DRAFT BASIC ASSESSMENT REPORT AND ENVIRONMENTAL MANAGEMENT PROGRAMME IN THE APPLICATION FOR A PROSPECTING

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Matolo Trading (Pty) Ltd

PROSPECTING RIGHT APPLICATION

Basic Assessment Report & Environmental Management Plan

Report Purpose

BASIC ASSESSMENT REPORT AND ENVIRONMENTAL MANAGEMENT PLAN IN TERMS OF GNR 983 OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT (ACT NO 107 OF 1998) AND SECTION 27 OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2002 (ACT 28 OF 2002) (MPRDA): FOR STAKEHOLDER COMMENT

Report Reference: **NW11986PR**

Report Author

Ndivhudzannyi Mofokeng

BSc (Hons) Earth Sciences in Mining and Environmental Geology

Mineral Resources
Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

Draft

BASIC ASSESSMENT REPORT
And
ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

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

NAME OF APPLICANT: Matolo Trade and Investment Pty (LTD)

TEL NO:

PHYSICAL ADDRESS:
Matolo Trade and Investment Pty (LTD)
10 Cecil SussmanRoad,
Kimberley,
South Africa,
8301

FILE REFERENCE NUMBER SAMRAD: NW11986PR

1. 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 Permit if among others the Prospecting “will not result in unacceptable pollution, ecological degradation or damage to the environment”.

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

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

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

It is furthermore an instruction that the Environmental Assessment Practitioner must process and interpret his/her research and analysis and use the findings thereof to compile the information required herein. (Unprocessed supporting information may be

attached as appendices). The EAP must ensure that the information required is placed correctly in the relevant sections of the Report, in the order, and under the provided headings as set out below, and ensure that the report is not cluttered with un-interpreted information and that it unambiguously represents the interpretation of the applicant.

2. Objective of the basic assessment process

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

(a) determine the policy and legislative context within which the proposed activity is located and how the activity complies with and responds to the policy and legislative context;

(b) identify the alternatives considered, including the activity, location, and technology alternatives;

(c) describe the need and desirability of the proposed alternatives,

(d) through the undertaking of an impact and risk assessment process inclusive of cumulative impacts which focused on deter Prospecting the geographical, physical, biological, social, economic, heritage, and cultural sensitivity of the sites and locations within sites and the risk of impact of the proposed activity and technology alternatives on these aspects to determine:

(i) the nature, significance, consequence, extent, duration, and probability of the impacts occurring to; and

(ii) the degree to which these impacts—

(a) Can be reversed;
(b) May cause irreplaceable loss of resources; and
(c) Can be managed, avoided or mitigated;

(e) through a ranking of the site sensitivities and possible impacts the activity and technology alternatives will impose on the sites and location identified through the life of the activity to—

(i) identify and motivate a preferred site, activity and technology alternative;

(ii) identify suitable measures to manage, avoid or mitigate identified impacts; and

(iii) Identify residual risks that need to be managed and monitored.

3. ABBREVIATIONS

BAR: Basic Assessment Report

BID: Background Information Document

DENC: Department of Environment and Nature Conservation

DMR: Department of Mineral Resources

DWS: Department of Water and Sanitation

EA: Environmental Authorisation

EAP: Environmental Assessment Practitioner

EIA: Environmental Impact Assessment

EMPR: Environmental Management Programme

EO: Environmental officer

I&APs: Interest and Affected Party(s)

MPRDA: Mineral and Petroleum Resources Development Act

NEMA: National Environmental Management Act

NEMWA: National Environmental Management Waste Act

NWA: National Water Act

PPP: Public Participation Process

PART A

SCOPE OF ASSSSMENT AND BASIC ASSESSMENT REPORT

4. Contact Person and correspondence address

a) Details of

i) Details of the EAP

Name of the Practitioner: N Mofokeng
Tel No.: 0538420687
Fax No. : 086 538 1069
E-mail address: atshidzaho@gmail.com

ii) Expertise of the EAP.

(1) **The qualifications of the EAP**

(with evidence).

University of Venda

BSc (Hons) Earth Sciences in Mining and Environmental Geology

(2) **Summary of the EAP's past experience**.

(In carrying out the Environmental Impact Assessment Procedure)

Provide geological information for mining • Site visit for inspection in the mine • Mining Work Programme • Financial and technical ability • Environmental management Plan/Programme • Scoping Report • Social and Labour Plan • Prospecting work programme • Report on Results of Consultation • Section 11 and 102 Application • Closure application • Annual Reporting-Performance Assessment Report • Environmental Impact Assessment Regulation• Basic Assessment Report • Public Participation Process (consultation) • Environmental Authorisation

b) Location of the overall Activity.

Farm Name:	Kaukwe 900HN
Application area (Ha)	947.7 hectares
Magisterial district:	Vryburg
Distance and direction from nearest town	Farm Klipnes 901HN is situated in the Taung District, approximately 17km South West of Taung and +- 44 Km North West of Taung, North West
21 digit Surveyor General Code for each farm portion	TOHN00000000090100000

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

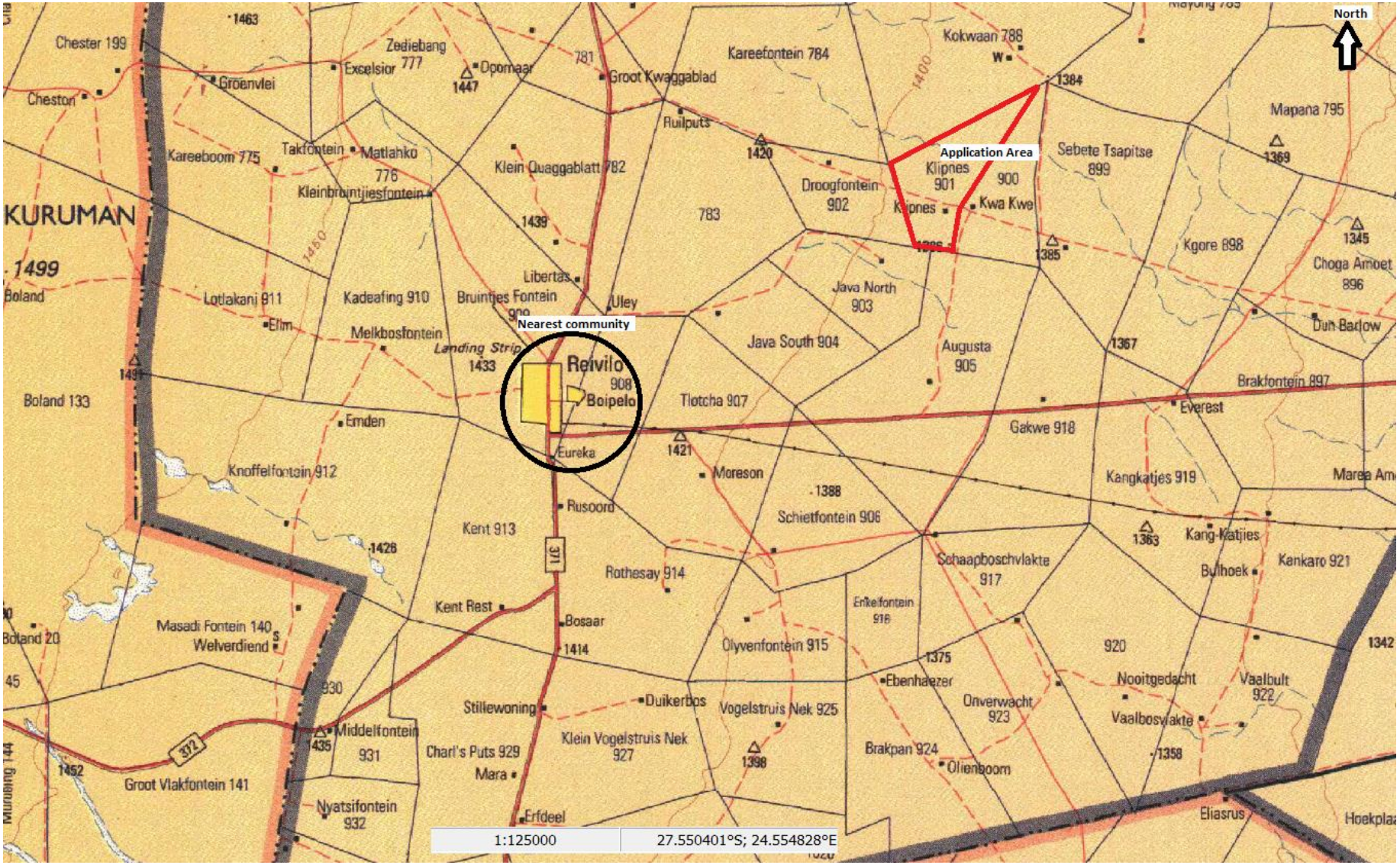


Figure 1: Location map of the proposed prospecting area

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

Provide a plan drawn to a scale acceptable to the competent authority but not less than 1: 10 000 that shows the location, and area (hectares) of all the aforesaid main and listed activities, and infrastructure to be placed on site.

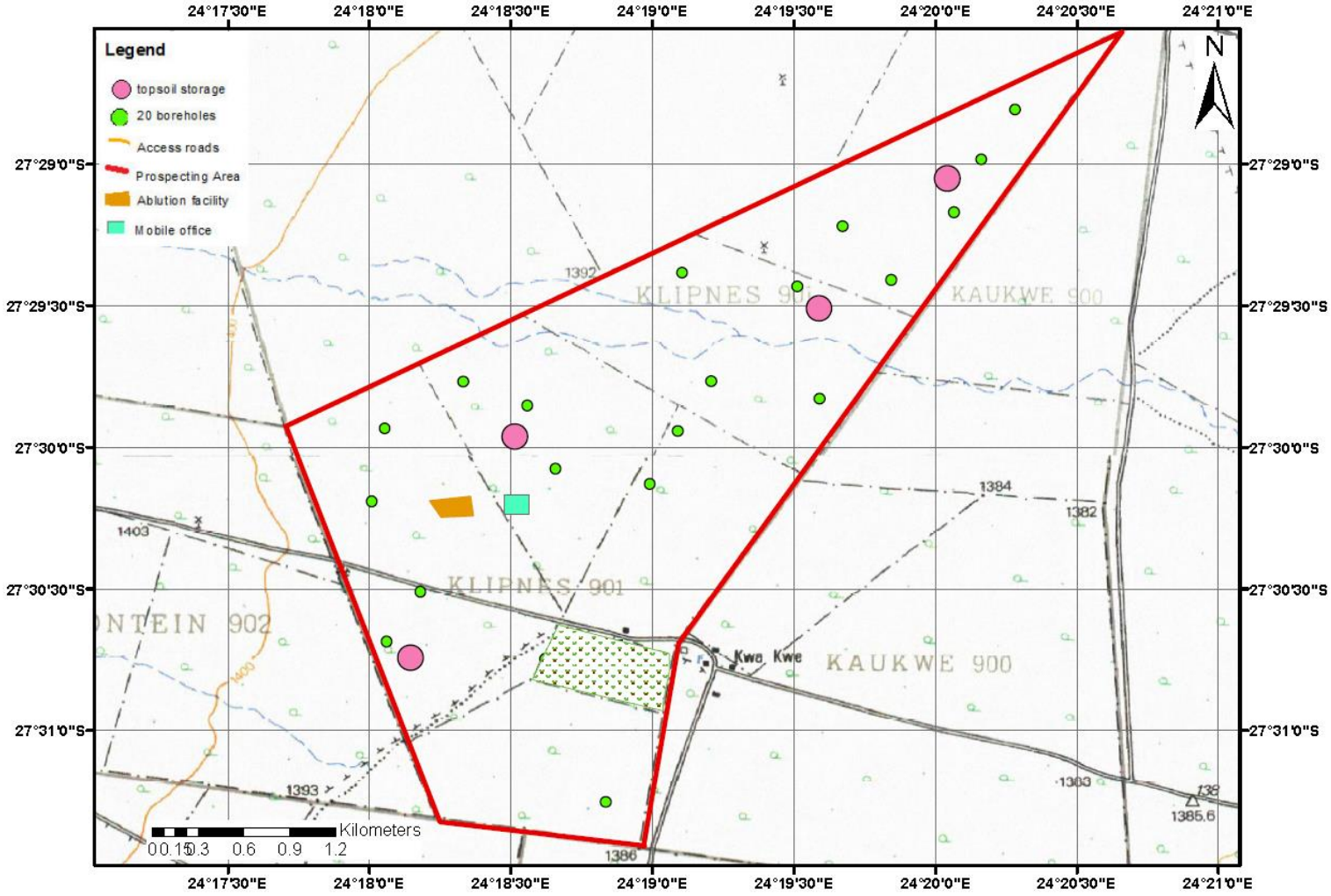


Figure 2: Layout plan

(i) Listed and specified activities

NAME OF ACTIVITY **(E.g. For prospecting -** drill site, site camp, ablution facilit accommodation, equipment storage, sample storage, site offic access route **etc…etc…etc** **E.g. for Prospecting**,- excavations, blasting, stockpiles, disca dumps or dams, Loading, hauling and transport, Water supply dam and boreholes, accommodation, offices, ablution, stores, workshop processing plant, storm water control, berms, roads, pipelines, pow lines, conveyors, 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 983 GNR 984 or GNR 895)***
Prospecting and associated activities	947.7Ha	x	GNR 983-Listing Notice 1 Activity No.20
20 boreholes (Drilling)	0.20ha	x	GNR 983-Listing Notice 1 Activity No.20
Temporal dump site	0.01ha	x	GNR 983-Listing Notice 1 Activity No.20
Temporal topsoil storage	0.0025ha	x	GNR 983-Listing Notice 1 Activity No.20
Construction of a temporal concrete slab with a bund wall for the temporal storage of hydrocarbon	0.0025	x	GNR 983-Listing Notice 1 Activity No.20
Fence	250 m	x	GNR 983-Listing Notice 1 Activity No.20
Mobile office	0.0025ha	x	GNR 983-Listing Notice 1 Activity No.20
Ablution facility	0.0012ha	x	GNR 983-Listing Notice 1 Activity No.20
Construction of temporal access roads	500m^2	x	GNR 983-Listing Notice 1 Activity No.20

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

The entire prospecting on the Farm Klipnes 901HN in terms of Dolomite, Calcite and Limestone will be conducted in an environmentally friendly manner. The entire proposed prospecting project on the Farm Klipnes 901HN will be conducted in four (4) phases as described below over a period of 36 months. This prospecting will consist of non-invasive and invasive (drilling) activities. The review of available information that exists over the area of interest will be undertaken by means of conducting a literature review from satellite images and other available information.

(i) DESCRIPTION OF PLANNED NON-INVASIVE ACTIVITIES:

(These activities do not disturb the land where prospecting will take place e.g. aerial photography, desktop studies, aeromagnetic surveys, etc)

Phase 1 - (17-18 months):

Non-Invasive Activities:

A. Literature Review (4 Months):

The non-invasive prospecting work will take approximately eighteen months (18) and will be comprised of the relevant data and observations from the recent and historical work done on the neighbouring farms. The deliverables will be a detailed report and maps highlighting areas with the best potential to contain Dolomite, Calcite and Limestone.

Once this information has been assessed in detail, it will be used to further develop and refine the ongoing prospecting activities. Aerial photographs and a high resolution satellite image will be acquired for the prospecting right application so that a target identification process using both desktop study and geological mapping. Both desktop study and geological mapping interpretations will be used to focus future prospecting activities.

After the Desktop Study, a site geological mapping will be undertaken. The aim is to visit all the targets with Dolomite, Calcite and Limestone intersection identified in the Desktop Study to make sure that they are not cultural features. Planning for the drilling survey will occur at the same time.

B. Geological Mapping /Surface Mapping (5 to 10 Months):

Detailed field mapping of the surface geology with the use of GPS will need to be done to verify and correlate the geology; generating targets from satellite images or aerial photo mapping that identify any possible outcrops of Dolomite, Calcite and Limestone in the rest of the proposed application area. The mapping will be focused on outlining features such as linear structures and vegetation anomalies which could indicate the ore bodies.

C. Geophysical Survey (11 to 14 Months):

The Gravity/Magnetic survey method will be elected based on the information gathered from literature review, including the data gathered from geological mapping. All the information collected will be used to make the selection for the pre-defined survey points to demarcate the sub-outcrop/s of Dolomite, Calcite and Limestone resources. The results from the 1st phase will determine the drilling on phase 2.

