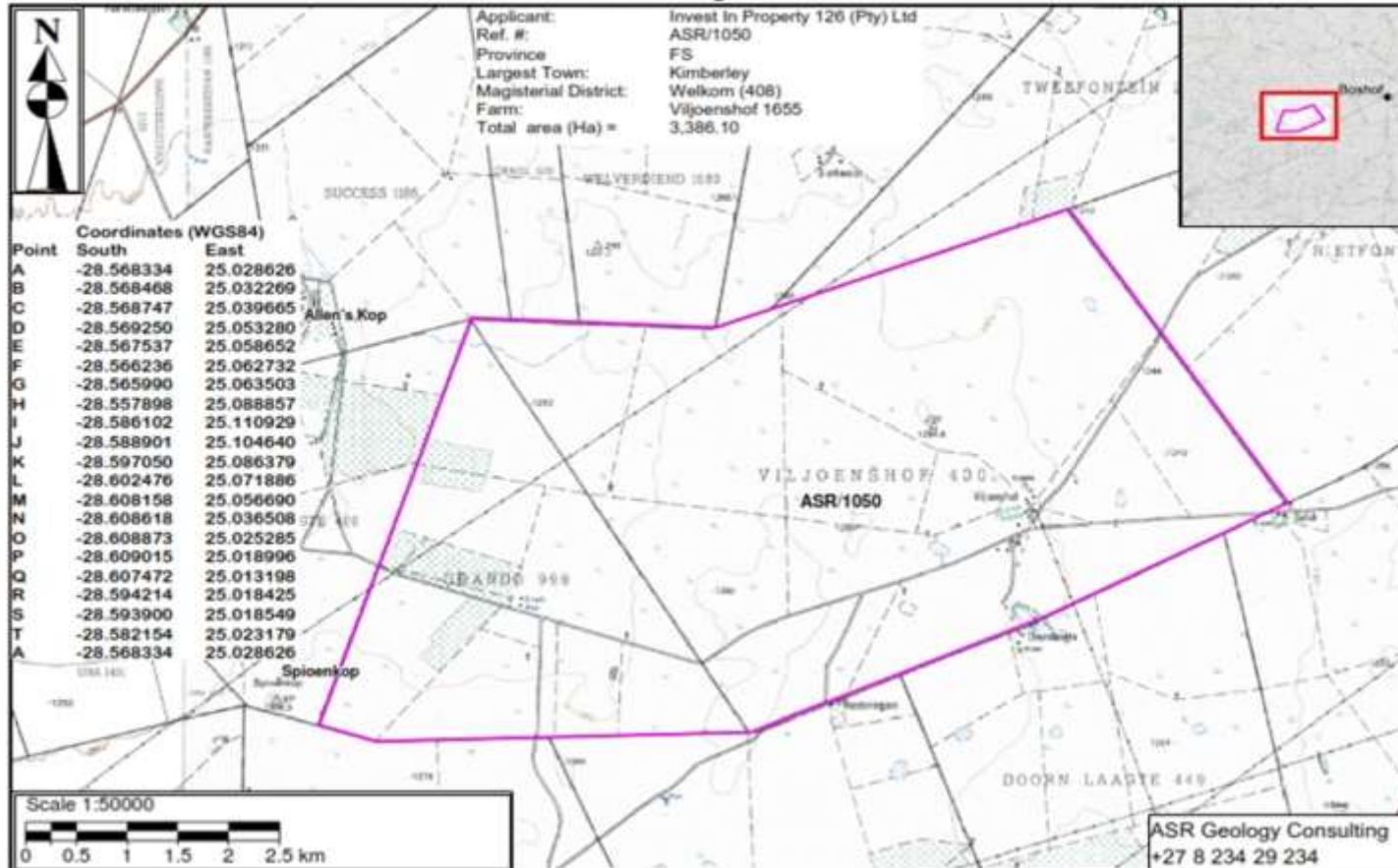


Figure 1: Locality Plan

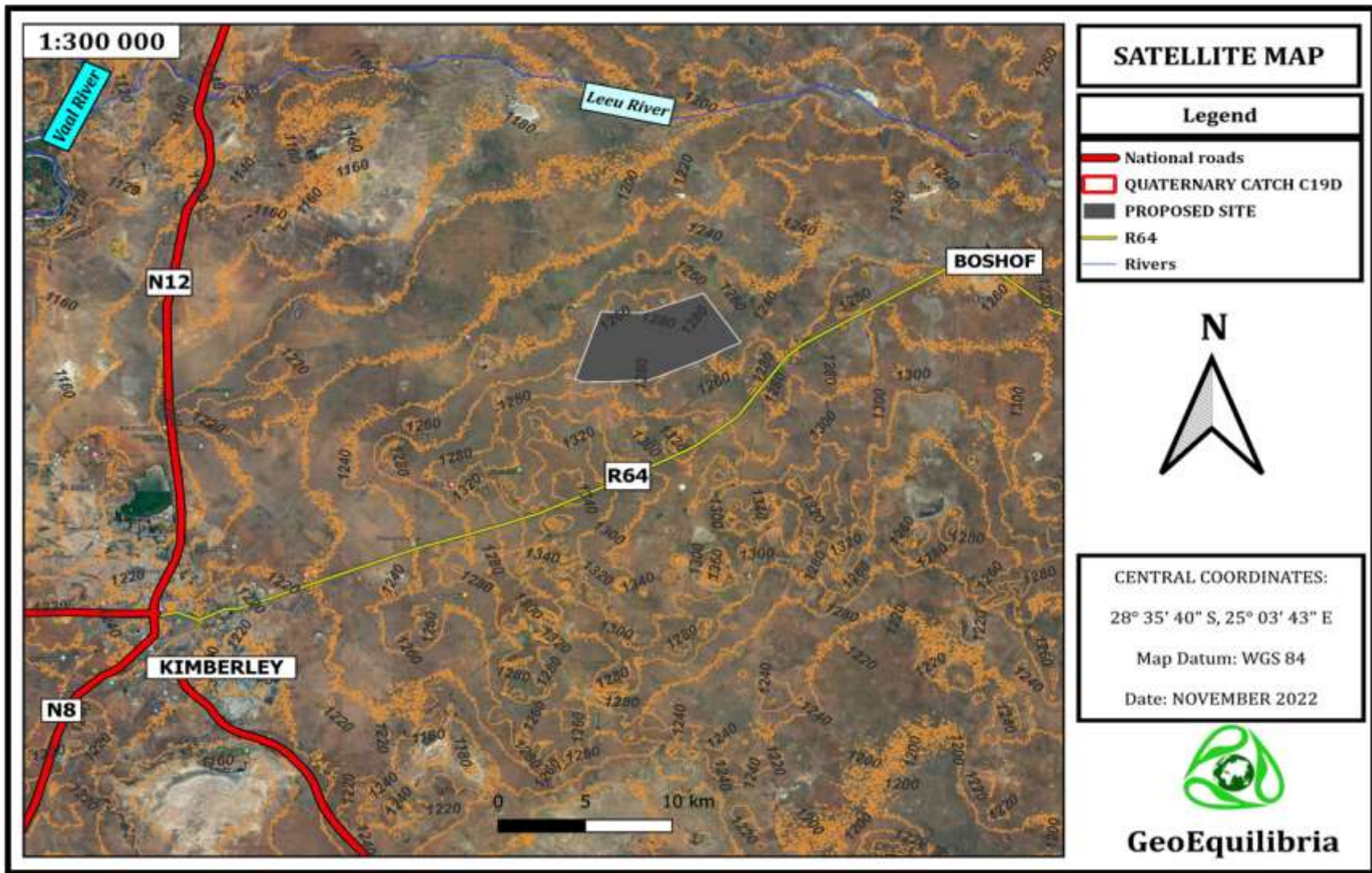


Figure 2: Satellite Map

D. Need and Desirability of the Project

The entire application (MRA, Scoping, EIA, EMP and specialist reports) were considered to gain a holistic view of the need and desirability of the proposed project and its related activities. The national developmental policies communicate the aim to reduce poverty, achieve equity, and increase economic growth. The New Growth Path Framework (Department of Economic Development, 2010) and the National Development Plan 2030 (NDP 2030) (National Planning Commission, 2011) envisage that regions should take advantage of natural resources to achieve the aims of the Plans, but in a sustainable and equitable manner.

Part of the EIA process was to undertake a range of specialist studies which relate to the physical, biological and socio-economic aspects potentially affected by the proposed project.

The findings of the studies are appended on the EIA/ EMPr. The impact assessment Section quantified the expected impacts of each project activity. Mitigation measures were also identified for each of the expected impacts and are detailed in this report. A sensitivity analysis was further completed to identify the sensitive environmental aspects present on the project site.

A number of negative impacts have been identified which will cause significant damage to the natural environment which include the deterioration of soil, air quality, fauna and flora, groundwater resource, heritage, Traffic and the visual environment. Although it is expected that there will be significant negative impacts as a result of the project it is also expected that the proposed project will contribute to job creation and local economic development. This is particularly beneficial in light of South Africa's development priorities of job creation and economic growth as per the (NDP, 2012). The envisaged mining activities of the proposed project are expected to have knock-on benefits in terms of local employment, local economic development and increased government revenue and taxes.

E. Purpose of the study

The overarching objectives of this EIA and EMPr report are to:

- Provide an interpretation of the specialist reports;
- Identify and assess potential environmental and social impacts associated with the proposed project; and

- Recommend mitigation and management measures to ensure that should the mining operations be approved the development is undertaken in such a way as to enhance positive impacts and minimise negative impacts.

This report also describes the status quo of the biophysical and socio-economic environments of the project area, based on specialist inputs. Furthermore, an EMP has been developed to mitigate and manage biophysical and socio-economic impacts associated with each project activity. Various specialist studies were Identified during the project evaluation to inform the EIA/EMPr, however only 4 highlighted in **BOLD** among all specialist listed below were undertaken and a result of access restriction by the landowner. The EAP recommended desktop study Carried out (See Annexure H(3) the notification request for access into the property) The overall specialist studies are:

- Soil, Land Use and Land Capabilities Assessment;
- Surface Water Assessment;
- **Geohydrological Impact Assessment;**
- Air Quality Assessment;
- **Ecological Impact Assessment;**
- **Archaeological Impact Assessment;**
- **Social Labour Plan**
- Visual Assessment;
- Traffic Impacts Assessment
- Socio-Economic Assessment

An EIA of a proposed mining operation consists of:

1. An assessment of the environment likely to be affected by the proposed mining operation, including cumulative environmental impacts;
2. An assessment of the environment likely to be affected by the identified alternative land use or developments, including cumulative environmental impacts;
3. An assessment of the nature, extent, duration, probability and significance of the identified potential environmental, social and cultural impacts of the proposed mining operation, including the cumulative environmental impacts;
4. A comparative assessment of the identified land use and development alternatives and their potential environmental, social and cultural impacts;

5. A determination of the appropriate mitigatory measures for each significant impact of the proposed mining operation;
6. Details of the engagement process for interested and affected persons followed during the course of the assessment and an indication of how the issues raised by interested and affected persons have been addressed;
7. This report also describes the current environment of the project area and evaluates all the impacts that have been identified. Furthermore, an Environmental Management plan has been developed to mitigate and manage all environmental impacts associated with each Project activity.

F. Identification of Key Environmental Issues

Risks and key issues were identified in the Scoping Phase of the project, were based on consultation with the I&APs, through an internal process based on similar developments, as well as the experience of the EAP and an environmental impact assessment. The table below is a summary of the significant environmental impacts that have been identified:

Table 3: Summary of Significant environmental impacts that have been identified during the specialist studies conducted on the Project site.

Aspect	Impact Description
Topography	
Change in the Project surface area due to site clearing activities for the preparation of construction of infrastructure.	The removal of vegetation and topsoil will change the surface of the Project area and will therefore change the topography.
Change to topography due to construction of surface infrastructure.	The construction of surface infrastructure will add features to the topography thereby changing it.
Changes to the topography due to drilling blasting and development of infrastructure for mining.	The development of surface infrastructure will add features to the topography while drilling and blasting will create voids thus changing the topography.
Change in local topography due to the operation of surface infrastructure.	Operation of the stockpiles, waste rock dumps and the TSF will add to the surface and thereby change the topography of the Project area.
Visual	
Site clearing activities influencing the visual Environment.	The removal of topsoil and vegetation will have a negative visual impact on the receiving environment. Furthermore, the

	infrastructure will become noticeable to the surrounding receptors.
Construction of surface infrastructure influencing the visual environment.	The construction of the mine's surface infrastructure will have a negative visual impact on the receiving environment.
Drilling, blasting and development of infrastructure and shafts for mining will Influence the visual aspects of the project area.	The drilling, blasting (generation of dust) and development of infrastructure and shafts for mining will have a negative visual impact on the receiving environment.
Adding material to the waste rock dumps, stock piles and TSF.	Operation of the stockpile, waste rock dumps and TSF will have a negative visual impact on the receiving environment. This will be as a result of continuously adding material to these waste rock dumps and stockpiles.
Flora and Fauna	
Loss of Impacted vegetation due to construction activities.	Mine construction activities will lead to the loss of impacted vegetation thus impacting the biodiversity value of the areas affected.
Loss of general biodiversity	The construction and operation of the mining infrastructure will lead to the potential loss of general biodiversity within the Project Area, thus decreasing the biodiversity value of the areas affected.
Loss of flora and fauna Species of Special Concern.	The construction and operation of the mining infrastructure will lead to the potential loss of flora and fauna Species of Special Concern (SCC).
Influx of alien invasive species.	Construction, operation and decommissioning activities may cause the uncontrolled influx of alien invasive species within and around the Project area
Impact on local road infrastructure and Access Road	
Effect on road infrastructure Effect of access roads into the proposed development roads	Increase traffic volume on the R64 Noise Dust Impacts on game animals
Surface Water	

Surface water run-off	Refer to the impact described in the aquatics section above on surface water run-off.
Soil	
Soil compaction and topsoil loss due to erosion	Activities during early works, construction and operational phase in the Project area could lead compaction of soils and soil erosion.
Impact of site rehabilitation on soil and land capability	During the decommissioning activities, impacts to soil resources may include compaction and contamination which may be significant only in the short term.
Air Quality	
Dust emissions effect on neighbouring farm properties	Movement of mining vehicles and its operational related plants will directly or indirectly induce dust emission
Blasting and Vibration	<ul style="list-style-type: none"> • Increased noise and vibration nuisance; • Damage to structures; • Loss of productivity of farm animals due to vibration; • Damage to roads; • Damage to boreholes; • Air blast; • Pollution of borehole water; • Fly rock; and • Noxious fumes.
Social Impacts	
Construction phase and Operational phases	Job creation during construction
	Multiplier effects on the local economy
	Economic empowerment of communities
	Skills transfer and development
	Community development induced by Local Economic Development (LED) and Corporate Social Initiatives (CSI) projects
	Economic displacement
	Disruption of movement patterns
	Construction-related health and safety impacts
	Visual/acoustic/vibration and air quality impacts
	Increase in spread of communicable diseases and social pathologies

	Conflict/competition between newcomers and incumbent population
	Increased pressure on local services/ resources
	Establishment and growth of informal settlements
	Opposition because of perceived negative impacts
	Job creation during operation
	Regional economic development
	Dependency on mine for sustaining local economy
	Operation-related health and safety impacts
Decommissioning phase	Impacts on the work force
	Impacts on the local community
	Impacts on the wider community
	Job creation

Specialist studies assisted with the development and understanding of the system processes and the potential impacts of the proposed development on both the biophysical and social environments. The following specialist were conducted to augment this EIAR:

- Ecological Report;
- Geo-hydrological Studies;
- Heritage Impact Assessment; and
- Social Labour Plan

Each issue was assessed and mitigation measures proposed such that impacts will be minimised or negated. It is this assessment that allowed the EAP to make an informed analysis and provide an opinion of the proposed development.

In line with the requirements of the NEMA EIA Regulations, this EIA Report provides a detailed description of the pre-development environment, specifically in terms of the biophysical and socio-economic environment of the study area. Furthermore, the report provides a comprehensive description of the activities as well as numerous specialist studies that were undertaken for the EIA Phase and Public Participation Process (PPP) to be undertaken, as well as the way forward in the form of conclusions, recommendations. The Scoping and EIAR describes the activities related to the proposed development Diamond Kimberlites and Diamond General. A detailed description of the surrounding land use is provided, ensuring that all the environmental aspects are highlighted.

G. Public participation

A Public Participation Process (PPP) was initiated during the Scoping phase, which is central to the investigation of environmental and social impacts, as it is important that stakeholders who are affected by the project are given an opportunity to identify concerns and to ensure that local knowledge, needs and values are understood and taken into consideration as part of the impact assessment process. This DEIA report marks another chapter that seeks to make opportunity to all various stakeholders, I&As, surface owners, organs of states and general public to make submissions, comments and review. The comments from the public participants will be included in the Comment and Response Report (CRR). The draft EIA/EMP report is being submitted to the public for their input and comments for a period of 30 days. The Public Participation Process is been conducted in terms Chapter 6: Regulation 41(2); 42 and 43(1) of GNR 982 (04 December 2014) of the National Environmental Management Act 107 of 1998 and National Water Act No 36 of 1998. PP is the cornerstone of the Environmental Impact Assessment process. These include the ongoing provision of sufficient information (in a transparent manner) to Interested and Affected Parties (IAPs).

The objective of Public Participation is to convey information regarding the proposed project to all parties who are likely to be affected or interested in the proposed project. Most importantly, the PP provides stakeholders with an opportunity to register as Interested and Affected Parties (I&As) and to raise issues and concerns regarding the proposed development of the Mine.

The PP covers a wide area which included surrounding farmers, small town Boshof in Free State. In accordance with Regulation 41(2) (c), published under Government Notice No.982 of December 2014 as amended on 07 April 2017 of the National Environmental Management Act, 1998 and Regulation 50 of the Minerals and Petroleum Development Act (MPRDA, Act 28 of 2002) a newspaper advertisement has been secured and due to make publication on the 9 February 2023 through DFA. Site notices shall also be pasted on and around the proposed site. The Draft EIA/EMPr Report Document shall be distributed to key government stakeholders and other Interested and Affected Parties (I & APs) this is in a form of electronically and hard copies (evidence will be provided under the Public Participation section of the final EIAR.

The PPP that forms part of the EIA becomes the basis for stakeholder engagement process. In order to achieve this, a number of key activities have taken place and will continue to take place. These include the following:

- The identification of stakeholders is a key deliverable at the outset, and it is noted that there are different categories of stakeholders that must be engaged, from the different levels and categories of government, to relevant structures in the NGO sector, to the communities adjacent to the proposed area.
- The development of a living and dynamic database that captures details of stakeholders from all sectors;
- The convening of focused and general meetings with stakeholders at different times throughout the EIA process (and beyond);
- The engagement of public leaders to whom the public generally turn for information, keeping such individuals well informed about process and progress;
- The fielding of queries from I&APs and others, and providing appropriate information;
- The convening of specific stakeholder groupings/for or as the need arises;
- The preparation of reports (both baseline and impact assessment) based on information gathered throughout the EIA via the PPP and feeding that into the relevant decision-makers;
- The PPP could include distribution of various types of pamphlets and other information packs; and
- Where appropriate site visits may be organized, as well as targeted coverage by the media.

H. Conclusions and Recommendations

Following the completion of the various specialist studies appended in this report and the identification and assessment of the expected impacts, it is the opinion of Biomental Services that the proposed project can be authorised. This opinion holds provided that all the recommendations proposed in the specialist studies and the EIA and EMP as well as legislative requirements are implemented and adhered to.

It must be noted however, that the project has the potential to result in significant negative impacts on the natural environment and has the potential to alter the functioning of these systems and

compromise their ecosystem services provided, However, should the recommendations for higher safety factors be adhered to, the impact can be considerably reduced to a minor impact.

Invest In Property 126 (Pty)Ltd will need to take this into consideration and manage the residual impact with adequate rehabilitation actions and if needs be with an offsetting strategy to ensure no-nett-loss of natural functionality. The monitoring plans throughout the Life of the Mine (LoM) must also inform Invest In Property 126 (Pty)Ltd on the impacts to the and the remedial actions required.

ABBREVIATIONS; ACRONYMS AND DEFINITIONS

Activity-any action needed for the design, construction and completion of a project.

Alien species - a species occurring in an area outside of its historically known natural range as a result of intentional or accidental dispersal by human activities.

Alternative- in relation to the proposed activity means a different way of meeting the general purpose and requirements of the activity.

a) Any part or combination of a) and b) and the interrelationships among and between them; and

Basic Assessment – means the independent investigation conducted by an Environmental Practitioner in compliance with the environment legal requirements of the National Environmental Management Act (Act No.107 of 1998) (NEMA) and the EIA Regulations published in Government Notice R.385 and R.386 in Government Gazette No.28753 of April 2006, promulgated under section 23(1) of NEMA in application for environmental authorisation.

CEMP – Construction Environmental Management Plan

Client -

Construction Activity - any action taken by the Contractor their sub-contractors, suppliers or personnel during the construction process.

Contaminated water – means water contaminated by the contractors' activities, e.g concrete water and runoff from plant / personnel wash areas.

DWS-Department of Water and Sanitation

Environment –The surrounding in which humans exist, and which comprise:

Environmental Audit – a systematic, documented, regular and objective evaluation to see how well an organisation or facility is operating in terms of the EMP and is complying with statutory requirements and the organisation's environmental policy.

Environmental Authorisation (EA) -the formal written document indicating the granting or refusal of authorisation for a proposed development, issued by the relevant approving authority

Environmental Impact- any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's environmental aspects

Environmental Management Plan (EMP)-this document is recognised as the tool that can provide the assurance that the project proponent has made suitable provision for mitigation. The EMP is the document that provides a description of the methods and procedures for mitigating and monitoring impacts. It also contains environmental objectives and targets which the proponent needs to achieve in order to reduce or eliminate negative impacts.

Environmental Monitoring (EM) - the person to be appointed by the Consulting Engineers to oversee the design and construction phases of Project and to ensure that all environmental specifications and EMP obligations are met during these phases. The Environmental Monitor will be responsible for the monitoring, reviewing and verifying of compliance with the EMP by the Contractor.

Fauna- All living biological creatures, usually capable of motion, including insects and predominantly of protein based consistency.

Fence- a physical barrier in the form of posts and barbed wire or any other concrete construction, ("palisade"- type fencing included, constructed with the purpose of keeping humans and animals within or out of defined boundaries.

Fine - A monetary penalty against the Contractor by the PM as per request from the ECO.

Flood line – The line or mark to which a flood could rise 50 (1:50 year flood line), or 100(1:100 year flood line) years.

Flora –All living plants, grasses, shrubs, trees, etc., usually incapable of easy motion and capable of photosynthesis.

Groundwater –The water that fills the natural openings present in rock or unconsolidated sands.

Hazardous wastes- waste that because of their chemical reactivity, toxic, explosive, corrosive radioactive or other characteristics, cause danger, or are likely to cause danger, to health or the environment.

Heritage – the sum total of sites of geological, zoological, botanical and historical importance, national monuments, historic building and structures, works of art literature and music, oral traditions and museum collections and their documentation which provides the basis for a shared culture and creativity in the arts.

Heritage Resources – there are various natural and cultural assets that collectively form the heritage. These assets are also known as cultural and natural resources i.e. places or object of cultural significance.

Induction training- Training provided to all new employees prior to them being allowed on site.

Interested and Affected Party (I&AP) – Refers to any person, or group of persons, concerned with, or affected by, an activity and its consequences. These include the authorities, local communities, investors, work force, customers, and consumers, environmental interest groups, and the general public (after the EIA Regulations of September 1997 and Guideline Document: EIA Regulations of 2014).

Land Use– is characterised by the arrangements, activities and inputs people undertake in a certain land cover type to produce, change or maintain it. Definition of land use in this way establishes a direct link between land cover and the actions of people in their environment.

Method Statement– A written submission by the Contractor in response to the Specification/EMP or a request by the Resident Engineer, setting out the plant, material, labour and method of the Contractor proposes using to carry out an activity, identified by the relevant specification or the Resident Engineer is enabled to assess whether the Contractor’s proposal is in accordance with the EMP and associated specifications.

b) Micro-organisms, plant and animal life

Mitigate – The implementation of practical measure to reduce adverse impacts, or to enhance beneficial impacts, of an action.

MPRDA – The Mineral and Petroleum Resource Development Act (Act No.28 of 2002)

MSDSs - Material Safety Data Sheets

NEMA – National Environmental Management Act (Act No.107 of 1998)

No-Go Area – Areas where construction activities are referred to no go Areas.

Noncompliance- Failure to comply with requirements of the EMP

Non-renewable resources – means the resources that have a finite stock and either cannot be reproduced once they are used or lost, or cannot be reproduced within a time span relevant to present or future generations.

NWA – National Water Act (Act no.36 of 1998)

PIMF- Property Investment Mentor Facility

Pollution – Any change to the environment caused by(i)substance; (ii) radioactive or other waves; or (iii) noise, odours, dust, or heat emitted from any activity, including the storage or treatment of waste or substance, construction and the provision of service, whether engaged in by any person or an organ of state, where that change has an adverse effect on human health or well-being or on the composition, resilience and productivity of natural or managed ecosystems, or on materials useful to people, or will have such an effect in the future (after National Environment Management Act, No.107 of 1998).

PPE – Personal Protective Equipment

PPP-Public Participation Process

PIMF – Property Investment Mentor Facility

Project – the planning, design, construction, operation and maintenance, and eventual decommissioning of the development.

RE – Resident Engineer

Rehabilitation– To re-establish or restore to a healthy sustainable capacity or state.

SAHRA– South Africa Heritage Resource Agency

Solid waste- means all solid waste, including construction debtors, chemical waste, excess cement/ concrete, wrapping materials, timber, tins and cans, drums, wire, nails, food and domestic waste (e.g. plastic packets and wrappers).

- c) The land , water and atmosphere of the earth
- d) The physical, chemical aesthetic and cultural properties and conditions of the foregoing that can influence human health and well being

Wetland –A wetland is land which is transitional between terrestrial and aquatic system where table is usually at or near the surface, or the land is periodically covered with shallow water and which in normal circumstances supported vegetation typically adapted to life in saturated soil (National Water Act, No.36 of 1998).

1. INTRODUCTION

1.1 Background of the Study

Invest In Property 126 (Pty)Ltd propose to apply for mining right in a small town Boshof in Free State, South Africa. The area cover is approximately 3,389 ha. The mining right application is for a proposed mining development for Diamond kimberlite (DK) and Diamond General (DG). The proposed development is located on Farm Viljoenshof 1655, located 27.9km north east of Kimberly, 120 km west of Bloemfontein and 13 km east of Boshof town. The applicant Mr Verdi Scholtermeyer is the permit holder for prospecting mining right permit granted by the Department of Mineral Resource and Energy (DMRE) in terms of Minerals and Petroleum Resource Development Act (Act 28 of 2002).

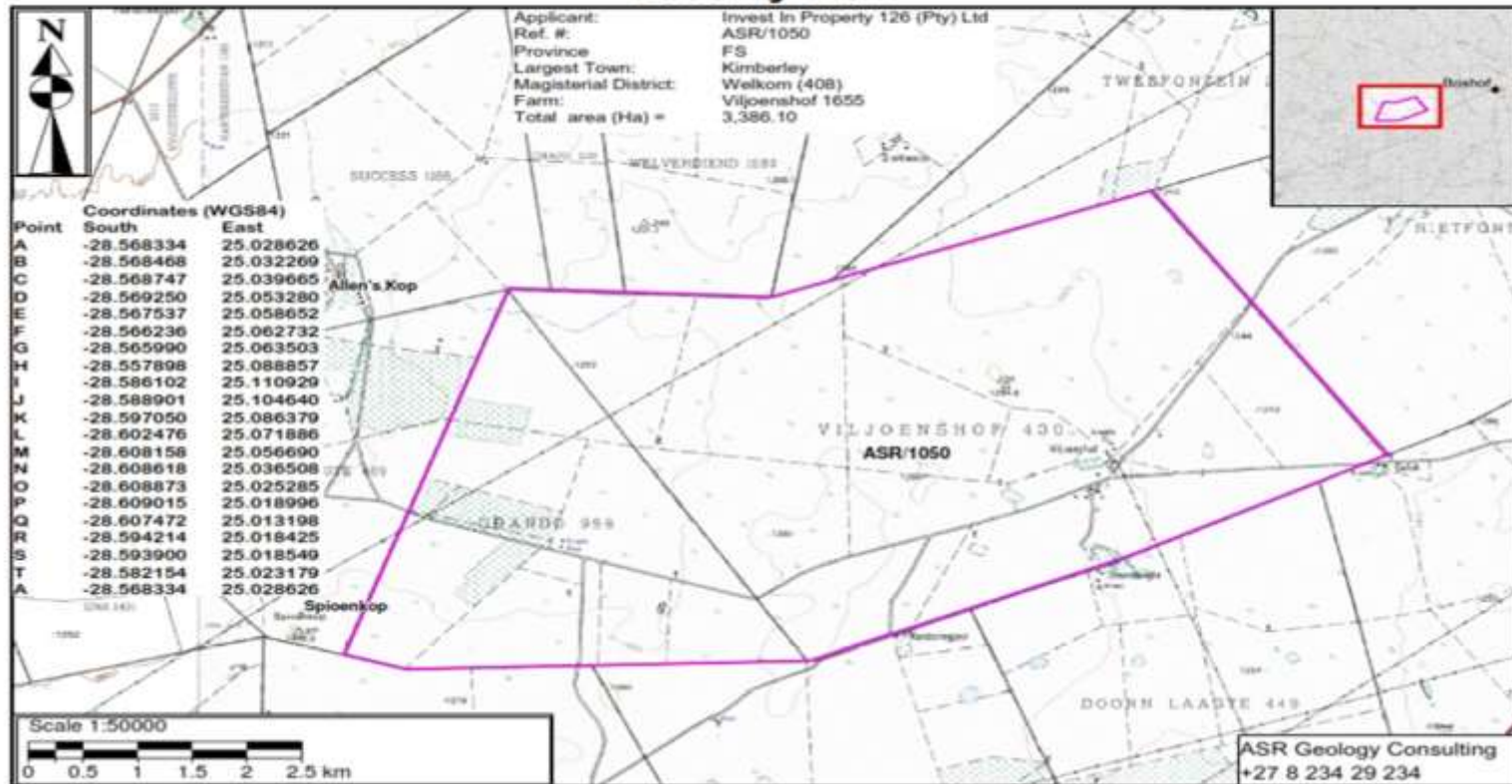
Biomental Services has been appointed by Invest In Property 126 (Pty)Ltd as an independent Environmental Assessment Practitioner (EAP) to provide professional environmental management services for the proposed project. Biomental Services will conduct and compile the Environmental Impact Assessment Report (EIAR) in terms of Environmental Impact Assessment Regulations 2017 as amended of National Environmental Management Act, 1998 (Act No. 107 of 1998) for the proposed project.

