mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

FINAL SCOPING REPORT

FOR LISTED ACTIVITIES ASSOCIATED WITH MINING RIGHT AND/ OR BULK SAMPLING ACTIVITIES INCLUDING TRENCHING IN CASES OF DIAMONDS AND GOLD PROSPECTING

SUBMITTED FOR ENVIRONMENTAL AUTHORISATIONS IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 AND THE NATIONAL ENVIRONMENTAL MANAGEMENT WASTE ACT, 2008 IN RESPECT OF LISTED ACTIVITIES THAT HAVE BEEN TRIGGERED BY APPLICATIONS IN TERMS OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2002 (MPRDA) (AS AMMENDED)

NAME OF APPLICANT: ZELPY GO LD MINE (PTY) LTD

FILE REFEFERENCE NUMBER SAMRANWD: REF (NW30/5/1/2/2/10127 MR)

APPLICANT DETAILS

Project applicant:	Zelpy Gold Mine (Pty) Ltd
Registration no (if any):	2016/286906/07
Trading name (if any):	
Responsible Person, (e.g. Director, CEO, etc).:	Director
Contact person:	Thobile Mzaidume
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1. OBJECTIVE OF THE SCOPING REPORT PROCESS

The objective of the scoping report is to, through a consultative process-

a) Identify the relevant policies and legislation relevant to the activity
b) Motivate the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the preferred location
c) Identify and confirm preferred activity and technology alternative through an impact and risk assessment and ranking process;
d) Identify and confirm the preferred site, through a detailed site selection process, which includes an impact and risk assessment process inclusive of cumulative impacts and a ranking process of all the identified alternatives focusing on the geographical, physical, biological, social, economic and cultural aspects of the environment
e) Identify the key issues to be addressed in the assessment phase
f) Agree on the level of assessment to be undertaken, including the methodology to be applied, the expertise required as well as the extent of further consultation to be undertaken to determine the impacts and risks the activity will impose on the preferred site through the life of the activity, including the nature, significance, consequence, extent, duration and probability of the impacts to inform the location of the development footprint within the preferred site; and
    g) Identify suitable measures to avoid, mange, or mitigate identified impacts and to determine the extent of the residual risks that need to be managed and monitored.

2. CONTACT PERSON AND CORRESPONDENCE ADRESS.

a) Details of:

i. The EAP who prepared the report

Table 1: EAP details

Name of the Practitioner	Lufuno Mutshathama (Mugovhani)
Postal address:	P O Box 4147, Honeydew,2040
Physical address	No 9 Lourie road, Randburg, Johannesburg
E-mail:	Joanprojects@gmail.com
Cell:	0739120800
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ii. Expertise of the EAP

The EAP holds a Bachelor of Environmental Science (graduated in May 2008) from the University of Venda (See Appendix 1).

The summery of the EAP's experience and projects undertaken is attached as appendix 2.

b) Description of the location of the activity.

The project is located on farm Kafferskraal which is located approximately 15 Km West of Klerksdorp.

Table 2: Description of the Property

Farm Name:	Kafferskraal 400IP
Application area (Ha)	4686.7ha
Magisterial district:	Klerksdorp
Distance and direction from nearest town	15 Km West of Klerksdorp
Locality map	Locality map at a scale not smaller than 1:250000 is attached as **Appendix 3**
Description of the overall activity. (Indicate Mining Right, Mining Permit, Prospecting right, Bulk Sampling, Production Right, Exploration Right, Reconnaissance permit, Technical co-operation permit, Additional listed activity)	Mining Right
21-digit Surveyor General code	T0IP00000000040000082 T0IP00000000040000083 T0IP00000000040000084 T0IP00000000040000085 T0IP00000000040000086 T0IP00000000040000087 T0IP00000000040000104 T0IP00000000040000105 T0IP00000000040000106 T0IP00000000040000120 T0IP00000000040000164

c) Locality map

The locality map is attached as Appendix 3.

d) Description of the scope of the proposed overall activity.

i) Listed and specified activities (Site plan is attached as Appendix 4)

NAME OF ACTIVITY (E.g. For prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route etc…etc…etc	**Aerial extent of the Activity Ha or m²**	**LISTED ACTIVITY (Mark with an X where applicable or affected).**	**APPLICABLE LISTING NOTICE (*GNR 544, GNR 545 or GNR 546)***	**WASTE MANAGEMENT AUTHORISATION (Indicate whether an authorisation is required in terms of the Waste Management Act). (Mark with an X)**
Administration Block (offices)	500 **m²**	X	These are specified activities that forms part of the Mining Right activity which is listed as item 17 under the listing notice R984 of 2014	N/A
Mining area (pit/s)	37ha	X	Item 17 of listing notice 17 of 2017 (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	N/A

			(Act No. 28 of 2002), including associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource, including activities for which an exemption has been issued in terms of section 106 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002).	
Removal of vegetation		X	Item 27 of listing notice 327 of 2017 (The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation)	
Topsoil & storage	1ha	X		N/A
Waste rock dumps	2ha	X	Category B waste activity item 11 of the NEMWA regulations (The establishment of a residue deposit resulting from activities which require a mining right.)	X
Access road	500 **m²**	X		N/A

Fence	3km	X		N/A
Workshop	500 **m²**	X		N/A
Salvage yard	250 **m²**	X		N/A
Oil and grease storage	250 **m²**	X	Item 25 of the listing notice R983 of 2014 (The development of facilities or infrastructure, for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 cubic metres or more but not exceeding 500 cubic metres.)	N/A
Storage yard	500 **m²**	X		N/A
Septic tank	125 **m²**	X	Item 25 of the listing notice R983 of 2014 (The development and related operation of facilities or infrastructure for the treatment of effluent, wastewater or sewage with a daily throughput capacity of more than 2000 cubic	N/A

			metres but less than 15000 cubic metres.)	
Storm water & process water dams	0.5ha	X	These are specified activities that forms part of the Mining Right activity which is listed as item 17 under the listing notice R984 of 2014	N/A
Parking	500 **m²**	X	These are specified activities that forms part of the Mining Right activity which is listed as item 17 under the listing notice R984 of 2014	
Ore stockpile	1000 **m²**	X	These are specified activities that forms part of the Mining Right activity which is listed as item 17 under the listing notice R984 of 2014	
other activities related to mining right activity that do not trigger listed activities.			These are specified activities that forms part of the Mining Right activity which is listed as item 17 under the listing notice R984 of 2014	

Total area disturbed is approximately 40hactare

ii) Description of the activities to be undertaken

Zelpy Gold Mine (Pty) Ltd has obtained a Prospecting Right for Gold over farm Kafferskraal 400 IP, under the Matlosana Municipality. They are now in the process of applying for a Mining Right for Gold on the property above property in the jurisdiction area of Klerksdorp, North West.

The proposed mining programme will be undertaken in four phases with the estimated period of ten years. The mining phase include the followings phases:

- Pre-construction phase
- Construction phase
- Operation phase; and
- Closure and decommissioning phase

Project's Phase Activities

A. ***Pre-construction During this initial phase the activities to be undertaken involve***;

- applicable permitting,
- environmental authorizations,
- baseline monitoring, and
- additional specialist assessments

B. ***Construction Phase: During this phase the following activities could impact on the surrounding environment***;

- Stripping of topsoil and sub-soil onsite,
- construction of the clean and dirty water systems,
- Dust dispersion from infrastructure construction, and,
- Impact on water system due to excavation of the open pit.

C. ***Operational Phase: During the operational phase, the followings activities could impact/affect the biophysical environment and cultural practice 6***

;

- Open cast mining activities
- Dust dispersion from blasting, hauling, and excavating of ore
- Surface and ground water implication due to operational activities
- Sewage management, and waste management
- Ancillary activities (setting office, auto workshop),
- Baseline monitoring

D. ***Closure and Decommissioning***

When Zelpy Gold has reached a decision to decommission the mine, the following objectives and proposed actions for the decommissioning and closure phase of the mine could be considered:

- Recovery of all saleable infrastructure;
- Demolition of structures;
- Ripping of all compacted areas, which will be followed with amelioration and vegetation;
- Ensure that all remaining dumps, blend in with the surrounding
- Monitoring of key environmental variables (i.e. soils, vegetation, groundwater and surface water) to restore ecosystem integrity and function
- Weed management after closure, limited to areas disturbed by mining infrastructure or included in the mining
- Monitoring will be undertaken for a specific period after closure or up until such time that all areas create a sustainable cover and ecosystem.