D. Surveying and pegging of the anticipated deposit (15 to 16 Months):

The areas with prospective ground recognized during the surface mapping, geophysical and aerial photo mapping will be identified and will be marked on the map, after which those locations will be marked in the field by the surveyor with labelled pegs.
The routes to access the drill points will be located, and these access routes would be utilised wherever possible.

E. Progress report (17 to 18 month):

When the literature review, geological mapping and gravity/magnetic survey are complete, comprehensive report will be drafted as part of the annual report for the Department of Mineral Resource and the stakeholders or shareholders.

Phase 2 - (12 Months):
Non-Invasive Activities:
A. Sample Analysis (19 to 28 Months):

The drilled samples will be sampled at 1m intervals down the hole. Suppose the targeted minerals are encountered, the samples with targeted mineral traces element will be sent to

the laboratory for further analysis. Laboratory test will provide the quality or grades of ore if is economically viable.

B. Progress report (29 to 30 Months):

The progress report will be drafted and submitted to the management, including investors/shareholders and to the Department of Mineral Resources. Final decision whether to continue will be done by all the stakeholders.

Phase 3 - (2 Months):
Non-Invasive Activities:
A. Geological modelling (31 to 32 Months)

A 3-D geological model will be created in order to determine the ore body/s, using all the geophysics results and drilled data captured information, to illustrate the geometry of the Dolomite, Calcite and Limestone layers and the surface for later planning of prospecting activities.
Apart from ore resources calculations the drilling information will be used to construct ore thickness, overburden thickness and basement elevation contour plans.

(ii) DESCRIPTION OF PLANNED INVASIVE ACTIVITIES:

(These activities result in land disturbances e.g. sampling, drilling)
Phase 2 - (10 Months):
A. RC Drilling (month 10)

The prospecting drilling campaign will be aimed at defining the extent of mineralisation and will demonstrate geological continuity of the mineralized zone across the entire area under investigation (application area). This phase of drilling will spend ten months and will consist of reverse circulation and core drilling and only 20 boreholes will be drilled. Drilling program will be put into practice where the grid spacing will be set to 400 M x 400 M with an average depth of 50 m, followed by a second round of infill drilling as to whether to continue with the prospecting programme or not. The collar position of all boreholes will be surveyed. Results from this phase will be used to inform the plan and schedule of the subsequent drilling campaign.

The exact location of the boreholes that are to be drilled is unknown since this stage is controlled by information from phase 1.

Core drilling will be carried out on selected Dolomite, Calcite and Limestone occurrences that showed that economic quantities of Dolomite, Calcite and Limestone could be present. This drilling will be designed to examine the Dolomite, Calcite and Limestone in depth, to establish the structures of the different types of Dolomite, Calcite and Limestone and to furnish samples for grade analyses. 10 boreholes will be drilled using this method.

Each drilled borehole and sample sites will be rehabilitated as prospecting proceeds.

(iii) DESCRIPTION OF PRE-/FEASIBILITY STUDIES

(Activities in this section includes but are not limited to: initial, geological modelling, resource determination, possible future funding models, etc)

Phase 4- (4 Months):

A. Feasibility study including decision Making (months 4)

The project geologist monitors the programme, consolidates and processes the data and amends the programme depending on the results. This is a continuous process throughout the programme and continues even when no prospecting is done on the ground. Each physical phase of prospecting is followed by desktop studies involving interpretation and modelling of all data gathered. These studies will determine the manner in which the work programme is to proceed in terms of activity, quantity, resources, expenditure and duration.
A GIS based database will be constructed capturing all exploration data.

Mine design features include:

- Topsoil storage
- Access Roads
- Boreholes
- Temporary mobile office
- Mobile ablution

The main prospecting activities will be conducted according to following procedures:

Site Establishment

Prospecting area will be demarcated by means of pegs or fence. The site will be demarcated for the following activities:

Fencing

A fence of approximately 250m will be erected around the drilling site. Only prospecting site will be fenced and when the prospecting site is completely mined out the fence will be relocated and utilised to the next prospecting area.

Topsoil removal and storage

The process of prospecting of Dolomite, Calcite and Limestone will consist of the drilling of boreholes. Stripped topsoil will be used for rehabilitation process of the disturbed area.

Access Roads

Existing access roads will be utilised as far as practicable in order to access the prospecting area. Small tracks measuring approximately 500m^2 may be constructed as an alternative if there is no other access track to the prospecting points. Constructed tracks will be ripped to the depth of 300mm after use as part of rehabilitation process in order to allow smooth vegetation restoration. Farm owners will be first consulted if there is a need to construct the above mentioned access roads.

Temporary mobile office

Mobile containers measuring 0.0025 ha will be used for site offices. No concrete or cement structures will be erected as a form of office or ablution blocks.

Ablution Facilities

There will be two mobile chemical toilet measuring 2mx2m to the height of 3m provided on sites. The toilets will be serviced and emptied by qualified personnel on regular basis. They will also be monitored at all times for hygiene purposes.

Accommodation

No accommodation would be necessary for employees on site. Permanent and temporary employees will have to seek their own accommodation on nearby towns or at the adjacent areas.

Hydrocarbons Storage Site

All hazardous goods such as Diesel, grease, engine oil will be delivered and stored on site. Concrete slab with bund walls measuring 0.0025 ha will be constructed for the storage of dangerous goods. Oil spill kits such as petrozorb with oil eating microbes will always be available on site to respond to accidental hydrocarbon spillages.

Temporal dump site

An area of 0.001ha will be used to store dumps which will be later used for rehabilitation.

Water

No water will be required for prospecting purposes. Water for human consumption and other related issues will be delivered to site. Surface water will be protected by adhering to the National water act no 36 of 1998 section 19 (1) (a) (b).

Equipment to be used:

The equipment to be used will involve the following:

- 4 x 4 vehicle
- Drill rigs
- Truck

Please note that it is anticipated that the Grader might be used for grading and maintenance of road.

Rehabilitation of the mined out areas

Rehabilitation will be done concurrently and this will involve the following:

- Drilled boreholes will be capped
- Sample points will be backfilled with topsoil
- Compacted area will be ripped to a depth of 300mm
- Ripping of the compacted area

e) Policy and Legislative Context

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT (a description of the policy and legislative context within which the development is proposed including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process)	**REFERENCE WHERE APPLIED**	**HOW DOES THIS DEVELOPMENT COMPLIY WITH AND RESPOND TO THE LEGISLATION AND POLICY CONTEXT.** (E.g. In terms of the National Water Act a Water Use License has/ has not been applied for)
National Environmental Management Act 107 of 1998	Basic Assessment Report and EMPr	An environmental authorisation has been lodged with DMR and the application has been accepted.
Mineral and Petroleum Resource Development Act 28 of 2002	Application for prospecting Right in terms of section 27 of the MPRDA 28 of 2002	A prospecting application has been lodged with DMR and the application has been accepted.
National Heritage Resource Act 25 of 1999	The Prospecting activity might trigger the requirements under section 38 of the NHRA, however the activities are not yet known.	An independent Archaeologist will be hired to conduct and prepare an archaeological report before commencement of the prospecting activities.

f) Need and desirability of the proposed activities.

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

Prospecting right in respect of Dolomite, Calcite and Limestone will provide approximately **7 jobs** opportunities for the local community. Exact number of employees could only be determined when the prospecting activities are fully operational. This application for the prospecting right is significant specifically for the surrounding

communities suffering from high youth unemployment. Youth unemployment according to SA Statistics is close to 61.7%. Mine will hire employees on the following field operators/drivers, cleaners, security guard and administration officer. Hired employees will originate from the local community. Prospecting activities will bring revenue into the surrounding businesses and the community itself.

It is important to do prospecting activities in respect of the Dolomite, Calcite and Limestone. Dolomite, Calcite and Limestone is the most common resource that is found in the surrounding area and farms. Expansion of the prospecting area will highly be dependent on the results obtained from the prospected samples.

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

Prospecting in respect of Dolomite, Calcite and Limestone will provide approximately **7 job** opportunities for the local community. Exact number of employees could only be determined when the prospecting is fully operational. This application for the prospecting right is significant specifically for the surrounding communities suffering from unemployment. Employees will be hired on the following field: operators/drivers, cleaners, security guard and administration officer. Hired employees will originate from the local community. Prospecting activities will bring revenue into the surrounding businesses and the community itself.

It is important to do prospecting activities in respect of the Dolomite, Calcite and Limestone since prospecting activities will be able to provide employment to some of the surrounding people or communities. Dolomite, Calcite and Limestone is the most common resource that is found in the surrounding area and farms. Expansion of the prospecting area will highly be dependent on the results obtained from the prospected samples.

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

i) Details of the development footprint alternatives considered.

With reference to the site plan provided as Appendix 4 and the location of the individual activities on site, provide details of the alternatives considered with respect to:

(a) the property on which or location where it is proposed to undertake the activity;

(b) the type of activity to be undertaken;

(c) the design or layout of the activity;

(d) the technology to be used in the activity;

(e) the operational aspects of the activity; and

(f) the option of not implementing the activity.

a) The property on which or location where it is proposed to undertake the activity;

The applicant has applied in terms of MPRDA for a prospecting right in order to do prospecting activities for the Dolomite, Calcite and Limestone on the Farm Klipnes 901HN.

The proposed prospecting area is approximately 947.7ha in extent. The planned prospecting activities will take place within 947.7ha by means of drilling of boreholes and taking samples from sampling pits. The proposed prospecting activities will only be conducted within the applied prospecting area. The primary objective of the prospecting activities is to access the economic potential of the Farm Klipnes 901HN.

Prospecting work programme must be regarded as dynamic and results driven. The outcome of the prospecting cannot be predicted or predetermined.

b) The type of activity to be undertaken;

Prospecting activities of Dolomite, Calcite and Limestone will only take place within the demarcated area and no alternatives site is considered with regard to the type of activity that is to be undertaken.

c) The design or layout of the activity;

Most of the infrastructures that are to be used during prospecting period would be mobile, which means the designed layout plan may change from time to time since the

infrastructures are mobile. However, this will only affect areas where the prospecting activities will be conducted. No permanent structures or buildings will be erected within the prospecting area.

Small tracks may be erected within the proposed prospecting area in order to access the footprint of the prospecting area however exact extent or footprint of the small tracks is unknown since existing access roads will be utilised.

d) The technology to be used in the activity;

Earth moving vehicles such as drill rigs, Truck, 4 x 4 vehicles and other related technology and would be utilised during prospecting period. Possible existing roads and tracks will be used to access the prospecting area. Prospecting area will be regularly cleaned by removing all accidental hydrocarbon spillage. Lubricating fluids and fuel deriving from the prospecting equipment will be scooped, bagged and disposed of at an approved site. Drilled areas will be properly capped and backfilled. The technology that is to be used cannot be replaced by any other methods since this is the only way to conduct these prospecting activities.

e) The operational aspects of the activity;

The applicant will ensure that before any prospecting activities could commence, the employees will be trained and or work shopped with regards to the prospecting activities including their phases. After the workshop of the employees, the employees will be able to identify, avoid, manage and minimise environmental impacts. The Basic Assessment Report and Environmental Management Plan will be provided to the contractors or site manager and will always be available on site. The site manager will make ensure that concurrent rehabilitation is taking place in order to comply with the contents and conditions of the environmental authorisation and the environmental management plan. There are no alternatives on the operation aspects of the activities since only the planned activities will be undertaken.

f) The option of not implementing the activity.

The option of not implementing the prospecting activities is not considered as there are no other alternatives that were identified to conduct the proposed prospecting activities. All the activities will be implemented to the proposed area according to the environmental authorisation, Basic assessment Report and the environmental management plan. Proposed prospecting activities will have low significant impacts only the impacts are well managed and or mitigated.

ii) Details of the Public Participation Process Followed

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

Definition of Public participation: *Public participation is defined as a process that leads to a joint effort by stakeholders, technical specialists, the authorities and the proponent to work together to produce better decisions than if they had acted independently. This is a two-way communication and collaborative problem solving with the goal of achieving better and more acceptable decisions.*

Interested and affected parties will be notified using any relevant guidelines applicable to public participation process as contemplated in section 24J of the Act. Notification with relate to this prospecting right application was done after the acceptance of the prospecting right and environmental authorisation application. All interested and affected parties were consulted in a form of the following:

a) Placing an advertisement in one local newspaper

Publication name	STELLALANDER
Date published	17 February 2017
Language	English

b) Fixing a notice board at a place conspicuous to and accessible by the public at the boundary or on the fence of the site where the activity to which the application or proposed application relates to

c) Site notices

d) Undertaken and any alternative site,

e) Written notice was issued to the surrounding farm owners together with legal occupiers of the site, the land owners and the municipality which has jurisdiction over the area. Notices will also be issued to any organs of state having jurisdiction in respect of any aspect of the activity; and any other party as required by the competent authority.

Venue **:** The public meeting area will be across the green road sign indicating Lykso to the right and Reivilo to the left.

Date of the meeting: 17 February 2017

Time **:** at 09:00am–10:00am

Closing time **:** Stakeholders have until 6 March 2017 to provide us with written comments on the report

iii) Summary of issues raised by I & Ap's

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

-consultation on process

Interested and affected parties. List the names of person consulted in this column, and mark with an X where those who must be consulted were in fact consulted		Date comments received	Issues raised	EAPs response to issues as mandated by the applicant.	Section and paragraphs reference in this report where the issues and or response were incorporated
Interested parties					
Municipality					
Organs of state					
Department of land affairs					
Department of Environmental affairs					

Organization	Contact person	Postal address	E-mail address	Contact details
Land Owner				
Klipnes 901	Sebuemang Khaukhwe Communal Property Association			
Kauwe 900	Sebuemang Khaukhwe Communal Property Association			
The Municipality in which jurisdiction the development is located				
Greater Taung Local Municipality	Municipal Manager: Katlego Gabanakgosi	Private Bag X 1048 Taung Station 8580	info@taunglm.co.za	053 441 2206 (t) 053 441 3735 (f)
Municipal councilor of the ward in which the site is located				
Greater Taung Local Municipality	Ward 1 Councilor	Private Bag X 1048 Taung Station 8580	info@taunglm.co.za	053 441 2206 (t) 053 441 3735 (f)
Organs of state having jurisdiction				
Department of Rural, Environmental and Agricultural Development, North West (READ)	Ouma Skosana	Private Bag X2039 Mmabatho 2735	oskosana@nwpg.gov.za	082 748 1180 (cell) 018 389 5156 (t) 018 389 5006 (f)
The Department of Water & Sanitation (DWS)	Mr. Abe Abrahams	Private Bag X6101 Kimberley 8300	abrahamsa@dwa.gov.za	051 405 9000 (t) 051 448 1115 (f)
NW Department of Agriculture (Dept. of Agric.)	Ms. Bonolo Mohlakoana	Private Bag X2039 Mmabatho	bmohlakoana@nwpg.gov.za	018 389 5724 (t) 018 384 4571 (f)

		2735		
Provincial Heritage Resources Agency (PHRA) North West	Mr. Motlhabane Mosiane	Private Bag X90 Mmabatho 2735	mosianem@nwpg.gov.za	018 388 2826 (t) 086 621 1240 (f)
Department of Public Works, Roads and Transport in NW (DPWRT)	HOD: Ms. Mulangaphuma	Private Bag X2080 Mmabatho 2735	Sitase@nwpg.gov.za	018 338 1398 (t)
Department of Mineral Resources – North West (DMR)	Mr. Pieter Swart	Private Bag A1 Klerksdorp 2570	Pieter.Swart@dmr.gov.za	018 487 4300 (t)
Department of Agriculture, Forestry, and Fisheries (DAF)	Mr. Maurice Vugeya & Mrs Mpho Gumula	P.O. Box 2557 Potchefstroom 2520		
Department of Agriculture, Forestry, and Fisheries (DAFF)	To whom it may concern	Private Bag X250 Pretoria 0001		
Department of Rural development and Land reform	Land Claims Commissioner: Regional Offices, Chief Director: Mr Lengane Bogatsu		lengane.bogatsu@drdlr.gov.za	
Other–				
Dr. Ruth Segomotsi Mompati District	Municipal Manager: Zebo Tshetlho	P.O. Box 21 Vryburg 8600	www.rsmompatidm.gov.za	053 927 2222 (t) 053 927 2401 (f)

WESSA	Mr. John Wesson	P.O. Box 916 Hartbeespoort 0216		
Surrounding Land Owners				
Kokwaan 788 Kareefontein 784	Kokwaan Farm Pty Ltd and Karrefontein Farm Pty Ltd - Cyril Jocum Isaac Jocum Micron Secretarial Services CC	PO Box 15 Reivillo 8595 PO Box 15 Reivilo 8595 PO Box 64257 Highlands north 2192		

Sebete Tsapitse 899	Wenlie Tsepitsi CC Liesel Jocum Wendy Jocum	PO Box 64257 Highlands north 2037 PO Box 15 Reivilo 8595 PO Box 890697 Lyndhurst 2106		
Gakwe RE/918	Sarel Johannes Petrus Du Plessis	Gakwe Rd 918, Reivilo District, Reivilo		
Augusta 905	Isaacs Maisie	7th flr Strand Tower Strand Street Cape Town 8001		
Java North 903	Java Noord CC – Aletta Jacoba Henshaw Marna Phillipson	PO Box 5290 Kocks Park 2523		

	Corlea Viljoen Antje Vorster	PO Box 6577 Halfway House 1685 PO Box 575 Mokopane 0600 PO Box 368 Graaff Reinet 6280		
Droogfontein 902	Sebuemang Khaukwe Communal Property Association			
Buckshee 1036	No longer exists			

iv) The Environmental attributes associated with the alternatives.(The environmental attributed described must include socio-economic, social, heritage, cultural, geographical, physical and biological aspects) .