Invest In Property 126 (Pty)Ltd is currently following the necessary processes to obtain environmental authorisation in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) for associated listed activities as stipulated in the NEMA Regulations. In conjunction with the NEMA application, Biomental Services on behalf of Invest in Property 126 (Pty)Ltd has submitted a Mining Right Application (MRA) in terms of the Minerals and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) (MPRDA).

1.2 Project Location

The project area is situated in Free State Province in a small town Boshof. It falls within the Tokologo Local Municipality of the Lejweleputswa District Municipality; and is situated approximately 27,9km north-east of the Kimberly and 120km west of Bloemfontein.

Locality Plan



DRAFT

1.3 Regulatory Framework

The proposed project would entail several so-called ‘listed activities’, which may not commence prior to obtaining an environmental authorisation in terms of Section 24 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) [NEMA]. Furthermore, the National Environmental Management: Waste Act (Act No. 59 of 2008) [NEM: WA] requires so-called listed ‘waste management activities’ to be licensed this requires a waste management licence application to be lodged

In terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002)[MPRDA], a comprehensive Environmental Management Programme Report (EMPR) must be compiled in support of the proponent’s application for a mining licence. The MPRDA also requires a scoping and EIA process to be undertaken to inform the compilation of the EMPR. In addition, an Integrated Water Use Licence application, in terms of section 21 of the National Water Act, 1998 (Act No. 36 of 1998) [NWA], will be completed and submitted to the Bloemfontein Department of Water Affairs. In support of this water use licence application, a comprehensive Integrated Water and Waste Management Plan (IWWMP) for the proposed Mine will be compiled.

Air emissions are expected to be generated by the proposed development, some of the emissions are regulated and controlled in terms of emission standards set in Regulations promulgated under the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) [NEM: AQA]. Accordingly, an Atmospheric Emission Licence (AEL), as contemplated in NEM: AQA, will also be applied for, for the proposed establishment to address the emissions that are detrimental to the integrity of ecosystems.

Table 4: Listed Activities

Ty7v c	Aerial extent of the Activity Ha or m ²	APPLICABLE LISTING NOTICE (GNR 544, GNR 545 or GNR 546)/NOT LISTED
“The development and related operation of facilities or infrastructure for the storage, or for the storage and handling, of a dangerous good, where such	2500 m ²	(Listing Notice 1) Listed activity 14 of GN. R 327

<p>storage occurs in containers with a combined capacity of 80 but not exceeding 500 cubic metres.”</p>		
<p>“The development of a road-</p> <p>(i) for which an environmental authorisation was obtained for the route determination in terms of activity 5 in Government Notice 387 of 2006</p> <p>or activity 18 in Government Notice 545 of 2010;</p> <p>or</p> <p>(ii) with a reserve wider than 13,5 meters, or where no reserve exists where the road is wider than 8 metres; but excluding-</p> <p>(a) roads which are identified and included in activity 27 in Listing Notice 2 of 2014; or</p> <p>(b) roads where the entire road falls within an urban area; or</p> <p>(c) which is 1 kilometre or shorter.”</p>	<p>4000 m²</p>	<p>(Listing Notice 1) Listed activity 24 of GN. R 327</p>
<p>The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre.</p> <p>(i) where the existing reserve is wider than 13,5 meters; or</p> <p>(ii) where no reserve exists, where the existing road is wider than 8 meters;</p> <p>excluding where widening or lengthening occur inside urban areas.</p>	<p>4000 m²</p>	<p>Activity 24(ii)Listing notice 1 GNR327</p>
<p>“The development of facilities or infrastructure for any process or activity which requires a permit or licence or an amended permit or licence in terms of national or provincial legislation governing the generation or release of emissions, pollution or effluent, excluding-</p>	<p>The development may trigger section 21 (f& g) of the national water act</p>	<p>Listing Notice 2)Listed activity 6 of GN. R 325</p>

<p>(i) activities which are identified and included in Listing Notice 1 of 2014;</p> <p>(ii) activities which are included in the list of waste management activities published in terms of Section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case the National Environmental Management: Waste Act, 2008 applies; or</p> <p>(iii) the development of facilities or infrastructure for the treatment of effluent, polluted water, wastewater or sewage where such facilities have a daily throughput capacity of 2 000 cubic metres or less.</p>		
<p>“The clearance of an area of 20 hectares or more of indigenous vegetation.” Excluding where such clearance of indigenous vegetation is required</p> <p>for—</p> <p>i) the undertaking of a linear activity; or</p> <p>(ii) maintenance purposes undertaken in accordance with a maintenance management plan.</p>	<p>A total area of at least 20 ha will be physically disturbed where the diamond will be removed and washed</p>	<p>(Listing Notice 2) Listed activity 15 of GN. R 325</p>
<p>“Any activity including the operation of that activity which requires a mining right as contemplated in Section 22 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002),</p> <p>including</p> <p>(a) associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource; or</p> <p>(b) the primary processing of a</p>	<p>3,389 ha</p>	<p>(Listing Notice 2) Listed activity 17 of GN. R 325</p>

mineral resource including winning, extraction, classifying, concentrating, crushing, screening or washing.”		
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1.4 Project Proponent

Applicant:	Invest In Property 126 (Pty)Ltd
Physical Address:	234 Alexandra Ave, Midrand, Guateng,1685
Fax:	0862489660
Cell:	082 574 2684
Email	verdisc@gmail.com

1.5 Details and Expertise of the EAP

Environmental Assessment Practitioner (EAP)			
Name of EAP:	Mr Macebele T		
Consulting Firm	Biomental Services		
Physical Address:	10 jenny street De Aar 7000		
Postal Code:	7000	Cell:	060 5702 461/068 321 4288
Telephone:	053 004 0204	Fax:	N/A
E-mail:	info@biomental.co.za tiyiselani@biomental.co.za		
Website:	www.biomental.co.za		
Experience	The EAP, Mr. Macebele Tiyiselani have vast experience in environmental management field and have been involved in number of projects in the public and private sector		

	such as renewable energy projects, mining and construction. Tiyiselani has experience in drafting EMPs, application for Basic assessment, permits & licensing, prospecting mining right and mining rights.
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Environmental Assessment Practitioner (EAP)			
Name of EAP:	Mr Mahori Nhlawulo		
Consulting Firm	Biomental Services		
Physical Address:	10 jenny street De Aar 7000		
Postal Code:	7000	Cell:	073 140 43 22
Telephone:	053 004 0204	Fax:	N/A
E-mail:	mahori@biomental.co.za		
Website:	www.biomental.co.za		
Experience	<p>Mr Mahori Nhlawulo has completed his professional registration in terms of section 20(3) (b) of the Natural Scientific Professions Act, 2003 (Act 27 of 2003) in the field of practice Environmental Sciences (Registration number 125490).</p> <p>He is registered in accordance with the prescribed criteria of Regulation 15(1) of the section 24H Registration Authority Regulations (regulation No.849, Gazette No. 40154 of the National Environmental Management Act (NEMA) Act No. 107 of 1998) as amended) EAP (Registration No. 2019/1026)</p> <p>He obtained his Bachelor of Environmental Sciences in 2016 and Bachelor of Environmental Sciences Honours Degree in 2017 at the University of Venda.</p> <p>Mr Mahori Nhlawulo is an Environmental Assessment Practitioner and has been involved in the compilation, coordination and management of Basic Assessment Reports, Environmental Impact Assessments, Environmental Management Programmes, Waste Licence Applications, Water Use Licence Applications, Mining Permits Application and Baseline Biodiversity Surveys for numerous clients.</p>		

2. LEGISLATION AND LEGAL REQUIREMENTS

Table 2: Legislation and Legal Requirements

Title of applicable legislation/Acts or Policy	Administering authority:
<p><u>The Constitution of South Africa (Act No 108 of 1996)</u></p> <p><i>The operation of the Proposed mining development must comply with the Constitution of the Republic of South Africa, with special reference to Section 24 of Chapter 2, i.e. Everyone has the right to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that—prevent pollution and ecological degradation; promote conservation; and secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development</i></p>	<p>National & Provincial</p>
<p><u>Mineral and Petroleum Resource Development Act(Act No 28 of 1994)</u></p> <p><i>Regulations (GNR527) are required as part of the Mining Right Application (MRA).The ESMP must be supported by an ESIA, which prescribes to the requirements set out under NEMA and the NEMA EIA Regulations of 14 December 2014, amended on 07 April 2017 (GNR 982)</i></p>	<p>National & Provincial</p>
<p><u>National Environmental Management Act (Act No 107 of 1998)</u></p> <p><i>The National Environmental Management Act (NEMA) (Act 107 of 1998, is South Africa's overarching framework for environmental legislation. NEMA provides for operative environmental governance by establishing principles for decision-making on matters affecting the environment, institutions that will promote co-operative governance, and procedures for coordinating environmental functions exercised by organs of state.</i></p> <p><i>It sets out a number of principles that aim to implement the environmental policy of South Africa. These principles are designed, amongst other purposes, to serve as a general framework for environmental planning, as guidelines by reference to which organs of state must exercise their functions and to guide other law concerned with the protection or management of the environment.</i></p> <p><i>The principles include a number of internationally recognized environmental law norms and some principles specific to South Africa, i.e. the:</i></p> <ul style="list-style-type: none"> • <i>Preventive principle;</i> • <i>Precautionary principle;</i> • <i>Polluter pays principle; and</i> • <i>Equitable access for the previously disadvantaged to ensure human wellbeing.</i> <p><i>Chapter 5 of NEMA is designed to promote integrated environmental management. Environmental management must place people and their needs at the forefront of its</i></p>	<p>National & Provincial</p>

<p>concerns and serve their physical, psychological, developmental, cultural and social interests equitably. Development must be socially, environmentally and economically sustainable. Sustainable development therefore requires the consideration of all relevant factors.</p>	
<p><u>Integrated Environmental Management (IEM)</u></p> <p>The general approach to this study has been guided by the principles of Integrated Environmental Management (IEM). In accordance with the IEM Guidelines, an open, transparent approach, which encourages accountable decision-making, has been adopted. IEM is a procedure for ensuring that environmental considerations are fully integrated into all stages of the development process. This philosophy aims to achieve a desirable balance between conservation and development (DEAT, 1992). The IEM guidelines intend encouraging a proactive approach to sourcing, collating and presenting information in a manner that can be interpreted at all levels.</p>	<p>National & Provincial</p>
<p><u>National Environmental Management: Waste Act (Act 59 of 2008)</u></p> <p>The purpose of the NEMA: Waste Act (Act 59 of 2008) reads:- To reform the law regulating waste management in order to protect health and the environment by providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development, to provide for institutional arrangement and planning matters, to provide for national norms and standards regulating the management of waste by all spheres for government , to provide for specific waste management measures, to provide for the licensing and control of waste management activities, to provide for the remediation of contaminated land , to provide for national waste information system, to provide for compliance and enforcement to encourage reducing; re-using; recycling and recovering of waste.</p>	<p>National & Provincial</p>
<p><u>National Conservation of Agricultural Resources Act (No 43 of 1983)</u></p> <p>The main focus of the CARA is upon agricultural resources but it has indirect implications for the control of the utilization and protection of wetlands, soil conservation and all matters relating thereto; control and prevention of veld fires, control of weeds and invader plants, the prevention of water pollution resulting from farming practices and losses in biodiversity.</p>	<p>National & Provincial</p>
<p><u>National Environmental Management: Air Quality Act (Act No 39 of 2004)</u></p>	<p>National & Provincial</p>

<p><i>The National Environmental Management Air Quality Act 39 of 2004 provides for the setting of national norms and standards for regulating air quality monitoring, management and control and describes specific air quality measures so as to protect the environment and human health or well-being by preventing pollution and ecological degradation and promoting sustainable development through reasonable resource use. It also includes reference to the control of offensive odours whereby reasonable steps to prevent the emission of any offensive odours caused by activities on a premises are required</i></p>	
<p><u>National Heritage Resources Act (No 25 of 1999)</u></p> <p><i>In terms of the National Heritage Resources Act (No. 25 of 1999) (NHRA), any person who intends to undertake “any development which will change the character of a site exceeding 5000 m2 in extent”, must at the very earliest stages of initiating the development notify the responsible heritage resources authority, namely the South African Heritage Resources Agency (SAHRA) or the relevant provincial heritage agency. These agencies would in turn indicate whether or not a full Heritage Impact Assessment (HIA) would need to be undertaken.</i></p>	<p>National & Provincial</p>
<p><u>National Environmental Management: Biodiversity Act (10 of 2004)</u></p> <p><i>The National Environmental Management: Biodiversity Act (Act 10 of 2004) provides for the management and conservation of South Africa’s biodiversity within the framework of the NEMA. This Act allows for the protection of species and ecosystems that warrant national protection, the sustainable use of indigenous biological resources, the fair and equitable sharing of benefits arising from bio-prospecting involving indigenous biological resources and the establishment and functions of the South African National Biodiversity Institute.</i></p>	<p>National & Provincial</p>
<p><u>National Forests Act (Act no 84 of 1998)</u></p> <p><i>In terms of section 15(1) of the National Forests Act, 1998, no person may cut, disturb, damage or destroy any protected tree or possess, collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any protected tree or any product derived from a protected tree, except under a licence or exemption granted by the Minister to an applicant and subject to such period and conditions as may be stipulated</i></p>	<p>National & Provincial</p>
<p><u>National Water Act (Act No 36 of 1998)</u></p> <p><i>In terms of Section 21 of the National Water Act (No. 36 of 1998) (NWA), the taking of water from a water resource, storing of water, impounding or diverting the flow of water in a water course, and the disposal of water which contains waste or has been heated</i></p>	<p>National & Provincial</p>

<p><i>through a power generation process are all considered water uses, which in general must be licensed, unless permitted as a Schedule 1 activity, or permissible in terms of a General Authorisation (GA) under Section 39 of the Act.</i></p>	
<p><u>Occupational Health and Safety Act (No 85 of 1973)</u></p> <p><i>The objective of this Act is to provide for the health and safety of persons at work. The considerations of the Act must be incorporated into the construction phase environmental management plan during the EIA process. The Occupational Health and Safety Act intended to:</i></p> <ul style="list-style-type: none"> • <i>“Provide for the health and safety of persons at work and for the health and safety of persons in connection with the use of plant and machinery;</i> • <i>The protection of persons other than persons at work against hazards to health and safety arising out of or in connection with the activities of persons at work;</i> • <i>To establish an advisory council for occupational health and safety; and</i> • <i>To provide for matters connected therewith”</i> 	<p>National & Provincial</p>
<p><u>Municipal Systems Act (No. 32 of 2000)</u></p> <p><i>In terms of the Municipal Systems Act (MSA) (Act 32 of 2000) all municipalities (i.e. Metros, District Municipalities and Local Municipalities) have to undertake an Integrated Development Planning process to produce an Integrated Development Plan (IDP). The IDP is a single, inclusive and strategic plan for the development of the municipality which:</i></p> <ul style="list-style-type: none"> • <i>Links, integrates and co-ordinates plans and takes into account proposals for the development of the Municipality;</i> • <i>Aligns the resources and capacity of the municipality with the implementation of the plan; and</i> <p><i>Is compatible with national and provincial development plans and planning requirements binding on the municipality in terms of legislation.</i></p>	<p>Municipality</p>
<p><u>Intergraded Development Plan (IDP) 2016/17</u></p> <p><i>The development of IDPs can facilitate environmental management throughout the planning process. IDP process (Integration) requires the preparation of an Integrated Environmental Programme. The purpose of this programme is to assist in addressing urgent environmental issues and to ensure that envisaged projects have no negative impact on the natural environment.</i></p>	<p>Local Municipality</p>
<p><u>OTHERS: Hazardous Substances Act (No 15 of 1973) 1973</u></p>	<p>National & Provincial</p>

All relevant Provincial Regulations and Municipal bylaws were observed during EIAR study

2.1 National Water Act, 1998 (Act No. 36 of 1998)

In accordance with Section 21 and 40 of the NWA a water use licence application will be submitted to the DWA. Investigations have to be undertaken in order to determine what activities will take place, as well as the impacts thereof. It is likely that a licence will be required for the following uses:

- Section 21 (b) – Storage of water for both raw and potable water use;
- Section 21 (f) – Discharging waste or water containing waste into a water resource through a pipe or canal for the disposal of sewage works effluent (if constructed);
- Section 21 (g) – Disposing waste or water containing waste in a manner which may detrimentally impact on a water resource for the pollution control dams, overburden dumps, stockpiles and discard dumps;
- Section 21 (i) – Altering the bed, banks, course or characteristics of a watercourse; and
- Section 21 (j) – Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity for the safety of the people for the dewatering of the mining pits to facilitate mining and to provide a safe mining environment.

2.2 Guidelines

This EIAR process is informed by the series of national Environmental Guidelines and, the following were applicable and relevant:

- a. Guideline for determining the scope of specialist involvement in EIA Processes (June 2005)
- b. Guideline for involving biodiversity specialists in EIA processes (June 2005)
- c. Guideline for involving heritage specialists in EIA processes (June 2005)
- d. Guideline for Environmental Management Plans (June 2005)
- e. Draft Guideline on Public Participation (November 2006)
- f. Draft Guideline on the interpretation of the listed activities (November 2006)
- g. Department of Water and Sanitation guidelines
- h. Stats SA, 2011

2.3 Assumptions and Limitations

- The following limitations and assumptions are implicit this report –
- The primary assumption underpinning this EIA and the individual specialist studies upon which the Draft EIAR is based, that all information received from the client and other stakeholders including registered I&APs was correct and valid at the time of the study.
- To ensure that the significance of impacts was not under-estimated, the specialists assessed impacts under the worst-case scenario situation.
- It must be noted the following studies were undertaken through a desktop method. This is a result of the landowner prohibits to access into his property. **See Annexure I**

2.4 Environmental Impact Assessment

Environmental Impact Assessment (EIA) is defined as, "the process of identifying, predicting, evaluating and mitigating the biophysical, social, and other relevant effects of development proposals prior to major decisions being taken and commitments made." The environmental impacts associated with the proposed project require investigation in compliance with the Environmental Impact Assessment Regulations (2017) as amended published in Government Notice No. GN R.983 (Listing Notice 1), GN R.984 (Listing Notice 2) and GN R.985 (Listing Notice 3) read with Section 24 (5) of the National Environmental Management Act (NEMA-Act No 107 of 1998) (as amended). The required environmental studies include the undertaking of an Environmental Impact Assessment (EIA) process.

The EIA aims to ensure effective compliance and governance concerning the sustainable use of environmental resources, while simultaneously focusing on key issues such as stakeholder empowerment, and providing access to relevant and concise information to enable informed decision-making by competent authorities exercising a regulatory role in any aspect of the project proposal.

The EIA process is also used to examine alternatives and management measures to minimise negative- and optimise positive impacts resulting from a project, or activity. The ultimate objectives of the EIA process are to prevent significant detrimental impact on the environment and to ensure sustainable development into the future. An EIA should not aim to stop, hinder or obstruct development, but should rather act as a 'green-filter' to development proposals, that seeks to ensure that developments / activities

proceed in an environmentally acceptable and sustainable manner (unless of course significant impact may result from an activity that truly renders the undertaking of that activity 'fatally flawed'). The EIA has to consider the different perspectives and requirements of all role players, who derive different benefits from participating in the EIA process. These include the following:

1. Decision-making Authorities:

- Enables informed decision making;
- Ensuring protection of environmental quality;
- Supporting the management, monitoring and sustainable utilisation of resources; and
- Understanding demands on bulk services, waste disposal sites, etc.

2. Project proponents:

- Pro-actively considering environmentally sustainable design and management principles in all that they undertake;
- Investigating natural resource opportunities and constraints;
- Identifying the risks and opportunities associated with environmental and operational aspects;
- Evaluating the potential for pollution and the prevention thereof; and
- Optimising energy, water and other resource use.

3. Interested and affected parties (IAPs):

- Providing an opportunity to be informed and give comment / express concerns;
- Protecting environmental rights;
- Utilising local and indigenous knowledge;
- Increasing knowledge and environmental awareness; and
- Informing the decision-making process.

2.5 Scoping Report

Scoping Report forms part of the Environmental Impact Assessment Report (EIAR) process and aims to identify those environmental issues and concerns that require investigation as well as determine feasible alternatives. This information is then used to determine the scope of work for the EIAR. During the scoping phase those persons interested or affected by the Project are informed of the Project and afforded the opportunity to provide their input in terms of issues and concerns they may have throughout the Integrated Environmental Assessment Process.

Potential positive and negative impacts that the Project may have on the environment were identified and discussed in the scoping phase and a description of further investigations required for the impact assessment studies were proposed.

A scoping report was compiled and the draft and final were submitted to the competent authorities DMRE, for the NEMA and WML applications.

The aims of the Scoping Report were to:

- Provide information to the authorities and to other I&APs/stakeholders on the Project to allow them to comment and raise issues of concern;
- Consider alternatives to the Project;
- Provide stakeholders with the opportunity to contribute to the Project, and to allow them to verify that the issues they have raised have been recorded and considered;
- Provide a brief description of the baseline receiving environment; and
- Highlight potential impacts that should be investigated further during the EIAR process.

2.6 Environmental Impact Assessment Report

An EIAR is a process of identifying, predicting, evaluating and mitigating the biophysical, social, and other relevant effects or impacts identified for a proposed development prior to major decisions being taken and commitments made.

The purpose of an EIAR is to:

- Provide information for decision-making on the environmental consequences of a Project; and
- Promote environmentally sound and sustainable development through the identification of appropriate enhancement and mitigation measures.

During the EIAR phase for the Project the following activities were carried out carried out:

- Specialist investigations;
- Compilation of a draft EIAR report;
- Compilation of an Environmental Management Programme (EMP);
- Compilation and distribution of a letter announcing the availability of draft EIA report for comment and distribution of copies of the report to Interested and Affected Parties (I&APs) upon request;
- Conduct key stakeholder meetings;

- Compilation of a Proceedings Report as a Comments and Response Report (CRR);
- Distribution of copies of the Draft EIA and EMP Report to relevant authorities; and
- Announcing authority decision to all registered I&APs.

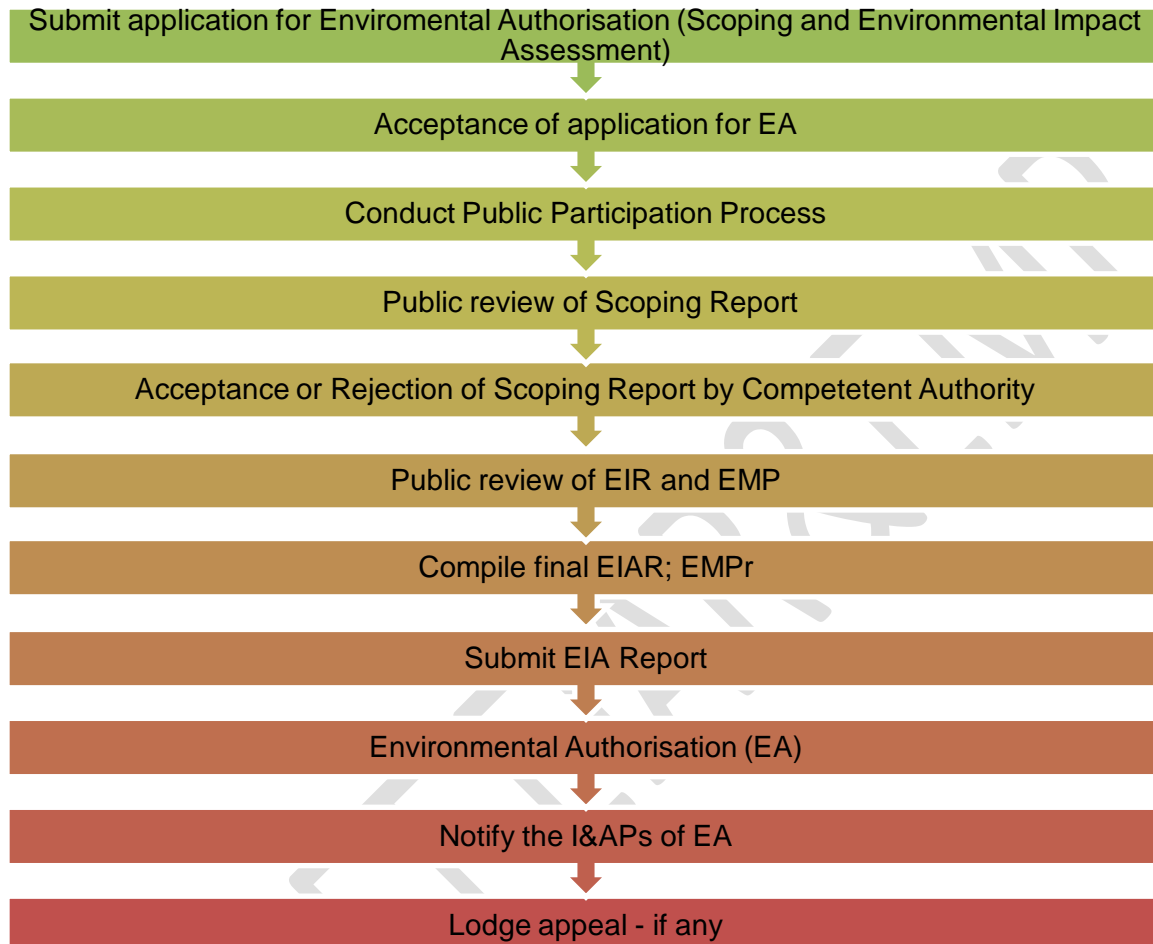


Figure 1: Environmental Impact Assessment Process followed

2.7 Environmental Management Programme

An EMP can be defined as a plan or programme that seeks to achieve a required end state and describes how activities that have or could have an adverse impact on the environment, will be mitigated, controlled, and monitored. The EMP will address the environmental impacts during the design, construction and operational phases of a Project. Due regard must be given to environmental protection during the entire Project. To achieve this, a number of environmental specifications/recommendations are made. These are aimed at ensuring that the project proponent maintains adequate control over the Project in order to:

- Minimise the extent of impact during the life of the Project;

- Ensure appropriate restoration of areas affected by the Project; and
- Prevent long term environmental degradation.

An Environmental Management Programme (EMP) has been compiled for the construction and operational phases for the development. The EMP has been compiled in accordance with the EIA Regulations 2014 published under government Notice No.982 of 04 December 2014 amended on 07 April 2017 and in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) [MPRDA]. The EMP provides the actions for the management of identified environmental impacts emanating from the project and a detailed outline of the implementation programme to minimise and/or eliminate the anticipated negative environmental impacts. The EMP provides strategies to be used to address the roles and responsibilities of environmental management personnel on site, and a framework for environmental compliance and monitoring. The EMP includes the following:

- Details of the person who prepared the EMP and the expertise of the person to prepare an EMP;
- Information on any proposed management or mitigation measures that will be taken to address the environmental impacts that have been identified in the EIAR, including environmental impacts or objectives in respect of operation or undertaking of the activities, rehabilitation of the environment and closure where relevant;
- A detailed description of the aspects of the activity that are covered by the EMP;
- An identification of the persons who will be responsible for the implementation of the measures;
- Where appropriate, time periods within which the measures contemplated in the EMP must be implemented;
- Proposed mechanisms for monitoring compliance with the EMP and reporting thereon;
- An environmental awareness plan; and
- Procedures for managing incidents which have occurred as a result of undertaking the activity and rehabilitation measures.

2.8 Decision-Making Authority

DMRE and Local competent authority will have jurisdiction on the consideration of the application for environmental authorisation under NEMA. The Integrated Water Use Licence Application (IWULA) will be submitted to the Department of Water Affairs DWA and the integrated waste management licence application to the DFFE for consideration and approval.

3. PROJECT DESCRIPTION

In terms of Appendix 3 of GNR 982, an environmental impact assessment report must include-

A detailed description of the proposed activity; A description of the property on which the activity is to be undertaken and the location of the activity on the property; In fulfilment of the above-mentioned legislative requirement, this Chapter of the draft EIAR describes the location and size of the site of the proposed development and provides a description of its various components and arrangements on the site.

3.1 Detailed Description of the Development

Invest In Property 126 (Pty)Ltd propose to apply for mining right in a small town Boshof in Free State, South Africa. The area cover is approximately 3,389 ha. The mining right application is for a proposed mining development for Diamond kimberlite (DK) and Diamond General (DG). The proposed development is located on Farm Viljoenshof 1655, located 27.9km km north east of Kimberly,120 km west of Bloemfontein and 13 km east of Boshof town. The applicant Mr Verdi Scholtermeyer is the permit holder for prospecting mining right permit granted by the Department of Mineral Resource and Energy (DMRE) in terms of Minerals and Petroleum Resource Development Act (Act 28 of 2002).

The project area is located within the Loxtonsdal kimberlite cluster which hosts two historical diamond mines. All known kimberlites in this cluster are of the Group II variety. Prospective work programs were undertaken at the proposed development mainly to investigate, determine and confirm the presence of diamond Kimberly on Farm Viljoenshof 1655. Non-invasive methods were explored to locate minerals using geophysical survey (magnetic and electromagnetic) soil sampling, google earth satellite images and exiting geological studies previously carried out in farm Viljoenshof 1655. The geological studies undertaken at the propose development area confirms presence of a number of additional anomalies. Mineral chemistry of kimberlitic indicator minerals (pyropic garnets, Cr-spinels and clinopyroxenes) verified high diamond potential of several targets. Moreover, geochemistry of kimberlites is also indicative of high interest mantle source.