Open cast mining methods will be implemented at depths starting from 6 metres below surface. Mining plan to be undertaken will be executed by using box cut mining approach.

Closure Objective

The method to be used is roll-over method, the area will be rehabilitated to its state before is mined as far as practicably possible, all the discard/waste rock will be returned to the mined area and top soil will be filled back so the area will be used as before that means it will be retuned as it was.

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e) Policy and Legislative Context

Table 3: Policy and legislative context

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT	REFFERENCE WHERE APPLIED	
Constitution of the Republic of South Africa	The Bill of Rights, in the Constitution of South Africa (No. 108 of 1996), states that everyone has a right to a non-threatening environment and requires that reasonable measures are applied to protect the environment. This protection encompasses preventing pollution and promoting conservation and environmentally sustainable development. These principles are embraced in NEMA and given further expression.	The development will ensure that as little damage as possible will be left on the surrounding environment and local community. This report is drafted to ensure compliance to this piece of legislation.
Mineral and Petroleum	The MPRDA regulates all mining related activities and requires that authorisation, permits and rights are obtained prior to the	The following are the references where the MPRDA been applied:

Resources Development Act, 2002 as amended	removal of any minerals or the commencement of any mining related activities. The prospecting activities including trenching for diamonds therefore prompts the application of a prospecting right prior to the commencement of prospecting activities.	Application for a prospecting right to carry out prospecting activities as per section 104 and section 20 of the MPRDA as amended.
National Environmental Management Act EIA Regulations 2014	Section 24 of NEMA provides for the activities that require specific environmental authorisation.	Activity 19 from the Listing Notice 2 of the NEMA regulations was triggered by the proposed development, prompting the EIA. Environmental Authorisation application, Public participation, Scoping report and EIA are the application of this regulation.
National Environmental Management Act (Act No. 107 of 1998)	National Environmental Management Act (Act No 107, 1998) requires that measures are taken to prevent pollution and ecological degradation; promote conservation; and secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development	NEMA also requires that environmental authorisation is obtained for any development/ activity prior to its commencement. The Act also requires that all environmental impacts (including social impacts) due because of the development and/or its activities are assessed and where

	In addition, it makes provision: - That the disturbance of the environment (biological and physical) is avoided, or where they cannot be altogether avoided, are minimized and remedied: - That a risk-averse and cautious approach is applied, which considers the limits of current knowledge about the consequences of decisions and actions; and - Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure.	possible, minimised or mitigated. The following are the references where the NEMA has been applied (as per section 24 of NEMA): • Environmental Authorisation application • Public participation • Scoping report • EIR
National Environmental Management Air Quality Act (Act No. 39 of 2004)	National Environmental Management Air Quality Act (Act No. 39 of 2004), seeks to reform the law regulating air quality to protect the environment by providing reasonable measures for: • the prevention of pollution and ecological degradation	The National Dust Control Regulation (GN R.827), which were promulgated on 1 November 2013, define acceptable dust fall rates for residential and non-residential areas. Although Zelpy Mining will not require an atmospheric emission license for its proposed operations at the site, it will have to

	• securing ecologically sustainable development while promoting justifiable economic and social development; • to provide for national norms and standards regulating air quality monitoring, management and control by all spheres of government; for specific air quality measure; and for matters incidental thereto.	operate within the NAAQS and the National Dust Control Regulations.
National Environmental Management Waste Act (Act No. 59 of 2008)	National Environmental Management Waste Act (Act No. 59 of 2008), seeks to reform the law regulating waste management in order to protect health and the environment by providing reasonable measure for the prevention of pollution and ecological degradation and for securing ecologically sustainable development; to provide for institutional arrangements and planning matters; to provide for national norms and standards for regulating the management of waste by all spheres of government; to provide for specific waste management measure; to provide for the licensing and control of waste management activities; to provide for the remediation of contaminated land; to provide for the national waste	One of the major amendments affected by the National Environmental Management Amendments Act 2014 is the insertion of section 24S, because of which the NEMWA is now applicable to mining residue deposits and residue stockpiles as follows: • Management of residue stockpiles and residue deposits ○ Residue stockpile and residue deposits must be deposited and managed in accordance with the provisions of the National Environmental Management act:

	information system; to provide for compliance and enforcement; and to provide for matters connected therewith.	Waste Act, 2008 (Act No. 59 of 2008), on any site demarcated for the purpose in the environmental management plan or environmental management programme in question Mining residues were classified as hazardous wastes by default in terms of section 18, Schedule 2 of the National Environmental Management: Waste Amendment Act, 2014 (Act No. 26 of 2014) (NEMWAA), which commenced on 02 June 2014. In terms of regulation GN R.632 and R.633, which commenced on 24 July 2015, mining residues must be characterised and classified, and the design and management of residue stockpile and deposits must be based on an assessment of the potential impacts and risks.

The National Water Act (Act No. 36 of 1998)	The National Water Act (Act No. 36 of 1998) (NWA) is the primary legislation regulating both the use of water and the pollution of water resources. It is applied and enforced by the Department of Water and Sanitation (DWS). Section 19 of the National Water Act regulates pollution, which can be defined as the direct or indirect alteration of the physical, chemical or biological properties of the water resource to make it: • Less fit for any beneficial purpose for which it may reasonably be expected to be used; or • Harmful or potential harmful to- o the welfare, health or safety of human beings; o any aquatic or non-aquatic organisms o the resource quality; or o property	Several water uses, as defined in terms of section 21 of the National Water Act (Act No 36 of 1998), will form part of the proposed mine. A Water Use License will be applied for this project for section 21 (g) of the Act which is the septic tank and the waste rock dump.
The Hazardous Substance Act	The Hazardous Substance Act (Act No. 15 of 1973), seeks to Provide for the control of substances which may cause injury or ill-health to or death of human beings by reason of their toxic,	Item 25 of the listing notice R983 of 2014 (The development of facilities or infrastructure, for the storage, or for the storage and

(Act No. 15 of 1973)	corrosive, irritant, strongly sensitizing or flammable nature or the generation of pressure thereby in certain circumstances, and for the control of certain electronic products; to provide for the division of such substances or products into groups in relation to the degree of danger; to provide for the prohibition and control of the importation, manufacture, sale, use operation, application, modification, disposal or dumping of such substances and products; and to provide for matters connected therewith.	handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 cubic metres or more but not exceeding 500 cubic metres.)
The Promotion of Access to Information Act (Act No. 2 of 2000)	The Promotion of Access to Information Act (PAIA), Act No. 2 of 2000) gives effect to the constitutional right of access to information held by the State and any information that is held by another person and that is required to exercise or protection of any rights; to provide that the information Regulator, established in terms of the Protection of Personal Information Act,2013, must certain powers and perform certain duties and functions in terms of this Act; and to provide for matters connected therewith	For this project, a public participation is on-going and all stakeholders will be invited to make comments on the different reports that will be generated. According to NEMA EIA Regulations 2017, Section 40, the public participation process to which the- (1)(b) scoping report submitted in terms of regulation 21 and the environmental impact assessment report and EMPr submitted in terms of regulation 23;

		must be subjected to must give all potential or registered interested and affected parties, including the competent authority, a period of at least 30 days to submit comments on each of the EMPr, scoping report and environmental impact assessment report, and where applicable the closure plan, as well as the report contemplated in regulation 32, if such reports or plans are submitted at different times. (2) The public participation process contemplated in this regulation must provide access to all information that reasonably has or may have the potential to influence any decision with regards to an application unless access to that information is protected by law and must include consultation with- (a) the competent authority; (b) every State department that administers a law relating to a matter affecting the

		environment relevant to an application for an environmental authorization; (c) all organs of state which have jurisdiction in respect of the activity to which the application relates; and (d) all potential, or, where relevant, registered interested and affected parties. (3) Potential or registered interested and affected parties, including the competent authority, may be provided with an opportunity to comment on reports and plans contemplated in sub regulation (1) prior to submission of an application but must be provided an opportunity to comment on such reports once an application has been submitted to the competent authority.
The National Nuclear	The National Nuclear Regulator Act, 1999 (Act No. 47 of 1999) (NNR), seeks to provide for the establishment of a National	There is a potential for occurrence of radiation in the area. This legislation requirements will be

Regulator Act, 1999 (Act No. 47 of 1999) (NNR)	Nuclear Regulator to regulate nuclear activities, for its objects and functions, because it is to be managed and for its staff matters; to provide for safety standards and regulatory practices for protection of persons, property and the environment against nuclear damage; and to provide for matters connected therewith.	applied if after assessment it is found the radiation levels deem it fit.
National Heritage Resources Act (Act 25 of 1999)	The National Heritage Resources Act seeks to -Introduce an integrated and interactive system for the management of the national heritage resources; -To promote good government at all levels, and empower civil society to nurture and conserve their heritage resources so that they may be bequeathed to future generations; -To lay down general principles for governing heritage resources management throughout the Republic; -To introduce an integrated system for the identification, assessment and management of the heritage resources of South Africa;	There are cemeteries on a portion of the farm, therefore a Heritage Impact Assessment (HIA) will be required.