(1) Baseline Environment

(a) Type of environment affected by the proposed activity.

(its current geographical, physical, biological, socio- economic, and cultural character).

TOPOGRAPHY & DRAINAGE

The topographical nature of the proposed prospecting area is characterised by an open veld.

Main Impacts

- Change to natural topography

Main Mitigation and Management Measures

- Keep the prospecting footprint as small as possible;
- Keep as much original land cover as possible; and
- Design prospecting infrastructure to create the least impact on the topography as possible.

Biodiversity

The North West supports a total of 43 vegetation types, 41 being South African vegetation types and two Azonal sub types. Thirteen of these are threatened and 8 are endemic to the province. A total of 15 threatened plant species, 24 threatened mammal species, and 40 threatened bird species inhabit the province; however none of the said species were identified within the proposed application area.

Soil

The proposed prospecting area is characterised by clay soil with blackish colour.

GEOLOGY

Dolomite, also known as dolostone and dolomite rock, is a sedimentary rock composed primarily of the mineral dolomite, CaMg(CO3)2. Dolomite is found in

sedimentary basins worldwide, believed to form by the post depositional alteration of lime mud and limestone by magnesium-rich groundwater. The Campbell Group carbonates were deposited in a basin transgressing from southwest to the east and to northeast. At the southwestern margin of the Kaapvaal craton, in Griqualand West, mainly tidal flat carbonates and shallow marine deposits are found to be followed by subtidal carbonates marking the slow transgression. North of the Griquatown Fault, where the centre of the Griqualand West sub-basin developed, continuous subsidence matched by stromatolitic carbonate growth, led to accumulation of the thickest carbonate pile (> 2000 m). There, the largest limestone deposits of South Africa are located.

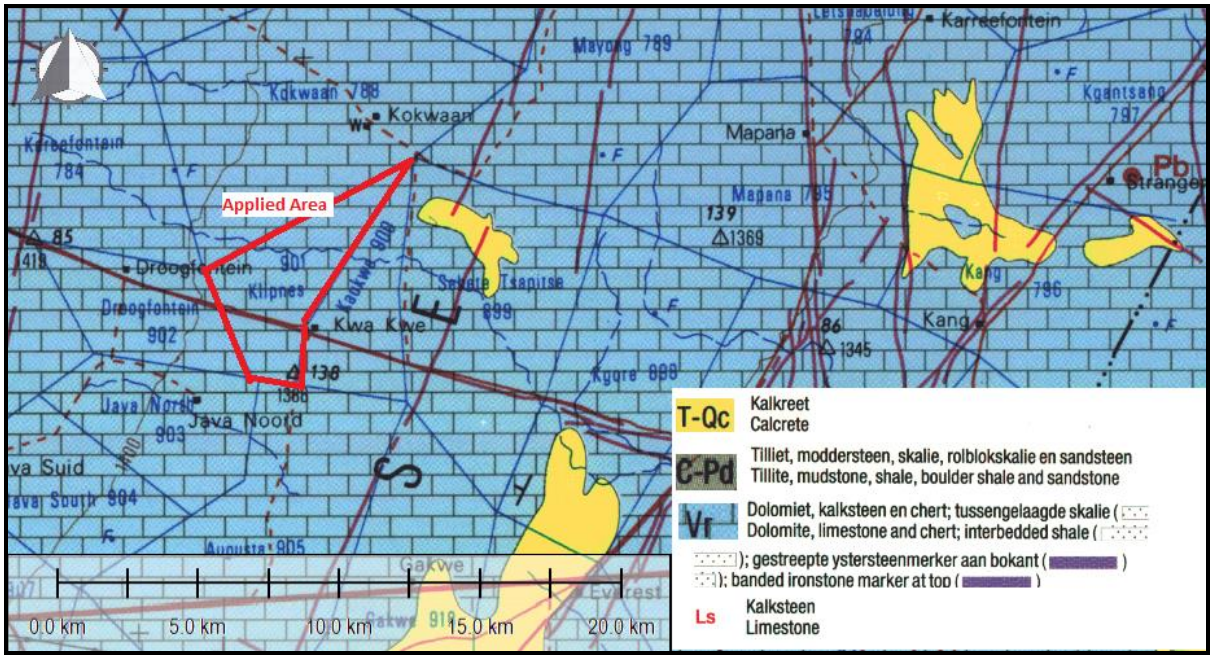


Figure 3: Geological map of the proposed prospecting area.

Much of the southern region of the North West Province is underlain by flat-lying lithologies of the Proterozoic Transvaal supergroup, overlain in places by remnants of the Palaeozoic Karoo Supergroup. The Transvaal Supergroup consists of dolomitic sediments and mafic lavas. Permian Dwyka-Ecca Group tillites, shales and marine sediments form the base of the Karoo succession and are overlain by arenaceous continental sediments of the Beaufort and Stormberg Groups which are found predominantly in the Free State Province to the South West. The Karoo sedimentary succession is capped by an accumulation of Cretaceous amygdaloidal basalt flows up to 1,700 m thick belonging to the Drakensburg Group. Feeder dykes and sills of basalt are common within the underlying 1,000 m of sediments. Kimberlite intrusions, some of which are diamondiferous, represent the final phase of

igneous activity in the region. They were emplaced during the Cretaceous in parallel north-northeast and east-west trending structures.

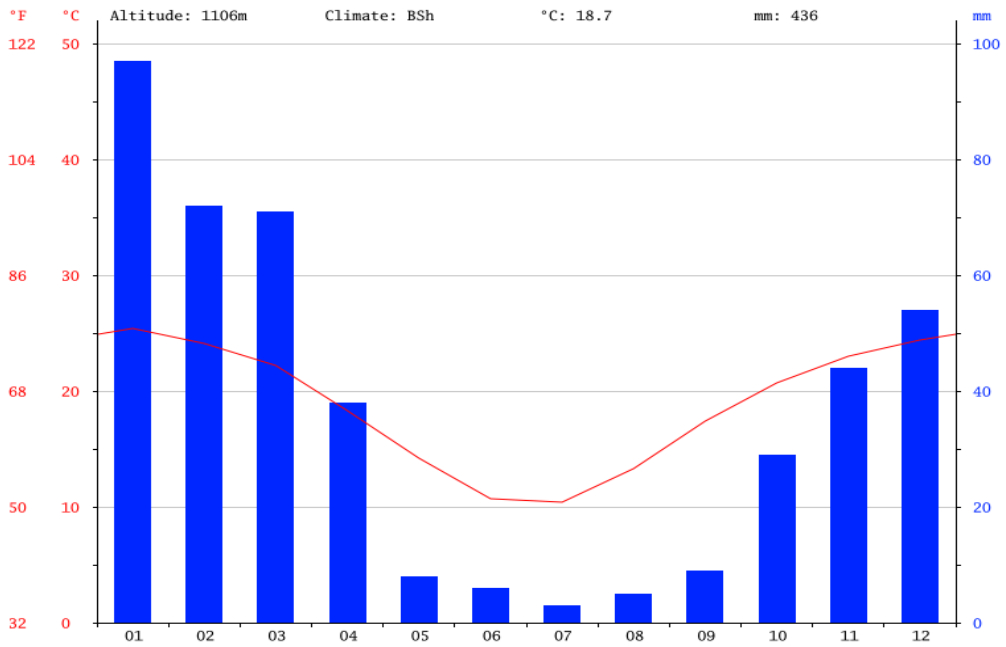
Land capability and Land use

According to the Agricultural Geo-Referenced Information System (AGIS), the proposed prospecting site is indicated to be non-arable with a moderate to low grazing capacity. Cattle were identified grazing within the proposed area during the site visit.

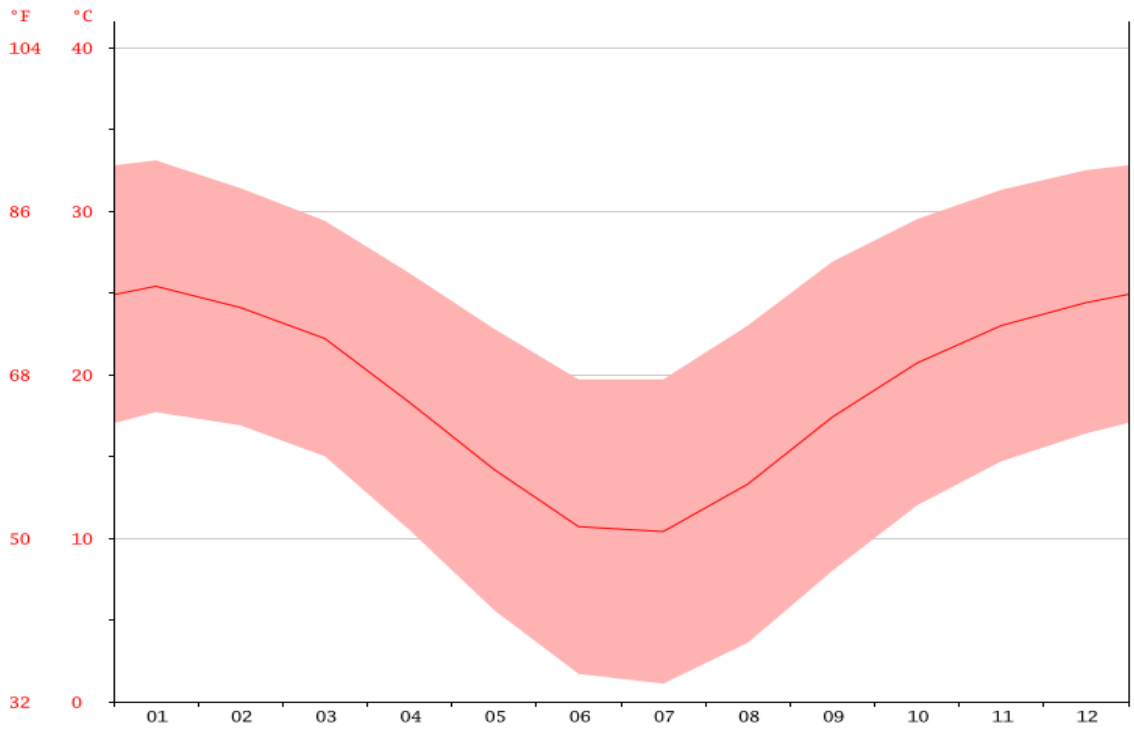
CLIMATE

Vryburg normally receives about 344mm of rain per year, with most rainfall occurring mainly during summer. The chart below (lower left) shows the average rainfall values for Vryburg per month. It receives the lowest rainfall (0mm) in June and the highest (70mm) in February. The monthly distribution of average daily maximum temperatures (centre chart below) shows that the average midday temperatures for Vryburg range from 19°C in June to 32.9°C in January. The region is the coldest during July when the mercury drops to 0°C on average during the night. Consult the chart below (lower right) for an indication of the monthly variation of average minimum daily temperatures.

Climate table



The driest month is July. There is 3 mm of precipitation in July. Most precipitation falls in January, with an average of 97 mm.



With an average of 25.4 °C, January is the warmest month. In July, the average temperature is 10.4 °C. It is the lowest average temperature of the whole year.

month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Okt	Nov	Dec
mm	97	72	71	38	8	6	3	5	9	29	44	54
°C	25.4	24.1	22.2	18.3	14.2	10.7	10.4	13.3	17.4	20.7	23.0	24.4
°C (min)	17.7	16.9	15.0	10.5	5.6	1.7	1.1	3.6	8.0	12.0	14.7	16.4
°C (max)	33.1	31.4	29.4	26.2	22.8	19.7	19.7	23.0	26.9	29.5	31.3	32.5
°F	77.7	75.4	72.0	64.9	57.6	51.3	50.7	55.9	63.3	69.3	73.4	75.9
°F (min)	63.9	62.4	59.0	50.9	42.1	35.1	34.0	38.5	46.4	53.6	58.5	61.5
°F (max)	91.6	88.5	84.9	79.2	73.0	67.5	67.5	73.4	80.4	85.1	88.3	90.5

The precipitation varies 94 mm between the driest month and the wettest month. The average temperatures vary during the year by 15.0 °C. Useful hints about reading the climate table: For every month, you will find data about precipitation (mm), average, maximum and minimum temperature (degrees Celcius and Fahrenheit). Meaning of the first line: (1) January, (2) February, (3) March, (4) April, (5) May, (6) June, (7) July, (8) August, (9) September, (10) October, (11) November, (12) December.

Fauna

Prospecting activities, including farming have disturbed the habitat of the fauna especially in the areas where prospecting activities will took place.

Vegetation

Farm 900HN falls under area that is not classified as least threatened and the scale of the prospecting application represents absolutely no threat to the natural vegetation biomes on both the regional and local scale. The proposed area is characterised by Buffalo thorns, Sweet thorns, Aloe, grasses and Waga bietjie but the most dominat vegetation is ghaap plateau vaalbosveld. Along the main farm road large trees and dense vegetation were identified going along the main farm road.

Picture showing vegetation cover within the application area


NOTICE OF APPLICATION FOR A
PROSPECTING RIGHT AND
SUBSEQUENT ENVIRONMENTAL IMPACT
ASSESSMENT

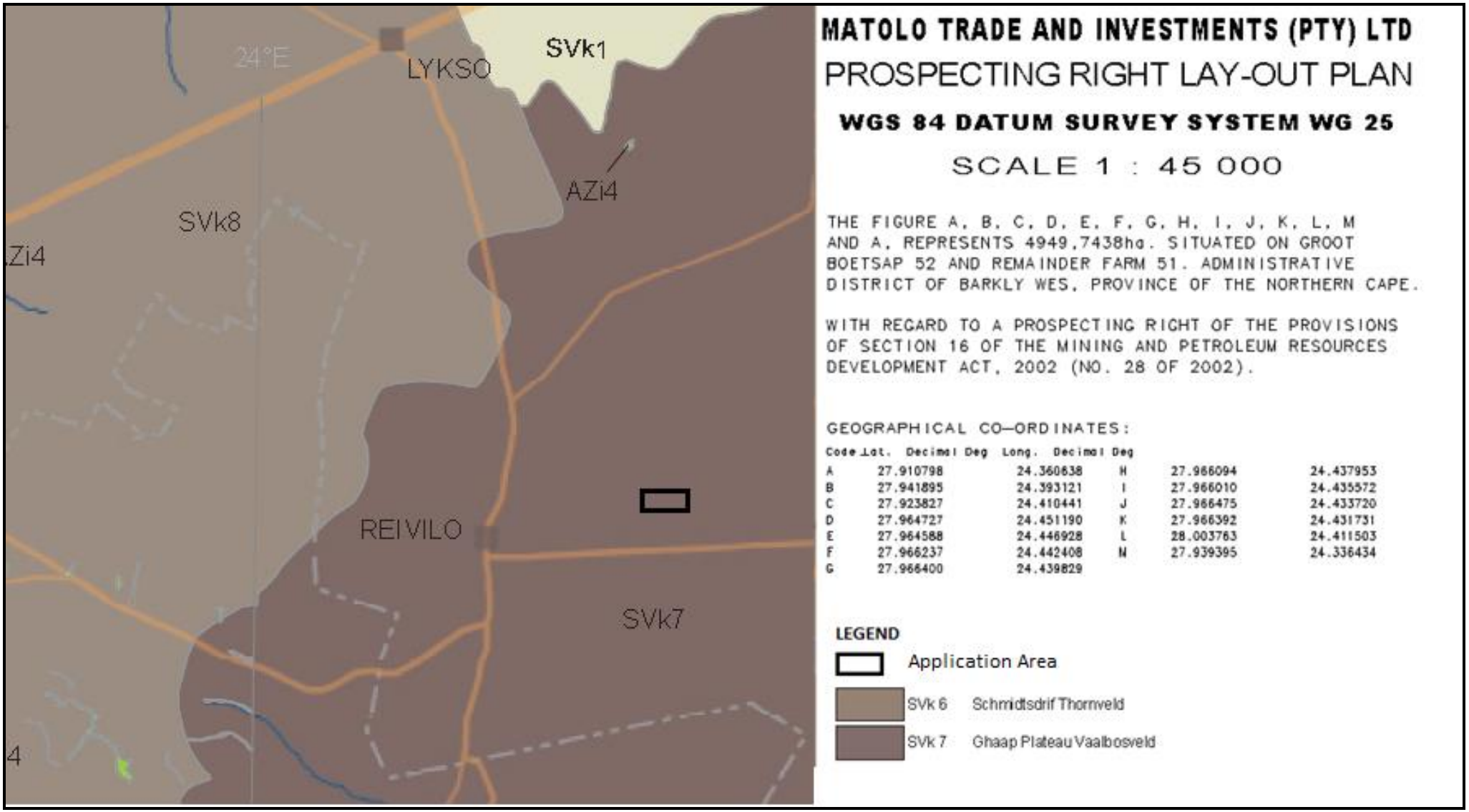


Figure 4: Vegetation map

WATER RESOURCES

Surface water

The application area is situated very far from the nearest river; however non-perennial stream was identified within the application area.