3.2 Approach

The proposed overall activity will begin and be implemented in a pilot mining phase for a duration period of one (1) year. A contractor with readily available plants and earthmoving equipment will be responsible for the implementation of pilot phase. This phase is necessary given that the prospecting work program was only limited to non-invasive approach. Additionally, invasive approach such as trenching/pitting and drilling was not conducted as a result of farm property owner restriction to access the property and proscription use of earthmoving plants, machinery and construction vehicles for related prospecting activities. The pilot stage will encapsulate further study of the diamond ore. The primary objective of the pilot mining phase is:

- Open complete area of the kimberlite body(ies) and cut first two benches into kimberlite;
- Process different kimberlite type separately and determine the grades and diamond quality variation;
- Carry out metallurgical studies of the ore for final design of the plant;
- During this stage geophysical survey and diamond core drilling will be implemented to study ore bodies morphology with depth;
- The outcome of geophysical survey and diamond core drilling will be implemented to study ore bodies morphology to be used for long term underground mining method to be used.

The open cast method for mining have been considered as a preferred method for minerals extraction. The open cast method will entail the trenching to the depth of two (2) benches (i.e.12 to 20 m) however, this is dependent on the hosting rock competence and stability. The pilot phase is envisaged to be disassociated with excessive blasting given that the hosting rock is black and grey Ecca shale, which is quite brittle. However, soft blasting will be applied where necessary in particular for cutting into kimberlites. The proposed mine property is characterised by game farming, livestock farming and related agricultural crop farming at a small scale. This necessitates the use of soft blasting to avoid and reduce impact on game farm with noise and flying rocks fragments.

Table 7: Summary details of project

ITEMS	DETAILS
Type of mineral	Diamond Kimberlite; Diamond General.
Mining method	Open pit

Depth of mining	12 -20 m
Life of mine	30 years

3.3 Associated activities, infrastructure and services

The infrastructure area in relation to the mine area is indicated in Plan 3 below. The anticipated infrastructure for the operations includes:

Table 8: Surface Infrastructure

SURFACE INFRASTRUCTURE:	DESCRIPTION
Access and security control	<ul style="list-style-type: none"> • Internal haul and access roads • Access will be via R64 • Security • Fencing
Mine Area	<ul style="list-style-type: none"> • Soil berms • Processing plant • Stockpiles • Open pits • Ablution facilities (portable toilets) • Clean and dirty water trenches, water management sumps and silt traps • Tailings storage facility • Slime dam
Infrastructure Area	<ul style="list-style-type: none"> • Vehicle Park area • Workshop and store • Fuel storage • Site camps and offices • Ablution facilities (chemical toilets) • JoJo tanks • Waste disposal site • Slump dam • Tailings • Water recycling facility • Stockpile Yard • Wash bay • Generators • Lighting • Water recycling facility

3.4. Equipment and Machinery

Table 5: Equipment and Machinery for mining

Equipment/Machinery	Fuel demand
2 x 45 t Excavators	1000 litres per 22-hour shift
2 x 3 m ³ FEL	500 litres per 22-hour shift
2 x 40 t ADT's	500 litres per 22-hour shift
Utility bus	50 litres per 22-hour shift
Track Dozer	200 litres per
Axillary pumps	50 litres per 22-hour shift
Generators	50 litres per 22-hour shift

3.5. Power supply

Processing plant equipment will be run using Eskom connection, offices and change rooms as well as the parameter fence will be electrified for security purposes. Electricity will be used for lightening deep pits and for pumps when draining the concentrated soil from the pits. The solar power energy and generators will be used as far as practically where it is feasible

3.6. Water supply

Water requirements on site will be limited to that of potable/domestic use, plant operation and dust suppression. At this stage it is anticipated that water will be sourced from the existing borehole (windmill) located on site. Water will be pumped and stored in a JoJo tank, to be located at the infrastructure area. Washing processing plant and screening of material requires and consumes excessive volumes of water. A recycling water facility will be established. This will reduce the amount of water usage required and will also curtail water wastage by recycling used water and be reused. Wash bay facility requires volume of water for washing of machines and equipment. Recycling water facility will be constructed for recycling and reusing of water purpose. This will reduce excessive continue demand for underground water.

3.7. Waste management

General and hazardous waste will be generated on site:

- General waste includes office and domestic waste; construction and building waste; scrap metal and old tyres.
- Hazardous waste includes used hydrocarbons, oily rags and sewage and tailings.

Tailings will be stored for retreatment by Bourevestnik, since diamond constitutes a fraction of percent of the kimberlite by volume, most of the mined and treated material will represent tailings and waste (including country rock removed during mine design). Kimberlite pipes are known to extend to the depth over 1 km. Current mining plan is targeting depth of 600 m. Even if mining would be stopped at that depth (or even shallower) back filling of the void would be illegal considering residual mineral resource below. It could become economical with diamond price escalation to continue mining to deeper levels. Consequently, the produced tailings and waste dumps have to be stored for uncertain period. Alternative would be finding market niche for utilizing those materials as a by-product. The country rock waste can be definitely consumed by building materials market. Kimberlite waste per se so far could not find application due to the known effect of volume increase during weathering and majority of minerals eventually been converted into serpentine and clay. A small percentage of dump material can be added to the mixture for refractory bricks production (high Mg-content). Kimberlite concentrate, which constitutes small percentage by volume, can be used in road construction, gardens decoration and souvenirs manufacturing. Waste storage facility will be used as a designated storage facility for accumulated waste. The waste facility will be designed to keep storage of general and hazardous waste separately. All waste will be separated and stored as per the relevant Norms and Standards where applicable. Waste will be recycled and sold/given to interested parties as far as possible. Waste for disposal will be collected by a reputable contractor for transit to a suitably licensed 13 facility. Waste safety disposal certificates will need to be obtained from disposal contractors and waste manifest will be maintained on site.

Sewage will be collected within conservancy tanks to be emptied by honey sucker for treatment at a suitably licensed facility.

3.8. Employment requirements

Table 9: Anticipated number of jobs to be created in 5-year period of mine operation

Category	Total no per	Total no per	Total no per	Total no per	Total no per
	Year 1	Year 2	Year 3	Year 4	Year 5
Top and Senior management	2	3	3	3	3

Professionally qualified and Experienced specialists and mid-management	6	13	13	13	13
Skilled technical and academically qualified workers, junior management, supervisors, foreman and superintendents	13	17	17	17	17
Semi-skilled and discretionary decision making	51	52	52	52	52
Permanent general laborer	38	59	59	59	59
Total Number of Employment PerYear	110	144	144	144	144
Total Number of Employment in 5 years	686				

It is anticipated that the project will create 686 job opportunities in a 5-year period in various categories of skills employment required at the project. This ranges from top and senior management, professionals, skilled, semi-skilled and general labour work force. Some services at the project will be rendered by service providers, as and when required. Local entrepreneurs and small business will be given preference in terms of opportunities at the project. Certain skills will be required whereby employment will be sourced from Boshof, if the necessary skills are not found in Boshof the radius will be increased to find suitable skills needed.

4. SERVICES PROVISION

4.1 Water supply

The proposed project will require bulk water for its mining operations as well as domestic water for drinking and ablutions purposes. Bulk water is required for dust suppression and any other mining operations that may require large volumes of water. Possible water supply options will be identified and their suitability evaluated during the detailed EIA investigation. A preliminary water balance will be designed for the proposed Mine to determine bulk water requirements during peak production and a mine safety factor (to be determined) will be applied to ensure adequate water supply to the mine.

4.1.1 Water Management

Water is a valuable resource and a water management strategy will be developed during the EIA investigation.

4.1.2 Run-Off Water

The water management strategy will be designed to address the following significant issues at the proposed Mine:

- Water use and users with a focus on water consumption rates;
- Engineering design basis for the water reticulation and distribution systems required to provide water to the mining operation;
- Engineering design basis for clean water diversion system; and
- Engineering design basis for the dirty water collection and management systems, including flood protection.

4.1.3 Water Management Infrastructure

The following water management infrastructure is envisaged for the proposed Mine:

- Network of dirty water collection drains – concrete lined
- Cut Off drains to collect water which came into contact with contaminants on site.
- Pollution Control Dams – HDPE lined
- Collection dams to collect water which came into contact with contaminants on site.
- Network of water control berms
- Berms to prevent off-site run-off water which came into contact with contaminants on site.
- Network of clean water collection drains – concrete lined
- Cut Off drains to collect clean water and prevent contact with contaminated water.
- Pit dewatering dam – Zinc construction and HDPE lined
- Dam to collect ground and rain water collected from the pit and pumped back into the Pollution Control Dam; and
- Dirty water channels
- A network of concrete channels to contain water which came into contact with contaminants on site.

4.2 Electricity

Invest In Property 126 (Pty)Ltd is expected to enter into an agreement with Eskom, whereby the parastatal will supply of power by expanding the national grid that would bring an additional high voltage line near the Project area. Further agreements with Eskom must be made to provide a temporary supply of

overhead power lines to support the power requirements during any future construction activities for the Project. The Electricity will be complemented by Generators.

4.3 Sewerage

Invest In Property 126 (Pty)Ltd intends to use the reed bed system sewer facilities. The reed bed sewage systems under consideration have the following components: -

- Inlet structure
- Septic tank (Primary treatment)
- Reed bed (Secondary treatment)
- Outlet to stream or irrigated

To ensure proper and efficient functioning of the system one has to know the function of each component. It is briefly described as follows.

4.3.1 Inlet structure

An inlet structure is required to prevent foreign matter and solids or sand (grit) to enter the septic tank. Depending on the type of effluent expected as well as the volume, a mechanical rotary screen is used to catch the foreign material. These foreign materials are then removed and stacked in a solid refuse bin which should be emptied once a week. The solids to be dumped at an approved solid waste site.

4.3.2 Septic tank (Primary treatment)

The term “septic” refers to the anaerobic bacterial environment that develops in the tank which decomposes or mineralizes the water discharged into the tank. The tank has 3 chambers of which the first one is the biggest. The waste water enters the first chamber of the tank, allowing solids to settle and scum to float. The settled solids are aerobically digested reducing the volume of solids. The liquid component flows through the dividing wall into the second and third chambers where further settlement takes place. It is important to have waste water enter the first chamber via a T piece. This is to ensure the crust on the top of the liquid level is not disturbed as this is where the bacteriological action takes place.

4.3.3 Reed bed (Secondary treatment)

4.4 Discard and Waste disposal

As a minimum requirements topsoil berms and stockpiles will be designed and located to as to reduce compaction and outside of natural drainage patterns to prevent erosion from both water and wind. Wet soils will be identified and stockpiled separately during mining operations. Soil stockpiles will be designed and located in the same manner as topsoil. All non-carbonaceous stockpiles will be placed in

predetermined areas at the Mine, all slurry deposits will be placed in predetermined area at the Mine.

The following types of waste will be generated by the proposed Mine:

- Domestic waste;
- Scrap metal;
- Used oil, diesel and lubricants; and
- Building rubble
- Tailings

The proposed Mine will utilise a waste storage facility and all waste will be collected by an approved, registered waste contractor for removal and final disposal at an approved landfill site.

Invest In Property 126 (Pty)Ltd will develop a waste management system in line with ISO14001 requirements, applicable legislation and license conditions. A waste inventory which will take into consideration take the expected types of waste into consideration under normal, abnormal and emergency conditions; the volumes generated; which contractor handles the waste; as well as the danger class in case of hazardous waste (as per SANS 10228). The proponent will ensure that waste is recycled, reused, reduced and recovered (4R's) in order to minimise adverse environmental impacts and assist in the prevention of pollution. A certified company that removes hazardous waste will be contracted in writing and their duties specified in writing and they will be responsible for disposing the waste to a designated. Domestic waste generated from the project area shall be stored, handled and transported to the designated landfills, in a manner that will not cause any nuisance conditions or secondary pollution.

4.5 Roads

The site will be accessed via R64 which connects Bloemfontein-Boshof-Kimberly, surrounding farms the road is at present not in good condition. These roads will be used as the main access road to the mine. It will be necessary to upgrade the existing dirt roads and upgrade the existing tracks. Consultation with farm owners will be initiated to identify the most convenient route as an access to the proposed development.

4.6 Storm water

The terrain should be drained by storm water drainage pipes networks to the natural low points.

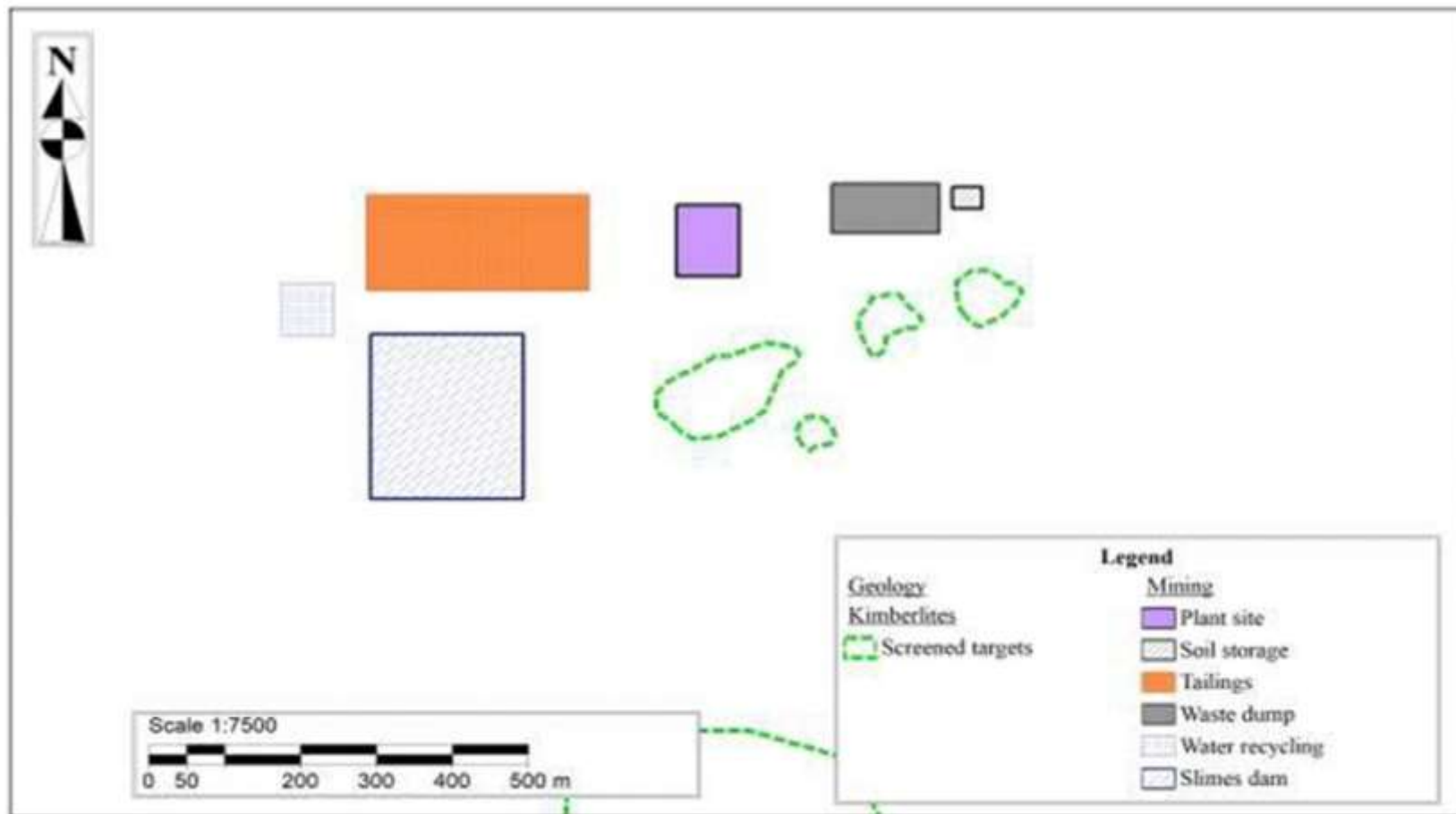


Figure 4: Infrastructure in relation to the Mine Area

5. NEED AND DESIRABILITY

The Need and Desirability of the project has been assessed as per the DEA Guideline on Need and Desirability (2017) for Scoping. It is important to note that this section will be updated in the EIA Phase with input from the various specialists, as more information becomes available.

South Africa's gross domestic product (GDP) has fallen for the fourth consecutive quarter, putting the country in a severe recession, according to Statistics SA. The plummet has been attributed to the Covid-19 lockdown, which hit the economy the hardest during April, May and June 2020.

Data from 1960 shows that the second quarter of 2020 experienced a greater fall in GDP than the annualised decline of 6.1% in the first quarter of 2009 during the global financial crisis and was "far steeper than the annualised 8.2% decline in the fourth quarter of 1982", according to StatsSA. The GDP decline in the first quarter caused a 30.1% decline in the unemployment rate in the first quarter of 2020, and expects it will worsen in the next coming quarters.

During the lockdown in quarter two, most sectors were closed or operating at limited capacity. The majority of industries experienced a large drop in output except for the agricultural sector, which saw an increase of 15.1%. This was a result of the increase in maize exports and international demand for citrus fruits and pecan nuts. Agriculture's contribution to the economy is generally about 2.5%.

At 76.6%, construction saw the highest decline in output, the manufacturing sector came second with a contraction of 74.9%, and mining declined by 73.1%. Air travel came to a halt, contributing to a fall of 67.9% in economic activity in the transport and communication industry. The retail ban on alcohol sales and closure of accommodation facilities were notable drags on trade activity, resulting in a decline of 67.6%. Wholesalers and motor vehicle traders also reported significant declines.

The finance industry, which includes banking, insurance services, real estate and business services, fell by 28.9%. Personal services, which includes businesses such as gyms and hairdressers, closed their doors and sporting and recreation events were cancelled, and hospitals halted elective operations, resulting in a decline of 32.5%.

StatsSA also measured the demand side of the economy, which slumped by 52.3% as a result of lower exports and household spending. The country endeavours on rebuilding the economy and mining sector have for years proven to be labour observing and creation of massive job opportunity while also contributing significantly to the country GDP.

For years, mining has been the driving force behind South Africa's economy and continues to make a valuable contribution to the country's GDP. The economy of South Africa is built mostly on gold and diamond-mining, with gold-mining contributing over a third of the country's exports. Whereas, South African diamond-mining industry was listed as one of the largest mining countries in the world in the year 2009. It is predicted that mining will still play an important role to the economy, most notably through foreign exchange earnings and employment provision. It is also one of the primary sectors that provide employment opportunities for unskilled and semi-skilled people. The South African mining industry has its origin in small-scale to medium-scale mining activities, with these operations offering much needed employment opportunities and entrepreneurship, as well as contributing to the mineral sector and local economy. Small-scale mining and medium-scale mining's impact on employment is especially observed in the rural areas and province such as the Northern Cape where there are limited opportunities; providing significant livelihood for rural communities and a means of alleviating poverty.

The proposed mining development is aimed at supporting the economy of South Africa by producing a commodity that has a potential to leverage the economy of the country. The primary beneficiaries of this project include, among others, the employees, members of surrounding communities and the country. Secondary beneficiaries include the suppliers of goods and services, and the local businesses through the buying power of employees. This is in line with the National Development Plan (NDP). The Social Labour Plan of the Proposed development is aimed at ensuring local economic development through implementation of the various projects. The applicant estimates that these small pieces of land could, if mining rights are granted, prove to be bearing commodities of high economic value.

6. DESCRIPTION OF THE RECEIVING ENVIRONMENT

6.1 Geology

The project area is located within the Loxtonsdal kimberlite cluster which hosts two historical diamond mines. All known kimberlites in this cluster are of the Group II variety. The geology of the area belongs to Kalahari group, with red and grey Aeolian sand. The area is well known to be underlined by dolerite dyke, shale, siltstone and sandstone in isolated areas. Thirty percent of the area has calcrete as part of the underlying geology. The area is mostly covered by Karoo and doleritic intrusions as well as younger Tertiary and Quaternary surficial deposits. Historical unnamed small scale kimberlite diamond mine, 3 formally mapped kimberlite pipes and 3 more confirmed kimberlite bodies. Kimberlites protruded Ecca shales of Karoo sequence (Permian) and Jurassic dolerites. **See Figure 5 below.**

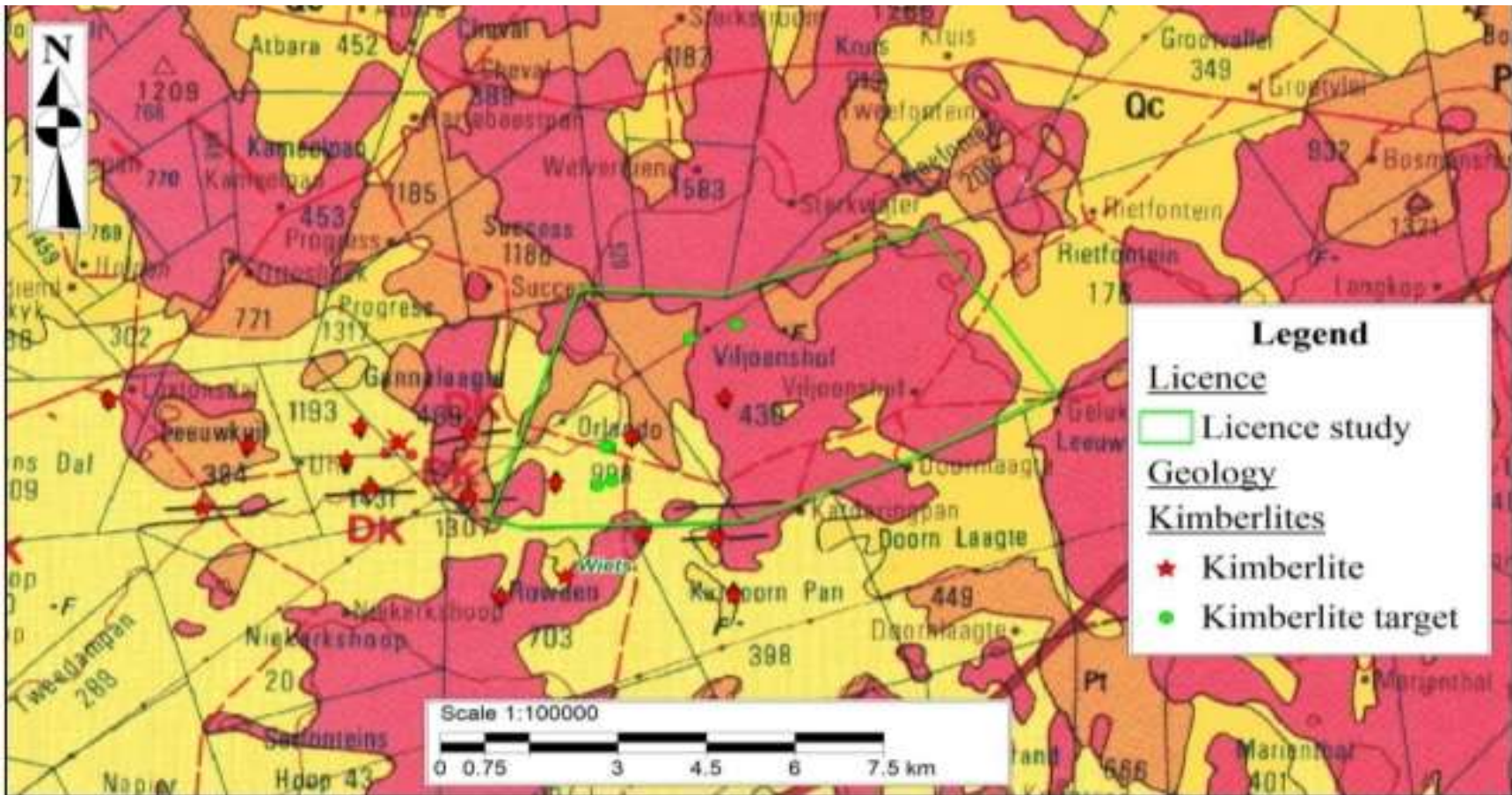


Figure 5: Extract from geological map (1:250,000, zoomed to 1:100,000). Kimberlite target – confirmed by pits and trenches.

6.2 Topography

The surrounding land is mostly natural veld. The slope of the area is relatively flat 0.2% with the occurrence of plateau. The site is situated on the Highveld of the inland plateau at an altitude OF 1200m-1400m above sea level.

6.3 Climate

This climatic zone is characterised by hot summers and cold dry winters. Rainfall In the area is unpredictable. The majority of rain (88.2%) falls between October and April in the form of thunderstorms. During this period rain can be expected every 5 days.

The winters are very dry and rainfall is rare. Any precipitation that does take place tends to be brought about by cyclones penetrating the interior of the country. The prevailing winds in this area are from a north-westerly direction. The strongest winds tend to blow from a west-south-westerly direction to a north-north westerly direction and occur from August to December. October and November are the windiest months.

The various climatic parameters such as rainfall data, temperature data, evaporation rates, wind speed and direction have been obtained from the weather station at Kimberley.

Rainfall intensity:

Most of the rainfalls occur during thunderstorms in the summer months as well as during cloud bursts where maximum rainfalls were measured of up to 88mm at a downpour of approximately 24 hours.

Average minimum and maximum temperature:

The average maximum temperature measured during the Summer is 26.57s°C and the minimum during the Winter months is -9.675°C

Average monthly wing direction and speed: -

The prevailing wind direction in the area is mainly from the north to north-westerly with the strongest winds from the west-southwest to north-northwest that occurs between August and December. October and November months are common for high wind speeds of up to 4.85 meter per second.

Average monthly evaporation: -

It is estimated that the average annual evaporation rate is approximately 2365mm which indicates the dry climate conditions in this area. Thus, with an annual rainfall of 380,8mm the net evaporation may be calculated to be 1984mm.

Presence of extreme climate conditions

Hail: This is a very rare occurrence in the region. Hail does however occur at an average of 1,2 days pe year in the area.

Frost: This can occur from April to October and temperatures during this period can be extremely low. The lowest recorded temperature in this area is -7. °C.

Strong winds: Occasional strong winds occur but not often.

Droughts: Temperatures during the summer months frequently exceed 30°C and can reach up to 40°C at times. These high temperatures coupled with low rainfall make the region susceptible to very dry conditions.

6.4 Hydrology

Drainage

The proposed site is in the Lower Vaal Management Area. The site is drained by means of run-off, with storm water collection towards the northwest and north of the site. No prominent surface drainage features are developed within the proposed site boundaries. **See below Figure 6&7**

DRAFT EIAR&EMP



Figure 6: Lower Vaal Management Area map of the application area



Figure 7: Quaternary catchment map of the application area

Catchment Analyses

The existing river systems in relation to the proposed site are categorized in 3 Tiers as follows:

- Tier 1- Water Management Area No: 05.
- Tier 2- Quaternary Catchment: C91D.
- Tier 3- Site Specific Catchment Areas

Water management area management

The study area falls within water management area number 05– Vaal. WMA 05 includes the following major rivers Wilge, Liebenbergvlei, Mooi, Renoster, Vals, Sand, Vet, Harts, Molopo, and Vaal Rivers. Water management area 05 primarily drains in region C. **Figure 6** shows water management area No. 05.

Quaternary Catchment

A catchment, in relation to a watercourse means the area from which any rainfall will drain into the watercourse or part of the water course through surface flow to a common point, or points (National Water Act, 1998, Act 36 of 1998). The study area is in Quaternary Catchment C91D (**Figure 7**) which covers an area of approximately 2693.91 km².

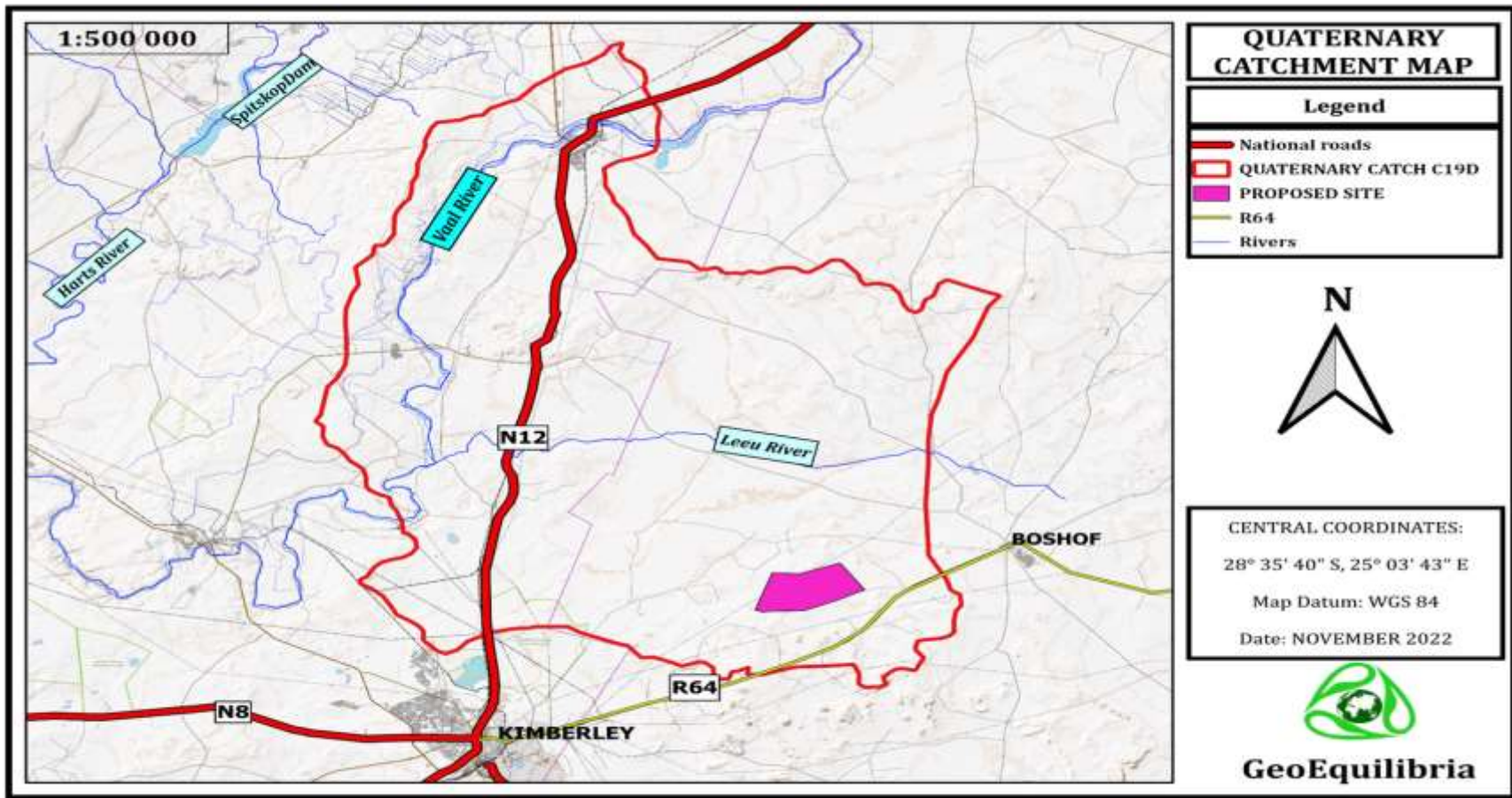


Figure 6: Quaternary Catchment C91D.