	-To establish the South African Heritage Resources Agency together with its Council to co-ordinate and promote the management of heritage resources at national level; -To set norms and maintain essential national standards for the management of heritage resources in the Republic and to protect heritage resources of national significance; -To control the export of nationally significant heritage objects and the import into the Republic of cultural property illegally exported from foreign countries; -To enable the provinces to establish heritage authorities which must adopt powers to protect and manage certain categories of heritage resources; -To provide for the protection and management of conservation-worthy places and areas by local authorities; and -To provide for matters connected therewith	
National Environmental	The National Environmental Management: Biodiversity Act (Act 10 of 2004) (NEMBA) provides for listing threatened or protected	A biodiversity study will be conducted to determine the conservation status of plants and animals that

Management: Biodiversity Act	ecosystems, in one of four categories: critically endangered (CR), endangered (EN), vulnerable (VU) or protected. The Draft National List of Threatened Ecosystems (Notice 1477 of 2009, Government Gazette No 32689, 6 November 2009) has been gazetted for public comment. The list of threatened terrestrial ecosystems supersedes the information regarding terrestrial ecosystem status in the NSBA 2004. In terms of the EIA regulations, a basic assessment report is required for the transformation or removal of indigenous vegetation in a critically endangered or endangered ecosystem regardless of the extent of transformation that will occur.	occur on the proposed site and these will be listed as threatened or protected, under one of the following categories: • **Critically Endangered:** any indigenous species facing an extremely high risk of extinction in the wild in the immediate future. • **Endangered:** any indigenous species facing a high risk of extinction in the wild soon, although it is not a critically endangered species. • **Vulnerable:** any indigenous species facing an extremely high risk of extinction in the wild in the medium-term future; although it is not a critically endangered species or an endangered species. **Protected species:** any species which is of such high conservation value or national importance that it requires national protection. Species listed in this

		category include, among others, species listed in terms of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

Other legislatives include the following:

- Mine Health and Safety Act (Act No. 29 of 1996) and regulation
- Mine Health and Safety Amendment Act (Act No. 74 of 2008)
- Occupational health and Safety Act (act No. 85 of 1993) (OHSA)
- Explosives Regulations (made under section 43 of OHSA)

f) Need and desirability of the proposed activities

Although mining's contribution to South Africa's GDP has declined over the past 10-20 years, it remains one of the country's critical economic cornerstones and contributes to its economic activity, job creation and foreign exchange earnings. The sector is therefore critical to the country's socio-economic status.

The proposed site can be feasibly mined, and the associated mining activities will contribute to the above-mentioned benefits, providing the very much needed jobs (given the high level of unemployment) preferentially to members of the local community, contribute to the GDP and foreign exchange earnings through export. It will also contribute in economic welfare of the mining community while also promoting sustainable development and growths of the mining industry. Further details on Corporate Social Investments Projects and Local Economic Development can be found in the Social and Labour Plan.

g) Period for which the environmental authorisation is required.

The authorisation is required for a period of 20 years

h) Description of the process followed to reach the preferred site

The general mining site was chosen based on the geology of an area and potential of gold ore reserves. Consequently, the open cast positions were chosen based on the same motive.

I. Details of alternatives considered

Since the site was selected based on the underlying geology and therefore location of reserves, no other alternative sites were considered.

II. Details of public participation process followed

The table below shows the process of consultation that has been undertaken by the applicant.

Table 5: public participation process followed

Interested and affected parties consulted	**Manner of consultation**	**Status**	**Record appended?**
Land owners affected by proposed activities (community)	Public participation meeting	Complete	Yes
Land owners affected by proposed activities	Request for a meeting has been made for the 14th of December 2017	Incomplete	Yes
Municipality	Letter	Completed	Yes
Neighbouring Landowners	Site notices and Newspaper advert		Yes
General public	Site notices and Newspaper advert	Completed	Yes
State organs	Scoping report	Completed	Yes

III. Summery Issues raised by interested and affected parties.

Table 4:Public Participation details

Interested and affected parties	Date comments were raised	Issues raised	Response to the issue
Land owners (Private)	N/A	N/A	N/A
Lawful occupiers	N/A	None to date	N/A
Landowners & lawful occupiers of adjacent land and interested arties	None to date	None to date	N/A
Municipality	None to date	N/A	No objections
Community and community leaders	16th November 2017	Dust, Noise, Safety concerns and job opportunities	Issues will be addressed in EIA and follow-up public meeting
Relevant state departments	None to date	None to date	None to date

*****Record of consultation is attached as **Appendix 5**

IV. Environmental attributes associated with the sites

1. Baseline Environment

a. Type of environment affected by the proposed activity

Flora

The study site falls within a grassland biome. The area is categorised as a Thornveld Grassland. Contrary to the description of the Thornveld Grassland by Mucina & Rutherford (2006) this site can be characterised as a savannah-type landscape with scattered *Acacia erioloba*, *Acacia caffra*, *Acacia hebeclada*, *Ziziyphusmucronata* and *Searsialancea* trees with an understory of perennial grasses and low forbs.

The Typical and dominant species within this habitat and adjacent intact grassland includes grasses such as:

- *Eragrostis lehmannianav*ar. *lehmanniana*,
- *Eragrostis superba*,
- *Anthephora pubescens*,
- *Aristida congesta* subsp. *barbicollis*,
- *Stipagrostis uniplumis* var. *neesii,*
- *Cynodon dactylon*,
- *Heteropogon contortus*,
- *Themeda triandra* and,
- *Pogonarthria squarrosa*,

There is also a diversity of shrubs found on the site, such as *Acacia hebeclada*, *Felicia muricata*, *Anthospermum rigidum*, *Asparagus burchellii*, *Hermanniato mentosa*, *Pentzia globose* and *Helichrysum dregeanum*. Within the intact grassland common geophytes include *Bulbinea sphodeloides*, *Bulbinea byssinica*, *Hypoxisheme rocallidea*

and *Boophone disticha* as well as the tuberous *Pterodiscus speciosus*.

Topography

The average topographic slope of the area is gentle to steep and slopes in an easterly direction. The surrounding natural relief will be altered through the placement of mining infrastructure. Mining operations in the area will alter the natural topography. This alteration will be of permanent nature.

Geology

A fault block of the Government Subgroup containing Bonanza Reefs, which outcrop on Kafferskraal, occurs some 4 km east of the West Bonanza Mine. This occurrence is known since Nel (1935) described it, but only limited exploration has been done here in the past. In a regional context, this occurrence at Kafferskraal is an outlier of the main Bonanza syncline on Afrikander Lease.

The three main reefs of economic importance are the Base of Shale reef and Bon 1 Reef, stratigraphically 4 m to 5 m apart, with the Bon 2 Reef some one to two metres underneath the latter. Outcrops are present to the south and south-east of the school building. The hill on this farm is a prominent feature, which constitutes the lower Bonanza grits and stretches from east to west. The sequence dips southward between 10º and 15º.Where these reefs have been mined at the West Bonanza Mine the high gold grades occur within specific pay zones of between 30 m and 50 m wide, but on Kafferskraal more in-fill drilling will have to be done to establish the width of higher grade zones here.