Ground water

Groundwater utilisation is of major importance. Two boreholes supplying the reservoir for the domesticated animals such as cattle are currently being utilised.

SOCIO-ECONOMIC ENVIRONMENT

Demographic profile of the municipality

Total population	177,642
Young	35,8%
Working age	56,3%
Elderly (65+)	7,9%
Dependency ration	77,6
Sex ration	89,2
Growth rate	-0,25% (2001-2011)
Population density	32 persons/km2
Unemployment rate	49,8%
Youth unemployment rate	61,7%
No schooling aged 20+	19,2%
Higher education aged 20+	4,7%
Matric aged 20+	15,7%
Number of households	48,613
Number of Agricultural	18,255
Average households size	3,6
Female headed households	48,2%
Formal dwellings	88,5%
House owned/paying off	70%
Flush toilet connected to sewage	9%
Weekly refuse removal	7,4%
Piped water inside dwelling	10%
Electricity	88,5%

Socio economic analysis

Educational level

The majority of people in the municipal area have some secondary education and have completed their secondary schooling. There are those that have no schooling, some primary and others completed primary schooling and this means that these groups of people did not receive their senior certificate, which limits their chances of getting a decent job or employment opportunities. The numbers of those who completed secondary school and got a higher education is sitting at 4.7%, so there is a little capacitated workforce to contribute to the economy of the municipality or the region.

Employment levels

The number of those economically active is slightly greater than those not economically active, hence the dependency ratio 77.6 % which is very high. Stats SA (2001-2011) indicates that the youth unemployment rate is at 61.7%. There is need to address the challenges of those not employed particularly the youth.

(b) Description of the current land uses.

Farming of cattle is the current land use that was identified within the proposed application area.

(c) Description of specific environmental features and infrastructure on the site.

The application area is characterised by two cattle kraal, two reservoir area supplying water to domesticated animals and a farm house. No drilling will take place within 100 m from any structure observed on site.

(d) Environmental and current land use map.

(Show all environmental and current land use features)

Photos showing **Environmental and current land use map**

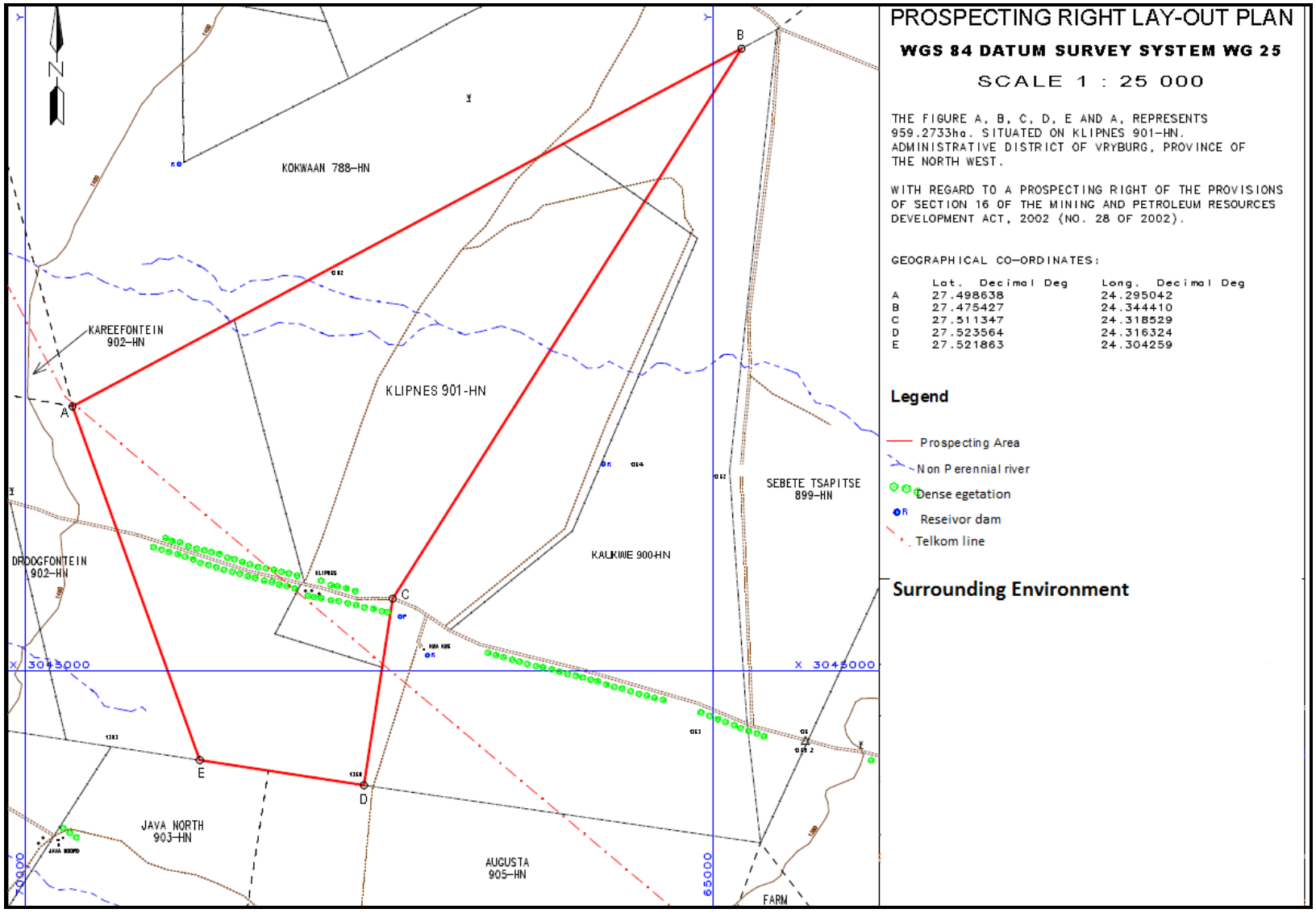


Figure 5: environmental and current land use features

v) Impacts and risks identified including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts (Provide a list of the potential impacts identified of the activities described in the initial site layout that will be undertaken, as informed by both the typical known impacts of such activities, and as informed by the consultations with affected parties together with the significance, probability, and duration of the impacts. Please indicate the extent to which they can be reversed, the extent to which they may cause irreplaceable loss of resources, and can be avoided, managed or mitigated)

Phase	Activities	Potential impacts	Reversible	Irreplaceable damage	Can impact be avoided	Managed or mitigated
Construction phase	-Site establishment -Vegetation clearance -Stripping of the top layer -Demarcation of the prospecting area such as ablution area -Moving of equipment and mobile infrastructure to site -Construction of access roads	-Vegetation loss	Yes (rehabilitation)	No	No	Yes
		-Soil compaction	Yes (ripping)	No	No	Yes
		-Soil erosion	Yes (Creating of berms)	No	Yes	Yes
		-Dust	Yes (dust suppression)	No	No	Yes
		-Negative visual impact	Yes (rehabilitation)	No	No	Yes
		-Loss of authentic values	Yes (rehabilitation)	No	No	Yes
		-Topographical disturbances	Yes (rehabilitation)	No	No	Yes
		Livestock theft	No	No	Yes	Yes

Operational phase	Prospecting and related activities	-Land degradation	Yes (Through rehabilitation)	No	No	Yes
		-Loss of biodiversity	Yes (Through rehabilitation)	No	No	Yes
		-Negative Visual impact	Yes (Through rehabilitation)	No	No	Yes
		-Dust	Yes (dust suppression)	No	No	Yes
		-Soil pollution	Yes (Through rehabilitation)	No	Yes	Yes
		-Water pollution	Yes (Through rehabilitation)	No	Yes	Yes
		-Soil erosion	Yes (Creating of berms)	No	Yes	Yes
		-Noise pollution	Yes (Silencers)	No	No	Yes
		-Land use conflict	Yes (Demarcation)	No	Yes	Yes
		-Loss of authentic value	Yes (Through rehabilitation)	No	No	Yes
		-Topography	Yes (Through rehabilitation)	No	No	Yes
		-Waste generation	Yes (Dust bins)	No	Yes	Yes

		-Health risk to workers or general public	Yes (awareness)	No	Yes	Yes
		Socio-economic (positive impact)	No	No	No	N/A
		Livestock theft	No	No	Yes	Yes
		Veld fires	No	No	Yes	Yes
		Heritage site disturbances	No	No	Yes	Yes
Decommissioning phase	**Positive impacts**	Surface disturbance	Yes (Through rehabilitation)	No	Yes	Yes
		Soil pollution	Yes (Through rehabilitation)	No	Yes	Yes
		Vegetation loss	Yes (Through rehabilitation)	No	Yes	Yes
		Loss of authentic value	Yes (Through rehabilitation)	No	Yes	Yes
		Topography	Yes (Through rehabilitation)	No	Yes	Yes

vi) Methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks; (Describe how the significance, probability, and duration of the aforesaid identified impacts that were identified through the consultation process was determined in order to decide the extent to which the initial site layout needs revision).

Criteria of assigning significance to potential impacts

The assessment of the impacts has been conducted according to a synthesis of criteria required by the integrated environmental management procedure.

Nature of impact

This is an appraisal of the type of effect the activity would have on the affected environmental component. Its description should include what is being affected, and how. The impact may be positive or negative.

Extent

The physical and spatial size of the impact. This is classified as follows:

Local

The impacted area extends only as far as the activity, e.g. a footprint.

Site

The impact could affect the whole, or a measurable portion of the property.

Regional

The impact could affect the area including the neighbouring farms, transport routes and the adjoining towns.

Cumulative

The impact could have a cumulative effect with the surrounding land uses.

Duration

The lifetime of the impact which is measured in the context of the lifetime of the proposed phase (i.e. construction or operation)?

Short term

The impact will either disappear with mitigation or will be mitigated through natural process in a short time period.

Medium term

The impact will last up to the end of the prospecting period, where after it will be entirely negated.

Long term
The impact will continue or last for the entire operational life of the mine, but will be mitigated by direct human action or by natural processes thereafter.

Permanent
Mitigation either by man or natural process will not occur in such a way or in such a time span that the impact can be considered transient.

Intensity
This describes how destructive, or benign, the impact is. Does it destroy the impacted environment, alter its functioning, or slightly alter it. These are rated as:

Low
This alters the affected environment in such a way that the natural processes or functions are not affected.

Medium
The affected environment is altered, but function and process continue, although in a modified way.

High
Function or process of the affected environment is disturbed to the extent where it temporarily or permanently ceases. This will be a relative evaluation within the context of all the activities and the other impacts within the framework of the project.

Probability
This describes the likelihood of the impacts actually occurring. The impact may occur for any length of time during the life cycle of the activity, and not at any given time. The classes are rated as follows:

Improbable
The possibility of the impact occurring is very low, due either to the circumstances, design or experience.

Probable
There is a possibility that the impact will occur to the extent that provisions must be made therefore.

Highly probable
It is most likely that the impacts will occur at some or other stage of the development.

Definite
The impact will take place regardless of any preventative plans, and mitigation measures or contingency plans will have to be implemented to contain the impact.

Determination of 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 classes are rated as follows:

No significance

The impact is not likely to be substantial and does not require any mitigatory action.

Low

The impact is of little importance, but may require limited mitigation.

Medium

The impact is of importance and therefore considered to have a negative impact. Mitigation is required to reduce the negative impacts to acceptable levels.

High

The impact is of great importance. Failure to mitigate, with the objective to reduce the impact to acceptable levels, could render the entire development option or entire project proposal unacceptable. Mitigation is therefore essential.

Activities	**Potential Impacts**	**Nature of Impact**	**Extent**	**Duration**	Intensity	Probability	**Significance Rating**	**Description of The Mitigation Measure**	**Significance After Mitigation (High, Medium,**
1. Site establishment -Vegetation clearance -Striping of top layer -Demarcation of the prospecting area such as temporal office site, and ablution area -Moving of equipment and mobile infrastructure to site -Construction of access roads.	-Vegetation loss	Negative	Local	Long term	Medium	Highly Probable	High	Demarcate all working areas with boundary fencing to restrict encroachment into surrounding veld Existing tracks must be used as far as practicable. Re-vegetation(seeding), Avoid veld fires, rehabilitation	**Medium**
	-Soil compaction	Negative	Local	Medium term	Medium	Highly Probable	High	Avoid construction of newly roads and use existing roads. Ripping of compacted surfaces.	Low
	-Dust	Negative	Regional	Medium term	Medium	Highly Probable	High	Dust suppression measures will be done by means of spraying the area with water. This will be done only when there is a need.	Low
	-Negative visual impact	Negative	Regional	Long term	Medium	Highly Probable	High	Concurrent rehabilitation	Low
	-Loss of authentic values	Negative	Regional	long-term	Medium	Highly Probable	High	Concurrent rehabilitation	Medium
	-Soil erosion	Negative	Site	Short term	Medium	Probable	High	Creating berms	Low
	-Topographical disturbances	Negative	Site	Long term	Medium	Highly Probable	High	Concurrent Rehabilitation	Low
	Surface disturbance	negative	Site	long-term	Medium	Highly Probable	High	Rehabilitation of disturbed areas	Low
2. Prospecting and related activities	-Land degradation	Negative	Local	Medium term	Medium	Medium	Medium	Rehabilitation of disturbed areas	**Low**
	-Loss of biodiversity	Negative	Site	Long-term	Medium	Highly Probable	High	Containment of operational footprint with boundary fencing. Rehabilitation of disturbed areas	**medium**

	-Negative Visual impact	Negative	Regional	Long-term	Medium	Highly Probable	High	The area will be rehabilitated to an acceptable state meaning that no visual impact will be left on site	**Low**
	-Dust	Negative	Regional	Medium term	Medium	Highly Probable	High	Reasonable and effective methods must be Implemented to reduce the liberation of dust into the air. Dust suppression measures such as water	**Low**
	-Soil pollution	Negative	local	Short term	Medium	Probable	Medium	Using drip tray, taking precautions on the refuelling point. If any soil is contaminated during the life of the prospecting activities, it will be immediately scooped and stored in the enclosed containers or plastic to be removed with the industrial waste to a recognized licenced facility or applicant for further treatment. Small spills will be treated on site using bio-sorb, bio-shock or oil cap.	**Low**
	-Water pollution	Negative	regional	Long-term	Medium	Probable	Medium	Avoid accidental hydrocarbon spillages.	**low**
	-Soil erosion	Negative	Site	Short-term	Medium	Probable	Medium	Creation of berm	**low**
	-Noise pollution	Negative	regional	Medium term	Medium	Probable	Medium	The applicant will comply with the occupational noise regulations of the Occupational Health and safety Act, Act 85 of 1993. Speed control of vehicles to be limited to 30km/h	**low**
	-Land use conflict	Negative	Site	Long-term	Medium	Highly Probable	Low	Rehabilitation and return the area to its original state, Seeding of rehabilitated area if vegetation did not grow natural.	**Low**
	-Loss of authentic value	Negative	Regional	Long-term	Medium	Highly Probable	Medium	Concurrent rehabilitation. Creation of buffer zone.	**Low**