Significant Surface Water Resource

The Leeu River, a tributary of the Vaal River is the significant surface water feature in the vicinity of the site area. The Vaal River has its course near Breyten in Mpumalanga 30 km north of Ermelo. It then flows westwards to its conjunction with the Orange River southwest of Kimberley in the Northern Cape.

The aquifers systems of the study area are:

Deeper Fractured Aquifers: composed mainly of crystalline material (i.e. igneous and metamorphic rocks) characterised by an intact and relatively unweathered matrix with a complex arrangement of interconnected fracture systems.

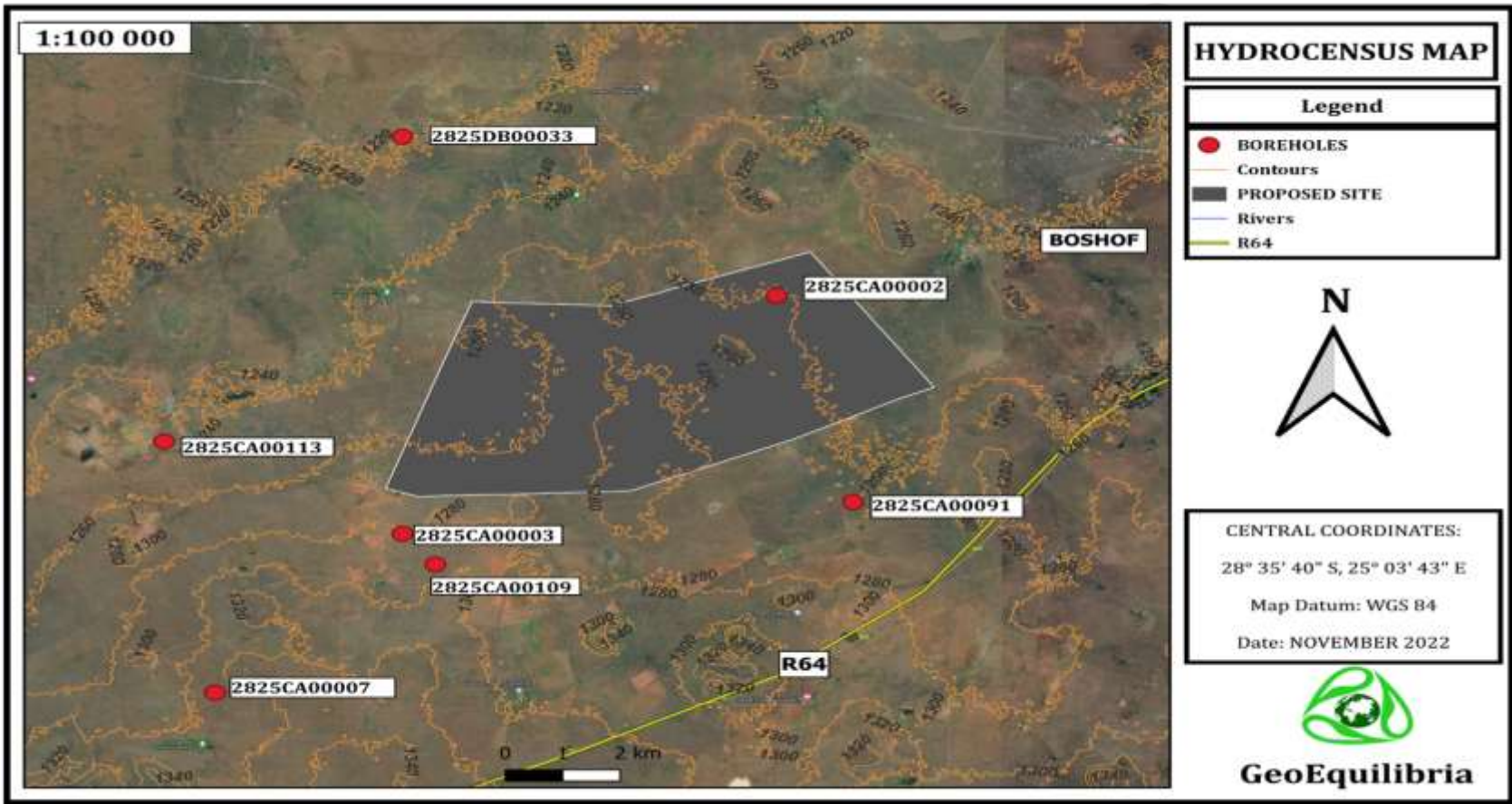
Fractured karst aquifer: these rocks that form a fractured karst aquifer in the area and have a high degree of heterogeneity and anisotropy. The aquifers are unconfined to semi-confined, being separated by dolerite dykes being a possible effect due to the dykes acting as aquitards or barriers to groundwater flow. The contact zones between the dolomite formations and dolerite dykes are usually fractured however, and along with any other faults and fractures result in distinct dolomite dissolution and the development of groundwater flow paths in the region.

Hydro census and Boreholes information

Boreholes provide valuable information on the groundwater regime. The hydrocensus information is summarized in **Table** below, with the corresponding locations in **Figure 8**.

BH ID	LONGITUDE	LATITUDE	BH DEPTH (M)	WATER LEVEL [MBGL]	DISCHARGE [L/S]	WATER USE	DISPLACEMENT (M)	DATE
2825CA00002	-28.56706	25.0829	27.98	6.09	0.04	Domestic	1969.49	13-10-2022
2825CA00003	-28.61705	25.01624	31.36	15.24	0.01	Agriculture	1304.68	13-10-2022
2825CA00007	-28.53372	25.01624	91.07	2.44	2.15	Agriculture	1734.35	13-10-2022
2825DB00033	-28.65039	24.98285	75.00	40.48	0.09	Domestic	4475.78	13-10-2022
2825CA00091	-28.61038	25.09651	48.10	13.10	1.27	Agriculture	25.03	13-10-2022
2825CA00109	-28.62347	25.0221	64.92	15.24	---	Agriculture	5857.91	13-10-2022
2825CA00113	-28.597729	24.97389	56.69	25.91	---	Agriculture	4261.02	13-10-2022

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6.5 Soils, Land Use and Capability

The soil type is Prismaeutanic (->25% clay), Red-and Yellow apedal (->20% clay). The Prismaeutanic and or pedoeutanic diagnostic, mostly high clay content has a moderate structure and has a weak drainage potential. Red and Yellow apedal, freely drained soils, red high base status, medium with good drainage potential depth normally ->300mm. The land use of the study area is grazing and small-scale agricultural farming.

6.6 Ecological Settings

Vegetation Data

South Africa is divided up into nine major Biomes. The study area and the surrounding area are found within the Savanna Biome, which is also known as the Bushveld Biome. Savanna vegetation types (veldtypes) tend to have a mix of a lower grassy layer, middle shrub layer and an upper woody layer. The mix and ratio of the three layers varies from veldtype to veldtype within the Savanna Biome. The Savanna Biome is subdivided into six bioregions, namely, Central Bushveld; Mopane; Lowveld; Sub-Escarpment Savanna; Eastern Kalahari Bushveld; and Kalahari Duneveld.

The coordinates of the proposed development area are plotted to determine the vegetation unit(s), in which the development activities will take place. The data used, is that provided by Mucina and Rutherford (2006). A vegetation unit is defined by Mucina and Rutherford (2006) as a complex of plant communities ecologically and historically occupying habitat complexes at the landscape scale. According to Mucina and Rutherford (2006) their vegetation units are the obvious vegetation complexes that share some general ecological properties such as position on major ecological gradients and nutrient levels and appear similar in vegetation structure and especially in floristic composition. **See Figure 9 below**

The proposed development area is located within the SVk 4 vegetation unit. The SVk 4 is known as the Kimberly Thornveld. The Kimberly Thornveld is a sub-bioregion of the Eastern Kalahari Bushveld which is part of the Savanna biome.

According to Mucina and Rutherford (2006:516), the Kimberly Thornveld is spread throughout North West, Free State, and Northern Cape provinces. Most of the vegetation unit is spread out in areas such as Kimberly, Hartswater, Bloemhof and Hoopstad districts as well as substantial parts of the Warrenon, Christiana, Taung, Boshof and to some extent the Barkly West Districts. Also including pediment areas in the Herbert and Jacobsdal Districts. The Kimberly Thornveld vegetation unit is located at an altitude of 1050-1400m with an average climate of 37.5 and -4.1°C for January and July respectively. The Kimberly Thornveld is characterised by plains which are slightly irregular with well-developed tree layer with *Acacia eriobla*, *A. tortilis*, *A. Karoo* and *Boscia albitrunca* and well developed shrub layer with occasional dense stands of *Tarchonanthus camphoratus* and *A. mellifera*, with an open grass layer with much uncovered soil.

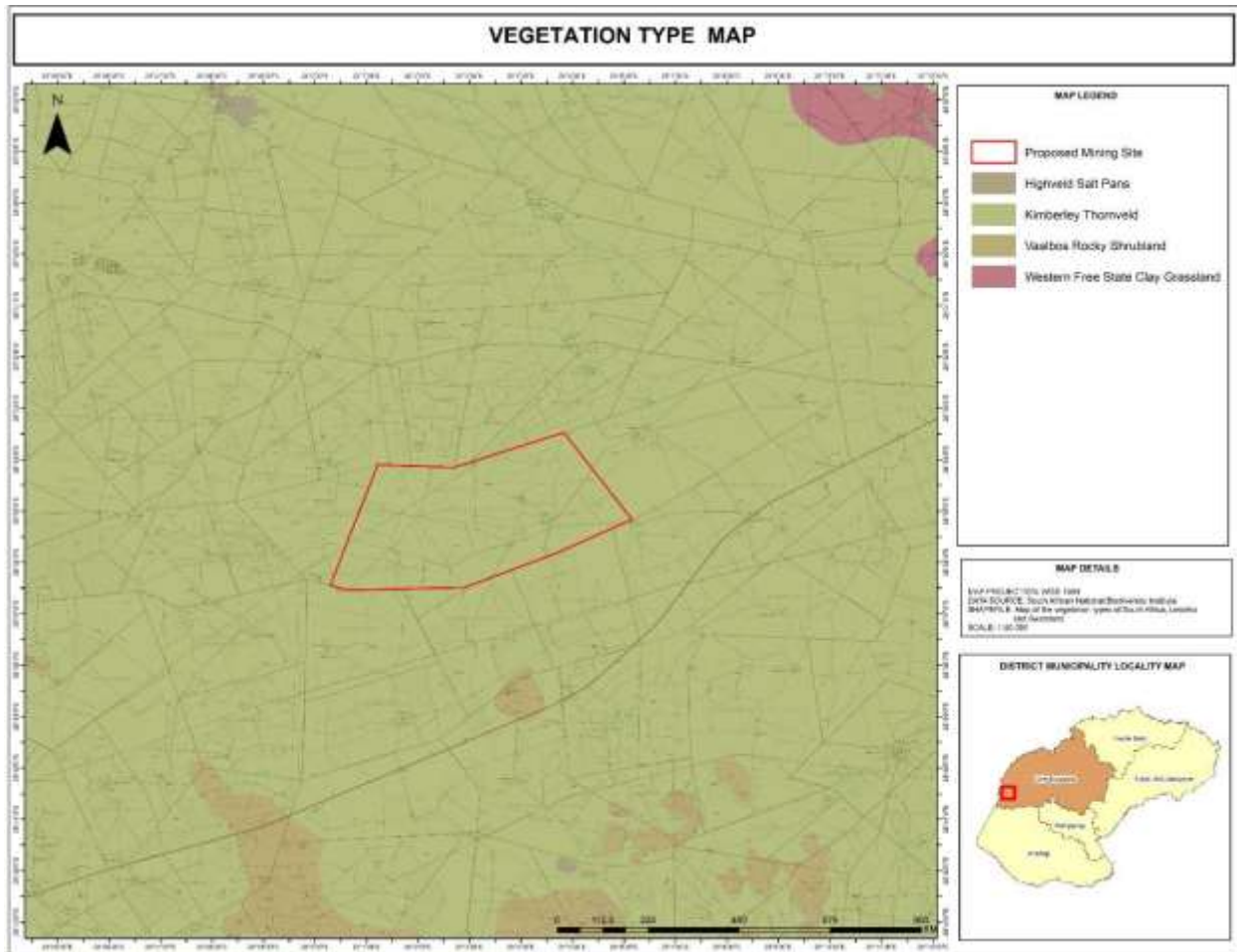


Figure 9: Vegetation Type Map

Some Important taxa found in the area

Tall Trees	<i>Acacia erioloba</i>
Small Trees	<i>Acacia Karoo, A tortilis subsp. Heteracantha, Rhus lancea</i>
Tall Shrubs	<i>Tarchonanthus camphorantus, Diospyros pallens, Ehretia rigida subsp. rigida, Euclea crispata subsp. Ovata, Grewia flava, Lycium arenicola, Rhus tridactyla</i>
Low Shrubs	<i>Acacia Hebeclada subsp hebeclada, Anthospermum rigidum subsp pumilum, Hermannia comosa, Lycium pilifolium, Pavonia burchellii</i>
Graminoids	<i>Eragrostis Lehmanniana, Aristida canescens, A. Congesta, Cymbopogon pospischilii, Eragrostis rigidior, Heteropogon contortus, Themeda trianda</i>

Herbs	<i>Barleria macrostegia, Dicoma schinzii, Aloe grandidentata, Piaranthus decipiens</i>
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According to Mucina and Rutherford (2006:516) highlights that the conservation states of the Kimberly Lowveld is least threatened. With a target of 16% only 2% is conserved in Vaalbos National Park as well as Sandveld, Bloemhof dam and S.A. Lombard Nature Reserves. Erosion is very minimal and the vegetation unit is usually used for cattle farming and game ranching with an encroachment of *Acacia mellifera subsp. detinens* in overgrazed areas.

Priority Floral Species

No species found in the study area is listed in the 2009 Red Data Listing (RDL) nor has any threat status. No Orange Data species or species of conservation concern were observed during overview field investigations.

Protected Area status

According to the data for protected areas, no portions fall within a protected area, however the area is part of the Vhembe Biosphere Reserve.

Critical Biodiversity Areas

According to B-GIS “Critical biodiversity areas (CBAs) are areas of the landscape that need to be maintained in a natural or near-natural state in order to ensure the continued existence and functioning of species and ecosystems and the delivery of ecosystem services”, therefore the purpose of CBA’s is simply to indicate spatially the location of critical or important areas for biodiversity in the landscape. According to the data for Critical Biodiversity Areas, the area of the proposed development site falls within an Ecological Support Area (ESA).

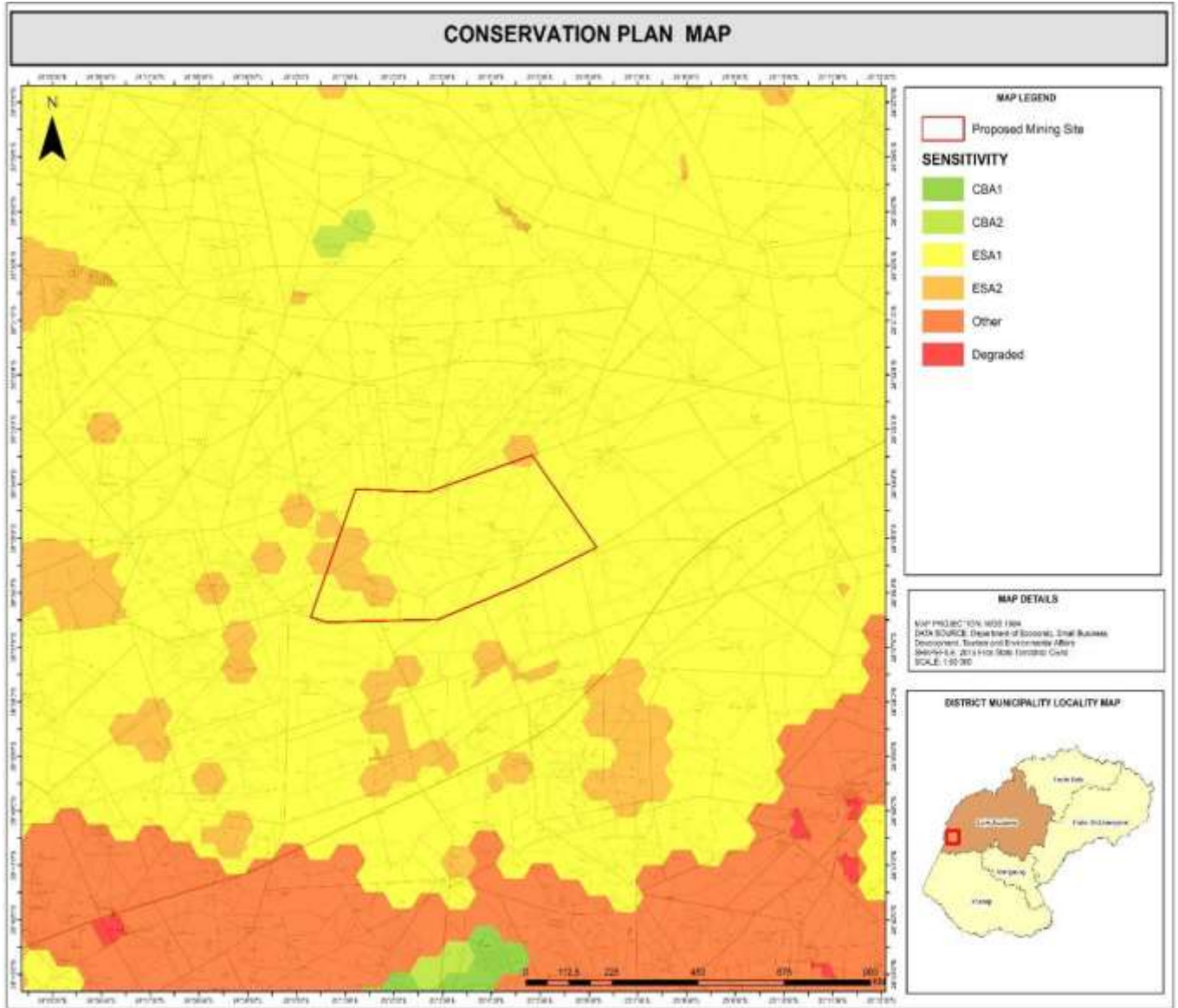


Figure:10 Critical Biodiversity Area Map

Sensitivity Areas

Based on a desktop data analysis, the area of the proposed development site has a LOW SENSITIVITY RATING as it is characterized by low shrublands with a bare landscape. Furthermore, the desktop analysis also confirms that the proposed development site sensitivity status is degraded due to impacts such as change in land use (Agriculture), overgrazing due to livestock farming, deforestation, uncontrolled veld fires, settlement development and desertification (See Figure 3). Furthermore, the proposed development site is located more than 500m away from any river catchment buffer zone or any natural water body or feature.

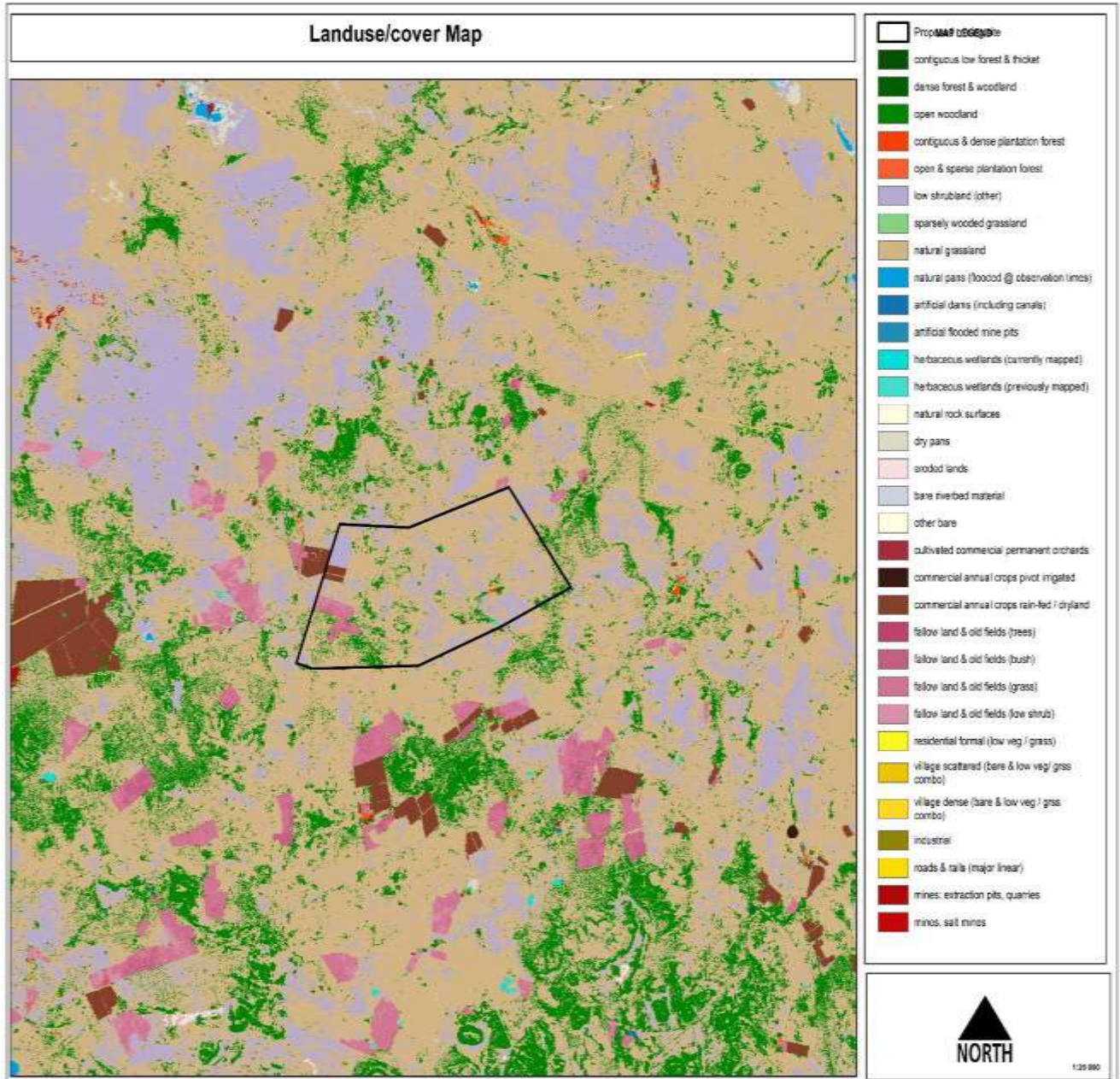


Figure 11: Sensitivity/Landcover Area Map

River Ecosystem Status

The status of the nearest river in question is largely modified (Class D) in this area. With only one NFEPA stream at the edge of the project area and a manmade dam that is being utilized for livestock purposes the figure below depicts the river ecosystem layout and river ecosystem. See figure 12 below

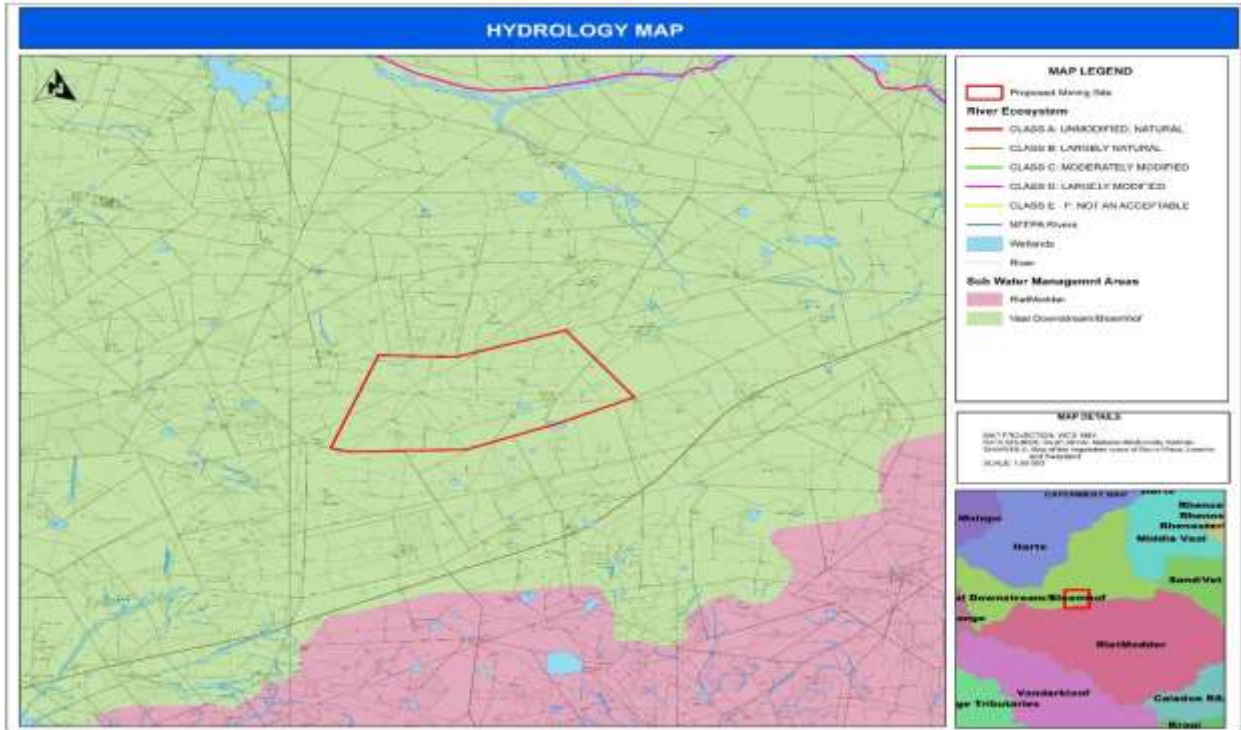


Figure 12: River Ecosystem Status

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6.7 Heritage and Cultural settings

The archaeology of southern Africa is broadly divided into Stone Age, Iron Age and the Historical Age, and South Africa fits well into this periodisation.

The Stone Age is the first period in a series of cultural developments in the history of evolution. It refers to the earliest culture in which people utilised the stone to make tools (Clark 1970). In South Africa, in line with the picture in southern Africa, the Stone Age is divided into three categories namely the Early Stone Age (ESA), The Middle Stone Age (MSA) and the Later Stone Age (LSA). ESA dates between 2.6 million and 250 000 years ago. It is characterised by two archaeological industries, the Oldowan and the Acheulean. (Clarke; Kuman 2000; Klein 2000; Lombard *et al.*, 2012). The Oldowan industry is the oldest known stone industry and dates to 2.6 million years ago. It is characterised by cobbles cores, pebble choppers and percussive tools (Klein 2000; Toth & Schick 2007). Oldowan tools have not been found in any other continent outside Africa (Esterhuysen & Smith 2007). It was completely replaced by the Acheulian around 1.7 million years ago.

Homo ergaster was probably responsible for the manufacture of Acheulian tools in South Africa (Esterhuysen & Smith 2007). Acheulian tools were longer with sharper edges which suggest they could be used for a variety of activities ranging from cutting meat from large animals such as elephants, rhinoceros and hippopotamus that would have died from natural causes. Other functions include chopping of wood, digging roots and cracking bones for marrow. The most diagnostic tools of this period are the handaxes and the cleaver, and some other bifacial tools (Klein 2000). The Acheulean tool industry is known to be the longest running stone tool industry which first appeared about 1.7 million ya and survived until the period between 350 000 to 250 000 ya (Klein 2000; Phillipson 2005).

The transition from ESA to MSA took place around 250 000 years ago and it is characterised by a change in technology as handaxes and cleavers were replaced by smaller blades and flakes (Kuman *et al.*, 2005). In contrast to the ESA technique of removing flakes from a core, MSA tools were flakes to start with (Mitchell 2002). There were of a predetermined size and shape and were made by preparing a core of suitable material and striking off the flake so that it was flaked according to a shape which the toolmaker desired (Esterhuysen & Smith 2007). The stone toolkit of the MSA comprise of unifacial and bifacial points, blades, flakes, scrapers and pointed tools that could have been hafted and used as spears or arrowheads (Volman 1984). The repeated use of caves indicates that MSA people had developed the concept of a home base and that they could make fire. These were two important steps in cultural evolution (Deacon & Deacon 1999). Besides the occupation of caves and introduction of fire, the widespread use of red

ochre, probably as body paint, also shows that MSA behaviour had become more human (Wadley 2015). The recent finds of decorated ochre at Blombos and decorated ostrich eggshells at Diepkloof also in the Cape further cement the point.

The LSA dates to between 40 000 and 25 000 to recently, 100 years ago. It was a period when man refined small blade tools conversely abandoning the MSA prepared-core technique (Deacon 1984). The LSA is associated with the San people. Thus, the tool assemblage of this period consists of thumbnails, convex – edge scrapers, crescents, and bladelets. Other tools of the period are hammers, adzes, bores, grooved stones, hafted tools, points. These San people relied to a larger extent on bow-and-arrow hunting with poisoned tips and also snaring. Ceramics were produced and used by hunters and Khoikhoi herders towards the terminal phase of the LSA (Sadr & Sampson 2006). During the LSA, human behaviour was undoubtedly modern with unique human traits such as rock art and purposeful burials with ornaments (Villa *et al.*, 2012).