Soils of the farm consist of Arcadia Vertic and reddish soils that have good arable and grazing potential. However, this potential is not realized due to the erratic rainfall.

Climate

Temperature

The proposed project is situated in a semi-tropical region with reasonable high summer and winter daytime temperatures. Average summer temperatures range from 13-30 °C and approximately 2 -15 °C in winter. It is warm to hot, with moist summers and cool dry winters.

Precipitation

The rainy season typically occurs in the summer months (October to March) with afternoon thundershowers which occur most often from August to March. The mean annual rainfall for the area is 513 mm. approximately 84 % of which occurs in the summer months. North easterly and south westerly wind directions prevail throughout the year.

Population

The population size of Matlosana is estimated at 428 024 people of which 92% are urbanized and 8% rural. (mining villages form part of the urban areas). The largest population concentrations are situated in Jouberton (31%), with the remainder distributed between Kanana, Khuma and Tigane. The average annual population growth between 1995 and 2010 was 1.045 % with an average annual household growth of 3.46%.

Water Resources

Surface Water

The project area falls within the Middle Vaal Water Management Area (WMA), which is located downstream of the confluence of the Vaal and Reitspruit rivers and upstream of the Bloemhof dam. The project area is located approximately 20 km to Vaal River. Within the proposed site, there is Schoonspruit Dam which occurs on the North-eastern part.

Ground Water

Groundwater around the project site Is contained in the regional aquifer of weathered andesite in the upper layers and alluvium associated with the Vaal River channel. This highly weathered andesite and soil layer varies in thickness of about 4-11m, with an average weathered zone thickness of 7m. The andesite encountered in some boreholes that were drilled in 1987 by SRK, indicate that the bedrock andesite shows substantial weathering in the first 6m of the borehole with a slightly weathered andesite in another 10m of the hole. The overall weathered zone that My possibly conduct water is approximately 16m thick.

V. Methodology used in determining the significance, of environmental impacts.

The generic criteria and systematic approach used to identify, describe and assess impacts as outlined in this report is stated under this section. To determine the significance of an activity each activity was rated.

METHODOLOGY FOR THE ASSESSMENT OF IMPACTS

The assessment of impacts adheres to the minimum requirements in the EIA Regulations, 2014 and considers the applicable official guidelines.

Below is a detailed methodology of how all direct, indirect and cumulative impacts associated with all the phases of the project where assessed. The Direct, indirect and cumulative impacts associated with the proposed operation and its alternatives on the environment and socio-economic conditions will be assessed in terms of the following criteria:

- The **nature**, which shall include a description of what causes the effect, what will be affected and how it will be affected.
- Impact Parameters

Parameter	Description
Extent	Refers to the geographical extent of the resultant impact, whether local (limited to the immediate area or site of development) or regional, and a value between 1 and 5 will be assigned as appropriate (with 1 being low and 5 being high):
Duration	Refers to the duration that the resulting impact will last, whether ➢ the lifetime of the impact will be of a very short duration (0–1 years) – assigned a score of 1; ➢ the lifetime of the impact will be of a short duration (2-5 years) - assigned a score of 2; ➢ medium-term (5–15 years) – assigned a score of 3; ➢ long term (> 15 years) - assigned a score of 4; or permanent - assigned a score of 5
Intensity	Refers to the intensity of destruction or benign of the impact on the environment whether it destroys the impacted environment, alters its functioning, or slightly alters the environment

	itself. The intensity is rated as: low, medium or high.
Probability	Refers to the probability/chances of the impact to happen. Probability will be estimated on a scale of 1–5, where 1 is very improbable (probably will not happen), 2 is improbable (some possibility, but low likelihood), 3 is probable (distinct possibility), 4 is highly probable (most likely) and 5 is definite (impact will occur regardless of any prevention measures).

- Mitigation

Impacts that result from the development can be minimised if mitigation measures are correctly put in place. Mitigation measures should ensure that the development considers the environment and the predicted impacts to minimise impacts and achieve sustainable development.

- Mitigation Efficiency (ME): The efficiency and effectiveness of mitigation measures, is measured through mitigation efficiency, as identified through professional experience and empirical evidence of how effectively the proposed mitigation measures will manage the impact. The lower the assigned value the greater the effectiveness of the proposed mitigation measures and subsequently, the lower the impacts with mitigation.

Determination of Significance – Without Mitigation:

Significance is determined through a synthesis of impact parameters as described in the above table, and provides an indication of the importance of the impact. The significance of the impact “without mitigation” is the key determinant of the nature and degree of

mitigation required. Where the impact is positive, significance is noted as “positive”.

Significance is rated on the following scale:

- **No significance**: The impact is not substantial and does not require any mitigation action.
- **Low:** The impact is of little importance, but may require limited mitigation.
- **Medium:** The impact is of importance and is therefore considered to have a negative impact. Mitigation is required to reduce the negative impacts to acceptable levels.
- **High:** The impact is of major importance. Failure to mitigate, with the objective of reducing the impact to acceptable levels, could render the entire development option or entire project proposal unacceptable. Mitigation is therefore essential.

Identifying the Potential Impacts without Mitigation Measures (WOM):

Following the assignment of the necessary weights to the respective parameters, criteria are summed and multiplied by their assigned weightings, resulting in a value for each impact (prior to the implementation of mitigation measures).

Equation 1:

Significance Rating (WOM) = (Extent + Intensity + Duration + Probability) x Weighting Factor

<u>Determination of Significance – With Mitigation (Significance Following Mitigation (SFM):</u>

Determination of significance with mitigation refers to the anticipatable significance of the impact after the successful implementation of the necessary mitigation measures. The efficiency of the mitigation measure determines the significance of the impact.

The level of impact is therefore seen in its entirety with all considerations considered. Significance with mitigation is rated on the following scale:

- **No significance:** Following the implementation of mitigation measures, the impact becomes insignificant/ insubstantial.
- **Low:** The impact will be mitigated to the point where it is of limited importance.
- **Low to medium:** After mitigation, the impact is reduced to acceptable levels.
- **Medium:** Notwithstanding the successful implementation of the mitigation measures, the negative impact remains of significance, however, in relation to the overall context of the project, the persistent impact does not constitute a fatal flaw.
- **Medium to high:** The impact is of major importance but after the implementation of the correct mitigation measures, the negative impacts are reduced to acceptable levels.
- **High:** The impact is of major importance. Mitigation of the impact is not possible on a cost-effective basis. The impact is regarded as high importance and taken within the overall context of the project, is regarded as a fatal flaw. An impact regarded as high significance, after mitigation could render the entire development option or entire project proposal unacceptable.

Identifying the Potential Impacts with Mitigation Measures (WM):
To gain a comprehensive understanding of the overall significance of the impact, after implementation of the mitigation measures, it is necessary to re-evaluate the impact.

Equation 2:

Significance Rating (WM) = Significance Rating (WOM) x Mitigation Efficiency

Or

WM = WOM x ME0

Below is a table of all ratings allocated to the aforementioned parameters that have been accounted for in rating all identified impacts from the development.

Extent	Duration	Intensity	Probability	Weighing Factor (WF)	Significance Rating (SR)	Mitigation Efficiency (ME)	Significance Following Mitigation (SFM)
Footprint 1	Short term 1	Low 1	Probable 1	Low 1	Low 0-19	High 0.2	Low 0-19
Site 2	Short to Medium 2		Possible 2	Low to Medium 2	Low to Medium 20-39	Medium to High 0.4	Low to medium 20-39
Regional 3	Medium term 3	Medium 3	Likely 3	Medium 3	Medium 40-59	Medium 0.6	Medium 40-59
National 4	Long term 4		Highly likely 4	Medium to High 4	Medium to High 60-79	Low to Medium 0.8	Medium to High 60-79
International 5	Permanent 5	High 5	Definite 5	High 5	High 80-100	Low 1.0	High 80-100

Based on the calculated rating, all impacts can therefore be rated to be of low, low to medium, medium, medium to high or high significance before and after mitigation.

VI. The Positive and negative impacts that the proposed activity (in terms of the initial site layout) and alternatives will have on the environment and the community.