	-Topography	Negative	Site	Medium term	Medium	Highly Probable	Medium	Concurrent rehabilitation.	**Low**
	-Waste generation	Negative	Site	Short term	Medium	Highly Probable	Low	Dedicated area for waste disposal and awareness.	**Low**
	-Health risk to workers or general public	Negative	Regional	Medium term	Medium	Probable	Medium	Environmental Awareness	**Low**
	Socio-economic (positive impact)	positive	Cumulative	Long-term	Medium	Definite	High	Creation of employment	**High**
	Impact on heritage	Negative	local	Short-term	Medium	Probable	Low	Heritage impact assessment has not been conducted. Avoid impacting any areas so identified in Specialist report	**Low**
Final rehabilitation of the prospecting area, Removal of equipment from site **(positive impacts)**	**Noise**	Negative	Local	Short-Term	Medium	Probable	Medium	Noise levels must comply with OHS regulations. Noise generating activities should be restricted to normal working hours. Mine is noted to be remote from any settlement and human habitation Vehicle exhaust systems should be in good state of maintenance with standard noise suppression equipment. Personnel will wear PPE, specifically ear muffs to suppress noise levels when using machinery.	**Low**
	Soil compaction	Positive	Local	Short Time	Medium	Probable	High	Ripping of all compacted ground and also where equipment was standing.	**Low**
	Soil erosion	Positive	Local	Permanent	Medium	Probable	High	Finalise rehabilitation of berms created.	**Low**
	Dust	Negative	Local	Short-Term	Medium	Probable	High	Dust will be negligible	**Low**

	Surface disturbance	Positive	Local	Permanent	Medium	Probable	High	All surface disturbed will be rehabilitated to its original state. All compacted ground will be ripped to a depth of 300mm.	**Low**
	Soil pollution	Positive	Local	Short Term	Medium	Probable	High	Every equipment that may cause pollution will be taken out of the site.	**Low**
	Health risk	Positive	Regional	Permanent	Medium	Probable	Medium	No health risk is anticipated	**Low**
	Waste	Positive	Local	Short-Term	Medium	Probable	Medium	Collected and disposed-off to a licenced facility.	**Low**
Monitoring of rehabilitated areas for 6 months	**Monitoring of vegetation growth**	Positive	Site	Permanent	Medium	Highly Probable	Medium	Monitoring of vegetation growth will be done for 2 years after final rehabilitation.	**Low**
No-go alternative: Option of not conducting prospecting activities.	**Unemployement and sterilisation of mineral**	Negative	Regional	Permanent	High	Highly Probable	High	Conducting prospecting activities on the proposed application area	**Low**

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

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

No concerns were received from the interested and affected parties as public participation meeting is still to be set.

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

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

No concerns were received from the interested and affected parties as public participation meeting is still to be set.

ix) Motivation where no alternative sites were considered.

For prospecting purpose there were no alternative sites that were considered during the application of the prospecting right, however they are alternative site for parking machines during night. The reasons were that the identified 947.7 ha applied for in terms of Mineral and Petroleum Resource Act is the only targeted area for prospecting activities and the department of mineral resources only issued a prospecting right to the area applied for. It is in this areas were potential of the Dolomite, Calcite and a Limestone resource has been identified. Therefore, no alternative site that offers a better practical and economic option were identified.

x) Statement motivating the alternative development location within the overall site. (Provide a statement motivating the final site layout that is proposed).

There were no alternative sites which were considered during the application of the prospecting right. The proposed final site has shown the potential of Dolomite, Calcite and Limestone resources.

i). Full description of the process undertaken to identify, assess and rank the impacts and risks the activity will impose on the preferred site (In respect of the final site layout plan) through the life of the activity. (Including (i) a description of all environmental issues and risks that are identified during the environmental impact assessment process and (ii) an assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures.)

Site visit by an Environmental officer and a Geologist was conducted on the 12th of February 2017 in order to identify environmental features that may be impacted by the proposed prospecting activities. The site visit helped with the identification of different types of soil, vegetation covers and infrastructures on site. No heritage sites were identified within the proposed prospecting area, however, if there is heritage area identified, such area of heritage will be reported to the South African heritage resources.

Desktop study was done to acquire more information about the proposed area and the adjacent farm, the climate, economic and their land uses.

Assessment was done on the environmental attribute, social, heritage/cultural aspect and impacts were identified and assessed to their duration, nature, extent, probability and significant.

Activities	Potential Impacts	Nature of Impact	Extent	Duration	Intensity	Probability	Significance Rating	Description of The Mitigation Measure	Significance After Mitigation (High, Medium,
1. Site establishment -Vegetation clearance -Striping of top layer -Demarcation of the prospecting area such as temporal office site, and ablution area -Moving of equipment and mobile infrastructure to site -Construction of access roads.	-Vegetation loss	Negative	Local	Long term	Medium	Highly Probable	High	Demarcate all working areas with boundary fencing to restrict encroachment into surrounding veld Existing tracks must be used as far as practicable. Re-vegetation(seeding), Avoid veld fires, rehabilitation	**Medium**
	-Soil compaction	Negative	Local	Medium term	Medium	Highly Probable	High	Avoid construction of newly roads and use existing roads. Ripping of compacted surfaces.	Low
	-Dust	Negative	Regional	Medium term	Medium	Highly Probable	High	Dust suppression measures will be done by means of spraying the area with water. This will be done only when there is a need.	Low
	-Negative visual impact	Negative	Regional	Long term	Medium	Highly Probable	High	Concurrent rehabilitation	Low
	-Loss of authentic values	Negative	Regional	long-term	Medium	Highly Probable	High	Concurrent rehabilitation	Medium
	-Soil erosion	Negative	Site	Short term	Medium	Probable	High	Creating berms	Low
	-Topographical disturbances	Negative	Site	Long term	Medium	Highly Probable	High	Concurrent Rehabilitation	Low
	Surface disturbance	negative	Site	long-term	Medium	Highly Probable	High	Rehabilitation of disturbed areas	Low
2. Prospecting and related activities	-Land degradation	Negative	Local	Medium term	Medium	Medium	Medium	Rehabilitation of disturbed areas	**Low**
	-Loss of biodiversity	Negative	Site	Long-term	Medium	Highly Probable	High	Containment of operational footprint with boundary fencing. Rehabilitation of disturbed areas	**medium**

	-Negative Visual impact	Negative	Regional	Long-term	Medium	Highly Probable	High	The area will be rehabilitated an acceptable state meaning that no visual impact will be left on site	**Low**
	-Dust	Negative	Regional	Medium term	Medium	Highly Probable	High	Reasonable and effective methods must be Implemented to reduce the liberation of dust into the air. Dust suppression measures such as water	**Low**
	-Soil pollution	Negative	local	Short term	Medium	Probable	Medium	Using drip tray, taking precautions on the refuelling point. If any soil is contaminated during the life of the prospecting activities, it will be immediately scooped and stored in the enclosed containers or plastic to be removed with the industrial waste to a recognized licenced facility or applicant for further treatment. Small spills will be treated on site using bio-sorb, bio-shock or oil cap.	**Low**
	-Water pollution	Negative	regional	Long-term	Medium	Probable	Medium	Avoid hydrocarbon accidental spillages.	**low**
	-Soil erosion	Negative	Site	Short-term	Medium	Probable	Medium	Creation of berm	**low**
	-Noise pollution	Negative	regional	Medium term	Medium	Probable	Medium	The applicant will comply with the occupational noise regulations of the Occupational Health and safety Act, Act 85 of 1993. Speed control of vehicles to be limited to 30km/h	**low**
	-Land use conflict	Negative	Site	Long-term	Medium	Highly Probable	Low	Rehabilitation and return the area to its original state, Seeding of rehabilitated area if vegetation did not grow natural.	**Low**
	-Loss of authentic value	Negative	Regional	Long-term	Medium	Highly Probable	Medium	Concurrent rehabilitation. Creation of buffer zone.	**Low**

	-Topography	Negative	Site	Medium term	Medium	Highly Probable	Medium	Concurrent rehabilitation.	**Low**
	-Waste generation	Negative	Site	Short term	Medium	Highly Probable	Low	Dedicated area for waste disposal and awareness.	**Low**
	-Health risk to workers or general public	Negative	Regional	Medium term	Medium	Probable	Medium	Environmental Awareness	**Low**
	Socio-economic (positive impact)	positive	Cumulative	Long-term	Medium	Definite	High	Creation of employment	**High**
	Impact on heritage	Negative	local	Short-term	Medium	Probable	Low	Heritage impact assessment has not been conducted and no heritage aspects were identified. Avoid impacting any areas so identified in Specialist report	**Low**
Final rehabilitation of the prospecting area, Removal of equipment from site **(positive impacts)**	**Noise**	Negative	Local	Short-Term	Medium	Probable	Medium	Noise levels must comply with OHS regulations. Noise generating activities should be restricted to normal working hours. Mine is noted to be remote from any settlement and human habitation Vehicle exhaust systems should be in good state of maintenance with standard noise suppression equipment. Personnel will wear PPE, specifically ear muffs to suppress noise levels when using machinery.	**Low**
	Soil compaction	Positive	Local	Short Time	Medium	Probable	High	Ripping of all compacted ground and also where equipment was standing.	**Low**
	Soil erosion	Positive	Local	Permanent	Medium	Probable	High	Finalise rehabilitation of berms created.	**Low**

	Dust	Negative	Local	Short-Term	Medium	Probable	High	Dust will be negligible	**Low**
	Surface disturbance	Positive	Local	Permanent	Medium	Probable	High	All surface disturbed will be rehabilitated to its original state. All compacted ground will be ripped to a depth of 300mm.	**Low**
	Soil pollution	Positive	Local	Short Term	Medium	Probable	High	Every equipment that may cause pollution will be taken out of the site.	**Low**
	Health risk	Positive	Regional	Permanent	Medium	Probable	Medium	No health risk is anticipated	**Low**
	Waste	Positive	Local	Short-Term	Medium	Probable	Medium	Collected and disposed-off to a licenced facility.	**Low**
Monitoring of rehabilitated areas for 6 months	**Monitoring of vegetation growth**	Positive	Site	Permanent	Medium	Highly Probable	Medium	Monitoring of vegetation growth will be done for 2 years after final rehabilitation.	**Low**
No-go alternative: Option of not conducting prospecting activities.	**Unemployement and sterilisation of mineral**	Negative	Regional	Permanent	High	Highly Probable	High	Conducting prospecting activities on the proposed application area	**Low**

j) Assessment of each identified potentially significant impact and risk

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

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 E.g. For Prospecting,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and excavations, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.)	***POTENTIAL IMPACT*** *(Including the potential impacts for cumulative impacts) (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc….etc…)*	**ASPECTS AFFECTED**	**PHASE** In which impact is anticipated (e.g. Construction, commissioning, operational Decommissioning, closure, post-closure)	**SIGNIFICANCE** if not mitigated	**MITIGATION TYPE** (modify, remedy, control, or stop) through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc. etc) E.g. Modify through alternative method. Control through noise control Control through management and monitoring through rehabilitation.	**SIGNIFICANCE** if mitigated
Vegetation clearance	-Vegetation loss	Environment	Construction	High	Existing tracks must be used as far as practicable. Re-vegetation (seeding), Avoid veld fires, and rehabilitation	Low
Road construction & upgrading/ maintenance	Vegetation loss	Environment, people & animals	Construction	Medium	Ripping of road. Avoid unnecessary construction of roads and use existing roads.	Low
	Dust	Environment, people & animals	Construction	Medium	Dust suppression methods will be implemented. limit a speed to 30kh/h	Low
	Ground compaction	Environment	Operational	High	Ripping of road.	Medium

					Avoid construction of newly roads and use existing roads.	
Temporal office site	Surface compaction	Environment	Operational	Medium	Ripping of the compacted ground to 300m in order to allow vegetation growth	Medium
Ablution area	Surface compaction	Environment	construction	Medium	Ripping of the compacted ground to 300m in order to allow vegetation growth	Low
	Air pollution/hygiene	People	Operational	Medium	Dust suppression measures such as water spraying.	Low
-Demarcating temporal storage	Surface compaction	Environment	construction	High	Ripping of the compacted ground to 300m in order to allow vegetation growth	Medium
	Visual impact	People	Operational	High	Concurrent rehabilitation	Medium
	Topographical change	Environment	Operational	High	Rehabilitation	Medium
-Moving of equipment and mobile infrastructure to site	Surface disturbance	Environment	Construction	Medium	Rehabilitation using backfilling methods as far as practicable.	Low
Maintenance of machinery /vehicles	Soil pollution	People, animals and environment	Operational	High	No maintenance of vehicles will be done on site. Avoid soil contamination at all time. Contaminated soil will be scooped immediately after accidental spill of hydrocarbons.	Medium
Hydrocarbon storage	Soil contamination and water pollution	People, animals and environment	Operational	High	Avoid soil contamination at all time. Contaminated soil will be scooped immediately after accidental spill of hydrocarbons. Make sure that measures are	Medium

					applied at the refuelling point.	
Final rehabilitation	Dust			Medium	Topsoil will be spread over the rehabilitated area in order to allow regrowth of vegetation. All machinery will be removed from the site. Ripping of all remaining compacted area.	Low
	Noise			Medium	Noise will be minimal since only touch-up will be done on site for final rehabilitation.	Low
	Domestic waste	negative	Closure phase	Low	Removal of all marked containers and disposed waste at a registered facility	
Monitoring rehabilitated areas		environment	Post closure	Low	Monitoring of all rehabilitated areas will be done to make sure if vegetation is growing and if not other mitigation measures as seeding of the area will be considered. All invader species will be monitored and removed from all rehabilitated areas.	Low
No-go alternative: Option of not conducting prospecting activities.	-Unemployement, Mineral starilisation	People	Construction until closure	High	Conducting prospecting	Low

k) Summary of specialist reports.