No Stone Age sites were found within the footprint of the area proposed for the development. Although no Stone Age sites were found, the region has evidence to suggest that the area was inhabited by Stone Age people in the past. The wider study area has yielded a lot of tools cutting across the Stone Age period. Most ESA and MSA tools have been found in open sites. The earliest ESA industry is the Victoria West Stone industry which was first defined and recorded by Smith in 1915. These tools have been found along the Vaal River. Smith called this culture “Tortoise cores”, the idea being that he made a parallel to the tortoise shell in which individuals shells can be chipped off from a single shell making tools such as handaxes. Later the “Tortoise –Cores” was regarded as a cultural marker in the transition from the ESA to the MSA (Goodwin 1935). The MSA is clearly marked by the appearance of the prepared core technique. In the Free State the Florisband is the dominant culture (Benneman *et al.* 2011). Open air sites seem to have been preferred in the eastern Free State. Rose Cottage is the only cave site that have yielded MSA tools. LSA tools have been found in many cave sites and open sites in the wider study area. There are many paintings in the study region with faded paintings at Lelihoek shelter and De Hoop, and some well executed ones at Tandjiesberg shelter. Just like in the Limpopo, the rock art of the study area indicates a lot of contact between different cultural groups. At De Hoop cave there are poorly preserved paintings depicting Europeans, horses and elands (Wadley 1995).

The Iron Age

Bantu-speaking people moved into eastern and southern Africa about 2000 years ago (Mitchell 2002). These people came with their cultural package. The primary technology used by the Bantu farming communities was the iron hoe, hence the advent of the 'Iron Age' to designate this period. The Iron Age of South Africa is divided into the Early Iron Age (EIA) AD200 -1000) and the Later Iron Age (LIA) (AD1000-1840). However, Huffman (2007:361) proposed for an additional Middle Iron Age between the two phases. So according to him, the Iron Age of South Africa is divided into three phases namely, the Early Iron Age (EIA) (AD200-900), the Middle Iron Age (MIA) (AD900-1300) and the Late Iron Age (LIA) (AD1300-1840). Other researchers argue that the Middle Iron Age should only be confined to the Shashe Limpopo Basin, as it is not clear outside the Limpopo Basin.

The first settlement in southern Africa is known as the Early Iron Age (Mitchell 2002). Early Iron Age communities in eastern and southern Africa share a common culture called Chifumbaze Complex (Philipson 1994). The Chifumbaze Complex contains evidence of the first farmers who cultivated crops, domesticated cattle, used iron and made pots (Philipson 1994). Some researchers classify Early Iron Age pottery traditions into different streams or trends in pot types and decoration that emerged over time in southern Africa. These streams are identified as the Kwale Branch (east), the Nkope Branch (central) and the Kalundu Branch (west). Early Iron Age pottery display features such as large and prominent inverted rims, large neck areas and fine elaborate decorations. Inskeep (1977: 124) describes it as 'thick, pale (pink, buff or reddish) in colour and freely, boldly decorated'.

The Middle Iron Age stretches from AD900 to 1300 and it marks the origins of the Zimbabwe culture (Huffman 2007: xiii). During this period, cattle domestication appeared to play an important role in society. The period was also characterised by extensive international trade that boosted the economy resulting sweeping socio-economic changes in the landscape (Huffman 2000). A remarkable change was the development of class distinction and sacred leadership which was witnessed in the Shashe-Limpopo Basin (Huffman 2007).

The Late Iron Age roughly dates from AD1300 to 1840. The LIA was characterised by greater focus on economic growth and the increased importance of trade. Specialisation in terms of natural resources also started to play a role, as can be seen from the distribution of iron slag which tends to occur only at certain localities compared to wider distribution during the earlier times (Huffman 2000, 2007). There is also a marked increase in stonewalling (Huffman 2007).

No Iron Age sites were noted in the study area. In wider study area, the earliest Iron Age settlement is OU1, between the modern towns of Vrede and Frankfurt, and is dated to AD 505. The other EIA site is OND2. When these Iron Age people entered the region, local Khoisan people already possessed grass-tempered and grit-tempered pottery and domestic stock (Wadley 1995:578). There is no Middle Iron Age in the Free State. It is clear in the Limpopo where it is associated with the Zimbabwe culture (Huffman 2007). Other sites with well documented Iron Age artefacts include the Caledon River Valley known to have been occupied by the Fokeng group of the Sotho culture. Later this group migrated to settle in Matlaeeng, between Frankfurt and Vrede (Huffman 2007). In the study area, there is some rock art which is linked to the Iron Age by interaction; it is not directly executed by the San people. In the south eastern Orange Free State, for example cattle paintings are found with some Sotho shields which some researchers such as Binneman *et al.* (2011) argue could be referring to the time of trouble, *mfecane*. One interesting painting is of a man walking with hunting dogs (Wadley 1995).

Historical Period

Bartholomeo Dias was the first European to sail around the southern point of Africa in 1488 (Sadr 1998), and he named it the 'Cape of Good Hope.' He was followed by Vasco da Gama who arrived 9 years later. The Portuguese seafarers were not actually interested in southern Africa, they were just explorers. The start of a significant chapter would be when Jan Van Riebeck arrived in Table Bay with his 3 ships on 6 April 1652. At first his aim was not to colonise the Cape but to establish a station at Table Bay to supply passing ships with fresh meat. The events turned when they granted mine company servants' freedom in 1657 to establish private farms in Rondebosch area below the eastern slopes of Table Mountains. By settling at the Cape, the Dutch also aimed to access the herds of cattle kept by the Khoikhoi. At first it was a friendly arrangement, however, disputes erupted over land when the Free Burghers began to encroach into traditional communal lands. By the 1700s, the Dutch colonists had prevailed. These new white settlers would influence the context and content of South Africa starting with the development of Cape Town into an urban centre (Wright & Hamilton 1989).

The British took control of the Cape colony in 1795 after the battle of Muizenberg. This triggered a process of disintegration within many European locals unwilling to contribute to the British government and crown. Between 1803 and 1806, the Dutch gained control temporarily. In 1832, Dr. Andrew Smith, a Briton and William Berg, a Boer embarked on an exploring tour in KZN. When they came back, they convinced the Boer leaders of the potential of the land in terms of farming, livestock and settlement. This triggered

the beginning of the Great Trek (Ross 1989; Wright & Hamilton 1989). The first wave of trekkers left the Cape in 1835, and more followed in 1836. About 12 000 people left on the trek being led by renowned figures such as Louis Trichardt, Hans Van Rensburg and Hendrik Potgieter among others. In time, these voortrekkers who were escaping the British policies started to build a unique identity, and started calling themselves Afrikaners. They also developed a hybrid language called Afrikaans which stemmed from the Dutch, but incorporated other languages such as German, French and Black African influences. The Afrikaans descendants of these people would later be called the 'Boere', meaning a farmer (www.sa.history.co.za/)

The early history of South cannot be complete without mentioning the Mfecane/ difaqane. This was the time of trouble when the great Zulu and Sotho tribes fought each other for space and domination throughout southern Africa, killing and displacing hundreds of thousands of people across the subcontinent. A key figure in these wars was the great Zulu king, Shaka. In the early 1860s, many African states weakened as they lost their tradition and culture due to Christianity. During this time, Europeans further weakened African states by grabbing fertile land from them, exploited them as a source of cheap labour and made them to pay taxes (Wright & Hamilton 1989; Shillington 1989).

In time, tensions between the British and the Boers states arose with the discovery of gold and diamonds the British saw it fit to attempt to take over two states in order to protect the people living under Boer rule and also to thwart a German attempt at taking control of large parts of Africa. These tensions led to the Anglo-Boer War of 1899-1902. The war claimed the lives of probably, 50 000 Boers, as well as Blacks and some British soldiers. The Boers ceded in May 1902, and the British formed the South African Republic. Boers continued to live in the new Republic although many resisted and wished to continue fighting. The 1902 Peace Treaty in Vereeniging ended the Anglo-Boer War. This gave Black South African Peace Treaty as they hope for better opportunities after the suppression and domination by white minority. Unfortunately, this did not bring any meaningful changes as far as human rights for black people were concerned, actually the process of segregation in South Africa intensified (Wright & Hamilton 1989).

In the Free State the town of Bloemfontein, which is currently the provincial capital is one of the most significant interior towns that were established by the European settlers of the Dutch origin. This was after the Voortrekkers had trekked from the Cape colony to avoid British administration (Hall, 1993). Other towns within the close proximity to the study area are; Kestell, Bethlehem, Phuthaditjhaba and

Harrismith. The historical archaeology of the study region is rich in monuments, statues and memorials. There are also other buildings demonstrating various architectural styles and vernacular. The footprints of the Anglo-Boer War are clearly visible in the research area. The study area is based in the small town of Boshof.

The history of the town of Boshof

The town of Boshof was established on a farm bought from a local Geiqua called Dawid Danster. The farm was bought by D.S Fourie and sold to the Nederduitse Gereformeerde Kerk under the instruction of Reverend Andrew Murray. The town was named after the 2nd President of the Orange Free State, Jacobus Nicolas Boshof who was born in 1808, and died in 1881. Boshof was established as a municipality in 1872, in 1874, the Dutch Reformed church was built. It was enlarged in 1913, and renovated in 1954 (<http://www.boshof.co.za>).

The town of Boshof boasts of a number of historical buildings such as town hall, high school and the powder magazine. The powder magazine is a provincial heritage site and the town hall, a Grade III site.

There are no historical structures that were found within the footprint of the proposed development.

7.SPECIALIST REPORTS

In terms of Appendix 3 (k) of GNR 982, an environmental impact assessment report must include:

- A summary of the findings and recommendations of any specialist report complying with Appendix 6 to these Regulations and an indication as to how these findings and recommendations have been included in the final Assessment report. **See Annexure E**

Appropriately qualified and experienced specialists were appointed to undertake the various assessments. The Specialists assisted in gathering baseline information relevant to this study and assessed the impacts associated with the development. Specialists made recommendations to mitigate negative impacts and enhance benefits. The resulting information was synthesised into the Environmental Impact Report (EIR), whilst the full specialist reports are attached on this EIR as a Specialist Volume. The specialists' studies assisted with the development of an understanding of the system process and the potential positive and negative impacts of the proposed development on both the social and biophysical environments: The

below mentioned specialists were appointed and assisted in identifying the possible impacts of the project and the mitigation measures thereof:

Table 10: Specialist studies conducted

Study	Consultant (Specialist)	Company
Ecological Report	Mr Kuhlula Jeff Maluleke	EnviroMax Consulting Pty Ltd
Heritage Impact Assessment Report	Mr. Mushiana, K.B. Mr. Mufamadi M.	Geoquilibrium Pty-Ltd
Geo-hydrological Studies	Mr. Alvord Nhundu	Independent Specialist
Social & Labour Plan	Mr Peter De Bruin	Bruin Box Pty-Ltd

7.1 Summary of specialist Recommendation

See Annexure E for specialist Reports

7.2 Environmental Impact Statement

Summary of the key findings of the environmental impact assessment

Key findings of the environmental impact assessment include:

- The significance of potential environmental impacts can be reduced to low - very low significance, with the implementation of mitigation measures and monitoring;
- Impacts on the socio-economic environment and livelihoods of the surrounding farmers, and communities can be mitigated to moderate – low significance;
- Cumulative noise, visual and air quality (dust) impacts are deemed to not be significant (low) when proper mitigation measures are implemented;
- It is expected that cumulative impacts on surface and groundwater quality as well as biodiversity will be moderate - high prior to mitigation.

Mitigation measures for these potential impacts include:

- Application of best-practice water management after project closure, and continuous monitoring of surface, and groundwater quality;
- These possible contaminants need to be managed and prevented through an effective Emergency Response Plan, and Storm Water Management Plan, as well as the development of

an appropriate Groundwater Monitoring Plan, in order to reduce the significance of these impacts;

- Vegetation loss is unavoidable during the activities of the proposed mining project, and special care must be taken to manage any species of special concern.

Summary of Potential Impacts on the Biophysical Environment

- Air pollution;
- Noise pollution;
- Soil pollution;
- Pollution due to management of waste;
- Water pollution;
- Fauna and Flora;
- Visual impacts; and
- Socio-economic impacts.

7.3. Final Site Map

Appendix B

The Final Site map has been attached as Appendix B.

Please note: The Final Site map and layout may be influenced by the continuous engagement process with interested and affected parties.

8. PUBLIC PARTICIPATION

According to the EIA regulations (2014), an environmental impact assessment report must include: -

- i. Details of the public participation process conducted in terms of sub regulation (1), including;
 - ii. Steps undertaken in accordance with the plan of study;
 - iii. A list of persons, organizations and organs of state that were registered as interested and affected parties;
- (v) A summary of comments received from, and a summary of issues raised by registered interested and affected parties, the date of receipt of these comments and the response of the EAP to those comments; and
- (vi) Copies of any representations, objections and comments received from registered interested and affected parties;

It is important to note that this chapter provides details of the public consultation process to be conducted when the draft EIAR is made available for public comment upon consultation with the Competent Authority. Copies of documents relevant to this phase of the assessment will be included as Annexure on the Final EIAR.

8.1 Need for Public Participation

Public participation is a process that is designed to enable all I&APs to voice their opinion and/ or concerns which enables the practitioner to evaluate all aspects of the proposed development, with the objective of improving the project by maximizing its benefits while minimizing its adverse effects. I&APs include all interested stakeholders, technical specialists, and the various relevant organs of state who work together to produce better decisions.

- The primary aims of the public participation process are:
- To inform I&APs and key stakeholders of the proposed application and environmental studies;
- To initiate meaningful and timeous participation of I&APs;
- To identify issues and concerns of key stakeholders and I&APs with regards to the application for the development (i.e. focus on important issues);
- To promote transparency and an understanding of the project and its potential environmental (social and biophysical) impacts (both positive and negative);
- To provide information used for decision-making;
- To provide a structure for liaison and communication with I&APs and key stakeholders;

- To ensure inclusivity (the needs, interests and values of I&APs must be considered in the decision-making process);
- To focus on issues relevant to the project, and issues considered important by I&APs and key stakeholders; and
- To provide responses to I&AP queries

The public participation process must be in line and concur with the requirements of Regulations (GNR 982) under the NEMA. The public participation process for the development EIA process was undertaken according to the following stages.

1. Scoping Phase
 - Raise issues of concern
 - Make suggestions of project Development
 - Contribute relevant local knowledge to the EIA
2. EIA phase
 - Comment on the findings of the specialist studies and the rating of the impacts
 - Raise additional issues/concerns
3. Decision making phase
 - May appeal to the decision if wish to do so.

8.2 Importance of I&APs in Public Participation

During the scoping phase there have been more participatory approach to these developments and the availability of services (**See Annexure I**) for scoping phase public participation report It is also noted that engaging stakeholders even before developments are built can achieve the positive impacts. It is for this reason that the PPP that forms part of the EIA becomes the basis for stakeholder engagement process. The PPP aimed to ensure that the full range of stakeholders is informed about the proposed development throughout the entire EIA process. A number of key activities have taken place and will continue to take place in order to meet this desired objective. The activities undertaken included the following:

- The identification of stakeholders is a key deliverable at the outset, and it is noted that there are different categories of stakeholders that must be engaged, from the different levels and categories of government, to relevant structures in the NGO sector, to the communities adjacent
- The development of a living and dynamic database that captures details of stakeholders from all sectors;

- The convening of focused and general meetings with stakeholders at different times throughout the EIA process;
- The engagement of public leaders and key informants to whom the public generally turn for information, keeping such individuals well informed about process and progress to reduce bias;
- The fielding of queries from I&APs and others, and providing appropriate information;
- The convening of specific stakeholder groupings/for or as the need arises;
- The preparation of reports (both baseline and impact assessment) based on information gathered
- throughout the EIA via the PPP and feeding that into the relevant decision-makers;
- The PPP could include distribution of various types of pamphlets and other information packs; and
- Where appropriate site visits may be organized, as well as targeted coverage by the media.

The Public Participation Process has been conducted in terms Chapter 6: Regulation 41(2); 42 and 43(1) of GNR 982 (04 December 2014) of the National Environmental Management Act 107 of 1998 and Regulation 50 of the Minerals and Petroleum Development Act (MPRDA, Act 28 of 2002).

8.3 Competent Authority Engagement and Consultation

The competent authority which is the Department of Mineral Resources is required to provide an environmental authorization (whether positive or negative) for the project. The Competent Authority was consulted from the outset of this study, and has been engaged throughout the project process. The competent authority was engaged over the entire application process proof of correspondence from DMRE is attached as **ANNEXURE D**.

8.4 Identification of Key Stakeholders

The list below shows the identified stakeholders that were consulted as far as The Proposed Mining Development is concerned.

AGENCY, ORGANISATION, PERSON	DETAILS	COPIES
Department of Minerals Resources and Energy (Welkom)	Draft for Review and Comment	1 x hard copy 1 x electronic copy uploaded via SAMRAD

Department of Agriculture and Rural Development (Bloemfontein)	Draft for Review and Comment	1x hard copy 1x electronic
Department of Economics, Small Business Development and Environmental Affairs (Bloemfontein)	Draft for Review and comment	1 x hard copy 1 x hard copy
Department of water and sanitation	Draft for Review and comment	1 x hard copy 1 x electronic
Tokologo Local Municipality	Draft for Review and comment	1 x hard copy 1 x electronic
Public Works	Draft for Review and comment	1 x hard copy 1 x electronic
Department of Police, Roads and Transport	Draft for Review and Comment	1xhard copy 1x Electronic
Department of Agriculture, Forestry and Fishery	Draft for Review and Comment	1x Electronic 1xhard copy
South Africa Heritage Resource Agency (SAHRA)	Draft for Review and comment	1 x Electronic (Portal System)
ESKOM	Draft for Review and comment	1 x hard copy 1x Electronic

8.5 Notifying Interested and Affected Parties of the EIA

8.5.1 Background Information Document

An application for an Integrated Environmental Authorisation was lodged with the Department of Mineral Resources and Energy (DMRE) and an acceptance of application was received whereby the project was assigned **REF:FS30/5/1/2/2/1006**. The Scoping Environmental Impact Report was submitted to the Department of Mineral Resources and Energy on 21 May 2021 for comment and the DMRE acknowledged receipt of the Scoping Report on 08 June 2021, the Scoping Report was made available to Interested and Affected Parties (I&APs) and stakeholders for a 30-day comment period. The comments received from stakeholders during the 30-day review were incorporated into the Final Scoping Report (where required). The DMRE accepted the finalised Scoping Report and Plan of Study for EIA on 08 June 2021, which enabled the commencement of the Environmental impact assessment and Environmental Management Programme phase.

The Draft EIA Report is released to stakeholders for a 30-day review period for public participation purposes as stipulated on condition 4 of the Acceptance of Scoping Report received from the Competent Authority (DMRE). All comments received will be included in the finalised EIA Report, which is currently being submitted to DMRE for decision-making. Written notifications, hard copies and/or CDs containing the document has been sent to key stakeholders, including authorities

8.5.2 Advertisements

A newspaper advertisement will be placed at a local newspaper in terms of Regulation 41(2) (c), 2017 of the National Environmental Management Act, 1998 and Regulation 50 of the Minerals and Petroleum Development Act (MPRDA, Act 28 of 2002) of the intention to mine on the project site.

8.5.3 Site Notices

The NEMA EIA Regulations require that a site notice be fixed at a place conspicuous to the public at the boundary or on the fence of the site where the activity to which the application relates is to be undertaken and on any alternative sites. The purpose of this is to notify the public of the project and to invite the public to register as stakeholders and inform them of the PP Process.

8.5.4 Public Meetings

All registered I&APs and the public will be invited to a public meeting. Date, time and venue is to be communicated.

8.6 Authority consultation

The state departments are given an opportunity to comment on the proposed mining development. The authorities also received the Environmental Impact Assessment report and have 30 days period to make submissions and comments.

8.7 Registration of I&APs and Comments Database

I&APs are given an opportunity to raise further concerns and queries throughout the Process. Biometal Services also used the social networks (twitter handle and Facebook page) and electronic media to reach out and inform the public.

9: IMPACT ASSESSMENT

9.1 Methodology to be used in identifying and ranking risks

The following parameters were used to describe the impact/issues in this assessment:

a) Nature

A brief written statement of the environmental aspect being impacted upon by a particular action or activity.

b) Extent

The area over which the impact will be expressed. Typically, the severity and significance of an impact have different scales and as such bracketing ranges are often required. This is often useful during the detailed assessment phase of a project in terms of further defining the determined significance or intensity of an impact.

- **Site (1)** – Within the construction site.
- **Local (2)** – Within a radius of 2 km of the construction site.
- **Regional (3)** – the scale applies to impacts on a provincial level and parts of neighbouring provinces.
- **National (4)** – the scale applies to impacts that will affect the whole South Africa.

c) Duration

Indicates what the lifetime of the impact will be.

- **Short-term (1)** – less than 5 years.
- **Medium-term (2)** – between 5 and 15 years.
- **Long-term (3)** – between 15 and 30 years.

- **Permanent (4)** – over 30 years and resulting in a permanent and lasting change that will always be there.

d) Intensity

Describes whether an impact is destructive or benign.

- **Very High (4)** - Natural, cultural and social functions and processes are altered to extent that they permanently cease.
- **High (3)** - Natural, cultural and social functions and processes are altered to extent that they temporarily cease.
- **Moderate (2)** - Affected environment is altered, but natural, cultural and social functions and processes continue albeit in a modified way.
- **Low (1)** - Impact affects the environment in such a way that natural, cultural and social functions and processes are not affected.

e) Probability

Describes the likelihood of an impact actually occurring.

- **Improbable (1)** - Likelihood of the impact materialising is very low.
- **Possible (2)** - The impact may occur.
- **High Probable (3)** - Most likely that the impact will occur.
- **Definite (4)** - Impact will certainly occur.

f) Cumulative

In relation to an activity, means the impact of an activity that in itself may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.

g) Significance

Significance is determined through a synthesis of impact characteristics. Significance is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. The total number of points scored for each impact indicates the level of significance of the impact.

Low impact (4 - 6 points)	A low impact has no permanent impact of significance. Mitigation measures are feasible and are readily instituted as part of a standing design, construction or operating procedure.
Medium impact	Mitigation is possible with additional design and construction inputs.

(7 - 9 points)	
High impact (10 - 12 points)	The design of the site may be affected. Mitigation and possible remediation are needed during the construction and/or operational phases. The effects of the impact may affect the broader environment.
Very High impact (13 - 16 points)	Permanent and important impacts. The design of the site may be affected. Intensive remediation is needed during construction and/or operational phases. Any activity which results in a “very high impact” is likely to be a fatal flaw.
Status	Denotes the perceived effect of the impact on the affected area.
Positive (+)	Beneficial impact.
Negative (-)	Deleterious or adverse impact.
Neutral (/)	Impact is neither beneficial nor adverse.

h) Degree of confidence or certainty

It is also necessary to state the degree of certainty or confidence with which one has predicted the significance of an impact. For this reason, a ‘degree of certainty’ scale has been provided to enable the reader to ascertain how certain we are of our assessment of significance:

- **Definite** – More than 90% sure of a particular fact. The use this one will need to have substantial supportive data.
- **Probable** – Over 70% sure of a particular fact, or of the likelihood of that impact occurring.
- **Possible** – Only over 40% sure of a particular fact or of the likelihood of an impact occurring.
- **Unsure** – Less than 40% sure of a particular fact or the likelihood of an impact occurring.

PLANNING& CONSTRUCTION PHASE			
Potential impacts: Construction Phase	Significant rating of impacts	Proposed Mitigation Measures	Significant rating of impacts after mitigation
1. Topography			
<p>Permanent structures: Slimes Dams, Tailings dumps, open pits</p> <p>Temporary structures: storage dam, stockpiles</p> <p>Altering of the drainage</p>	<p>Duration: Long-term (3) Spatial: Localised (1) Significance: High (3) Likelihood: Definitely (4) Certainty: Probable</p>	<ul style="list-style-type: none"> • Ensure that drainage patterns in the high areas are: Free draining and do not create pools; • Employ effective rehabilitation strategies to restore surface topography of tailings dumps and plant site. • Dispersed into adjacent grasslands regularly so as to avoid concentration of water in such a manner that it may contribute to erosion. Tie into the adjacent terrain. 	<p>Duration: Medium-term (2) Spatial: Localised (1) Significance: Low (1) Likelihood: May occur (3) Certainty: Possible</p>
Rating	Collective Rating= 12	Rating	Collective Rating= 7
2. Soils Erosion			
<p>During construction vegetation will be cleared, and soils excavated. The movement, handling, and exposure of soils will result in an increased risk of soil erosion.</p> <p>The movement of vehicle traffic onsite will result in the compaction of soils. Soil compaction prevents the successful re-establishment of vegetation.</p> <p>During the construction phase inadequate waste management may result in soil pollution.</p>	<p>Duration: Short-term (1) Spatial: Localised (2) Significance: High (3) Likelihood: Definitely (4) Certainty: Probable</p>	<p>Physical demarcation of the working area ahead of construction must be undertaken to ensure that construction remains within the area to be disturbed.</p> <p>Access routes to / from / around the site will be designated prior to actual construction.</p> <p>Should any evidence of soil contamination be discovered, appropriate measures should be taken to remediate the soil. (See hydrocarbons in surface water above).</p>	<p>Duration: Short-term (1) Spatial: site (1) Significance: Low (1) Likelihood: May occur (3) Certainty: Possible</p>

During excavation the mixing of soil substrates, and soil type will result in a reduction of soil fertility.		<p>The temporary by-pass road must be rehabilitated as per the methodology outlined in the EMP after construction.</p> <p>Compacted soil must rip and suitably ameliorated to ensure the successful establishment of vegetation.</p> <p>Care must be taken during excavation and vegetation clearing to ensure that clay soils and sandy / silty soils are stockpiled separately, and returned to their former position during rehabilitation.</p> <p>The location of soil stockpiles must be identified prior to construction, and will not be located at a position where they are likely to be washed away.</p>	
Ratings	Rating=10	Ratings	Rating =6
3. Geology			
During construction, concrete slabs/footings will be excavated to support the buildings infrastructure. The maximum depth of the excavations is unlikely to exceed 1.5m. Consequently, these excavations will not extend to the bedrock underlying the surface soils and thus no impact will be created.	<p>Temporal: Short-term (1)</p> <p>Spatial: Localised (2)</p> <p>Significance: High (3)</p> <p>Likelihood: Definitely (4)</p> <p>Certainty: Probable</p>	The excavation will not exceed 1.5m underground because the area is underground lying rock.	<p>Temporal: Short-term (1)</p> <p>Spatial: Localised (2)</p> <p>Significance: Low (1)</p> <p>Likelihood: May occur (3)</p> <p>Certainty: Possible</p>
Ratings	=7	Rating	=6
4. Culture/Heritage/Archaeology			
No archaeological, paleontological site, artefacts or feature exist on the existing site.	<p>Temporal: Short-term (1)</p> <p>Spatial: Localised (2)</p>	If during construction, any archaeological finds are made (e.g. stone tools, skeletal material), the operations must be stopped, and the	<p>Temporal: Short-term (1)</p> <p>Spatial: Localised (2)</p>

<p>No historical/cultural site, artefacts or feature exist on the existing site.</p>	<p>Significance: High (3) Likelihood: Definitely (4) Certainty: Probable</p>	<p>archaeologist must be contacted for an assessment of the finds.</p> <p>Archaeological artefacts generally occur below surface, the possibility exists that culturally significant material and skeletal remains may be exposed during the development and construction phases, in which case all activities must be suspended pending further archaeological investigations by a qualified archaeologist (See National Heritage and Resources Act, 25 of 1999 section 36 (6)).</p> <p>Should the need arise to expand the development beyond the current scope demarcated area, the following applies: a qualified archaeologist must conduct a full Phase assessment on the sections beyond the demarcated areas which will be affected by the expansion, in order to determine the occurrence and extent of any archaeological sites and the impact development might have on these sites.</p>	<p>Significance: Low (1) Likelihood: May occur (3) Certainty: Possible</p>
<p>Ratings</p>	<p>=10</p>	<p>Rating</p>	<p>=7</p>
<p>5. Fauna and Flora</p>			
<p>During the construction phase the primary impacts to terrestrial ecology will be experienced as a result of vegetation clearing and habitat destruction. Removal of vegetation during construction.</p> <p>The game which occurs naturally on site will be disturbed and might move away from the site.</p>	<p>Temporal: Short-term (1) Spatial: Localised (2) Significance: high (3) Likelihood: Definitely (4) Certainty: Possible</p>	<p>A management plan for control of invasive plant species needs to be implemented on all areas of the mining areas. This will be most viable with the implementation of a buffer zone.</p> <p>During the removal of the soil, the topsoil or A-zone should be stored separately from the other zones. A soil scientist should be employed during</p>	<p>Temporal: Short-term (1) Spatial: Localised (2) Significance: Moderate (2) Likelihood: May occur (3) Certainty: Possible</p>