Preferred Alternative (only alternative):

Positive impacts

The following are the potential positive impacts the proposed activity will have on the receiving environment and surrounding community:

- Job creation:

The proposed project will create a few general /unskilled and skilled jobs for unemployed persons, with the greatest preference given to members of the neighbouring communities. The project will also provide work and generate income for a few construction workers that will be carrying out the technical surface work. This will in turn improve the livelihoods / standards of living for members of the local communities who will be employed.

- Good environmental management.

The Environmental Authorisation together with the approved EIA/EMP report will guide the applicant in terms of managing the physical and socio-economic environment that is impacted by the mining activities. This will be possible through the implementation of the requirements and conditions of the Environmental Authorisation and the approved EIA/EMP report.

Negative impacts

The following are the potential negative impacts identified for the proposed activities.

- Soil pollution

Potential leakage of oil and other industrial liquids from the trucks and machineries. This is a potential risk of soil contamination, which will change the soil chemistry and soil nutrients of the affected soil. This could also potentially affect the vegetation growth in the contaminated areas.

- Dust

The use of the access dusty roads and the blasting activities will result in the emission of dust into the surrounding atmosphere. This will impact on the plants surrounding the area as it (the dust) is deposited on the leaves. This interferes with the photosynthesis process of the plants. Furthermore, animals that feed on the plants will be impacted upon as this will affect their forage.

- Noise

The machinery operations, and the movement of trucks and vehicles, all causes noise. The trenching activities noise levels may go over the immediate site. The noise levels of the trucks and excavators depend on their size and this may cause the noise to be localised in the specific site.

- Soil erosion

Soil erosion on denuded areas and topsoil stockpile is a potential negative impact. Most of the areas to be worked on are flat, but do not rule out soil erosion by runoff or wind.

- Animal life disruption

The noise, dust, movement and operation of trucks and other vehicles, the potential loitering of the employees and the trenching itself will disrupt the life of the animals around. This disruption can further lead to injury or death in cases where animals fall into the trenches.

- Removal of vegetation

While all means will be applied to minimise disturbance, removal of vegetation cannot be avoided altogether. Vegetation will be removed in areas where trenching will be done. This removal of vegetation will leave the ground bare and prone to erosion.

- Habitat destruction

The grassland with its shrubs, small trees and burrows are habitat to and form part of an ecosystem that supports some of the small animals that inhabit the area. This habitat within the project site will be disturbed and destructed by the movement and operations during the prospecting activities. This could possibly cause the relocation of some of the animals, and result in habitat fragmentation.

- Increased Immigration of job seekers

The proposed project could potentially attract an influx of job seekers who might seek work on sight or with the hopes of capitalising on the potential job opportunities should the project indicate the feasibility of diamond and gold mining and proceedings are made into the mining phase.

- Waste generation

Solid waste such as debris (slimes), waste rock and litter will be generated and deposited in and around the site. This could potentially attract nuisance and affect the natural scenery of the site. The slimes and waste rock will be used to backfill the trenches. This will be undertaken in a concurrent rehabilitation manner.

- Surface and ground water impacts

The generation of waste may lead to surface water contamination.

Hazardous chemical spills may reach groundwater, thereby impacting its quality.

Landscaping will alter the natural drainage patterns of the area.

Quality through the infiltration of contaminated water.

The operational activities may result in impacts on groundwater

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

ACTIVITIES	Associated Impacts	TYPICAL MITIGATION MEASURES
Site establishment: Site Clearing	• Generation of noise.	- Work during the day time only. Sound is louder during the night than during the day. to minimise disruption of animal life and noise in the night - Service equipment, machineries, trucks and other vehicles regularly to minimise noise. - provide ear plugs to the employees and ensure they wear them for the protection of their ears.
	• Generation of dust.	- Suppress dust by spraying water on dust roads and onsite were possible - Regulate speed to be 40 km/h on site to reduce dust emission. - Provide dust mask to employees working on site
	• Removal of vegetation.	- Minimise removal of vegetation- where possible work on barren parts of the site. - Rehabilitate and vegetate denuded areas as soon as possible
	• Habitat disruption and destruction	- Install mobile offices and ablution facilities to minimise ground disturbance

		- The site office and ablution facilities must be in an area with minimal damage or disturbance to the environment. - Establish 'NO-GO' areas for any environmental sensitive or important habitat areas as per the biodiversity assessment- where no construction personnel, equipment/machinery or vehicles are permitted.
	• Soil contamination by oil spills from vehicles	- Construct a concrete slab to avoid soil contamination by hydrocarbon leakage - Provide drip trays for all parked vehicles
	• Temporary in-migration of workers and job seekers	- Ensure that an employment criterion, for the prospecting crew be made public in advance to deter unqualified job seekers from moving into the area. - Employ as far as possible, local labour at each phase of the project, especially during the prospecting phase
	• Personal safety and hazard exposure (actual and perceived)	- Ensure that all activities comply with all the requirements of the Occupational Health and safety Act as stipulated by its health and safety policy and the health and safety plan for the prospecting; and - Communities and other Interested & Affected Parties should be informed (community awareness) of these policies and must be able to report any irregularities to the relevant competent authority.

	• Introduction and establishment of weeds	- Monitor the establishment of any foreign/alien invasive species on site and remove if any -
Excavating pitting) and Drilling	• Generation of dust • Generation of noise • Removal of vegetation • impact on natural drainage	- Suppress dust by spraying water on dust roads and onsite were possible - Provide workers with earplugs - Ensure that all equipment is well maintained - Avoid removal of vegetation as far as practically possible. Vegetation clearing in natural areas should be kept to a minimum and restricted to the proposed mining footprint only - Place infrastructures in places that are already disturbed or degraded to avoid removal of vegetation and increasing the footprint of the activity. - Bring in and use the mobile equipment that will just need the positioning and not the construction. equipment such as the toilet and the guard house. - Where vegetation removal cannot be avoided, rehabilitate as soon as possible by revegetating

		- Work during daytime to minimise the disruption of animal life.
	• Animal Life disruption	- Fence -off the pits to prevent animals from falling into the pits - Do not disturb nests, breeding sites or young ones. Do not attempt to kill or capture snakes unless directly threatening the safety of employees. - Employees and contractors should be made aware of the presence of, and rules regarding, flora and fauna through suitable induction training and on-site signage.
	• Impact on geology	- Limit mining operations to area designated to mining plan within the approved mining rights area of the mine.
	• Safety Hazards to workers and neighbours	- Provide workers with safety clothing - Comply with Health and Safety measures, standards and regulations - Carry out Health and Safety audits frequently to ensure all Health and Safety measures, standards and regulations and complied with - Any hazardous zones on site should be monitored

Top soil stockpiles	• Soil erosion from the storage stockpile • Dust from the storage stockpile • Impact on the topography • Visual impact	- Avoid erosion by stockpiling topsoil properly and keep stockpile damp to reduce erosion and dust emission - Spray stockpile to keep damp and prevent the emission of dust. - Remove topsoil and backfill into pits as soon as operations cease. - Ensure stockpiles are not higher than 1.5m tall.
Waste and storage	• Nuisance and visual pollution	- Littering should be prohibited and all waste generated from the site should be cleared. A 'no waste dumping' sign should also be placed next to the stream to raise caution of littering around it. - Provide rubbish bins and ensure that all waste is properly disposed of in the bins - Empty and dispose of waste weekly at the nearest landfill site
Oil storage	• Soil Contamination	- Place oil dip trays beneath trucks and machinery in use of oil to contain any oil spills

VIII. The Outcome of the site selection matrix. final site layout

The general objectives of the site selection matrix are to ensure that the activity to be undertaken is environmentally and socially acceptable, and thus sustainable. Considerations in this process are the size (land area) and the strategic location of the main activities and associated infrastructures.

The site was selected based on the geographic location of the potentially underling required mineral reserves. The layout of the site was however selected based on considerations made for the surrounding environment where possible, ease of operations and mining activities on site as well as minimal disturbance to the community near the site.

The size/land area for run of activity was selected based on the size (per the geology of the area), and position and of the mineral reserves to be exploited.

IX. Motivation where no alternative sites were considered.

As indicated in section VIII above, no alternatives were considered as the activities depend on the geology and therefore position of the ore body. Thus, no activity alternatives would meet the same purpose for which the mining is required.