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

No specialist studies were conducted or required. The purpose of prospecting activities will consist of drilling of boreholes which will disturb approximately 20mx10mx10m=2000m². Drilling program will be put into practice where the grid spacing will be set to 400 M x 400 M with an average depth of 50 m. The farm house, Kraal, windmill, water reservoir, ruins, and drainage will be avoided with a buffer zone of 100m.

l) Environmental impact statement

(i) Summary of the findings of the environmental impact assessment;

a) There were no graves or any historical aspects which were identified during the environmental assessment

b) It was identified during environmental impact assessment that if all negative impacts can be avoided and where they cannot be avoided they can be mitigated and managed throughout the lifespan of the mine, they will be insignificant.

c) No ecologically sensitive Biodiversity areas will be at risk

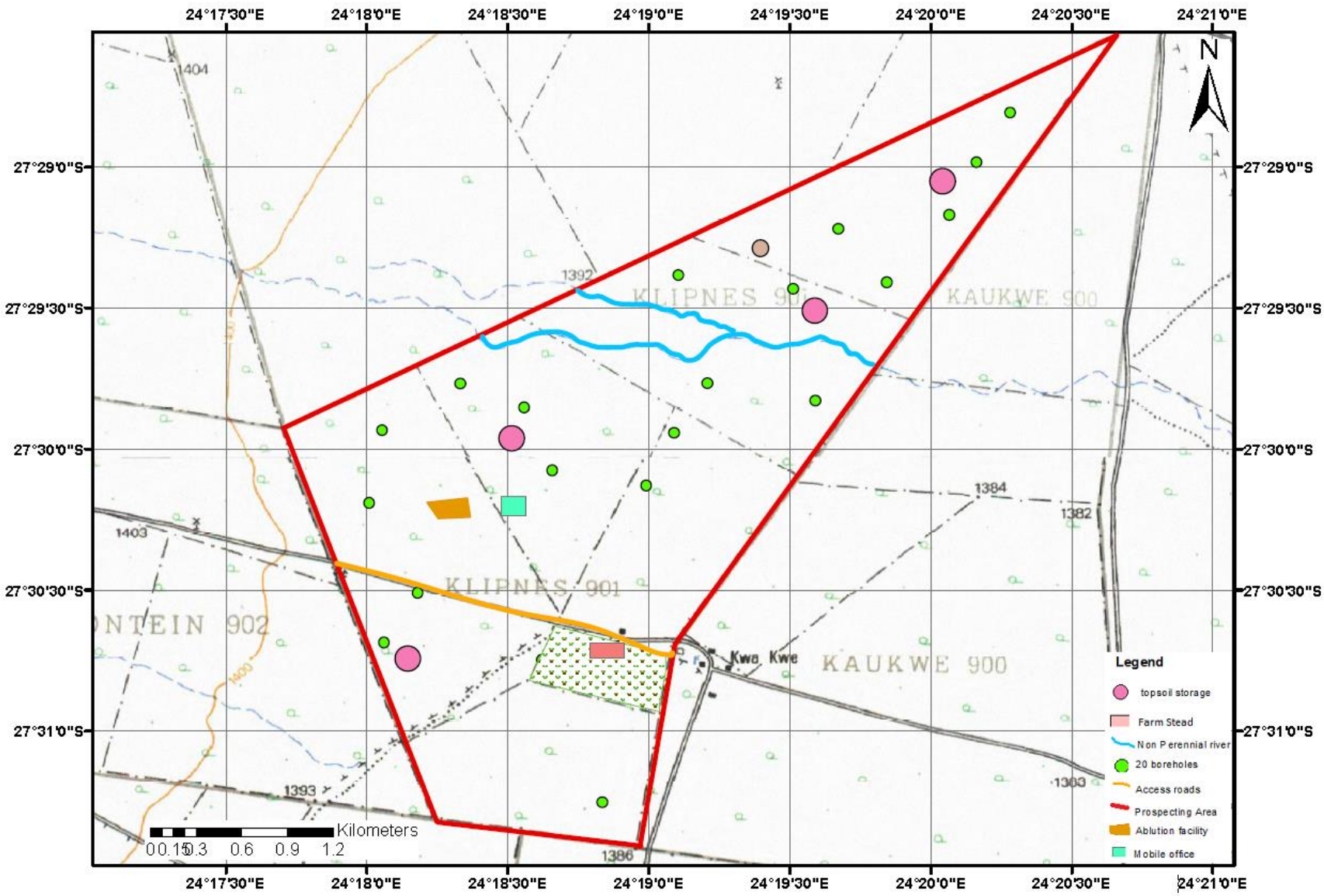
d) Natural Ecosystems will not be compromised at a site or regional scale and local scale. Degradation can be mitigated through sound environmental rules, regulations and practise as will be stipulated in the EMPR.

e) Vegetation Biomes are not threatened at local to regional scale, rehabilitation and mitigation will act to regenerate and restore land to its former state

f) Positive socio economic effects will be multiplied at local to regional scale

(ii) Final Site Map

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



Final site map

(iii)Summary of the positive and negative impacts and risks of the proposed activity and identified alternatives;

The prospecting activities will have positive impact to the community and also the landowners as a result of the following reason: Employment opportunities will improve socio economic standard of local communities. There will be a multiplier effect which will aid families associated with the workers.

Prospecting activities will have positive impact however they also have negative impacts on the environment and other aspect on the surrounding. The table below shows the negative impacts as a result of the proposed prospecting activities. Although they have negative impact, all those negative impacts can be avoided and were they cannot be avoided they can be mitigated and managed throughout the lifespan of the mine. After mitigation if all measures are applied, all impact will be less significant.

Negative impacts	Description of the impacts
Surface disturbances	Surface disturbance will occur as a result of drilling boreholes and taking samples from sampling pits and this may cause land degradation if not mitigated. The compaction of ground will also occur during prospecting period.
Air pollution	Dust will be generated from movement of the prospecting equipment. Emissions of smoke from vehicles which are not well serviced.
Noise pollution	Noise from vehicles will be created during the prospecting period which may affect the land owner, neighbouring/ adjacent farm owners.
Soil pollution	Contamination of soil may occur from accidental spillages from the machineries, hydrocarbon storage and refuelling point
Vegetation loss	Where the firebreak will be created, the vegetation will be disturbed and/or destroyed. -The vegetation cover will be disturbed and / or destroyed where the prospecting activities is set to take place.
Loss of authentic value	Littering of domestic and industrial waste during prospecting
Topography	Prospecting will disturb the topography of the area.

Surface and ground water contamination	If accidental hydrocarbons spills are not removed with immediate effect after they spill, this may lead to surface and ground water contamination.
Health risk to workers or general public	This can happen if worker or general public inhale excessive dust or drink contaminated water as a result of the prospecting activities. This can also occur if the Mine Health and Safety Act is not implemented
Veld Fire	Veld fire may occur as a result of negligence or improper awareness.

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

The EMP objectives:

The main objective of the EMPR is to provide information, guideline, and management measure to be implemented during the prospecting period. By following the information provided on the EMPR, impacts on the environment, cultural and social aspects will be avoided. Sensitive areas will not be disturbed if this document is implemented effectively.

The proponent will operate on the principle that “prevention is better than cure” and so will institute procedures to reduce the risk of emergencies taking place. These will include ensuring that all contracts specify that the contractor is required to comply with all the environmental measures specified in this EMP, environmental awareness training, on-going risk assessment and emergency preparedness.

Through implementation of the proposed prospecting activities and the mitigation measures it is anticipated that the identified impacts on the environmental, heritage resource and social economic conditions aspects can be mitigated and managed effectively by implementing mitigation and management measures from the EMPR: it is anticipated that through the following management or mitigation measures impacts can be effectively managed:

a) Surface disturbances, visual impact and topographic changes can be minimised by practising concurrent rehabilitation throughout the prospecting period. By doing this the area can be easily returned to an acceptable state.

b) Surface and ground water pollution can be avoided by management of contaminated soil and by avoiding accidental spills.

c) Noise pollution can be managed through communication with the affected parties and also environmental awareness of the employees.

d) In term of emergences all employees shall have the contact details of emergency services, including the local emergency response unit and firefighting service. All employees must be made aware of procedures to be followed during the environmental awareness training course.

Monitoring of the required mitigation measures is to take place on site daily by the site manager. Annual monitoring audits are to take place by an appointed independent environmental assessment practitioner to compile the required annual environmental compliance report required by the DMR.

n) Aspects for inclusion as conditions of Authorisation.

(Any aspects which must be made conditions of the Environmental Authorisation)

- The applicant must inform the farm owners and adjacent farm owners prior to any commencement of the prospecting activities.
- The applicant must appoint security officers in order to control access to the farm.
- The financial provision must be adjusted annually.

o) Description of any assumptions, uncertainties and gaps in knowledge.

(Which relate to the assessment and mitigation measures proposed?)

The Gaps of this basic assessment report is that it does not include comments from competent authorities and other state departments; however, this will be included on the final report before submitting to DMR. Uncertainties exist in the actual final depth of the sampling pits. The final size will only be known when prospecting takes place.

p) Reasoned opinion as to whether the proposed activity should or should not be authorised

i) Reasons why the activity should be authorized or not.

All activities applied for should be authorized since there would be no reason why they should not be authorised. All impacts have been assessed, evaluated and mitigations are in place to minimize any disturbance as a result of prospecting activities. Monitoring of the required mitigation measures is to take place on site every two weeks by the environmental officer and daily by site manager. Annual monitoring audits will be done by an appointed independent environmental assessment practitioner to compile the required annual environmental compliance report required by the DMR.

ii) Conditions that must be included in the authorisation

a) A copy of the authorisation and must be kept at the property where the activities will be undertaken. The authorisation must be produced to any authorised official of the Department who requests to see it and must be made available for inspection by any employee or agent of the holder of the authorisation who works or undertakes work at the property.

b) Where any of the applicant's contact details change, including the name of the responsible person where the applicant is a juristic person, the physical or postal address and/or telephonic details, the applicant must notify the Department as soon as the new details become known to the applicant.

c) The holder of the authorisation must notify the Department, in writing and within twenty-four (24) hours, if any condition of this authorisation cannot be or is not adhered to. Any notification in terms of this condition must be accompanied by reasons for the non-compliance. Non-compliance with a condition of this authorisation may result in criminal prosecution or other actions provided for in the National Environmental Management Act, 1998 and the regulations.

d) All areas on site that is disturbed must be rehabilitated using locally occurring indigenous plant species.

e) The prospecting site must be clearly demarcated; clear signage must be erected; and access controlled.

f) Environmental officer must visit the area at least twice a month.

g) The EMPR, Environmental Authorisation and the layout plan must always be on site.

q) Period for which the Environmental Authorisation is required.

The Environmental Authorisation is required for a period of five years. The five years will also cover the final rehabilitation and monitoring period.

r) Undertaking

Confirm that the undertaking required to meet the requirements of this section is provided at the end of the EMPr and is applicable to report.

The undertaking has been attached at the end of both the Basic assessment report and the Environmental Management Programme

S) FINANCIAL PROVISION

STATE THE AMOUNT THAT IS REQUIRED TO BOTH MANAGE AND REHABILITATE THE ENVIRONMENT IN RESPECT OF REHABILITATION.

The financial provision has been calculated to the amount of R102,309.00 for management and rehabilitation of environmental impacts.

h) Explain how the aforesaid amount was derived.

The purpose of prospecting activities will consist of drilling of boreholes which will disturb approximately 20mx10mx10m=2000m². In circumstances where the said area to be drilled at any given time is exceeded, the applicant will ensure that the financial provision is aligned accordingly. Topsoil and Dumps will be temporary stored separately from each other. Stored overburden will be used for the rehabilitation of disturbed area.

Environmental Rehabilitation was calculated as follows.

Prospecting	
20 boreholes (Drilling)	0.20ha
Fence	250 m
Temporary storage of dumps	0.01ha
Temporary storage of topsoil	0.0025ha
Bund wall area for the storage of hydrocarbon	0.0025ha
Mobile Office	0.0025ha
Ablution Facility	0.0012ha
Construction of temporal access roads	500m^2

CALCULATION OF THE QUANTUM

Applicant: **Matolo Trading (Pty) Ltd** **Ref No.: PR**
Evaluator: **ndi geological consultant service** **Date: Feb 2017**

No.	Description	Unit	A Quantity	B Master Rate	C Multiplication factor	D Weighting factor 1	E=A*B*C*D Amount (Rands)
1	Dismantling of processing plant and related structures	m3	0	12.84	1	1	0
2 (A)	Demolition of steel buildings and structures	m2	0	178.87	1	1	0
2(B)	Demolition of reinforced concrete buildings and structures	m2	25	263.59	1	1	6589.75
3	Rehabilitation of access roads	m2	500	32	1	1	16000
4 (A)	Demolition and rehabilitation of electrified railway lines	m	0	310.66	1	1	0
4 (A)	Demolition and rehabilitation of non-electrified railway lines	m	0	169.45	1	1	0
5	Demolition of housing and/or administration facilities	m2	0	357.73	1	1	0
6	Opencast rehabilitation including final voids and ramps	ha	0	182 063.65	0.52	1	0
7	Sealing of shafts adits and inclines	m3	0	96.02	1	1	0
8 (A)	Rehabilitation of overburden and spoils	ha	0	125 016.15	1	1	0
8 (B)	Rehabilitation of processing waste deposits and evaporation ponds (non-polluting potential)	ha	0	155 705.36	1	1	0
8 (C)	Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)	ha	0	452 242.17	1	1	0
9	Rehabilitation of subsided areas	ha	0	104 682.20	1	1	0
10	General surface rehabilitation	ha	0.2162	99 033.88	1	1	21411.12486
11	River diversions	ha	0	99 033.88	1	1	0
12	Fencing	m	250	112.97	1	1	28242.5
13	Water management	ha	0	37 655.47	1	1	0
14	2 to 3 years of maintenance and aftercare	ha	0.1	13 179.41	1	1	1317.941
15 (A)	Specialist study	Sum	0			1	0
15 (B)	Specialist study	Sum				1	0
					Sub Total 1		73561.31586

1	Preliminary and General	8827.357903	weighting factor 2 1	8827.357903
2	Contingencies	7356.131586		7356.131586
			Subtotal 2	89744.81
			VAT (14%)	12564.27
			Grand Total	**102309**

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

The financial provision of R102,309.00 can be provided for from operating expenditure. The applicant intends to make this financial provision in a form of bank guarantee or cash deposit.

t) Specific Information required by the competent Authority

None at this stage

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

- Noise as a results of prospecting activities,
- Potential water pollution as a result of neglected soil contamination,
- Negative visual impact
- Dust
- Surface disturbances as a result of prospecting activities

Positive impacts on directly affected parties:

Employment opportunities will improve socio economic standard of local community from which a small labour pool will be drawn. There will be a multiplier effect which will aid families associated with the workers.

Mitigation measure to the impacts of the socio-economic condition of any directly affected person:

- Reasonable and effective methods must be implemented to reduce the liberation of dust from operational activities.
- Dust suppression measures such as water dampening from trailer to be used if and when required.

- Mine staff ECO induction will train all staff on recognition and importance of fauna and livestock.
- Hunting, snaring, capturing or interfering with any fauna and landowner's stock is forbidden.

- The areas demarcated for prospecting activities must be minimal reasonably required which will involve the least possible disturbance to the environment and must be fenced to restrict any fauna from entering the pits.

- Drilled boreholes must be capped and sampling points should be backfilled.
- Using drip trays and taking precautions on the refuelling point. If any soil is contaminated during the life of the prospecting activities, it will be immediately scooped, bagged and stored in the enclosed containers or plastic to be removed with the industrial waste to a recognized licenced facility for further treatment. Small spills will be treated on site using bio-sorb, Bio-shock or oil cap. This will minimise surface or ground water pollution.

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

No heritage features were identified on the proposed application site, however if any heritage site or artefact are to be identified during prospecting therefore no activity will take place within 50m of the identified heritage features and the area will be fenced off. Identified heritage area or features will be reported to South Africa heritage agency for the removal or further protection.

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

Prospecting method Alternative

Drilling of boreholes and taking of sampling points method was considered for the prospecting of Dolomite, Calcite and Limestone. As a result, the only prospecting method in which to access the reserves is through drilling and taking of samples from sampling pits.

Accommodation alternative

Accommodation of the employees will be offsite. Caravan for accommodation were also considered as an alternative to accommodate employees on site who are staying far from the mine. The alternatives were considered not viable since it will increase environmental impacts on site for example littering. This alternative will also increase volume of water needed to the mine and this may also have an impact on surface and ground water

Water

Drilling of borehole was considered as an alternative for consumption of water. As the prospecting does not require water, this option was considered as not feasible since small volume off water will be required. Required water will only be for human consumption purpose. Therefore, municipality water for consumption will be delivered to site by light vehicles on a daily basis.

Ablution

Two chemical mobile ablutions will be used on site for both male and female. Pit toilets were considered as an alternative however, considering the impacts that they might have on the environment such as surface disturbances and ground water pollution, chemical mobile ablution was considered to be environmental friendly since it will have low environmental impacts.

Maintenance

Major maintenance of machines will be done off site. However, as an alternative minor maintenance for example changing of diesel filters will be conducted on site with measures to contain oil drips. This type of maintenance will be conducted 100m away from the water catchment area such as river or non-perennial streams.

No-go alternative

No-go alternative is the option of not conducting prospecting activities. If prospecting does not take place, this will have significant impact employment rate. Mineral will also be sterilised if prospecting does not take place and this will affect the economic growth.

PART B
ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

1) Draft environmental management programme.