<p>Areas disturbed by construction may be expected to germinate alien invasive species.</p> <p>Impacts on the plant species: Increased traffic, Construction vehicles and destruction of natural habitat.</p>		<p>this phase of the mine. The scientist should test the soil during this phase of the mine.</p> <p>A buffer zone should be implemented surrounding the watercourse areas.</p> <p>The watercourses are extremely important in providing valuable ecosystem services and it is essential that no mining occurs there. Buffer zones should be clearly demarcated as a no go zone. Any species that are either endemic or vulnerable should be relocated to favourable sites with the help of a specialist prior to vegetation removal for the construction of the mine. This should be done or assessed before the construction of the mine commences to ensure that these species are relocated.</p> <p>To minimize potential impacts to animal species, animals (wildlife and domestic animals) may under no circumstances be handled, removed, killed or interfered with by the Contractor, his employees, his Sub-Contractors or his Sub-Contractors' employees.</p> <p>Activities on site must comply with the regulations of the Animal Protection Act 1962 (Act No. 71 of 1962). Workers should also be advised on the penalties associated with the needless destruction of wildlife, as set out in this act.</p>	
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		<p>Activities should not commence near the surface water areas or wetlands on the specific Portion of the specific mining areas.</p> <p>The construction area should be well demarcated and construction workers should not enter into adjacent areas.</p> <p>Mixing of concrete or collection of building material must be restricted to designated sites to minimize the impact.</p> <p>Plant removal may result in soil erosion; thus, storm water management procedures need to be put into place.</p> <p>Continuous rehabilitation of the area should occur during construction.</p>	
Ratings	=10	Ratings	=7
6. Ground Water			
No impacts to ground water are expected from the construction phase.	<p>Temporal: Short-term (2)</p> <p>Spatial: Localised (0)</p> <p>Significance: high (1)</p> <p>Likelihood: May occur (0)</p> <p>Certainty:</p>	No impacts to ground water are expected during construction phase.	<p>Temporal: Short-term (1)</p> <p>Spatial: Localised (0)</p> <p>Significance: high (0)</p> <p>Likelihood: May occur (0)</p> <p>Certainty:</p>
Ratings	= 3	Ratings	= 1
7. Surface Water			
Oil and grease spills from construction vehicles may enter the construction site resulting in surface water contamination by a hazardous substance.	<p>Temporal: Short-term (1)</p> <p>Spatial: Localised (2)</p>	Hydro-carbons	<p>Temporal: Short-term (1)</p> <p>Spatial: Localised (2)</p>

<p>Accidental spillage of sewage and chemicals from temporary ablution facilities may enter the construction site and result in surface water contamination.</p> <p>Incorrectly managed storm water may carry loose soils and gravels from exposed areas into the construction site. This may result in an increase in turbidity and sediment deposition downstream of the river crossing site.</p> <p>Uncontrolled extraction of surface water from the construction site during the construction phase may result in reduced water quantity downstream of the abstraction point. Downstream water users include stock watering, which may be negatively impacted.</p> <p>The insufficient management of waste may result in pollution of surface water resources.</p>	<p>Significance: High (3) Likelihood: Definitely (4) Certainty: Probable</p>	<p>No storage of hydro-carbon permitted at the construction site, with the exception of a diesel bowser for generators used for lighting purposes.</p> <p>A temporary “bund” area constructed of soil / inert construction waste must be constructed and lined with a suitable liner.</p> <p>Frequent inspections of vehicles and machinery must be undertaken to identify oil leaks / spills. Leaking machinery must be removed off site for maintenance purposes. No maintenance of vehicles or machinery must be undertaken onsite.</p> <p>In the event of fuel or hydrocarbon spillage, soil will be removed to a designated area for bioremediation with suitably recognized product designed for this purpose.</p> <p>Sanitation / Ablution Facilities Proper sanitation facilities must be made available for contractors.</p> <p>The contractor, in consultation with the ECO, shall compile a surface water drainage plan prior to commencement with construction.</p> <p>At least 1 toilet per 15 workers will be provided. A licensed contractor will be utilized to provide and service temporary ablution facilities.</p> <p>Water abstraction</p>	<p>Significance: Low (1) Likelihood: May occur (3) Certainty: Possible</p>
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		<p>All water pumped from the construction site should be measured and recorded. The general authorization volume of water abstraction may not be exceeded on a monthly basis as per the Water use License.</p> <p>Waste Management Measures Ensure that all waste generated on site is sorted into appropriate containers.</p> <p>Waste bins should be emptied regularly and should never overflow.</p> <p>Waste must be removed by a suitably licensed contractor and disposed of at a licensed facility.</p> <p>Building rubble utilized in the construction of the concrete supports must be comprised of inert material.</p> <p>No burning / incineration of waste is to take place on the site.</p>	
Rating	=10	Rating	=7
8. Air Quality			
<p>The source of air quality impacts is:</p> <ul style="list-style-type: none"> • Gases and fumes from construction vehicles; and • Fugitive dust emissions from vehicle traffic traversing gravel roads. <p>Neither pose significant health impacts, however fugitive dust emissions will pose a significant nuisance dust factor on neighbouring farmers in close proximity to the proposed construction site.</p>	<p>Temporal: Short-term (1) Spatial: Localised (2) Significance: Moderate (2) Likelihood: Unlikely (2) Certainty: Possible</p>	<p>Low or in-pit dumping of overburden during high wind use of a global positioning system as a tool to track the locations of mining and dust suppression equipment (e.g. water carts) and cross-referencing this information with real-time weather monitoring to assist with dust control</p>	<p>Temporal: Short-term (1) Spatial: Localised (2) Significance: Low (1) Likelihood: Unlikely (1) Certainty: Possible</p>

		<p>Use of water sprays at each contact or transfer point along the conveyance system which has adjustable rates of application (low, medium and high) depending on dust levels</p> <p>Automatic water sprays installed at the ROM hopper bin that produce a fine mist to suppress dust generated with the triggering of sensors when a truck enters the dump zone and automatic sprays activated until a set time following the departure of the truck</p> <p>Use of a reclaim tunnel at the product ore stockpile and an enclosed conveyor to transfer ore to the loader, both of which minimise dust generation</p> <p>Use of a retractable telescopic chute with curtains to load ore into carriages/trucks and conditions.</p> <p>All construction vehicles should be regularly serviced and maintained to ensure minimal exhaust fume pollution.</p> <p>No fire should be permitted on site.</p> <p>Exposed soils (i.e. soil stockpiles, gravel access roads, material laydown area) will be regularly watered to reduce wind-blown dust.</p>	
Ratings	=7	Ratings	=5
9. Noise			

<p>The noise generated during the construction phase will predominantly result from vehicle activity on site, as well as the operation of heavy machinery and other associated noises. The noise of vehicles and machinery may affect the farm dwellers and neighbouring farmers in the area. The impact of noise will most definitely impact on neighbouring farmers.</p>	<p>Temporal: Short-term (1) Spatial: Localised (2) Significance: Moderate (2) Likelihood: Definite (4) Certainty: Probably</p>	<p>Contractors will be required to wear the appropriate Personal Protective Equipment (PPE) during the construction phase such as masks, protection glasses, ear plugs, gloves, safety boots, and overalls.</p> <p>Ensure that all contractors have appropriate induction and safety training, and understand the dangers to which they will be exposed. Contractors should be appropriately trained as to safe working procedures prior to commencing with work.</p> <p>Construction activities are to be limited to day light working hours.</p> <p>No construction crews are to be accommodated onsite after hours, except for a night watchman. Activities generating noise to be carried out between 6 am – 6 pm (Monday to Saturday) only.</p> <p>Local visitors/tourist to be informed/notified that excessive noise levels are expected.</p>	<p>Temporal: Short-term (1) Spatial: Localised (1) Significance: Low (1) Likelihood: May occur (3) Certainty: Possible</p>
Ratings	=9	Rating	=6
10. Aesthetic and Visual Impact			
<p>The aesthetic characteristics associated with the proposed construction at the proposed site will continue during the construction phase.</p> <p>External lighting from camp site will affect the night time character of the area for local communities.</p>	<p>Temporal: Short-term (1) Spatial: Localised (2) Significance: Moderate (2) Likelihood: May occur (3)</p>	<p>During the construction of the mine infrastructure, consideration to the natural hues can be achieved by painting infrastructure with matt tones to help camouflage the infrastructure.</p>	<p>Temporal: Short-term (1) Spatial: Localised (2) Significance: Low (1) Likelihood: May occur (1) Certainty: Possible</p>

	<p>Certainty: Probably</p>	<p>Construction activities and associated infrastructure to be shielded/concealed as far as possible.</p> <p>Construction activities are to be limited to day light working hours.</p> <p>No construction crews are to be accommodated onsite after hours, except for a night watchman.</p> <p>Low level and frequency lighting are to be utilized wherever possible</p> <p>. Dust from Stockpile areas, roads and other activities must be managed by means of dust suppression to prevent excessive dust.</p> <p>Stockpiles should not exceed 15m in height. Rehabilitation of the area must be done as the mining is completed.</p> <p>The visual impact can be minimized by the creation of a visual barrier.</p> <p>The retention of as much existing vegetation as possible, specifically the existing mature trees in the area to conceal the mining activity as much as possible.</p> <p>During the construction of the mine infrastructure, consideration to the natural hues can be achieved by painting infrastructure with matt tones to help camouflage the infrastructure.</p>	
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		Down-lighting should also be implemented to minimise light pollution at night.	
Ratings	=8	Rating	=5
11. Traffic			
The construction is located far from the public; however, the most significant impacts will be as a result of construction vehicles and heavy machinery on site.	Duration: Short-term (1) Spatial: Localised (2) Significance: high (3) Likelihood: May occur (3) Certainty: Probably	Ensure that adequate path/road diversions for visitors/tourist/pedestrians are installed during the construction phase. Road Traffic regulations must be observed Regular maintenance of the road should be done. Speed restriction of 40h/r must be adhered to when driving onsite.	Temporal: Short-term (1) Spatial: Localised (2) Significance: Moderate (2) Likelihood: May occur (2) Certainty: Possible
Ratings	=9	Rating	=7
12. Socio-Economic			
Due to the size of the project only a marginal positive economic impact is anticipated during the construction phase. There would be no marginal short-term increase in employment in the area due to the socio-economic profile of the area.	Temporal: Short-term (1) Spatial: Localised (2) Significance: high (3) Likelihood: Definitely (4) Certainty: Possible	It is recommended that Invest In Property 126 (Pty)Ltd and the appointed contractor liaise with the Neighbours and affected residents to resolve the encroachment issue.	Temporal: Short-term (1) Spatial: Localised (2) Significance: Moderate (2) Likelihood: May occur (3) Certainty: Possible
Ratings	=10	Rating	=8
13. Health and Safety			

<p>During the construction phase numerous people will have access to the site and this creates a potential safety and security risk. Explosion and fire risks.</p> <p>Except for fuel and oil used in construction equipment, no combustible materials will be used; therefore, increased risk of fire and explosion would be unlikely.</p> <p>Significant risks to public health and safety are not anticipated.</p>	<p>Temporal: Short-term (1) Spatial: Localised (2) Significance: high (3) Likelihood: May occur (3) Certainty: Probably</p>	<p>Health and Safety Officer will be placed on the site to make sure there is compliance in terms Construction Regulations 2014 (as mended)</p>	<p>Temporal: Short-term (1) Spatial: Localised (2) Significance: Low (1) Likelihood: Unlikely (1) Certainty: Possible</p>
<p>Ratings</p>	<p>=9</p>	<p>Ratings</p>	<p>=5</p>

DRAFT EIAR & EMP

ALTERNATIVE 1 (PREFERRED SITE): OPERATIONAL PHASE			
Potential impacts: Operational Phase	Significant rating of impacts	Proposed Mitigation Measures	Significant rating of impacts after mitigation
1. Topography			
Permanent structures: Slimes Dams, Tailings dumps, open pits, Processing plant Temporary structures: storage dam, stockpiles Visual impact Changes to drainage	Duration: Long-term (3) Spatial: site (1) Significance: High (3) Likelihood: Definitely (4) Certainty: Definite	Do controlled dumping at the tailings dump facility. Stabilise the mine residue deposits. Employ effective rehabilitation strategies to restore surface topography of tailings dumps and plant site. Pick up all tailing material up to natural ground level. Stabilise underground workings. All temporary infrastructures will be demolished during closure.	Duration: Long-term (3) Spatial: Site (1) Significance: Moderate (2) Likelihood: May occur (2) Certainty: Possible
Rating	Collective Rating= 11	Rating	Collective Rating= 8
2. Soil Erosion			
Site clearing for the required footprint for mining may expose the surface layer.	Duration: Medium (2) Spatial: Site (1)	Re-establishment of plant cover on disturbed areas must take place as soon as possible, once activities in the area have ceased.	Duration: Low (1) Spatial: Site (1) Significance: Moderate (2)

	<p>Significance: Moderate (2)</p> <p>Likelihood: May occur (2)</p> <p>Certainty: Possible</p>	<p>The soil that is excavated during construction should be stock-piled in layers and protected by berms to prevent erosion.</p> <p>All stockpiles must be kept as small as possible, with gentle slopes (18 degrees) in order to avoid excessive erosional induced losses.</p> <p>The run-off from the exposed ground should be controlled with the careful placement of flow retarding barriers.</p> <p>Ground exposure should be minimised in terms of the surface area and duration, wherever possible.</p> <p>Stockpiles susceptible to wind erosion are to be covered during windy periods.</p> <p>Excavated and stockpiled soil material are to be stored and berms on the higher laying areas of the footprint area and not in any storm water run-off channels or any other areas where it is likely to cause erosion, or where water would naturally accumulate.</p> <p>At no point may plant cover be removed within the no-development zones.</p> <p>All attempts must be made to avoid exposure of dispersive soils.</p>	<p>Likelihood: May occur (2)</p> <p>Certainty: Possible</p>
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		<p>Audits must be carried out at regular intervals to identify areas where erosion is occurring.</p> <p>Appropriate remedial action, including the rehabilitation of the eroded areas, must occur.</p> <p>Rehabilitation of the erosion channels and gullies.</p> <p>The mining operation should avoid steep slope</p>	
Ratings	Rating=7	Ratings	Rating =6
3. Culture/Heritage/Archaeology			
Grave disturbances and archaeological sites: Potential grave disturbances due to mining activities.	<p>Duration: Medium term (2)</p> <p>Spatial: Site (1)</p> <p>Significance: Moderate (2)</p> <p>Likelihood: May occur (2)</p> <p>Certainty: Possible</p>	<p>All stone tool artefacts should be recorded, mapped and collected before destruction.</p> <p>Should development necessitate impact on any building structures, the developer should apply for a SAHRA Site Destruction Permit prior to commencement of construction.</p> <p>The heritage and cultural resources if any are encountered (e.g. graveyards, ruins, historic structures, etc.) must be protected and preserved by the delineation of no-go zones.</p> <p>Stone tools should be avoided where possible and fresh exposure should be recorded before destruction.</p>	<p>Duration: short term (1)</p> <p>Spatial: Site (1)</p> <p>Significance: Low (1)</p> <p>Likelihood: May occur (2)</p> <p>Certainty: Possible</p>

		<p>If during construction, any archaeological finds are made (e.g. stone tools, skeletal material), the operations must be stopped, and the archaeologist must be contacted for an assessment of the finds.</p> <p>Because archaeological artefacts generally occur below surface, the possibility exists that culturally significant material and skeletal remains may be exposed during the development and construction phases, in which case all activities must be suspended pending further archaeological investigations by a qualified archaeologist (See National Heritage and Resources Act, 25 of 1999 section 36 (6)).</p> <p>Should the need arise to expand the development beyond the current scope demarcated area, the following applies:</p> <p>a qualified archaeologist must conduct a full Phase 1 assessment on the sections beyond the demarcated areas which will be affected by the expansion, in order to determine the occurrence and extent of any archaeological sites and the impact development might have on these sites.</p>	
Ratings	=7	Rating	=5
4. Fauna and Flora			

<p>Destruction of the natural habited</p> <p>Noise and vibration disturbance on game animals</p> <p>Alien invasion</p> <p>Game Poaching</p> <p>Fauna Fatality/Injuries caused operation vehicles/earthmoving plants</p> <p>Impacts on Animal species: Habitat destruction and sensitive species disturbance</p>	<p>Duration: Medium (2)</p> <p>Spatial: Site (1)</p> <p>Significance: Moderate (2)</p> <p>Likelihood: May occur (2)</p> <p>Certainty: Possible</p>	<p>Footprint areas of the mining activities must be scanned for Red Listed and protected plant species prior to mining.</p> <p>It is recommended that these plants species be identified and marked prior to mining.</p> <p>Mining activities must be planned, where possible in order to encourage faunal dispersal and should minimise dissection or fragmentation of any important faunal habitat type.</p> <p>These plants should, where possible, be incorporated into the design layout and left in situ.</p> <p>However, if threatened of destruction by mining, these plants should be removed (with the relevant permits from the relevant Competent Authority) and relocated If possible.</p> <p>A management plan should be implemented to ensure proper establishment of ex situ Individuals, and should include a monitoring programme for at least two years after re-establishment in order to ensure successful translocation.</p> <p>Encourage the growth of natural plant species.</p> <p>Ensure measures for the adherence to the speed limit.</p>	<p>Duration: Short (1)</p> <p>Spatial: Site (1)</p> <p>Significance: Moderate (2)</p> <p>Likelihood: May occur (2)</p> <p>Certainty: Possible</p>
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		<p>Minimise the footprint of transformation.</p> <p>Encourage proper rehabilitation of mined areas.</p> <p>All employees on site must be educated about the conservation importance of the fauna and flora occurring on site.</p> <p>24 hours security services should monitor and ensure safety within the farm property and also prevent poaching and killing of game animals.</p> <p>Regular maintenance of equipment, plants and mining vehicles is required to negate noise disturbance on game animal.</p> <p>Observe the breeding and hunting season and implement measures to mitigate disturbances.</p> <p>Mining operations must be suspended during hunting seasons or alternatively in consultation and agreement with the surface owner, operations must be scheduled for night shifts</p> <p>All hunting zone must be marked and marked with minimum mining operations.</p> <p>Mining stakeholders must keep hunting schedules and must be communicated to the mine management.</p>	
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		<p>A channel of communication must be enabled between the surface owners and the mine.</p> <p>Grievance platform must be established and be open to the landowners and the community at large.</p> <p>Careful consideration is required when planning the placement for stockpiling topsoil and the creation of access routes in order to avoid the destruction of habitats and minimise the overall mining footprint.</p> <p>The appointment of a full-time ECO must render guidance to the staff and contractors with respect to suitable areas for all related disturbance.</p> <p>The ECO must ensure that all contractors and workers undergo Environmental induction prior to commencing with work on site.</p> <p>Speed limit of 40 km/hr will be enforced and be implemented.</p> <p>This is to prevent fatality or injuring of animals by construction vehicles and earthmoving plants</p> <p>Reptiles and amphibians that are exposed during the clearing operations should be captured for later release or translocation by a qualified expert.</p>	
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		<p>The environmental induction must be conducted in languages understandable to the workers who may require translation from English.</p> <p>The extent of the mine should be demarcated on site layout plans, and no construction personnel or vehicles may leave the demarcated area except those authorised to do so.</p> <p>Those areas surrounding the mine site that are not part of the demarcated development area should be considered as a no-go zone for employees, machinery or even visitors.</p> <p>All personnel on site must be educated about the conservation importance of the fauna and flora occurring on site.</p> <p>To minimize potential impacts to animal species, animals (wildlife and domestic animals) may under no circumstances be handled, removed, killed or interfered with by the Contractor, his employees, his Sub-Contractors or his Sub-Contractors' employees.</p>	
Ratings	=7	Ratings	=6
5. Ground Water			

<p>Refuelling of Machineries which may result in contamination of underground water when not done properly.</p> <p>Tailings</p> <p>Slime dam spills</p>	<p>Temporal: Mid-term (2)</p> <p>Spatial: Localised (2)</p> <p>Significance: High (3)</p> <p>Likelihood: Definitely (4)</p> <p>Certainty: Probable</p>	<p>Spill kits to clean up accidental spills from earthmoving machinery must be well marked and available on site.</p> <p>Refuelling must take place in well demarcated areas and over suitable drip trays to prevent soil pollution.</p> <p>Ground water monitoring system must be put in place.</p> <p>Monitoring of ground water level on monthly bases. Monthly ground water test must be done. Water recycling facility must be established.</p> <p>Water use records must be reconciled on daily and monthly bases.</p> <p>Slime dams must be desired in a manner that it prevent seepage and run off into underground water.</p> <p>Tailing storage facility must be desired in manner that there are no seepage and run off into underground water and other water bodies.</p>	<p>Temporal: Short-term (1)</p> <p>Spatial: Localised (2)</p> <p>Significance: Medium (2)</p> <p>Likelihood: May occur (2)</p> <p>Certainty: Probable</p>
<p>Ratings</p>	<p>= 11</p>	<p>Ratings</p>	<p>= 7</p>
<p>6. Surface Water</p>			
<p>There are no permanent surface water course such as river or stream.</p>	<p>Temporal: Short-term (1)</p>	<p>Infrastructure must be located away from water bodies.</p>	<p>Temporal: Short-term (1)</p>

	<p>Spatial: Site (1)</p> <p>Significance: Low (1)</p> <p>Likelihood: Improbable (1)</p> <p>Certainty: unsure</p>	<p>Fuel/diesel containers must be placed within a bund wall and far from any water course or body to prevent accident contamination.</p> <p>Oil residue must be treated with oil absorbent and be disposed to an approved waste site.</p> <p>Spill kits must be easily accessible and workers must undergo induction regarding the use thereof.</p> <p>If servicing and washing of the vehicles occur on site, there must be specific areas constructed for these activities, which must have concrete foundations, bunding as well as oil traps to contain any spillages. Wash bay area must be designated and used for that purpose under norms and standards.</p> <p>At all times care should be taken not to contaminate surface water resources.</p> <p>Store all litter carefully to prevent it from washing away or blown into any of the drainage channels the area.</p>	<p>Spatial: site (1)</p> <p>Significance: Low (1)</p> <p>Likelihood: Improbable (1)</p> <p>Certainty: unsure</p>
Rating	=4	Rating	=4
7. Air Quality			
<p>The sources of air quality impacts are:</p> <ul style="list-style-type: none"> Gases and fumes from vehicles; and 	<p>Temporal: Short-term (1)</p> <p>Spatial: Localised (2)</p>	<p>Use of pre-blast environmental checklists, real-time weather monitoring data and stringent controls on blasts carried out in sensitive areas A no-blast arc is automatically calculated for the nearest</p>	<p>Temporal: Short-term (1)</p> <p>Spatial: Localised (2)</p>

<ul style="list-style-type: none"> • Fugitive dust emissions from vehicle traffic traversing gravel roads. • Soft Blasting <p>Neither pose significant health impacts, however fugitive dust emissions will pose a significant nuisance dust factor for the community living in close proximity to the proposed construction site</p>	<p>Significance: Moderate (2)</p> <p>Likelihood: Unlikely (2)</p> <p>Certainty: Possible</p>	<p>private residence based on the latest relevant weather conditions, including wind speed and direction, temperature inversions and amount of atmospheric turbulence (i.e. stability category) before the blast can be fired</p> <p>All operational vehicles should be regularly serviced and maintained to ensure minimal exhaust fume pollution.</p> <p>Exposed soils (i.e. soil stockpiles, gravel access roads, material laydown area) will be regularly watered to reduce wind-blown dust.</p> <p>Vegetation must be removed when soil stripping is required only. These areas should be limited to include those areas required for mining only, hereby reducing the surface area exposed to wind erosion. Adequate demarcation of these areas should be undertaken.</p> <p>Control options pertaining to topsoil removal, loading and dumping are generally limited to wet suppression.</p> <p>Where it is logistically possible, control methods for gravel roads should be utilised to reduce the re-suspension of particulates.</p> <p>Feasible methods include wet suppression, avoidance of unnecessary traffic, speed</p>	<p>Significance: Low (1)</p> <p>Likelihood: Unlikely (1)</p> <p>Certainty: Possible</p>
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		<p>control and avoidance of track-on of material onto paved and treated roads.</p> <p>The length of time where tailing reclamation areas are exposed should be restricted.</p> <p>Mining should not be delayed after vegetation has been cleared and topsoil removed where possible.</p> <p>Dust suppression methods should, where logistically possible, be implemented at all areas that may/are exposed for long periods of time.</p> <p>For all mining activities, management must undertake to implement health measures in terms of personal dust exposure, for all its employees.</p>	
Ratings	=7	Ratings	=7
8. Noise			
Noise: Increased ambient noise due to activities	<p>Temporal: Short-term (1)</p> <p>Spatial: Localised (2)</p> <p>Significance: Moderate (2)</p> <p>Likelihood: May occur (3)</p>	<p>A noise barrier in the form of a berm should be constructed on the boundary of the proposed opencast area as soon as possible, Barrier must be situated between the main noise source sensitive receivers which is mainly the nearby town.</p> <p>The berm will help with the attenuation of noise produced by the mining activities. A basic rule of thumb for barrier height is: Any noise barrier should be at least as tall as the</p>	<p>Temporal: Short-term (1)</p> <p>Spatial: Localised (2)</p> <p>Significance: Low (1)</p> <p>Likelihood: May occur (3)</p> <p>Certainty: Possible</p>

	<p>Certainty: Probably</p>	<p>line-of-sight between the noise source and the receiver, plus 30%. So if the line-of-sight is 10m high, then the barrier should be at least 13m tall for best performance.</p> <p>Mining-related machine and vehicles must be serviced on a regular basis to ensure noise suppression mechanisms are effective e.g. installed exhaust mufflers.</p> <p>Switching off equipment when not in use.</p> <p>Fixed noise producing sources such as generators, pump stations and crushers to be either housed in enclosures or barriers put up around the noise source.</p> <p>Barriers should be installed between the noise source and sensitive noise receptor, as close to the noise source as possible.</p> <p>All project employees and contractors will be instructed to avoid the use of engine compression brakes when approaching the Mine entrance or driving through or in the vicinity.</p> <p>All access roads will be signposted and speed limited to minimise transport noise.</p> <p>Equipment with lower sound power levels would be used in preference to noisier equipment.</p> <p>All equipment used onsite will be regularly serviced to ensure the sound power levels</p>	
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		<p>remain at or below the levels used in the modelling to assess generated noise levels and compliance with the criteria.</p> <p>The on-site road network will be well maintained to limit body noise from empty trucks travelling on internal roads.</p> <p>All the workers will be required to wear the appropriate Personal Protective Equipment (PPE) during the operational phase such as masks, protection glasses, ear plugs, gloves, safety boots, and overalls.</p> <p>Ensure that all workers have appropriate induction and safety training, and understand the dangers to which they will be exposed.</p> <p>Contractors should be appropriately trained as to safe working procedures prior to commencing with work.</p>	
Ratings	=8	Rating	=7
9. Aesthetic and Visual Impacts			
	<p>Duration: Short-term (1)</p> <p>Spatial: site (1)</p> <p>Significance: Low (1)</p>	<p>Dust from Stockpile areas, roads and other activities must be managed by means of dust suppression to prevent excessive dust.</p> <p>Stockpiles should not exceed 15m in height.</p>	<p>Duration: Short-term (1)</p> <p>Spatial: Site (1)</p> <p>Significance: Low (1)</p>

	<p>Likelihood: Possible (2)</p> <p>Certainty: Possible</p>	<p>Rehabilitation of the area must be done as the mining is completed.</p> <p>The visual impact can be minimized by the creation of a visual barrier.</p> <p>The retention of as much existing vegetation as possible, specifically the existing mature trees in the area to conceal the mining activity as much as possible.</p> <p>Down-lighting should also be implemented to minimise light pollution at night.</p>	<p>Likelihood: Improbable (1)</p> <p>Certainty: Probable Improbable</p>
Ratings	=5	Rating	=4
10. Traffic and Road Safety			
<p>Increase traffic volumes along R64</p> <p>Impact on the R64 road</p> <p>Road Accidents</p> <p>Animal Fatality or Injuries</p> <p>Noise</p> <p>Dust</p>	<p>Duration: Long-term (3)</p> <p>Spatial: Regional (3)</p> <p>Significance: High (3)</p> <p>Likelihood: Highly probable (3)</p> <p>Certainty: Possible</p>	<p>Roads signs must be erected on or along the access road and internal roads.</p> <p>Site sign rules must be placed at the entrance and must include speed limits</p> <p>Warning signs must be placed on the road to alert traffic users to be on a look out for animal stray and crossing on the road.</p> <p>Implement measures that ensure the adherence to traffic rules.</p> <p>Maintenance of the roads must be done at all times to ensure safety for traffic users.</p>	<p>Duration: Mid-term (2)</p> <p>Spatial: Localised (2)</p> <p>Significance: Moderate (2)</p> <p>Likelihood: May occur (3)</p> <p>Certainty: Possible</p>

		Traffic assessment and Traffic management plan must be implemented in consultation with The Department of Police, Roads and Transportation.	
Ratings	=12	Rating	=9
11. Socio-Economic			
<p>Impacts on Socio-Economic Environment: Creation of more employment opportunities.</p> <p>Impacts on the physical economic Environment: Damage to infrastructure on surrounding properties.</p> <p>Impacts on Socio-Economic Environment: Disruption of existing family system and negative impacts due to social interaction of mine workers with local community.</p> <p>Impacts on Socio-Economic Environment: Creation of more employment opportunities.</p>	<p>Duration: Long-term (3)</p> <p>Spatial: Localised (2)</p> <p>Significance: Very High (4)</p> <p>Likelihood: Definite (4)</p> <p>Certainty: Definite</p>	<p>Local community must be prioritised in terms of job opportunities and business opportunities.</p> <p>Jobs must be allocated as advertised and in so far as is possible to local deserving residents.</p> <p>The mine must ensure that unrealistic expectations are not created regarding jobs and business opportunities.</p> <p>The mine must ensure as practically as possible to procure local goods and services from within the mine community (Boshof).</p> <p>The expectations of what benefits can accrue to the community must be managed from the initiation of the project</p> <p>A community Liaison Officer should be appointed and be responsible in dealing with the community and labour issues. Preferable the CLO should reside from the mine community.</p>	<p>Duration: Long-term (3)</p> <p>Spatial: Localised (2)</p> <p>Significance: Very High (4)</p> <p>Likelihood: Definite (4)</p> <p>Certainty: Definite</p>