X. statement indicating the preferred site

The preferred site is as per the site plan. This plan is very conceptual in nature and will be optimized based on site specific conditions that the layout remains technically and economically feasible.

(i) Plan of study for undertaking the Environmental Impact Assessment process to be undertaken

i. A description of the alternatives to be considered, including the option to of not proceeding with the activity

Preferred Alternative:

Pitting sites

The pit locations were chosen sorely on the position of the underlying ore body. These have been planned in such a way to follow the location and spread of the required mineral. The sites were located a reasonable distance away from any sensitive area to ensure that no damage, diversion or disturbance is inflicted on the sensitive environment, e.g. wetland, river etc.

Office complex

The office complex location was selected considering the location of the pits. The office complex must be located near the pits; however, it must be ensured that the office complex is not placed at an area with potentially a large reserve of mineral.

The use of mobile offices and ablution facilities was chosen to ensure that minimal damage is left on the natural environment.

ii. Description of the aspects to be as assessed as part of EIA process.

The aspects that will be assessed as part of the EIA include:

- The Biodiversity component of the site and immediate surroundings
- The land use of the site as well as that of the surroundings
- The Social structure (Nearby communities)
- Heritage Impact Assessment

iii. Description of aspects to be assessed by specialist

- Biodiversity Impact Assessment

- Social Impact Assessment
- Heritage Impact Assessment

iv. Description of the proposed method of assessing the environmental aspects including the proposed method of assessing alternatives.

The environmental aspects will be assessed through:

- Carrying out a desktop study to obtain existing information (literature review) on the natural environment and socio -economic status of the site and its surroundings;
- Conducting a site assessment to verify information obtained during the desktop study and further assess the above-mentioned aspects.
- Undertaking specialist studies to further assess the aspects in question, in greater detail.

No site/location alternatives will be assessed as the location as well as the layout of the proposed activities (primarily mining activities), are dependent on the underlying geology of the area.

v. Description of the proposed method of assessing duration and significance of impacts.

See section V of Part A this report

vi. Stages at which the competent authority will be consulted

Initial communication with the competent authority has been made through the application for environmental authorisation for this proposed project.

Further consultation will be made when the draft scoping report is finalised to obtain comments. The competent authority will also be consulted upon finalisation of the draft Environmental Impact Report for commenting.

vii. Particulars of the public participation process that will be conducted during the EIA process.

1) Steps to be taken to notify the interested and affected parties

The following steps will be taken to notify the interested and affected parties during the EIA phase: -

- Registered Interested and Affected parties will be notified of the availability of draft EIA reports for commenting.
- Draft reports will be posted to Organs of State
- Emails will be sent to all registered Interested and Affected parties and Organs of State on the progress of the application and Environmental Authorisation.
- Letters (registered/hand delivery) will also be sent to Organs of State on the progress of the application and Environmental Authorisation in cases where emails cannot be utilised to do so.
- All the interested and affected parties will be notified of the record of decision of the environmental authorisation.

2) Details of the engagement process to be followed.

The following will be the engagement process.

- The land owners will be notified and invited to comment on the draft EIA/EMP documents.
- If found necessary, a public meeting will be held to detail the project and receive any further comments from individuals of the surrounding communities
- Upon request, draft reports will be emailed or posted to interested and affected parties.

3) Description of the information to be provided to interested and affected parties.

Interested and Affected Parties will be provided with the following information:

- Details of the proposed project:
  - project description,
  - project location,
  - impacts from project activities,
  - closure objectives
- Contact details at which commentary can be made
- Availability of draft reports and commentary dates and duration
- Accessibility to draft reports for reviewing and commentary
- Record of decision for the application.

viii. A description of the tasks that will be undertaken during the EIA process

The following tasks will be undertaken during EIA process.

- Site assessment

A visit to the proposed site will be undertaken to assess the receiving (physical) environment in detail and further identify impacts that the proposed project may have on the environment.

- Report compilation and submission

Once the site assessment has been carried out, the identified impacts will be assessed (for significance) and rated. The findings will be collated in the Draft Environmental Impact Report.

A Draft Environmental Management Plan will also be compiled, within which a plan for mitigating and managing the identified impacts will be detailed. The plan will also detail the frequency of monitoring the impacts and management measures suggested.

- Public participation

Contact will be made with all Registered Interested and Affected Parties and organs of State, informing them of the availability of the Draft Environmental Impact Report and Environmental Management Plan for commenting.

Upon request, these draft reports will be provided to Registered Interested and Affected Parties through mail.

All Interested and Affected Parties and the general public will be allowed a period of 30days to comment on the draft reports, after which, all commentary raised by Interested and Affected Parties will be incorporated in the Final EIA report (together with all responses to the commentary).

The final Reports will be submitted to the competent authority, in anticipation for a record of decision on the authorisation application. The public will be notified of the record of decision by the competent authority.

ix. **Measures to avoid, reverse, mitigate or manage identified impacts and to determine the extent of the residual risks that need to be managed and monitored**

See the Table below

Table 5: Measures to avoid, reverse, mitigate or manage identified impacts and to determine the extent of the residual risks that need to be managed and monitored

Activity	Sub activity	Potential impact	Mitigation
Site establishment	**Site clearing and fencing**	***Biodiversity***	
		Loss of threatened or protected and critical habitat if present in the area	Vegetation clearing should be limited to construction footprint and the extent of clearing should be demarcated before beginning construction i.e. Establish No-Go areas where no construction personnel, equipment/machinery or vehicles are permitted
		Disturbance to ecosystem function and integrity	Any sensitive or endangered tree species that is cleared should be kept for re-planting after construction
		Habitat loss and fragmentation	Prohibit the collection of plant material for medicinal purposes and fire wood
			Vegetation to be retained should be clearly marked/ demarcated with a danger tape.
			Construction vehicles to should be restricted to travel on the designated roadways to minimize the ecological footprint of the proposed development

			All alien invasive tree species will be removed from the powerline servitude, with follow-up treatment/clearing to ensure clearing is successful
			Office complex and ablution facilities must be in an area with minimal damage or disturbance to the environment
		Soil	
		Soil transfer and sediment loading of surrounding land features, vegetation and water courses and below erosion points	Minimize the extent of cleared vegetation and exposed soil. Where possible, place protective nets over exposed soil.
		Erosion of topsoil and subsoil as the result of exposed surfaces.	Rehabilitation measures should be implemented in areas where the soil surface was disturbed to prevent or control encroachment by pioneer Alien and Invasive Plants which would result in faunal habitat loss
			Retained and replaced where possible as topsoil contains a lot of the nutrients from decomposed organic matter, and is therefore important for ecosystem functioning.
		Air quality	
		Dust generation resulting in increase in airborne particles	Employees working on site
			Areas of active earth works watered as required to reduce dust fallout

			Keep to the speed limit of 40 km/h on all roads running through and accessing the site
			Minimize the extent of cleared vegetation and exposed soil. Where possible, place protective nets over exposed soil.
	Construction of storage units and establishment of office complex	**Noise pollution**	
		Generation of noise	Provide staff with earplugs and ensure that they wear them for protection of their ears
			Plan and develop a construction sequence to alleviate noise generation during the construction phase i.e. work during the day only, sound is louder during the night than during the day
			Use equipment or machinery that complies with the manufactures specifications acceptable noise levels
			Keep to the speed limit of 40 km/h on all roads running through and accessing the site
		Soil contamination	
		Soil contamination by oil spills from vehicles	Construct a concrete slab to avoid soil contamination by hydrocarbon leakage
			Provide drip trays for all parked vehicles
			Vegetation clearance must be done within the demarcated area only

		Socio-economic	
		Job retention, job creation and potential employment opportunities	Implement a transparent process of recruiting construction staff, following pre-established and accepted criteria.
			Advertise employment opportunities adequately, and make employment procedure known to job seekers
		Temporary in-migration of workers and job seekers	Where possible, the contractor must make use of local labour (in support of the local economy) at each phase of the project, especially during the operational phase of mining.
		Compliance with EMP and Occupational health standards	
		Personal safety and exposure (actual perceived)	Ensure that all activities comply with all the requirements of the Occupational Health and Safety Act as stipulated by its health and safety policy and the health and safety plan for mining:
			Communities and other interested and affected parties should be informed (community awareness) of these policies and must be able to report any irregularities to the relevant component authority.
			Conduct an environment awareness training covering environmental incidents and waste management
			Safety straining for employees working in high risk environments

			Ensure that the emergency preparedness procedure is in place with contact details for the Health and Safety officer
Operational phase	**Waste storage**	***Nuisance and pollution***	
		Health impacts	Littering should be prohibited and all waste generated from the site should be cleared. A 'no waste dumping' sign should be placed next to the dam to raise caution of littering around it
		Contamination of surrounding biodiversity from the poor management of waste	Provide rubbish bins on site and ensure that all waste is properly disposed of in the bins
		Water and soil/land pollution	Empty and dispose of waste properly as required at the nearest landfill site
		Soil contamination	Minimize waste generation, e.g. by providing re-usable items and refillable containers (e.g. for drinking water) and adopt a ‘cradle to grave’ responsibility for wastes.
			All waste generated from construction activities throughout all phases (building rubble, solid and liquid waste etc.), should be disposed of as frequently at an appropriately licensed refuse facility.