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

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

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

The description of the aspect of the activity has been already covered in part A on section 1(h)

c) Composite Map

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

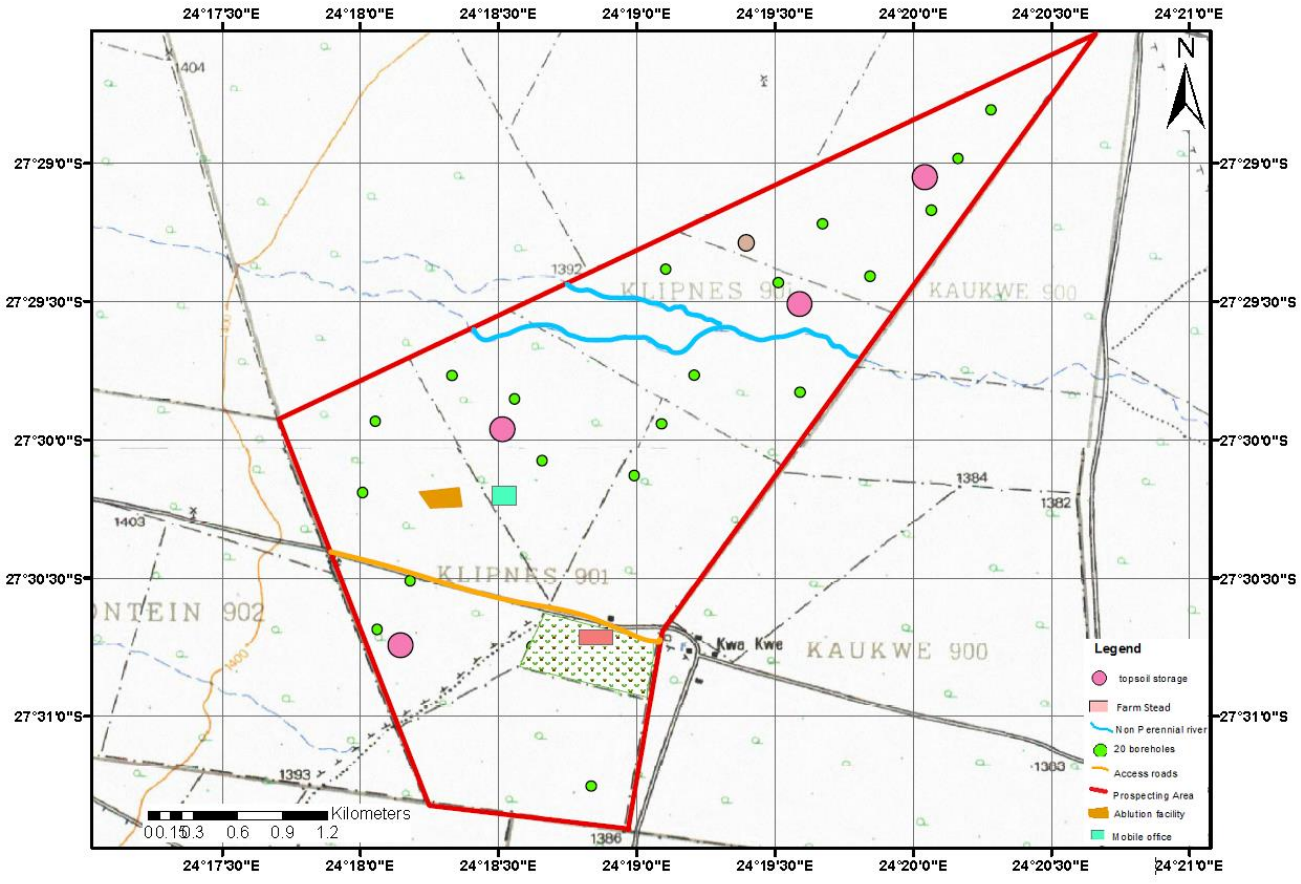


Figure 6: Composite map

d) Description of Impact management objectives including management statements

i) **Determination of closure objectives.** (ensure that the closure objectives are informed by the type of environment described)

Closure objectives have been determined in terms of the principles of National Environmental Management Act, Act 107 of 1998 (NEMA) since NEMA is the foundation of all environmental legislation:

- With regard to the proposed prospecting operation, the determination of closure objective includes the rehabilitation of the area to its natural state.
- The disturbance of ecosystems and loss of biological diversity will be avoided, or, where they cannot altogether be avoided, are minimised and remedied.
- pollution and degradation of the environment will be avoided, or, where they cannot altogether be avoided, are minimised and remedied;
- The disturbance of landscapes and sites that constitute the nations cultural heritage will be avoided, or where it cannot altogether be avoided, is minimised and remedied;
- Waste will be avoided, or where it cannot altogether be avoided, minimised and reused or recycled where possible and otherwise disposed of in a responsible manner;
- The use and exploitation of non-renewable natural resources is responsible and equitable, and takes into account the consequences of the depletion of the resource;
- A risk averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions; and
- Negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot altogether be prevented, are minimised and remedied.

Environmental management must be integrated, acknowledging that all elements of the environment are linked and interrelated, and it must take into account the effects of decisions on all aspects of the environment and the surrounding.

ii) **Volumes and rate of water use required for the operation.**

It is anticipated that 1000L may be used on site for drinking purpose and as a dust suppression measure if required. Minimum dust will be created as a result of the prospecting activities. No water use licence will be required.

iii) **Has a water use licence has been applied for?**

No, there is no need for applying water use licence or authorisation since there is no activity that triggers National Water Act.

iv) Impacts to be mitigated in their respective phases

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

ACTIVITIES (E.g. For mining - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route etc…etc…etc E.g. For mining,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and excavations, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.)	PHASE (of operation in which activity will take place. State; Planning and design, Pre-Construction' Construction, Operational, Rehabilitation, Closure, Post closure).	SIZE AND SCALE of disturbance (volumes, tonnages and hectares or m²)	MITIGATION MEASURES (describe how each of the recommendations in herein will remedy the cause of pollution or degradation and migration of pollutants)	COMPLIANCE WITH STANDARDS (A description of how each of the recommendations herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)	TIME PERIOD FOR IMPLEMENTATION Describe the time period when the measures in the environmental management programme must be implemented Measures must be implemented when required. With regard to Rehabilitation specifically this must take place at the earliest opportunity. .With regard to Rehabilitation, therefore state either:-. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or alluvial diamond mining as the case may be.
Literature Review	Planning	-	Mitigation not proposed	-	-
Geological Mapping	Planning	--	No mitigation proposed	-	-
Geophysical Mapping	Planning	-	Farm owners will be consulted with regard to the access to the proposed prospecting site. Gates will be closed after entering and departing the proposed prospecting. No poaching will be allowed on site.	• Compliance with EMPR • Compliance with Competent Authorities requests and regulation • EATC and ECO inspection	Mitigation measures will be implemented when required.

Site establishment	Construction		• Existing tracks must be used as far as practicable. • Avoid veld fires, • The prospecting area will be demarcated by means of fence. • The area for fuel storage will be demarcated by means constructing a cement slab with bund walls around. • Sensitive areas like gullies and dry wash will be avoided. • Large established trees and bushes will also be avoided. • If large shrubs to be removed preferable to brush cut at surface level and retain root structure in place. • If any fauna species is found during site establishment stage, they will be relocated to other portions of the farm.	The applicant will make sure that the employees comply with the standard laid out in the Environmental Management Programme and the Environmental Authorisation including their conditions and /or conditions identified by Competent Authority. This to be done by way of regular EATC (training) and regular Environmental inspection and auditing.	Mitigation measures will be implemented when required. However, other mitigations measures such as existing tracks will be implemented from the commencement of this activity until cessation of activity.
Vegetation clearance	Construction & Operational		• Existing tracks must be used as far as practicable. • Large trees and bushes to be left in situ as far as is practically possible • Avoid veld fires, • The individuals of any protected plant species should be retained *in situ* wherever possible. Permits have to be obtained from NCDENC and/or DAFF for the removal of protected species from the site.	• Compliance with EMPR • Compliance with Competent Authorities requests and regulation • EATC and ECO inspection	• Mitigation measures to be in place prior to activity. • In event of an critical incident with environmental significance , remedial and mitigation to be Immediately carried out on site
Construction of access roads	Construction	250m^2	• Avoid unnecessary construction of newly	• Compliance with EMPR	• Mitigation measures to be

			roads and use existing roads. • Dust suppression methods will be implemented. • limit a speed to 30kh/h • Limit road width to 3m • Avoid new road construction over listed trees and shrubs and other sensitively identified areas such as loose sands and dry wash areas.	• Compliance with Competent Authorities requests and regulation • EATC and ECO inspection	in place prior to activity. • In event of an critical incident with environmental significance , remedial and mitigation to be Immediately carried out on site
Temporary Mobile office site	Construction & Operation	0.0025ha	• On removal and rehabilitation the compacted surface will be ripped to a depth of 300mm in order to allow regrowth. • When establishing the office and veg clearance is unavoidable, preferable to brush cut at surface level and retain root structure in place to bind and hold soil and to aid rehab after removal of site office.	• Compliance with EMPR • Compliance with Competent Authorities requests and regulation	Immediate when office is installed on mine and after removal off site
Ablution area	Construction & Operation	0.0025ha	• The containers will be emptied by qualified applicant regularly to avoid health risk. • Doors will be kept latched at all times to prevent toilet paper from blowing into veld. • Facility will be locked during mine closure weekends when personnel on not on site	• Compliance with EMPR • Compliance with Competent Authorities requests and regulation • EATC and ECO inspection	ongoing and with weekly regularity throughout life of mine
Vehicle maintenance	Construction and operational		No maintenance of vehicles will be done on site.	• Compliance with EMPR • Compliance with	Immediate on repair of any vehicle or plant equipment

				Competent Authorities requests and regulation	
Final rehabilitation	Rehabilitation	947.7 ha	• All boreholes will be capped with a cement slab. • Sample pits will be rehabilitated using backfilling method. • Compacted ground as a result of the prospecting activities will be ripped to a depth of 300mm in order to allow vegetation to grow • Area to be profiled to assume shape and slope of surrounding land form • Area to be mulched to protect topsoil and root stock and allow for reseeding process • Ripping of all remaining compacted surface • Removal of all marked containers and disposed waste at a registered facility • All equipment and mobile infrastructure will be taken out of the site.	• Compliance with EMPR • Compliance with Competent Authorities requests and regulation	Upon cessation of prospecting, during rehabilitation phase.
Monitoring	Closure	947.7 ha	Monitoring of all rehabilitated areas will be done to make sure if vegetation is growing and if not other mitigation measures as seeding of the area will be considered. All invader species will be monitored and removed from all rehabilitated areas	• Compliance with EMPR • Compliance with Competent Authorities requests and regulation	Post closure and post rehabilitation.

e) Impact Management Outcomes

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

ACTIVITY (whether listed or not listed). (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and excavations, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.).	POTENTIAL IMPACT (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc….etc…)	ASPECTS AFFECTED	PHASE In which impact is anticipated (e.g. Construction, commissioning, operational Decommissioning, closure, post-closure)	MITIGATION TYPE (modify, remedy, control, or stop) through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc. etc) E.g. □ Modify through alternative method. □ Control through noise control □ Control through management and monitoring □ Remedy through rehabilitation..	STANDARD TO BE ACHIEVED (Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives) etc.
Literature Review	None	N/A	Planning	No mitigation proposed	-
Geological Mapping	None	N/A	Planning	No mitigation proposed	-
Geophysical Mapping	Poor access control which may result into livestock theft.	fauna and people	Planning	Control through management and monitoring measure as follows: Farm owners will be consulted with regard to the access to the proposed prospecting site. Gates will be closed after entering and departing the proposed prospecting. No poaching will be allowed on site.	Impact avoided
Site establishment	Vegetation loss Compaction of ground	Environment & fauna	Construction	• Remedy through rehabilitation and re-vegetation. • Remedy through ripping of compacted ground	Rehabilitation standards. Site to be rehabilitated to former land use with similar biodiversity component as pre- prospecting and to acceptable visual standard.
Vegetation clearance	Vegetation loss			• Avoid unnecessary removal of vegetation Using existing	Vegetation to be regenerated to resemble former species

	soil erosion	Environment & fauna	Construction & operational	roads as far as practicable Remedy through rehabilitation and re-Vegetation. Control through dust suppression methods	composition. Alien intrusion to be eradicated.
Construction of access roads	Vegetation loss Dust Ground compaction	Environment & animals	Construction & operational	• Using existing roads as far as practicable • Remedy through rehabilitation • Control through management and monitoring.	Impact avoided, dust levels and rehabilitation standards. Avoid construction as far as practically possible Roads will be less than 3m width Roads to avoid sensitive areas and Listed Vegetation After rehab and closure new roads will be left in situ to aid landowner and provide improved farm infrastructure.
Temporal Mobile office site	Ground compaction	Environment	Construction & operational	Remedy through ripping of compacted ground/surface	Surface under where structure was situated to be rehabilitated, to ensure vegetation will adequately regrow and biodiversity and former land use is re-established.
Ablution area	Health risk	Environment & people	Construction & Operational	Control through management and monitoring	Regular cleaning Maintain adequate health standard compliance with O H & S. Keep doors closed

Vehicle maintenance	Soil pollution	Environment (Water)	Operational phase	• Pollution control measures	No soil spoilage and hydro carbon spillage will be visible on site.
Construction of hydrocarbons cement slab and bundwalls	Surface disturbance	environment	Construction phase	• Remedy through rehabilitation	Rehabilitation standard to be achieved.
Final rehabilitation	Dust	people	Decommissioning	• All boreholes will be capped with a cement slab. • Sample pits will be rehabilitate using backfilling method. • Compacted ground as a result of the prospecting activities will be ripped to a depth of 300mm in order to allow vegetation to grow • Topsoil will be spread over the rehabilitated soil in order to allow regrowth of vegetation. • All machinery will be removed from the site. • Ripping of all remaining compacted surface	Rehabilitation standard to be achieved. Former vegetation species and Biodiversity to be re-instated as far as possible, alien infestation to be controlled. Former land use objectives standards to be re-instated to livestock grazing
	Noise	People and animals			
	Domestic waste	environment			
Monitoring	-	Environment	Closure and post closure	• Monitoring of all rehabilitated areas will be done to make sure if vegetation is growing and if not other mitigation measures as seeding of the area will be considered. • All invader species will be monitored and removed from all rehabilitated areas	Rehabilitation and end land use Rehabilitation standard to be achieved. Former vegetation species and Biodiversity to be re-instated as far as possible, alien infestation to be controlled. Former land use objectives standards to be re-instated to livestock grazing

f) Impact Management Actions

(A description of impact management actions, identifying the manner in which the impact management objectives and outcomes contemplated in paragraphs (c) and (d) will be achieved).

ACTIVITY whether listed or not listed. (E.g. Excavations, blasting, stockpiles, discard dumps or dams Loading, hauling and transport, Water supply dams and excavations, accommodation, offices, ablution, stores, workshops processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.).	POTENTIAL IMPACT (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc….etc…)	MITIGATION TYPE (modify, remedy, control, or stop) through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc. etc) E.g. □ Modify through alternative method. □ Control through noise control □ Control through management and monitoring Remedy through rehabilitation..	TIME PERIOD FOR IMPLEMENTATION Describe the time period when the measures in the environmental management programme must be implemented Measures must be implemented when required. With regard to Rehabilitation specifically this must take place at the earliest opportunity. .With regard to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or alluvial diamond mining as the case may be.	COMPLIANCE WITH STANDARDS (A description of how each of the recommendations in 2.11.6 read with 2.12 and 2.15.2 herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)
Literature Review	None	No mitigation proposed	Planning Stage	The applicant will make sure that the employees or anyone who enters the prospecting area must comply with the environmental management standards as stipulated on the environmental authorization.
Geological Mapping	None	No mitigation proposed	Planning Stage	The applicant will make sure that the employees or anyone who enters the prospecting area must comply with the environmental management standards as stipulated on the environmental authorization.
Geophysical Mapping	Poor access control which may result into livestock theft.	Farm owners will be consulted with regard to the access to the proposed prospecting site. Gates will be closed after entering and departing the proposed prospecting. No poaching will be allowed on site.	Planning Stage	The applicant will make sure that the employees or anyone who enters the prospecting area must comply with the environmental management standards as stipulated on the environmental authorization.
Site establishment	• Vegetation loss	• Remedy through rehabilitation	Mitigation measures will be implemented	The applicant will make sure that the