		<p>Commitments as set out in the SLP must be implemented.</p> <p>Surrounding land owners need to be notified well in advance of planned developments so that they are able to secure their property.</p> <p>An agreement needs to be deliberated on, accepted and signed by all parties on what action to take in the event of damage to property.</p> <p>An incidents report needs to be opened and maintained by the Environmental Control Officer at the site. This report will be used to record any complaints or incidences of damage to property.</p> <p>A code of conduct for the construction workers should be compiled and the information provided to and signed by all relevant stakeholders in order to provide guidance on what behaviour is or is not permitted and the consequences of disobedience.</p> <p>The development site must be fenced off to prevent trespassing.</p> <p>Open fires for whatever purpose be it cooking or heating must be strictly prohibited at the construction/operation site and camp.</p>	
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		<p>Construction activities such as welding should be confined to designated areas and should be conducted during weather conditions that are not risky e.g. calm winds.</p> <p>Adequate and easily accessible firefighting equipment and a well-stocked tool shed must be maintained to enable repairs on damage property to be done without delay. In addition, a few workers should be trained on the proper use of the equipment.</p> <p>Labour (particularly semi-skilled and low skilled) and contractors should be sourced locally where possible and reasonable. This is because those from the local community already form a part of that society and there will be no added pressure on available local amenities such as housing.</p> <p>A monitoring forum should be formed consisting of community members so that the community can be briefed from time to time on the risks to the society's fabric as a result of the project.</p> <p>A code of conduct for the construction workers should be compiled, and the information provided to and signed by all relevant stakeholders in order to provide guidance on what behaviour is or is not permitted or acceptable.</p> <p>A HIV/AIDs, STDs awareness programme should be designed and the members of the community together with the workers</p>	
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		<p>should be regularly trained and road shows conducted on risky behaviour that could expose them to these diseases.</p> <p>The contractor / developer should plan and provide for transport, housing, weekend breaks of any workers who are brought in from outside the town.</p> <p>The development site must be fenced off to prevent trespassing.</p> <p>Labour (particularly semi-skilled and low skilled) and contractors should be sourced locally where possible and reasonable.</p> <p>Local construction personnel and contractors must be trained so that their skills may be developed for use in the future beyond the jobs at the mine.</p> <p>Local community members, authorities and organizations should be informed of job opportunities available and the procedures (if applicable) to be followed in order to secure the jobs.</p> <p>Women should be considered in the provision of jobs to ensure that the entire community benefits.</p> <p>The developer must compile a database of goods and services providers from the local community who comply with their procurement requirements before</p>	
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		commencement of the tender process for acquiring various services and goods.	
Ratings	=13	Rating	=13
12. Health and Safety			
Impacts on physical and psychological health: Reduced quality of life	<p>Duration: Short-term (3)</p> <p>Spatial: Localised (2)</p> <p>Significance: high (3)</p> <p>Likelihood: May occur (3)</p> <p>Certainty: Probably</p>	<p>Health and Safety Officer is to ensure compliance in terms Construction Regulations 2014 (as amended)</p> <p>Ensure the appointment of a Safety Officer to continuously monitor the safety conditions during construction.</p> <p>All safety incidents must be reported to the appointed safety officer.</p> <p>Proper signage must be erected on the site and adjacent properties so that people are made aware of the activities and its dangers.</p> <p>Ablution facilities must be provided on site and should be regularly emptied by a licensed service provider. Workers should be informed that relieving of oneself in surrounding bushes is strictly prohibited.</p> <p>Speed limits that have been set at the site and surrounding areas must be strictly adhered to and harsh punishments set for offenders.</p> <p>The appointed contractor must ensure that any road damage caused by mine trucks is</p>	<p>Duration: Short-term (3)</p> <p>Spatial: Localised (2)</p> <p>Significance: high (3)</p> <p>Likelihood: May occur (3)</p> <p>Certainty: Probably</p>

		<p>swiftly repaired to ensure safety of all road users.</p> <p>Dust suppression measures must be implemented to reduce the amount of dust released into the air. Such measures include using water bowsers to periodically spray the site especially during dry weather conditions. In addition, trucks transporting spoil material or top soil from the site must be covered to prevent loss of material while in transit.</p> <p>Equipment and trucks that produce loud noise must be fitted with appropriate silencers where possible.</p> <p>Workers on site must be trained on the correct handling of spillages and precautionary measures that need to be implemented to minimize potential spillages.</p> <p>Workers must be provided with spill kits and spills must be cleaned up immediately.</p> <p>General and hazardous waste disposal bins must be provided at various strategic locations on the site.</p> <p>An Environmental Control Officer (ECO) must be appointed to monitor that measures prescribed for noise, dust, and water resources protection are adhered to.</p> <p>A system needs to be put in place at the local health centres to monitor any changes</p>	
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		<p>in diseases particularly respiratory or those associated with Contaminated water such as dysentery, typhoid etc.</p> <p>Ground water, surface water, air quality, and noise monitoring system must be implemented to ensure that levels prescribed are complied and if not, urgent measures are taken to correct the situation.</p>	
Ratings	=11	Ratings	=11
13. Land Capability			
<p>Soil contamination: Changes in Soil's physical, chemical and biological properties.</p>	<p>Duration: Mid-term (2)</p> <p>Spatial: Site (1)</p> <p>Significance: Medium (2)</p> <p>Likelihood: May occur (3)</p> <p>Certainty: Possible</p>	<p>The soil map compiled should be considered and mitigation measures on soil management implemented.</p> <p>The excavator should only operate on the topsoil layer.</p> <p>Implementation of a bed/strip system avoids the need for trucks to travel on the soil layers.</p> <p>Machines are to only work when ground conditions enable their maximum operating efficiency.</p> <p>If compaction is caused, then measures are required to treat (consult an experienced specialist).</p> <p>it is recommended that the topsoil be stripped and stockpiled in advance of</p>	<p>Duration: Short-term (1)</p> <p>Spatial: Site (1)</p> <p>Significance: Low (1)</p> <p>Likelihood: Possible (2)</p> <p>Certainty: Possible</p>

		<p>construction activities that might contaminate the soil.</p> <p>The stripped soils should be stockpiled upslope of areas of disturbance to prevent contamination of stockpiled soils by dirty runoff or seepage.</p>	
Rating	=8	Rating	=5

DRAFT EIAR & EMP

Direct impacts:

No direct impact is expected from the planning; construction and operational phase of the activity

Indirect impacts:

No indirect direct impact is expected from the planning; construction and operational phase of the activity

Cumulative impacts:

No cumulative impact is expected from the planning; construction and operational phase of the activity.

9.2 Decommissioning Phase

Simultaneous rehabilitation of the mine has to be undertaken with final rehabilitation taking place after the operational phase has come to an end. The decommissioning and closure of the mine operations will occur with the decommissioning of the mine in accordance with an applicable EMPR as part of a closure EIA to be conducted and also in accordance with any other closure plans pertaining to mine infrastructure and facilities. This phase starts at the end of the operational phase of the project. This phase ends when the site obtains a Closure Certificate from the regulatory authorities, but may include a period where there is no activity on the site other than monitoring prior to closure being completed.

9.3 Closure objectives

The closure objectives for mining internationally and in South Africa focuses on the restoration of previous land use capabilities, the zero net loss of biodiversity, and the satisfaction of community requirements. Project closure objectives for Invest In Property 126 (Pty)Ltd will be in line with the above mentioned and is as follows:

- Re-establishment of the pre mining land use and land capability to a level as close as possible to the pre-mining environment
- Re-establishment of function to any biodiversity areas of concern that could and have been affected by the mining operations
- Prevent any form of contamination of soils, surface water and underground water resource.
- Implementation of on-going rehabilitation to regulated standards.
- Implementation of sustainable community projects that will be self-driven after mine closure.
- Maintenance and Monitoring of rehabilitated areas.

9.4 Post Closure Plan

Monitoring of aspects such as surface and ground water quality and the indefinite management of decant levels by pumping water out of the pit and underground voids will be conducted in the post closure phase.

9.5 Specific conditions to be included into the compilation and approval of EMPr

To ensure compliance with, and implementation of the EMPr by:

- Appointing of a suitably qualified professional expertise to oversee implementation of the EMPr during all phases of the project; and
- Appointing a suitably qualified Environmental Control Officer to undertake audits on a regular basis throughout the construction phase to ensure that all staff, contractors and sub-contractors are aware of and understand the requirements of the EMPr and environmental issues in relation to their individual areas of work by:
 - Developing an induction and training program covering the EMPr, environmental awareness, dealing with environmental incidents and waste management; and
 - Advising staff commissioned during pre-construction and construction, including sub-contractors, of EMPr requirements through the induction program as well as on notice boards at the contractor's camps during construction and notice boards during operation. These notice boards should cover the EMPr, environmental awareness, dealing with emergencies and waste management.
- Submission of a Water Use License Application and the undertaking of all relevant specialist studies for that purpose. A detailed water balance will need to be produced before commencement and need to include all water uses, volumes and rates.

The undertaking of a detailed Geo-Hydrological study with special reference to Acid Mine Drainage. The groundwater model predictions should be verified once time dependant groundwater monitoring data become available. Predicted flow simulation and decant rates for later years of mine development can significantly be improved by observation data from earlier years and subsequent updates of the groundwater model. Authorization should be subject to the undertaking of a ground water monitoring programme with associated updated hydro census. The monitoring programme should cover pre and post mining conditions to evaluate and determine the effect of mining on ground water supply, and pollution.

9.6 Rehabilitation Requirements

The requirements of the final rehabilitation, decommissioning and mine closure plan are stated in the NEMA Regulations Pertaining to the Financial Provision for Prospecting, Exploration, Mining or Production Operations. The purpose is to identify a post mining land use that is feasible through the following:

- Providing the vision, objectives, targets and criteria for final rehabilitation, decommissioning and closure of the project;
- Outlining the design principles for closure
- Explaining the risk assessment approach and outcomes and link closure activities to risk rehabilitation;
- Detailing the closure actions that clearly indicate the measures that will be taken to mitigate and/or manage identified risks and describes the nature of residual risks that will need to be monitored and managed post closure;
- Committing to a schedule, budget, roles and responsibilities for final rehabilitation, decommissioning and closure of each relevant activity or item of infrastructure;
- Identifying knowledge gaps and how these will be addressed and filled;
- Detailing the full closure costs for the life of project at increasing levels of accuracy as the project develops and approaches closure in line with the final land use proposed; and
- Outlining, monitoring, auditing and reporting requirements.

9.7 Environmental Performance Assessment

The EMPr performance assessment (audit) must be undertaken every at least year semester by an external auditor, and a report must be compiled and submitted to the competent authority. Operational internal environmental inspections will need to be done once a month by the Environmental personnel. A yearly internal audit needs to be undertaken by the mines environmental department.

9.8 Environmental Awareness Plan

9.8.1 Employee Communication

It is recommended that the contractor will inform employees of any environmental risks which may result from their work by compiling a risk assessment and discussing this at regular training sessions (including basic environmental awareness training at induction).

9.8.2 Environmental Awareness Plan as a Solutions to Risks

It is recommended that an Environmental Awareness Plan is to be compile that describes how potential environmental pollution and degradation can be avoided by dealing with potential environmental risk.

This Environmental Awareness Plan will be provided on site and discussed with the employees at regular training sessions (including basic environmental awareness training at induction).

9.8.3 Environmental Awareness Training

The ECO shall be responsible for compiling and Environmental Awareness Training Programme for all staff members that aims at explaining the mitigation measures described in this report. Before commencing with any work, all staff members shall attend the Environmental Awareness Training Programme. After attending the programme, all contractors and sub-contractors shall sign an Environmental Training register as proof of their training; which shall be kept as proof for auditing purposes. The environmental training should, as a minimum, include (but not be limited to) the following:

- The importance of conformance with all environmental policies;
- The environmental impacts, actual or potential, of the proposed activities;
- The environmental benefits of improved personal performance;
- Their roles and responsibilities in achieving conformance with the environmental policy and procedures and with this EMP, including associated procedures and emergency preparedness and response requirements;
- The potential consequences of departure from specified operating procedures; and
- The mitigation measures required to be implemented when carrying out their work activities

9.8.4 SHE induction and awareness training;

- An Environmental Management Systems (EMS) coordinator has been appointed;
- General Awareness Training.

9.9 Manner in which risks will be dealt with in order to avoid pollution or the degradation of the environment by the use of an Emergency Response Plan

The environmental management programme and associated management options are intended to minimise environmental risk as far as possible. Should, however, circumstances lead to unacceptable risks, emergency systems and procedures have been designed and will be implemented in case of an emergency to prevent or minimise the consequential environmental damage. The environmental emergency contingency plan addresses any reasonably anticipated failure (most probable risk) for the entire mining area and focuses on incidents that could cause environmental emergencies. The most crucial aspect of the emergency system is the identification and communication of the emergency to the appropriate persons. Consequently, the names of the appropriate contact person together with their contact numbers would be prominently displayed around the facility. The contact details will be updated on a regular basis.

9.10 Draft EIA&EMP

The draft EIR and EMP reports are being made available to all I&APs, surface owners, stakeholders and organs of states. The draft EIAR documents will be placed at a local Library (Boshof) for review and comment.

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

The following assumptions and limitations have been identified with regards to the environmental baseline, impacts and mitigation measures:

- The public participation process has been sufficiently effective in identifying the critical issues that needed to be addressed through specialist investigations and/or by the EAP. Specialist input has thus been appropriately scoped to investigate the critical issues;
- The public participation process has sought to involve key stakeholders and individual landowners. It is assumed that where participation has been sought from the organizational representative/s, that these parties have the authority to comment on behalf of their organisation;
- The public participation process provided ample opportunity for stakeholders to express any issues and concerns. It has thus been effective in identifying critical issues that the specialist investigations and/or EAP needed to address;
- It must be noted that desktop studies were undertaken by specialist as a result of site access restriction/prohibition by landowner.

A monitoring and evaluation system, including auditing, will be established, in line with this EMP, to track the implementation of this specific EMP to ensure that management measures are effective to avoid, minimize and mitigate impacts; and that corrective action is being undertaken to address shortcomings and/or non-performances;

9.11 Environmental Authorization

Biomental Services is still in the process of engaging stakeholders and I&APs, responding and providing solutions to some questions still being raised. Registered I&APs, will be informed of the environmental authorization and its associated terms and conditions be made public by letters, emails and advertisement once the record of decision is received from the competent authority (positive or negative) for the project. All documents related to the proposed mining project will also made available to the Public.

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2014, and should take applicable official guidelines into account. There were no issues raised by interested and affected parties during public participation process. The impact that may result from the proposed mining

activity have been prepared planning and design, construction, operational phases as well as proposed management of identified impacts and proposed mitigation measures.

10. CONCLUSIONS AND RECOMMENDATIONS

10.1 Activity and Possible Impacts

The following Mining activities and associated impacts have been indicated below:

Table. Summary of environmental impacts after mitigation.

Activity	Impacts	Impacts rating		
		Low	Medium	High
Clearing and Grubbing and Bulldozing	Disruption of natural ecology and loss of biodiversity	X		
	Spreading of alien or invasive vegetation	X		
	Damage / removal of indigenous vegetation	X		
	Loss of topsoil		X	
	Erosion on steep slopes	X		
	Disturbance of shallow soils may cause or accelerate existing erosion issues	X		
Concrete Work	Contamination to ground water through improper practices or accidental spillage	X		
Construction and Use of Temporary Roads / Walkways	Soil compaction and loss of topsoil	X		
	Loss of indigenous vegetation and increased spreading of alienor invasive species	X		
	Dust and noise pollution		X	
Employment	Employment creation			X
	Skills development			X
Generation of Solid Waste (general and hazardous)	Impacts associated with improper waste management practices (e.g. burning of waste)	X		
	Contamination of groundwater due to poor storage methods	X		
	Tailings		X	

	Slime dam spillage and groundwater contamination		X	
Earthworks: Excavation	Impacts associated with the risk of damaging existing servitude infrastructure	X		
	Possible damage to undiscovered heritage resources		X	
	Erosion on steep slopes		X	
Topsoil Stripping and Storage	Loss of topsoil functionality due to improper management and storage methods		X	
	Erosion		X	
	Loss of indigenous vegetation	X		
Provision of Sanitary Facilities	Contamination to ground water through improper practices or Accidental spillage	X		
Refuelling of Vehicles / Machinery	Contamination to ground water through improper practices, leaks or accidental spillage	X		
	Construction activities will cause and increase dust along access roads		X	
	Impacts associated with the noise emanating from construction activities	X		
	Contamination of the environment due to improper storage of material	X		
	Impacts associated with the siting of the camp such as vegetation clearing, security		X	
Transportation of Materials	Transportation will cause and increase dust and noise levels along access roads	X		
Trenching	Open trenches pose a safety risk to people, animals, equipment, machinery and vehicles	X		
	Impacts associated with trench collapse	X		
	Increased erosion	X		

Washing of vehicles / machinery	Contamination of groundwater through the lack of oil water separators or waste water collection system	X		
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10.2 Fatal Flows

The Scoping Phase did not identify any fatal flaws and as a result the Competent Authority permitted the application process to proceed to the EIR phase for further assessment.

10.3 Conclusions by the EAP

The following activities formed part of the EIA Phase

- Public participation: public review of documentation, engagement with stakeholders/I&APs;
- Specialist studies as described in the Plan of Study;
- Evaluation of impacts prior to mitigation;
- Compilation of practicable and effective mitigation measures;
- Provision of an opinion as to whether or not the activity should be authorised;
- Compilation of an environmental impact statement;
- Compilation of a draft Environmental Management Programme (EMP).

Following the completion of the various specialist studies appended on this report and the identification and assessment of the expected impacts, it is the opinion of Biomental Services that the proposed project can be authorised. This opinion holds provided that all the recommendations proposed in the specialist studies and the EIA and EMP as well as legislative requirements are implemented and adhered to.

It must be noted however, that the project has the potential to result in significant negative impacts on the natural groundwater and has the potential to alter the functioning of these systems and compromise their ecosystem services provided. However, should the recommendations for higher safety factors be adhered to, the impact can be considerably reduced to a minor impact.

It can be concluded that the project will have a residual negative impact to the groundwater and faunal ecosystem. Invest In Property 126 (Pty)Ltd will need to take this into consideration and manage the residual impact with adequate rehabilitation actions and if need be, with an offsetting strategy to ensure no-nett-loss of functionality. The monitoring plans throughout the Life of the Mine (LoM) must

also inform Invest In Property 126 (Pty)Ltd on the impacts to the wetlands and the remedial actions required.

10.4 Reasoned opinion as to whether the proposed activity should or should not be authorized

No fatal flaws have been identified to date. However, several environmental and social impacts are envisaged from construction phase through to post-closure, which require careful mitigation and monitoring. It is the opinion of the EAP that all major impacts have been identified and have been assigned appropriate management measures. Most HIGH negative impacts with mitigation, are reduced to a MEDIUM or LOW significance, and can be managed accordingly. There are a few impacts that are most likely to remain at a High negative significance after mitigation and these will include Social Economic Impacts, illegal trespassing, Health and safety risk for workers and community health and safety risk.

Other positive impacts that results in a High Positive Significance after mitigation include the impact on procurement / supporting industries / local SMME's, Impacts on the local community / community projects. It is recommended by the EAP that the proposed project may be authorised, on the ground of assumption that the environmental and social management commitments included in this EIA/EMPr are adhered to, the project description remains as per the description provided in this document and considering the positive social impacts associated with the project. The negative and positive significance of impacts have to be weighed up against each other for a final decision by the Competent Authorities.

DECLARATION BY THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

I, Macebele Tiviselani declares that i:

act as the independent environmental practitioner in this application;

- (a) do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the Environmental Impact Assessment Regulations, 2014;
- (b) do not have and will not have a vested interest in the proposed activity proceeding;
- (c) have no, and will not engage in, conflicting interests in the undertaking of the activity;

- (d) undertake to disclose, to the competent authority, any material information that has or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the Environmental Impact Assessment Regulations, 2014;
- (e) will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
- (f) will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the Department in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the Department may be attached to the report without further amendment to the report;
- (g) will keep a register of all interested and affected parties that participated in a public participation process; and
- (h) will provide the Department with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not.

Signature of the Environmental Assessment Practitioner:



Name of company: Biomental Services

Date:06/02/2023

END

ANNEXURE A: ENVIRONMENTAL MANAGEMENT PROGRAMME

DRAFT EIAR&EMP

ANNEXURE B: MAPS

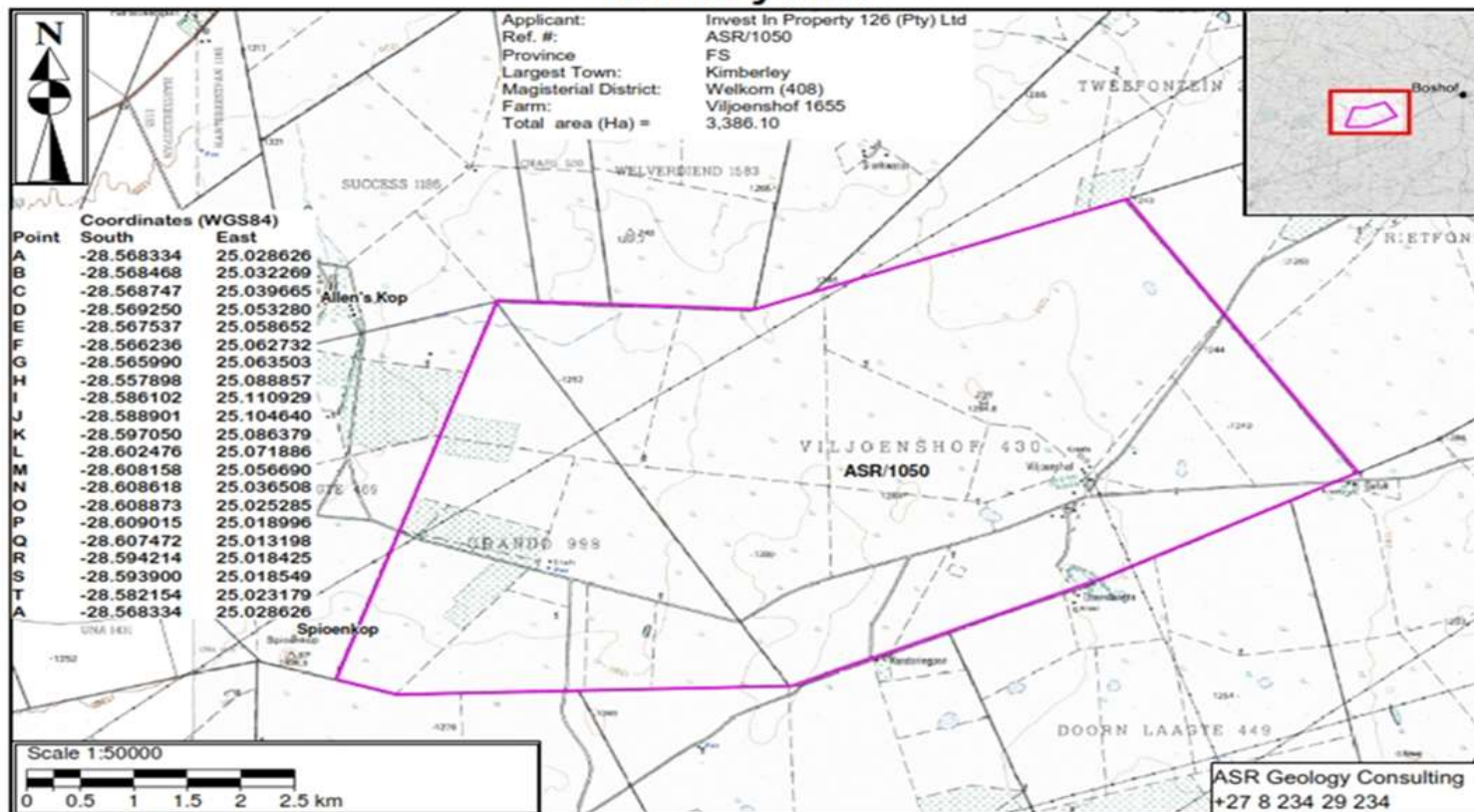
DRAFT EIAR&EMP

ANNEXURE B(1):SATELITE MAP



ANNEXURE B(2): TOGRAPHIC MAP(LOCALITY)

Locality Plan



DR

ANNEXURE C: CURRICULUM VITAE OF EAP

DRAFT EIAR&EMP

ANNEXURE C (1): TIYISELANI MACEBELE

Personal Information

Surname	: Macebele
Name	: Tiyiselani
ID Number	: 8607105425080
Passport Number	: A06635279
Gender	: Male
Nationality	: South Africa
Home language	: Xitsonga
Marital status	: Single
Disability	: None
Area of Residence	: De Aar, Northern Cape
Driver License	: Code C1
Availability	: Month notice

Profile

I have a bachelor degree in Environmental Science conferred by the University of Venda on the 19th September 2008. My core modules are: pollution and environmental quality; environmental impact assessment & modelling; rural geography & development; geography of south Africa and biogeography. I am well experienced and skilled having being involved in construction project for renewable energy and mining sector as well as public sector on environmental management. I have 11 years working experience on environmental management in various environmental field categories such as waste management, environmental compliance, environmental education awareness and environmental impact assessment since 2010 till to date. My journey as an environmentalist begun in 2010 at Kruger national park where I undertook a 12-months internship program under the division of Environmental, Interpretating and education section. After four(4) months in the internship was fortunate to get an opportunity at the Greater Giyani Municipality for a two and half years contract as an environmental officer for Indalo yethu greening project from June 2010 to December 2021. I then furthered my career at a renewable energy project namely Ilanga Lethemba solar energy project employed as Environmental Compliance Officer(ECO) by ECO-Compliance Pty-Ltd for a duration period 4 years(2013- 2017). In June 2019 I was employed by Pioneers Skills Development Institute(PSDI) as an Environmental Facilitator for a duration of

Core competency

- Sound knowledge and competence in implementing integrated waste management plan (IWMP)
- Extensive knowledge of Environmental impact assessment and risk assessment
- Ability to compile and review specialist reports and draft Environmental impact assessment reports
- Experience in drafting environmental policy and standards
- Ability to review and compile Environmental Management Programs (EMPr)
- Knowledge about Air quality act and Ambient Air quality standards
- Extensive knowledge of environmental legislations and acts: NEMA, Biodiversity act, Water act, Waste act, Air quality act and other environmental related acts
- Sound knowledge and experience in waste management system: waste control, waste minimization strategies
- Sound knowledge and experience in implementation of Environmental Management Programs (EMPR): Rehabilitation management plan, Storm water management plan, Alien invasive management plan, Avifauna management plan, Heritage management plan and IWMP
- Good knowledge and experience in conducting environmental investigations and incidences
- Knowledge and experience on environmental auditing, inspection methodology
- Ability to write environmental audit reports and projects close out reports
- Ability to present findings and conclusions effectively in an appropriate tabular, graphic and written format
- Ability to conduct research, gather and analyze information and draft documents
- Ability to work as a team and to lead a team
- Good interpersonal relations and well-developed communication.
- Undertaking Full Scoping and EIA process
- Public Participation Process.
- Stakeholders engagement process.
- Environmental Licenses and Permit applications.
- Environmental inspections and compliance.

Educational qualifications

Name of school	Highest grade passed	Year of achievement
EPP Mhinga high school	Matric	2004
Name of Institution	Qualification	Year achieved

University of Venda	Bachelor of environmental science	2008
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Workshops and Trainings

Name of Course/training attended	Year attended and duration
Basic computer literacy • MS Word • MS Excel • MS PowerPoint • Publisher • Internet • Outlook	2008 for a duration of one (1) month (University of Venda)
Environmental Management • Climate change • Environmental impact assessment • PED • SEA • Sustainable development • SIA EMS • ISO14001; SHEQ	2011 for one week duration
Environmental education & awareness	2011 for one week duration

Work Experience

Current Employer : De Aar Quarry
 Position : Environmental Manager
 Duration : March 2021 till to date

Key functions and duties

- Conduct and undertake scoping & Environmental impacts Assessment duties for mining application process.
- Stakeholders engagement with the interested and affected parties
- Draft Environmental management programs.
- Apply mining permits and licenses
- Ensure environmental compliance for mining operations
- Provide environmental advices and consultancy.
- Work hand in hand with competent authority during mining application process.
- Inspect and monitor environmental compliance.
- Write environmental reports (weekly, monthly and annual)
- Compile close out report
- Conduct environmental auditing and financial provision of the mine.
- Monitor ongoing rehabilitation of the mine in line with financial provision.

Achievements

- When I resumed my responsibilities as an Environmental Manager, the mine was in non-compliant and operations were suspended by the Department of minerals and energy due to failure to submit annual audit reports and reviewed financial provisions in keeping with MPRD act 2002.
- I conducted an audit and revised the financial provision in terms of rehabilitation as required by the competent authority. The department was satisfied and notified that the mining operation may again resume.
- I have undertaken and compiled Basic assessment & prospective right for the company proposed development in De Aar and Prieska.
- At this stage am currently undertaking mining right application with the scoping & EIA process underway.

Reason for leaving

My reason for leaving is motivated by my quest for Career growth and also be exposed to new work environment and challenges that will help me grow and experience

Previous Employer : Pioneers skills development Institutions
 Position : Facilitator
 Duration : 9 months (June 2019-February 2020)

Key functions and duties

- Plan and prepare for learning events
- Conduct research to improve subjects matters expertise and presentations
- Evaluate leaning programs and provide result to learning program designers
- Assist in development of learning programs
- Support learners before, after and during presentations of learning programs
- Evaluate the quality of the training programs
- Evaluate the quality of policy and procedure
- Complete course related administrations
- Make learners evidence
- Prepare leaners training rooms, training area and equipment
- Prepare the learners for assessment
- Provide feedback to the learner's performance
- Keeping of prescribed records
- Brief and advice learners

Achievements

- I facilitated an environmental practice course (SETA) for Collins Chobani Municipality and Makhuduthamaga local municipality. This was a 12 months learnership program.
- All the learners successfully completed the course and graduated in 2020.

Previous Employer: Eco-compliance Pty(Ltd)

Position: Environmental compliance officer

Centre: Ilanga Lethemba PV solar project (Northern cape, De Aar)

Duration: 4 years(June 2013-December 2017)

Key functions and duties

- Ensures compliance always with environmental authorization issued by the department of Environmental Affairs
- Oversee and facilitate the plant rehabilitation program is undertaken successfully;
- Keep all copies of all reports and documents submitted to the department of environmental affairs;
- Keep schedules of all activities and how they were managed;
- Liaise with the independent environmental auditor to compile and submit environmental audits reports upon the completion of construction phase;
- Ensures compliance of all environmental permits; water use license, heritage permit, botanical permit; • Investigate and write incident report;
- Conduct daily site inspections;
- Ensures that all environmental management programs are implemented and adhered to;
- Update the National department of environmental affairs on matters related to the project and compliance;
- Identify training need where necessary and capacitate personnel with environmental education;
- Conduct environmental audits and compile audit reports;
- Compile project closure reports;
- Keep a daily site diary;
- Keep records of all environmental grievances and incidences detailing how steps were undertaken to address them.