	Topsoil storage	***Soil erosion, contamination and visual impact***	
		Soil erosion from the storage stockpile	Avoid erosion by stockpiling topsoil properly (on a flat or gentle slope) and keep stockpile damp to reduce erosion and dust emission
		Dust from the storage stockpile	Cover stockpiles with net to avoid erosion by wind or rain
		Impact on Topography	Spray stockpiles with water to keep damp and reduce erosion by wind
		Visual impact	Remove topsoil and backfill into pits as soon as possible
		Introduction and establishment of alien and invasive plants	Ensure that stockpiles are not higher than 1.5m tall
			Monitor the establishment of any foreign/alien invasive species on site and remove if any
	Excavating	***Soil erosion, contamination and noise pollution***	
		Contamination of soil from excavating machinery and leaking fuel.	Inspect equipment daily
		Generation of noise.	Service equipment when required to prevent/ reduce noise generation and oil spillages
		Generation of dust.	Provide staff with earplugs and ensure that they wear them for protection of their ears

		Surface and ground water contamination from drill rig fluids, sump water leakage and from fuel leakage from other project vehicles.	Spray water on site when necessary to suppress dust
		Vegetation Removal	Provide dust masks to people working on site
		Habitat destruction	Vegetation clearing should be limited to construction footprint and the extent of clearing should be demarcated before beginning construction i.e. Establish No-Go areas where no construction personnel, equipment/machinery or vehicles are permitted
		Reduced land capacity	Place infrastructure in places that are already disturbed or degraded to avoid removal of vegetation and increasing the footprint of the activity
			Fertilise and revegetate disturbed areas
			Rehabilitate disturbed areas as far as practically possible
		Destruction of cemeteries	Employ a heritage specialist to conduct a Heritage Impact Assessment and make recommendations on mitigation measures

	Hauling and Transportation of ore	Generation of dust.	Spray access dust roads to suppress dust
		Increased Traffic	Operate trucks (transport) outside of peak traffic hours
	Radiation	Occurrence of high level of radiation	Employ radiation specialist to assess and monitor radiation levels during the operational phase of mining and make recommendations on how to mitigate
Closure and Decommissioning	**Removal of equipment and rehabilitation**	***Soil and Land Capacity***	
		Land capacity loss	Efforts should be made to reclaim all infrastructure materials as soon as they are no longer in use: to prevent accumulated impacts
			Burying of waste should be strictly prohibited, and all waste should be managed in accordance with the relevant legislative requirements
			Electrical power must be safely disconnected immediately once the office complex is no longer in use, prior to decommissioning
			Non-hazardous waste should be collected for recycling
		Biodiversity	
			Recovery of all saleable infrastructure

		Habitat loss due to inappropriate demolition practices, insufficient rehabilitation of disturbed areas	All the discard/waste rock will be returned to the mined area and top soil will be filled back so the area will be used as before and revegetated
			Footprint areas of demolition activities and appropriate mitigation measures to address sinkholes must be kept as small as possible
			Ripping of all compacted areas, which will be followed with amelioration and vegetation
			Rehabilitation of disturbed areas must be implemented and the seeds of species indigenous to the area must be used
			Disturbed areas caused during the demolition activities need to be ripped and rehabilitation and seeded with grass seeds indigenous to the area
			Monitoring and control of Alien Invasive Plants must be done during the decommissioning and closure phase
			Monitoring will be undertaken for a specific period after closure or up until such time that all areas create a sustainable cover and ecosystem.
			Ensure that all remaining dumps, blend in with the surrounding

Other information required by the competent authority

i) Compliance with the provisions of sections 24(4)(a) and (b) read with section 24(3)(a) and (7) of the National Environmental Management Act (Act 107 of 1998). The EIA report must include the: -

1) **Impact on the socio-economic conditions of any directly affected person**.

This aspect will be assessed during EIA.

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

The heritage impacts assessment study will be assessed during EIA phase. The impact on any national estate referred to in section 3(2) of the National Heritage Resources Act will however be investigated during the EIA process.

3) other matters required in terms of section 24(4)(a) and (b) of the Act.

N/A

J) UNDERTAKINGREGARDING CORRECTNESS OF INFORMATION

I LP Mutshathama herewith undertake that:

- The information provided in the foregoing report is according to my knowledge correct, and that the comments and inputs from stakeholders and interested and affected parties has been correctly recorded in the report.

EAPSignature.....

Date: .....24/10/2017.....

K) **UNDERTAKING REGARDING LEVEL OF AGREEMENT**

I LP Mutshathama herewith undertake that the information provided in the foregoing report is correct, and that the level of agreement with interested and affected parties and stakeholders has been correctly recorded and reported herein.

Signature:

Date :24/10/2017

APPENDIX 1: EAP DEGREE CERTIFICATE

University of Venda

This is to Certify that the Degree of

Bachelor of Environmental Sciences

was Awarded to

MUGOVHANI LUYUNO PRISCILLA

at a Ceremony held on the

08-MAY-2008

in Accordance with the Provisions of the Act and Statute

Vice Chancellor

University Registrar

Executive Dean

APPENDIX 2: EXPERIENCE AND PAST PROJECTS UNDERTAKEN

CURRICULUM VITAE of LUFUNO PRECILLA MUTSHATHAMA

Surname : Mutshathama

First Name : Lufuno Precilla

Identity Numbers : 8510020398080

Date of Birth : 1985 October 02

Gender : Female

Marital Status : Married

Home Language : Tshivenda

Nationality : South African

Professional registration : SACNASP

Postal Address : P O Box 4147; Honeydew 2040

Contact numbers : 073 912 0800 / 011 074 6866

Fax No : 086 2355 142

Email address : Joanprojects@gmail.com

TERTIARY COMPETENCES

1. Name of Institution : University of Venda
Qualification : BEnvSc (Bachelor of Environmental Sciences)

Duration of study : 2005 - 2007

Major courses :

Ecology and Resources Management

- Environmental Impact Assessment &
- Modelling
- Hydrology & water resources
- Conservation biology
- Environmental Pollution and management
- Resources Evaluation and Information Systems

Geography

- Geographic Information System (GIS)
- Remote sensing
- Population and demography
- Climatology
- Biogeography
- Tourism geography

CURRENT OCCUPATION

June 2013 to date : Director: Mineral licensing and Environmental Consultant

Company : Joan Construction and Projects (Pty) Ltd

PROJECTS UNDERTAKEN

- Various environmental Authorisation application
- EIA &Environmental Management Plans (EMPs)
- Amendment of Environmental Management Programmes
- Closure plan

PREVIOUS WORK EXPERIENCE

1. Name of Employer : Village Main Reef Limited
   Job Title : Group Environmental Officer

   Duration : January 2012 to date

   Duties :

   Environmental Management:

   - Enforce Compliance of MPRDA 2002(Act no 28 of 2002), NWA1998 (Act no 36 of 1998) and NEMA 1998 (Act no 107 of 1998) through conducting environmental monitoring & auditing in four (4) mines and one exploration site.
   - Compilation of EMPs
   - Assessment of EM Programmes before they are submitted to the DMR
   - Compilation of rehabilitation plans
   - Liaison with the regulators (DMR, DWA, DEA)
   - Compilation of performance assessments for all operations
   - Calculation and updating rehabilitation financial liability
   - Compilation of closure applications for Prospecting Rights
   - Conduct public participation

   Mineral and Prospecting Right Legal Tenure

   - Apply and follow up on section 11s (cessions)
   - Apply and follow up on section 102s(amendments/variations)
   - Follow ups on conversion applications
   - Apply and follow up on Mining Permits

2. Name of the employer : Department of Minerals Resources
   Directorate : Mineral Regulation

   Job title : Environmental Officer

   Duration : September 2008 to December 2011

   Duties :

Environmental Management:

- Evaluation & assessment of EMPs, EIAs Scoping Reports, Performance Assessment Report, Closure Plans, rehabilitation plans Environmental Liability and other Environmental Technical Reports.
- Management of mining related impacts on the components of the natural environment.
- Compliance and enforcement of MPRDA 2002(Act no 28 of 2002), NWA1998 (Act no 36 of 1998) and NEMA 1998 (Act no 107 of 1998) through conducting Inspections, environmental monitoring & auditing
- Consult with relevant state departments that administer matters relating to the environment.
- Identifying area that are sensitive and protected before mining can resume.

Mineral and Prospecting Right Legal Tenure

- Assist clients with lodging applications on SAMRAD system.
- Capture mining spatial areas (polygons/ farms) applied for on the work -based GIS(ArcIMS) software for mining right, prospecting right and mining permit
- Digitising/geo-coding mining polygons
- Advice the regional manager on settlement and environmentally sensitive areas under the mining Application
- Give monthly statistic of all mining application in Limpopo

3. Name of the employer : Department of Minerals Resources
Directorate : Mineral Regulation

Job title : Intern (Environmental & GIS officer)

Duration : April 2008 to September 2008

Duties

- Capture mining spatial areas (polygons/ farms) applied for on the work -based GIS(ArcIMS) software for mining right, prospecting right and mining permit
- Digitising/geo-coding mining polygons
- Advice the regional manager on settlement and environmentally sensitive areas under the mining Application
- Give monthly statistic of all mining application in Limpopo

REFERENCES

1. Name and Surname : Mr. Dalubuhle Ncube
Company name : Village Main Reef limited

Title : Managing Director

Contact details :072 3341965|011 2744600|
DNcube@villagemainreef.co.za

2. Name and Surname : Mr. Aaron Kharivhe
Name of institution : Department of Mineral Resources

Position : Regional Manager: Limpopo Region

Contact details :0152874700/082 467 0912 Aaron.Kharivhe@dmr.gov.za

APPENDIX 3: LOCALITY MAP

APPENDIX 4: SITE PLAN

APPENDIX 5: Public Consultation

5.1) Proof of Delivery of Draft Scoping Report to State Departments

5.2) Proof consultation with Local Municipality

5.3) Proof consultation with the community

5.4) Proof consultation with landowners

5.5) Site Notices

5.6) Advert

5.1) Proof of Delivery of Draft Scoping Report to State Departments


REGISTERED LETTER
GEREGISTREERDE BRIEF
Post Office
(with an insurance option/met 'n versekeringsopsie)
Full tracking and tracing/Volledige volg en spoor
Addressed to/Geadresseer aan
DWA
P O Box 528
Bloemfontein
9300
Postcode
Postkode
Postage paid R
Service fee/Diensgeld R
Insurance/Versekering R
Total/Totaal R
Insured value of contents
Versekerde waarde van inhoud R
Enquiries/Navrae
Toll-free number
Tolvry nommer
0800 111 502
Affix Track and Trace
REGISTERED LETTER
RC 137 433 152 ZA
CUSTOMER COPY
klantafskrif
Initial of accepting officer
Paraaf van aanneem-beampte
Date stamp
Datumstempel
BRYANSTON WEST
07 NOV 2017
1
2060


REGISTERED LETTER
GEREGISTREERDE BRIEF
Post Office
(with an insurance option/met 'n versekeringsopsie)
Full tracking and tracing/Volledige volg en spoor
Addressed to/Geadresseer aan
READ
Private Bag X 823298
Rustenburg
0300
Postcode
Postkode
Postage paid R
Service fee/Diensgeld R
Insurance/Versekering R
Total/Totaal R
Insured value of contents
Versekerde waarde van inhoud R
Enquiries/Navrae
Toll-free number
Tolvry nommer
0800 111 502
Affix Track and Trace
REGISTERED LETTER
RC 137 433 135 ZA
CUSTOMER COPY
Initial of accepting officer
Paraaf van aanneem-beampte
Date stamp
Datumstempel
BRYANSTON WEST
07 NOV 2017
1
2060


REGISTERED LETTER
GEREGISTREERDE BRIEF
Post Office
(with an insurance option/met 'n versekeringsopsie)
Full tracking and tracing/Volledige volg en spoor
Addressed to/Geadresseer aan
Department of Rural Development &
Land Reform
Pretoria
0001
Postcode
Postkode
Postage paid R
Service fee/Diensgeld R
Insurance/Versekering R
Total/Totaal R
Insured value of contents
Versekerde waarde van inhoud R
Enquiries/Navrae
Toll-free number
Tolvry nommer
0800 111 502
Affix Track and Trace
customer copy
REGISTERED LETTER
RC 137 433 033 ZA
CUSTOMER COPY
Paraaf van aanneem-beampte
BRYANSTON WEST
07 NOV 2017
1
2060

5.2) Proof consultation with Local Municipality

5.3) Proof consultation with the community

5.4) Proof consultation with landowners

5.5) Site Notices


NOTICE:
CONSULTATION NOTICE FOR THE MINING RIGHT APPLICATION BY ZELPY GOLD MINE (PTY) LTD (REF: NW6835/1/1/1/30127MR)


NOTICE:
CONSULTATION NOTICE FOR THE MINING RIGHT APPLICATION BY ZELPY GOLD MINE (PTY) LTD (REF: NW30/5/1/1/2/10127MR)
Notice is given in terms of Section 22(4)(b) of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) as amended and Section 24J of the National Environmental Management Act, 1998, (Act No 107 of 1998 read with Environmental Impact Assessment Regulations Listing Notice 2 of 2014 as amended.
Zelpy Gold Mine (Pty) Ltd has applied for the Mining Right for Gold the farm Kafferskraal 400 IP (excluding portion 81 situated in the magisterial district of Klerksdorp. The DMR reference number is NW 30/5/1//2/10127 MR.
The application is subject to a Scoping and EIA process from which reports will be drafted and made available for public review. All interested and affected parties are hereby invited to register as such, in order to request draft reports for review and commenting. To register or request more information please contact Lufuno Mutshathama on 0739120800/ email: joanprojects@gmail.com / post to PO Box 4147, Honeydew, 2040. Comments must reach the applicant within 30 days of this notification (23 November 2017).
The public meeting details will be communicated.
Project Location:
N
Legend


THARI COMMUNITY HALL

5.6) Advertisement

11010

Legal Notices

NOTICE:
CONSULTATION NOTICE FOR MINING RIGHTS APPLICATION BY ZELPY 1363 (PTY) LTD

Notice is given in terms of Section 16(4) (b) of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) as amended and Section 24J of the National Environmental Management Act, 1998, (Act No 107 of 1998 read with Regulation 40 to 44 of the Environmental Impact Assessment Regulations Listing Notice 1 of 2014 ("NEMA").
Zelpy 1363 (Pty) Ltd) has applied for a Mining Right for Gold on the farms Kafferskraal situated in the magisterial district of Klerksdorp. The DMR reference number is NW 30/5/1/1/2/10127MR.
The application will be subjected to a Scoping and EIA process from which reports will be drafted and made available for public review. All interested and affected parties are hereby invited to register as such, in order to request draft Scoping and EI reports for review and commenting. To register or request more information please contact Lufuno Mutshathama on 011 074 6866 /fax to 0862355142/ email to jpanprojects@gmail.com / post to PO Box 4147, Honeydew, 2040. Comments must reach the applicant within 30 days of this notification (23 November 2017).