	• Compaction of ground	and re-vegetation. • Remedy through ripping of compacted ground	when required. However, other mitigations measures such as existing tracks will be implemented from the commencement of this activity until cessation of activity.	employees or anyone who enters the prospecting area must comply with the environmental management standards as stipulated on the environmental authorization and EMPR. The applicant will work in accordance with listed activity no.20 of NEMA regulations.
Vegetation clearance	• Vegetation loss • soil erosion	• Avoid unnecessary removal of vegetation Using existing roads as far as practicable Remedy through rehabilitation and re-Vegetation. Control through dust suppression methods	• Mitigation measures to be in place prior to activity. • In event of an critical incident with environmental significance , remedial and mitigation to be Immediately carried out on site	The applicant will make sure that the employees or anyone who enters the prospecting area must comply with the environmental management standards as stipulated on the environmental authorization and EMPR. The applicant will work in accordance with listed activity no.20 of NEMA regulations.
Construction of access roads	• Vegetation loss • Dust • Ground compaction	• Using existing roads as far as practicable • Remedy through rehabilitation • Control through management and monitoring.	• Mitigation measures to be in place prior to activity. • In event of an critical incident with environmental significance , remedial and mitigation to be Immediately carried out on site	The applicant will make sure that the employees or anyone who enters the prospecting area must comply with the environmental management standards as stipulated on the environmental authorization and EMPR. The applicant will work in accordance with listed activity no.20 of NEMA regulations.
Temporal Mobile office site	• Surface compaction • Vegetation loss	• Remedy through ripping of compacted ground/surface	Immediate when office is installed on mine and after removal off site	The applicant will make sure that the employees or anyone who enters the prospecting area must comply with the environmental management standards as stipulated on the environmental authorization and EMPR. The applicant will work in accordance with listed activity no.20 of NEMA regulations.
Ablution area	• Health risk	• Control through management and monitoring	ongoing and with weekly regularity throughout life of mine	The applicant will make sure that the employees or anyone who enters the prospecting area must comply with the environmental management standards as stipulated on the environmental authorization and

				EMPR. The applicant will work in accordance with listed activity no.20 of NEMA regulations.
Vehicles movement within the prospecting area.	• dust • noise • Ground compaction	• Noise levels must comply with OHS regulations. • Noise generating activities should be restricted to normal working hours. Mine is noted to be remote from any settlement and human habitation • Vehicle exhaust systems should be in good state of maintenance with standard noise suppression equipment. • Personnel will wear PPE, specifically ear muffs to suppress noise levels when using machinery. • Ripping of the compacted ground to 300m in order to allow vegetation growth Dust suppression measure will be applied in order to control and manage dust.	Throughout prospecting period and upon cessation of the individual activity	The applicant will make sure that the employees or anyone who enters the prospecting area must comply with the environmental management standards as stipulated on the environmental authorization and EMPR. The applicant will work in accordance with listed activity no.20 of NEMA regulations.
Hydrocarbon storage *(kindly note this is optional since mobile diesel tanker is a preferred choose to be used)*	• Soil pollution • Water pollution	• Pollution control measures • Hydrocarbon will be stored within the storage containers and will be place on a cement slab within the bund walls. • Drip trays will be placed under each stationary equipment or vehicles to avoid soil contamination which may lead to water pollution • Taking precautions on the refuelling point. • If any soil is contaminated during the life of the prospecting activities, it will be immediately scooped and stored in the enclosed containers or plastic to be removed with the industrial waste to a recognized licenced facility or applicant for further	Throughout Operational period of the mine	The applicant will make sure that the employees or anyone who enters the prospecting area must comply with the environmental management standards as stipulated on the environmental authorization and EMPR. The applicant will work in accordance with listed activity no.20 of NEMA regulations.

		treatment. • Small spills will be treated on site using bio-sorb or oil cap.		
Final rehabilitation	• Dust • Noise • Domestic waste	• Topsoil will be spread over the rehabilitated areas in order to allow regrowth of vegetation. • All machinery will be removed from the site. • Ripping of all remaining compacted surface	Upon cessation of prospecting, during rehabilitation phase.	The applicant will make sure that the employees or anyone who enters the prospecting area must comply with the environmental management standards as stipulated on the environmental authorization and EMPR. The applicant will work in accordance with listed activity no.20 of NEMA regulations.
Monitoring	-	• Monitoring of all rehabilitated areas will be done to make sure if vegetation is growing and if not other mitigation measures as seeding of the area will be considered. • All invader species will be monitored and removed from all rehabilitated areas	Post closure and post rehabilitation.	The applicant will make sure that the employees or anyone who enters the prospecting area must comply with the environmental management standards as stipulated on the environmental authorization and EMPR. The applicant will work in accordance with listed activity no.20 of NEMA regulations.

Financial Provision

(a) Determination of the amount of Financial Provision.

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

The closure objectives are to create a post-prospecting state as close as possible to the pre-prospecting state of the environment. This can be accomplished by the correctness of rehabilitation and proper after-care activities.

- To prevent the sterilization of any ore reserves.
- To prevent the establishment of any permanent structures or features.
- To manage and limit any impact to the surface and groundwater aquifers in such a way that an acceptable water quality and yield can still be obtained, when a closure certificate is issued.
- To safeguard the safety and health of humans and animals on the mine.
- The last closure objective is that the mine is closed efficiently, cost effectively and in accordance with government policy.
- Re-establishment of Biodiversity.
- Re-establishment of vegetation species.
- Return to landowner a land use that is same as the pre prospecting land use.
- To leave newly constructed road in state that added value to infrastructure of the farm.
- To ensure that all fencing is left as it was in pre- prospecting status.

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

The environmental objectives in relation to closure will be communicated with landowner and interested and affected parties during public participation meeting.

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

The goal of rehabilitation with respect to the area where prospecting is taking place is to leave the area similar to its previous state prior prospecting activity. All other equipment's and material used during operation will be removed from the area, including other waste. Removal of these materials shall be done on a continuous basis and not only at the final stage of rehabilitation and closure.

- All drilled boreholes will be capped to prevent any fauna injuries.
- Rehabilitation of prospected areas will be done immediately after each borehole drilled to prevent degradation of the environment and injuries to fauna.
- Backfilling method will be used in order to make sure that the area is returned to its natural state.
- All compacted areas will be ripped to a depth of 300mm in order to allow vegetation to grow.
- Mobile equipment will be completely removed from the site
- The slope of the rehabilitated area will flat and
- Waste containers will be removed from the site.
- No latent or residual impact may encounter after completion of rehabilitation

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

The main objectives of both rehabilitation plan and closure plans are aligned. The goal of rehabilitation with respect to the area where prospecting took place is to leave the area to similar to its previous state prior prospecting. All other equipment's and material used during operation will be removed from the area, including other waste. Removal of these materials shall be done on a continuous basis and not only at the final stage of rehabilitation and closure. To achieve this, the applicant has to practice concurrent rehabilitation from the commencement of the prospecting activities to the

end. This can be accomplished by effectively implementation of EMPR. The financial provision for rehabilitation and/ or management of the negative impact will also assist to achieve the rehabilitation plan and the closure objectives.

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

CALCULATION OF THE QUANTUM

Applicant: **Matolo Trading (Pty) Ltd** **Ref No.: PR**
Evaluator: **ndi geological consultant service** **Date: Feb 2017**

No.	Description	Unit	A Quantity	B Master Rate	C Multiplication factor	D Weighting factor 1	E=A*B*C*D Amount (Rands)
1	Dismantling of processing plant and related structures	m3	0	12.84	1	1	0
2 (A)	Demolition of steel buildings and structures	m2	0	178.87	1	1	0
2(B)	Demolition of reinforced concrete buildings and structures	m2	25	263.59	1	1	6589.75
3	Rehabilitation of access roads	m2	500	32	1	1	16000
4 (A)	Demolition and rehabilitation of electrified railway lines	m	0	310.66	1	1	0
4 (A)	Demolition and rehabilitation of non-electrified railway lines	m	0	169.45	1	1	0
5	Demolition of housing and/or administration facilities	m2	0	357.73	1	1	0
6	Opencast rehabilitation including final voids and ramps	ha	0	182 063.65	0.52	1	0
7	Sealing of shafts adits and inclines	m3	0	96.02	1	1	0
8 (A)	Rehabilitation of overburden and spoils	ha	0	125 016.15	1	1	0
8 (B)	Rehabilitation of processing waste deposits and evaporation ponds (non-polluting potential)	ha	0	155 705.36	1	1	0
8 (C)	Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)	ha	0	452 242.17	1	1	0
9	Rehabilitation of subsided areas	ha	0	104 682.20	1	1	0
10	General surface rehabilitation	ha	0.2162	99 033.88	1	1	21411.12486
11	River diversions	ha	0	99 033.88	1	1	0
12	Fencing	m	250	112.97	1	1	28242.5
13	Water management	ha	0	37 655.47	1	1	0
14	2 to 3 years of maintenance and aftercare	ha	0.1	13 179.41	1	1	1317.941
15 (A)	Specialist study	Sum	0			1	0
15 (B)	Specialist study	Sum				1	0
					Sub Total 1		73561.31586

1	Preliminary and General	8827.357903	weighting factor 2 1	8827.357903
2	Contingencies	7356.131586		7356.131586
			Subtotal 2	89744.81
			VAT (14%)	12564.27
			Grand Total	**102309**

(f) Confirm that the financial provision will be provided as determined.

The applicant is hereby confirming that the financial provision to the amount of R R102,309.00 will be provided as determined either by bank guarantee or cash deposit.

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

g) Monitoring of Impact Management Actions
h) Monitoring and reporting frequency
i) Responsible persons
j) Time period for implementing impact management actions
k) Mechanism for monitoring compliance

SOURCE ACTIVITY	IMPACTS REQUIRING MONITORING PROGRAMMES	FUNCTIONAL REQUIREMENTS FOR MONITORING	ROLES AND RESPONSIBILITIES (FOR THE EXECUTION OF THE MONITORING PROGRAMMES)	MONITORING AND REPORTING FREQUENCY and TIME PERIODS FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS
Vehicular movement	Dust	-Roads are sprayed by water when there is a need. -This impact will be monitored throughout the day and where it is encountered it will be supressed by means of spraying water. -Atmospheric pollution prevention Act will be followed at all times. -Dust fall-out buckets are properly located and this must also be monitored throughout the day. -Monitoring of dust exposure will includes use of active air sampling, passive dust collectors. -The National Environment Management: Air Quality Act, 2004 (Act No.39 of 2004) will be adhered to at all times. The Mine Health and Safety Act, 1996 (Act No. 29 of 1996) as amended and other legislation or regulations will also be adhered to at all times to avoid air pollution.	Site manager and environmental officer	Daily and ongoing Reporting will be done weekly Time period for implementing impact management is immediately.
Contamination of soil as a result of Hydrocarbons storage and refuelling point	Soil & Water pollution	Vehicles and equipment will be monitored before the commencement of any daily prospecting activity to avoid any soil contamination which may lead to ground water contamination. Surface water will be protected by adhering to The National Water Act, 1998 (Act No. 36 of 1998).	Environmental officer will be responsible for all monitoring programmes. The site manager will be responsible overall monitoring programs.	Daily and ongoing Reporting will be done weekly Time period for implementing impact management is immediately.

Vehicles movement	Noise	Bureau of Standards Code of Practice for the Measurement and Assessment of Occupational Noise for Hearing Conservation Purposes, SABS 083 as amended, in any place at or in any mine or works where persons may travel or work, exceeds 82 dB (A), the site manager will take the necessary steps to reduce the noise below this level. Noise monitor machine will be used to find out if the noise generated from the prospecting activities is exceeding the standard. The following will be adhered to: a) The Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) – Section 7. b) The Mine Health and Safety Act, 1996 (Act No. 39 of 1996) as amended. c) The Road Traffic Act, 1997 (Act No. 93 of 1997);	Environmental officer and site manager	Daily and ongoing Reporting will be done weekly Time period for implementing impact management is immediately.
Removal of vegetation and prospecting	Interference with existing land use	-Inform landowners in writing of intent and comply with reasonable request to reduce the impact. -Negotiate compensation for interference with landowner/lawful occupier -Visual confirmation of rehabilitation -Approval of rehabilitation by landowner/lawful occupier	Site manager	Daily and ongoing Reporting will be done weekly Time period for implementing impact management is immediately.
Clearance of vegetation	Vegetation loss	-Site clearance to be kept to a minimum and avoid unnecessary removal of vegetation. -Visual inspection to make sure that vehicle utilise the existing tracks as possible. -No removal, disturbance or pruning of large to medium shrubs or tress -Visual marking of sensitive species	Environmental officer and site manager	Daily and ongoing Reporting will be done weekly Time period for implementing impact management is 3 months.
Movement of	Displacement,	-Site clearance to be kept to a	Site manager	Daily and ongoing

vehicles, poaching	injury and death of local fauna;	minimum -Visual marking of sensitive species and areas -Visual inspection of fencing and/or other safety measures -On site log to be kept		Reporting will be done weekly Time period for implementing impact management is immediately.
Waste generation and disposal	Land pollution	-Visual inspection that waste does not accumulate inside or outside drill site. -All waste such as oil spills must be stored separately and disposed of at a registered facility -Proof of disposal must be kept on site. -EMPR checklist will be compiled and utilised during the prospecting period	Environmental officer and site manager	Daily and ongoing Reporting will be done weekly Time period for implementing impact management is immediately.

l) Indicate the frequency of the submission of the performance assessment/ environmental audit report.

Performance assessment or environmental audit report will be submitted annually

m) Environmental Awareness Plan

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

Training will be provided to all employees. Initial environmental induction and or environmental talk will be conducted before commencement of any daily activity to all employees.

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

Everyday Awareness

Littering – All workers will be educated on how important is the wild animals that can be harmed or die if they litter any garbage such as plastics for example. Littering of non-degradable wastes such as plastics, glass, rubber and tyres can also pollute our environment since they will not be decomposed. Workers will also

educate to separate their waste so that they can be recycled and reused. No glass, paper, plastics and cigarette duds are to be littered during the duration of the prospecting operations. Marked garbage containers will be installed and maintained to prevent littering by workers. Penalties will be communicated to the worker if they do not follow the protocol with regard to littering.

Open fires –. It is by law that open fire is prohibited. Due to the hot and dry conditions of the district is it very susceptible for runaway fires. No open fires will be tolerated during the prospecting period and as this is regarded by law as a criminal offence related penalties can be issued. The littering of self-ignitable substances or objects (e.g. matches) are also not allowed as it will always pose a danger regarding field fires, and if such happen the person responsible will be charged with arson and related penalties thereof.

Sanitation and Personal Hygiene

Sanitation and personal hygiene is a very important subject for environmental and social health. Improper sanitation habits can lead to intestinal parasite infestations within humans and animals, endangering the overall health of the recipients. Unfortunately, these infestations do not stay only within the host and will spread rapidly throughout a community or herd. Human viruses like Tubercle bacillus (TB) and Herpes simplex, both are very contagious, spread vigorously throughout a community not handling good hygiene habits/practices. Strict use and cleanliness of ablution facilities will be enforced during the entire life of mine. Employees will further be advised and educated on the importance of consuming clean and fresh water.

Fauna –Mine employees will be advised to stay clear from any wild animal or reptile and not to try and provoke them in any manner. They will further be educated on dangerous and poisonous reptiles and the actions to be taken when such reptiles are encountered.

Flora- No indigenous shrubs of trees will be unnecessarily uprooted and utilized for firewood, the employees will rather be advised to utilize pioneer species and be educated on which plant species are indigenous, endangered or pioneer. If any pioneer species are observed the reporting thereof to the rehabilitation site

manager will be highly recommended. Penalties will be given to individuals that damage any endangered species.

Work Related Awareness

- When handling chemicals make sure of non-spillage procedures are followed
- Scrap must be dispose of in the most appropriate manner
- Plastics and domestic wastes removed from the vehicles need to be discarded in the appropriate manner.
- A daily checking or oil/diesel leakage before vehicle is operated.
- Drip trays must be installed under all stationary vehicles and equipment.
- Strict adherence to the prospecting roads and no off-road driving to prevent trampling to the vegetation.
- Driving speed must be complied with. Beware of animals, workers and other vehicles.
- During fencing/rehabilitation common fence wires will not be left scattered as these rust over time – any cuts to animals and humans (sepsis and tetanus risk) can lead to suffering or great discomfort.
- No metals may be left scattered as it pose the same threat as described directly above.
- All personnel handling work related chemicals must follow handling procedures (Material safety data sheet)
- Any spillage contaminating the ground will pose risk to environmental degradation.
- All workers must always wear personal protective equipment (PPE) clothing at all time to reduce health and safety risk.

n) Specific information required by the Competent Authority
(Among others, confirm that the financial provision will be reviewed annually).

- The applicant confirms that the financial provision will be reviewed annually and the report of such review will be submitted to the competent authority.

- The performance assessment will be conducted on the monthly basis and the report will be submitted annually or if requested by DMR.

2) UNDERTAKING

The EAP herewith confirms

a. the correctness of the information provided in the reports

b. the inclusion of comments and inputs from stakeholders and I&APs ;

c. the inclusion of inputs and recommendations from the specialist reports where relevant; and

d. that the information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties are correctly reflected herein.

_____

Signature of the environmental assessment practitioner:

Matolo Trading (pty) ltd

_____

Name of applicant:

6 February 2017

_____

Date:

-END-