Achievements

- I successfully ensured that the project reached it construction completion with less environmental impacts for both project phase in 2014 & 2016
- Both projects were visited by department of environmental affairs for inspection and no non-compliances and red flags were highlighted or raised as concern
- I achieved clean audits conducted by coastal& environmental services undertaken annually from 2014 to 2017.
- I achieved a clean audit conducted by Magalela&Association for water use license which is undertaken annually from 2014 to 2017
- I have successfully oversee the implementation of EMP after project completion. This includes Inta Alia; Rehabilitation management plan, storm water management plan, Avifauna management plan, Alien invasive management plan.

Reason for leaving



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The company embarked on a restructuring process which resulted in retrenchment.

Previous Employer : Greater Giyani municipality (Indalo yethu greening project)
Position : Environmental Education & awareness officer
Centre : Giyani Limpopo province
Division : Environment & waste
Duration : June 2010 to December 2012

Key functions Environment

waste management and compliance

- Write notices for illegal dumping
- Identify illegal dumping spots and initiate remedial action;
- Ensures that policies, by-laws related to solid waste are adhered to;
- Provide leadership and management for street cleaning, sweeping and collection of waste in the CBD and town;
- Ensure that all transfer stations are effective and meet environmental standards;
- Issue notices to transgression related to waste illegal dumping;

Environmental education & awareness

- conduct environmental awareness and campaigns in the CBD areas and community areas where there are environmental challenges;
- conduct presentation in town, communities and establish eco-school;

Horticulture (Parks & cemeteries)

- promote tree planting at schools and community;
- ensure that grass cutting and control is done on regular bases;
- ensures the maintenance of parks and cemeteries yard;
- identify open spaces and implement greening programs;
- ensures that beatifications programs are implemented;
- ensures that all tools are available and are in good condition;

Achievement

- because of my hard work and working ethic I was promoted to supervising level where I managed a team designated to me
- I initiated open spaces management whereby areas that were used for illegal dumping were converted into parks.

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- During my tenure, the municipality was accorded position number 3 as part of cleanest municipality competition under the Mopani district municipality. This was first time for the municipality to achieve such position since inception of the competition.
- I supervised a team that installed 12000 waste bins in Giyani town.
- Street benches have been installed in different locations and points
- More than 50 transfer stations were established in Giyani during my tenure

Reason for leaving

This was a 2-year contract for a greening project. The project elapsed in December 2012 after achieving its objectives and deliverables.

Previous Employer : Kruger National Park
 Division : People and conservation (Environmental education)
 Centre : Berg-en dal
 Duration : 4 months (2010)

Key functions

- Assist in environmental awareness and education programs
- Assist in planning and conducting eco-school
- Familiarize guest with the Rhino Hall and rhino trail
- Ensures that weather station activities are conducted and all measurement are done and all records are taken at regular prescribed time interval
- Office administration

Achievement

- through this internship program have been able to improve my communication skills;
- improved my presentation skills
- learned how to
- conduct environmental education and engagement with various stake holders

Reason for leaving

career growth

Reference

Name	institution	contacts
Mr. Percy Ngidi	Eco-compliance(Manager)	082 802 3728

DRY

Mr. Rhulani Mabasa	Kruger national park	071 062 4404
Mr. Patrick Lebiya	Greater Giyani municipality (Project coordinator)	073 720 2001
Mr Percy Ngidi	Environmental Manager	082 8023 3728
Mr Chalse Mabunda	Co-ordinator(PSDI)	073 102 7297
Mr Thaboso Mosia	Director (De Aar Quarry	082 623 0221

END

SOUTH AFRICA
I.D. No. 860710 5425 08 0
S.A. BURGER/S.A. CITIZEN
SURNAME
MACEBELE
FORNAMES
TIYISELANI
DISTRICT OF BIRTH
SOUTH AFRICA
DATE OF BIRTH
1986-07-10
DATE ISSUED
2003-02-14
ISSUED BY AUTHORITY OF THE
DIRECTOR-GENERAL
HOME AFFAIRS



1
I.D.No: 860710 5425 08 0
S.A. BURGER/S.A. CITIZEN
SURNAME
MACEBELE
FORNAMES
TIYISELANI
DISTRICT OF BIRTH
SOUTH AFRICA
DATE OF BIRTH
1986-07-10
DATE ISSUED
2003-02-14
ISSUED BY AUTHORITY OF THE
DIRECTOR-GENERAL
HOME AFFAIRS

DRAFT ELARG

University of Venda



This is to Certify that the Degree of
**Bachelor of
Environmental Sciences**

was Awarded to

MACEBELE TIYISELANI

at a Ceremony held on the

19-SEP-2008

in Accordance with the Provisions of the
Act and Statute


Vice Chancellor




University Registrar


Dean

DRAFT

ANNEXUTE C (2): ELECTION NHLAMULO MAHORI CV AND QUALIFICATIONS

CURRICULUM VITAE OF MAHORI NHLAWULO ELECTION

PERSONAL DETAILS

Surname	Mahori
First Names	Nhlawulo Election
Date of birth	08 May 1994
Identity number	9405085668087
Drivers Licence	Code C1

CONTACT DETAILS

Address	108 anysberg street, kirkney village, Pretoria, 0182
Contact Numbers	0731404322
Email Address	nemahori@gmail.com

PROFESSIONAL REGISTRATIONS

- South African Council of Natural Science Practitioners (SACNASP) – (Cand.Sci.Nat - 125490)
- Environmental Assessment Practitioners Association of South Africa) – (EAP Reg.No 2019/1026)

EDUCATION & TRAINING

- Bachelor of Environmental Science honours in Geography (2017).
- Bachelor of Environmental Science degree (2016)

CAREER SUMMARY / PROFESSIONAL SKILLS

- 5 years in environmental management within construction sites, bulk water services and consulting sectors.
- Experience and sound implementation of environmental laws and regulations (NEMA and SEMAs).
- Working knowledge of monitoring environmental compliance in different aspects such as air, soil and water pollution during construction and rehabilitation phases.
- Compiling Environmental Management Programmes for construction projects as well as for operational projects.
- Appointing various Specialists, reviewing and commenting their reports to incorporate their inputs in the Environmental Impact Assessment Report for the attainment of Environmental authorization.

- Undertaking Water Use Licence Applications and General Authorisations for various projects triggering water use activities (Section 21 of the National Water Act).
- Undertaking Scoping and Environmental Impact Assessments for projects that trigger listed activities as per the 2014 Environmental Impact Assessment Regulations and the National Environmental Management Act.
- Public participation process which include landowners, various stakeholders and government departments during EIA and WULA activities.
- Environmental awareness training to contractors in various projects and ensuring that environmental induction is implemented as specified.
- Conducting Environmental Audits for various projects, ensuring and maintaining compliance with various Environmental Authorization, Water Use Licences, Waste Permits, and Environmental Management Programmes.
- Monitoring and enforcing compliance with EA, EMP, WUL and other permits and taking action against non-compliance.

KEY SKILLS

Environmental Consulting

- Environmental Impact Assessment
- Data collection and compiling scientific report
- Public Participation (Capacity Building)
- Environmental Education and Awareness
- Project Management principles in various projects including scheduling, budgeting and ensure expected deliverables to clients.
- Microsoft Office Applications (Ms Word, Ms PowerPoint, Ms Excel, Ms Outlook, Ms Projects).
- Good team player with leadership skills.
- Ability to write informative reports with a keen eye in scientific detail.
- Good interpersonal, communication and presentation skills.

ESRI ArcGIS Package

- ArcMap

EMPLOYMENT RECORD AND REFERENCE

Biomental Services

Position: Environmental Assessment Practitioner

Ref: Macebele T

Info@biomental.co.za

Telephone :053 004 0204

Responsibilities:

- Ensure the implementation by the contractor of the project Environmental Authorisation, Environmental Management Program, Water Use General

Authorisation, Threatened or Protected Species removal permit and landowners' conditions

- Review the Environmental Management Programme and Environmental Authorisation and compile of site-specific checklists and registers
- Conducting on-site environmental audits and the preparation of written reports on the results of the audits
- Preparing and conducting environmental inductions for contractor management
- Generation of weekly and monthly reports to various authorities
- Attend and report back findings at monthly site progress meetings
- Writing project environmental Close-out Reports.
- Ensure Compliance obligation registers are available on site for reference
- Attend and participate in Environmental review meetings.
- Investigate environmental incidents

PROJECT EXPERIENCE

- Refurbishment of Two (2) sludge lagoon, Completion of Two (2) sludge lagoon and supernatant return works at Olifantspoort plant.
- Upgrading of roads from Gravel to Tar: Road D3767 Mafarana to Sedan.
- Appointment for Environmental Consultants Services: RAL/E653/2014: Upgrading of (Gravel to surface standard) of road D3423 from Moletji (Road D3332) Ga- Komape to Ga- Ramphela to Ga – Legodi to Mankweng Road P94/1 in the Capricorn District of Limpopo Province.
- Proposed erection of 29.28m² billboard of Ivy Park (nirvana) under the jurisdiction of Polokwane Local Municipality within Capricorn district in Limpopo province.
- Consultation report for the proposed development of a residential area with a golf course on remainder of portion 4 of the farm Roodepoort 744 LS and remainder of portion 1 of the farm Langgenoe 754 LS, Polokwane municipality, Capricorn district, Limpopo province (Langdale golf estate in short).
- Application for Environmental Authorisation for the proposed Sekgosese Groundwater Regional Scheme.
- Application to rectify unlawful commencement or continuation of listed activities in terms of section 24G of the National Environmental Management Act (Act No.107 of 1998).
- Application for Environmental Authorisation for the proposed development of a fuel depot and filling station in Musina area.
- Doordraai WTW: Design, Manufacturing, Supply, installation and commissioning of a 5ml/day package plant.
- Compilation of an Environmental Management Programme (EMPr) for the construction of Charlottdale community hall in ward 29, Kwadukuza.
- Compilation of an Environmental Management Programme (EMPr) for the rehabilitation of Bruntville internal roads, Mooi River.
- Application for a Water Use License for Burgersfort & Marblehall Regional Water Scheme.
- Application for a Water Use License for Ga-Kuranta and Sekhiming Villages.
- Application for a Water Use License for Win-a-Way Investments 15 (Pty) Ltd in Musina town.
- Application for an Environmental Authorisation and a Water Use License for the proposed Blaaupan sewer Pipeline upgrade, which is located within a pan, adjacent to Marignane Avenue in Bonaero Park, within the City of Ekurhuleni, Gauteng Province.
- Conducting Environmental Audits for the Fuel and hazardous waste and Wastewater treatment plant Licenses for Modikwa platinum mine.
- Conducting Weekly Water monitoring, Sampling for the sewer and BTEX water sampling and present Laboratory Report for Modikwa platinum mine.

- ECO for the construction of Albert's Farm dam wall and spillway.
- ECO for the construction of gabion walls, Reno mattresses and pedestrian bridge associated with at Sandton Gate.

DRAFT EIAR & EMP



University of Venda

This is to Certify that the Degree of
*BACHELOR OF ENVIRONMENTAL SCIENCES
HONOURS*

was Awarded to

MAHORI NHLAWULO ELECTION

9405085668087

at a Ceremony held on the

21-Sep-2018

in Accordance with the Provisions of the
Act and Statute

A handwritten signature in black ink, appearing to be 'D. M. M. M.', positioned above a horizontal line.

Vice Chancellor

1809210468



A handwritten signature in black ink, appearing to be 'J. M. M.', positioned above a horizontal line.

University Registrar

A handwritten signature in black ink, appearing to be 'J. M. M.', positioned above a horizontal line.

Dean



University of Venda

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9405085668087

at a Ceremony held on the

21-Sep-2018

in Accordance with the Provisions of the
Act and Statute

A handwritten signature in black ink, appearing to be 'D. Maphahle', written over a horizontal line.

Vice Chancellor

1809210468



A handwritten signature in black ink, appearing to be 'J. M. M.', written over a horizontal line.

University Registrar

A handwritten signature in black ink, appearing to be 'J. M. M.', written over a horizontal line.

Dean

Environmental Assessment
Practitioners Association
of South Africa



Registration No. 2019/1026

Herewith certifies that

Nhlawulo Election Mahori

is registered as an

Candidate Environmental Assessment
Practitioner

*Registered in accordance with the prescribed criteria of Regulation 15. (1)
of the Section 24H Registration Authority Regulations
(Regulation No. 849, Gazette No. 40154 of 22 July 2016, of the
National Environmental Management Act (NEMA), Act No. 107 of 1998, as
amended).*

Effective: 01 March 2022

Expires: 28 February 2023

Chairperson

Registrar

 SAQA





herewith certifies that
Nhlawulo Election Mahori
Registration Number: 125490
is a registered scientist

in terms of section 20(3) of the Natural Scientific Professions Act, 2003
(Act 27 of 2003)
in the following field(s) of practice (Schedule 1 of the Act)
Environmental Science (Candidate Natural Scientist)

Effective **11 September 2019**

Expires **31 March 2023**



A handwritten signature in black ink, appearing to read 'Kottha'.

Chairperson

A handwritten signature in black ink, appearing to read 'M. Prinsloo'.

Chief Executive Officer



To verify this certificate scan this code

ANNEXURE C (3): FORTUNATE NGUBENI CV AND QUALIFICATIONS

FORTUNATE NGUBENI

Occupation	Administrator
Gender	Female
Nationality	South African
Ethnic Group	African
Language	Zulu, English, Sotho, Xhosa
Drivers Licence	Code CI
Desired job location	Anywhere in South Africa
Availability	Immediately

Contact Details

Cell phone	+27 83 7437 012
Identity Number	900713 0287 085
Email	jfngubeni@gmail.com
Residential Location	3318 Emerald Point Street Boitumelo Sebokeng 1983

Profile

A passionate and driven graduate, who is currently in possession of a BA Geography degree from the University of Johannesburg as well as a BA Environmental Management degree from the University of South Africa, seeking to gain exposure in different fields of Geography, particularly Environmental Management, in order to advance and grow in this career path.

I have an enthusiasm to learn more about our environment and to be more environmentally responsible with my actions; I have an interest in raising environmental awareness and finding solutions to environmental problems.

Education

2014- 2017

University of South Africa

BA Environmental Management

Courses: Health and the Environment; Know Your World- Introduction to Geography; Community, Society and Inequality in a Globalised World- Introduction to Sociology; Understanding South Africa- Families, Education, Identities and Inequality; Fundamentals of Communication; Environmental Economics;

Environmental Education- Concepts and Principles; World Issues- A Geographic Perspective; Our Living Earth; Environmental Affairs; Research in Social Sciences; Basic Statistics; The African Challenge- People and Environment; The Geography of Service Provision; The Interpretation of Maps; People and the Natural Environment- Use and Impact; Environmental Politics; Introduction to GIS; Legal Aspects of Environmental Management; Theoretical and Applied Ethics; Public Management Skills; Political Economy of Africa; State of the Environment in Southern Africa; Spatial Economic Development; Development of Urban Space; Assessing Environmental Impact; Ecotourism; Environmental Awareness and Responsibility; Communication Research; Information and Knowledge Management.

2008-2010

University of Johannesburg

BA Geography

Courses: Development Studies IA; Introduction to Human Geography; Information Management IA; Tourism Development IA; Practical Tourism IA; Development Studies IB; Climatology and Geomorphology;

1

Information Management IB; Tourism Development IB; Practical Tourism IB; Sociology IA; Sociology IB; Anthropology IA; Development Studies 2A; Geography 2A; Sociology 2A; Anthropology IB; Development Studies 2B; Geography 2B; Sociology 2B; Geography 3A; Sociology 3A; Geography 3B; Sociology 3B

- I. **Final year project:** A research project for Geography on the possibilities of water wastage by Evaton residents, a survey was conducted to obtain information on Evaton residents on their water usage and to find out if they do waste water, or experience any waters wastages around their community through leakages.

A research project for Sociology, examining the reason behind the increase in alcohol usage by university students all around the world. This was done through reviewing studies by other social researchers on the subject at hand and conducting a survey on the University of Johannesburg students concerning alcohol usage.

2. **Achievements:** Social Science Research Certificate.

2006

Rutasetjhaba Secondary School **Grade 12**

1. Subjects: Geography, Physic Science, Mathematics, Biology, IsiZulu, English, Afrikaans
2. Achievements: Distinctions: IsiZulu

Computer Skills

- Microsoft Office (Word, Excel, PowerPoint)
- Internet and E-mail
- QGIS

Career History

I. **MAY 2018- PRESENT (Volunteering)**

Mangaliso Transportation and Projects (PTY) LTD Sebokeng, South Africa

Administrator

Responsibilities

1. Compiling statements and load confirmation documents
2. Auditing diesel usage
3. Responding to clients' inquiries and requests

II. **NOVEMBER 2020- PRESENT (Volunteering)**

Autonomy (Pty) Ltd, Johannesburg

Personal Assistant to Director

Responsibilities

4. Assist with compiling tenders for new work
5. Following up on payments
6. Re-applications for annual subscriptions of the business i.e NHBRC, CIDB, CIPC, SARS
7. Responding to clients' inquiries and requests

Key Strengths

- Self-motivated
- Leadership and teamwork skills
- Time management
- Research and analytical skills
- Able to work under pressure
- Always eager to learn and a fast learner
- Good communication skills (verbal and written)

References

Mangaliso Lala
Director
Mangliso Transportation and Projects
073 449 5949

Mandla Dyodo
Senior Civil Engineer
Rand Water
078 7656 421



We certify that

JABHILE FORTUNATE NGUBENI


*having complied with the requirements of the Higher Education Act
and the Institutional Statute, was admitted to the degree of*

BACHELOR OF ARTS

in Environmental Management

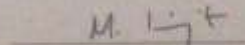
at a congregation of the University

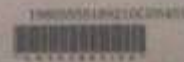
on 19 March 2018


Vice-Chancellor


University Registrar




Executive Dean





UNIVERSITY
OF
JOHANNESBURG

The Council and the Senate of the
UNIVERSITY OF JOHANNESBURG
hereby certify that the degree

BACCALAUREUS ARTIUM

with field of study

Geography

with all its associated rights and privileges
in accordance with the Statute of the
University has been conferred upon

JABHILE FORTUNATE NGUBENI

at a congregation of the University


Vice-Chancellor


Registrar

28 FEBRUARY 2011
Johannesburg
JO 999113028 F000



52427

U·J Sociology

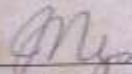
Certificate

It is hereby certified that

JF NGUBENI

successfully completed a practical course in social research. In doing so, he/she conceptualised and executed the research project, and in this process, covered the following elements:

- Research design
- Questionnaire construction
- Drafting an interview schedule
- Transcription of recorded data
- Coding and capturing of data
- Data analysis
- Reporting data



Prof. Tana Moyo
Chairperson
Department of Sociology

24 October 2020
Date

ANNEXURE D: CORRESPONDENCE FROM DMRE

DRAFT EIAR&EIMP



The Directors

Invest In Property 126 (Pty) Ltd

234 Alexander Ave

Midrand

Gauteng

1685

Attention: Mr. V. Scholtemeyer

Cc. Mr. T. Macebele (EAP: Tiyiselani Enviro-solutions (Pty) Ltd)

e-mail: Verdisc@gmail.com and EAP: tiyiselani@environmentalsolutions.co.za

**APPLICATION FOR AN ENVIRONMENTAL AUTHORISATION FOR MINING RIGHT
LODGED IN TERMS OF REGULATION 16 OF THE ENVIRONMENTAL IMPACT
ASSESSMENT REGULATIONS, 2014 (HEREIN REFERRED TO AS THE EIA
REGULATIONS) IN RESPECT OF THE FARM VILJOENSHOF 1655; SITUATED IN THE
MAGISTERIAL DISTRICT OF BOSHOF IN THE FREE STATE PROVINCE. APPLICANT:
INVEST IN PROPERTY 126 (PTY) LTD.**

The Final Scoping Report (SR) and Plan of Study for Environmental Impact Assessment
uploaded on the **09th of April 2021** and received by the Department on the **21st of May
2021** has reference.

1. The Department has evaluated the submitted SR and Plan of Study for Environmental
Impact Assessment dated **21st of May 2021** and is satisfied that the documents comply
with the minimum requirements of Appendix 2(2) of the National Environmental
Management Act, 1998 (as amended) (NEMA) Environmental Impact Assessment

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(EIA) Regulations, 2014. The SR is hereby accepted by the Department in terms of regulation 22(a) of the NEMA EIA Regulations, 2014.

2. You may proceed with the environmental impact assessment process in accordance with the tasks contemplated in the Plan of Study for Environmental Impact Assessment as required in terms of the NEMA EIA Regulations, 2014.
3. Please ensure that comments from all relevant stakeholders are submitted to the Department with the Environmental Impact Assessment Report (EIAR). This includes but is not limited to the Provincial Heritage Resources Authority, Provincial Environmental Department, Department of Agriculture, Forestry and Fisheries (DAFF), Department of Water and Sanitation (DWS) and the local municipality. Should you be unable to obtain comments, proof of the attempts that were made to obtain comments should be submitted to the Department.
4. In addition, the following amendments and additional information are required for the EIAR and EMPr:
 - a) The locality map and site layout plan on the scoping report are not clear, page 87 of the scoping report submitted. Please also make sure all the maps to be attached on the EIAR & EMPR are visible and clear so that it can give the clear indication of the area applied for.
 - b) Please note that your newspaper advertisement together with the notices must be visible so that the wording indicated can be readable to the person who is dealing with the document.
 - c) Should a Water Use License be required, proof of application for a license must be submitted.
 - d) Disclosure of vested interest and confirmation of the correctness of information by the EAP has not been provided under oath or affirmation on the scoping report.
 - e) Page 7 of the scoping report, widening of the road by more than 6 metres column the listing notice is not indicated only the GNR Number is indicated.
 - f) It is indicated on page 10 of the scoping report that there is a court case between the applicant and the landowner, it was further indicated that the matter would be heard by the 19th of June 2021. May you please attach the result of the court case on the EIAR and EMPr document to be submitted.
 - g) Plan of the application area map should to be in colour so that all the activities can be visible.

1. Introduction 2. Description of project 3. Description of environment 4. Environmental objectives 5. Environmental impacts 6. Mitigation measures 7. Environmental management plan 8. Environmental monitoring and reporting 9. Environmental assessment conclusions 10. Environmental assessment recommendations

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- h) Page 82 of the scoping report, there is a concern concerning access road to the mining area, may you please consult Department of Police, Road and Transport. Please include their comments on the EIAR and EMPr to be submitted.
- i) Please note there is an objection raised by F.J. Senekal Attorneys, please check the attached letter. You need to address their objections and include the agreement or your response on the EIAR to be submitted.
- j) Information on services required on the site, e.g. sewage, refuse removal, water and electricity. Who will supply these services and has an agreement and confirmation of capacity been obtained?
- k) Please note that all the relevant specialist studies must be conducted and attached to the EIAR and EMPr document to be submitted. It is EAP's responsibility to identify the specialist studies required for this environmental authorization in order to avoid delay in processing and finalisation of the application.
5. Further, it must be reiterated that, should an application for Environmental Authorisation be subjected to any permits or authorisations in terms of the provisions of any Specific Environmental Management Acts (SEMA's), proof of such application will be required.
6. The applicant is hereby reminded to comply with the requirements of regulation 3 of the EIA Regulations, 2014 with regards to the time period allowed for complying with the requirements of the Regulations:
7. You are hereby requested in terms of regulation 23(1)(a) of the EIA Regulations, 2014 to submit by the **23rd of September 2021**, three (3) copies manually and one (1) electronic copy through SAMRAD, of an Environmental Impact Assessment Report, inclusive of any specialist reports and an EMPr which have been subjected to the public participation process of at least 30 days incorporating the comments received, including all comments from the competent authority. Kindly refer to section 24N(2) of NEMA and Appendix 3, 4 and 6 of the EIA Regulations for the minimum requirements set for the aforementioned reports. The public participation process should be conducted as stipulated in chapter 6 of the EIA Regulations and taking into considerations any guideline applicable for public participation.
8. Kindly note that acceptance of your SR does not grant you a right to commence with any of the listed activity/ies applied for. Acceptance of the SR simply confirms that your

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application will be processed further and a recommendation on granting or refusal of an environmental authorisation will be forwarded to the Minister or his delegate for consideration, and the decision will be communicated as stipulated in regulation 4(1) of the EIA Regulations, 2014.

9. You should also note that commencement with a listed activity without an environmental authorisation being granted by the competent authority contravenes the provisions of section 24F (1) of NEMA and constitutes an offence in terms of section 49A (1) (a) of said Act.

10. Further note that in terms of regulation 45 of the EIA Regulations; your failure to submit the documents or meet any timeframes prescribed in terms of the said Regulations will result in your application deemed to have lapsed.

Yours faithfully



K.C. MPHAPHULI
ACTING REGIONAL MANAGER: MINERAL REGULATION

FREE STATE REGION

DATE 05/06/2021

Please quote this office file number as reference for any correspondence regarding this application.

Accession of record of an application for an environmental authorisation for a proposed project

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ANNEXURE E: SPECIALIST REPORTS

DRAFT EIAR&EMP

E(1):GEOHYDROLOGICAL IMPACT ASSESSMENT

DRAFT EIAR&EIMP

E(2): ECOLOGICAL IMPACT ASSESSMENT

DRAFT EIAR & EMP

E(3):HERITAGE IMPACT ASSESSMENT REPORT

DRAFT EIAR&EMP

E(4):SOCIAL AND LABOUR PLAN

DRAFT EIAR&EMP

ANNEXURE F: COMPLETED SPECIALIST DECLARATION FORMS

DECLARATION BY THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

I, **Tiyiselani Macebele** of ID NO:**8607105425080** declares that:

- (a) act as the independent environmental practitioner in this application;
- (b) do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the Environmental Impact Assessment Regulations, 2014;
- (c) do not have and will not have a vested interest in the proposed activity proceeding;
- (d) have no, and will not engage in, conflicting interests in the undertaking of the activity;
- (e) undertake to disclose, to the competent authority, any material information that has or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the Environmental Impact Assessment Regulations, 2014;
- (f) will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
- (g) will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the Department in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the Department may be attached to the report without further amendment to the report;
- (h) will keep a register of all interested and affected parties that participated in a public participation process; and
- (i) will provide the Department with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not.

Signature of the Environmental Assessment Practitioner: 

Tiyiselani Macebele

Name of company: Biomenta

Date: 06/02/2023



I certify that the above statement was taken by me and that the deponent has acknowledged that she knows and understands the contents of this statement. This statement was sworn in affirmed before me and deponent's signature mark thumbprint was placed thereon in the presence.

by P. Macebele on 2023.02.06 at 13:25
(Signature)
 (NAME OF DEPARTMENT OR OFFICE)
PORTIA NORTSICKELLO NORTSICKELLO
 (FULL FIRST NAME AND SURNAME IN BLOCK LETTERS)
20 SAKKINER STR
 (BUSINESS ADDRESS (STREET ADDRESS))
 RANG/RANK: SA POLISIEDIENS SA POLICE SERVICE

ANNEXTURE G: CALCULATION OF QUANTUM OF REHABILITATION

DRAFT EIAR&EMP

CALCULATION OF THE QUANTUM (REAL RATES)

Applicant:
Evaluators:

Invest In Property 126 (Pty) Ltd
Dr A.S. Rodionov

Ref No.:
Date:

February 02 2021

No.	Description	Unit	A	B	C	D	E=A*B*C*D	
			Quantity	Master Rate	Multiplication factor	Weighting factor 1	Amount (Rands)	
1	Dismantling of processing plant and related structures (including overland conveyors and powerlines)	m3	1200	16.59	1	1	R	19,908
2 (A)	Demolition of steel buildings and structures	m2	0	231.09	1	1	R	-
2(B)	Demolition of reinforced concrete buildings and structures	m2	0	340.55	1	1	R	-
3	Rehabilitation of access roads	m2	0	41.35	1	1	R	-
4 (A)	Demolition and rehabilitation of electrified railway lines	m	0	401.36	1	1	R	-
4 (A)	Demolition and rehabilitation of non-electrified railway lines	m	0	218.92	1	1	R	-
5	Demolition of housing and/or administration facilities	m2	0	462.17	1	1	R	-
6	Opencast rehabilitation including final voids and ramps	ha	5	235221.83	1	1	R	1,176,109
7	Sealing of shafts adits and inclines	m3	0	124.06	1	1	R	-
8 (A)	Rehabilitation of overburden and spoils	ha	0	161517.37	1	1	R	-
8 (B)	Rehabilitation of processing waste deposits and evaporation ponds (non-polluting potential)	ha	0	201116.96	1	1	R	-
8 (C)	Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)	ha	0	584284.21	1	1	R	-
9	Rehabilitation of subsided areas	ha	0	135246.47	1	1	R	-
10	General surface rehabilitation	ha	10	127949	1	1	R	1,279,490
11	River diversions	ha	0	127949	1	1	R	-
12	Fencing	m	0	145.95	1	1	R	-
13	Water management	ha	0	48649.81	1	1	R	-
14	2 to 3 years of maintenance and aftercare	ha	0	17027.43	1	1	R	-
15 (A)	Specialist study	Sum	0	0	1	1	R	-
15 (B)	Specialist study	Sum	0	0	1	1	R	-
Sub Total 1							R	2,475,507
1	Preliminary and General	297060.858			weighting factor 2		R	297,061
					1			
2	Contingencies				247550.715		R	247,551
Subtotal 2							R	3,020,119
VAT (15%)							R	422,817
Grand Total							R	3,442,935

Dh

ANNEXURE H(1): OBJECTIONS AND EAP RESPONSE

DRAFT EIA R&EMP

ANNEXURE H(2):SURFACE OWNER REPLIES

DRAFT EIA R&EMP

ANNEXURE H(3):ACCESS REQUEST FOR SPECIALIST STUDIES

DRAFT EIAR&EMP

ANNEXURE H (4): LANDOWNER RESPONSE TO ACCESS REQUEST

DRAFT EIAR&EMP

ANNEXURE I: PUBLIC PARTICIPATION REPORT (SCOPING PHASE)